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CITY OF DOVER

DOVER PLANNING BOARD – AGENDA

Meeting Type: Regular Meeting
Meeting Location: Council Chambers, City Hall, 288 Central Avenue, Dover, NH 03820
Meeting Date: **Tuesday, June 11, 2024**
Meeting Time: **7:00 pm**

1. **CITIZENS' FORUM**
2. **APPROVAL OF THE PRIOR MINUTES**
   May 28, 2024 Regular Meeting Minutes
3. **OLD BUSINESS**
4. **NEW BUSINESS**
   A. Consideration and acceptance of an Extension Request for 59 Tolend Rd, LLC, Assessor's Map E, Lot 65-1, zoned R-20, located at Tolend Road. (Proposal is to extend the conditional approval to allow for the State subdivision, State subsurface approval and State DWGB permit for a previously conditionally approved 27-lot subdivision.) *(WAIV-2024-0008)
   B. Consideration and acceptance of a Conditional Use Permit for Roberta Woodburn, Assessor's Map L, Lot 46-T, zoned R-20, located at 189 Spur Road. (Proposal is to renovate an existing patio and retaining wall within the 100' shoreland setback with ~617 sf of temporary impact and 173 sf of permanent impact to the Conservation District as well as ~437 sf of temporary impact and ~108 sf of permanent wetland buffer impact.) *(COND-2022-0030)
   C. Consideration and acceptance of a Conditional Use Permit for Granite State Gas Transmission, Unitil (Owners: Dover Point Cooperative, Inc), Assessor's Map M, Lot 47-C, zoned R-12, located at 1 Polly Ann Trailer Park. (Proposal is the replacement of gas pipe section that will cause ~17,015 s.f of impacts to wetlands.) *(COND-2024-0004)
   D. Consideration and acceptance of a Transfer of Development Rights Plan for DBS Holdings, LLC, Assessor's Map B, Lot 2, zoned R-40, located at 512 Sixth Street. (Proposal is to purchase three (3) non-restricted TDR units to allow a total of five (5) on the site.) *(TRAN-2024-0006)
   E. Consideration and acceptance of a Conditional Use Permit for H.J. Stabile & Son, Inc., Assessor's Map 15, Lot 40-A-1, zoned G, located at Locust Street. (Proposal is to construct a Townhouse Condominium complex creating ~16,250 sf of wetland buffer impact and ~6,329 sf of overlapping impact to the Conservation District.) *(COND-2024-0006)
   F. Consideration and acceptance of a Conditional Use Permit for H.J. Stabile & Son, Inc., Assessor's Map 15, 40-A-1, zoned G, located at Locust Street. (Proposal is to be setback 235'+- from the front, where a 5' to 20' build-to-line is required.) *(COND-2024-0009)
   G. Consideration and acceptance of Site Review for H.J. Stabile & Son, Inc., Assessor's Map 15, Lot 40-A, zoned G, located at Locust Street. (Proposal is to construct a Townhouse Condominium complex of 22 units with associated parking & drainage.) *(SITE-2023-0015)
   H. Consideration and acceptance of a Transfer of Development Rights for Stephen R. & Deborah A. Scotton, Assessor's Map F, Lot 21, zoned R-40, located at 131 Littleworth Road. (Proposal is to purchase nine (9) non-restricted TDR units to allow for a total of ten (10) on the site.) *(TRAN-2024-0007)
   I. Public Hearing and Discussion of Impact Fees. *
5. **STAFF COMMENT**
6. **MEMBER COMMENTS**
7. **ADJOURNMENT**

*Indicates that if the application is accepted for discussion, the public hearing will be held the same evening. Note that some hearings will be continued from one meeting to another and some may be postponed. Since this is only a partial description of the proposal and may change, persons with questions or wishing to see the plans are invited to visit the Planning Office, Monday through Thursday from 8:30 am to 5:30 pm and Friday 8:30 am to 4:00 pm or email Dover-Planning@dover.nh.gov. You may also view materials at www.dover.nh.gov. Follow us on Twitter @DoverNHPlanning and find us on Facebook at https://www.facebook.com/DoverNHPlanning. The public is encouraged to leave comments in advance by emailing Dover-Planning@dover.nh.gov, or mailing written comments to Planning Board, Dover City Hall, 288 Central Ave., Dover, NH 03820. Messages must be received no later than 4 p.m. the day of the meeting and should identify the name and Dover address of the person leaving the message or providing the comment.

CITY OF DOVER

DOVER PLANNING BOARD – MINUTES

Meeting Type:	Regular Meeting
Meeting Location:	Council Chambers, City Hall, 288 Central Ave, Dover, NH.
Meeting Date:	**Tuesday, May 28, 2024**
Meeting Time:	**7:00 pm**

****Due to technical issue, first ~6 minutes are not audio recorded****

Members Present: Gina Cruikshank (Chair), Mark Speidel (Vice-Chair), Fergus Cullen (Councilor), Ken Mavrogeorge, Tom Clark, Jeff Sanborn (Alternate), Melina Gambino (Alternate), George DeBoer, Erinn Kaspari, Mallory Strange (Alternate)
Members Not Present (excused): Kyle Pimental, Jon Elliard
Members Not Present (un-excused): None
Staff Present: Donna Benton, Director of Planning and Community Development

G. Cruikshank (Chair), called the meeting to order at 7 p.m and noted that Jeff Sanborn would sit for Kyle Pimental and Melina Gambino for Jon Elliard.

The audio of this meeting was unavailable for the first 3-4 minutes.

1. **CITIZENS' FORUM**
   Citizens Forum Open
   No one spoke
   Citizens Forum Closed

2. **APPROVAL OF THE PRIOR MINUTES**
   - May 14, 2024 Regular Meeting Minutes

   Motion E. Kaspari moved to approve the regular meeting minutes of May 14, 2024 as submitted. Seconded by: F. Cullen. Vote: U/A

3. **OLD BUSINESS**

4. **NEW BUSINESS**
   A. Consideration and acceptance of a Lot Line Adjustment for Jaffe Family Revocable Trust and Michael & Shelby Brewer, Assessor's Map 32, Lots 36-D & 36-F, zoned R-12, located at 73 & 77 Fourth Street. *(LOTA-2024-0005)

   D. Benton that the applicant is submitting a proposed lot line revision to revise the line between their parcel, 77 Fourth St., and their neighbor's parcel, 73 Fourth St., Map 32, Lots 36F & 36D, with the intent of increasing the 77 Fourth St. parcel by approximately 2,728 sf. Each lot's frontage and compliance with the underlying R-12 zoning regulations will remain the same.

   As a Lot Line Adjustment, this application did not appear before the TRC.

   Steve Haight, Civil Works NE and McEneaney Survey represented the application.

   Motion: M. Speidel moved to accept the application and declared no regional impact. Seconded by: E. Kaspari. Vote: U/A

   Public hearing opened.
   No one spoke
   Public hearing closed.

DRAFT

STAFF RECOMMENDATION- Lot Line Adjustment:
Chapter §157-17 of the Land Subdivision Regulations of the City Code provides for the adjustment of existing lot lines between two or more lots. This plan is consistent with those regulations.

The Planning Department recommends the Planning Board make findings, and vote to approve the application with the following subsequent conditions:

Subsequent Conditions to Be Met Prior to Signing of Plans:
1. Provide physical and digital copies (including CAD) of complete plan set for recording at Strafford County Registry of Deeds which additionally shall include:
   a. Planning File Number #LOTA-2024-0005
   b. The owner's signatures
   c. The LLS stamp and signature

Motion: T. Clark moved to approve the Lot Line Adjustment with subsequent conditions set by staff. Seconded by: F. Cullen. Vote: U/A

B. Consideration and acceptance of a Transfer of Development Rights for Tritech Engineering (Owners: Stonearch Development, LLC), Assessor's Map F, Lot 3, zoned R-40, located at 210 Tolend Road. (Proposal requests to purchase 33 TDR units (10 "unrestricted" & 23 "restricted size units"). A site plan for a current proposal of 53 units would need further review and a future Planning Board vote). *(TRAN-2024-0003)

D. Benton explained that the applicant is requesting the purchase of thirty-three (33) residential units by acquiring Transfer of Development Rights (TDR). Ten (10) of these units would not be restricted in size or rental rates and the other twenty-three (23) units would be restricted in size to no larger than 1,400 square feet (not including the rent-restricted ADUs). The applicant is also proposing 23 ADUs which would be rent restricted to the HUD Fair Market rate.

A full site plan review would still be required by the Planning Board and Technical Review Committee. The Zoning Ordinance allows for a sketch plan to be provided to staff and the Planning Board to discuss the TDR request and willingness to waive lot size and frontage requirements and may consider a maximum allowed. This can also be an opportunity for the Planning Board to give feedback to the applicant and for abutters to be notified of the proposed project before it goes too far down the planning process.

Per Chapter 170-27.2 E.(4)a, Planning staff provided a written report on May 23, 2024 explaining the need for additional information before the Planning Board make a decision on the sketch plan.

As the ordinance does not define what makes a complete sketch plan or a complete TDR application, staff believes the Planning Board may review the sketch plan, yet may also ask for additional information either before making a decision on the TDR request or as a condition of the TDR approval.

Staff understands the need of housing, especially attainable housing, and a mix of housing unit types but also values the rural nature of the R-40 district and the purpose of the TDR ordinance. A balance is needed here and the applicant needs to provide testimony on how it meets the intent of the R-40 district, the neighborhood context, and the Transfer of Development Rights Ordinance as currently designed.

Robert Baldwin and Bob Stowell represented the item.
Mr. Baldwin explained the parcel is 56 acres with 15 acres of wetland. They looked at potential designs with options including 30 units which would be very expensive to buy. The best way to keep costs down is through density which requires the TDR approval. Since they were looking for TDR units they wanted to provide affordable housing as part of it. The design goals are:

- Meet the open space regulations
- Provide housing at varying levels of affordability
    - Affordable units at 2,500 and 1,400 sq ft
    - The ADUs at Fair market rents
    - Minimal impact to the neighborhood aesthetic
        - ADUs is a great way to achieve that

He explained the site plan and layout of the pods of housing proposed: 2,500 sq ft homes similar to homes on Emerald Ln- 10 unrestricted units in that loop; 1,400 sq ft units with ADUs that have rent restrictions built into the walk-out basement; open space areas both upland and wetland.

Tonight is the first step of many. The project still has to go through rounds of TRC and future Planning Board meetings.

Mr. Baldwin answered questions of the board about the HOA, open space calculations and TDR funds towards conservation, necessity or not of the access road to Emerald Ln, land unit A design options for buildings, individual lots or one large HOA lot, land size and uses for open space area, option of disconnecting the loop road from being a full loop to make it less attractive as a cut-through, stormwater area, total units of housing 76, numbers of cars, traffic studies, drainage and sewer calculations will come later in the design process after approval of the units
Discussion and board opinions were given about unit B land size, conservation commission would need to approve CUP before Planning Board approval, this parcel is part of the working lands for wildlife program and needs Conservation Commission approval before Planning Board approval, TDR function to add density to the areas of the City with the least conservation value, type of housing preferred: less units that are larger or more units that are smaller and a larger open space area, ranking of land: prioritized habitat block for protection against development, compactness of the density request vs putting some units on the land closer to Tolend Rd, benefits of projects similar to this proposal, etc.

Motion: F. Cullen moved to accept the application and declared no regional impact. Seconded by: M. Speidel. Vote: U/A

Public hearing opened.
Leslie Wiedmann Herd, 201 Tolend Rd, former Dover Open Lands committee member represented a group of the neighbors and abutters who held a meeting to discuss the proposal. She gave a summary of the meeting highlighting the land in question and wildlife awards it has received, the land is situated between multiple conservation easements with plans to connect and conserve, critically ranked parcel of land, and the purpose of TDR. This land should not be approved for increased density- it should be protected against intense development. She requests the board approve less units than requested and permanently conserve 'Land unit B' as a condition of approval. She also asked if the owner would sell a conservation easement to the Conservation Commission on all or a portion of the property to protect the habitat.

Brice Snyder, 102 Emerald Ln gave personal comments and experiences and expressed when he bought his home on Emerald was told it was surrounded by undevelopable conservation land and R-40 Zoning in place. He is opposed to the proposed plan due to traffic, density, safety, maintenance and repair needed for the road due to added traffic, tot-lot is right next to the proposed roadway, and bio-pond impact.

Robert Leopold, 165 Emerald Ln is opposed to the proposed project and has concerns about development on this tract of land and does not believe that is the intent of TDR. Concerns include no public transportation or shopping nearby and residents will all need their own cars. Maintenance will come to the HOA.

Luke Paradis, 180 Tolend Rd direct abutter is a farmer on that land. He is concerned about Land Unit B. He described the animal paddocks he has all along that road and the way people treat the animals. His wife runs therapeutic horse riding in that area because it's always been a quiet place to do that. He is also concerned about the traffic coming out of that road with all the traffic. He requested the board members come walk both the land in question and his land.

Leon Lepierre, 159 Emerald Ln, President of the Indian Ridge HOA, who's open space abuts the property in question. He submitted a statement in writing previously and highlighted: controversial topic, ordinance regulation relating to Conservation Commission approval for CUP prior to Planning Board, safety concern for tot lot area and location of curb cut and site lines, stormwater maintenance and location of ponds, density and pavement. He doesn't believe this project will help affordable housing- it will be expensive to cross the wetlands. Additional concerns about the wildlife and the conservation corridor.

Sherri Watson, 212 Tolend Rd shared concerns about traffic and getting out of the proposed driveway, loss of view from land to development, wildlife testing and evaluations of the ecological community is needed, and runoff.

Mark Edmond, 72 Emerald Ln agreed with what his neighbors have said and please keep in mind the safety of their children, retirees and pet owners and not rush to a decision. He agrees the connection to Emerald Dr is not necessary.

D. Benton read off the list of folks who sent in emails and read into the record an email from Brian Stern. The correspondence received will be included in the project file for public record and will be posted online to the board
Public hearing closed.

The applicant addressed public comment topics: Mr. Baldwin:

- He thanked everyone for their feedback
- If conservation wants to purchase portions of the land they aren't required to keep as part of the open space for the project, he is willing to forego the dream of affordable housing for sale if the development team can make the numbers work.
- The people who would come into these units would be just like the people who came forward with pride in their own HOA/ neighborhood.
- This project is conserving more land with this proposal than would be conserved with a regular subdivision.
- He would like to receive some guidance tonight from the board, whether it's an official vote contingent upon Conservation Commission approval or guidance on number of units for them to buy so they can work on the design elements to bring forward for review.

Mr. Stowell:

- Connection to Emerald was there from Emerald phase II and the design for phase III which was approved back in 2014. Water and sewer were laid and planned for this long ago. Those parameters were inherited and we're working within them
- Site distance at Emerald should not be an issue. It has been measured at that location and out at Tolend Road 5mph above the posted speed limit.
- Stormwater still has to go through TRC process- no approvals for that are being sought tonight
    - Runoff cannot be increased for the neighbors. It has to be treated on site. The standards have increased and the treatment will be more efficient on this project than it was on the Emerald project.
- AOT and wildlife studies would need to be sought and conducted. This would require multiple state permits for the crossings necessary which triggers wildlife review by Fish and Game.
    - Explained the prior owner's clearing of vegetation to create a better rabbit habitat which he did and which has since expired. The open space proposal is consistent with those plans.
- The open space areas will maintain the connectivity for the conservation corridor

D. Benton addressed public comment topics:

- The open lands committee can only work with willing land owners. These new owners can certainly have those conversations.
- Personally she would like to see more of Land unit B conserved especially if the density requested is approved.
- Roadway connectivity is often a positive in the planning field: this is a windier road than Watson or Columbus and therefore it likely won't have the traffic count concerns that other roads would. And the suggestion to unlink the loop road can be considered as an option.
- It has been considered to have two cul-de-sacs, though Fire Chief would need to have input there from an emergency sense.
- Intent is for the proposed roads to be paved
- Board has heard previous cases where the sketches came to Planning Board prior to Conservation Commission. The Conservation Commission next meets on June 10th.
- Site distance at TRC would look at the 85% of actual speeds- not posted speeds

The Chair confirmed that if this moves forward the questions asked tonight would be addressed in the planning process (traffic studies, etc.)
D. Benton explained the board doesn't have to give a specific maximum unit count tonight, but would be best to give the applicant feedback about pros and cons of the plan so far and feedback about the unit count (in the right range vs only want half etc.)

Board comments:
Clarifications:

- wetlands do count as part of open space calculations (40% wetland buffer is allowed)
- HOAs include restrictions and maintenance plans which must be followed. The City enforces the provisions in these documents. You can't 'walk away' from the obligations for maintenance, upkeep etc. In fact the restrictions are more cohesive than they were when Indian Ridge was implemented.

F. Cullen agrees with having a fire gate at the Emerald Ln connection to prevent traffic. He suggested the applicant review the feedback received from the public and come back to a future meeting with some alternatives.
Chair Cruikshank agreed and asked if the applicant could show what the zoning already allows to give a perspective for the board and public. She also clarified that the funds that come in for TDR are not a 'windfall for the city' as suggested by public comment. Those funds can only be used for conservation purposes. The City does not have access to it for any other purpose.

K. Mavrogeorge noted a couple things that would be helpful to see from the applicant are to see the wildlife passage routes, and conservation layer over the plan. That will help with determining building and open lands placement.
If it's going to be a private road, try to reduce the amount of impervious surfaces.

T. Clark is not comfortable with the proposed unit count. He suggested it go to Conservation Commission for overall feedback prior to approving any number of units.

It was suggested and discussed the applicant go before Conservation Commission on June 10th and come back to Planning Board after that with additional information and options based on feedback received tonight and June 10th.

Mr. Stowell addressed the 50' no cut buffer and the abutting wooded area.

E. Kaspari commented as someone looking to purchase a home in Dover, she always looks at the surrounding lots. She feels for the abutters and hopes to see future plans that will have a positive outcome. She does not believe the current proposal fits the purpose of TDR or intent of the R-40 district.

Motion: T. Clark moved to table the item to the June 25th meeting. Seconded by: K. Mavrogeorge. Vote: U/A

5. STAFF COMMENTS

- Sending positive thoughts to Kyle Pimental.
- No TRCs since last meeting.
- TRCs coming up:
    - (May 30th) Site Review for Our Place, Inc., Assessor's Map H, Lot 6-4, zoned R-20, located at 105 Durham Road. (Proposal is to provide a 9-unit group housing facility for adults with Intellectual Developmental Disabilities (IDD) with associated parking, drainage and landscaping.) (SITE-2024-0004)

6. MEMBER COMMENTS

- Chair Cruikshank
    - Read a thank you note from Friends Forever International
- G. DeBoer
    - Comments on the proposal and surrounding developments
        - Discussion continued
- K. Mavrogeorge
    - The DPW event was fantastic and better than anticipated

DRAFT

7. ADJOURNMENT

Motion: G. DeBoer moved to adjourn at 9:12pm. Seconded by K. Mavrogeorge. Vote: U/A

DRAFT

Item 4.A

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE # WAIV-2024-0008

Application Type:	Site Plan Amendment
Applicant(s):	StoneArch Development Corp.
Owner(s):	59 Tolend Rd., LLC
Location:	59 Tolend Road (Assessor's Map E, Lot 65-1)
Meeting Date:	June 11, 2024

INTENT: The Board previously approved an Open Space Subdivision on 8/22/2023 for a total of 27 lots with 2 open space areas. The applicant now seeks an extension of the conditional approval timeframe in order to obtain State subdivision and subsurface approval and State DWGB permit approval.

UNITS PROPOSED: N/A

AGENDA ITEM #: 4-A

ACREAGE: 31.69± acres

ZONING DISTRICT: Low Density Residential, R-20

EXISTING USE: Residential

PROPOSED USE: Residential

SURROUNDING USES: Residential and Mixed Use

ZBA ACTION: None

PERMITS REQUIRED:
City of Dover Conditional Use Permits (CUPs) to allow for permanent and temporary wetland and wetland buffer impacts

WAIVERS REQUIRED: None

APPLICATION IS COMPLETE:
Yes

REGIONAL IMPACT: No

NOTICES SENT: Abutter notices were sent by certified mail.

TRC: N/A

ATTACHMENTS: Application materials

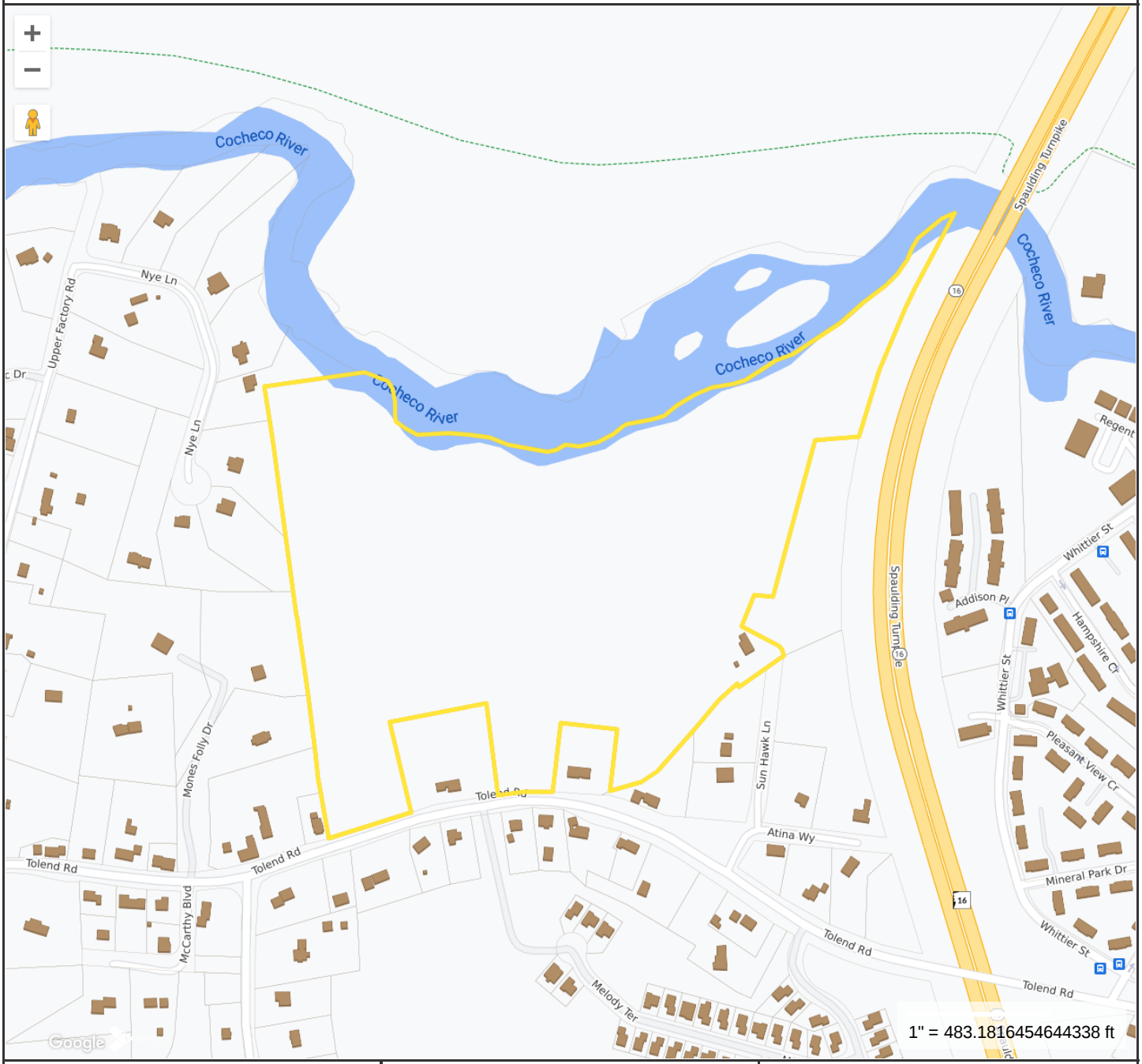
Summary of Request and Background
On August 22, 2023, the Board approved an Open Space Subdivision (SUBD-2023-0005) for the creation of twenty-seven (27) lots with two (2) open space areas in conjunction with two (2) Conditional Use Permits for temporary and permanent impacts to wetlands and wetland buffers.

The applicant now seeks an extension of its conditional approval in order to obtain State subdivision and subsurface approval and a NHDES Drinking Water and Groundwater Bureau permit. Applicant has already received local leachfield approval.

Consistency with Land Use Regulations
Chapter 157-23.B of the Land Subdivision Regulations of the City Code provides requisite criteria to be met prior to the granting of any extension, not to exceed one year per each request.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board accept the application, open the public hearing, make findings, and vote to approve the extension request and that the same conditions of the original conditional approval apply with a new date of December 23, 2024.

WAIV-2024-0008 59 TOLEND ROAD



Property Information

Location	TOLEND RD
Owner	59 TOLEND RD LLC
Land Use	
Zoning Code	R-20
Property Id	E0065-001000

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 10/30/2023
Data updated Daily

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

PLAN SNAPSHOT REPORT WAIV-2024-0008
FOR CITY OF DOVER, N.H.

Plan Type: Waiver / Extension / Amendment
Project:
App Date: 05/15/2024

Work Class: Plan
District: None
Exp Date: 07/19/2024

Status: In Review
Square Feet: 0.00
Completed: NOT COMPLETED

Valuation: $0.00
Assigned To: Blonigen, Rachel
Approval Expire Date:

Description: Received local leachfield approval. Submitted for state subdivision, state subsurface approval, and state DWGB permit at this time.

Parcel: E0065-001000 Main
Address: Tolend Rd Main
Dover, NH
Zone:

Applicant
Berry Surveying & Engineering
335 Second Crown Point Road
Barrington, NH 03825
Business: (603) 332-2863
Mobile: (603) 781-3403

Applicant
Scott O'Neill
Home: (978) 375-3153
Business: (978) 375-3153
Mobile: (978) 375-3153

Wetlands Scientist
John Hayes III
Home: (603) 205-4396
Business: (603) 205-4396
Mobile: (603) 205-4396

Surveyor
Kenneth Berry
Home: (603) 332-2863
Business: (603) 332-2863
Mobile: (603) 332-2863

Engineer
Kenneth Berry
Home: (603) 332-2863
Business: (603) 332-2863
Mobile: (603) 332-2863

Soil Scientist
John Hayes III
Home: (603) 205-4396
Business: (603) 205-4396
Mobile: (603) 205-4396

Owner
Scott O'Neill
Mobile: (978) 375-3153

Plan Custom Fields

Project Location	Tolend Road	Waiver Request Type	Extension	Project Name	Rolling Hill Estates
Owner Phone	1-978-375-3153	Owner Name	59 Tolend Road LLC	Original Plan Approval Date	Aug 22 2023 12:00AM
Owner Address	42J Dover Point Road, Dover, NH 03820	Owner EMail	office@stonearchcommunities.com	Original Plan End Date	Nov 20 2023 12:00AM
Plan ID Number	SUBD-2023-0005	Plan Type	Subdivision	# Extensions Previously Granted	1
Current Plan End Date	May 21 2024 12:00AM	Extension Type Requested	Sec. 157-23.B	Extension Request Detail	Received local leachfield approval. Submitted for state subdivision, state subsurface approval, and state DWGB permit at this time.
Condition / Portion of Plan to be Amended		Amendment Request Detail		Site / Subdivision Portion of Plan to be Waived	
Waiver Request Detail					

Attachment File Name	Added On	Added By	Attachment Group	Notes
Signature_Chris_Berry_5/15/2024.jpg	05/15/2024 8:14	Berry, Chris		Uploaded via CSS

Invoice No.	Fee	Fee Amount	Amount Paid
INV-00007932	Planning Waiver / Extension /Amend Application Fee	$200.00	$0.00
	Total for Invoice INV-00007932	$200.00	$0.00
	Grand Total for Plan	**$200.00**	**$0.00**

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1		05/21/2024 11:53	05/21/2024 11:54
Confirm application complete v.1	Generic Action		05/21/2024 11:54
Technical Review Committee Meeting Agenda v.1	Task		05/21/2024 11:53
Land Use Plan Technical Review v.1	Receive Submittal		05/21/2024 11:54
Technical Review Committee Meeting v.1	Hold Meeting		05/21/2024 11:54

PLAN SNAPSHOT REPORT (WAIV-2024-0008)

Planning Board v.1		05/21/2024 11:54
Planning Board Agenda v.1	Task	05/21/2024 11:54
Invoice for Notices v.1	Task	
Send Notices v.1	Task	
Planner Creates Staff Recommendations v.1	Plan Activity	
Distribute Planning Board Materials v.1	Task	
Planning Board Hearing v.1	Hold Hearing	
Planning Board Decision v.1	Plan Activity	
NOD Sent to Applicant v.1	Create Report	
Final Plan v.1		
Land Use Plan Stamped and Signed v.1	Generic Action	
Recording v.1	Task	
Document Archival v.1	Generic Action	
Internal Notification of Plan Completion v.1	Generic Action	
Building Official Notifies Address v.1	Generic Action	
Pre-Con Meeting v.1	Hold Meeting	
Create/Link to Records v.1		
Create / Link to Permit - Building Major v.1	Create Sub Permit	
Create / Link to Permit - Site Work, Construction v.1	Create Sub Permit	

City of Dover, New Hampshire
APPLICATION FOR EXTENSION OF/ AMENDMENT TO OR WAIVER FOR PLAN/ DRIVEWAY

[Revised August 20, 2020]

Office Use Only	Amount Paid: _____	Date/Time Received: _____

APPLICANT INFORMATION

Name of Applicant: StoneArch Developement Corp Telephone # 1-978-375-3153

Address of Applicant: 42J Dover Point Road, Dover, NH 03820 E-Mail Office@stonearchcommunities.com

Project Name: Rolling Hill Estates Project Location: Tolend Road

Planning File Number: SUBD-2023-0005 Date of Original Approval August 22, 2023

File Type: Conditional Use _____ Site Plan Review _____ Subdivision X

EXTENSION INFORMATION (*Note: notification of abutters required for first time extensions under Sec. 153-9.B and Sec. 157-23.B only)*

Extension type requested *(check one)*: ___Sec. 153-8.A ___Sec. 153-9.B ___Sec. 157-13.A X Sec. 157-23.B

Current deadline date: May 21, 2024 Number of Extensions Previously granted by Board 1

Reason(s) for extension/comments (*attach additional sheets as needed*): Received local leachfield approval. Submitted for state sub, subsurface approval, and DWGB permit once we received local leachfield approval

AMENDMENT INFORMATION

Condition(s) or portion of plan to be amended: _____

Reason(s) for amendment/comments (*attach additional sheets as needed*): _____

WAIVER INFORMATION

Site Review/Subdivision Regulations section(s) to be waived: _____

Justification for waiver request(s) (*attach additional sheets as needed*): _____

SIGNATURES

I/We hereby submit this application to the Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: _____ Date: 5-15-24

Signature of Applicant (*if different from owner*): _____ Date: _____

Signature of Agent: _____ Date: 5-15-24

APPLICATION FOR EXTENSION OF/ AMENDMENT TO OR WAIVER FOR PLAN/ DRIVEWAY
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

CITY OF DOVER, NEW HAMPSHIRE
PLANNING APPLICATION OWNER AUTHORIZATION

OWNER AUTHORIZATION

I/We hereby submit this application to the City of Dover / City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Property Owner Name: SO

Signature(s) of Property Owner(s): _____ Date: 2-20-24

Signature of Applicant: _____ Date: 2-20-24
if different from owner

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity..

Property Owner Name: SO

Signature(s) of Property Owner(s): _____ Date: 2-20-24

Signature of Applicant: _____ Date: 2-20-24
if different from owner

IF SIGN PERMIT, SIGN PERMIT APPLICATION INFORMATION

If the sign permit applicant is not the property owner, this form must be completed and included as part of application submission.

I have read this application and state that, to the best of my knowledge, the information provided is true and that the proposed sign(s) will comply with all applicable regulations in Section 170-32 of the Zoning Ordinance of the City of Dover and shall conform to the submitted materials and designs. Furthermore, after 90 days, any application still waiting information will be denied.

Address of Sign Location: _____

Sign Permit Application Type:
(check one)

- ☐ Permanent Sign
- ☐ Temporary Sign
- ☐ Community Sign

WAIV-2024-0008 **TOLEND ROAD**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
E0024-000000	100 LIBERTY WY	LIBERTY MUTUAL INSURANCE CO	ATTN: TYLER MUNGER	175 BERKELEY ST	BOSTON	MA	02116
E0049-005000	22 NYE LN	RICHBURG NORMAN R &	RICHBURG BETSY J	22 NYE LANE	DOVER	NH	03820
E0049-006000	26 NYE LN	BRODERICK BRIDGET		26 NYE LANE	DOVER	NH	03820
E0049-007000	34 NYE LN	CHAKRAVARTY DILIP & MITALI TRUSTEES	DILIP CHAKRAVARTY REVOCABLE TRUST &	6906 SPINNING SEED	COLUMBIA	MD	21045
E0049-008000	38 NYE LN	BERGSTROM EVA K &	EDDINS KURT	38 NYE LANE	DOVER	NH	03820
E0049-009000	40 NYE LN	THIBAULT DANIEL JACOB		40 NYE LANE	DOVER	NH	03820
E0057-003000	3 MONES FOLLY DR	KAEMPF ETHAN	PHILLIPS TAYLOR	3 MONES FOLLY DR	DOVER	NH	03820
E0057-G00000	95 TOLEND RD	95 TOLEND ROAD LLC		24 STOCKLAN CR	DOVER	NH	03820
E0057-G00001	1 MONES FOLLY DR	MONE SEAMUS D		1 MONE'S FOLLY	DOVER	NH	03820
E0064-000000	89 TOLEND RD	FORBES DONALD W &	FORBES LINDA R	181 OLD FIELDS ROAD	SOUTH BERWICK	ME	03908
E0065-000000	65 TOLEND RD	GEORGE DOUGLAS A		65 TOLEND RD	DOVER	NH	03820
E0065-A00000	22 SUN HAWK LN	SGRIGNUOLI EUGENE A	SGRIGNUOLI DONNA L	22 SUN HAWK LN	DOVER	NH	03820
E0065-B00000	53 TOLEND RD	BSTANDIG MARTHA A TRUSTEE	BSTANDIG MARTHA A REVOCABLE TRUST	53 TOLEND RD	DOVER	NH	03820
E0074-000000	14 ATINA WY	SICARD RHONDA J &	BASTIANELLI GREGORY	14 ATINA WAY	DOVER	NH	03820-5824
E0074-B00000	6 SUN HAWK LN	POMEROY CAROLINE S		6 SUN HAWK LN	DOVER	NH	03820-5812
E0074-C00000	10 SUN HAWK LN	FINN CAROL ANNE		10 SUN HAWK LN	DOVER	NH	03820
E0074-D00000	43 TOLEND RD	CLOUGH VERNON L &	CLOUGH OLGA	43 TOLEND RD	DOVER	NH	03820
G0024-A00000	94 TOLEND RD	MILLER JASON S &	MILLER CHRISTINE S	94 TOLEND RD	DOVER	NH	03820-5501
G0024-B00000	60 TOLEND RD	WILLIAMS THOMAS R &	WILLIAMS CAROLYN E	60 TOLEND ROAD	DOVER	NH	03820
G0024-C00000	88 TOLEND RD	HARTMANN MITCHELL JOHN &	WALSH BROOKE BETHANY	88 TOLEND RD	DOVER	NH	03820
G0024-E00000	48 TOLEND RD	BEAN BONNIE E TRUSTEE	THE BONNIE E BEAN REVOCABLE TRUST OF 202	48 TOLEND RD	DOVER	NH	03820
G0024-F00000	74 TOLEND RD	NADEAU EVAN P	NADEAU CARISSA B	74 TOLEND RD	DOVER	NH	03820
G0024-G00000	64 TOLEND RD	DAMON TIMOTHY JAMES &	DAMON CATHERINE E	64 TOLEND RD	DOVER	NH	03820
G0024-H00000	54 TOLEND RD	KEEFE PATRICIA		54 TOLEND ROAD	DOVER	NH	03820
G0024-J00000	TOLEND RD	WYNDBROOK AT DOVER HOMEOWNERS ASSOCIATIO	C/O GREAT NORTH PROPERTY MANAGEMENT	3 HOLLAND WAY SUITE 201	EXETER	NH	03833
G0024-K00001	44 TOLEND RD	GRONE EMILY J	LEMOINE MICHAEL C	44 TOLEND ROAD	DOVER	NH	03820
G0024-L00000	78 TOLEND RD	ROBERTSON JAMES M &	ROBERTSON LINDA S	78 TOLEND RD	DOVER	NH	03820
G0024-M00000	80 TOLEND RD	GERVAIS ANDREW TODD		80 TOLEND RD	DOVER	NH	03820
E0065-001000	TOLEND RD	59 TOLEND RD LLC		42 DOVER POINT RD UNIT J	DOVER	NH	03820
		BERRY SURVEYING & ENGINEERING		335 SECOND CROWN POINT	BARRINGTON	NH	03825

WETLAND NOTES:

WETLANDS WERE DELINEATED BY JOHN P. HAYES SPRING 2021 & OCTOBER OF 2022.

1. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.0. UNITED STATES DEPARTMENT OF AGRICULTURE (2016).
3. NATIONAL WETLAND PLANT LIST (CURRENT VERSION).

JOHN P. HAYES III, CWS #18

ZONING NOTES:

1.) ZONING: (R-20) LOW DENSITY:

MIN. FRONTAGE ~ 125'	PROVIDED: 177.85' & 266.94' (LOT 65-1), 65.86' EX. 0' PROP. (SEE VARIANCE REQUEST (LOT 65-A))
MIN. LOT SIZE ~ 20,000 Sq. Ft. SINGLE FAMILY	N/A
MIN. LOT SIZE ~ 30,000 SqFt. TWO FAMILY	SINGLE-FAMILY PROPOSED AS AN OSS CLUSTER
FRONT BUILD-TO ~ 20' ~ 35'	SEE OSS BELOW
REAR SETBACK ~ 30'	SEE OSS BELOW
SIDE SETBACK ~ 20'	SEE OSS BELOW
WETLANDS BUFFER ~ 50.0'	50.0'
MAX. BUILDING HEIGHT: 35'	35'
MAX. LOT COVERAGE: 30%	59,582 SF (3.3%) LOT 65-1, 3,472 SF (2.8%) LOT 65-A (FUNCTION OF LLR)

OPEN SPACE SUBDIVISION (OSS)

15 Ac. MINIMUM	41.51 Ac
MIN. LOT SIZE ~ 12,000 Sq. Ft.,	CLUSTER PROVIDED WITH LIMITED COMMON AREA LINES
MIN. FRONTAGE ~ 30'	MIN' 30' FRONTAGE PROVIDED IN CLUSTER FORMAT
MIN. BUFFER ALONG FRONTAGE ~ 100'	100' (CURB CUT EXCEPTED)
STREET SIDE ~ 15'	20' MIN
BETWEEN UNITS ~ 25'	25' MIN.
MIN. DISTANCE TO ABUTTING STRUCTURES ~ 75'	243' TO THE CLOSEST ABUTTING STRUCTURE TO A PROPOSED STRUCTURE
	89' FROM CLOSEST ABUTTING STRUCTURE TO PROPOSED THEODORE DRIVE.
MIN. BUFFER TO EXTERNAL BOUNDARIES ~ 40'	18' AT THE CLOSEST FOR ROAD CONSTRUCTION. WAIVER REQUESTED

CONSERVATION OVERLAY DISTRICT:

COCHECHO RIVER ~ 100'	100' MIN.
WETLANDS OVERLAY DISTRICT	SEE CUP REQUEST

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

N/F BRODERICK, BRIDGET
26 NYE LANE
DOVER, NH 03820
TAX MAP E, LOT 49-6
S.C.R.D. BOOK 4034, PAGE 254

6"x10" GRANITE BOUND ~FND~ (1.0' HIGH)

TRITECH IRON BOUND ~FND~ (0.3' HIGH) NH GRID COORD. N.: 257829.09 E.: 1187222.41 ELEV.: 91.13

N/F CHAKRAVARTY, DILIP & MITALI
11411 RUNNING BEAR COURT
BELTSVILLE, MD 20705-1478
TAX MAP E, LOT 49-7
S.C.R.D. BOOK 3988, PAGE 795

1/4" REBAR ~FND~ (1.2' HIGH)

N/F BERGSTROM, EVA K. & EDDINS, KURT
38 NYE LANE
DOVER, NH 03820
TAX MAP E, LOT 49-8
S.C.R.D. BOOK 4499, PAGE 734

TRITECH IRON BOUND ~FND~ (0.1' HIGH)

TRITECH IRON BOUND ~FND~ (0.6' HIGH)

1 1/2" IRON PIPE ~FND~ (3.3' HIGH)

N/F MARTEL, PAUL J.
P.O. BOX 182
DOVER, NH 03821-0182
TAX MAP E, LOT 57-3
S.C.R.D. BOOK 1433, PAGE 200

40' PERIMETER OSS BUFFER

25' STATE CEMETERY BUFFER

HAM FAMILY CEMETERY

1" IRON PIPE ~FND~ (1.3' HIGH) W/ WITNESS POST

N/F MONE, SEAMUS D.
1 MONE'S FOLLY DRIVE
DOVER, NH 03820
TAX MAP E, LOT 57-G-1
S.C.R.D. BOOK 4833, PAGE 841

N/F MAXON FAMILY REVOCABLE TRUST
MAXON, THOMAS & PATRICIA TRUSTEES
40 BALDPATE ROAD
GEORGETOWN, MA 01833
TAX MAP E, LOT 57-C
S.C.R.D. BOOK 4018, PAGE 118

N/F FORBES, DONALD W. & LINDA R.
181 OLD FIELDS ROAD
SOUTH BERWICK, ME 03908
TAX MAP E, LOT 64
S.C.R.D. BOOK 1906, PAGE 249

EXISTING TRAIL

SURVEY TIE LINE – NOT A BOUNDARY

COCHECHO RIVER

FEMA FLOOD ZONE A

28" HEMLOCK W/ BARBED WIRE

2339'± ALONG SOUTHERLY SIDE OF RIVER

MEAN HIGH WATER EDGE OF RIVER LOCATED IN SPRING 2021

ABUTTERS ACROSS THE RIVER (34)

PROPOSED RECREATION TRAIL EASEMENT TO CITY OF DOVER

LOCAL 100' COCHECHO RIVER BUFFER

OPEN SPACE #2 65-1-OP2

PROPOSED CONSERVATION EASEMENT (INCLUDES TRAIL EASEMENT) 1,277,827 Sq.Ft.± 29.33 Ac.±

SHEET 23 / SHEET 21

EDGE OF POORLY DRAINED JURISDICTIONAL WETLANDS (TYP.) BY: JOHN P. HAYES III, CWS #18 (TYP.)

PROPOSED LCA LINE (TYP.)

50' WETLAND BUFFER (TYP.)

SHEET 23 / SHEET 24

LCA LOT 65-1-1 through 65-1-27

LIAM DRIVE (PVT.)

AMELIA DRIVE (PVT.)

THEODORE DRIVE (PVT.)

SHEET 21 / SHEET 22

OPEN SPACE #1 65-1-OP1

CIVIL CONSULTANTS IRON BOUND ~FND~ (1.4' HIGH) NH GRID COORD. N.: 256925.91 E: 1187926.32 ELEV.: 112.29

CIVIL CONSULTANTS IRON BOUND ~FND~ (0.8' HIGH)

40' PERIMETER OSS BUFFER

N/F GEORGE, DOUGLAS A.
65 TOLEND ROAD
DOVER, NH 03820
TAX MAP E, LOT 65
S.C.R.D. BOOK 3953, PAGE 464

100' FRONT BUFFER

CIVIL CONSULTANTS IRON BOUND ~FND~ (0.3' HIGH)

PSNH 4/92

NET 69

PSNH 4/93

PSNH 4/94

TOLEND ROAD

24' PAVED 4 RODS WIDE PUBLIC, CLASS V.

DAVIS STEEL STAKE ~FND~ (FLUSH) LOCATED AT BASE

PSNH 4/91

STEEL STAKE ~FND~ (FLUSH) LOCATED AT BASE

PSNH 4/90

PSNH 4/89A

PSNH 4/96A

N/F GERVAIS, ANDREW TODD
80 TOLEND ROAD
DOVER, NH 03820
TAX MAP G, LOT 24-M
S.C.R.D. BOOK 4250, PAGE 900

CIVIL CONSULTANTS IRON BOUND ~FND~ (FLUSH)

N/F BSTANDIG, MARTHA A. REVOCABLE TRUST
BSTANDIG, MARTHA A. TRUSTEE
53 TOLEND ROAD
DOVER, NH 03820
TAX MAP E, LOT 65-B
S.C.R.D. BOOK 4639, PAGE 921

N/F KEEFE, PATRICIA
54 TOLEND ROAD
DOVER, NH 03820
TAX MAP G, LOT 24-H
S.C.R.D. BOOK 1484, PAGE 700

N/F CLOUGH, VERNON L. & OLGA
43 TOLEND ROAD
DOVER, NH 03820
TAX MAP E, LOT 74-D
S.C.R.D. BOOK 2703, PAGE 371

SUN HAWK LANE (PVT.)

GRAVEL TRAVEL WAY OWNED BY NHDOT. S.C.R.D. BOOK 650, PG 344 & 350

261.08' S17°19'42"W

NHHB ~FND~ (0.4' HIGH)

NHHB ~FND~ (0.1' HIGH)

NHHB ~FND~ (0.4' HIGH)

NHHB ~FND~ (0.1' HIGH)

NITRATE EASEMENT IN FAVOR LOT TAX MAP E, LOT 65-1

HIGHWAY FENCE

TAX MAP E, LOT 65-A EXISTING LOT AREA: 125,886 Sq.Ft. 2.89 Ac.

40' PERIMETER OSS BUFFER

20' SIDE SETBACK

EXISTING BILLBOARD

PSC 4/88C

PSNH 4/88B

LLS 211 IRON BOUND ~FND~ (0.1' HIGH)

LLS 223 I.B. (FND) +0.1'

NHHB ~FND~ (0.1' HIGH)

CIVIL CONSULTANTS IRON BOUND ~FND~ (0.9' HIGH)

CIVIL CONSULTANTS IRON BOUND ~FND~ (0.7' HIGH)

PSNH 4/88AX

N/F SICARD RHONDA J. & BASTIANELLI GREGORY
14 ATINA WAY
DOVER, NH 03820
TAX MAP E, LOT 74
S.C.R.D. BOOK 4505, PAGE 898

CIVIL CONSULTANTS IRON BOUND ~FND~

PSNH 4/88A

PSNH 4/88A1X

N/F FINN, CAROL ANNE
10 SUN HAWK LANE
DOVER, NH 03820
TAX MAP E, LOT 74-C
S.C.R.D. BOOK 1598, PAGE 215

CIVIL CONSULTANTS IRON BOUND ~FND~ (0.9' HIGH)

NHHB ~FND~ (FLUSH)

LOCAL 100' COCHECHO RIVER BUFFER

50' WETLAND BUFFER (TYP.)

OPEN SPACE #2 65-1-OP2

LCA LOT 65-1-4 through 65-1-27

NHHB ~FND~ (0.5' HIGH)

NHHB ~FND~ (0.1' HIGH)

16'±

N.H. ROUTE 16 SPAULDING TURNPIKE

NAD83 NH STATE PLANE MAGNETIC

ADDITIONAL ABUTTERS:

(12) N/F CHAKRAVARTY, DILIP & MITALI
N/F THIBAULT, DANIEL JACOB
40 NYE LANE
DOVER, NH 03820
TAX MAP E, LOT 49-9
S.C.R.D. BOOK 4631, PAGE 150

(20) N/F THAYER SMITH FAMILY REV. TRUST
SMITH, TRAVIS K. & THAYER, MEGAN TRUSTEES
88 TOLEND ROAD
DOVER, NH 03820
TAX MAP G, LOT 24-C
S.C.R.D. BOOK, 4347, PAGE 303

(22) N/F ROBERTSON, JAMES M. & LINDA S.
78 TOLEND ROAD
DOVER, NH 03820
TAX MAP G, LOT 24-L
S.C.R.D. BOOK 2611, PAGE 738

(23) N/F ROBERTS, MEREDITH
74 TOLEND ROAD
DOVER, NH 03820
TAX MAP G, LOT 24-F
S.C.R.D. BOOK 4542, PAGE 440

(24) N/F WYNDBROOK AT DOVER HOMEOWNERS ASSOCIATION
P.O. BOX 1685
DOVER, NH 03821
TAX MAP G, LOT 24-J
S.C.R.D. BOOK 4359, PAGE 116

ADDITIONAL ABUTTERS:

(25) N/F DAMON, TIMOTHY JAMES & CATHERINE E.
64 TOLEND ROAD
DOVER, NH 03820
TAX MAP G, LOT 24-G
S.C.R.D. BOOK 4228, PAGE 316

(26) N/F WILLIAMS, THOMAS R. & CAROLYN E.
60 TOLEND ROAD
DOVER, NH 03820
TAX MAP G, LOT 24-B
S.C.R.D. BOOK 2073, PAGE 290

(28) N/F BEAN, BONNIE E. & CITAK, TERESA
48 TOLEND ROAD
DOVER, NH 03820
TAX MAP G, LOT 24-E
S.C.R.D. BOOK 4438, PAGE 210

ADDITIONAL ABUTTERS:

(34) LIBERTY MUTUAL INSURANCE CO.
ATTN: TYLER MUNGER
175 BERKELEY STREET
BOSTON, MA 02116
TAX MAP E, LOT 24
S.C.R.D. BOOK 1364, PAGE 453

ABUTTERS ACROSS ROUTE 16::

(32) WHITTIER FALLS INC.
62 WHITTIER STREET
DOVER, NH 03820
TAX MAP E, LOT 65-C
S.C.R.D. BOOK 4224, PAGE 554

(33) WHITTIER FALLS INC.
62 WHITTIER STREET
DOVER, NH 03820
TAX MAP E, LOT 74-A
S.C.R.D. BOOK 4224, PAGE 554

LEGEND:

- ● 3/4" REBAR W/ID CAP ~TBS~
- ■ GRANITE BOUND ~TBS~
- ○ IRON BOUND ~FND OR SET~
- ○ IRON PIPE ~FND~
- ⊠ NHHB BOUND ~FND~
- UTILITY POLE / GUY WIRE
- MATCH POINT
- MATCH LINE
- BUILDING SETBACK LINE
- POORLY DRAINED WETLAND LINE
- EXISTING RIVER
- EXISTING TRAIL
- 50' WETLAND BUFFER
- FEMA FLOOD ZONE
- 100' LOCAL CONSERVATION OVERLAY ZONE
- PROPOSED LCA LINE
- SURVEY TIE LINE – NOT A PROPERTY BOUNDARY
- PROPOSED EASEMENT

S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS
TYP. TYPICAL
FND FOUND
TBS TO BE SET
LCA LIMITED COMMON AREA

(##) ABUTTER – SEE OVERVIEW PLAN, SHEET 19 OF 102

PLAN REFERENCES:

1.) "STANDARD PROPERTY SURVEY AND SUBDIVISION OF LAND OF THE EDWARD J. GEORGE FAMILY TRUST" BY: CIVIL CONSULTANTS DATED: APRIL 2, 2011 S.C.R.D.: PLAN #102-24

2.) "PLAN OF LAND PREPARED FOR FAIRVIEW PARTNERS, LLC TAX MAP E, LOT NO. 74B 35 TOLEND ROAD CITY OF DOVER COUNTY OF STRAFFORD STATE OF NEW HAMPSHIRE" BY: MCENEANEY SURVEY ASSOCIATES INC. DATED: MARCH 4, 2016

3.) "SUBDIVISION OF LAND FOR KAREN & JAMES BECKINGHAM & MARY & SCOTT MCEWAN IN DOVER, N.H." BY: BRUCE L. POHOPEK DATED: FEBRUARY 19, 1986 S.C.R.D.: PLAN #29-67

4.) "SUBDIVISION OF LAND FOR PAUL MARTEL IN DOVER, N.H." BY: BRUCE L. POHOPEK DATED: OCTOBER 4, 1978 S.C.R.D.: PLAN #19A-47

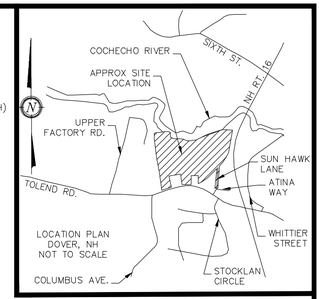
5.) "PLAN OF LOT ERNEST BSTANDIG DOVER NEW HAMPSHIRE" BY: G.L. DAVIS & ASSOCIATES DATED: MAY, 1969 S.C.R.D.: BOOK 858, PAGE 159

6.) "PLAN OF LAND, HAROLD A. & YVONNE M. CLEWLEY & LINDA J. NOURY, NORTH SIDE OF TOLEND ROAD, DOVER, NH" BY: R.W. MCCRONE DATED: MARCH 1986 S.C.R.D. PLAN #28A-04

7.) "BOUNDARY LINE ADJUSTMENT, THE HEIRS OF KENNETH & IRENE M. NYE AND PAUL & KATHERINE MARTEL, UPPER FACTORY ROAD, DOVER, NH" BY: TRITECH ENGINEERING CORPORATION DATED: OCTOBER 25, 2004 S.C.R.D. PLAN #77-87

8.) "SUBDIVISION OF LAND FOR ANTONIO BASTIANELLI IN DOVER, N.H." BY: BRUCE L. POHOPEK, LAND SURVEYOR DATED: JULY 31, 1989, AS REVISED 5/28/90 S.C.R.D. PLAN #32-149

9.) "STATE OF NEW HAMPSHIRE, DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS, PLAN OF PROPOSED LS1824(1), SPAULDING TURNPIKE DATED: OCTOBER 19, 1955 S.C.R.D. PLAN #32, POCKET 15, FOLDER 3 & S.C.R.D. PLAN #36, POCKET 15, FOLDER 3 & ON FILE AT NH DOT RIGHTS-OF-WAY, CONCORD, NH



LOCATION PLAN
DOVER, NH
NOT TO SCALE

NOTES:

1.) OWNER: 59 TOLEND RD LLC
42J DOVER POINT ROAD
DOVER, NH 03820

A.) TAX MAP E, LOT 65-1

B.) EXISTING LOT AREA: 1,809,066 Sq.Ft., 41.53 Ac.±

C.) S.C.R.D. BOOK 5044, PAGE 744

2.) OWNER: EUGENE A. & DONNA L. SGRIGNUOLI
22 SUN HAWK LANE
DOVER, NH 03820

A.) TAX MAP E, LOT 65-A

B.) EXISTING LOT AREA: 125,886 Sq.Ft., 2.89 Ac.

C.) S.C.R.D. BOOK 1571, PAGE 86

3.) THE INTENT OF THIS PLAN IS TO SHOW AN OVERVIEW OF THE PROPOPSED SUBDIVISION.

4.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.

5.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, A PORTION OF THIS PARCEL DOES FALL WITHIN THE FLOOD PLAIN. FLOOD HAZARD. REF.: FEMA COMMUNITY #330145, MAP #33017C0310E, DATED: SEPTEMBER 30, 2015.

6.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.

7.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN WINTER OF 2021, WITH A BETTER ERROR OF CLOSURE OF 1 PART IN 10,000.

8.) THE INTENT OF THIS PLAN IS TO SHOW THE CONDOMINIUM OPEN SPACE SUBDIVISION OF TAX MAP E, LOT 65-1, WITH THE CREATION OF A DEVELOPED AREA AND TWO OPEN SPACE AREAS.

9.) A BLANKET UTILITY EASEMENT IS PROVIDED TO THE CITY OF DOVER IN THEODORE DR, LIAM DR, AMELIA DR, SUN HAWK LANE TO MAINTAIN THE POTABLE DRINKING WATER QUALITY THROUGH THE HYDRANT FLUSHING PROGRAM AND ACCESS TO INDIVIDUAL CURB BOXES.

10.) UTILITIES WITHIN THE PRIVATE DRIVES ARE TO BE THE RESPONSIBILITY OF THE HOA INCLUDING THE ROUTINE MAINTENANCE, REPLACEMENT, REPAIR, AND INSPECTION AS NEEDED.

11.) THE OPEN SPACE MEETS THE REQUIREMENTS OF SECTION 157-21 INCLUDING THAT THE SUBJECT LAND MAY BE OWNED, LEASED, OR CONTROLLED BY EITHER A SINGLE PERSON, A CORPORATION OR BY A GROUP OF INDIVIDUALS OR CORPORATIONS. AN APPROVED OPEN SPACE SUBDIVISION SHALL BE BINDING ON THE PROJECT LAND WITH OWNER(S) AND SHALL BE INDICATED SO ON EACH INDIVIDUAL DEED.

12.) THE PROJECT IS APPROVED FOR 27 – 3 BEDROOM HOMES

I CERTIFY THAT THIS PLAT EXCEEDS THE MINIMUM REQUIREMENT FOR ACCURACY AND COMPLETENESS OF THE STATE OF N.H. AND OF THE CITY OF DOVER, N.H. – 1:10,000–

KENNETH A. BERRY L.L.S. 805 6-6-24 DATE

REVISION	DATE	DESCRIPTION
#6	05-03-24	REVISED PER NHDES SUBSURFACE REVIEW
#5	03-15-24	REVISED PER DOVER SEPTIC REVIEW
#4	02-08-24	REVISED NH F&G CONDITIONS & DOVER SEPTIC REVIEW
#3	08-30-23	REVISED EFFLUENT DISPOSAL AREAS
#2	08-01-23	REVISED PER DOVER TRC #2 COMMENT
#1	06-30-23	REVISED PER DOVER TRC #1 COMMENT

OVERVIEW CONDOMINIUM OPEN SPACE SUBDIVISION PLAN

LAND OF
59 TOLEND ROAD, LLC AND
EUGENE A. & DONNA L. SGRIGNUOLI
TOLEND ROAD
DOVER, N.H.
TAX MAP E, LOT 65-1 & 65-A

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT RD.
BARRINGTON, N.H. (603)332-2863

STATE OF NEW HAMPSHIRE · NO. 805 · LICENSED LAND SURVEYOR · KENNETH A. BERRY · SIGNATURE

SCALE : 1 IN. EQUALS 100 FT.
DATE : APRIL 27, 2023
FILE NO. : DB 2023-031

APPROVED DOVER

SHEET 19 OF 102

DOVER PLANNING FILE #SUBD-2023-0005

WETLAND NOTES:

WETLANDS WERE DELINEATED BY JOHN P. HAYES SPRING 2021 AND OCTOBER 2022.

1. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.0. UNITED STATES DEPARTMENT OF AGRICULTURE (2016).
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STATE OF NEW HAMPSHIRE · JOHN P. HAYES, III · CWS 18 · CERTIFIED WETLAND SCIENTIST

JOHN P. HAYES III, CWS #18

NRCS SOILS:

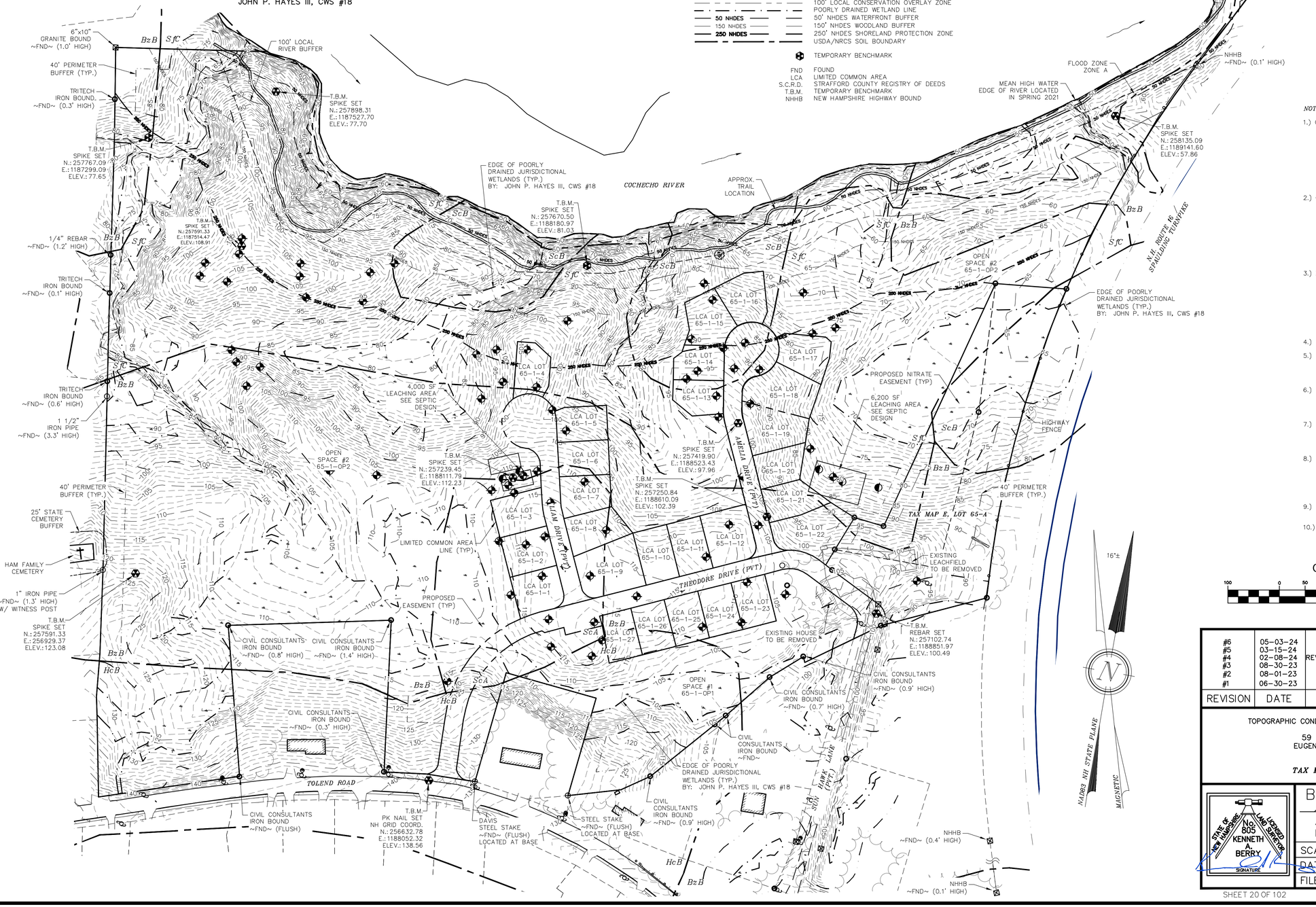
BzB – BUXTON SILT LOAM, 3 TO 8 PERCENT SLOPES
HcB – HOLLIS–CHARLTON FINE SANDY LOAMS, 3 TO 8 PERCENT SLOPES
ScA – SCANTIC SILT LOAM, 0 TO 3 PERCENT SLOPES
ScB – SCANTIC SILT LOAM, 3 TO 8 PERCENT SLOPES
SfC – SUFFIELD SILT LOAM, 8 TO 15 PERCENT SLOPES

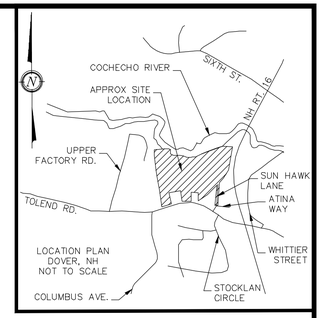
SEE WEBSOIL USDA–NRCS

LEGEND:

- STEEL STAKE ~FND~
- IRON PIPE ~FND~
- IRON BOUND ~FND OR SET~
- NHHB/GRANITE BOUND
- UTILITY POLE
- PROPOSED LCA LINE
- APPROX. ABUTTING LOT LINE
- 40' PERIMETER BUFFER
- PERIMETER BOUNDARY LINE
- HIGHWAY FENCE
- FEMA FLOOD ZONE BOUNDARY
- PROPOSED EASEMENT LINE
- 50' WETLAND BUFFER
- 100' LOCAL CONSERVATION OVERLAY ZONE
- POORLY DRAINED WETLAND LINE
- 50 NHDES — 50' NHDES WATERFRONT BUFFER
- 150 NHDES — 150' NHDES WOODLAND BUFFER
- 250 NHDES — 250' NHDES SHORELAND PROTECTION ZONE
- USDA/NRCS SOIL BOUNDARY
- TEMPORARY BENCHMARK

FND FOUND
LCA LIMITED COMMON AREA
S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS
T.B.M. TEMPORARY BENCHMARK
NHHB NEW HAMPSHIRE HIGHWAY BOUND





NOTES:

1.) OWNER: 59 TOLEND ROAD, LLC
42J DOVER POINT ROAD
DOVER, NH 03820

A.) TAX MAP E, LOT 65–1

B.) EXISTING LOT AREA: 1,388,309 Sq.Ft.±, 31.87 Ac.±
PROPOSED LOT AREA: 1,809,066 Sq.Ft., 41.51 Ac.±

C.) S.C.R.D. BOOK 5044, PAGE 744

2.) OWNER: EUGENE A. & DONNA L. SGRIGNUOLI
22 SUN HAWK LANE
DOVER, NH 03820

A.) TAX MAP E, LOT 65–A

B.) EXISTING LOT AREA: 546,643 Sq.Ft.±, 12.55 Ac.±
PROPOSED LOT AREA: 125,886 Sq.Ft., 2.89 Ac.

C.) S.C.R.D. BOOK 1571, PAGE 86

3.) ZONING: (R–20) LOW DENSITY
MINIMUM FRONTAGE ~ 125'
MINIMUM LOT SIZE ~ 20,000 Sq. Ft.
FRONT SETBACK ~ 20'
REAR SETBACK ~ 30'
SIDE SETBACK ~ 20'
WETLANDS BUFFER ~ 50.0'
MAX. BUILDING HEIGHT: 35'
MAX. LOT COVERAGE: 30%

4.) TOPOGRAPHY SHOWN AT 5' INTERVALS.

5.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, A PORTION OF THIS PARCEL DOES FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD. REF.: FEMA COMMUNITY #330145, MAP #33017C0310E, DATED: SEPTEMBER 30, 2015.

6.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.

7.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN WINTER OF 2021, WITH A BETTER ERROR OF CLOSURE OF 1 PART IN 10,000.

8.) THE INTENT OF THIS PLAN IS TO SHOW THE TOPOGRAPHY OF THE CONDOMINIUM OPEN SPACE SUBDIVISION OF TAX MAP E, LOT 65–1, WITH THE CREATION OF A DEVELOPED AREA AND TWO OPEN SPACE AREAS. THE TOPOGRAPHY WAS COMPLETED AS A PART OF THE FIELD WORK: MARCH 2021 AND SEPTEMBER 2022.

9.) SEE OVERVIEW SUBDIVISION PLAN FOR ABUTTERS, PLAN REFERENCES AND ADDITIONAL NOTES, SHEET 19 OF 102.

10.) THE PROJECT IS APPROVED FOR 27 – 3 BEDROOM HOMES

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

REVISION	DATE	DESCRIPTION
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#5	03–15–24	REVISED PER DOVER SEPTIC REVIEW
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TOPOGRAPHIC CONDOMINIUM OPEN SPACE SUBDIVISION PLAN
LAND OF
59 TOLEND ROAD, LLC AND
EUGENE A. & DONNA L SGRIGNUOLI
TOLEND ROAD
DOVER, N.H.
TAX MAP E, LOT 65–1 & 65–A

STATE OF NEW HAMPSHIRE · LICENSED LAND SURVEYOR · NO. 805 · KENNETH A. BERRY · SIGNATURE

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT RD.
BARRINGTON, N.H. (603)332–2863

SCALE : 1 IN. EQUALS 100 FT.
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DOVER PLANNING FILE #SUBD–2023–0005

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BY: CIVIL CONSULTANTS
DATED: APRIL 2, 2011
S.C.R.D.: PLAN #102-24

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BY: MCENEANEY SURVEY ASSOCIATES INC.
DATED: MARCH 4, 2016

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BY: BRUCE L. POHOPEK
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PLAN REFERENCES CONTINUED:

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PLAN REFERENCES CONTINUED:

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DATED: JULY 31, 1989, AS REVISED 5/28/90
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9.) "STATE OF NEW HAMPSHIRE, DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS, PLAN OF PROPOSED LS1824(1), SPAULDING TURNPIKE"
DATED: OCTOBER 19, 1955
S.C.R.D. PLAN #32, POCKET 15, FOLDER 3 &
S.C.R.D. PLAN #36, POCKET 15, FOLDER 3 &
ON FILE AT NH DOT RIGHTS-OF-WAY, CONCORD, NH

STATE OF NEW HAMPSHIRE
JOHN P. HAYES, III
WR 16
CERTIFIED WETLAND SCIENTIST

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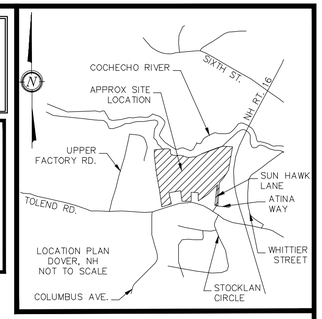
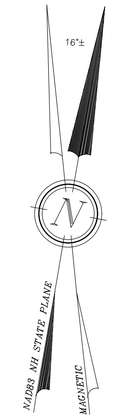
I CERTIFY THAT THIS PLAT EXCEEDS THE MINIMUM REQUIREMENT FOR ACCURACY AND COMPLETENESS OF THE STATE OF N.H. AND OF THE CITY OF DOVER, N.H. - 1:10,000-

6-6-24

KENNETH A. BERRY L.L.S. 805 DATE

APPROVED DOVER





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4.) SEE THE OVERVIEW SUBDIVISION PLAN, SHEET 19 OF 102, FOR COMPLETE ABUTTER LIST AND MORE NOTES.

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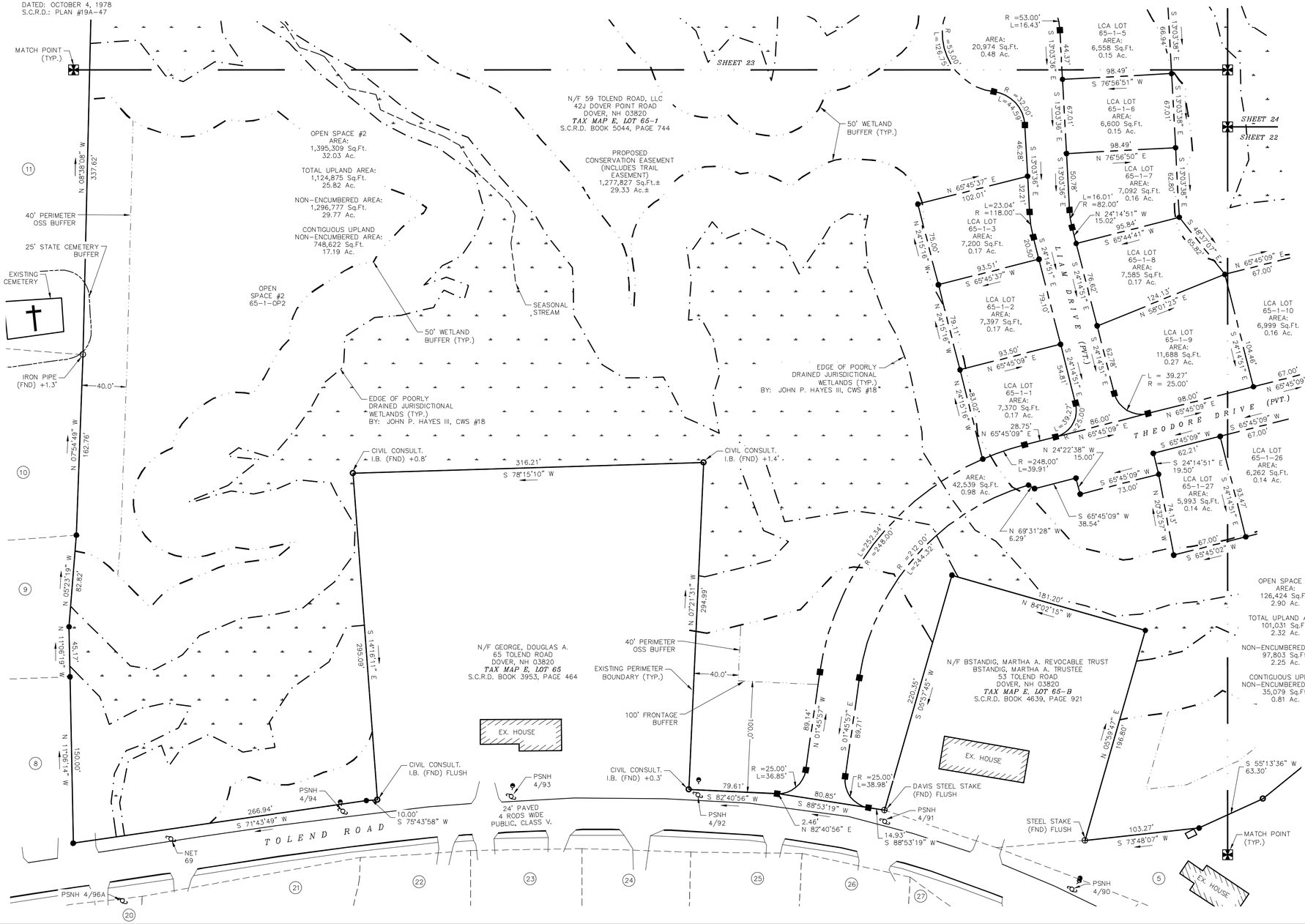

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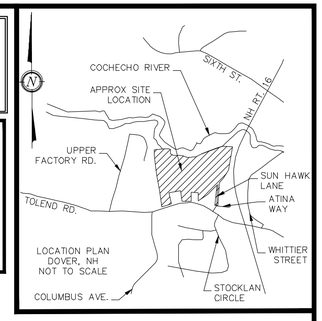

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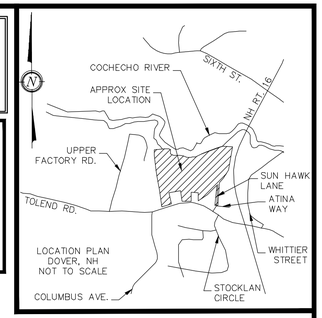
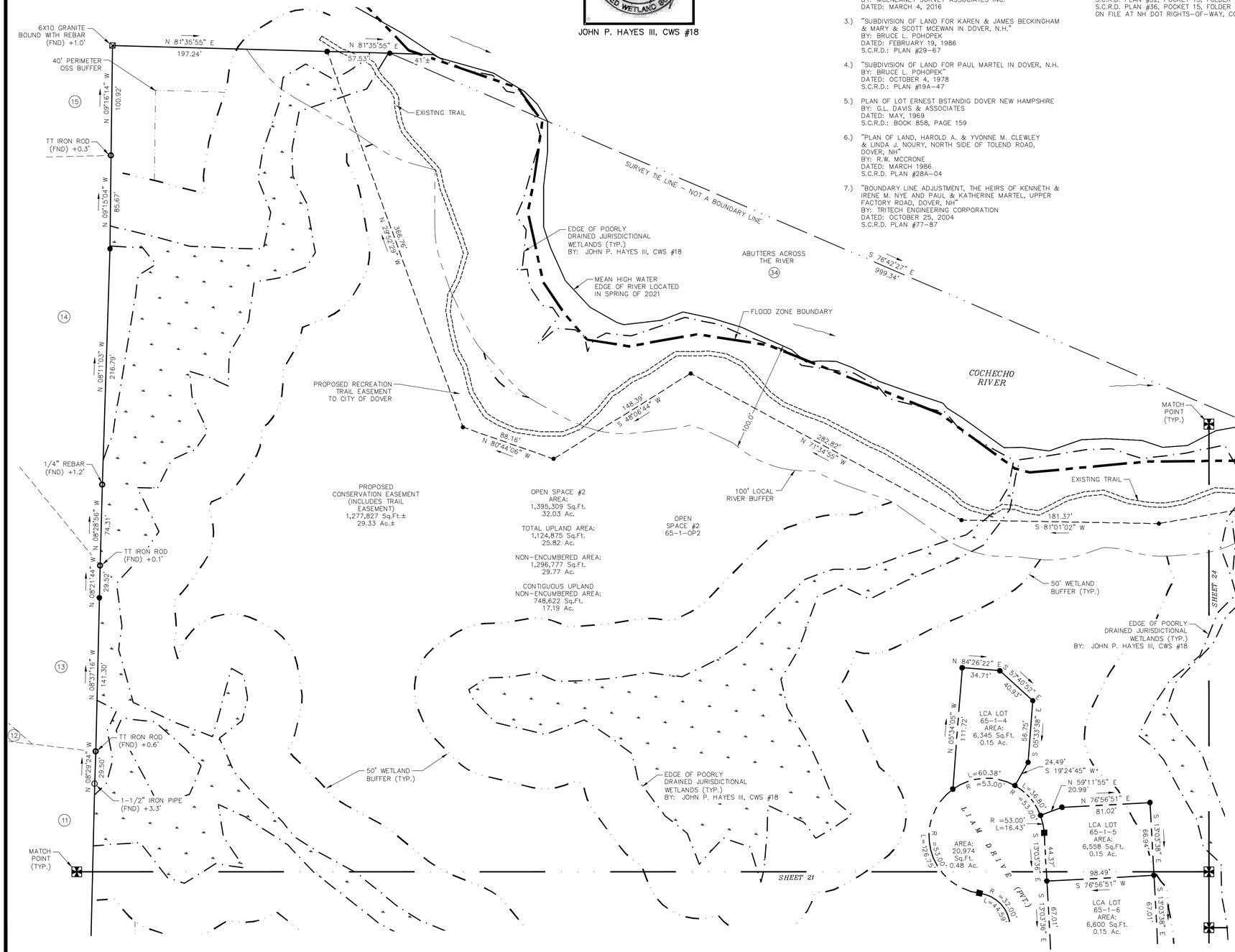
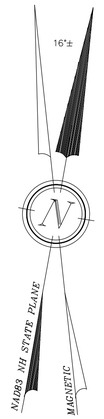
KENNETH A. BERRY L.L.S. 805 6-6-24 DATE

APPROVED DOVER







NOTES:

1.) OWNER: 59 TOLEND RD LLC
42J DOVER POINT ROAD
DOVER, NH 03820

A.) TAX MAP E, LOT 65–1

B.) EXISTINGD LOT AREA: 1,809,066 Sq.Ft., 41.53 Ac.±

C.) S.C.R.D. BOOK 5044, PAGE 744

2.) OWNER: EUGENE A. & DONNA L. SGRIGNUOLI
22 SUN HAWK LANE
DOVER, NH 03820

A.) TAX MAP E, LOT 65–A

B.) EXISTING LOT AREA: 125,886 Sq.Ft., 2.89 Ac.

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4.) SEE THE OVERVIEW SUBDIVISION PLAN, SHEET 19 OF 102, FOR COMPLETE ABUTTER LIST AND MORE NOTES.

5.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.

LEGEND:

- ● 3/4" REBAR W/ID CAP ~TBS~
- ■ GRANITE BOUND ~TBS~
- ○ IRON BOUND ~FND OR SET~
- ○ IRON PIPE ~FND~
- ⊠ NHHB BOUND ~FND~
- UTILITY POLE / GUY WIRE
- MATCH POINT
- MATCH LINE
- BUILDING SETBACK LINE / OSS BUFFER
- POORLY DRAINED WETLAND LINE
- EXISTING RIVER
- EXISTING TRAIL
- 50' WETLAND BUFFER
- FEMA FLOOD ZONE
- 100' LOCAL CONSERVATION OVERLAY ZONE
- PROPOSED LCA LINE
- SURVEY TIE LINE – NOT A PROPERTY BOUNDARY
- PROPOSED EASEMENT

S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS
TYP. TYPICAL
FND FOUND
TBS TO BE SET
LCA LIMITED COMMON AREA

(##) ABUTTER – SEE OVERVIEW PLAN, SHEET 19 OF 102

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

REVISION	DATE	DESCRIPTION
#6	05–03–24	REVISED PER NHDES SUBSURFACE REVIEW
#5	03–15–24	REVISED PER DOVER SEPTIC REVIEW
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CONDOMINIUM OPEN SPACE SUBDIVISION DETAIL PLAN, NORTHWEST
LAND OF
59 TOLEND ROAD, LLC AND
EUGENE A. & DONNA L. SGRIGNUOLI
TOLEND ROAD
DOVER, N.H.
TAX MAP E, LOT 65–1 & 65–A

STATE OF NEW HAMPSHIRE — No. 805 — KENNETH A BERRY — LICENSED LAND SURVEYOR — SIGNATURE

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT RD.
BARRINGTON, N.H. (603)332–2863

SCALE : 1 IN. EQUALS 50 FT.
DATE : APRIL 27, 2023
FILE NO. : DB 2023–031

PLAN REFERENCES:

1.) "STANDARD PROPERTY SURVEY AND SUBDIVISION OF LAND OF THE EDWARD J. GEORGE FAMILY TRUST"
BY: CIVIL CONSULTANTS
DATED: APRIL 2, 2011
S.C.R.D.: PLAN #102-24

2.) "PLAN OF LAND PREPARED FOR FAIRVIEW PARTNERS, LLC TAX MAP E, LOT NO. 74B 35 TOLEND ROAD CITY OF DOVER COUNTY OF STRAFFORD STATE OF NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES INC.
DATED: MARCH 4, 2016

3.) "SUBDIVISION OF LAND FOR KAREN & JAMES BECKINGHAM & MARY & SCOTT MCEWAN IN DOVER, N.H."
BY: BRUCE L. POHOPEK
DATED: FEBRUARY 19, 1986
S.C.R.D.: PLAN #29-67

4.) "SUBDIVISION OF LAND FOR PAUL MARTEL IN DOVER, N.H.
BY: BRUCE L. POHOPEK"
DATED: OCTOBER 4, 1978
S.C.R.D.: PLAN #19A-47

5.) PLAN OF LOT ERNEST BSTANDIG DOVER NEW HAMPSHIRE
BY: G.L. DAVIS & ASSOCIATES
DATED: MAY, 1969
S.C.R.D.: BOOK 858, PAGE 159

6.) "PLAN OF LAND, HAROLD A. & YVONNE M. CLEWLEY & LINDA J. NOURY, NORTH SIDE OF TOLEND ROAD, DOVER, NH"
BY: R.W. MCCRONE
DATED: MARCH 1986
S.C.R.D. PLAN #28A-04

7.) "BOUNDARY LINE ADJUSTMENT, THE HEIRS OF KENNETH & IRENE M. NYE AND PAUL & KATHERINE MARTEL, UPPER FACTORY ROAD, DOVER, NH"
BY: TRITECH ENGINEERING CORPORATION
DATED: OCTOBER 25, 2004
S.C.R.D. PLAN #77-87

PLAN REFERENCES CONTINUED:

8.) "SUBDIVISION OF LAND FOR ANTONIO BASTIANELLI IN DOVER, N.H."
BY: BRUCE L. POHOPEK, LAND SURVEYOR
DATED: JULY 31, 1989, AS REVISED 5/28/90
S.C.R.D. PLAN #32-149

9.) "STATE OF NEW HAMPSHIRE, DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS, PLAN OF PROPOSED LS1824(1), SPAULDING TURNPIKE"
DATED: OCTOBER 19, 1955
S.C.R.D. PLAN #32, POCKET 15, FOLDER 3 &
S.C.R.D. PLAN #36, POCKET 15, FOLDER 3 &
ON FILE AT NH DOT RIGHTS-OF-WAY, CONCORD, NH

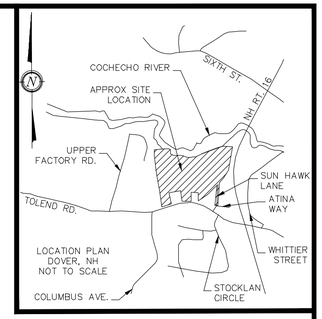
WETLAND NOTES:

WETLANDS WERE DELINEATED BY JOHN P. HAYES SPRING 2021 & OCTOBER OF 2022

1. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.0. UNITED STATES DEPARTMENT OF AGRICULTURE (2016).
3. NATIONAL WETLAND PLANT LIST (CURRENT VERSION).

STATE OF NEW HAMPSHIRE · JOHN P. HAYES, III · CERTIFIED WETLAND SCIENTIST · #98

JOHN P. HAYES III, CWS #18



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CONDOMINIUM OPEN SPACE SUBDIVISION DETAIL PLAN, NORTHEAST
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EUGENE A. & DONNA L. SGRIGNUOLI
TOLEND ROAD
DOVER, N.H.
TAX MAP E, LOT 65-1 & 65-A

APPROVED DOVER

I CERTIFY THAT THIS PLAT EXCEEDS THE MINIMUM REQUIREMENT FOR ACCURACY AND COMPLETENESS OF THE STATE OF N.H. AND OF THE CITY OF DOVER N.H. - 1:10,000-
6-6-24
KENNETH A. BERRY L.L.S. 805 DATE

STATE OF NEW HAMPSHIRE · No. 805 · KENNETH A. BERRY · LICENSED LAND SURVEYOR
SIGNATURE

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT RD.
BARRINGTON, N.H. (603)332-2863

SCALE : 1 IN. EQUALS 50 FT.
DATE : APRIL 27, 2023
FILE NO. : DB 2023-031

SHEET 22

Item 4.B

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #COND-2022-0030

Application Type:	Conditional Use Permit
Applicant(s):	Roberta Woodburn
Owner(s):	The Woodburn Family Revocable Trust
Location:	189 Spur Road (Assessor's Map L, Lot 46-T)
Meeting Date:	June 11, 2024

INTENT: To renovate an existing patio and retaining wall within the 100' shoreline setback with approx. 617 sf. of temporary impact and 173 sf. of permanent impact to the Conservation District, as well as approx. 437 sf. of temporary impact and 108 sf. of permanent wetland buffer impact.

AGENDA ITEM #: 4-B

APPLICANT: Roberta Woodburn

OWNER: The Woodburn Family Revocable Trust

LOCATION: 189 Spur Road (Assessor's Map L, Lot 46-T),

UNITS PROPOSED: N/A

ACREAGE: 1.12± ac.

ZONING DISTRICT: Low Density Residential, R-20

EXISTING LAND USE: Residential

PROPOSED LAND USE:
Residential – no change

SURROUNDING LAND USE:
Residential

PERMITS:
-NHDES Expedited Minimum Impact Wetlands Permit
-NHDES Shoreland Permit
-CUP

WAIVERS REQUESTED:
None

ZBA ACTION: None

ATTACHMENTS: CUP Plan, NHDES Shoreline Application, 12/12/22 Conservation Commission Meeting Minutes

TRC: N/A

Summary of Request and Background
The applicant is seeking to renovate an existing patio and retaining wall within the 100' shoreline setback with approx. 617 sf. of temporary impact and 173 sf. of permanent impact to the Conservation District, as well as approx. 437 sf. of temporary impact and 108 sf. of permanent wetland buffer impact. This proposal will reduce the impact to the Conservation District.

The Conservation Commission reviewed this Conditional Use Permit application at their December 12, 2022 meeting (*minutes attached*) and voted in unanimous support of the project.

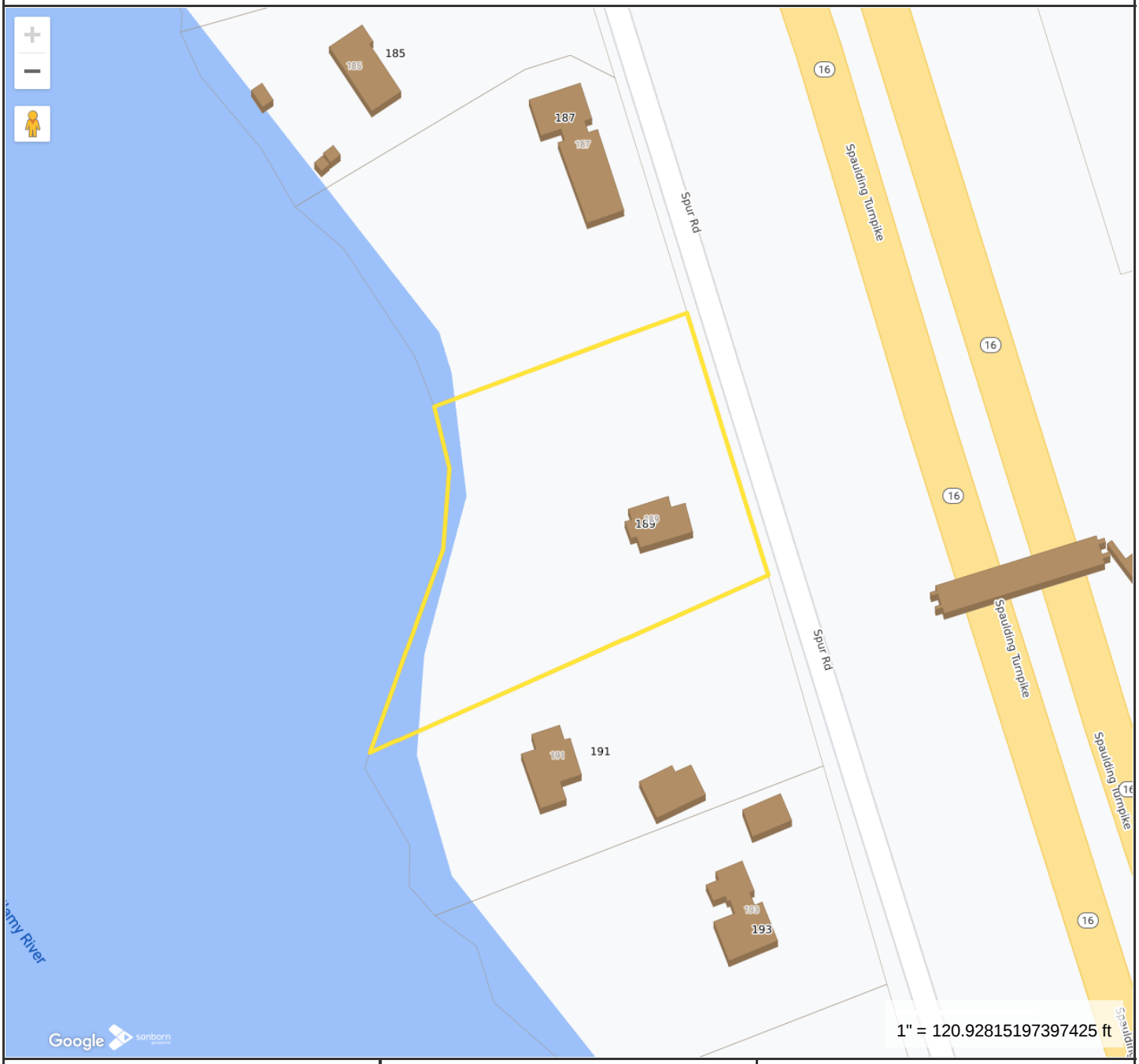
Consistency with Conditional Use Permit Regulations – CUP 170-27.C / 170-27.1.F
The Conservation District Section (§170-27.C) and the Wetland Protection District Section (§170-27.1.F) of the Zoning Ordinance details requisite criteria to be met prior to the issuance of any Conditional Use Permit Relief.

Planning Staff feels that the applicant has met all of the criteria as specified in §170-27.C and §170-27.1.F.

STAFF RECOMMENDATION:
The Planning Department recommends that the Planning Board accept the application as complete, note it is not of regional impact, hold a public hearing, make the necessary and supporting findings of fact, and vote to approve the Conditional Use Permit with the following subsequent conditions:

Conditions to be Met Prior to Issuance of Conditional Use Permit:
1.) Provide copy of NHDES Shoreland Permit
2.) Provide copy of NHDES Expedited Minimum Impact Wetlands Permit
3.) Update plans to indicate permit numbers
4.) Add owners signature to plans

COND-2022-0030 189 SPUR ROAD



Property Information

Location	189 SPUR RD
Owner	WOODBURN FREDERICK C JR & ROBERTA N TRUS
Land Use	
Zoning Code	R-20
Property Id	L0046-T00000

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 10/30/2023
Data updated Daily

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

PERMIT SNAPSHOT REPORT COND-2022-0030
FOR CITY OF DOVER, N.H.

Permit Type	Conditional Use	**Project:**		**App Date:**	10/04/2022
Work Class:	Environmental	**District:**	None	**Exp Date:**	NOT AVAILABLE
Status:	In Review	**Square Feet:**	0.00	**Completed:**	NOT COMPLETED
Valuation:	$0.00	**Assigned To:**	Blonigen, Rachel	**Approval Expire Date:**	

Description: renovation of an existing patio and retaining wall within the Shoreland setback

Parcel: L0046-T00000 Main	**Address:** 189 Spur Rd Dover, NH Main	**Zone:** R-20(Residential - Low Density)

Owner
Frederick and Roberta Woodburn
Mobile: (603) 534-2112

Applicant
Roberta N Woodburn
Woodburn & Company Landscape Architecture LLC
103 Kent Place 103 Kent Place
Newmarket, NH 03857
Business: (603) 659-5949
Mobile: (603) 534-2112

Plan Preparer
Roberta Woodburn
Business: (603) 659-5949

Permit Custom Fields

Select Permit Type	Conservation District	General Purpose	Alteration / Addition	Project Zone	Residential
Work	renovation of an existing patio and retaining wall within the 100' shoreland setback	permitstatefed	NHDES Shoreland Permit		

Attachment File Name	Added On	Added By	Attachment Group	Notes
Permit Snapshot Report.pdf	10/04/2022 10:30	Service, EnerGov		Attached by IO - ATTACH: Initial Permit Snapshot
Signature_Roberta_Woodburn_10/4/2022.jpg	10/04/2022 10:30	Woodburn, Roberta		Uploaded via CSS

Invoice No.	Fee	Fee Amount	Amount Paid
INV-00001230	Planning General Application Fee	$200.00	$200.00
	Total for Invoice INV-00001230	$200.00	$200.00
	Grand Total for Permit	**$200.00**	**$200.00**

Submittal Name	Status	Received Date	Due Date	Complete Date	Resubmit	Completed
Conditional Use Review v.1	Approved	10/04/2022		05/20/2024	No	Yes

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Planning	Planning	Kaspari, Jackson	Approved	10/04/2022	11/02/2022	05/20/2024

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1		10/04/2022 0:00	05/20/2024 14:23
Confirm application complete v.1	Generic Action		10/04/2022 13:36
Conditional Use Review v.1	Receive Submittal	10/04/2022 0:00	05/20/2024 14:23
Technical Review Committee Meeting v.1	Hold Meeting		05/20/2024 14:23
Planning Board v.1		05/20/2024 14:23	
Planning Board Agenda v.1	Task	05/20/2024 14:23	
Invoice for Notices v.1	Task		
Send Notices v.1	Task		
Planner Creates Staff Recommendations v.1	Plan Activity		
Distribute Planning Board Materials v.1	Task		

Planning Board Hearing v.1	Hold Hearing
Planning Board Decision v.1	Plan Activity
NOD Sent to Applicant v.1	Create Report
Issue Permit v.1	
Verify Fees Prior to Permit v.1	Generic Action
Issue and Review Permit v.1	Generic Action
Print and Email Permit v.1	Generic Action
Plans uploaded to Treeno v.1	Generic Action
Property Info Group v.1	Generic Action
Recording v.1	Task

woodburn & company
LANDSCAPE ARCHITECTURE
Since 1994 *reflecting your vision.*

RECEIVED
Planning Office
MAY 20 2024
Dover, New Hampshire

May 16, 2024

Ms. Gina Cruikshank
Chair
Dover Planning Board
228 Central Avenue
Dover, New Hampshire 03820

RE: 189 Spur – Request for Conditional Use Permit

Chair Cruikshank and Planning Board Members:

This letter communicates to you that we have uploaded documentation to the City's website for a request for Conditional Use Permit for work within the 100' Shoreland setback which requires review by the Conservation Commission and Planning Board.

The project is a renovation of an existing patio, retaining wall and the relocation of an existing hot tub.

The patio and retaining wall were installed by the previous property owner sometime between 2007 and 2008 and are currently about to fall down due to poor construction techniques, see existing condition photos.

The plan proposed for the renovation/rebuild is to reinstall new retaining walls four feet back from the current location and provide permeable paving for the rebuilt patio, making the proposed work more in conformity with Dover Zoning Ordinance requirements than existing conditions.

The proposed plan illustrates the use of erosion control, is less impacting than the original plan, and provides mitigation with the use of permeable pavers.

Sincerely,
Robbi Woodburn

Roberta Woodburn
Homeowner

103 KENT PLACE
NEWMARKET, NH 03857
603.659.5949
woodburnandcompany.com

woodburn & company
LANDSCAPE ARCHITECTURE
Since 1994 *reflecting your vision.*

Contents:

2022-12-05 Conditional Use Permit Application	
Existing conditions plan by Ambit Engineering	Dated 2-14-2019
L-1 189 Spur Road Patio Renovation Site Plan	Dated 10-02-2022
L-2 189 Spur Road Patio Renovation Grading & Layout	Dated 10-02-2022
Existing Conditions Photos	
Woodburn NH DES Inspector Letter	
NHDES – Minimum Impact Wetlands Permit Application	Date 10-07-22
NHDES – Shoreland Permit by Notification Form	
NHDES - Avoidance Minimization Form 2552.51	
Criteria for approval in Conservation and Wetland Protection Overlay Districts	

103 KENT PLACE
NEWMARKET, NH 03857
603.659.5949
woodburnandcompany.com

City of Dover, New Hampshire
CONDITIONAL USE PERMIT APPLICATION

[Revision Date: October 19, 2020]

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT AND OWNER INFORMATION

Name of Applicant: Roberta Woodburn Telephone # 603-534-2112

Address of Applicant: 189 Spur Road

E-Mail Address: robbi@woodburnandcompany.com

Name of Property Owner (if different from applicant): _____ Telephone #_____

Address of Property Owner: _____

PROPERTY INFORMATION

Assessor's Map # L Lot(s) # 46T

Address of Property: 189 Spur Road

Zoning District(s) R-20 Overlay District(s) RRD exempt, Wetlands Protection District

Existing Use of Property: Residence

CONDITIONAL USE PERMIT INFORMATION

Type of Conditional Use Permit (Check All That Apply):

☒ Conservation District	☐ RCM Use Overlay District	☐ Gateway District
☐ Groundwater Protection	☐ Off-Street Parking and Loading	☐ Alternative Treatment Center
☒ Wetland Protection District	☐ Central Business District	☐ Heritage Residential District

Describe Proposed Use or Activity That Requires Conditional Use Permit and Describe Any Impacts:

Renovation of an existing patio and retaining wall partially in the 100' shoreland setback.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: NHDES Shoreland Permit

Name of Professional That Prepared Plans: Roberta Woodburn, LLA, ASLA

Address Woodburn & Company 103 Kent Place Newmarket, NH Telephone #: 603-659-5949

Professional License #: NH 0002 E-mail address: robbi@woodburncompany.com

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: Robbi Woodburn Date: 2022-10-03

Signature of Applicant (if different from owner): _____ Date: _____

Signature of Agent: Roberta N. Woodburn Date: 2022-10-03

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: Robbi Woodburn Date: 2022-10-03

CITY OF DOVER CONDITIONAL USE
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
L	46-T	Frederick C & Roberta N Woodburn	187 Spur Road Dover NH 03820

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Steven Riker	Ambit Engineering	200 Griffith Road,Unit 3 Portsmouth NH

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

COND-2022-0030 **189 SPUR ROAD**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
L0047-A00000	193 SPUR RD	TURGEON MICHAEL T &	TURGEON KERRI A	39 INDIGO HILL RD	SOMERSWORTH	NH	03878
L0047-B00000	191 SPUR RD	RUSHMORE B &STEPANEK FRED TRUSTEES	RUSHMORE STEPANEK FAMILY REVOCABLE TRUST	191 SPUR RD	DOVER	NH	03820
L0047-C00000	187 SPUR RD	CASIMIRO MICHAEL J &	CASIMIRO REBECCA A	187 SPUR RD	DOVER	NH	03820
L0047-C00001	185 SPUR RD	LOCY DOUGLAS A &	LOCY LORRAINE M	185 SPUR RD	DOVER	NH	03820
L0046-T00000	189 SPUR RD	WOODBURN FREDERICK C JR & ROBERTA N	THE WOODBURN FAMILY REVOCABLE TRUST OF 2	189 SPUR RD	DOVER	NH	03820
		AMBIT ENGINEERING	STEVEN RIKER	200 GRIFFITH ROA	PORTSMOUTH	NH	03801

CITY OF DOVER

DOVER CONSERVATION COMMISSION – MINUTES

Meeting Type:	Regular Meeting
Meeting Location:	City Council Conference Room - 288 Central Avenue Dover NH
Meeting Date:	Monday, December 12, 2022
Meeting Time:	**5:30 pm**

MEMBERS PRESENT: Bill Hunt (Chair) via phone, Steve Fellows (Vice Chair), Robert Atwood (Secretary), Amy Kramer-Perry, Bruce Batchelder
Absent (Excused): Kristen Murphy, Jason Aube, Abigail Lyon
STAFF PRESENT: Jackson Kaspari – Resilience Manager, Donna Benton – Director of Planning and Community Development, Gretchen Young – Environmental Projects Manager, Jillian Semprini – Assistant City Engineer
OTHERS PRESENT: Roberta Woodburn

1. **CALL TO ORDER AND ROLL CALL**

The meeting was convened at 5:51 PM once a quorum was physically present.

2. **CITIZENS' FORUM:** No citizens were present to speak during the forum

3. **APPROVAL OF THE PRIOR MEETING MINUTES** – November 14, 2022

A. Kramer-Perry moved to approve the November 14, 2022 minutes, R. Atwood seconded. The minutes were approved unanimously.

4. **OLD BUSINESS:** None

5. **NEW BUSINESS:**

A. Conservation Fund Request for Staff Administrative Costs

D. Benton explained that the request is to use $100,000 from the Conservation Fund to help cover staff administrative support that is provided the Conservation Commission and Open Lands Committee. This request is the same as has been made in prior years.

S. Fellows: What is the current Conservation Fund balance?

J. Kaspari: It is over $2M.

B. Batchelder moved to approve. A. Kramer-Perry seconded. Vote: 5 yes.

B. City of Dover Conditional Use Permit and NHDES Expedited Minimum Impact Wetland Permit for Roberta Woodburn, Assessor's Map L, Lot 46T, zoned R-20, located at 189 Spur Road. Proposal is to renovate and existing patio and retaining wall creating 617 square feet of temporary impact and 173 square feet of permanent impact to the Conservation District as well as 437 square feet of temporary and 108 square feet of permanent wetland buffer impact. The proposal would reduce the total impervious area onsite by approximately 588 square feet.

Roberta (Robbi) Woodburn was present to explain the application.

A. Kramer-Perry: So, my understanding is that the proposal is going to improve the site conditions and lessen the overall impact?

R. Woodburn: Yes, the proposal shifts the patio back from the resources and reduces the amount of impervious surface.

S. Fellows noted that he appreciated the applicant's effort to address the CUP evaluation criteria and is pleased that this proposal will improve the site conditions.

A. Kramer-Perry motioned to endorse the CUP and authorize the Vice Chair to sign the NHDES Expedited Minimum Impact Wetland Permit. R. Atwood seconded. Vote: 5 yes.

C. Review of a Proposed Lot Line Adjustment to a Conservation Easement, Assessor's Map D, Lot 11-5SND, located off Venture Drive.

J. Kaspari explained the proposal as the applicant representative was unable to attend due to unforeseen circumstances.

J. Kaspari: The Commission doesn't normally review lot line adjustment applications, however, in this case the lot line adjustment would impact the bounds of an existing conservation easement within Enterprise Park. As is shown by the map in the materials there are a host of various conservation easements throughout Enterprise Park. As you'll see this lot is designated as a sending area, meaning that the developable rights were sent to the City. Southeast Land Trust (SELT) also holds an executory interest. The proposed even land swap between the developable lot in Enterprise Park and conservation easement lot would allow for appropriate access to the developable lot while increasing the amount of wetland within the protected easement. The applicant will need to gain approval from the Planning Board and City Council for this as well as SELT and the NH Charitable Trust Director who evaluates changes to conservation easement boundaries.

S. Fellows. Could the boundary line between the two lots be made less jagged?

D. Benton explained the reason for the configuration in terms of site access and the even swap component.

J. Kaspari noted that this proposal increased the amount of delineated wetland within the protected easement area.

S. Fellows appreciated that under the proposal the wetland would not be crossing into the developable lot.

R. Atwood motioned to endorse the proposal as presented. B. Batchelder seconded. Vote: 5 yes.

D. Update on the Proposed Stormwater Utility – Gretchen Young, Environmental Projects Manager

G. Young provided an update on the Stormwater Utility and will continue to provide updates to the Commission throughout the process. The latest news is that a Request for Qualifications was issued on November 27th with the goal of retaining a qualified contractor who can assist with the technical analysis and development/implementation of an outreach plan for the Stormwater Utility. Here is a link to the RFQ information: https://bit.ly/3hnjHng

E. Letter of Support for Federal Highways Administration Grant Opportunity

J. Semprini was present to explain the grant proposal to the Commission.

The proposal seeks to secure funding to upgrade the Bellamy Road Culvert with a hydraulically and gynomorphically compatible structure that enables upstream and downstream connectivity for aquatic organisms.

S. Fellows: Has there been data showing that this removal project will improve conditions for wildlife?

R. Atwood explained his prospective having observed aquatic life in that area as a wildlife biologist. Atwood was supportive of the proposal.

B. Batchelder motioned to authorize the Vice Chair to sign the letter of support. A. Kramer-Perry seconded. Vote: 5 yes.

6. REPORT FROM THE CHAIR

A. Review of Correspondence Received from NH Department of Environmental Services

No correspondence to report.

7. OTHER BUSINESS

A. Update from Forest Management Subcommittee

S. Fellows: The update is that the Subcommittee will be meeting on Monday the 19th and will have more to discuss at the next Commission meeting.

8. ADJOURNMENT

A. Kramer-Perry motioned to adjourn. Robert Atwood seconded. Vote: 5 yes.

The meeting was adjourned at 6:34 PM.

woodburn & company
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MAY 20 2024
Dover, New Hampshire

189 Spur Road
Conditional Use Permit Application
Criteria for Approval
2022-12-05

Wetlands District CUP Criteria:

A) Practicable Alternative: There is no less adverse impact on the area:

The proposed plan makes the existing patio smaller, and permeable creating less impact on the wetlands buffer. The patio and walls exist but must be replaced and that replacement is proposed farther from the wetland, smaller and permeable. No other practicable alternative is less adverse.

B) The potential impacts have been avoided to the maximum extent practicable.

The proposed plan allows for replacement of the patio and wall that are currently in disrepair while minimizing impacts as much as practical. Erosion control has be specified on the plans for protection avoidance.

C) Minimization: Any unavoidable impacts have been minimized. No reasonable Alternative to the proposed construction exists which does not impact a wetland, or which has less detrimental impact on a wetland. Design, construction, and maintenance methods will be prepared by a registered engineer to minimize detrimental impacts to the wetlands and will include restoration of the site as nearly as possible to its original grade.

The existing patio and retaining walls lie within the buffer, they are in disrepair and need replacement. The proposed plan allows for the replacement of the patio and walls while minimizing the impacts to the buffer. The proposed plan restores the patio, walls and surrounding landscape to their original grades. The plans have been prepared by a landscape architect registered in the State of New Hampshire and reviewed by Steve Riker NH Certified Wetland Scientist/Permitting Specialist.

(D) Mitigation: If the APPLICANT is required by State rules to prepare a compensatory mitigation plan, the APPLICANT shall provide the Conservation Commission and PLANNING BOARD with one copy each of said plan for their review.

103 KENT PLACE
NEWMARKET, NH 03857
603.659.5949
woodburnandcompany.com

Agreed. Should NHDES require mitigation a plan will be submitted to the Conservation Commission and Planning Board.

(E) Approval for the wetlands impact has been received from the NHDES Wetlands Bureau pursuant to Section G (3).

NHDES Wetland Minimum Impact Permit Application submitted with this application and will provided to the board upon approval.

Conservation District Required Information:

The plans illustrate the use of erosion control to prevent erosion of disturbed soils during construction. Although the site does slope, the grades are not steep and erosion control measures as required by NHDES will contain any potential erosion.

All disturbed soils will be property stabilized with hydroseeding prior to the removal of erosion control.

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2024-03-15

Wetland Inspector
New Hampshire Department of Environmental Services
Wetlands Bureau
29 Hazen Drive / P.O. Box 95
Concord, New Hampshire 03302

Re: NHDES Minimum Impact Wetland Permit Application
Tax Map L, Lot 46-T
189 Spur Road
Dover, New Hampshire

Dear Wetland Inspector:

This letter transmits a New Hampshire Department of Environmental Services (NHDES) Minimum Impact Wetland Permit Application request to permit 173 sq. ft. of permanent impact and 617 sq. ft. of temporary construction impact to the previously developed 100' Tidal Buffer Zone for the replacement of an existing patio associated with the existing residential structure.

Attached to this application you will find a plan set which depicts the existing lot, jurisdictional areas, abutting parcels, existing structures, proposed work, temporary and permanent impact areas.

Per Env-Wt 306.05, Certified Wetland Scientist Steve Riker from Ambit Engineering, Inc. classified all jurisdictional areas on the subject lot. The Highest Observable Tide Line marks the reference line for the 100' TBZ, as well as the beginning of Tidal Wetland on the attached plan set. Attached to this application is a Coastal Vulnerability Assessment relative to the proposed project.

The construction sequence for the proposed project is as follows:

- Mobilization of equipment and materials to the site via Spur Road.
- Installation of erosion and sediment control devices.
- Demolish/remove existing retaining walls and patio.
- Excavate and prep subsoils for replacement retaining walls and patio installation.
- Construct superstructure of replaced retaining walls and patio.
- Remove sediment and erosion controls once patio is complete and any disturbed area area stabilized.

The project does not propose the removal of any vegetation within the 50' Waterfront Buffer to achieve construction goals. The enclosed plan set depicts 6279 sq. ft. of unaltered area to remain between the 50' Waterfront Buffer and the 150' Natural Woodland.

The project represents the alternative with the least adverse impacts to areas and environments while allowing reasonable use of the property.

Per Env-Wt 603.02(b), attached to this application you will find a plan set which depicts the existing lot, jurisdictional areas, all natural resources in the area, abutting parcels, existing structures, proposed structures, and temporary impact areas. Also included in this application are maps created in accordance with Env-Wt 603.03 and Env-Wt 603.05.

In order to complete the application package for this project, the DES Wetlands Bureau rules in Chapter Env-Wt 306.05 (a)(2) has been evaluated and addressed below.

(2) a. Contains any documented occurrences of protected species or habitat for such species, using the NHB DataCheck tool;

Attached to this application are the results of the NHB review and it was determined that there was an NHB record in the project vicinity. Project information will be provided to NHB for review and NHB comments will be forwarded to NHDES upon receipt.

(2) b. Is a bog;

Utilizing the NH DES WPPT, the subject property is not a bog, nor does it contain any portion of a bog.

(2) c. Is a floodplain wetland contiguous to a tier 3 or higher watercourse;

Utilizing the NH DES WPPT, the subject property does contain a floodplain wetland contiguous to a tier 3 or higher watercourse.

(2) d. Does the property contain a designated prime wetlands or a duly established 100-foot buffer; or

The property does not contain a prime wetland or duly established 100 foot buffer.

(2) e. Does the property contain a sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone;

The property does not contain a sand dune or undeveloped tidal buffer zone. The property does contain a tidal wetland and tidal waters.

The DES Wetlands Bureau rules in Chapter Env-Wt 306.05 (a)(4) and (a)(7) has been evaluated and addressed below.

(4) a. Is the subject property within LAC jurisdiction;

The property does not fall within an area of LAC jurisdiction.

(4) b. Does the subject property fall within or contain any areas that are subject to time of year restrictions under Env-Wt 307;

The property does not fall within or contain any areas that are subject to time of year restrictions.

(7) Does the project have potential to impact impaired waters, class A waters, or outstanding resource waters;

I do not believe the nature of the proposed project has the potential to impact an impaired water. The project reduces the amount of impervious surface on the lot that will serve to improve stormwater quality that leaves the site.

The DES Wetlands Bureau rules in Chapter Env-Wt 603.02 (e) & (f) have been evaluated and addressed below.

(e)(1) The project meets the standard conditions in Env-Wt 307;

The project meets the standard conditions in Env-Wt 307 as the proposed project meets the standards of Env-Wq 1000, RSA 483-B and Env-Wq 1400. Sediment and erosion controls will also be used and maintained during the proposed construction ensuring protection of water quality on the site. Under Env-Wt 306.05 (a)(2)a. a NHB review has been performed to ensure there are no impacts to protected species or habitats of such species. The protection of Prime Wetlands or Duly-Established 100 foot buffers does not apply as none exist on or adjacent to the subject lot.

(e)(2) The project meets the approval criteria in Env-Wt 313.01;

The project meets the avoidance and minimization requirements specified in Env-Wt 313.03, does not require compensatory mitigation, meets applicable conditions specified in Env-Wt 307 (above), meets project specific criteria listed in Env-Wt 600 (above), and the project is located entirely within the boundary of the applicants property.

(f)(1) The project design narrative as described in Env-Wt 603.06;

The project design narrative is provided above.

(f)(2) Design plans that meet the requirements of Env-Wt 603.07;

The design plans meet the above standard.

(f)(3) The water depth supporting information required by Env-Wt 603.08;

The design plans do not provide water depth information as it is non-applicable to the proposed project.

(f)(4) A statement regarding impact on navigation and passage required by Env-Wt 603.09.

Navigation and passage is not applicable to the proposed project.

Please contact me if you have any questions or concerns regarding this application.

Respectfully submitted,

Steven D. Riker, CWS
NH Certified Wetland Scientist/Permitting Specialist
Ambit Engineering, Inc.

Coastal Vulnerability Assessment

Prepared for:

Frederick C. & Roberta N. Woodburn
189 Spur Road
Dover, New Hampshire 03820

Prepared By:
Ambit Engineering, Inc
200 Griffin, Unit 3
Portsmouth, New Hampshire 03801

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors

Introduction
This Coastal Vulnerability Assessment (CVA) is being provided in support of a New Hampshire Department of Environmental Services (NHDES) Wetland Permit Application for the replacement of an existing patio at 189 Spur Road, Dover, NH (herein referred to as "project site"). The project site is a residential lot located on the eastern side of the Bellamy River-back and to the west of Spur Road, with one occupied residential dwelling. The surrounding land use is residential with similar residential and accessory structures.

Methods
On October 7, 2022, Steven D. Riker, CWS from Ambit Engineering, Inc. conducted a site visit to evaluate coastal characteristics of the project site, as well as the functions and values of the tidal wetland area (see attached Coastal Functions and Values assessment). This CVA was completed utilizing the NH Coastal Flood Risk Science and Technical Advisory Panel (2019). New Hamsphire Coastal Flood Risk Summary Part: Guidance for Using Scientific Projections. Report Published by the University of New Hampshire (herein refered to as Guidance Document).

Part 1.1 – Project Type
This project proposes the replacement of the existing patio on the residential lot adjacent to the Bellamy River. The purpose for the patio is to provide the applicant with an accessory use directly appurtenant to the existing residential structure. For more details regarding replacement of the patio and construction sequences; please refer to the NH DES Wetlands Bureau Application Letter to the Wetlands Inspector and attached plans.

Part 1.2 – Project Location
The project location is 189 Spur Road, Dover, NH, Tax Map L, Lot 46-T and consists of 1.18 acres of land and 284+/- of shoreline frontage along the Bellamy River. Access to the project site will be from Spur Road and the existing paved driveway for the staging of equipment and materials to be used for the patio replacement.

Part 1.3 – Timeline for Desired Useful Life
The desired useful life for this project is considered to be 2100 (50-100 years) due to the fact that it is a residential accessory structure which has a life expectancy of approximately 50-75 years.

2.1 – Project Risk Tolerance
The proposed project is considered to have a high risk tolerance considering that the patio has a relatively low cost, is relatively easy to modify, proposes little to no implications on public function and/or safety; and has relatively low sensitivity to inundation given the position on the landscape and the proposed finished elevation of the patio.

2.2 – Risk Tolerance of Important Access and Service Areas
The risk tolerance of surrounding access and service areas is not applicable to this project, as the project occurs on a residential, private lot and is intended for private use; primary access of which would be by foot from the residence.

3.1 – Relative Sea Level Rise Scenario (RSLS)

Based on Table 3 in the Guidance Document (see table below), the RSLS for this project (based on the previously determined high risk tolerance) is considered to be on the lower magnitude, and higher probability. The following table depicts the probable see level rise from 2000 through 2150.

Table 3 from the Guidance Document:

Risk Tolerance	High	Medium	Low	Extremely Low
Example Project	Walking Trail *Docking structure & Stone Revetment	Local Road Culvert	Wastewater Treatment Facility	Hospital
Timeframe	Manage to the following sea level rise (ft*) *Compared to the sea level in the year 2000*			
	Lower magnitude Higher probability ⟷ Higher magnitude Lower probability			
2030	**0.7**	**0.9**	**1.0**	**1.1**
2050	**1.3**	**1.6**	**2.0**	**2.3**
2100	**2.9**	**3.8**	**5.3**	**6.2**
2150	**4.6**	**6.4**	**9.9**	**11.7**

*Added by Ambit Engineering, Inc. based on the application of the Guidance Document towards our project.

3.2 – RSLR Impacts to the Project Evaluation

Please see the attached Figure 1 – Projected SLR's; which depicts the project site and relevant Highest Observable Tide Line (HOTL), MHHW, and the projected SLR's for the year 2100. Relative to surrounding topography and considering the High Risk Tolerance of this project; it is not expected the projected RSLR for this project needs to be a strong consideration. The new patio will be constructed at elevation 18.9. The projected sea level rise in year 2100 is 2.9 feet resulting in future Mean High Water (MHW-see attached Standard Boundary & Topographic Survey) elevation of 6.27 feet.

3.3 – Other Factors

Other factors were evaluated in conjunction with RSLR including surface water levels, groundwater levels, and current velocities which will increase with sediment erosion and deposition, which will also change. The projects position in the landscape was also considered relative to other infrastructure. The closest surface water to the project site is the adjacent Bellamy River, projections of RSLR of which have already been depicted and discussed. There are no current restrictions on the project site or associated with the proposed project. Mean High Water (MHHW) associated with the project site is located approximately at elevation 3.37. Considering a 2.9 foot RSLR in the year 2100 resulting in an elevation of 6.27 feet, and the proposed patio constructed at 18.9, the pervious patio will function as intended throughout the expected useful life of the residential structure which it will serve, simply by the elevation in which it will be constructed.

4.1 – RSLR and Coastal Storms

Due to the project site location being immediately adjacent to the Bellamy River, it is anticipated that RSLR and storm surge on the proposed project site will be comparable to adjacent properties with similar structures. Considering the high risk tolerance of this project, it is not anticipated that

this project has a significant level of vulnerability to RSLR and coastal storms given the methods and location which the patio will be constructed.

4.2 – Other Factors
Other factors such as surface water levels, groundwater levels, wind and current velocities have been considered. Considering the high risk tolerance of this project, it is not anticipated that this project has a significant level of vulnerability to groundwater levels given the proposed construction elevation of 18.9 which will provide 12.63 feet of freeboard to projected sea level rise in year 2100 and approximately 2.9 feet of freeboard to the surrounding ground elevation as the patio will be constructed as a raised surface.

5.1 – Projected RSL-Induced Groundwater Rise
Given the proposed construction elevation of 18.9 which will provide 12.63 feet of freeboard to projected sea level rise in year 2100 and approximately 2.9 feet of freeboard to the surrounding ground elevation as the patio will be constructed as a raised surface, we do not believe groundwater rise should be a strong consideration.

5.2 – Projected Groundwater Depth at the Project Location
Based on knowledge of the site and soil morphology of the site, groundwater depth (Estimated Seasonal High Water Table) is between 20-30” below the soil surface.

6.1 – Best Available Precipitation Estimates
Please see the attached Extreme Precipitation Tables from the Northeast Regional Climate Center.

7.1 – Cumulative Coastal Flood Risk to the Project
Based on the high risk tolerance of this project combined with all other factors including RSLR, coastal storms, RSLR-induced groundwater rise, extreme precipitation and/or freshwater flooding occurring together; this project is not considered to be at high risk from coastal flooding.

7.2 – Possible Actions to Mitigate Coastal Flood Risk
Given the high risk tolerance of the proposed project, it is not anticipated that it is necessary to mitigate for coastal flood risk beyond what has already been incorporated into the design plan for the proposed patio. The projected SLR scenario through 2100 is 2.9’ and the proposed patio has been designed to account for this projection.

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	
Location	
Longitude	70.745 degrees West
Latitude	43.071 degrees North
Elevation	0 feet
Date/Time	Tue, 21 Jan 2020 12:37:30 -0500

Precipitation estimates multiplied by 1.15 are listed below:

1-yr: 3.06
2-yr: 3.69
10-yr: 5.59
50-yr: 8.49

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.04	**1yr**	0.70	0.98	1.21	1.56	2.03	2.66	2.92	**1yr**	2.35	2.81	3.22	3.94	4.55	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.52	1.94	2.49	3.21	3.57	**2yr**	2.84	3.43	3.94	4.68	5.33	**2yr**
5yr	0.37	0.58	0.73	0.98	1.25	1.61	**5yr**	1.08	1.47	1.89	2.43	3.14	4.07	4.58	**5yr**	3.60	4.40	5.04	5.94	6.70	**5yr**
10yr	0.41	0.65	0.82	1.12	1.45	1.89	**10yr**	1.25	1.73	2.23	2.90	3.75	4.86	5.53	**10yr**	4.30	5.32	6.09	7.11	7.98	**10yr**
25yr	0.48	0.76	0.97	1.34	1.78	2.34	**25yr**	1.54	2.15	2.78	3.64	4.74	6.17	7.10	**25yr**	5.46	6.83	7.81	9.02	10.05	**25yr**
50yr	0.54	0.86	1.10	1.54	2.08	2.77	**50yr**	1.79	2.53	3.30	4.33	5.67	7.38	8.58	**50yr**	6.54	8.25	9.43	10.81	11.97	**50yr**
100yr	0.60	0.97	1.25	1.78	2.43	3.27	**100yr**	2.09	2.99	3.92	5.17	6.77	8.85	10.37	**100yr**	7.83	9.98	11.39	12.96	14.26	**100yr**
200yr	0.68	1.11	1.43	2.05	2.84	3.85	**200yr**	2.45	3.53	4.63	6.14	8.09	10.60	12.54	**200yr**	9.38	12.06	13.76	15.54	17.00	**200yr**
500yr	0.80	1.32	1.72	2.50	3.50	4.79	**500yr**	3.02	4.40	5.79	7.72	10.23	13.47	16.13	**500yr**	11.92	15.51	17.68	19.77	21.47	**500yr**

Lower Confidence Limits

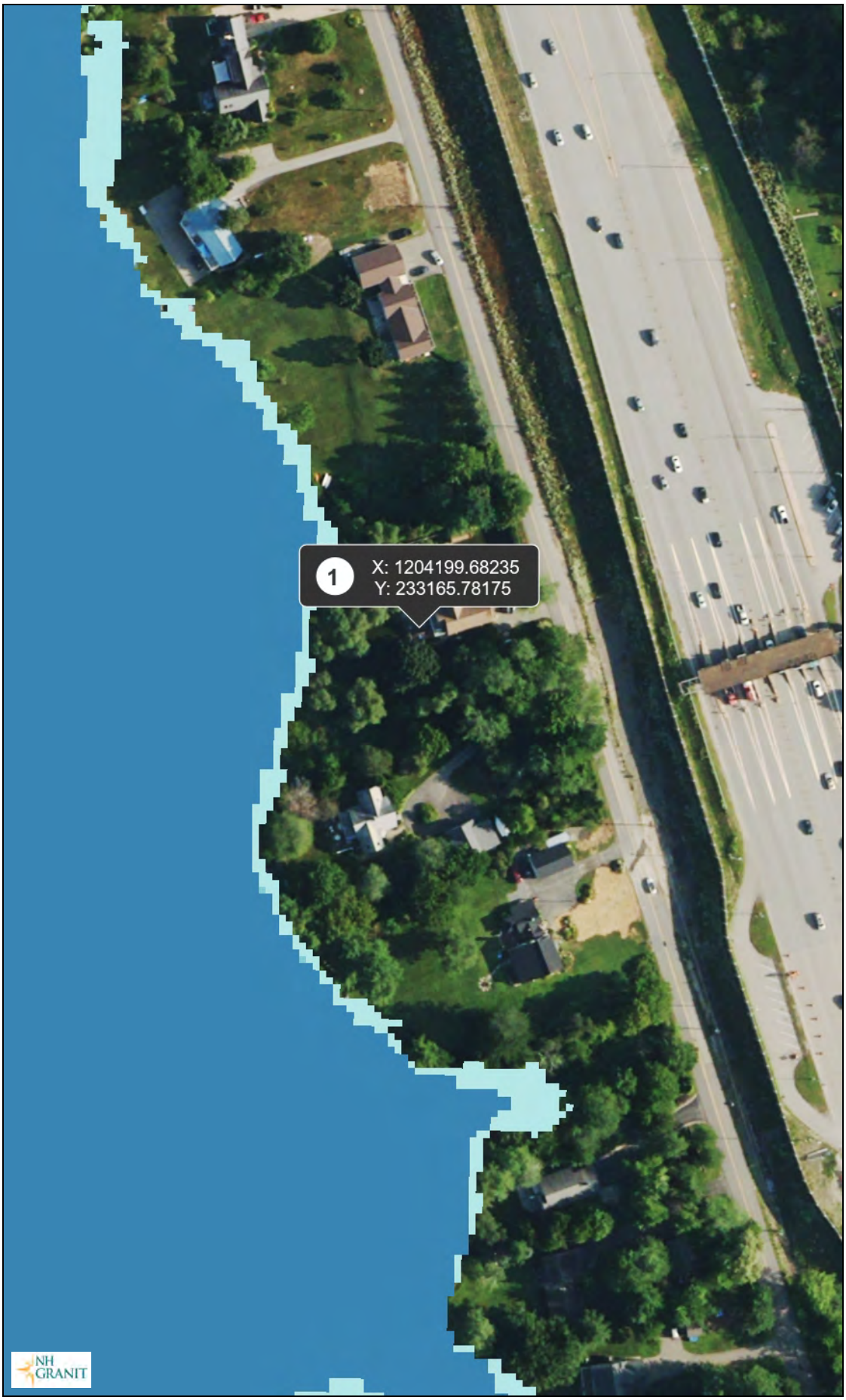
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.72	0.88	**1yr**	0.62	0.86	0.93	1.33	1.69	2.25	2.48	**1yr**	1.99	2.38	2.87	3.20	3.91	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.37	1.82	2.33	3.06	3.45	**2yr**	2.71	3.32	3.82	4.55	5.09	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.11	2.73	3.78	4.18	**5yr**	3.35	4.02	4.72	5.53	6.23	**5yr**
10yr	0.39	0.59	0.73	1.03	1.33	1.60	**10yr**	1.14	1.56	1.80	2.38	3.05	4.36	4.85	**10yr**	3.86	4.66	5.43	6.40	7.18	**10yr**
25yr	0.44	0.67	0.83	1.19	1.56	1.90	**25yr**	1.35	1.86	2.10	2.75	3.52	4.74	5.87	**25yr**	4.20	5.64	6.62	7.77	8.66	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.16	**50yr**	1.52	2.12	2.34	3.06	3.91	5.36	6.76	**50yr**	4.75	6.50	7.69	9.01	9.99	**50yr**
100yr	0.53	0.81	1.01	1.46	2.01	2.46	**100yr**	1.73	2.41	2.62	3.40	4.32	6.03	7.80	**100yr**	5.34	7.50	8.92	10.47	11.53	**100yr**
200yr	0.59	0.89	1.13	1.63	2.27	2.81	**200yr**	1.96	2.75	2.93	3.76	4.76	6.77	8.99	**200yr**	5.99	8.64	10.34	12.17	13.33	**200yr**
500yr	0.68	1.02	1.31	1.90	2.70	3.36	**500yr**	2.33	3.28	3.41	4.28	5.40	7.89	10.84	**500yr**	6.99	10.43	12.56	14.89	16.15	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.29	0.44	0.54	0.72	0.89	1.09	**1yr**	0.77	1.06	1.26	1.74	2.20	2.97	3.17	**1yr**	2.63	3.05	3.58	4.37	5.04	**1yr**
2yr	0.34	0.52	0.64	0.87	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.52	3.42	3.71	**2yr**	3.03	3.57	4.10	4.84	5.62	**2yr**
5yr	0.40	0.62	0.77	1.05	1.34	1.62	**5yr**	1.15	1.59	1.89	2.54	3.26	4.34	4.97	**5yr**	3.84	4.78	5.38	6.39	7.17	**5yr**
10yr	0.47	0.72	0.89	1.25	1.61	1.98	**10yr**	1.39	1.94	2.29	3.11	3.97	5.34	6.22	**10yr**	4.72	5.98	6.84	7.86	8.77	**10yr**
25yr	0.58	0.88	1.09	1.56	2.05	2.58	**25yr**	1.77	2.52	2.96	4.08	5.17	7.74	8.37	**25yr**	6.85	8.05	9.20	10.36	11.43	**25yr**
50yr	0.67	1.03	1.28	1.84	2.47	3.14	**50yr**	2.13	3.07	3.61	5.02	6.35	9.69	10.50	**50yr**	8.57	10.10	11.51	12.76	13.99	**50yr**
100yr	0.79	1.20	1.50	2.17	2.98	3.83	**100yr**	2.57	3.74	4.39	6.18	7.81	12.11	13.17	**100yr**	10.72	12.66	14.41	15.74	17.13	**100yr**
200yr	0.93	1.40	1.77	2.57	3.58	4.68	**200yr**	3.09	4.57	5.36	7.61	9.61	15.19	16.53	**200yr**	13.44	15.89	18.08	19.41	20.97	**200yr**
500yr	1.16	1.72	2.21	3.21	4.57	6.07	**500yr**	3.94	5.94	6.96	10.07	12.67	20.50	22.33	**500yr**	18.14	21.48	24.39	25.60	27.40	**500yr**

Powered by ACIS
Northeast Regional Climate Center

Map by NH GRANIT



Legend

MHHW + 1-ft SLR
- 0 - 2
- 2 - 4
- 4 - 6
- 6 - 8
- 8 - 10

Coastal 2019 1-foot RGB
World Imagery
Low Resolution 15m Imager
High Resolution 60cm Image
High Resolution 30cm Image
Citations
60cm Resolution Metadata

Map Scale

1: 1,624

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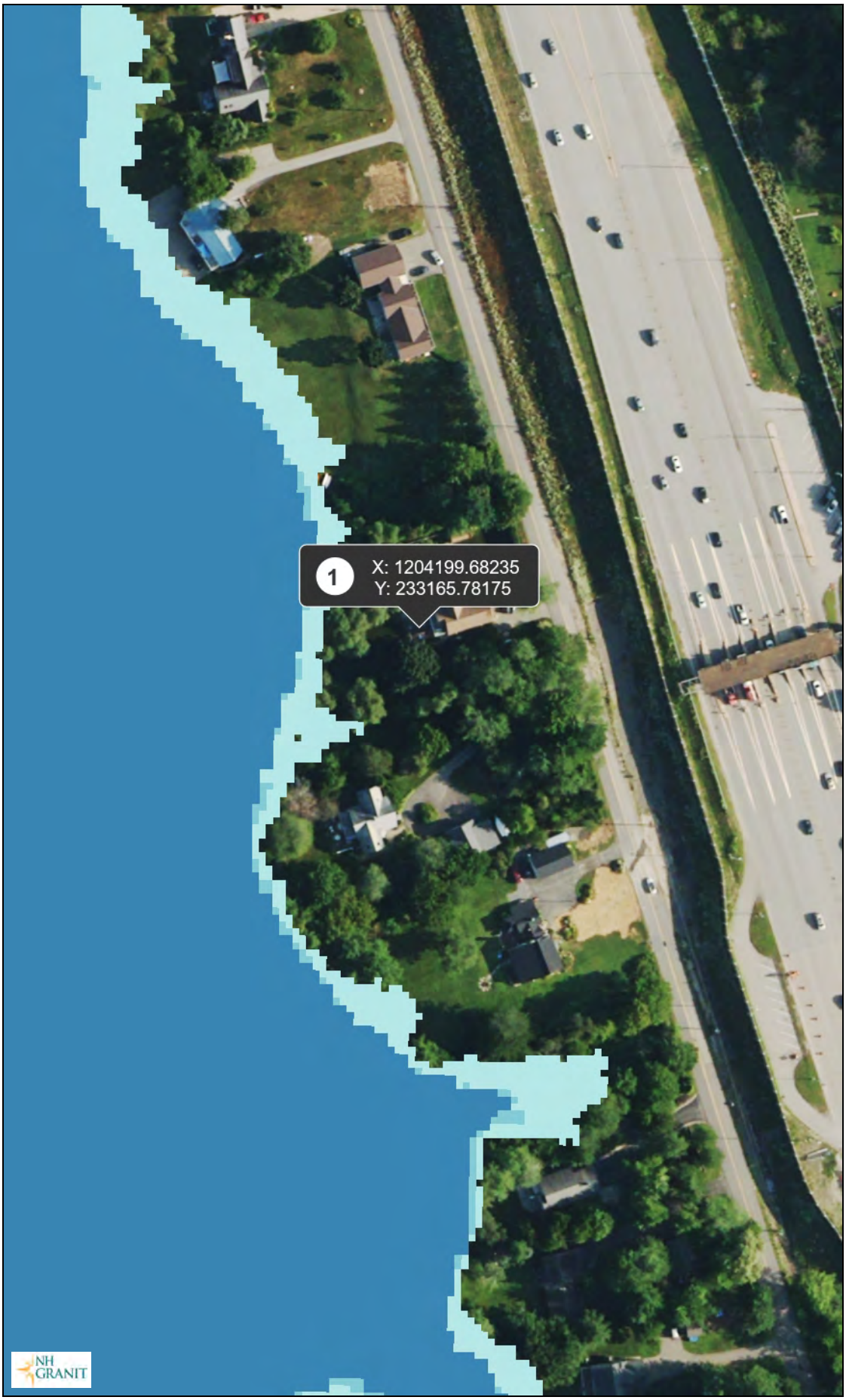
Map Generated: 10/7/2022

Notes

1 foot SLR

Map by NH GRANIT



Legend

MHHW + 2-ft SLR
- 0 - 2
- 2 - 4
- 4 - 6
- 6 - 8
- 8 - 10
- 10 +

Coastal 2019 1-foot RGB
World Imagery
Low Resolution 15m Imager
High Resolution 60cm Image
High Resolution 30cm Image
Citations
60cm Resolution Metadata

Map Scale
1: 1,624

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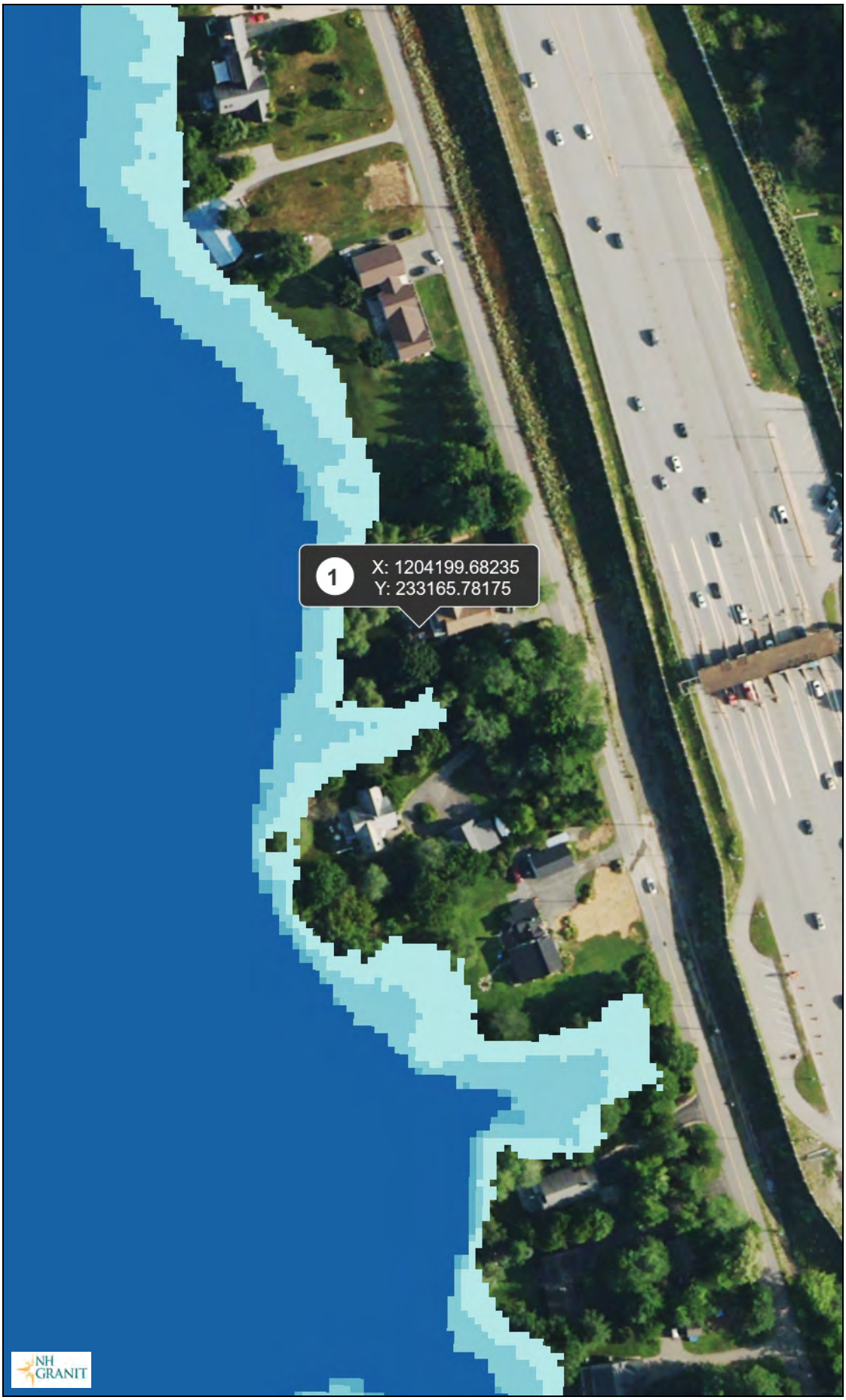
Map Generated: 10/7/2022

Notes

2 foot SLR

Map by NH GRANIT



Legend

MHHW + 4-ft SLR
- 0 - 2
- 2 - 4
- 4 - 6
- 6 - 8
- 8 - 10
- 10 +

Coastal 2019 1-foot RGB
World Imagery
Low Resolution 15m Imager
High Resolution 60cm Image
High Resolution 30cm Image
Citations
60cm Resolution Metadata

Map Scale
1: 1,624

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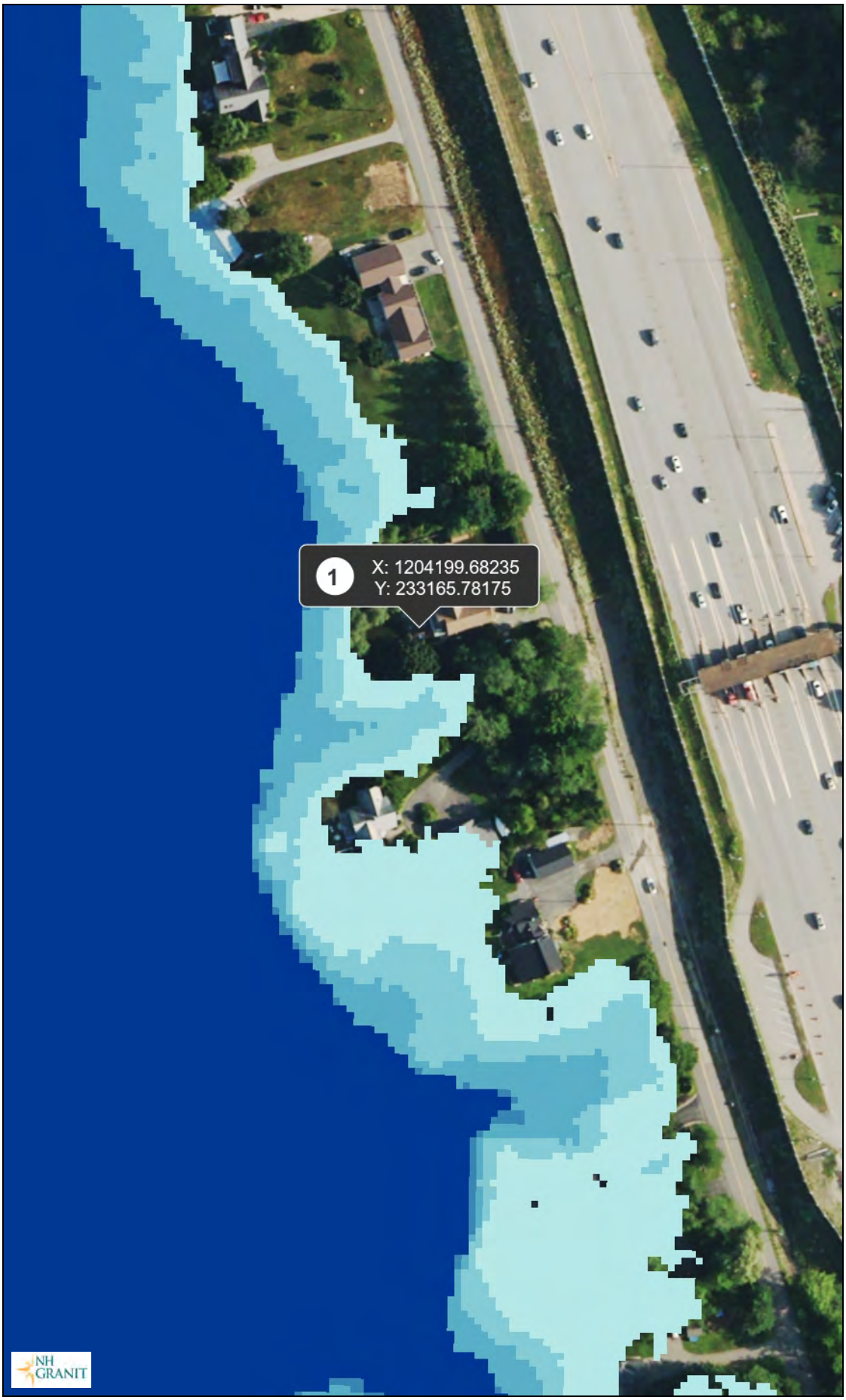
Notes

4 foot SLR

Map by NH GRANIT



Legend

MHHW + 6-ft SLR
- 0 - 2
- 2 - 4
- 4 - 6
- 6 - 8
- 8 - 10
- 10 +

Coastal 2019 1-foot RGB
World Imagery
Low Resolution 15m Imager
High Resolution 60cm Image
High Resolution 30cm Image
Citations
60cm Resolution Metadata

Map Scale
1: 1,624

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Notes

6 foot SLR

Map by NH GRANIT

Legend

MHHW + 8-ft SLR
- 0 - 2
- 2 - 4
- 4 - 6
- 6 - 8
- 8 - 10
- 10 +

Coastal 2019 1-foot RGB
World Imagery
Low Resolution 15m Imager
High Resolution 60cm Image
High Resolution 30cm Image
Citations
60cm Resolution Metadata

Map Scale
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Notes

8 foot SLR

AVOIDANCE AND MINIMIZATION WRITTEN NARRATIVE

Water Division/Land Resources Management

Wetlands Bureau

Check the Status of your Application

RSA/ Rule: RSA 482-A/ Env-Wt 311.04(j); Env-Wt 311.07; Env-Wt 313.01(a)(1)b; Env-Wt 313.01(c)

APPLICANT'S NAME: **Frederick C. & Roberta N. Woodburn** **TOWN NAME:** **Dover**

An applicant for a standard permit shall submit with the permit application a written narrative that explains how all impacts to functions and values of all jurisdictional areas have been avoided and minimized to the maximum extent practicable. This attachment can be used to guide the narrative (attach additional pages if needed). Alternatively, the applicant may attach a completed Avoidance and Minimization Checklist (NHDES-W-06-050) to the permit application.

SECTION 1 - WATER ACCESS STRUCTURES (Env-Wt 311.07(b)(1))

Is the primary purpose of the proposed project to construct a water access structure?

No.

SECTION 2 - BUILDABLE LOT (Env-Wt 311.07(b)(1))

Does the proposed project require access through wetlands to reach a buildable lot or portion thereof?

No.

SECTION 3 - AVAILABLE PROPERTY (Env-Wt 311.07(b)(2))*

For any project that proposes permanent impacts of more than one acre, or that proposes permanent impacts to a PRA, or both, are any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, that could be used to achieve the project's purpose without altering the functions and values of any jurisdictional area, in particular wetlands, streams, and PRAs?

**Except as provided in any project-specific criteria and except for NH Department of Transportation projects that qualify for a categorical exclusion under the National Environmental Policy Act.*

The project proposes to replace an existing patio appurtenant to en existing residential structure on an existing lot of record. The owner/applicant does not have access to other properties that would serve as an alternative and achieve the same purpose.

SECTION 4 - ALTERNATIVES (Env-Wt 311.07(b)(3))

Could alternative designs or techniques, such as different layouts, different construction sequencing, or alternative technologies be used to avoid impacts to jurisdictional areas or their functions and values as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization?

The proposed project proposes impacts to the previously deveoped 100' Tidal Buffer Zone in a location that has already been impacted (existing structure). Due to the configuration of the lot, the location of tidal wetlands associated with the site, the location of the existing residential structure and local zoning and dimensional requirements, the area in which a patio appurtenant to the residential structure could be built is limited. The proposed patio will utilize pervious technology and will also be moved back back 4 feet from the reference line. The proposed project also reduces the amount of impervious suface on the lot from 33.9% to 24.8% (732 sq. ft.).

SECTION 5 - CONFORMANCE WITH Env-Wt 311.10(c) (Env-Wt 311.07(b)(4))**

How does the project conform to Env-Wt 311.10(c)?

***Except for projects solely limited to construction or modification of non-tidal shoreline structures only need to complete relevant sections of Attachment A*.

COASTAL RESOURCE WORKSHEET

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/ Env-Wt 600

APPLICANT LAST NAME, FIRST NAME, M.I.: Frederick C. & Roberta N. Woodburn

This worksheet may be used to present the information required for projects in coastal areas, in addition to the information required for Lower-Scrutiny Approvals, Expedited Permits, and Standard Permits under Env-Wt 603.01.

Please refer to Env-Wt 605.03 for impacts requiring compensatory mitigation.

SECTION 1 - REQUIRED INFORMATION (Env-Wt 603.02; Env-Wt 603.06; Env-Wt 603.09)

The following information is required for projects in coastal areas.

Describe the purpose of the proposed project, including the overall goal of the project, the core project purpose consisting of a concise description of the facilities and work that could impact jurisdictional areas, and the intended project outcome. Specifically identify all natural resource assets in the area proposed to be impacted and include maps created through a data screening in accordance with Env-Wt 603.03 (refer to Section 2) and Env-Wt 603.04 (refer to Section 3) as attachments.

The project proposes the replacement of an existing patio partially located within the previously developed 100' Tidal Buffer Zone. The project will incorporate pervious paver technology for the new patio and the project also relocates the patio 4 feet back from the reference line (HOTL) making the project more nearly conforming under Env-Wq 1400.

For standard permit projects, provide:

☐ A Coastal Functional Assessment (CFA) report in accordance with Env-Wt 603.04 (refer to Section 3).

☒ A vulnerability assessment in accordance with Env-Wt 603.05 (refer to Section 4).

Explain all recommended methods and other considerations to protect the natural resource assets during and as a result of project construction in accordance with Env-Wt 311.07, Env-Wt 313, and Env-Wt 603.04.

The proposed project has been designed and located on the lot to avoid impacts to the previously deveoped 100' Tidal Buffer Zone to the greatest extent practicable. Due to the configuration of the lot, the location of tidal wetlands associated with the site, the location of the existing residential structure and local zoning and dimensional requirements, the location in which a patio appurtenant to the existing home could be built is limited. The proposed patio has been moved back 4 feet from the reference line. See attached Coastal Vulnerability Assessment for project avoidance related to projected sea level rise.

Provide a narrative showing how the project meets the standard conditions in Env-Wt 307 and the approval criteria in Env-Wt 313.01.

The attached narrative and the project plan set, specifically the Details Sheet includes all notes demonstrating compliance with Env-Wt 307 and Env-Wt 313.01.

Provide a project design narrative that includes the following:

☒ A discussion of how the proposed project:

- Uses best management practices and standard conditions in Env-Wt 307;
- Meets all avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
- Meets approval criteria in Env-Wt 313.01;
- Meets evaluation criteria in Env-Wt 313.01(c);
- Meets CFA requirements in Env-Wt 603.04; and
- Considers sea-level rise and potential flooding evaluated pursuant to Env-Wt 603.05;

☒ A construction sequence, erosion/siltation control methods to be used, and a dewatering plan; and

☒ A discussion of how the completed project will be maintained and managed.

☒ Provide design plans that meet the requirements of Env-Wt 603.07 (refer to Section 5);

☐ Provide water depth supporting information required by Env-Wt 603.08 (refer to Section 6); and

☐ For any major project that proposes to construct a structure in tidal waters/wetlands or to extend an existing structure seaward, provide a statement from the Pease Development Authority Division of Ports and Harbors (DP&H) chief harbormaster, or designee, for the subject location relative to the proposed structure's impact on navigation. If the proposed structure might impede existing public passage along the subject shoreline on foot or by non-motorized watercraft, the applicant shall explain how the impediments have been minimized to the greatest extent practicable.

SECTION 2 - DATA SCREENING (Env-Wt 603.03, in addition to Env-Wt 306.05)

Please use the Wetland Permit Planning Tool, or any other database or source, to indicate the presence of:

☐ Existing salt marsh and salt marsh migration pathways;

☐ Eelgrass beds;

☐ Documented shellfish sites;

☒ Projected sea-level rise; and

☒ 100-year floodplain.

Conduct data screening as described to identify documented essential fish habitat, and tides and currents that may be impacted by the proposed project, by using the following links:

☐ National Oceanic and Atmospheric Administration (NOAA) Tides & Currents; and

☐ NOAA Essential Fish Habitat Mapper.

☐ Verify or correct the information collected from the data screenings by conducting an on-site assessment of the subject property in accordance with Env-Wt 406 and Env-Wt 603.04.

SECTION 3 - COASTAL FUNCTIONAL ASSESSMENT/ AVOIDANCE AND MINIMIZATION (Env-Wt 603.04; Env-Wt 605.01; Env-Wt 605.02; Env-Wt 605.03)

Projects in coastal areas shall:

☐ Not impair the navigation, recreation, or commerce of the general public; and

☐ Minimize alterations in prevailing currents.

An applicant for a permit for work in or adjacent to tidal waters/wetlands or the tidal buffer zone shall demonstrate that the following have been avoided or minimized as required by Env-Wt 313.04:

☐ Adverse impacts to beach or tidal flat sediment replenishment;

☐ Adverse impacts to the movement of sediments along a shore;

☐ Adverse impacts on a tidal wetland's ability to dissipate wave energy and storm surge; and

☐ Adverse impacts of project runoff on salinity levels in tidal environments.

For standard permit applications submitted for minor or major projects:

☐ Attach a CFA based on the data screening information and on-site evaluation required by Env-Wt 603.03. The CFA for tidal wetlands or tidal waters shall be:

- Performed by a qualified coastal professional; and
- Completed using one of the following methods:

  a. The US Army Corps of Engineers (USACE) Highway Methodology Workbook, dated 1993, together with the USACE New England District *Highway Methodology Workbook Supplement*, dated 1999; or

  b. An alternative scientifically-supported method with cited reference and the reasons for the alternative method substantiated.

For any project that would impact tidal wetlands, tidal waters, or associated sand dunes, the applicant shall:

- ☐ Use the results of the CFA to select the location of the proposed project having the least impact to tidal wetlands, tidal waters, or associated sand dunes;
- ☐ Design the proposed project to have the least impact to tidal wetlands, tidal waters, or associated sand dunes;
- ☐ Where impact to wetland and other coastal resource functions is unavoidable, limit the project impacts to the least valuable functions, avoiding and minimizing impact to the highest and most valuable functions; and
- ☐ Include on-site minimization measures and construction management practices to protect coastal resource areas.

Projects in coastal areas shall use results of this CFA to:

- ☐ Minimize adverse impacts to finfish, shellfish, crustacean, and wildlife;
- ☐ Minimize disturbances to groundwater and surface water flow;
- ☐ Avoid impacts that could adversely affect fish habitat, wildlife habitat, or both; and
- ☐ Avoid impacts that might cause erosion to shoreline properties.

SECTION 4 - VULNERABILITY ASSESSMENT (Env-Wt 603.05)

Refer to the New Hampshire Coastal Flood Risk Summary Part 1: Science and New Hampshire Coastal Flood Risk Summary Part II: Guidance for Using Scientific Projections or other best available science to:

Determine the time period over which the project is designed to serve.

See attached CVA

Identify the project's relative risk tolerance to flooding and potential damage or loss likely to result from flooding to buildings, infrastructure, salt marshes, sand dunes and other valuable coastal resource areas.

See attached CVA

Reference the projected sea-level rise (SLR) scenario that most closely matches the end of the project design life and the project's tolerance to risk or loss.

See attached CVA

Identify areas of the proposed project site subject to flooding from SLR.

See attached CVA

Identify areas currently located within the 100-year floodplain and subject to coastal flood risk.

See attached CVA

Describe how the project design will consider and address the selected SLR scenario within the project design life, including in the design plans.

See attached CVA

Where there are conflicts between the project's purpose and the vulnerability assessment results, schedule a pre-application meeting with the department to evaluate design alternatives, engineering approaches, and use of the best available science.

☐ Pre-application meeting date held: **N/A**

SECTION 5 - DESIGN PLANS (Env-Wt 603.07, in addition to Env-Wt 311)

Submit design plans for the project in both plan and elevation views that clearly depict and identify all required elements.

The plan view shall depict the following:

☐ The engineering scale used, which shall be no larger than one inch equals 50 feet;

☐ The location of tidal datum lines depicted as lines with the associated elevation noted, based on North American Vertical Datum of 1988 (NAVD 88), derived from https://tidesandcurrents.noaa.gov/datum_options.html, as described in Section 6.

☐ An imaginary extension of property boundary lines into the waterbody and a 20-foot setback from those property line extensions;

☐ The location of all special aquatic sites at or within 100 feet of the subject property;

☐ Existing bank contours;

☐ The name and license number, if applicable, of each individual responsible for the plan, including:

a. The agent for tidal docking structures who determined elevations represented on plans; and

b. The qualified coastal professional who completed the CFA report and located the identified resources on the plan;

☐ The location and dimensions of all existing and proposed structures and landscape features on the property;

☐ Tidal datum(s) with associated elevations noted, based on NAVD 88; and

☐ Location of all special aquatic sites within 100-feet of the property.

The elevation view shall depict the following:

☐ The nature and slope of the shoreline;

☐ The location and dimensions of all proposed structures, including permanent piers, pilings, float stop structures, ramps, floats, and dolphins; and

☐ Water depths depicted as a line with associated elevation at highest observable tide, mean high tide, and mean low tide, and the date and tide height when the depths were measured. Refer to Section 6 for more instructions regarding water depth supporting information.

See specific design and plan requirements for certain types of coastal projects:

- Overwater structures (Env-Wt 606).
- Dredging activities (Env-Wt 607).
- Tidal beach maintenance (Env-Wt 608).
- Tidal shoreline stabilization (Env-Wt 609).
- Protected tidal zone (Env-Wt 610).
- Sand Dunes (Env-Wt 611).

SECTION 6 - WATER DEPTH SUPPORTING INFORMATION REQUIRED (Env-Wt 603.08)

Using current predicted NOAA tidal datum for the location, and tying field measurements to NAVD 88, field observations of at least three tide events, including at least one minus tide event, shall be located to document the range of the tide in the proposed location showing the following levels:

- ☐ Mean lower low water;
- ☐ Mean low water;
- ☐ Mean high water;
- ☐ Mean tide level;
- ☐ Mean higher high water;
- ☐ Highest observable tide line; and
- ☐ Predicted sea-level rise as identified in the vulnerability assessment in Env-Wt 603.05.

The following data shall be presented in the application project narrative to support how water depths were determined:

- ☐ The date, time of day, and weather conditions when water depths were recorded; and
- ☐ The name and license number of the licensed land surveyor who conducted the field measurements.

For tidal stream crossing projects, provide:

- ☐ Water depth information to show how the tier 4 stream crossing is designed to meet Env-Wt 904.07(c) and (d).

For repair, rehabilitation or replacement of tier 4 stream crossings:

- ☐ Demonstrate how the requirements of Env-Wt 904.09 are met.

SECTION 7 - GENERAL CRITERIA FOR TIDAL BEACHES, TIDAL SHORELINE, AND SAND DUNES (Env-Wt 604.01)

Any person proposing a project in or on a tidal beach, tidal shoreline, or sand dune, or any combination thereof, shall evaluate the proposed project based on:

- ☐ The standard conditions in Env-Wt 307;
- ☐ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
- ☐ The approval criteria in Env-Wt 313.01;
- ☐ The evaluation criteria in Env-Wt 313.05;
- ☐ The project specific criteria in Env-Wt 600;
- ☐ The CFA required by Env-Wt 603.04; and
- ☐ The vulnerability assessment required by Env-Wt 603.05.

New permanent impacts to sand dunes that provide coastal storm surge protection for protected species or habitat shall not be allowed except:

- ☐ To protect public safety; and
- ☐ Only if constructed by a state agency, coastal resiliency project, or for a federal homeland security project.

Projects in or on a tidal beach, tidal shoreline, or sand dune shall support integrated shoreline management that:

- ☐ Optimizes the natural function of the shoreline, including protection or restoration of habitat, water quality, and self-sustaining stability to flooding and storm surge; and
- ☐ Protects upland infrastructure from coastal hazards with a preference for living shorelines over hardened shoreline practices.

SECTION 8 - GENERAL CRITERIA FOR TIDAL BUFFER ZONES (Env-Wt 604.02)

The 100-foot statutory limit on the extent of the tidal buffer zone shall be measured horizontally. Any person proposing a project in or on an undeveloped tidal buffer zone shall evaluate the proposed project based on:

- ☐ The standard conditions in Env-Wt 307;
- ☐ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
- ☐ The approval criteria in Env-Wt 313.01;
- ☐ The evaluation criteria in Env-Wt 313.05;
- ☐ The project specific criteria in Env-Wt 600;
- ☐ The CFA required by Env-Wt 603.04; and
- ☐ The vulnerability assessment required by Env-Wt 603.05.

Projects in or on a tidal buffer zone shall preserve the self-sustaining ability of the buffer area to:

- ☐ Provide habitat values;
- ☐ Protect tidal environments from potential sources of pollution;
- ☐ Provide stability of the coastal shoreline; and
- ☐ Maintain existing buffers intact where the lot has disturbed area defined under RSA 483-B:4, IV.

SECTION 9 - GENERAL CRITERIA FOR TIDAL WATERS/WETLANDS (Env-Wt 604.03)

Except as allowed under Env-Wt 606, permanent new impacts to tidal wetlands shall be allowed only to protect public safety or homeland security. Evaluation of impacts to tidal wetlands and tidal waters shall be based on:

- ☐ The standard conditions in Env-Wt 307;
- ☐ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
- ☐ The approval criteria in Env-Wt 313.01;
- ☐ The evaluation criteria in Env-Wt 313.05;
- ☐ The project specific criteria in Env-Wt 600;
- ☐ The CFA required by Env-Wt 603.04; and
- ☐ The vulnerability assessment required by Env-Wt 603.05.

Projects in tidal surface waters or tidal wetlands shall:

- ☐ Optimize the natural function of the tidal wetland, including protection or restoration of habitat, water quality, and self-sustaining stability to storm surge;
- ☐ Be designed with a preference for living shorelines over hardened stabilization practices; and
- ☐ Be limited to public infrastructure or restoration projects that are in the interest of the general public, including a road, a bridge, energy infrastructure, or a project that addresses predicted sea-level rise and coastal flood risk.

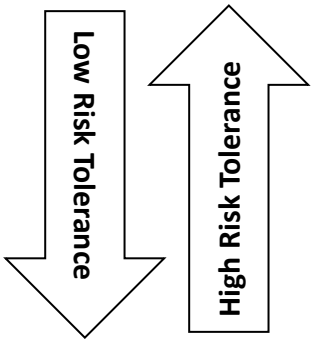
SECTION 10 – GUIDANCE

Your application must follow the New Hampshire Coastal Risk and Hazards Commission's Guiding Principles or other best available science. Below are some of these guidance principles:

- Incorporate science-based coastal flood risk projections into planning;
- Apply risk tolerance* to assessment, planning, design, and construction;
- Protect natural resources and public access;
- Create a bold vision, start immediately, and respond incrementally and opportunistically as projected coastal flood risks increase over time; and
- Consider the full suite of actions including effectiveness and consequences of actions.

*Risk tolerance is a project's willingness to accept a higher or lower probability of flooding impacts. The diagram below gives examples of project with lower and higher risk tolerance:

Critical infrastructures, historic sites, essential ecosystems, and high value assets typically have lower risk tolerance, and thus should be planned, designed, and constructed using higher coastal flood risk projections.



Sheds, pathways, and small docks typically have higher risk tolerance and thus may be planned, designed, and constructed using less protective coastal flood risk projections.

Memo

NH Natural Heritage Bureau
NHB DataCheck Results Letter

Please note: portions of this document are confidential.
Maps and NHB record pages are confidential and should be redacted from public documents.

To: Robbi Woodburn, Woodburn & Company Landscape Architecture
103 Kent Place
Newmarket, NH 03857

From: NHB Review, NH Natural Heritage Bureau
Date: 9/14/2022 (valid until 09/14/2023)
Re: Review by NH Natural Heritage Bureau
Permits: NHDES - Shoreland Standard Permit

NHB ID: **NHB22-2931** Town: Dover Location: 189 Spur Road
Description: Renovation and replacement of an existing patio and retaining wall in the 100' Buffer

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments **NHB: Please ensure proper erosion and sediment controls are used to protect the Sparsely vegetated intertidal system.**
F&G: No comments at this time.

Natural Community	State[1]	Federal	Notes
Sparsely vegetated intertidal system	--	--	Threats to these communities are primarily alterations to the hydrology of the wetland (such as alterations that might affect the sheet flow of tidal waters across the intertidal flat) and increased input of nutrients and pollutants in storm runoff.

[1]Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

Disclaimer: A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

IMPORTANT: NHFG Consultation

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

Memo

NH Natural Heritage Bureau
NHB DataCheck Results Letter

Please note: portions of this document are confidential.
Maps and NHB record pages are confidential and should be redacted from public documents.

If this NHB Datacheck letter DOES NOT include ANY wildlife species records, then, based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

If this NHB Datacheck letter includes a record for a threatened (T) or endangered (E) wildlife species, consultation with the New Hampshire Fish and Game Department under Fis 1004 may be required. To review the Fis 1000 rules (effective February 3, 2022), please go to https://wildlife.state.nh.us/wildlife/environmental-review.html. All requests for consultation and submittals should be sent via email to NHFGreview@wildlife.nh.gov or can be sent by mail, and **must include the NHB Datacheck results letter number and "Fis 1004 consultation request" in the subject line.**

If the NHB DataCheck response letter does not include a threatened or endangered wildlife species but includes other wildlife species (e.g., Species of Special Concern), consultation under Fis 1004 is not required; however, some species are protected under other state laws or rules, so coordination with NH Fish & Game is highly recommended or may be required for certain permits. While some permitting processes are exempt from required consultation under Fis 1004 (e.g., *statutory permit by notification, permit by rule, permit by notification, routine roadway registration, docking structure registration, or conditional authorization by rule)*, coordination with NH Fish & Game may still be required under the rules governing those specific permitting processes, and it is recommended you contact the applicable permitting agency. For projects not requiring consultation under Fis 1004, but where additional coordination with NH Fish and Game is requested, please email: Kim Tuttle *kim.tuttle@wildlife.nh.gov* with a copy to NHFGreview@wildlife.nh.gov, and include the NHB Datacheck results letter number and "review request" in the email subject line.

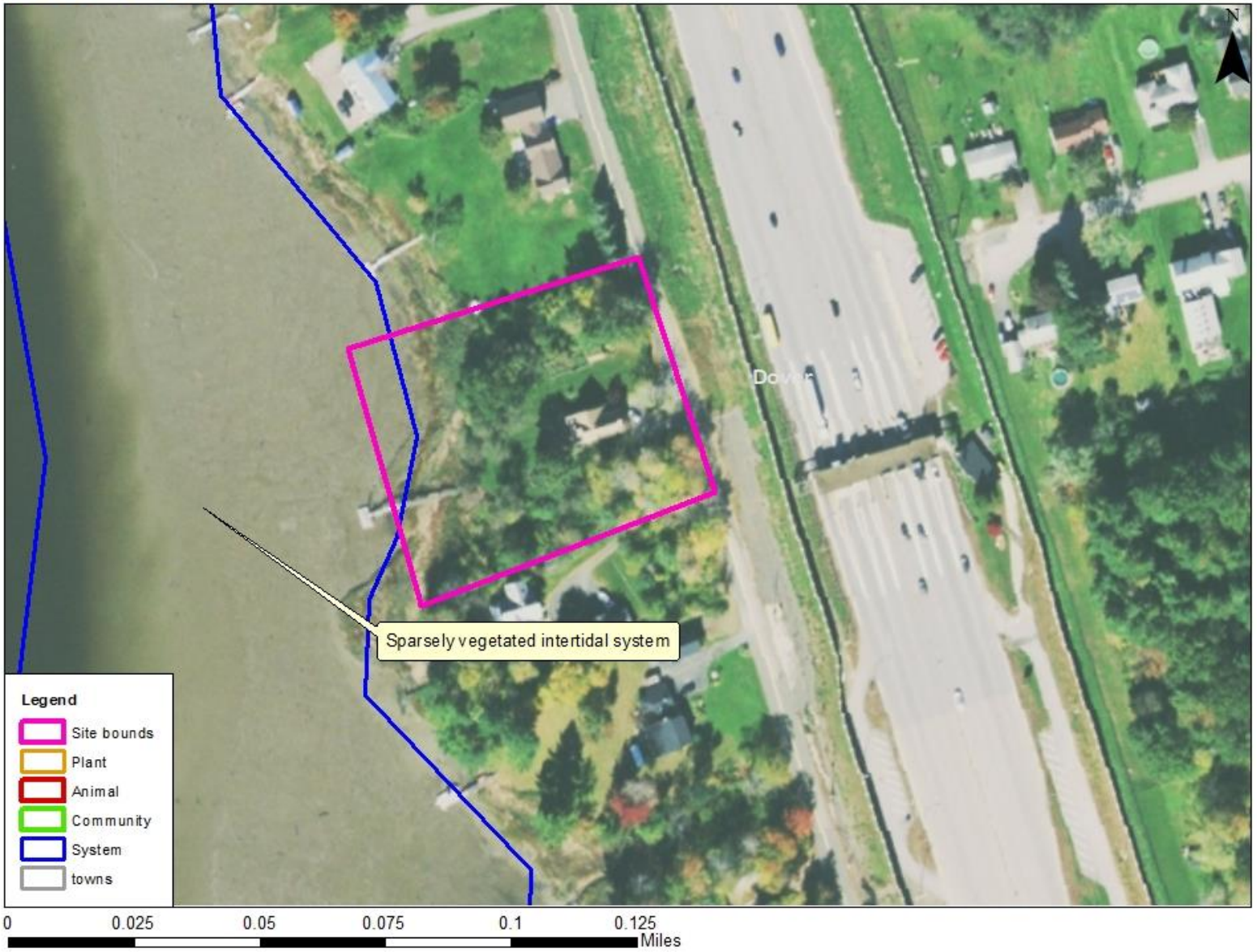
Contact NH Fish & Game at (603) 271-0467 with questions.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

CONFIDENTIAL – NH Dept. of Environmental Services review

NHB22-2931



New Hampshire Natural Heritage Bureau - System Record

Sparsely vegetated intertidal system

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Not ranked (need more information)
State:	Not listed	State:	Rare or uncommon

Description at this Location

Conservation Rank: Good quality, condition and landscape context ('B' on a scale of A-D).
Comments on Rank: --

Detailed Description: Extensive ***intertidal flats*** that are exposed daily at low tide, bordered in places by ***intertidal rocky shore*** and ***coastal shoreline strand/swale*** communities.
General Area: 2010: Borders **salt marsh system** landward and **subtidal system** seaward.
General Comments: --
Management Comments: --

Location

Survey Site Name: Great Bay
Managed By: Moody Point Open Space

County: Rockingham
Town(s): Newington
Size: 3589.5 acres Elevation:

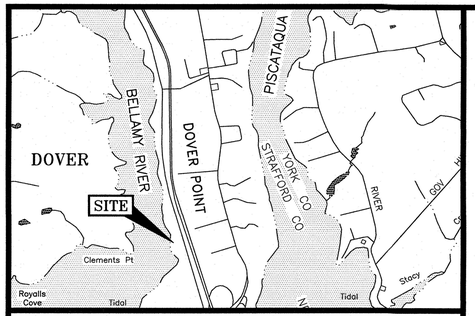
Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: Occurs throughout Great Bay from the mouths of its tributaries, through Little Bay, to the confluence with the Piscataqua River.

Dates documented

First reported:	1997-06-23	Last reported:	2010-10-13

CONFIDENTIAL – NH Dept. of Environmental Services review



LOCATION MAP SCALE: 1" = 2000'

LEGEND:

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
SCRD	STRAFFORD COUNTY REGISTRY OF DEEDS
RR SPK	RAILROAD SPIKE
11/21	MAP 11/LOT 21
IR FND	IRON ROD FOUND
IP FND	IRON PIPE FOUND
IR SET	IRON ROD SET
DH FND	DRILL HOLE FOUND
DH SET	DRILL HOLE SET
NHHB	NHDOT BOUND FOUND
TB	TOWN BOUND
BND w/DH	BOUND WITH DRILL HOLE
ST BND w/DH	STONE BOUND WITH DRILL HOLE

PLAN REFERENCES:

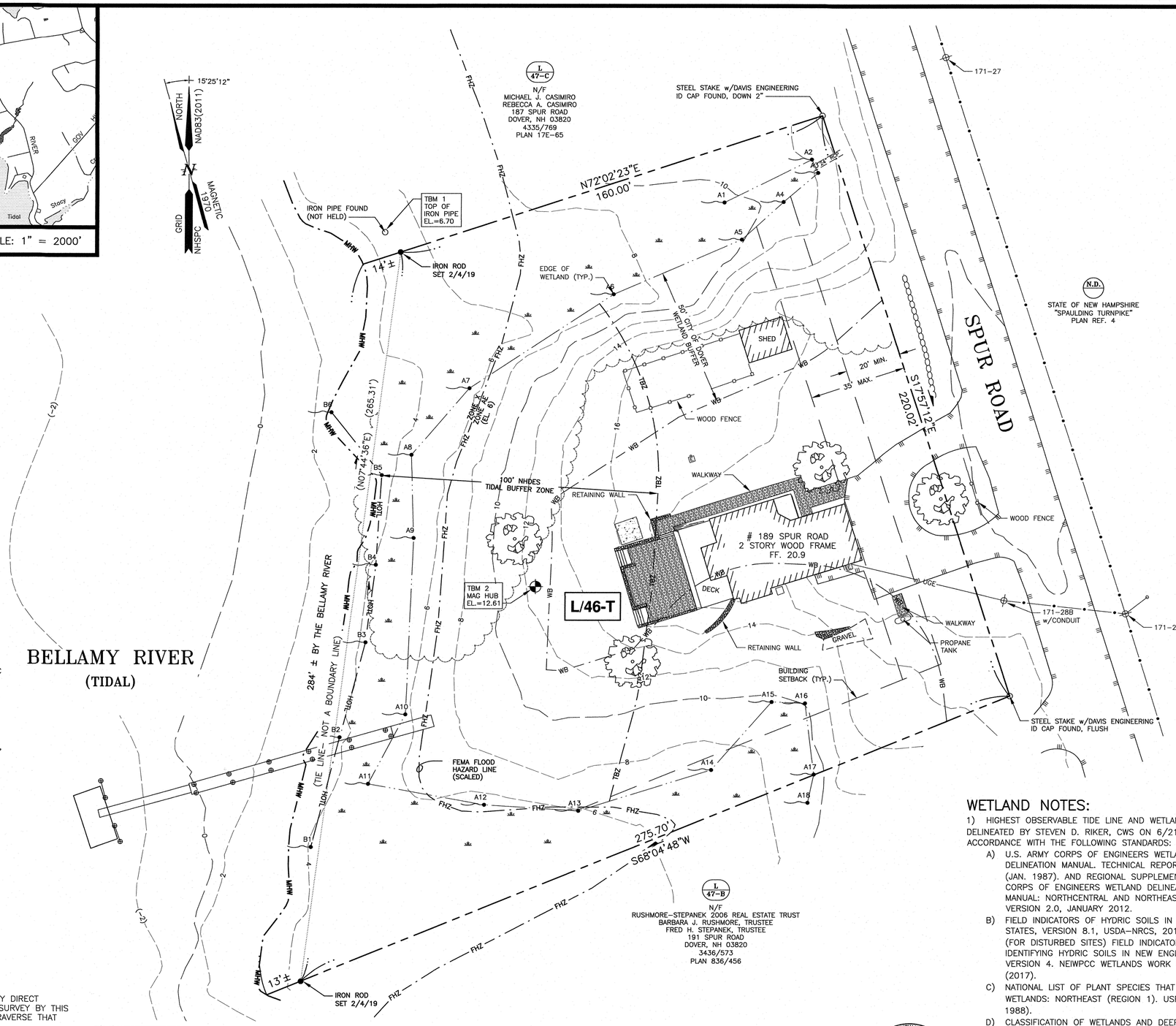
1) PLAN OF SHORE LOTS AVIS G. PEARSON DOVER NEW HAMPSHIRE. PREPARED BY G.L. DAVIS & ASSOCIATES. DATED SEPTEMBER 1970. S.C.R.D. PLAN 46 POCKET 2 FOLDER 17.

2) LIMITED RESUBDIVISION HAZEL & REECE E. ALLARD DOVER, N.H. PREPARED BY G.L. DAVIS & ASSOCIATES. DATED AUGUST 1983. S.C.R.D. PLAN 17E–65.

3) PLAN OF LOT FOR ROBERT F. ANDERSON DOVER NEW HAMPSHIRE. PREPARED BY G.L. DAVIS & ASSOCIATES. DATED NOVEMBER 1967. S.C.R.D. BOOK 836 PAGE 456.

4) PLANS OF PROPOSED LS 1821(1) N.H. NO. P–2692–E SPAULDING TURNPIKE. PREPARED BY STATE OF NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS. DATED NOVEMBER 1954. NOT RECORDED.

5) PLAN OF LOT LINE ADJUSTMENTS FOR RAYMOND AND EILEEN BARDWELL AND ROGER AND MARLENE RIVERS 193–199 SPUR ROAD DOVER, NEW HAMPSHIRE. PREPARED BY KEM LAND SURVEY, INC. DATED OCTOBER 1998. S.C.R.D. PLAN 54–85.



GRAPHIC SCALE

10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

WETLAND NOTES:

1) HIGHEST OBSERVABLE TIDE LINE AND WETLAND LINE DELINEATED BY STEVEN D. RIKER, CWS ON 6/21/2018 IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

A) U.S. ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL. TECHNICAL REPORT Y–87–1 (JAN. 1987). AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012.

B) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8.1, USDA–NRCS, 2017 AND (FOR DISTURBED SITES) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4. NEIWPCC WETLANDS WORK GROUP (2017).

C) NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST (REGION 1). USFWS (MAY 1988).

D) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/OBS–79/31 (1997).

E) "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE" (1997). NEW HAMPSHIRE FISH AND GAME DEPARTMENT.

2) HIGHEST OBSERVABLE TIDE LINE AND WETLAND LINE DELINEATION WAS FIELD LOCATED AMBIT ENGINEERING, INC.

STATE OF NEW HAMPSHIRE STEVEN D. RIKER 2/5/19 No. 219 CERTIFIED WETLAND SCIENTIST

I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000.

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

PAUL A. DOBBERSTEIN, LLS #1000

2/4/2019
DATE

STATE OF NEW HAMPSHIRE No. 1000 PAUL A. DOBBERSTEIN LICENSED LAND SURVEYOR SIGNATURE

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801–7114
Tel (603) 430–9282
Fax (603) 436–2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF DOVER ASSESSOR'S MAP L AS LOT 46–T.

2) OWNERS OF RECORD:
FREDERICK C. WOODBURN JR.
ROBERTA N. WOODBURN
189 SPUR ROAD
DOVER, NH 03820
43074/877
PLAN# 46 POCKET# 2 FOLDER# 17

3) PORTIONS OF THE PARCEL AREA IN A SPECIAL FLOOD HAZARD AREA, ZONE AE (EL. 6), AS SHOWN ON FIRM PANEL 33017C0340E, SEPTEMBER 30, 2015.

4) EXISTING LOT AREA:
51,469± S.F.
1.1816± ACRES

5) PARCEL IS LOCATED IN LOW DENSITY RESIDENTIAL DISTRICT (R–20) & RIVERFRONT RESIDENTIAL OVERLAY DISTRICT (RRD) (EXISTING LOTS ARE EXEMPT FROM THE REQUIREMENTS OF RRD).

6) DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA:	20,000 S.F.
FRONTAGE:	125 FEET
SETBACKS:	
FRONT	20 FEET MIN, 35 FEET MAX
SIDE	20 FEET
REAR	30 FEET
MAXIMUM STRUCTURE HEIGHT:	35 FEET
MAXIMUM LOT COVERAGE:	30%

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULTS OF A STANDARD BOUNDARY SURVEY OF MAP L LOT 46–T IN THE CITY OF DOVER, NH.

8) VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS (±0.2).

9) MEAN HIGH WATER LINE IS SHOWN AT ELEVATION 3.37 PER NOAA STATION 0420411–DOVER, COCHECO RIVER.

NO.	DESCRIPTION	DATE
1	ADD MONUMENTS AS SET	2/4/19
0	ISSUED FOR COMMENT	10/25/18

REVISIONS

STANDARD BOUNDARY & TOPOGRAPHIC SURVEY TAX MAP L – LOT 46–T

OWNERS:

FREDERICK C. WOODBURN JR. & ROBERTA N. WOODBURN

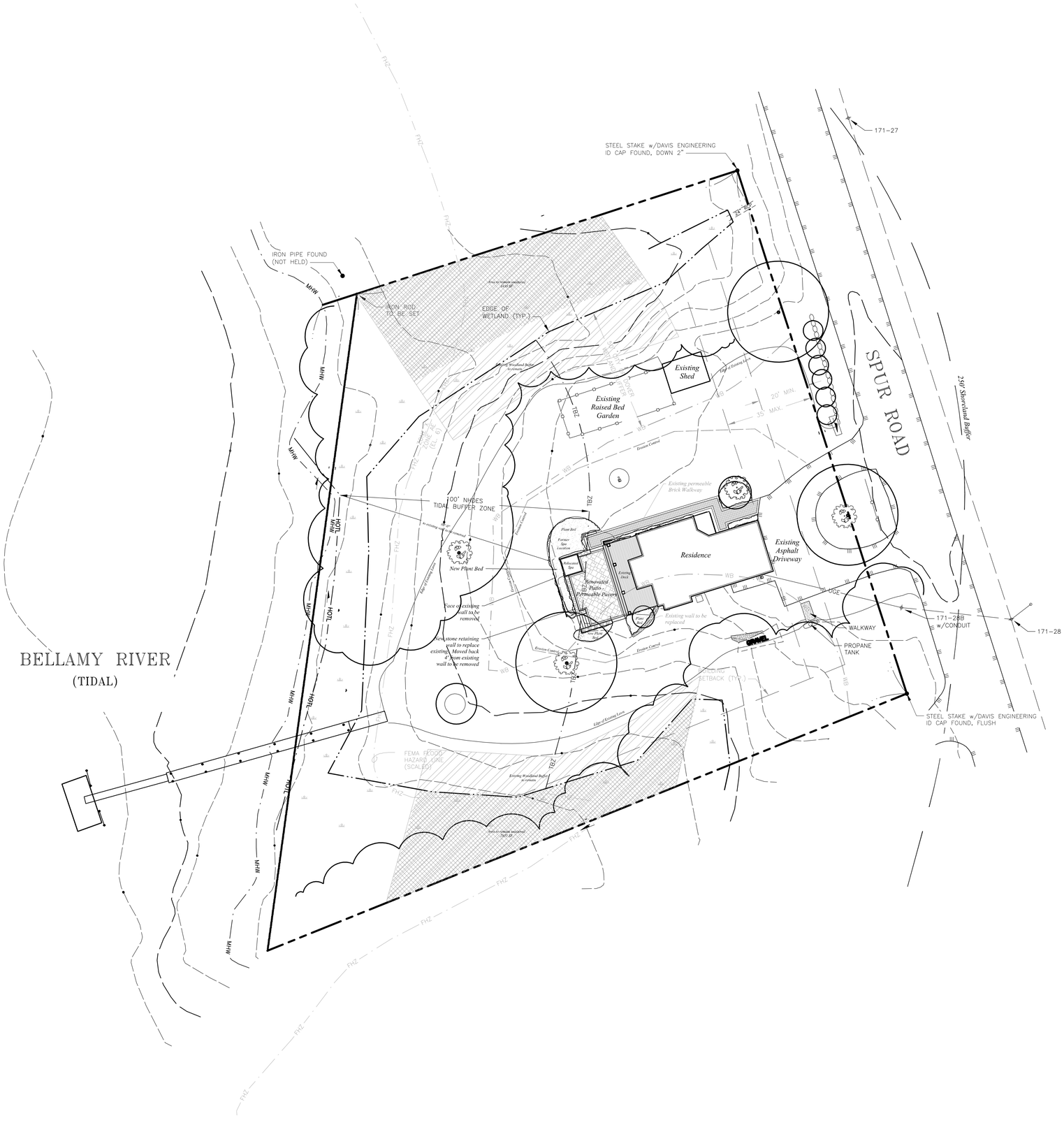
189 SPUR ROAD
CITY OF DOVER
COUNTY OF STRAFFORD
STATE OF NEW HAMPSHIRE

SCALE: 1" = 20' OCTOBER 2018

FB 378 PG 1

2552.51

J:\JOBS\2K\2552\dwg\2552SS21 Woodburn 189 Spur Road, Dover, NH\2018 Permitting\Plans & Specs\Sht\2552_51 ST1 2018.dwg, 8/6/2018 Fri, JAY.DEES 9:53:28 PM



189 Spur Road - Impervious Area

Pre construction

House & Deck	1761 sf	
Driveway	1457 sf	
Walkway - Permeable	0 sf	
Patio, Steps & Retaining Walls	710.7 sf	
Spa	64 sf	
Shed	200.38 sf	
Dock	158 sf	
Generator & AC	13 sf	
Total Area	**4364.08 sf**	

Post construction

House & Deck	1761 sf	
Driveway	1457 sf	
Walkway - Permeable	0 sf	
Patio, Steps & Retaining Walls	123 sf	patio pervious
Spa	64 sf	
Shed	200.38 sf	
Dock	158 sf	
Generator & AC	13 sf	
Total Area	**3776.38** sf	
Total Reduction of Impervious Surfaces	**587.7** sf	
Total Lot area	**51469 sf**	
Preconstruction Percent Impervious	**8.48%**	
Postconstruction Percent Impervious	**7.34%**	

Total Area of lot between 50 & 150'	25019 sf
Current Natural Woodland Area (50-150')	10447 sf
Area to remain in an unaltered state	6254.75 sf
Percent Natural Woodland area in 50'-150' foot Shoreland Area	42%

0 5 10 20 40

woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

189 Spur Road

Patio Renovation - Site Plan

Dover, New Hampshire

Drawn By:	RW
Checked By:	RW
Scale:	1"=20'-0"
Date:	October 2, 2022
Revisions:	

L-1

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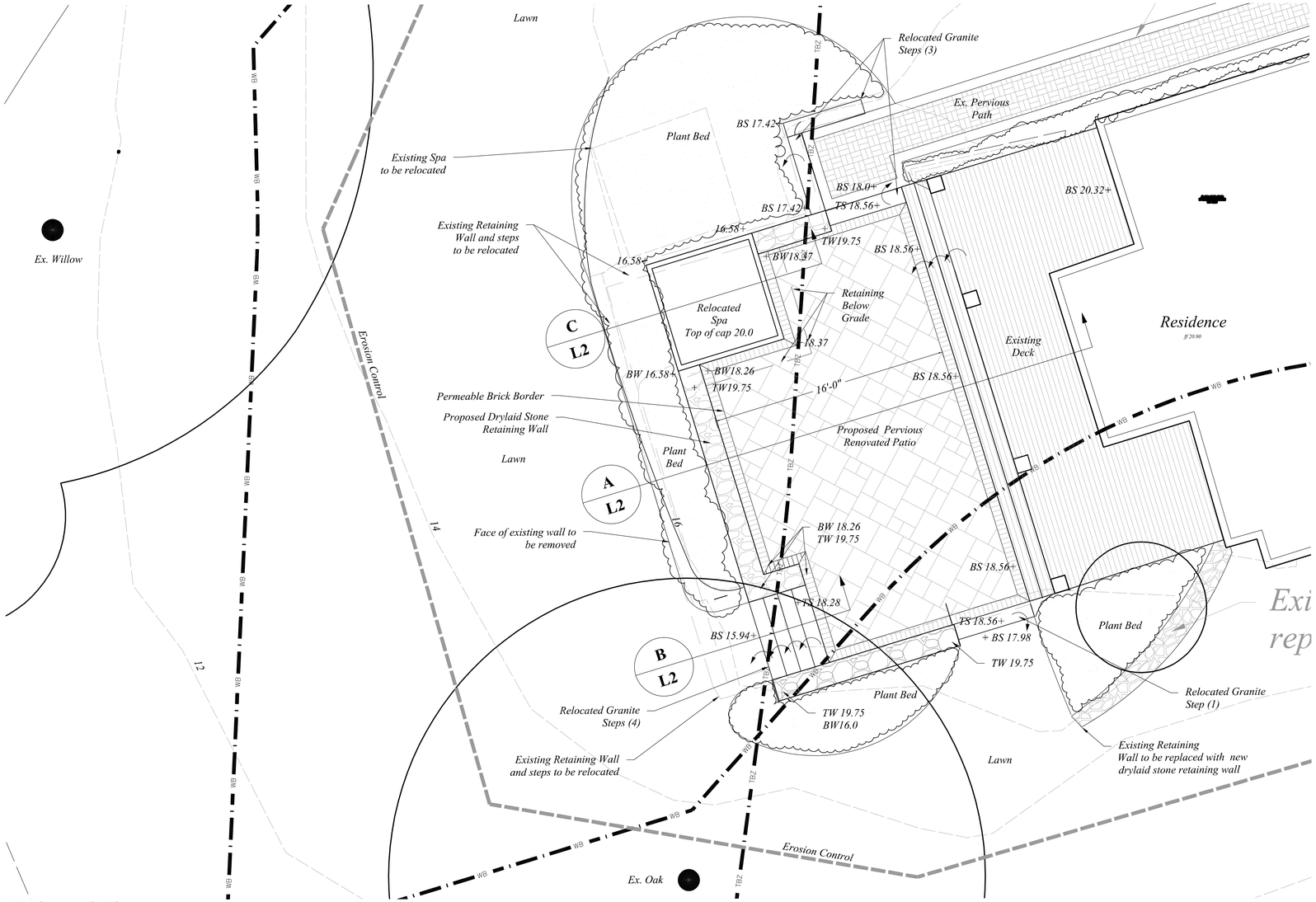
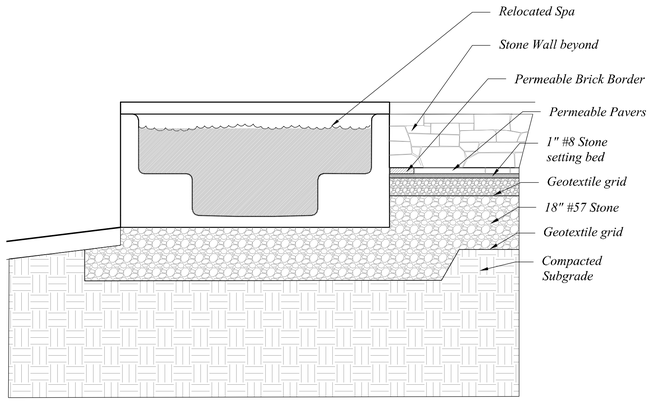


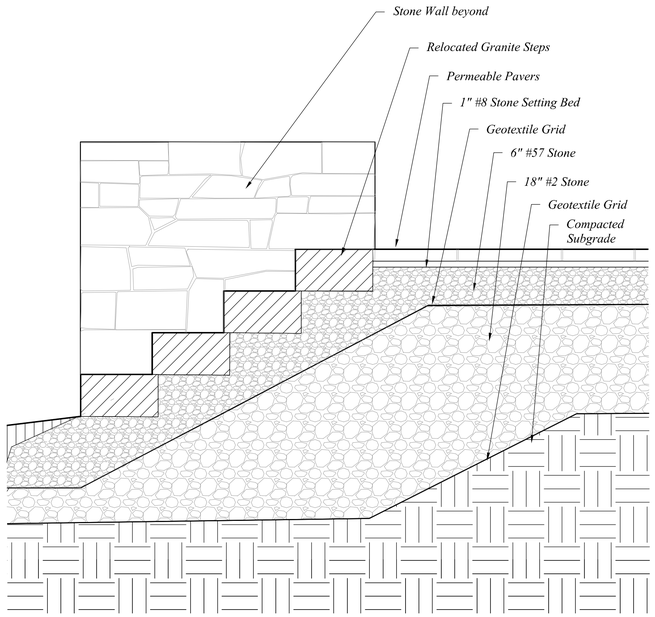
Enlarged Plan

0 2 4 8



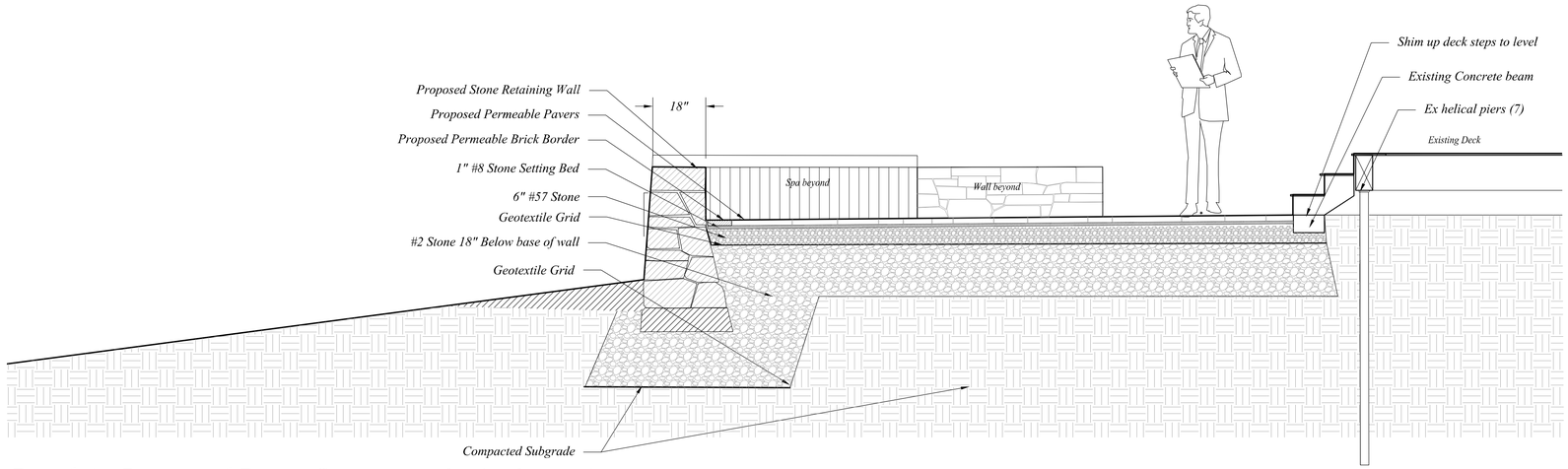
Detail C - Relocated Spa - Section

0 1 2 4



Detail B - Relocated Steps - Section

0 1/2 1 2



Detail A - Renovated Patio - Section

0 1 2 4

woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

189 Spur Road

Patio Renovation Layout & Grading

Dover, New Hampshire

Drawn By:	RW
Checked By:	RW
Scale:	Varies see plan
Date:	October 2, 2022
Revisions:	

L-2

Sheet 3 of 3

© 2017 Woodburn & Company Landscape Architecture, LLC

From:	Barbara J. Rushmore
To:	City of Dover - Planning
Subject:	Agenda 4-B, Roberta Woodburn
Sent:	6/6/2024 11:29:49 AM

Security Notice: External sender. Use caution with hyperlinks or attachments.

Dear Dover Planning Board,

We are writing in regards to Roberta Woodburn's proposed patio and retaining wall replacement. We are aware of the deteriorating condition of the present structures. Where greater permanent impact is being proposed, we trust the expertise of the Planning Board to vote in the best interest of the environment but at the same time best meeting the plans proposed by the owner.

Sincerely,

Barbara Rushmore
Fred H. Stepanek

Item 4.C

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #COND-2024-0004

Application Type:	Conditional Use Permit
Applicant(s):	Unitil Granite State Gas Transmission
Owner(s):	Dover Point Cooperative, Inc.
Location:	1 Polly Ann Trailer Park (Assessor's Map M, Lot 47-C)
Meeting Date:	June 11, 2024

INTENT: To install a replacement section of gas pipe, replace the existing access road, and construct an above-ground station for pipeline inspection equipment creating approximately 17,015 square feet of wetland impact which is also overlapping with the Conservation District.

AGENDA ITEM #: 4-C

FILE: COND-2024-0004

APPLICANT: Unitil Granite State Gas Transmission

OWNER: Dover Point Cooperative, Inc.

LOCATION: 1 Polly Ann Trailer Park (Assessor's Map M, Lot 47-C),

UNITS PROPOSED: N/A

ACREAGE: 20.70± ac.

ZONING DISTRICT: Medium Density Residential, R-12

EXISTING LAND USE: Residential

PROPOSED LAND USE: Residential – no change

SURROUNDING LAND USE: Residential

PERMITS: NHDES Shoreland Permit

WAIVERS REQUESTED: None

ZBA ACTION: None

ATTACHMENTS: CUP Plan, 4/11/24 Technical Review Committee Minutes, 5/13/24 Conservation Commission Meeting Minutes

TRC: Reviewed April 11, 2024

Summary of Request and Background
The applicant is seeking to install a replacement section of gas pipe, replace the existing access road, and construct an above-ground station for pipeline inspection equipment creating 17,015 square feet of wetland impact. The application materials also discuss the conservation district but in this case those impacts are overlapping and redundant with the wetlands impacts.

The Technical Review Committee reviewed this Conditional Use Permit application at their April 11, 2024 meeting (*minutes attached*).

The Conservation Commission reviewed this Conditional Use Permit application at their May 13, 2022 meeting (*minutes attached*) and voted in unanimous support of the project.

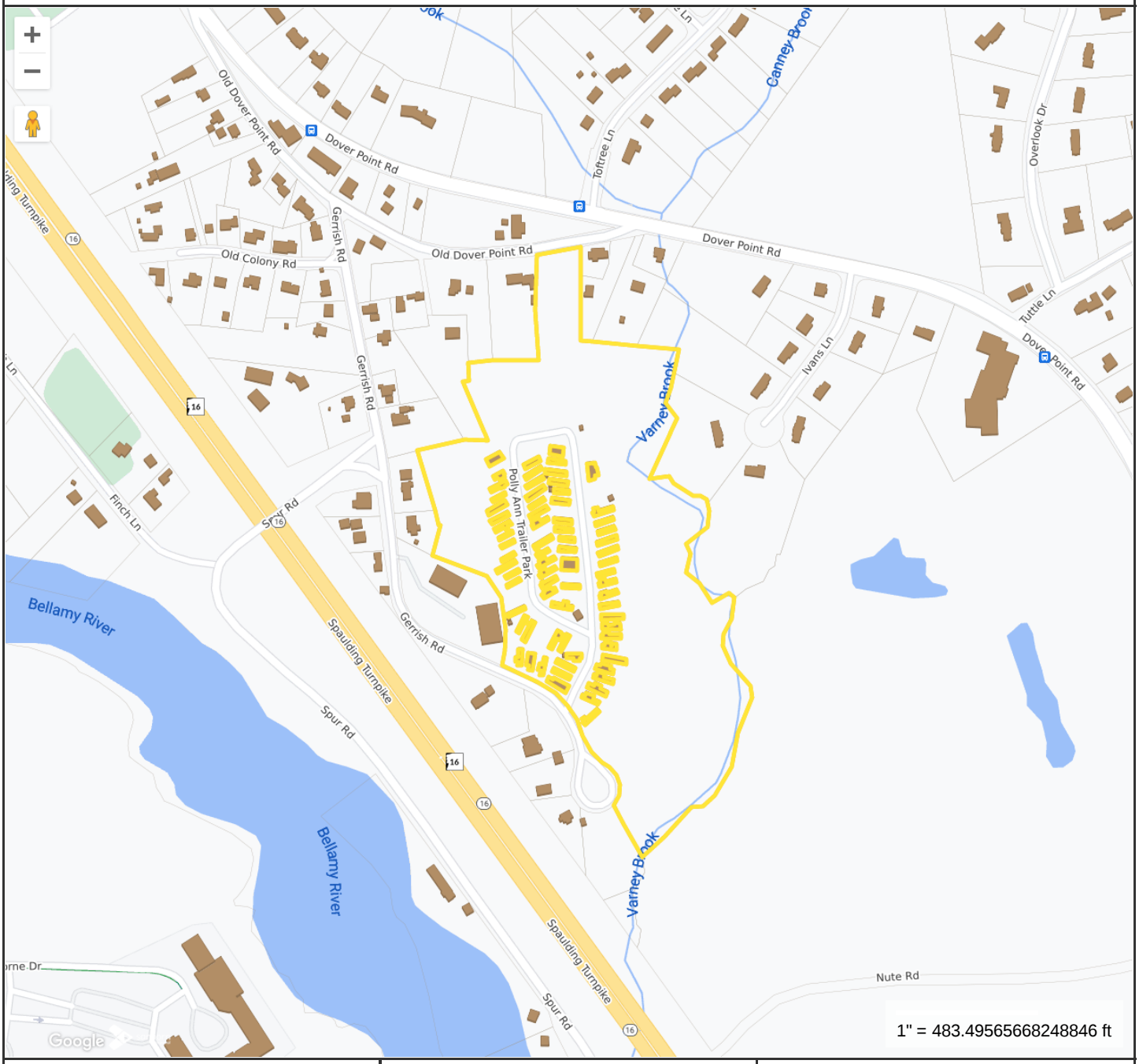
Consistency with Conditional Use Permit Regulations – 170-27.1.F
The Wetland Protection District Section (§170-27.1.F) of the Zoning Ordinance details requisite criteria to be met prior to the issuance of any Conditional Use Permit Relief.

Planning Staff feels that the applicant has met all of the criteria as specified in §170-27.1.F.

STAFF RECOMMENDATION:
The Planning Department recommends that the Planning Board accept the application as complete, note it is not of regional impact, hold a public hearing, make the necessary and supporting findings of fact, and vote to approve the Conditional Use Permit with the following subsequent conditions:

Conditions to be Met Prior to Issuance of a Conditional Use Permit:
1.) Copies of the NHDES Shoreland Permit be submitted to the Planning Department.
2.) State permit numbers added to the plan set and submitted to the Planning Department.

COND-2024-0004 1 Polly Ann Trailer Park



Property Information

Location	28 X POLLY ANN TRAILER PK
Owner	KIRTLAND NANCY
Land Use	
Zoning Code	
Property Id	M0047-C00028

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 10/30/2023
Data updated Daily

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

PERMIT SNAPSHOT REPORT COND-2024-0004
FOR CITY OF DOVER, N.H.

Permit Type Conditional Use
Work Class: Environmental
Status: Fees Due
Valuation: $0.00

Project:
District: None
Square Feet: 0.00
Assigned To: Blonigen, Rachel

App Date: 02/29/2024
Exp Date: NOT AVAILABLE
Completed: NOT COMPLETED
Approval Expire Date:

Description: Maintenance and improvements within Unitil's existing right-of-way between the end of Gerrish Road and Unitil's existing metering station near Dover Point Road. The work will cause unavoidable impacts to wetlands.

Parcel: M0047-C00000 Main	**Address:** 17 Ivans Ln Dover, 03820	**Zone:** R-12(Residential - Medium Density)
M0047-B00000	89 Gerrish Rd Dover, 03820	R-20(Residential - Low Density)
M0046-000000	1 Polly Ann Trailer Pk Main Dover, NH	
M0052-008000	87A Gerrish Rd Dover, 03820	

Project Manager
Stephen Herzog
VHB, 120 Front St. Suite 500
Suite 500
Worcester, MA 01608
Business: (508) 513-2714

Applicant
Stephen Herzog
VHB, 120 Front St. Suite 500
Suite 500
Worcester, MA 01608
Business: (508) 513-2714

Owner
Unitil Granite State Gas Transmission
Home: (000) 000-0000
Business: (603) 294-5191
Mobile: (603) 944-2454

Applicant
Unitil Granite State Gas Transmission
Home: (000) 000-0000
Business: (603) 294-5191
Mobile: (603) 944-2454

Plan Preparer
Eric Gerade, PE
Home: (000) 000-0000
Business: (603) 391-3972
Mobile: (000) 000-0000

Permit Custom Fields

Select Permit Type	Wetland Protection District	General Purpose	Alteration / Addition	Project Zone	Mixed Use
What is the parcel zoned?	R-12	Work	Unitil will construct a project in three parts, all within Unitil's existing ROW for which Unitil has easements providing the right to perform this maintenance and improvement work: • Install a replacement section of gas pipe; • Upgrade the existing ROW with a gravel surface road; • Construct an above-ground appurtenant station for pipeline inspection equipment. The location for the work is necessary based on the alignment of the existing pipe and the position of assets within Unitil's pipeline network near the existing metering and regulating station. The		project will cause 17,015 square feet of unavoidable impacts to palustrine wetlands. No estuarine or tidal wetlands will be affected. The wetlands in the ROW were previously disturbed by the placement of the gas pipe in the 1960s and also by construction of an adjacent sewer main. There are no practicable alternatives for the project because it must be constructed in the location of the existing pipeline and within Unitil's ROW. Unitil avoided wetlands impacts to the extent possible, and minimized necessary impacts. The applicant will provide compensatory impact mitigation in the form of an in lieu fee payment to the

	New Hampshire Aquatic Resources Mitigation fund.	permitstatefed	Unitil submitted a NH DES Standard Dredge and Fill Wetlands Permit application on January 30, and forwarded the application to the US Army Corps of Engineers as a Pre-Construction Notification. Unitil submitted a Utility Statutory Permit by Notification for preliminary tree trimming work. Unitil submitted a Shoreland permit for the portion of the project outside the 100-foot tidal buffer zone but within the 250-foot shoreland zone.

Attachment File Name	Added On	Added By	Attachment Group	Notes
Signature_Stephen_Herzog_2/29/2024.jpg	02/29/2024 12:50	Herzog, Stephen		Uploaded via CSS
Permit Snapshot Report.pdf	02/29/2024 12:50	Service, EnerGov		Attached by IO - ATTACH: Initial Permit Snapshot
2024.04.04_PlanningTechnicalReviewCommittee.Agenda.pdf	03/28/2024 15:51	Blonigen, Rachel		TRC Agenda
2024.04.11_PlanningTechnicalReviewCommittee.Unitil_PollyAnnPark_COND-2024-0004.pdf	04/25/2024 17:11	Blonigen, Rachel		Approved TRC Mins
2024.05.13-ConservationCommission.Minutes.draft.pdf	05/28/2024 12:14	Blonigen, Rachel		ConCom Draft Minutes
2024.06.11_PlanningBoard.Agenda.pdf	05/28/2024 14:00	Blonigen, Rachel		PB Agenda

Note	Created By	Date and Time Created
1. TRC Scheduled for 04/04/2024	Rachel Blonigen	03/28/2024 15:56
2. TRC Agenda Complete	Rachel Blonigen	03/28/2024 15:58

Invoice No.	Fee		Fee Amount	Amount Paid
INV-00006952	Planning General Application Fee		$200.00	$0.00
		Total for Invoice INV-00006952	**$200.00**	**$0.00**
INV-00008083	Planning Certified Mailing to Abutters		$300.00	$0.00
	Planning First Class Mailing		$68.00	$0.00
	Planning Public Notice in Newspaper		$120.00	$0.00
	Planning Creation / Printing of Abutter Labels		$50.00	$0.00
	Planning Certified Mailing to Application Contacts		$40.00	$0.00
		Total for Invoice INV-00008083	**$578.00**	**$0.00**
		Grand Total for Permit	**$778.00**	**$0.00**

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1		03/04/2024 15:09	03/04/2024 17:08
Confirm application complete v.1	Generic Action		03/04/2024 15:12
Conditional Use Review v.1	Receive Submittal		03/04/2024 17:08
Planning Board v.1		05/28/2024 15:19	
Planning Board Agenda v.1	Task	05/28/2024 15:19	05/28/2024 15:20
Invoice for Notices v.1	Task	05/28/2024 15:20	
Send Notices v.1	Task		
Planner Creates Staff Recommendations v.1	Permit Activity		

Distribute Planning Board Materials v.1	Task
Planning Board Hearing v.1	Hold Hearing
Planning Board Decision v.1	Permit Activity
NOD Sent to Applicant v.1	Create Report
Issue Permit v.1	
Verify Fees Prior to Permit v.1	Generic Action
Issue and Review Permit v.1	Generic Action
Print and Email Permit v.1	Generic Action
Plans uploaded to Treeno v.1	Generic Action
Internal Notification of Plan Completion v.1	Generic Action
Recording v.1	Task

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – COND-2024-0004

Application Type:	Conditional Use Permit
Applicant(s):	Unitil Granite State Gas Transmission
Owner(s):	Unitil Granite State Gas Transmission
Location:	Gerrish Road (Assessor's Map M, Lot 47-C)
Date:	April 11, 2024

INTENT: Proposal is for a Conditional Use Permit (CUP) to install a replacement section of pipe for Unitil's natural gas pipeline, construct an above-ground station for inspection equipment, and replace the existing access road with a gravel surface. The proposed project will create 17,015 square feet of wetland impacts.

UNITS PROPOSED: N/A

AGENDA ITEM #: 1

ACREAGE: 20.70± acres (total parcel)

ZONING DISTRICTS: R-12, Wetland Protection District, Conservation District

EXISTING LAND USE: Interstate natural gas transmission pipeline corridor easement

PROPOSED LAND USE: Interstate natural gas transmission pipeline corridor easement

SURROUNDING LAND USE: Residential, Stream and Wetlands, Utilities

ZBA ACTION: None

PERMITS REQUIRED: -NHDES Wetlands
-City of Dover CUP

WAIVERS REQUESTED: None.

ATTENDANCE:
Members:
Erin Bassegio, Planning
Paul Crouser, Zoning
Ken Mavrogeorge, Engineering
Jim Maxfield, Fire/Inspection Services
Marn Speidel, Police
James Burdin, Business Development

Others:
Jackson Kaspari, City of Dover Resilience Manager
Stephen G. Herzog, PWS, VHB
Robert Schummrick, Unitil
Tracey Sweeney, Unitil
Matt Pelletier, Process Pipeline Services

Approval of minutes from March 28, 2024:
M. Speidel moved to approve the March 28, 2024 minutes. Seconded by K. Mavrogeorge. Vote: U/A.

PLAN REVIEW:
Planning:

- Clearly identify the 100' Conservation District buffer (potentially in another color)
- Include local language for buffer and wetland impacts (ex. previously tidal developed buffer zone is used for state permitting)
- Expand on CUP criteria in narrative
    - Avoidance and minimization

Engineering:

- General Comment:
    - *Applicant and Contractor shall review the Dover Construction Guidelines prior to scheduling a Preconstruction meeting with City staff. The guidelines can be found on the City of Dover Website on the Engineering page.* *https://www.dover.nh.gov/Assets/government/city-operations/1form/community-services/engineering/engineering-documents/Construction%20Guidelines.pdf*
- Sheet C2.01:
    - Recommend replacing any damaged drainage culverts that cross the access road. One is called out as being crushed. Minimum culverts should be 12" HDPE.
- Sheet C2.03:
    - What are the miscellaneous piles of material to be removed? Please add a note that these materials will be disposed of in accordance with all applicable laws.
- Sheet C2.04:
    - The gravel driveway from the City's Pump Station appears to be too close to the sewer force main pipes coming out of the ground. Move the driveway to the north to provide more separation.
- Sheet C3.02:
    - Recommend additional contour labels for contours outside of the access road.
- Sheet C3.04:
    - Erosion control is running through City piping infrastructure.

Police:

- What is the status of Dover Point Cooperative activities and/or efforts to restrict access to Unitil's easement? By this I refer to the October 5, 2022 letter from Unitil's legal counsel to the president of the Cooperative.
- With respect to the Property Rights section of your February 28, 2024 introduction letter noting precedent, would like opinion of Dover City Attorney to confirm that land owner should not co-sign the application.

Inspections Services:

- None.

Fire:

- Will there be department access in the event of an emergency?
    - Will access change during various construction phases?
    - Are there gates / locks?
    - Year-round, all-weather access?

Business Development:

- Will the proposed work require any planned service outages while improvements are completed?
- If so, what is the anticipated extent and duration? What kind of outreach will be done to inform residents and businesses of any service impacts?

Planning Board:

- None.

Next Steps: Revise plans to address identified issues and resubmit for Conservation Commission review and Planning Board.

Adjournment: K. Mavrogeorge moved to adjourn the meeting at 10:56 a.m. Seconded by M. Speidel. Vote: U/A

CITY OF DOVER

DOVER CONSERVATION COMMISSION – MINUTES

Meeting Type:	Regular Meeting
Meeting Location:	City Council Conference Room - 288 Central Avenue, Dover, NH
Meeting Date:	Monday, May 13, 2024
Meeting Time:	**5:30 pm**

MEMBERS PRESENT: Bill Hunt (Chair), Kristen Murphy, Amy Kramer Perry, Abigail Lyon, Russ Warnock (Alternate)
Absent (Excused):, Steve Fellows (Vice Chair), Robert Atwood (Secretary), Jake Geddes
Absent (Unexcused):
STAFF PRESENT: Jackson Kaspari – Resilience Manager
OTHERS PRESENT: Steve Haight, Mike Menary, Sarah Large, Kyle Pimental, Steve Herzog, Robert Schummrick, Councilor Williams

1. CALL TO ORDER AND ROLL CALL
The meeting was convened at 5:30 PM.

2. CITIZENS' FORUM
None

3. APPROVAL OF THE PRIOR MEETING MINUTES- April 8, 2024
K. Murphy moved to approve the minutes of April 8 as submitted. A. Lyon seconded. Vote: U/A

4. OLD BUSINESS:
None

5. NEW BUSINESS:
A. City of Dover Conditional Use Permit for H. J. Stabile & Son, Inc (Owner: Double Diamond Holdings North, LLC), Assessor's Map 15, Lot 40A-1, zoned G, located off of Fisher Street. Proposal is to construct a townhouse condominium complex creating 16,250 square feet of wetland buffer impact and 6,329 square feet of overlapping impact to the Conservation District.

Steve Haight and Mike Menary, CivilWorks Engineering represented the applicant and presented the item. The proposal is a CUP for a condominium complex off Fisher St. He gave background on the application noting they have been before TRC a few times and the project has changed and reduced during the review process. He explained the differences and the current proposal.

He highlighted details including:
- Drainage/ Treatment
- Sidewalk/ Pedestrian crossing
- Buffer/ Impacts

Committee members asked clarifying questions about the above topics.

Additional discussion and clarification about the following:
- Stormwater maintenance plans and reports
- Condominium documents
- Landscaping/ Plantings
- Driveways
- Recreation areas

DRAFT

Recommendations for native plantings was discussed and supported by the group.
S. Haight reviewed the process and boards and committees the plan will go through. If there is a recommendation for more native plantings and the applicant needs to make an update, they can make those adjustments.

A. Kramer Perry moved to endorse the project as presented with the stipulations relating to native species. R. Warnock seconded. Vote: U/A

B. City of Dover Conditional Use Permit for Unitil Granite State Gas Transmission (Owner: Dover Point Cooperative, Inc.), Assessor's Map M, Lot 47-C, zoned R-12, located within Unitil's existing right-of-way between the end of Gerrish Road and Dover Point Road. Proposal is to install a replacement section of gas pipe, replace the existing access road, and construct an above-ground station for pipeline inspection equipment creating 17,015 square feet of wetland impact

Steve Herzog and Robert Schummrick represented the applicant and presented the item. This is the same proposal as previously, but expanded to also upgrade pipes and provide access for the water department. Questions and clarifications ensued regarding:

- Access road frequency/ material/ vehicles
- Impact to the co-op community
- Wetland mitigation
- DES regulation change – new preferred methods/ mitigation
- Updated temporary and permanent impacts/ access points for future work
- Timeline for construction
- Erosion control on the disturbed areas during and following construction

A. Lyon moved to endorse the proposal as presented. A. Kramer Perry seconded. Vote: U/A

A request was made by the commission that when the applicant is back for the wetland permit, they revisit the local mitigation option to the state. Discussion occurred about the process, timeline and mitigation list.

In connection to a conversation surrounding this topic, A. Lyon moved to authorize J. Kaspari to approach NHDES about the payment into the ARM fund versus utilization of local mitigation priority lists. K. Murphy seconded. Vote: U/A

C. FB Environmental Project Selection
As part of the Natural Resources Inventory, there is a small budget to conduct some fieldwork. J. Kaspari has spoken to the forest management subcommittee and there is an existing rain garden with some discrepancy as to whether the school district or City should be maintaining it. An idea is to use the funding to go out there and evaluate it and provide some recommendations.

DRAFT

Autumn Scott who was running the NRI project has taken another position and is no longer with Strafford Regional Planning. Kyle Pimental, SRPC Assistant Director is taking this project over for her.

Kyle and Sarah want to find out tonight what is the priority project FB Environmental is going to work on. Several projects had come to the surface, and they want to be sure the one chosen is useful to the City and to this group as well as being within the expertise of FBE. The timeline will be from now through September/ October.

Sarah Large, wetland scientist for FB Environmental explained what they do and discussed options for projects that have been suggested and what her group could provide within the timeframe and financial constraints.
Projects discussed:

- Rain Garden
- Evaluation of the Book (not in FB scope of work)
- Habitat baseline documentation for Bellamy River/ dam removal
    - Rapid ecological assessment
- Community Trail expansion- preplan for any particular piece of land
    - Some design work has been done, but unsure of status
- Stream crossing assessment prioritization
- Culvert prioritization for replacement
- Rapid ecological assessment along a stream with recommendation for restoration projects

A. Lyon motioned to have FBE conduct an ecological assessment of the New Meadows conservation easement for the Community Trail expansion. R. Warnock seconded. Vote U/A

D. Native Species Resolution Discussion
J. Kaspari explained the goals and intentions of the resolution. Details and opinions were shared about the language and the lists. Discussion continued about whether a resolution is the best option or if procedures are a better way of moving forward and measuring success.

Councilor Williams explained the initiative came from a community member asking Council to take action. Council is asking for conversations to occur before moving forward.

The overarching agreement was for this topic to remain in the purview of the Commission longer for review and development of a new set of language within a resolution for review. Staff and the Commission will research best practices and what other peer NH cities are doing for reference and continue to discuss this topic at upcoming meetings to work towards some sort of policy to put in place.

E. Conservation and Open Space Chapter Update
J. Kaspari noted the consultants are making good progress and staff was provided a draft of existing conditions report prior to it going to the master plan committee.

DRAFT

6. REPORT FROM THE CHAIR

A. Review of Correspondence Received from NH Department of Environmental Services

A potential wetlands violation is being reviewed after a resident complaint.

7. OTHER BUSINESS

A. Update from Forest Management Subcommittee

J. Kaspari reported on the latest discussion topics:

- Met at the school to discuss the rain garden with the principal
- Site walk of a conservation property

8. ADJOURNMENT

A. Lyon moved to adjourn. R. Warnock seconded. Vote: U/A
The meeting was adjourned at 7:34 PM.

DRAFT

May 6, 2024

Ref: 16035.00

City of Dover Planning Board
288 Central Ave.
Dover, NH 03820

Re: Response to Comments
Conditional Use Permit Application COND-2024-0004
Proposed Gas Pipeline Replacement
Unitil GSGT Pipeline Corridor off Gerrish Road

Dear Members of the Planning Board:

On behalf of Unitil, we are providing these responses to comments received at the Technical Review Committee (TRC) meeting held April 11, 2024 regarding a Conditional Use Permit (CUP) application for the above-named project. As stated on the application, the project will take place within Unitil's existing interstate gas transmission corridor, which intersects both the Dover Conservation District and Wetlands Protection District. The existing ROW, and therefore the project, crosses freshwater wetlands and land within 100 feet of tidally-influenced Varney Brook.

Planning Comments

Comment 1. *Clearly identify the 100' Conservation District buffer (potentially in another color).*

Response 1. The 100' Conservation District buffer has been identified on the project plans.

Comment 2. *Include local language for buffer and wetland impacts (ex. previously tidal developed buffer zone is used for state permitting).*

Response 2. The plan set shows the 100-foot Conservation District, the Wetlands Protection District (delineated wetlands), and the 50-foot wetland buffer.

Comment 3. *Expand on CUP criteria in narrative; avoidance and minimization.*

Response 3. The following text provides the requested information.

As defined in the Zoning Ordinance of the City of Dover NH (Zoning Ordinance), the Conservation District consists of those areas within 100 feet of the reference line of any water body, river, stream, swamp, or marsh subject to tidal action, those areas within 100 feet of any freshwater river or natural pond, those areas within 50 feet of the reference line of any stream, brook, or other freshwater body. The Conservation District in the project area is shown as a line 100 feet from the reference line of Varney Brook, which is the highest observable tide line as also shown on the plans.

As defined in the Zoning Ordinance, the Wetlands Protection District consists of all areas of wetlands in the city. Wetlands on the site were delineated and flagged in the field by Marc Jacobs, NH-Certified Wetland Scientist, on the basis of hydrophytic vegetation, hydric soils, and wetlands hydrology, in accordance with the techniques outlined in the Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 (January 1987). Wetlands boundaries and wetland flag numbers are shown in green on the plans. Areas of proposed wetland impact are shown in blue cross-hatch pattern.

Conditional Use Permit Criteria – Conservation District

The Zoning Ordinance provides that a CUP may be granted in the Conservation District for utility rights-of-way if so located and constructed as to minimize any detrimental impact of such uses upon the wetlands or other environmentally sensitive areas, where it is physically impossible to locate such ways over land not so zoned.

(a) The interstate natural gas transmission pipeline was constructed in its present location in the 1960s, and it is physically impossible to locate the project elsewhere, over land not zoned as Conservation District or Wetlands Protection District.

(b) An erosion and sedimentation control plan is provided in the project design drawing set. Erosion controls proposed include a dewatering system that will provide dry working space and discharge water to a filter bag within staked straw bales in uplands, erosion control blankets on disturbed slopes, temporary sediment traps, a stabilized construction exit, and a double perimeter erosion control barrier.

(c) Unitil has submitted a Wetlands Standard Dredge and Fill permit application for state-regulated wetland impacts, and a Shoreland Permit by Notification for work outside wetlands but within shoreland jurisdiction.

Conditional Use Permit Criteria – Wetlands Protection District

The Zoning Ordinance provides that a CUP may be granted in the Wetlands Protection District for utility rights-of-way provided that construction complies with the following standards.

(a) Practicable Alternative: If there is no practicable alternative that would have a less adverse impact on the area because the project is constrained by the existing right of way.

(b) Avoidance: potential impacts have been avoided to the maximum extent practicable. The following impact avoidance measures are proposed. Work avoids impact to the tidal marsh surrounding Varney Brook (only freshwater wetlands will be affected). The project maintains hydrologic connections between adjacent wetlands. The project minimizes impacts to floodplain wetlands by maintaining existing grades to the extent practicable and providing hydrologic connection. The project does not impact stream channels.

(c) Minimization: Any unavoidable impacts have been minimized. No reasonable alternative to the proposed construction exists which does not impact a wetland or which has less detrimental impact on the wetland. Design, construction, and maintenance methods have been prepared by a registered engineer to minimize detrimental impacts to wetlands. The following minimization measures are proposed. No grubbing, grading, excavating, or filling will be done outside the utility access road, embankments, and station. The access road alignment has been designed to minimize impact by avoiding wetlands where possible, and crossing wetlands at the narrowest locations on the ROW. Culverts will maintain hydrologic connectivity and convey stormwater where the access road will cross wetlands. No grading or other changes are

proposed outside the access road and station. Erosion controls will be used to prevent the movement of sediment away from the work areas. An erosion and sedimentation control plan is provided in the design drawing set. The erosion controls are described in the preceding paragraph.

(d) Mitigation: The applicant is required by state rules to prepare a compensatory impact mitigation plan. The applicant has proposed an in-lieu fee payment to the New Hampshire Aquatic Resources Mitigation Fund. A copy of the relevant section of the state permit application, the New Hampshire Department of Environmental Services Standard Dredge and Fill permit application, is attached to this letter.

(e) Wetlands Bureau: state wetlands and shoreland permit applications have been submitted and are in review.

(f) Wetland functions and values: A New Hampshire Certified Wetland Scientist conducted a field assessment of wetland functions and values according to the U.S. Army Corps of Engineers Methodology, which contains most of the same functions and values denoted in the NH Method. All six wetland impact areas at the project site exhibit several of the same functions and values. All the wetland impact areas exhibit the functions of groundwater recharge/discharge and flood storage. Wetlands 1, 3, and 5 also contain wildlife habitat, although not necessarily wetland-dependent wildlife habitat. Wetlands 1, 5, and 6 also exhibit the functions of sediment trapping and nutrient transformation.

In accordance with the Zoning Ordinance section 170.27.1(B), it is the intent of the Wetland Protection District to [170.27.1(B)(2)] "Prevent the destruction of, or significant changes to, wetlands which provide flood protection, recharge the groundwater supply and augment stream flow during dry periods and filtration of water flowing into ponds and streams." The project was designed to accommodate the flood protection and groundwater recharge functions of the wetlands that intersect the project by maintaining hydrologic connectivity and by the impact minimization and erosion controls proposed, and to minimize impacts to all other wetland functions and values, as described above under Avoidance and Minimization.

Engineering and Other Comments

Comment 4. *The gravel driveway from the City's Pump Station appears to be too close to the sewer force main pipes coming out of the ground. Move the driveway to the north to provide more separation.*

Response 4. The location of the gravel driveway was previously coordinated and approved by the City of Dover. The driveway avoids existing sewer infrastructure and existing trees to be preserved.

Comment 5. *Erosion control is running through City piping infrastructure.*

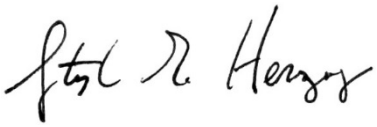
Response 5 The erosion control measure that we are proposing are surface erosion control measures. These will not interfere with piping infrastructure.

All remaining comments were directly addressed at the Technical Review Committee Meeting or have been addressed on the revised site plans accompanying this letter.

As indicated in the Technical Review Committee minutes, this application and plan set is being resubmitted for Conservation Commission review and Planning Board review.

Sincerely,

VHB



Stephen G. Herzog, PWS, CERP
Senior Project Manager

cc: Unitil
Attachments

COND-2024-0004 **1 POLLY ANN TRAILER PARK**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
M0033-A00000	25 GERRISH RD	MATTOX IAN	KOLKER ASHLEY	25 GERRISH RD	DOVER	NH	03820
M0037-000000	20 GERRISH RD	FROST STEVEN SR	FROST ELIZABETH	20 GERRISH RD	DOVER	NH	03820
M0038-000000	30 GERRISH RD	MURPHY ROBERT M &	ROBERTS JULIANA H	30 GERRISH RD	DOVER	NH	03820-4671
M0038-A00000	24 GERRISH RD	DRISCOLL KURT I &	MAILHOT BETH M	24 GERRISH RD	DOVER	NH	03820-4671
M0039-000000	36 GERRISH RD	MCCULLOUGH KRISTIN C &	MCCULLOUGH DONALD J JR	36 GERRISH RD	DOVER	NH	03820
M0039-A00000	42 GERRISH RD	MAHMOOD SHAHZAD & FAHZAIB &	MAHMOOD AHSAN & SHAHEER	42 GERRISH RD	DOVER	NH	03820
M0040-000000	39 GERRISH RD	Y & S HUANG LLC		267 HIGH ST	SOMERSWORTH	NH	03878
M0040-001000	35 GERRISH RD	GEORGE ZACHARY S		35 GERRISH RD	DOVER	NH	03820
M0040-A00000	47 GERRISH RD	DOMOWITZ FREDERICK R &	DOMOWITZ CANDIS L	47 GERRISH RD	DOVER	NH	03820-4675
M0041-000000	50 GERRISH RD	STATE OF NEW HAMPSHIRE		J.D. MORTON BLDG	CONCORD	NH	03301
M0042-000000	67 GERRISH RD	KITTREDGE DAWN &	SMITH NIGEL	67 GERRISH RD	DOVER	NH	03820
M0043-000000	79 GERRISH RD	GASKIN WILLIAM A	GASKIN DEBRA A	79 GERRISH ROAD	DOVER	NH	03820
M0044-000000	85 GERRISH RD	ENCARNACION JOAQUIN	ENCARNACION JULIA	85 GERRISH RD	DOVER	NH	03820
M0045-000000	87 GERRISH RD	JOYAL MATTHEW R		87 GERRISH RD	DOVER	NH	03820
M0046-000000	89 GERRISH RD	STATE OF NEW HAMPSHIRE		J.D. MORTON BLDG	CONCORD	NH	03301
M0047-000000	87 OLD DOVER POINT RD	DICKINSON NANCY THOMAS &	DICKINSON DOUGLAS BRIAN	87 OLD DOVER POINT RD	DOVER	NH	03820
M0047-A00000	91 OLD DOVER POINT RD	GREIG HENRY F & COVA M TRUSTEES	GREIG HENRY F & COVA M REVOCABLE LIVING	30 HOLIDAY DR APT 348	DOVER	NH	03820
M0047-B00000	87A GERRISH RD	CITY OF DOVER		288 CENTRAL AV	DOVER	NH	03820
M0047-C00001	1 POLLY ANN TRAILER PK	COUCH RYAN JAMES		1 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00002	2 POLLY ANN TRAILER PK	MICHELLE E SAYERS REVOCABLE TRUST OF 202	C/O JASON KNOWLES	2 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00004	4 POLLY ANN TRAILER PK	BOURSIER JOLINE A		4 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00006	6 POLLY ANN TRAILER PK	BOWIE BRIAN F		6 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00007	7 POLLY ANN TRAILER PK	WATERS SHANE		7 POLLY ANN TRAILER PARK	DOVER	NH	03820
M0047-C00010	10 POLLY ANN TRAILER PK	CHAMPOUX ISABELLE C TRUSTEE	CHAMPOUX ISABELLE C REVOCABLE TRUST	P O BOX 5854	SALISBURY	MA	01952
M0047-C00011	11 POLLY ANN TRAILER PK	STORMS GARY		11 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00012	12 POLLY ANN TRAILER PK	COOPER LESLIE D &	COOPER NANCY J	27 HIGHLAND ST	EXETER	NH	03833
M0047-C00015	15 POLLY ANN TRAILER PK	BOVA DIANE		15 POLLY ANN TRAILER PARK	DOVER	NH	03820
M0047-C00016	16 POLLY ANN TRAILER PK	MORRIS GEORGE M &	MORRIS ROBIN A	16 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00018	18 POLLY ANN TRAILER PK	STEFFEN JEROME J		18 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00019	19 POLLY ANN TRAILER PK	JOHNSON JAMES		19 POLLY ANN TRAILER PARK	DOVER	NH	03820
M0047-C0001A	70 GERRISH RD	MCDONOUGH MARTHA E & MARK E TRUSTEES	BERKSHIRE MANAGEMENT TRUST	82 DUDLEY RD	BRENTWOOD	NH	03833
M0047-C00020	20 POLLY ANN TRAILER PK	ELIASON ZULAY		20 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00021	21 POLLY ANN TRAILER PK	HOWLAND DIANA		21 POLLY ANN PK	DOVER	NH	03820
M0047-C00024	24 POLLY ANN TRAILER PK	VANASSE CAROLLANN M		24 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00025	25 POLLY ANN TRAILER PK	STANDISH WILLIAM		25 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00026	26 POLLY ANN TRAILER PK	CHAMBERS BRYAN		26 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00027	27 POLLY ANN TRAILER PK	ROBERTS THOMAS	ROBERTS KATHLEEN	27 POLLY ANN TRAILER PARK	DOVER	NH	03820
M0047-C00028	28 X POLLY ANN TRAILER PK	KIRTLAND NANCY		28 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C0002A	72 GERRISH RD	STONE JOSHUA		72 GERRISH RD #22	DOVER	NH	03820
M0047-C00030	30 POLLY ANN TRAILER PK	GAGNON JOSEPH G	GAGNON DEANNA M	30 POLLY ANN MOBILE HOME PARK	DOVER	NH	03820
M0047-C00032	32 POLLY ANN TRAILER PK	PELLETIER KEITH &	PELLETIER TONIA	32 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00033	33 POLLY ANN TRAILER PK	O BRIEN SUSAN &	O BRIEN JOSEPH	33 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00034	34 POLLY ANN TRAILER PK	FITZGERALD JEFFREY L &	FITZGERALD LEE C	34 POLLY ANN TRAILER PARK	DOVER	NH	03820
M0047-C00035	35 POLLY ANN TRAILER PK	HAYES PETER		35 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00037	37 POLLY ANN TRAILER PK	KRAUSE IRENE		15 VIOLET ROAD	LEVITTOWN	PA	19057
M0047-C00038	38 POLLY ANN TRAILER PK	BOVA JEREMY		38 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00039	39 POLLY ANN TRAILER PK	DONOHUE ELIZABETH A		39 POLLY ANN TRAILER PARK	DOVER	NH	03820
M0047-C0003A	74 GERRISH RD	WENTWORTH DOROTHY &	WENTWORTH ZACH	74 GERRISH RD	DOVER	NH	03820
M0047-C0003B	3 POLLY ANN TRAILER PK	SPRAGUE DONALD N &	SPRAGUE MARIANNE	3 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00040	40 POLLY ANN TRAILER PK	GLADDEN MICHELLE		40 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00041	41 POLLY ANN TRAILER PK	YEATON STEVEN L		41 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00043	43 B POLLY ANN TRAILER PK	HUERKAMP JOHN		43 B POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00047	47 POLLY ANN TRAILER PK	HEHER STEVEN F	HEHER ROBERT S	47 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00048	48 POLLY ANN TRAILER PK	FISHER DEREK		48 POLLY ANN TRAILER PK	DOVER	NH	03820-4678
M0047-C00049	49 POLLY ANN TRAILER PK	BIBEAU STEPHEN T	BIBEAU ARLENE B	49 POLLY ANN TRAILER PARK	DOVER	NH	03820
M0047-C00053	53 POLLY ANN TRAILER PK	SCHULMAN LEUYAN & VERONICA TRUSTEES	SCHULMAN LEUYAN AND VERONICA REVOCABLE T	3393 ROSSI CT	WEST PALM BEACH	FL	33417
M0047-C00056	56 POLLY ANN TRAILER PK	MOORE LEDITH		56 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00059	59 POLLY ANN TRAILER PK	CABRAL JONATHAN K		59 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00060	60 POLLY ANN TRAILER PK	MCLAUGHLIN CHRISTIE JOY J &	MCLAUGHLIN JAMES R	60 POLLY ANN TRAILER PARK	DOVER	NH	03820
M0047-C00062	62 POLLY ANN TRAILER PK	BRESNAHAN MIKE		62 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00063	63 POLLY ANN TRAILER PK	ROBINSON JASON B &	CONNORS-ROBINSON TESHA R	63 POLLY ANN TRAILER PK	DOVER	NH	03820-4679
M0047-C00064	64 POLLY ANN TRAILER PK	VEILLEUX DANA	VEILLEUX DAVID P	64 POLLY ANN TRAILER PARK	DOVER	NH	03820
M0047-C00065	65 POLLY ANN TRAILER PK	OUELLETTE REBECCA L		65 POLLY ANN TRAILER PARK	DOVER	NH	03820
M0047-C00066	66 POLLY ANN TRAILER PK	CLARK LINDA		66 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00067	67 POLLY ANN TRAILER PK	CLARK RICHARD		67 POLLY ANN TRAILER PARK	DOVER	NH	03820
M0047-C00069	69 POLLY ANN TRAILER PK	DAVIDSON DIANE R		69 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00070	70 POLLY ANN TRAILER PK	CLOUTIER LINDA		70 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00071	71 POLLY ANN TRAILER PK	EDDIB BRAHIM		71 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00072	72 POLLY ANN TRAILER PK	HESELBARTH KATHRYN E &	HESELBARTH EDGAR F	73 POLLY ANN TRAILER PARK	DOVER	NH	03820
M0047-C00073	73 POLLY ANN TRAILER PK	HESELBARTH KATHRYN E &	HESELBARTH EDGAR F	73 POLLY ANN TRAILER PARK	DOVER	NH	03820
M0047-C00075	75 POLLY ANN TRAILER PK	WITTMAN GRETA		75 POLLY ANN PK	DOVER	NH	03820-3454
M0047-C00076	76 POLLY ANN TRAILER PK	MANCINI STEVEN J		76 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00077	77 POLLY ANN TRAILER PK	PARKMAN LUCY ANN TRUSTEE	PARKMAN REVOCABLE TRUST	77 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C00078	78 POLLY ANN TRAILER PK	ROBINSON JUDY		78 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C0017A	17 POLLY ANN TRAILER PK	PATTIASINA GAYLE		17 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C0022A	22 POLLY ANN TRAILER PK	DENOVELLIS FRANK A	DENOVELLIS AMY M	22 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C0023A	23 POLLY ANN TRAILER PK	LIVINGSTON BRYNNE K		23 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C0029A	29 POLLY ANN TRAILER PK	CROTEAU NORMAND P		29 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C0031A	31 POLLY ANN TRAILER PK	MALZAHN DANIEL		31 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C0042A	42 POLLY ANN TRAILER PK	WILLIAMSON KATELYN &	DUDLEY JOY	42 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C0043A	43 A POLLY ANN TRAILER PK	KOPPENHAVER PAUL		43 A POLLY ANN TRAILER PK	DOVER	NH	03820-4678
M0047-C0046A	46 POLLY ANN TRAILER PK	RENNER CHRISTOPHER J		46 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C0052A	52 POLLY ANN TRAILER PK	LITTLEFIELD SCOTT T		52 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C0054A	54 POLLY ANN TRAILER PK	PAQUETTE TAMARA-LYNNE		54 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C0058A	58 POLLY ANN TRAILER PK	MCKENNEY MARGARET A		58 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C0061A	61 POLLY ANN TRAILER PK	RACIC PHILIP M &	PIAZZA HEATHER J	61 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-C0068A	68 POLLY ANN TRAILER PK	BONDOLA JOHN		68 POLLY ANN TRAILER PK	DOVER	NH	03820
M0047-D00000	87 A OLD DOVER POINT RD	MOORE SHERRI A	MOORE ERIC S	52 NEW ROCHESTER ROAD	DOVER	NH	03820-2132
M0047-E00000	81 OLD DOVER POINT RD	RASMUSSEN LAURA L &	RASMUSSEN DEAN S	81 OLD DOVER POINT RD	DOVER	NH	03820
M0049-000000	89 OLD DOVER POINT RD	VENDASI KAREN L	VENDASI ANTHONY	89 OLD DOVER POINT RD	DOVER	NH	03820
M0050-000000	93 OLD DOVER POINT RD	BARTON PATRICIA M TRUSTEE	BARTON PATRICIA M 2011 REVOCABLE TRUST	24 BOSTON HARBOR #17	DOVER	NH	03820
M0050-A00000	93 A OLD DOVER POINT RD	FEDDER BRYCE &	FEDDER NICOLE	93 A OLD DOVER POINT RD	DOVER	NH	03820
M0051-000000	101 DOVER POINT RD	POLLOCK EVAN N &	TUCKER ASHLEIGH B	101 DOVER POINT RD	DOVER	NH	03820
M0051-A00000	103 DOVER POINT RD	LAFFERTY KIMBERLY &	LAFFERTY SHAWN	103 DOVER POINT RD	DOVER	NH	03820
M0052-000000	DOVER POINT RD	KOZAZCKI MATTHEW		108 HIGH RD	NEWBURY	MA	01951
M0052-006000	24 IVANS LN	SURYAWANSHI VIJAY S &	SURYAWANSHI AMRITA	24 IVANS LN	DOVER	NH	03820
M0052-007000	23 IVANS LN	DANE JULIE &	MCKINNON MICHAEL	23 IVANS LANE	DOVER	NH	03820
M0052-008000	17 IVANS LN	CONWAY JUSTIN F & CARRIE L TRUSTEES	CONWAY FAMILY REVOCABLE TRUST	17 IVANS LN	DOVER	NH	03820
M0052-012000	5 IVANS LN	TWOMEY DANIEL A JR		9210 BYRON TER	BURKE	VA	22015-2061
M0084-G00001	DOVER POINT RD	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
M0106-000000	1 TOFTREE LN	PETTIGREW RICHARD	PETTIGREW LORAINE	1 TOFTREE LANE	DOVER	NH	03820
M0163-000000	2 TOFTREE LN	BRETON KAREN L	BRETON DENNIS L	2 TOFTREE LANE	DOVER	NH	03820
M0047-C00000	GERRISH RD	DOVER POINT COOPERATIVE INC		44 POLLY ANN TRAILER PARK	DOVER	NH	03820
		UNITIL GRANITE STATE GAS TRANSMISSION		325 WEST ROAD	PORTSMOUTH	NH	03801
		VHB	ERIC GERADE, PE	200 BEDFORD FARMS DR	BEDFORD	NH	03110
		DOUCET SURVEY, LLC	JOHN KAISER, PLS	102 KENT PLACE	NEWMARKET	NH	03857

Site Plans

Issued for	**Conditional Use Permit**
Date Issued	**May 3, 2024**
Latest Issue	**May 3, 2024**

Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

vhb.com

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Applicant

Unitil Granite State Gas Transmission
325 West Road
Portsmouth, NH 03801

Assessor's Map: M-47
Lot: B-0, C-0

Sheet Index

No.	Drawing Title	Latest Issue
C1.01	Legend and General Notes	5/3/2024
C2.00	Overall Site Plan	5/3/2024
C2.01	Site Plan 1	5/3/2024
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C2.03	Site Plan 3	5/3/2024
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C3.01	Erosion & Sediment Control Plan 1	5/3/2024
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C3.03	Erosion & Sediment Control Plan 3	5/3/2024
C3.04	Erosion & Sediment Control Plan 4	5/3/2024
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Reference Drawings

No.	Drawing Title	Latest Issue
7342A	Topographic Plan for Process Pipeline Services Inc. of the Varney Brook Station Gas Line	6/21/2022

New England Cottontail *(Sylvilagus transitionalis)*

(New Hampshire State-Endangered)

- Adults are 15-17" in length
- Brown and gray coat that does NOT change color with the seasons.
- Black spot between the years is sometimes visible but not always present.
- Can be mistaken for non-native Eastern cottontails.

Please report sightings to NH Fish and Game at RAARP@wildlife.nh.gov or at 603-271-2461. Photo documentation, location, and date/time of observation is helpful.

\\VHB.COM\GBL\PRO\WORCESTER\16035.00 GERRISH RD DOVER NH\CAD\LD\PLANSET\16035.00-COV 3 May 2024

VHB Project : 16035.00
Issued for : Permitting

Legend

Exist.	Prop.	
		PROPERTY LINE
		PROJECT LIMIT LINE
		RIGHT-OF-WAY/PROPERTY LINE
		EASEMENT
		BUILDING SETBACK
		PARKING SETBACK
10+00	10+00	BASELINE
		CONSTRUCTION LAYOUT
		ZONING LINE
		TOWN LINE
		LIMIT OF DISTURBANCE
		WETLAND LINE WITH FLAG
		FLOODPLAIN
BLSF	BLSF	BORDERING LAND SUBJECT TO FLOODING
BZ	BZ	WETLAND BUFFER ZONE
NDZ	NDZ	NO DISTURB ZONE
200'RA	200'RA	200' RIVERFRONT AREA
		GRAVEL ROAD
EOP	EOP	EDGE OF PAVEMENT
BB	BB	BITUMINOUS BERM
BC	BC	BITUMINOUS CURB
CC	CC	CONCRETE CURB
CG	CG	CURB AND GUTTER
ECC	ECC	EXTRUDED CONCRETE CURB
MCC	MCC	MONOLITHIC CONCRETE CURB
PCC	PCC	PRECAST CONC. CURB
SGE	SGE	SLOPED GRAN. EDGING
VGC	VGC	VERT. GRAN. CURB
		LIMIT OF CURB TYPE
		SAWCUT
		BUILDING
EN	EN	BUILDING ENTRANCE
LD	LD	LOADING DOCK
		BOLLARD
D	D	DUMPSTER PAD
		SIGN
		DOUBLE SIGN
		STEEL GUARDRAIL
		WOOD GUARDRAIL
		PATH
		TREE LINE
		WIRE FENCE
		FENCE
		STOCKADE FENCE
		STONE WALL
		RETAINING WALL
		STREAM / POND / WATER COURSE
		DETENTION BASIN
		HAY BALES
		SILT FENCE
		SILT SOCK / STRAW WATTLE
4	4	MINOR CONTOUR
20	20	MAJOR CONTOUR
10	10	PARKING COUNT
	C10	COMPACT PARKING STALLS
DYL	DYL	DOUBLE YELLOW LINE
SL	SL	STOP LINE
		CROSSWALK
		ACCESSIBLE CURB RAMP
		ACCESSIBLE PARKING
VAN	VAN	VAN-ACCESSIBLE PARKING

Exist.	Prop.	
		CONCRETE
		HEAVY DUTY PAVEMENT
		BUILDINGS
		RIPRAP
		CONSTRUCTION EXIT
27.35 TC×	27.35 TC×	TOP OF CURB ELEVATION
26.85 BC×	26.85 BC×	BOTTOM OF CURB ELEVATION
132.75×	132.75×	SPOT ELEVATION
45.0 TW 38.5 BW	45.0 TW 38.5 BW	TOP & BOTTOM OF WALL ELEVATION
		BORING LOCATION
		TEST PIT LOCATION
MW	MW	MONITORING WELL
UD	UD	UNDERDRAIN
12"D	12"D	DRAIN
6"RD	6"RD	ROOF DRAIN
12"S	12"S	SEWER
FM	FM	FORCE MAIN
OHW	OHW	OVERHEAD WIRE
6"W	6"W	WATER
4"FP	4"FP	FIRE PROTECTION
	2"DW	DOMESTIC WATER
3"G	G	GAS
E	E	ELECTRIC
STM	STM	STEAM
T	T	TELEPHONE
FA	FA	FIRE ALARM
CATV	CATV	CABLE TV
		CATCH BASIN CONCENTRIC
		CATCH BASIN ECCENTRIC
		DOUBLE CATCH BASIN CONCENTRIC
		DOUBLE CATCH BASIN ECCENTRIC
		GUTTER INLET
		DRAIN MANHOLE CONCENTRIC
		DRAIN MANHOLE ECCENTRIC
TD		TRENCH DRAIN
		PLUG OR CAP
CO		CLEANOUT
		FLARED END SECTION
		HEADWALL
S		SEWER MANHOLE CONCENTRIC
S		SEWER MANHOLE ECCENTRIC
CS	CS	CURB STOP & BOX
WV	WV	WATER VALVE & BOX
TSV	TSV	TAPPING SLEEVE, VALVE & BOX
		FIRE DEPARTMENT CONNECTION
HYD	HYD	FIRE HYDRANT
WM	WM	WATER METER
PIV	PIV	POST INDICATOR VALVE
W	W	WATER WELL
GG	GG	GAS GATE
GM	GM	GAS METER
E	EMH	ELECTRIC MANHOLE
EM	EM	ELECTRIC METER
		LIGHT POLE
T	TMH	TELEPHONE MANHOLE
T	T	TRANSFORMER PAD
		UTILITY POLE
		GUY POLE
		GUY WIRE & ANCHOR
HH	HH	HAND HOLE
PB	PB	PULL BOX
		MATCHLINE

Abbreviations

General

ABAN	ABANDON
ACR	ACCESSIBLE CURB RAMP
ADJ	ADJUST
APPROX	APPROXIMATE
BIT	BITUMINOUS
BS	BOTTOM OF SLOPE
BWLL	BROKEN WHITE LANE LINE
CONC	CONCRETE
DYCL	DOUBLE YELLOW CENTER LINE
EL	ELEVATION
ELEV	ELEVATION
EX	EXISTING
FDN	FOUNDATION
FFE	FIRST FLOOR ELEVATION
GRAN	GRANITE
GTD	GRADE TO DRAIN
LA	LANDSCAPE AREA
LOD	LIMIT OF DISTURBANCE
MAX	MAXIMUM
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PERF	PERFORATED
PROP	PROPOSED
REM	REMOVE
RET	RETAIN
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
SWEL	SOLID WHITE EDGE LINE
SWLL	SOLID WHITE LANE LINE
TS	TOP OF SLOPE
TYP	TYPICAL

Utility

CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
DCB	DOUBLE CATCH BASIN
DMH	DRAIN MANHOLE
CIP	CAST IRON PIPE
COND	CONDUIT
DIP	DUCTILE IRON PIPE
FES	FLARED END SECTION
FM	FORCE MAIN
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
GI	GUTTER INLET
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	HANDHOLE
HW	HEADWALL
HYD	HYDRANT
INV	INVERT ELEVATION
I=	INVERT ELEVATION
LP	LIGHT POLE
MES	METAL END SECTION
PIV	POST INDICATOR VALVE
PWW	PAVED WATER WAY
PVC	POLYVINYLCHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
R=	RIM ELEVATION
RIM=	RIM ELEVATION
SMH	SEWER MANHOLE
TSV	TAPPING SLEEVE, VALVE AND BOX
UG	UNDERGROUND
UP	UTILITY POLE

Notes

General

1. THE PURPOSE OF THESE PLANS ARE TO SHOW THE DESIGN OF UPGRADES FOR UNITIL GAS INFRASTRUCTURE, INCLUDING A NEW GRAVEL ACCESS ROAD, GAS TRANSMISSION MAIN REPLACEMENT AND APPURTENANT STATION RECONSTRUCTION WITHIN THE UNITIL EASEMENT IN DOVER, NEW HAMPSHIRE.
2. CONTRACTOR SHALL NOTIFY "DIG-SAFE" (811 OR 1-888-344-7233) AT LEAST 72 HOURS BEFORE EXCAVATING.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
4. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED.
5. WORK WITHIN THE LOCAL RIGHTS-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
6. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
7. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
8. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
9. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
10. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
11. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.
12. THIS PROJECT DISTURBS MORE THAN ONE ACRE OF LAND AND FALLS WITHIN THE NPDES CONSTRUCTION GENERAL PERMIT (CGP) PROGRAM AND EPA JURISDICTION. PRIOR TO THE START OF CONSTRUCTION CONTRACTOR IS TO FILE A CGP NOTICE OF INTENT WITH THE EPA AND PREPARE A STORMWATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH THE NPDES REGULATIONS. CONTRACTOR SHALL CONFIRM THE OWNER HAS ALSO FILED A NOTICE OF INTENT WITH THE EPA.
13. PROPOSED LIMITS OF CONSTRUCTION DISTURBANCE ARE APPROXIMATE AND REPRESENT MAXIMUM PERMISSIBLE IMPACT TO JURISDICTIONAL AREAS. CONTRACTOR IS RESPONSIBLE FOR MINIMIZING EARTH DISTURBANCE TO THE EXTENT PRACTICABLE.
14. PRIOR TO CONSTRUCTION CREW MOBILIZATION, WETLAND LIMITS WILL BE FLAGGED WITH PINK NEON VINYL RIBBONS TIED TO VEGETATION OR STAKES SO AS TO BE VISIBLE TO WORK CREWS.

Utilities

1. THE UTILITY COMPANIES SERVICING THE PROJECT AREA ARE:

   A. WATER: CITY OF DOVER
   B. SEWER: CITY OF DOVER
   C. ELECTRIC: EVERSOURCE
   D. GAS: UNITIL

2. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR IT'S REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
3. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
4. SET CATCH BASIN RIMS, AND INVERTS OF SEWERS, DRAINS, AND DITCHES IN ACCORDANCE WITH ELEVATIONS ON THE GRADING AND UTILITY PLANS.
5. RIM ELEVATIONS FOR DRAIN AND SEWER MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, AND MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:

   A. PAVEMENTS AND CONCRETE SURFACES: FLUSH
   B. ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
   C. LANDSCAPE, LOAM AND SEED, AND OTHER EARTH SURFACE AREAS: ONE INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.

5. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY, THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH OWNER.
6. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY THE UTILITIES COMPANY.
7. UTILITY PIPE MATERIALS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLAN:

   A. STORM DRAINAGE PIPES SHALL BE HDPE

8. CONTRACTOR SHALL EXCAVATE AND BACKFILL TRENCHES FOR GAS IN ACCORDANCE WITH GAS COMPANY'S REQUIREMENTS.
9. ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN.) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS AND LOCAL MUNICIPAL STANDARDS. FOR MANHOLES THAT ARE 20 FEET IN DEPTH AND GREATER, THE MINIMUM DIAMETER SHALL BE 5 FEET.

NHF&G Notes

1. NEW ENGLAND COTTONTAIL (STATE ENDANGERED) OCCURS WITHIN THE VICINITY OF THE PROJECT AREA. ALL OPERATORS AND PERSONNEL WORKING ON OR ENTERING THE SITE SHALL BE MADE AWARE OF THE POTENTIAL PRESENCE OF THESE SPECIES AND SHALL BE PROVIDED FLYERS THAT HELP TO IDENTIFY THESE SPECIES, ALONG WITH NHFG CONTACT INFORMATION.
2. RARE SPECIES INFORMATION (E.G. IDENTIFICATION, OBSERVATION AND REPORTING OF OBSERVATIONS, WHEN TO CONTACT NHFG IMMEDIATELY AND NHFG CONTACT INFORMATION) SHALL BE COMMUNICATED DURING MORNING TAILGATE MEETINGS PRIOR TO WORK COMMENCEMENT DURING THE CONSTRUCTION PHASE OF THE PROJECT. SEE COVER SHEET FOR FLYER.
3. ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, WITH THE EXCEPTION OF TURF REINFORCEMENT MATS, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN PLASTIC, OR MULTIFILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8 INCHES. SEE SITE DETAILS SHEETS FOR EROSION AND SEDIMENT CONTROL PRODUCTS.
4. ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGreview@wildlife.nh.gov, EMAIL SUBJECT LINE: NHB23-2737, UNITIL GAS LINE, GERRISH ROAD, DOVER, NH; WILDLIFE SPECIES OBSERVATION.
5. PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHF&G IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION, AS FEASIBLE.
6. IN THE EVENT A THREATENED OR ENDANGERED SPECIES IS OBSERVED ON THE PROJECT SITE DURING THE TERM OF THE PERMIT, THE SPECIES SHALL NOT BE DISTURBED, HANDLED, OR HARMED IN ANY WAY PRIOR TO CONSULTATION WITH NHF&G AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHF&G.
   6.1. SITE OPERATORS SHALL BE ALLOWED TO RELOCATE WILDLIFE ENCOUNTERED IF DISCOVERED WITHIN THE ACTIVE WORK ZONE IF IN DIRECT HARM FROM PROJECT ACTIVITIES. WILDLIFE SHALL BE RELOCATED IN CLOSE PROXIMITY TO THE CAPTURE LOCATION BUT OUTSIDE OF THE WORK ZONE AND IN THE DIRECTION THE INDIVIDUAL WAS HEADING. NHFG SHALL BE CONTACTED IMMEDIATELY IF THIS ACTION OCCURS.
7. THE NHF&G, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

Layout and Materials

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
2. CURBING TYPE AND RADII SHALL BE AS INDICATED ON THE PLANS.
3. REFER TO PROCESS PIPELINE SERVICES, INC, GAS TRANSMISSION MAIN DRAWINGS FOR FINAL VERTICAL AND HORIZONTAL ALIGNMENT OF THE GAS TRANSMISSION MAIN AND APPURTENANT STATION CONSTRUCTION LAYOUT.
4. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A LICENSED LAND SURVEYOR (LLS).
5. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.

Demolition

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS, ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS. REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS.
2. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
3. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.

Erosion Control

1. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
2. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES ON A WEEKLY BASIS (MINIMUM) OR AS REQUIRED PER THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL ADDRESS DEFICIENCIES AND MAINTENANCE ITEMS WITHIN TWENTY-FOUR HOURS OF INSPECTION. CONTRACTOR SHALL PROPERLY DISPOSE OF SEDIMENT SUCH THAT IT DOES NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
4. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.
6. EROSION CONTROL AND TEMPORARY STORMWATER CONTROL MEASURES SHALL COMPLY WITH THE NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3 - EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION DECEMBER 2008 AND THE NEW HAMPSHIRE DEPARTMENT OF NATURAL AND CULTURAL RESOURCES BEST MANAGEMENT PRACTICES MANUAL FOR UTILITY MAINTENANCE IN AND ADJACENT TO WETLANDS AND WATERBODIES IN NEW HAMPSHIRE, MARCH 2019.
7. THE ENVIRONMENTAL CONTROLS SHOWN ON THESE PLANS MAY NEED TO BE SUPPLEMENTED DUE TO SEASON, WEATHER CONDITIONS, OR WORK METHODS.
8. THE SELECTED CONTRACTOR IS RESPONSIBLE FOR STREET SWEEPING AT POINTS OF INGRESS/EGRESS FROM PUBLIC AND PRIVATE ROADWAYS.
9. ANY EXCESS EXCAVATED MATERIAL THAT CANNOT BE REUSED ON SITE SHALL BE PLACED OUTSIDE OF THE WETLAND AND/OR TIDAL BUFFER ZONE JURISDICTIONAL AREAS.

Existing Conditions Information

1. BASE PLAN: THE PROPERTY LINES SHOWN WERE DETERMINED BY AN ACTUAL FIELD SURVEY CONDUCTED BY DOUCET SURVEY. THE TOPOGRAPHY AND PHYSICAL FEATURES ARE BASED ON AN ACTUAL FIELD SURVEY PERFORMED ON THE GROUND BY DOUCET SURVEY, DURING APRIL, MAY AND SEPTEMBER 2022.

   A. DELINEATION OF THE WETLANDS AND PLACEMENT OF THE FLAGS WAS PERFORMED BY: MARC JACOBS, CWS 090 IN APRIL 2022. SEE ACCOMPANYING DOUCET SURVEY PLAN SET.
   B. FLAGS MARKING THE WETLANDS WERE LOCATED BY: DOUCET SURVEY USING CONVENTIONAL SURVEY METHODS IN JUNE 2022

2. TOPOGRAPHY: ELEVATIONS ARE BASED ON NAD83.
3. GEOTECHNICAL DATA INCLUDING TEST PIT AND BORING LOCATIONS AND ELEVATIONS WERE OBTAINED FROM S.W. COLE.

Document Use

1. THESE PLANS AND CORRESPONDING CADD DOCUMENTS ARE INSTRUMENTS OF PROFESSIONAL SERVICE, AND SHALL NOT BE USED, IN WHOLE OR IN PART, FOR ANY PURPOSE OTHER THAN FOR WHICH IT WAS CREATED WITHOUT THE EXPRESSED, WRITTEN CONSENT OF VHB. ANY UNAUTHORIZED USE, REUSE, MODIFICATION OR ALTERATION, INCLUDING AUTOMATED CONVERSION OF THIS DOCUMENT SHALL BE AT THE USER'S SOLE RISK WITHOUT LIABILITY OR LEGAL EXPOSURE TO VHB.
2. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.
3. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.

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Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

No.	Revision	Date	Appvd.

Designed by TMD
Checked by EKG

Issued for
Conditional Use Permit
Not Approved for Construction

Date
May 3, 2024

Drawing Title
Legend & General Notes

Drawing Number
C1.01

Sheet 1 of 12

Project Number
16035.00

Saved Monday, April 22, 2024 5:32:03 PM DBOSWORTH Plotted Friday, May 3, 2024 8:58:22 AM Derek Bosworth

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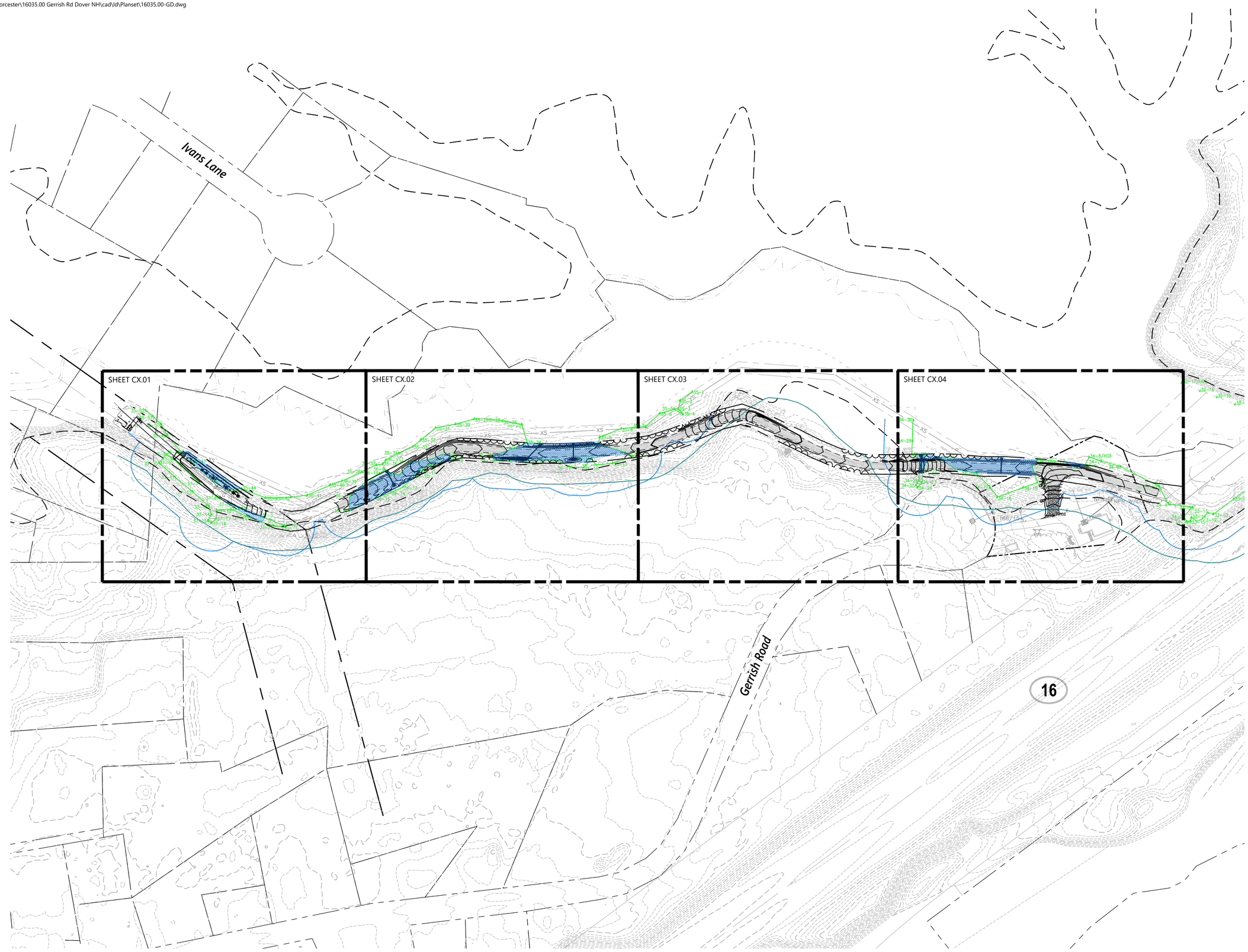

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CITY OF DOVER CONSERVATION DISTRICT

CITY OF DOVER WETLANDS PROTECTION DISTRICT

CITY OF DOVER 50-FOOT WETLAND BUFFER

WETLAND IMPACTS

Resource Area Impacts

WETLAND IMPACTS	17015	SF

0 40 80 160 Feet

Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

No.	Revision	Date	Apprvd.

Designed by TMD | Checked by EKG

Issued for
Conditional Use Permit
Not Approved for Construction

Date
May 3, 2024

Drawing Title
Overall Site Plan

Drawing Number
C2.00

Sheet 2 of 12

Project Number
16035.00

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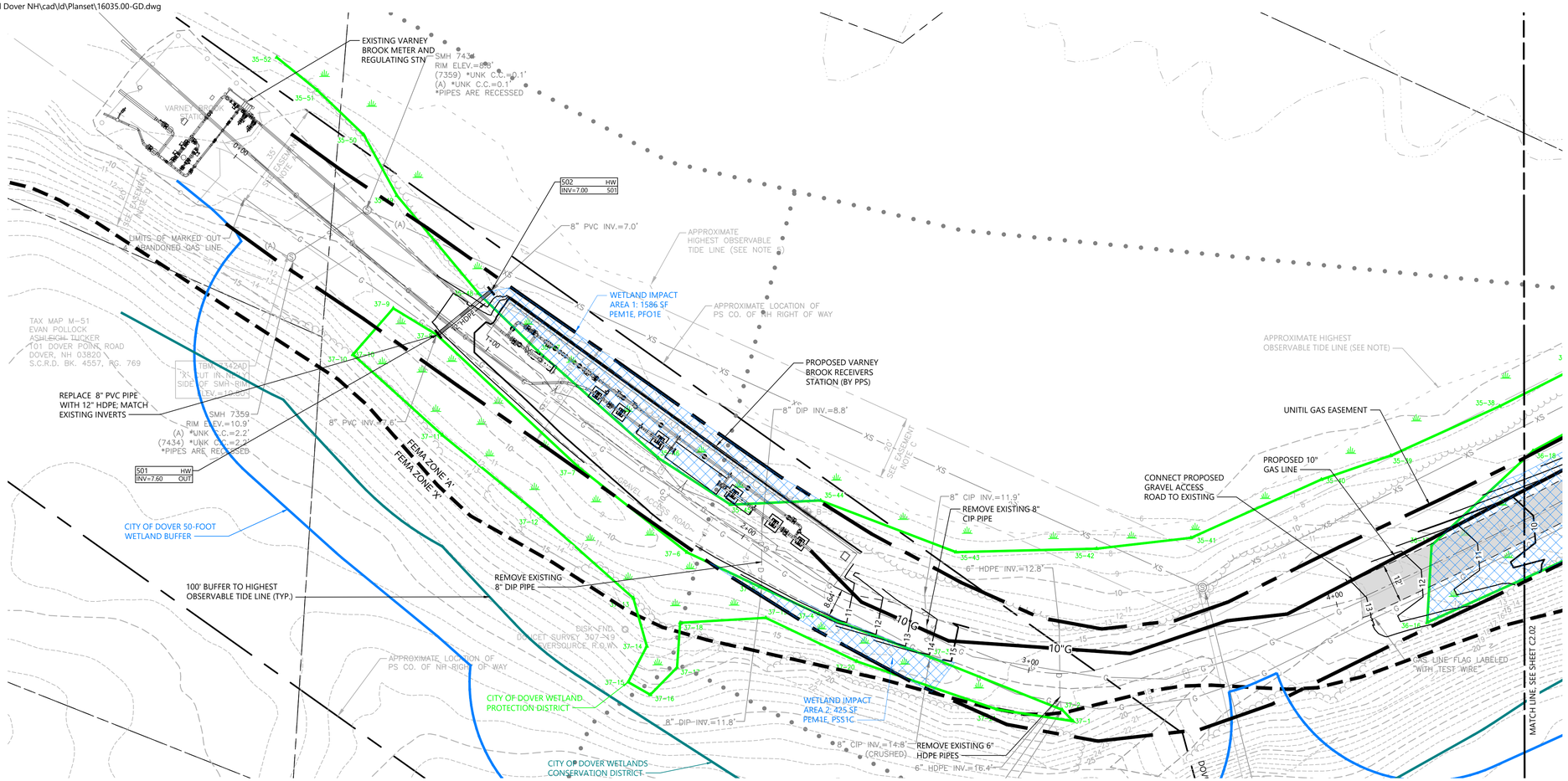

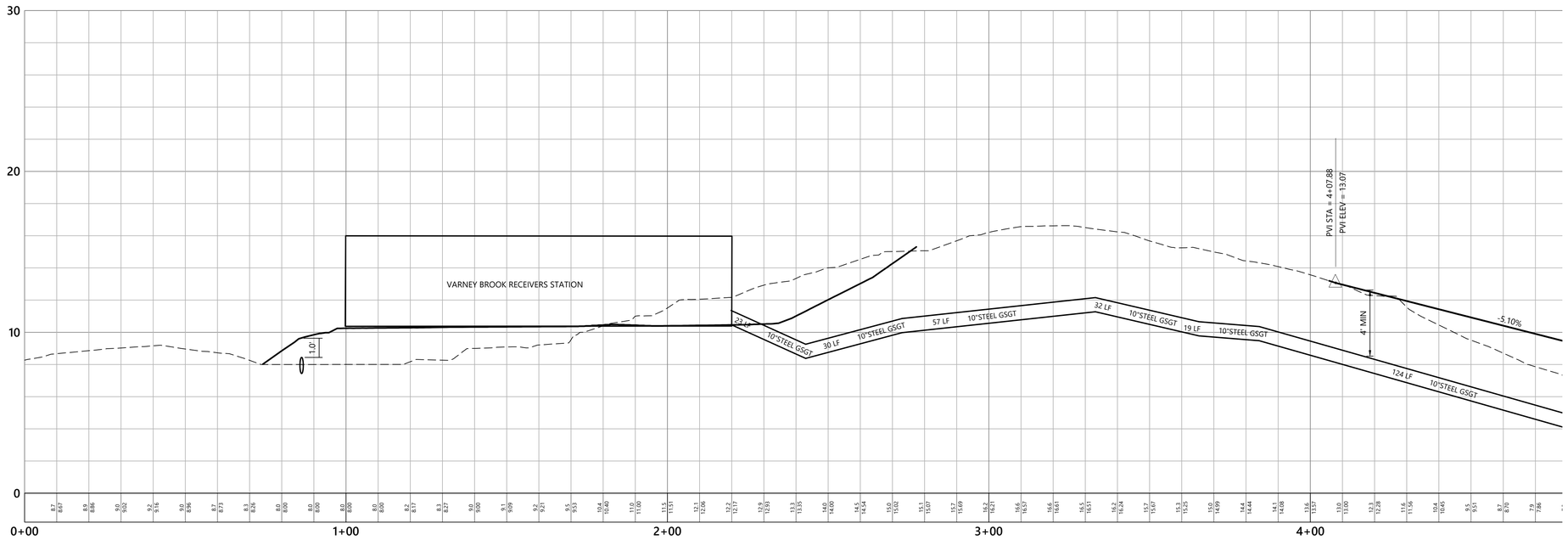

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- CITY OF DOVER WETLANDS PROTECTION DISTRICT
- CITY OF DOVER 50-FOOT WETLAND BUFFER
- WETLAND IMPACTS

0 10 20 40 Feet

Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

No.	Revision	Date	Apprvd.

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Date: May 3, 2024

Drawing Title: Site Plan 1

Drawing Number: C2.01

Sheet 3 of 12

Project Number: 16035.00

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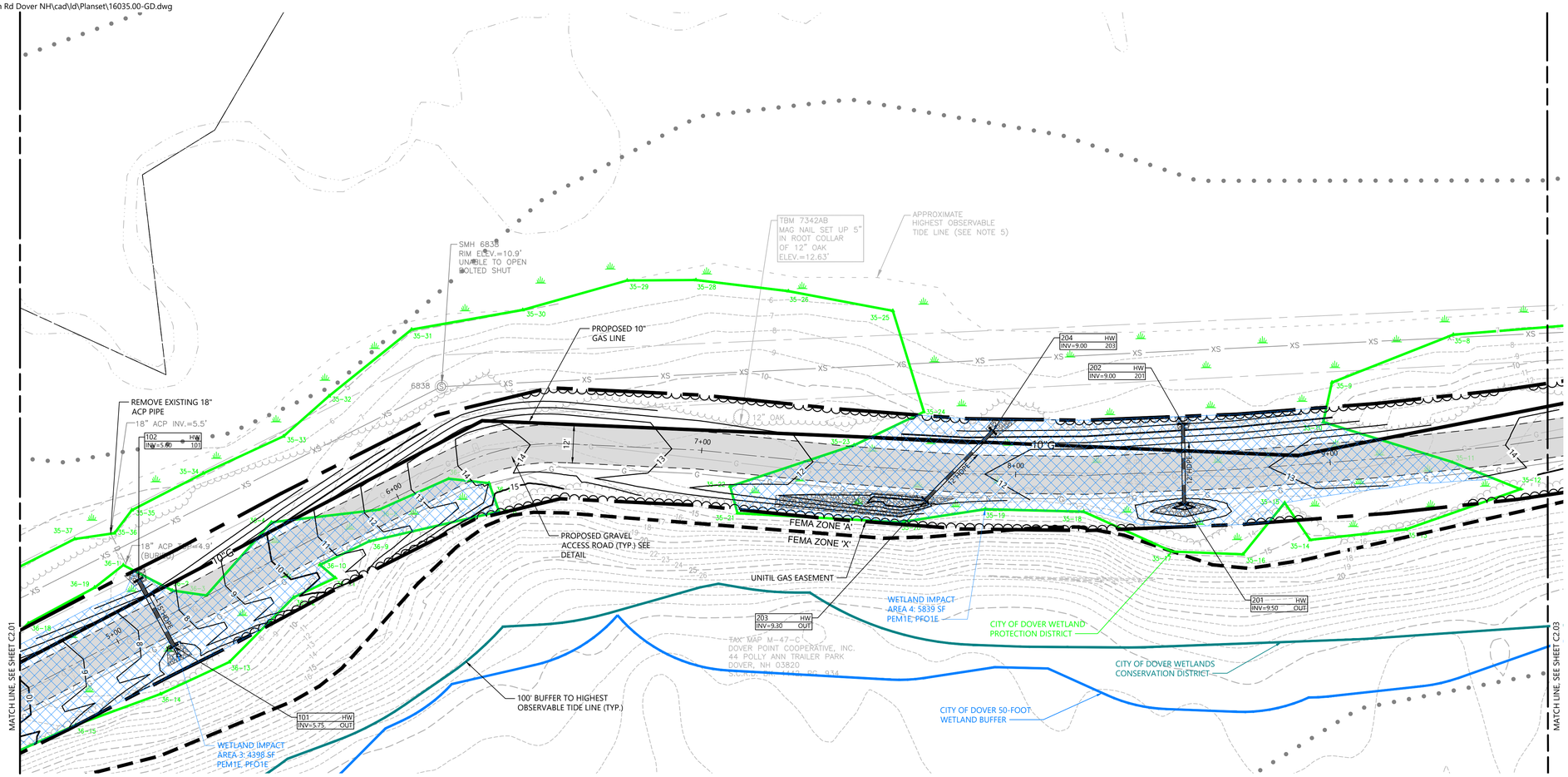

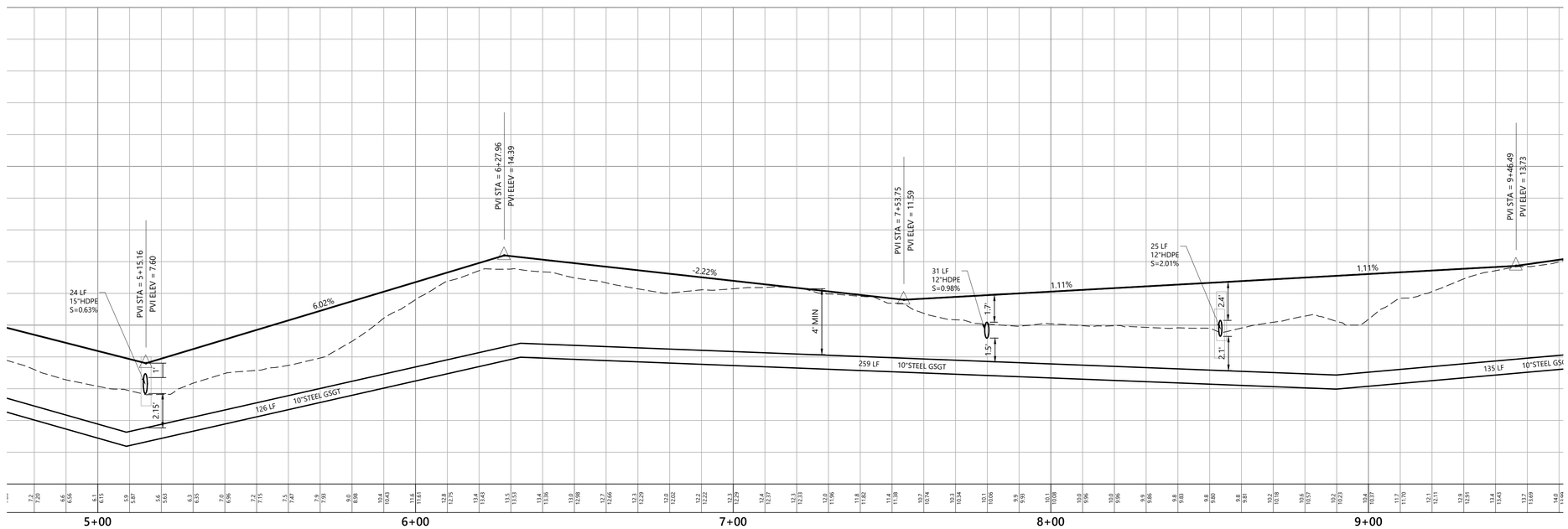

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WETLAND IMPACTS

0 10 20 40 Feet

Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

No.	Revision	Date	Appvd.

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May 3, 2024

Drawing Title

Site Plan 2

Drawing Number

C2.02

Sheet 4 of 12

Project Number
16035.00

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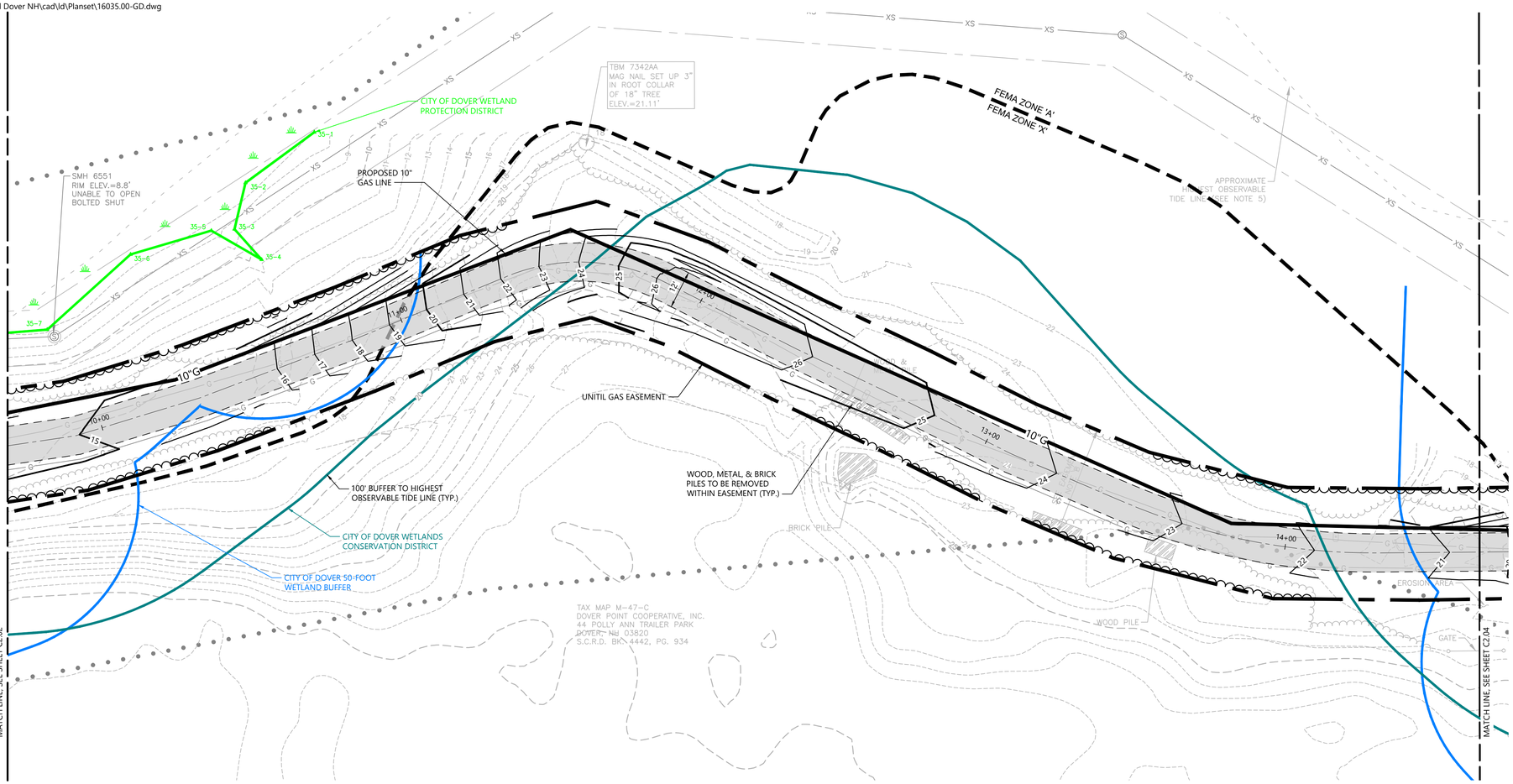

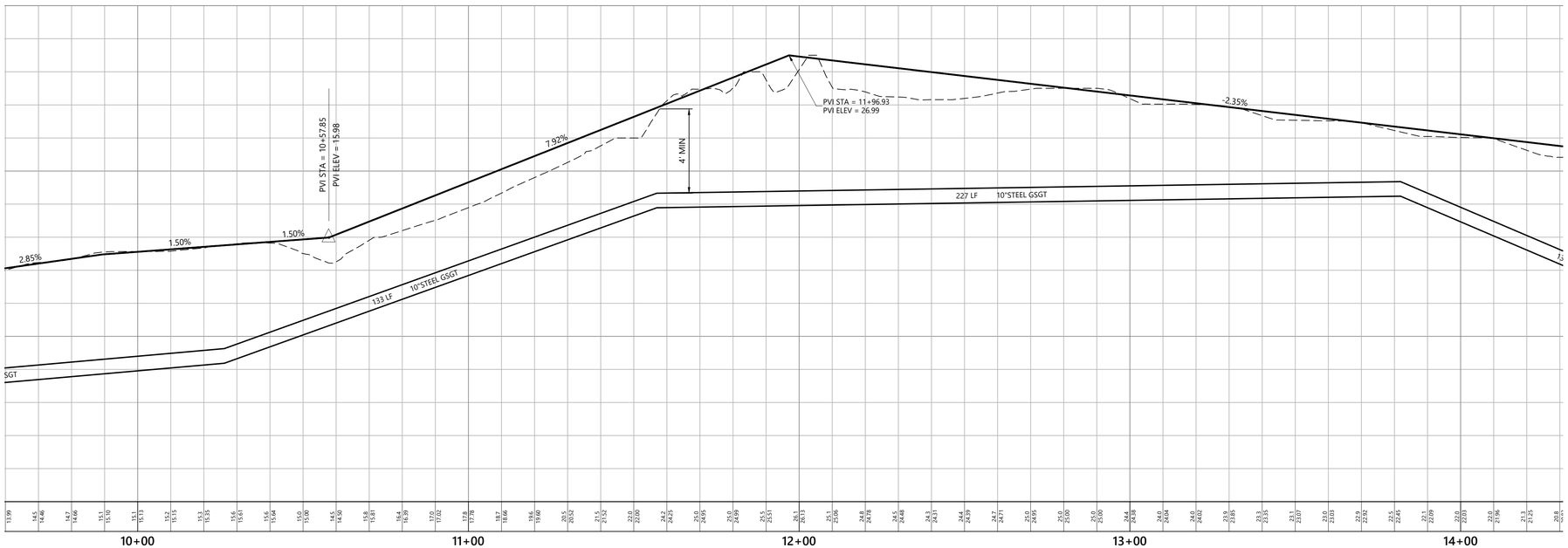

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CITY OF DOVER WETLANDS PROTECTION DISTRICT

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WETLAND IMPACTS

CONTRACTOR SHALL DISPOSE OF MISCELLANEOUS PILES IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.

0 10 20 40 Feet

Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

No.	Revision	Date	Appvd.

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Date
May 3, 2024

Drawing Title
Site Plan 3

Drawing Number
C2.03

Sheet 5 of 12

Project Number
16035.00

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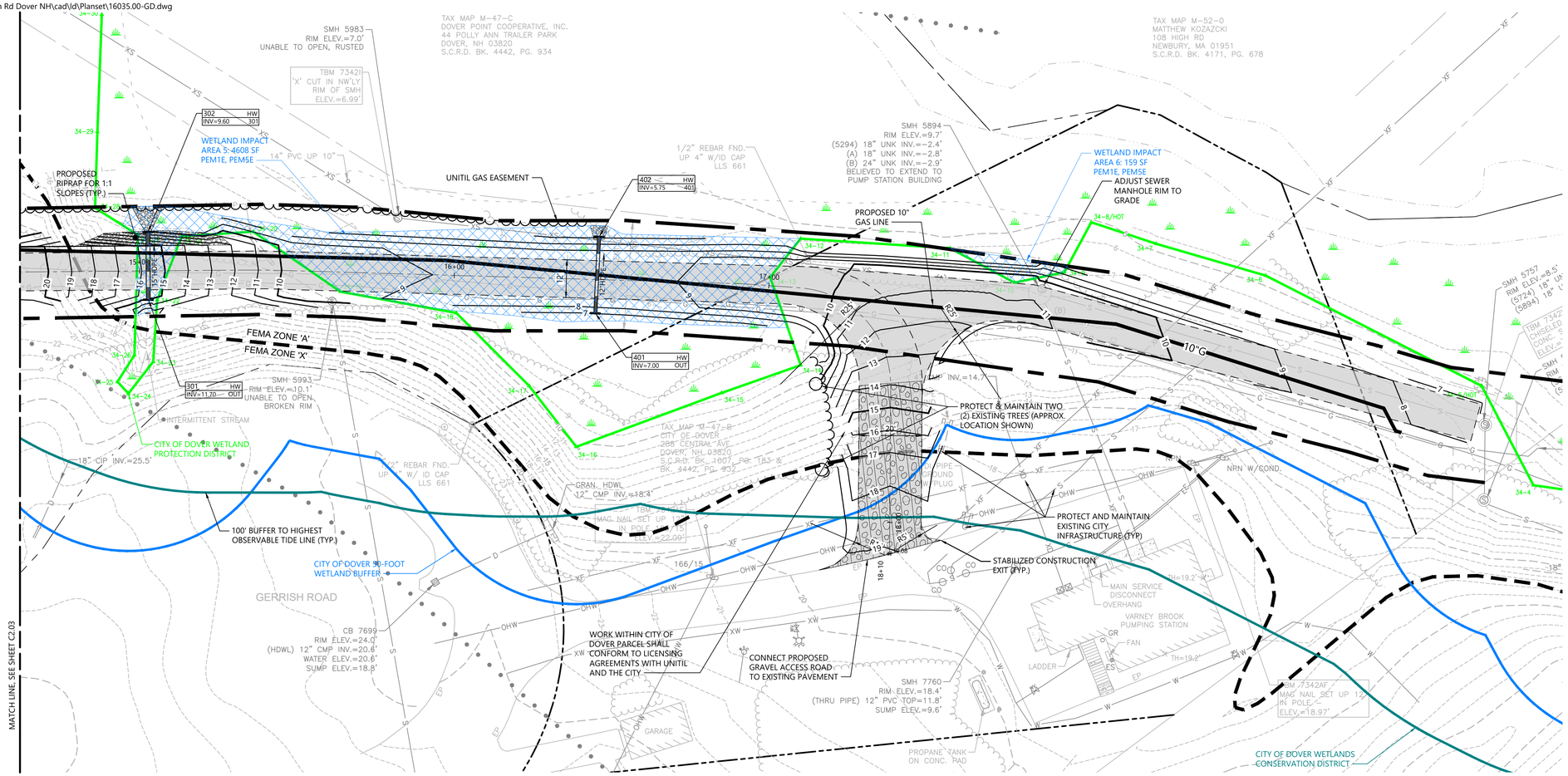

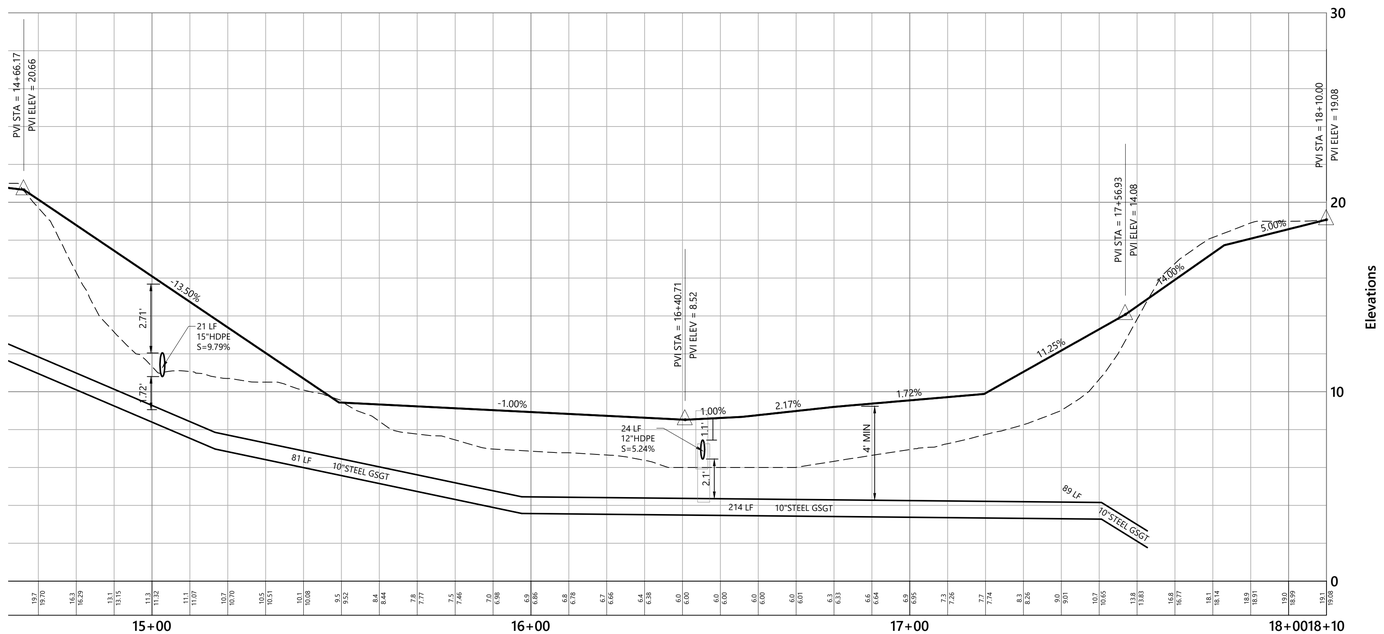

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WETLAND IMPACTS

0 10 20 40 Feet

Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

No.	Revision	Date	Apprvd.

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Drawing Title
Site Plan 4

Drawing Number
C2.04

Sheet 6 of 12

Project Number
16035.00

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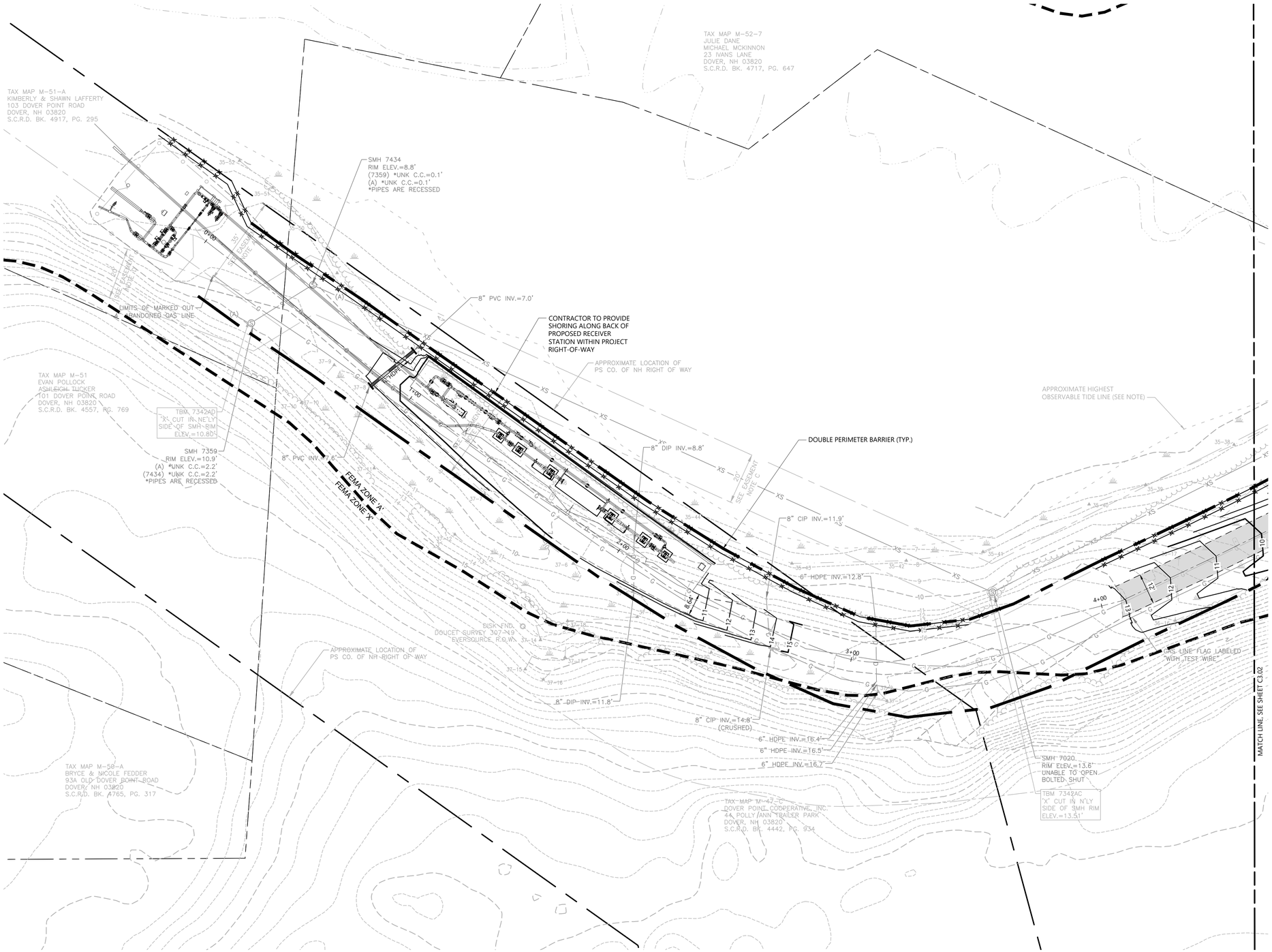

0 10 20 40 Feet

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Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
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Date
May 3, 2024

Drawing Title
Erosion & Sediment Control Plan 1

Drawing Number
C3.01

Sheet 7 of 12

Project Number
16035.00

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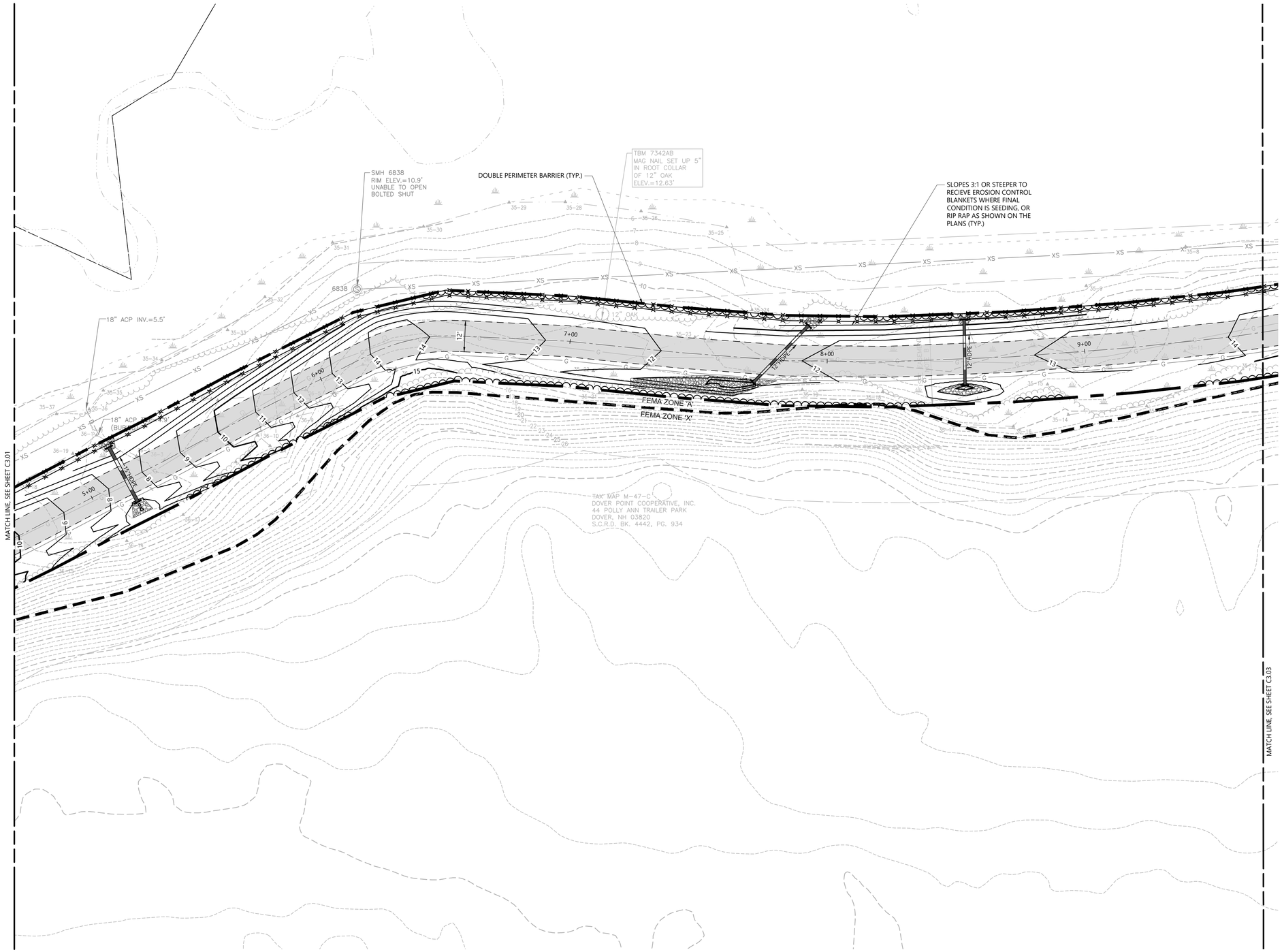

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0 10 20 40 Feet

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Drawing Title: Erosion & Sediment Control Plan 2

Drawing Number: C3.02

Sheet 8 of 12

Project Number: 16035.00

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No.	Revision	Date	Appvd.

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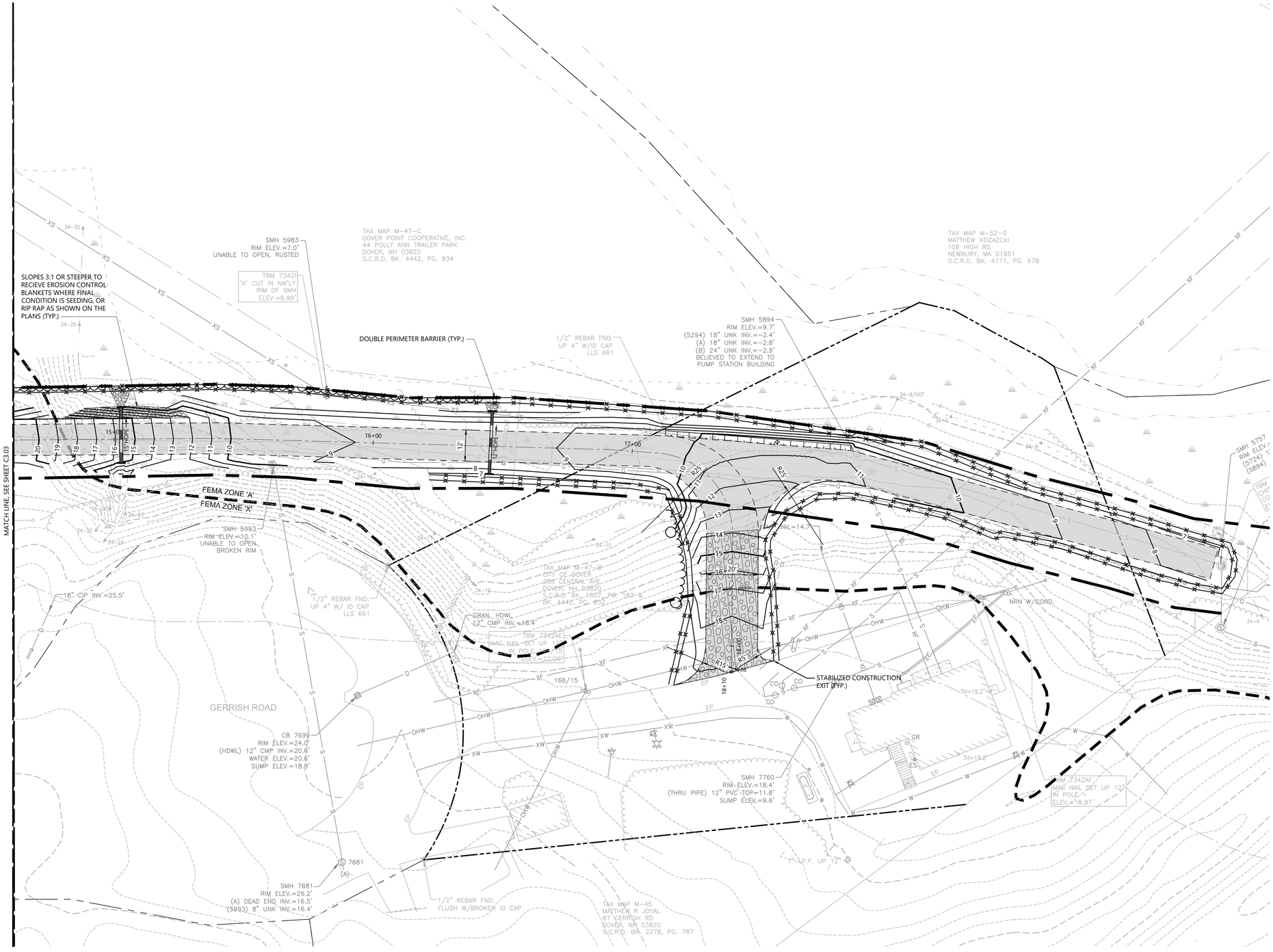
Date
May 3, 2024

Drawing Title
Erosion & Sediment Control Plan 3

Drawing Number
C3.03

Sheet 9 of 12

Project Number
16035.00



0 10 20 40 Feet

Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

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Date: May 3, 2024

Drawing Title: Erosion & Sediment Control Plan 4

Drawing Number: C3.04

Sheet 10 of 12

Project Number: 16035.00

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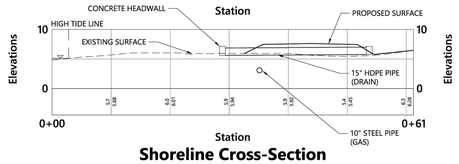
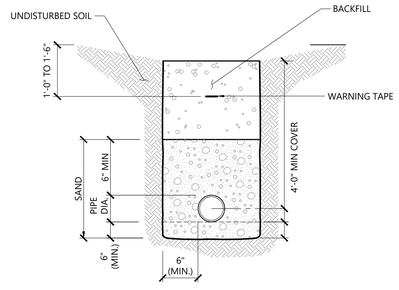
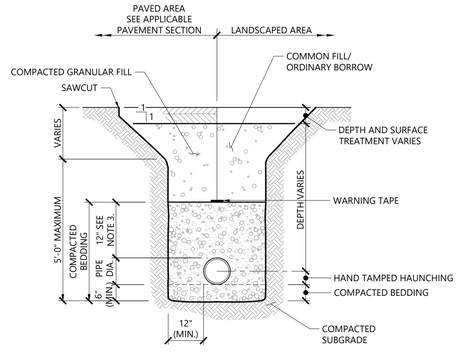


Shoreline Cross-Section



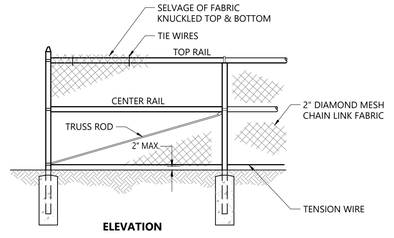
Utility Trench (Gas)



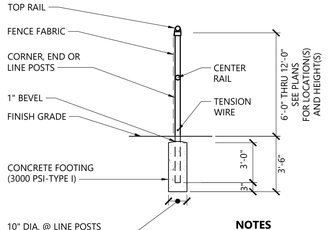
NOTES

1. WHERE UTILITY TRENCHES ARE CONSTRUCTED THROUGH DETENTION BASIN BERMS OR OTHER SUCH SPECIAL SECTIONS, PLACE TRENCH BACKFILL WITH MATERIALS SIMILAR TO THE SPECIAL SECTION REQUIREMENTS.
2. USE METALLIC TRACING/WARNING TAPE OVER ALL PIPES.
3. FOR HDPE PIPE, DIMENSION IS 24 INCHES.
4. MINIMUM COVER REQUIREMENTS:
   A. DRAIN: AS SPECIFIED ON PLANS
5. EMBEDMENT MATERIALS:
   A. DRAIN: GRAVEL (NHD0T 304.2-MODIFIED FOR 1-1/2 IN MAX. STONE SIZE)
6. WITHIN RIGHT OF WAY BACKFILL MUST BE PLACED IN 12" LIFTS AND COMPACTED.

Utility Trench (Drain)



ELEVATION

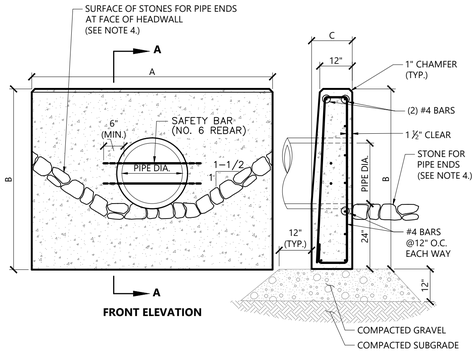


SECTION

NOTES

1. MATERIALS TO BE SUPPLIED AND INSTALLED IN CONFORMANCE WITH "CHAIN LINK MANUFACTURER'S INSTITUTE" PRODUCT MANUAL.

6' to 12' Chain Link Fence



FRONT ELEVATION

SECTION A-A

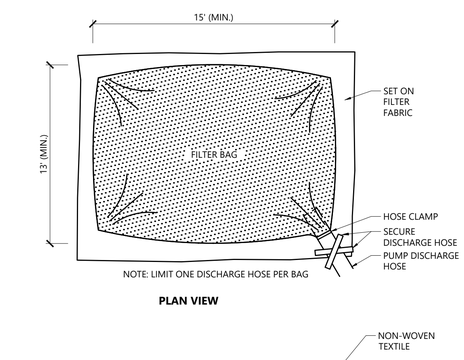
DIMENSIONAL TABLE

PIPE DIA.	A	B	C	#OF SAFETY BARS
12"	5'-6"	4'-2"	1'-6"	-
15"	6'-6"	4'-5"	1'-6"	-
18"	7'-6"	4'-9"	1'-6"	1
24"	9'-0"	5'-3"	1'-6"	1
30"	11'-0"	5'-10"	1'-6"	2
36"	13'-0"	6'-4"	1'-9"	2
42"	15'-9"	6'-11"	1'-9"	3
48"	17'-9"	7'-5"	2'-0"	3
60"	21'-9"	8'-6"	2'-6"	4
72"	25'-9"	9'-7"	3'-0"	5

NOTES

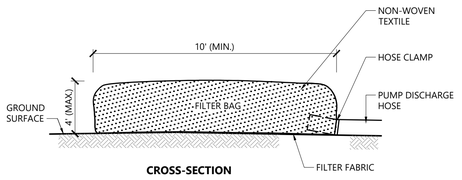
1. CONCRETE SHALL BE 6% ±1.5% AIR ENTRAINED TYPE II CEMENT WITH MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI.
2. SAFETY BARS TO BE OMITTED WHERE INDICATED ON PLANS.
3. SAFETY BARS SHALL BE SET TO CREATE EQUAL OPENING DIMENSIONS.
4. SEE STONE PROTECTION AT HEADWALL DETAIL.

Concrete Headwall (HW)



NOTE: LIMIT ONE DISCHARGE HOSE PER BAG

PLAN VIEW

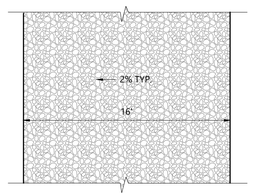


CROSS-SECTION

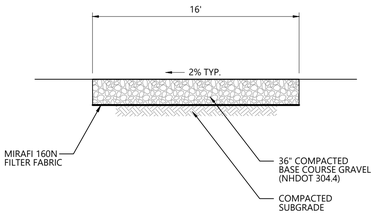
NOTES

1. BAG TO BE USED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

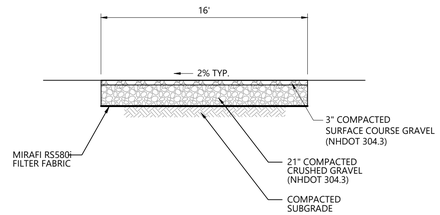
Dewatering Filter Bag



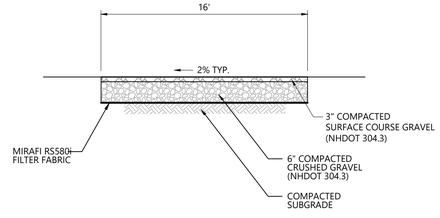
PLAN VIEW



SECTION VIEW - CONSTRUCTION ROAD



SECTION VIEW - HIGH STRENGTH



SECTION VIEW - LOW STRENGTH

NOTE

1. LOW STRENGTH SECTIONS ARE TO BE USED BETWEEN STATIONS 5+00 - 6+00, 7+20 - 8+30, AND 12+00 - 13+00. HIGH STRENGTH SECTIONS ARE TO BE USED EVERYWHERE ELSE.

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Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

No.	Revision	Date	Appvd.

Designed by TMD Checked by EKG

Issued for Date

Conditional Use Permit — May 3, 2024

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Drawing Title

Site Details 1

Drawing Number

C4.01

Sheet 11 of 12

Project Number

16035.00

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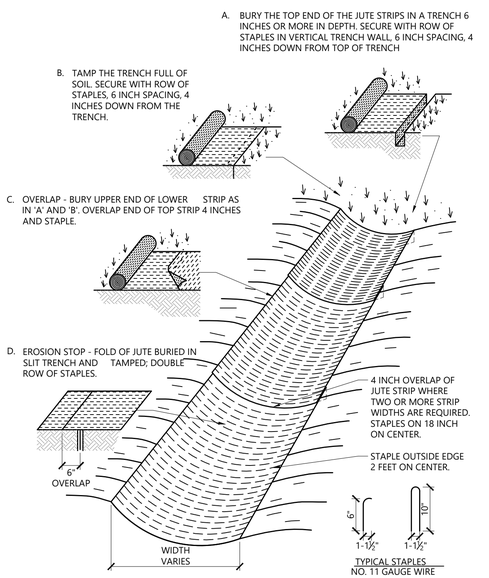
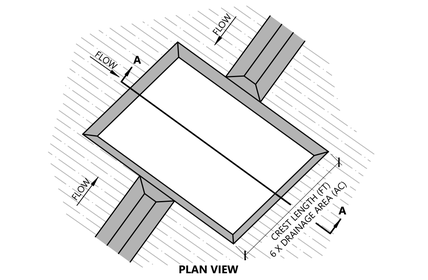


* INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS

Erosion Control Blanket Swale Installation

1/16

N.T.S. Source: VHB LD_681



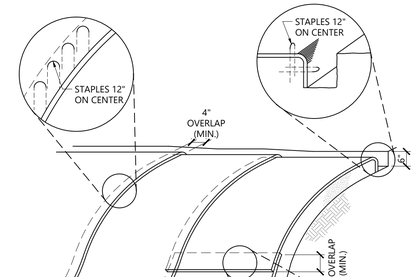
NOTES

1. TEMPORARY SEDIMENT TRAP TO BE REMOVED UPON APPROVAL OF ENGINEER AND WHEN ALL UPSTREAM AREAS HAVE BEEN STABILIZED.
2. DESIGN AND MAINTENANCE REQUIREMENTS SHALL BE IN ACCORDANCE WITH ENV-WQ 1506.10. WHICH INCLUDE, BUT ARE NOT LIMITED TO:
   - MINIMUM SEDIMENT STORAGE FOR SEDIMENT BASIN SHOULD BE 3,600 CF PER ACRE OF DRAINAGE AREA (MAXIMUM CONTRIBUTING AREA OF 5 ACRES).
   - SEDIMENT TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.

Temporary Sediment Trap

3/18

N.T.S. Source: LD_



NOTES

1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH BACKFILL AND COMPACT TRENCH AFTER STAPLING.
2. ROLL THE BLANKET DOWN THE SWALE IN THE DIRECTION OF THE WATER FLOW.
3. THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.
4. WHEN BLANKETS MUST BE SPLICED DOWN THE SWALE, PLACE UPPER BLANKET END OVER LOWER END WITH 6 INCH (MIN.) OVERLAP AND STAPLE BOTH TOGETHER.
5. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
6. EROSION CONTROL BLANKETS SHALL BE USED IN ALL AREAS WHERE SLOPES EXCEED 3:1.

Erosion Control Blanket Slope Installation

10/20

N.T.S. Source: VHB LD_680

Erosion Control

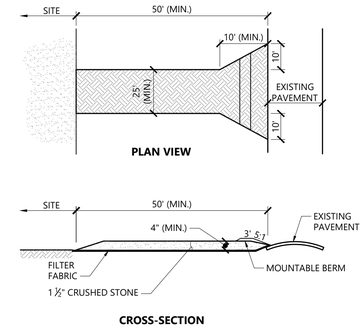
1. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
2. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES, AND REMOVE SEDIMENT THEREFROM ON A WEEKLY BASIS AND WITHIN TWELVE HOURS AFTER EACH STORM EVENT (0.5" OF RAINFALL OR GREATER) AND DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
4. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.
6. AREAS REMAINING UNSTABILIZED FOR A PERIOD OF MORE THAN 30 DAYS SHALL BE TEMPORARILY SEEDED AND MULCHED. STRAW MULCH SHALL BE APPLIED AT A MINIMUM RATE OF 1-1/2 TONS/ACRE.
7. PERMANENT SEEDING SHALL OCCUR BETWEEN APRIL 1 AND JUNE 1, AND/OR BETWEEN AUGUST 15 AND OCTOBER 15. ALL SEEDING FROM SEPTEMBER 15 SHALL BE STRAW MULCHED.
8. DUST SHALL BE CONTROLLED THROUGH THE USE OF WATER.
9. SOILS TO BE STOCKPILED FOR A PERIOD OF MORE THAN 30 DAYS SHALL BE TEMPORARILY SEEDED AND MULCHED. CONTRACTOR SHALL INSTALL SILT FENCING ALONG DOWNHILL SIDE OF STOCKPILES.
10. CONTRACTOR SHALL PROVIDE TEMPORARY SEDIMENTATION BASINS TO CONTROL SEDIMENTATION AND STORMWATER RUNOFF DURING THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL SUBMIT PROPOSED BASIN LOCATIONS, DESIGNS, ETC. TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION. TEMPORARY SEDIMENTATION BASINS SHALL MEET NHDES REQUIREMENTS.
11. CONTRACTOR SHALL PROVIDE NECESSARY EROSION CONTROL MEASURES TO INSURE THAT SURFACE WATER RUN-OFF FROM UNSTABILIZED AREAS DOES NOT CARRY SILT, SEDIMENT, AND OTHER DEBRIS OUTSIDE OF THE LIMITS OF WORK.
12. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
    A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
    B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
    C. A MINIMUM OF 3-IN OF NON-EROSIVE MATERIAL, SUCH AS STONE OR RIPRAP, HAS BEEN INSTALLED;
    D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
13. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES ON A WEEKLY BASIS (MINIMUM) OR AS REQUIRED PER THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL ADDRESS DEFICIENCIES AND MAINTENANCE ITEMS WITHIN TWENTY-FOUR HOURS OF INSPECTION. CONTRACTOR SHALL PROPERLY DISPOSE OF SEDIMENT SUCH THAT IT DOES NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
14. ALL DITCHES, SWALES, AND DRAINAGE BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
15. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
16. ALL CUT AND FILL SLOPES SHALL BE LOAMED AND SEEDED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
17. EROSION CONTROL BLANKETS SHALL BE INSTALLED ON ALL SLOPES THAT ARE STEEPER THAN 3-FT HORIZONTAL AND 1-FT VERTICAL (3:1). EROSION CONTROL BLANKETS SHALL BE NORTH AMERICAN GREEN SC150BN, OR APPROVED EQUAL. ANY ALTERNATIVE NETTING MUST CONSIST ENTIRELY OF NATURAL FIBERS.
18. THE PROJECT SHALL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
19. TEMPORARY WATER DIVERSION SWALES, BASINS, AND OTHER TEMPORARY BMPS SHALL BE INSTALLED EARLY IN THE CONSTRUCTION PROCESS, BEFORE ROUGH GRADING.

Restoration of Disturbed Areas

1. THE INTRODUCTION OR SPREAD OF INVASIVE PLANT SPECIES IN DISTURBED AREAS SHALL BE CONTROLLED. IF CONSTRUCTION MATS ARE TO BE USED IN AREAS OF INVASIVE PLANT SPECIES, THEY SHALL BE THOROUGHLY CLEANED BEFORE RE-USE.
2. UPON COMPLETION OF CONSTRUCTION, ALL AREAS OF AUTHORIZED DISTURBED WETLAND AREA SHALL BE STABILIZED WITH A WETLAND SEED MIX CONTAINING "NORTHEAST ANNUAL & PERENNIAL WILDFLOWER MIX" FOR UPLANDS AND "FACW WETLAND MEADOW MIX" FOR WETLANDS OR APPROVED EQUIVALENT.

Winter Construction

1. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED. STABILIZATION METHODS SHALL INCLUDE SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE TEMPORARILY STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL (NHDOT 304.3).



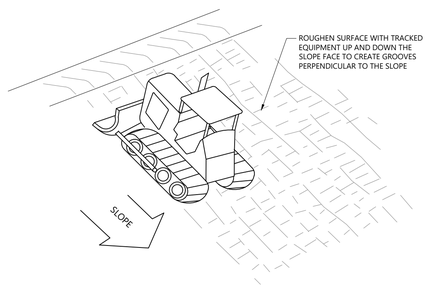
NOTES

1. EXIT WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
3. STABILIZED CONSTRUCTION EXIT SHALL BE REMOVED PRIOR TO FINAL FINISH MATERIALS BEING INSTALLED.

Stabilized Construction Exit

1/16

N.T.S. Source: VHB LD_682



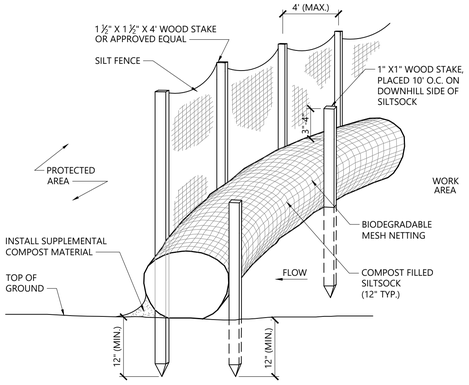
NOTE

1. SLOPES WITH A GRADE STEEPER THAN A 3:1 SLOPE SHALL REQUIRE SLOPE TRACKING IF THE STABILIZATION METHOD IS AN EROSION CONTROL BLANKET AND/OR HYDROSEEDING.

Slope Tracking

10/20

N.T.S. Source: VHB LD_693



NOTES

1. SILTSOCK SHALL BE FILTREXX SILTSOXX, OR APPROVED EQUAL.
2. SILTSOCKS SHALL OVERLAP A MINIMUM OF 12 INCHES.
3. SILTSOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
4. UPON SITE STABILIZATION, COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.
5. IF NON BIODEGRADABLE NETTING IS USED THE NETTING SHALL BE COLLECTED AND DISPOSED OF OFFSITE.

Double Perimeter Barrier

10/20

N.T.S. Source: VHB REV LD_658-A

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Bedford, NH 03110
603.391.3900

Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

No.	Revision	Date	Appvd.

Designed by TMD Checked by EKG

Issued for Date

Conditional Use Permit — May 3, 2024

Not Approved for Construction

Drawing Title

Site Details 2

Drawing Number

C4.02

Sheet 12 of 12

Project Number

16035.00

Saved Friday, January 19, 2024 12:27:19 PM DBOSWORTH Plotted Friday, May 3, 2024 6:59:14 AM Derek Bosworth

Site Plans

Issued for	**Conditional Use Permit**
Date Issued	**May 3, 2024**
Latest Issue	**May 3, 2024**

Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

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Applicant

Unitil Granite State Gas Transmission
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Portsmouth, NH 03801

Assessor's Map: M-47
Lot: B-0, C-0

Sheet Index

No.	Drawing Title	Latest Issue
C1.01	Legend and General Notes	5/3/2024
C2.00	Overall Site Plan	5/3/2024
C2.01	Site Plan 1	5/3/2024
C2.02	Site Plan 2	5/3/2024
C2.03	Site Plan 3	5/3/2024
C2.04	Site Plan 4	5/3/2024
C3.01	Erosion & Sediment Control Plan 1	5/3/2024
C3.02	Erosion & Sediment Control Plan 2	5/3/2024
C3.03	Erosion & Sediment Control Plan 3	5/3/2024
C3.04	Erosion & Sediment Control Plan 4	5/3/2024
C4.01	Site Details 1	5/3/2024
C4.02	Site Details 2	5/3/2024

Reference Drawings

No.	Drawing Title	Latest Issue
7342A	Topographic Plan for Process Pipeline Services Inc. of the Varney Brook Station Gas Line	6/21/2022

New England Cottontail *(Sylvilagus transitionalis)*

(New Hampshire State-Endangered)

- Adults are 15-17" in length
- Brown and gray coat that does NOT change color with the seasons.
- Black spot between the years is sometimes visible but not always present.
- Can be mistaken for non-native Eastern cottontails.

Please report sightings to NH Fish and Game at RAARP@wildlife.nh.gov or at 603-271-2461. Photo documentation, location, and date/time of observation is helpful.

\\VHB.COM\GBL\PRO\WORCESTER\16035.00 GERRISH RD DOVER NH\CAD\LD\PLANSET\16035.00-COV 3 May 2024

VHB Project : 16035.00
Issued for : Permitting

Legend

Exist.	Prop.	
		PROPERTY LINE
		PROJECT LIMIT LINE
		RIGHT-OF-WAY/PROPERTY LINE
		EASEMENT
		BUILDING SETBACK
		PARKING SETBACK
10+00	10+00	BASELINE
		CONSTRUCTION LAYOUT
		ZONING LINE
		TOWN LINE
		LIMIT OF DISTURBANCE
		WETLAND LINE WITH FLAG
		FLOODPLAIN
BLSF	BLSF	BORDERING LAND SUBJECT TO FLOODING
BZ	BZ	WETLAND BUFFER ZONE
NDZ	NDZ	NO DISTURB ZONE
200'RA	200'RA	200' RIVERFRONT AREA
		GRAVEL ROAD
EOP	EOP	EDGE OF PAVEMENT
BB	BB	BITUMINOUS BERM
BC	BC	BITUMINOUS CURB
CC	CC	CONCRETE CURB
CG	CG	CURB AND GUTTER
ECC	ECC	EXTRUDED CONCRETE CURB
MCC	MCC	MONOLITHIC CONCRETE CURB
PCC	PCC	PRECAST CONC. CURB
SGE	SGE	SLOPED GRAN. EDGING
VGC	VGC	VERT. GRAN. CURB
		LIMIT OF CURB TYPE
		SAWCUT
		BUILDING
EN	EN	BUILDING ENTRANCE
LD	LD	LOADING DOCK
		BOLLARD
D	D	DUMPSTER PAD
		SIGN
		DOUBLE SIGN
		STEEL GUARDRAIL
		WOOD GUARDRAIL
		PATH
		TREE LINE
		WIRE FENCE
		FENCE
		STOCKADE FENCE
		STONE WALL
		RETAINING WALL
		STREAM / POND / WATER COURSE
		DETENTION BASIN
		HAY BALES
		SILT FENCE
		SILT SOCK / STRAW WATTLE
4	4	MINOR CONTOUR
20	20	MAJOR CONTOUR
10	10	PARKING COUNT
	C10	COMPACT PARKING STALLS
DYL	DYL	DOUBLE YELLOW LINE
SL	SL	STOP LINE
		CROSSWALK
		ACCESSIBLE CURB RAMP
		ACCESSIBLE PARKING
VAN	VAN	VAN-ACCESSIBLE PARKING

Exist.	Prop.	
		CONCRETE
		HEAVY DUTY PAVEMENT
		BUILDINGS
		RIPRAP
		CONSTRUCTION EXIT
27.35 TC×	27.35 TC×	TOP OF CURB ELEVATION
26.85 BC×	26.85 BC×	BOTTOM OF CURB ELEVATION
132.75×	132.75×	SPOT ELEVATION
45.0 TW 38.5 BW	45.0 TW 38.5 BW	TOP & BOTTOM OF WALL ELEVATION
		BORING LOCATION
		TEST PIT LOCATION
MW	MW	MONITORING WELL
UD	UD	UNDERDRAIN
12"D	12"D	DRAIN
6"RD	6"RD	ROOF DRAIN
12"S	12"S	SEWER
FM	FM	FORCE MAIN
OHW	OHW	OVERHEAD WIRE
6"W	6"W	WATER
4"FP	4"FP	FIRE PROTECTION
	2"DW	DOMESTIC WATER
3"G	G	GAS
E	E	ELECTRIC
STM	STM	STEAM
T	T	TELEPHONE
FA	FA	FIRE ALARM
CATV	CATV	CABLE TV
		CATCH BASIN CONCENTRIC
		CATCH BASIN ECCENTRIC
		DOUBLE CATCH BASIN CONCENTRIC
		DOUBLE CATCH BASIN ECCENTRIC
		GUTTER INLET
		DRAIN MANHOLE CONCENTRIC
		DRAIN MANHOLE ECCENTRIC
TD		TRENCH DRAIN
		PLUG OR CAP
CO		CLEANOUT
		FLARED END SECTION
		HEADWALL
S		SEWER MANHOLE CONCENTRIC
S		SEWER MANHOLE ECCENTRIC
CS	CS	CURB STOP & BOX
WV	WV	WATER VALVE & BOX
TSV	TSV	TAPPING SLEEVE, VALVE & BOX
		FIRE DEPARTMENT CONNECTION
HYD	HYD	FIRE HYDRANT
WM	WM	WATER METER
PIV	PIV	POST INDICATOR VALVE
W	W	WATER WELL
GG	GG	GAS GATE
GM	GM	GAS METER
E	EMH	ELECTRIC MANHOLE
EM	EM	ELECTRIC METER
		LIGHT POLE
T	TMH	TELEPHONE MANHOLE
T	T	TRANSFORMER PAD
		UTILITY POLE
		GUY POLE
		GUY WIRE & ANCHOR
HH	HH	HAND HOLE
PB	PB	PULL BOX
		MATCHLINE

Abbreviations

General

ABAN	ABANDON
ACR	ACCESSIBLE CURB RAMP
ADJ	ADJUST
APPROX	APPROXIMATE
BIT	BITUMINOUS
BS	BOTTOM OF SLOPE
BWLL	BROKEN WHITE LANE LINE
CONC	CONCRETE
DYCL	DOUBLE YELLOW CENTER LINE
EL	ELEVATION
ELEV	ELEVATION
EX	EXISTING
FDN	FOUNDATION
FFE	FIRST FLOOR ELEVATION
GRAN	GRANITE
GTD	GRADE TO DRAIN
LA	LANDSCAPE AREA
LOD	LIMIT OF DISTURBANCE
MAX	MAXIMUM
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PERF	PERFORATED
PROP	PROPOSED
REM	REMOVE
RET	RETAIN
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
SWEL	SOLID WHITE EDGE LINE
SWLL	SOLID WHITE LANE LINE
TS	TOP OF SLOPE
TYP	TYPICAL

Utility

CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
DCB	DOUBLE CATCH BASIN
DMH	DRAIN MANHOLE
CIP	CAST IRON PIPE
COND	CONDUIT
DIP	DUCTILE IRON PIPE
FES	FLARED END SECTION
FM	FORCE MAIN
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
GI	GUTTER INLET
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	HANDHOLE
HW	HEADWALL
HYD	HYDRANT
INV	INVERT ELEVATION
I=	INVERT ELEVATION
LP	LIGHT POLE
MES	METAL END SECTION
PIV	POST INDICATOR VALVE
PWW	PAVED WATER WAY
PVC	POLYVINYLCHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
R=	RIM ELEVATION
RIM=	RIM ELEVATION
SMH	SEWER MANHOLE
TSV	TAPPING SLEEVE, VALVE AND BOX
UG	UNDERGROUND
UP	UTILITY POLE

Notes

General

1. THE PURPOSE OF THESE PLANS ARE TO SHOW THE DESIGN OF UPGRADES FOR UNITIL GAS INFRASTRUCTURE, INCLUDING A NEW GRAVEL ACCESS ROAD, GAS TRANSMISSION MAIN REPLACEMENT AND APPURTENANT STATION RECONSTRUCTION WITHIN THE UNITIL EASEMENT IN DOVER, NEW HAMPSHIRE.
2. CONTRACTOR SHALL NOTIFY "DIG-SAFE" (811 OR 1-888-344-7233) AT LEAST 72 HOURS BEFORE EXCAVATING.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
4. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED.
5. WORK WITHIN THE LOCAL RIGHTS-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
6. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
7. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
8. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
9. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
10. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
11. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.
12. THIS PROJECT DISTURBS MORE THAN ONE ACRE OF LAND AND FALLS WITHIN THE NPDES CONSTRUCTION GENERAL PERMIT (CGP) PROGRAM AND EPA JURISDICTION. PRIOR TO THE START OF CONSTRUCTION CONTRACTOR IS TO FILE A CGP NOTICE OF INTENT WITH THE EPA AND PREPARE A STORMWATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH THE NPDES REGULATIONS. CONTRACTOR SHALL CONFIRM THE OWNER HAS ALSO FILED A NOTICE OF INTENT WITH THE EPA.
13. PROPOSED LIMITS OF CONSTRUCTION DISTURBANCE ARE APPROXIMATE AND REPRESENT MAXIMUM PERMISSIBLE IMPACT TO JURISDICTIONAL AREAS. CONTRACTOR IS RESPONSIBLE FOR MINIMIZING EARTH DISTURBANCE TO THE EXTENT PRACTICABLE.
14. PRIOR TO CONSTRUCTION CREW MOBILIZATION, WETLAND LIMITS WILL BE FLAGGED WITH PINK NEON VINYL RIBBONS TIED TO VEGETATION OR STAKES SO AS TO BE VISIBLE TO WORK CREWS.

Utilities

1. THE UTILITY COMPANIES SERVICING THE PROJECT AREA ARE:

   A. WATER: CITY OF DOVER
   B. SEWER: CITY OF DOVER
   C. ELECTRIC: EVERSOURCE
   D. GAS: UNITIL

2. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR IT'S REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
3. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
4. SET CATCH BASIN RIMS, AND INVERTS OF SEWERS, DRAINS, AND DITCHES IN ACCORDANCE WITH ELEVATIONS ON THE GRADING AND UTILITY PLANS.
5. RIM ELEVATIONS FOR DRAIN AND SEWER MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, AND MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:

   A. PAVEMENTS AND CONCRETE SURFACES: FLUSH
   B. ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
   C. LANDSCAPE, LOAM AND SEED, AND OTHER EARTH SURFACE AREAS: ONE INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.

5. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY, THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH OWNER.
6. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY THE UTILITIES COMPANY.
7. UTILITY PIPE MATERIALS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLAN:

   A. STORM DRAINAGE PIPES SHALL BE HDPE

8. CONTRACTOR SHALL EXCAVATE AND BACKFILL TRENCHES FOR GAS IN ACCORDANCE WITH GAS COMPANY'S REQUIREMENTS.
9. ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN.) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS AND LOCAL MUNICIPAL STANDARDS. FOR MANHOLES THAT ARE 20 FEET IN DEPTH AND GREATER, THE MINIMUM DIAMETER SHALL BE 5 FEET.

NHF&G Notes

1. NEW ENGLAND COTTONTAIL (STATE ENDANGERED) OCCURS WITHIN THE VICINITY OF THE PROJECT AREA. ALL OPERATORS AND PERSONNEL WORKING ON OR ENTERING THE SITE SHALL BE MADE AWARE OF THE POTENTIAL PRESENCE OF THESE SPECIES AND SHALL BE PROVIDED FLYERS THAT HELP TO IDENTIFY THESE SPECIES, ALONG WITH NHFG CONTACT INFORMATION.
2. RARE SPECIES INFORMATION (E.G. IDENTIFICATION, OBSERVATION AND REPORTING OF OBSERVATIONS, WHEN TO CONTACT NHFG IMMEDIATELY AND NHFG CONTACT INFORMATION) SHALL BE COMMUNICATED DURING MORNING TAILGATE MEETINGS PRIOR TO WORK COMMENCEMENT DURING THE CONSTRUCTION PHASE OF THE PROJECT. SEE COVER SHEET FOR FLYER.
3. ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, WITH THE EXCEPTION OF TURF REINFORCEMENT MATS, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN PLASTIC, OR MULTIFILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8 INCHES. SEE SITE DETAILS SHEETS FOR EROSION AND SEDIMENT CONTROL PRODUCTS.
4. ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGreview@wildlife.nh.gov, EMAIL SUBJECT LINE: NHB23-2737, UNITIL GAS LINE, GERRISH ROAD, DOVER, NH; WILDLIFE SPECIES OBSERVATION.
5. PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHF&G IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION, AS FEASIBLE.
6. IN THE EVENT A THREATENED OR ENDANGERED SPECIES IS OBSERVED ON THE PROJECT SITE DURING THE TERM OF THE PERMIT, THE SPECIES SHALL NOT BE DISTURBED, HANDLED, OR HARMED IN ANY WAY PRIOR TO CONSULTATION WITH NHF&G AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHF&G.
   6.1. SITE OPERATORS SHALL BE ALLOWED TO RELOCATE WILDLIFE ENCOUNTERED IF DISCOVERED WITHIN THE ACTIVE WORK ZONE IF IN DIRECT HARM FROM PROJECT ACTIVITIES. WILDLIFE SHALL BE RELOCATED IN CLOSE PROXIMITY TO THE CAPTURE LOCATION BUT OUTSIDE OF THE WORK ZONE AND IN THE DIRECTION THE INDIVIDUAL WAS HEADING. NHFG SHALL BE CONTACTED IMMEDIATELY IF THIS ACTION OCCURS.
7. THE NHF&G, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

Layout and Materials

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
2. CURBING TYPE AND RADII SHALL BE AS INDICATED ON THE PLANS.
3. REFER TO PROCESS PIPELINE SERVICES, INC, GAS TRANSMISSION MAIN DRAWINGS FOR FINAL VERTICAL AND HORIZONTAL ALIGNMENT OF THE GAS TRANSMISSION MAIN AND APPURTENANT STATION CONSTRUCTION LAYOUT.
4. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A LICENSED LAND SURVEYOR (LLS).
5. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.

Demolition

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS, ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS. REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS.
2. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
3. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.

Erosion Control

1. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
2. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES ON A WEEKLY BASIS (MINIMUM) OR AS REQUIRED PER THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL ADDRESS DEFICIENCIES AND MAINTENANCE ITEMS WITHIN TWENTY-FOUR HOURS OF INSPECTION. CONTRACTOR SHALL PROPERLY DISPOSE OF SEDIMENT SUCH THAT IT DOES NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
4. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.
6. EROSION CONTROL AND TEMPORARY STORMWATER CONTROL MEASURES SHALL COMPLY WITH THE NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3 - EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION DECEMBER 2008 AND THE NEW HAMPSHIRE DEPARTMENT OF NATURAL AND CULTURAL RESOURCES BEST MANAGEMENT PRACTICES MANUAL FOR UTILITY MAINTENANCE IN AND ADJACENT TO WETLANDS AND WATERBODIES IN NEW HAMPSHIRE, MARCH 2019.
7. THE ENVIRONMENTAL CONTROLS SHOWN ON THESE PLANS MAY NEED TO BE SUPPLEMENTED DUE TO SEASON, WEATHER CONDITIONS, OR WORK METHODS.
8. THE SELECTED CONTRACTOR IS RESPONSIBLE FOR STREET SWEEPING AT POINTS OF INGRESS/EGRESS FROM PUBLIC AND PRIVATE ROADWAYS.
9. ANY EXCESS EXCAVATED MATERIAL THAT CANNOT BE REUSED ON SITE SHALL BE PLACED OUTSIDE OF THE WETLAND AND/OR TIDAL BUFFER ZONE JURISDICTIONAL AREAS.

Existing Conditions Information

1. BASE PLAN: THE PROPERTY LINES SHOWN WERE DETERMINED BY AN ACTUAL FIELD SURVEY CONDUCTED BY DOUCET SURVEY. THE TOPOGRAPHY AND PHYSICAL FEATURES ARE BASED ON AN ACTUAL FIELD SURVEY PERFORMED ON THE GROUND BY DOUCET SURVEY, DURING APRIL, MAY AND SEPTEMBER 2022.

   A. DELINEATION OF THE WETLANDS AND PLACEMENT OF THE FLAGS WAS PERFORMED BY: MARC JACOBS, CWS 090 IN APRIL 2022. SEE ACCOMPANYING DOUCET SURVEY PLAN SET.
   B. FLAGS MARKING THE WETLANDS WERE LOCATED BY: DOUCET SURVEY USING CONVENTIONAL SURVEY METHODS IN JUNE 2022

2. TOPOGRAPHY: ELEVATIONS ARE BASED ON NAD83.
3. GEOTECHNICAL DATA INCLUDING TEST PIT AND BORING LOCATIONS AND ELEVATIONS WERE OBTAINED FROM S.W. COLE.

Document Use

1. THESE PLANS AND CORRESPONDING CADD DOCUMENTS ARE INSTRUMENTS OF PROFESSIONAL SERVICE, AND SHALL NOT BE USED, IN WHOLE OR IN PART, FOR ANY PURPOSE OTHER THAN FOR WHICH IT WAS CREATED WITHOUT THE EXPRESSED, WRITTEN CONSENT OF VHB. ANY UNAUTHORIZED USE, REUSE, MODIFICATION OR ALTERATION, INCLUDING AUTOMATED CONVERSION OF THIS DOCUMENT SHALL BE AT THE USER'S SOLE RISK WITHOUT LIABILITY OR LEGAL EXPOSURE TO VHB.
2. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.
3. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.

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Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

No.	Revision	Date	Appvd.

Designed by TMD
Checked by EKG

Issued for
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Not Approved for Construction

Date
May 3, 2024

Drawing Title
Legend & General Notes

Drawing Number
C1.01

Sheet 1 of 12

Project Number
16035.00

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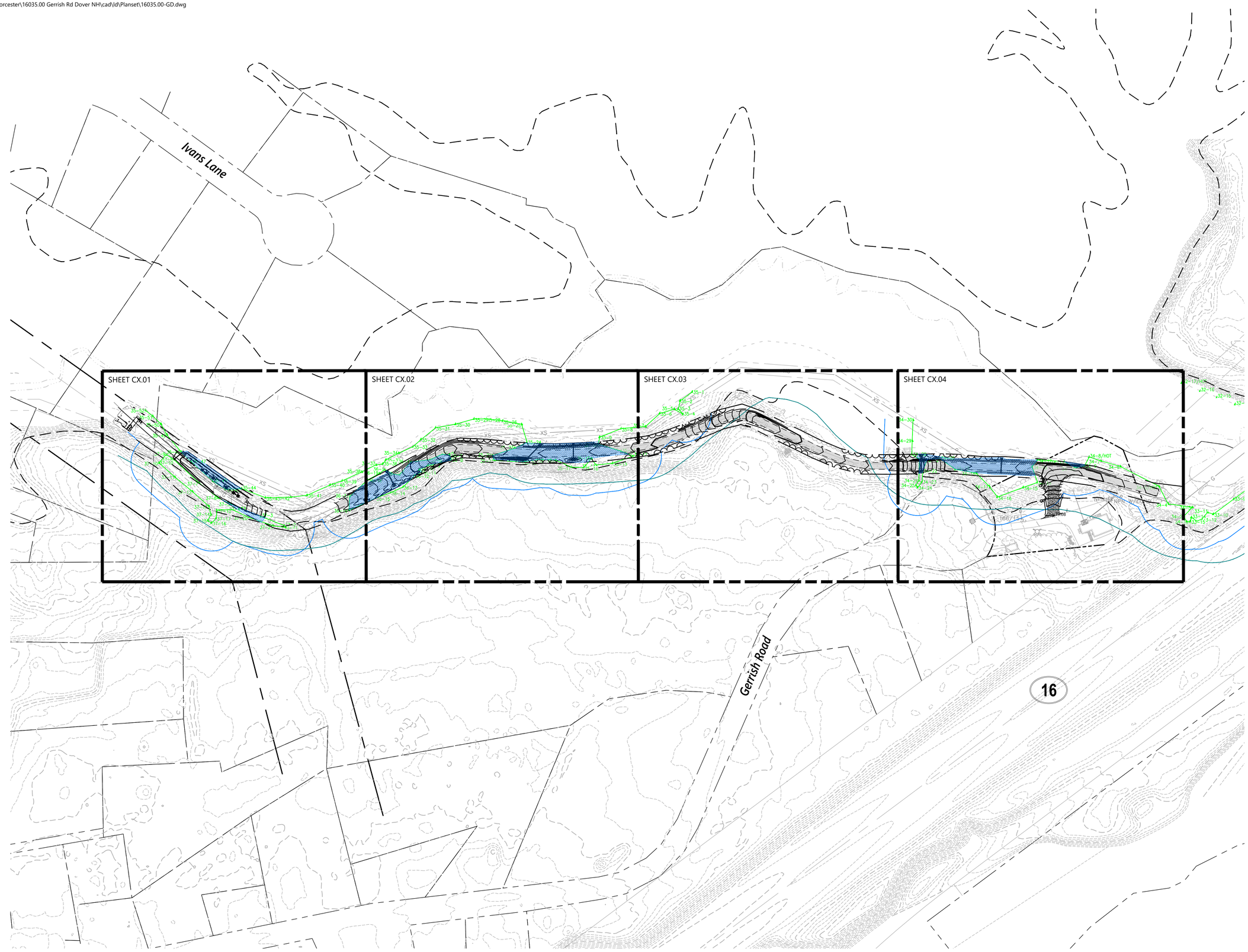

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CITY OF DOVER WETLANDS PROTECTION DISTRICT

CITY OF DOVER 50-FOOT WETLAND BUFFER

WETLAND IMPACTS

Resource Area Impacts

WETLAND IMPACTS	17015	SF

0 40 80 160 Feet

Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

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Drawing Title
Overall Site Plan

Drawing Number
C2.00

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Project Number
16035.00

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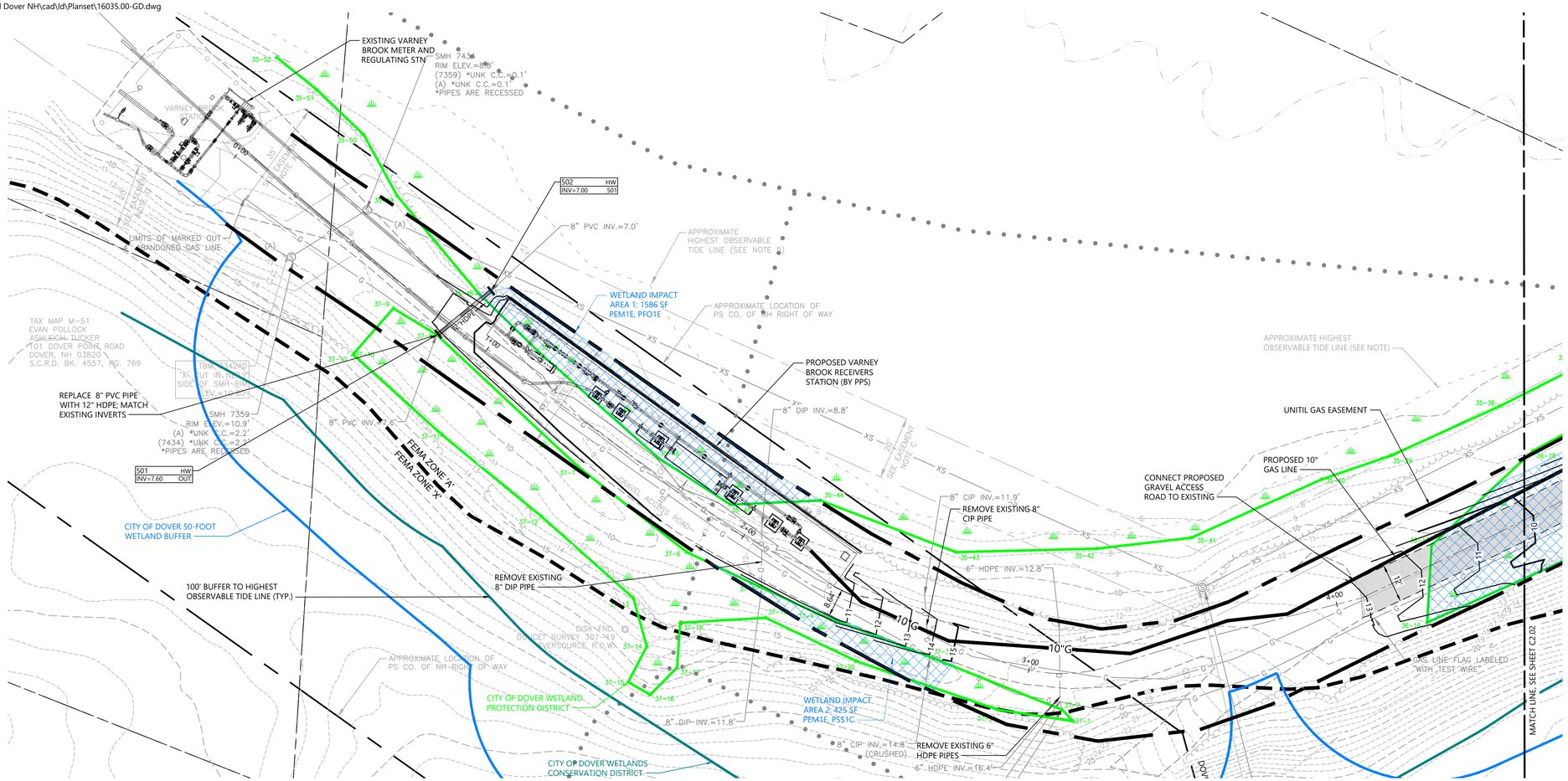

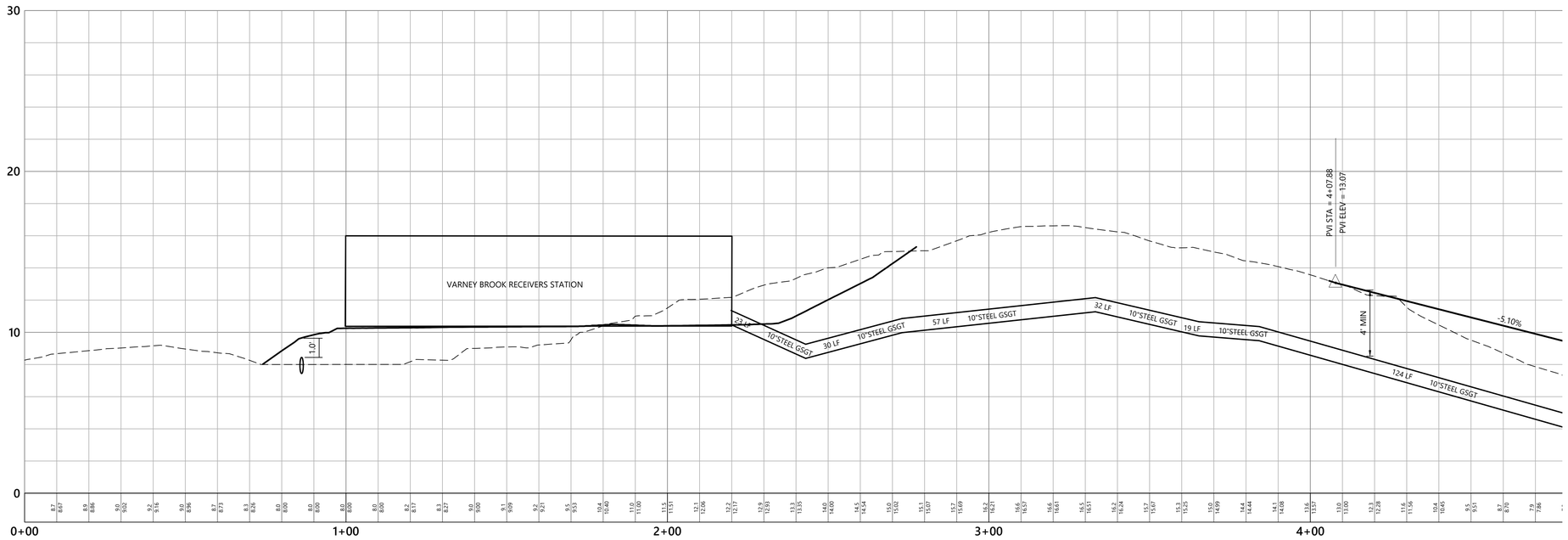

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- WETLAND IMPACTS

0 10 20 40 Feet

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Sheet 3 of 12

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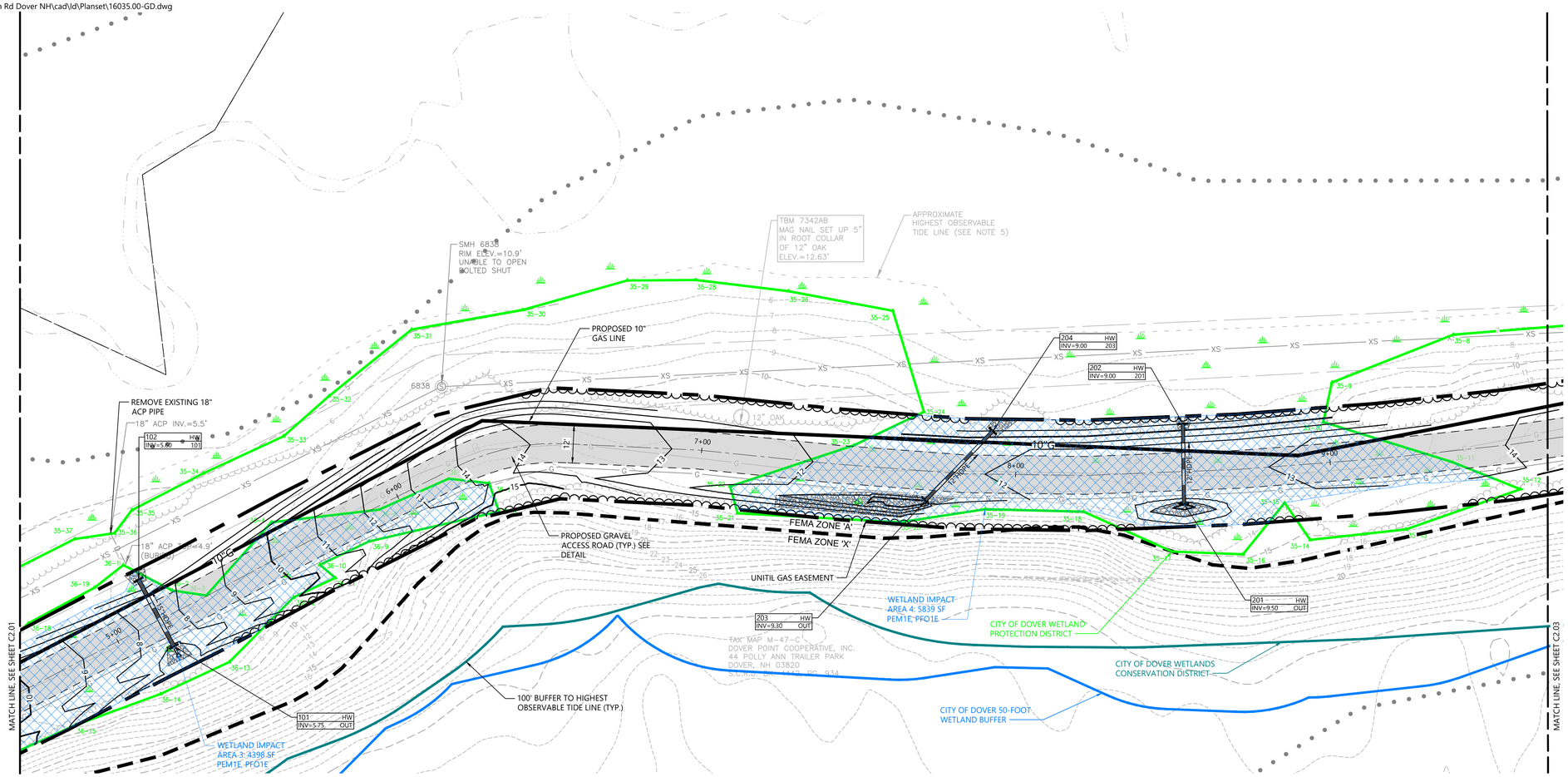

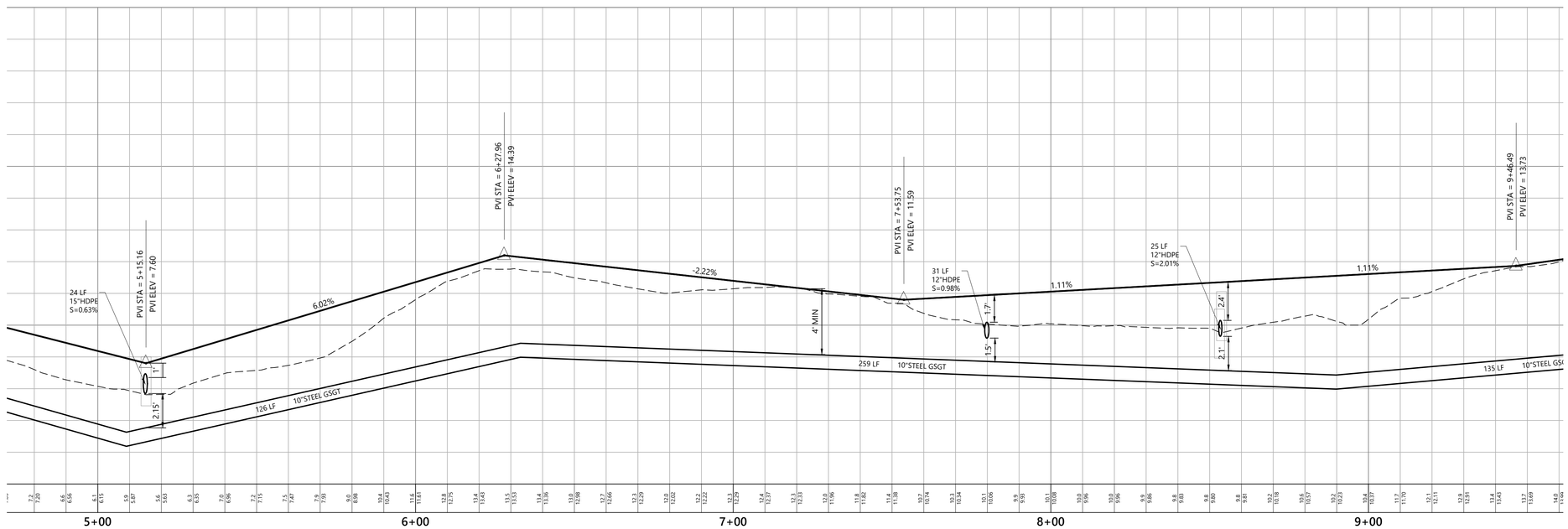

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WETLAND IMPACTS

0 10 20 40 Feet

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Drawing Title

Site Plan 2

Drawing Number

C2.02

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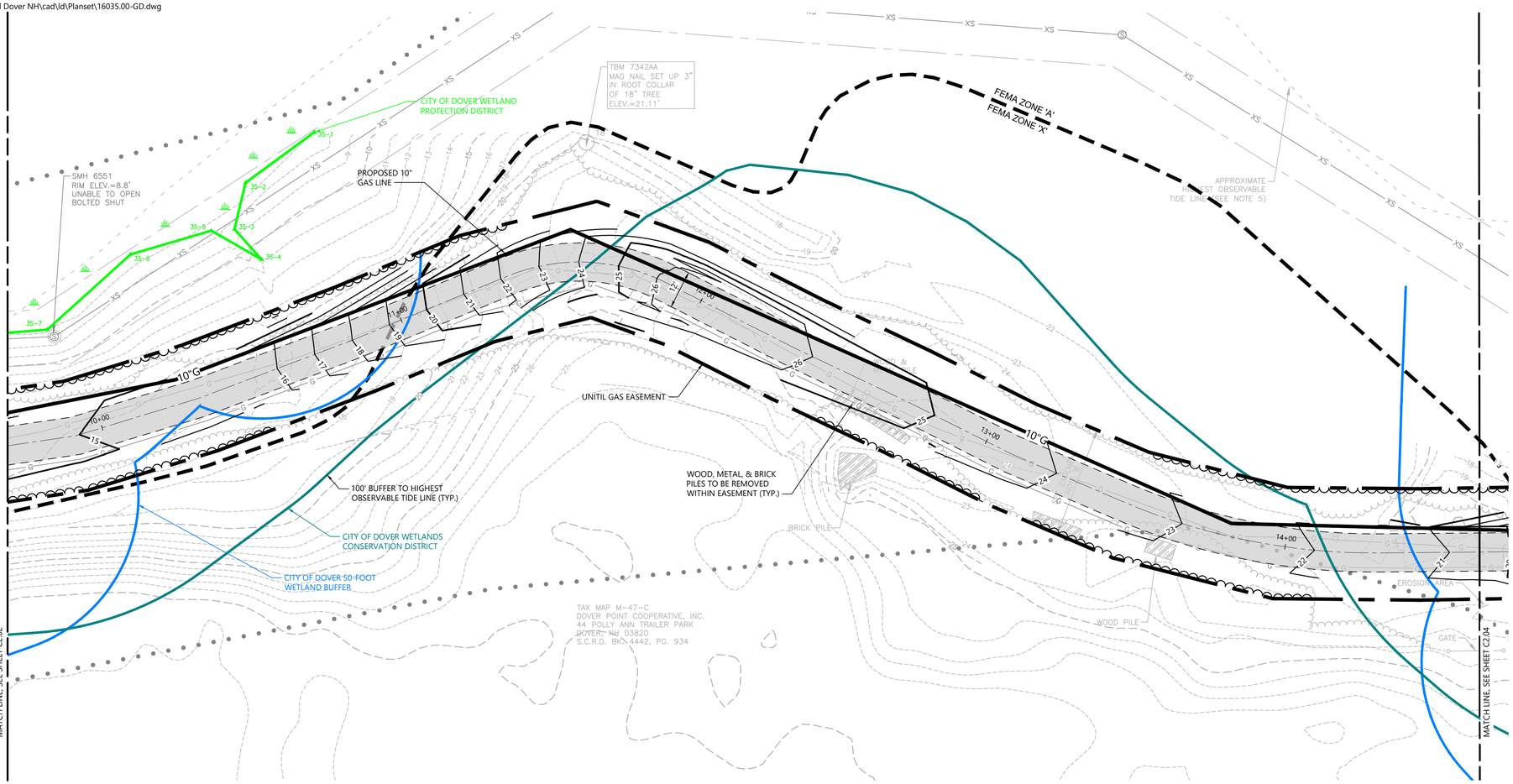

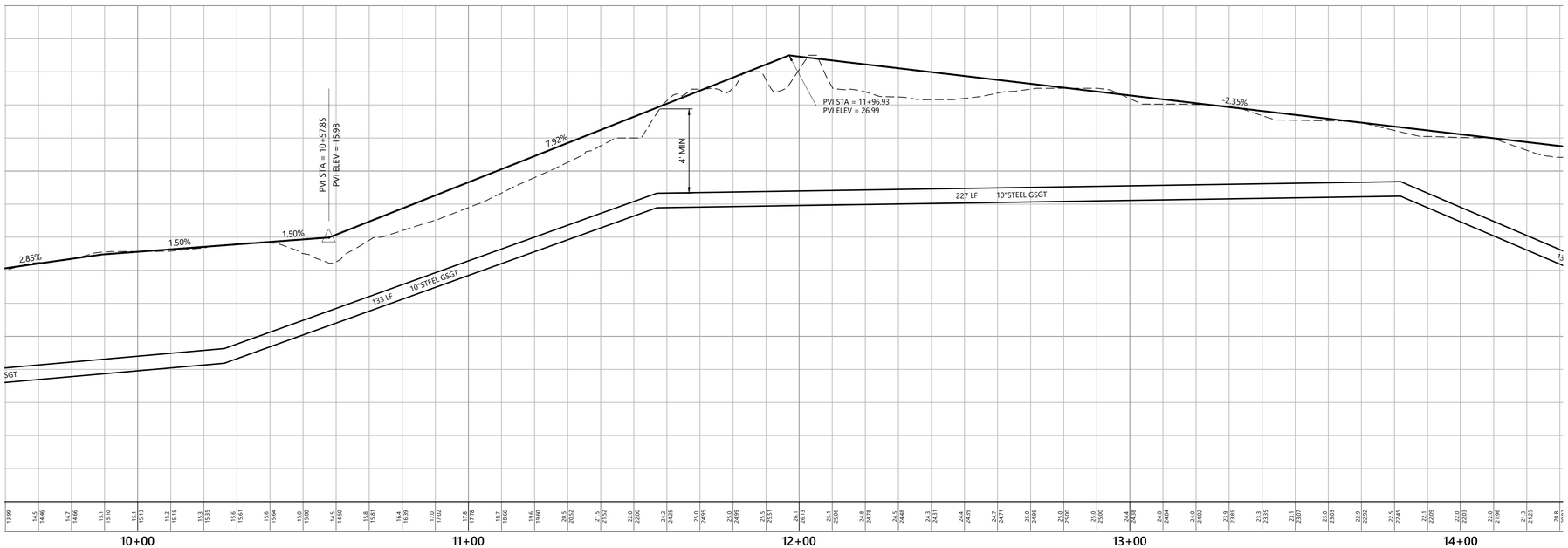

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WETLAND IMPACTS

CONTRACTOR SHALL DISPOSE OF MISCELLANEOUS PILES IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.

0 10 20 40 Feet

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Drawing Title
Site Plan 3

Drawing Number
C2.03

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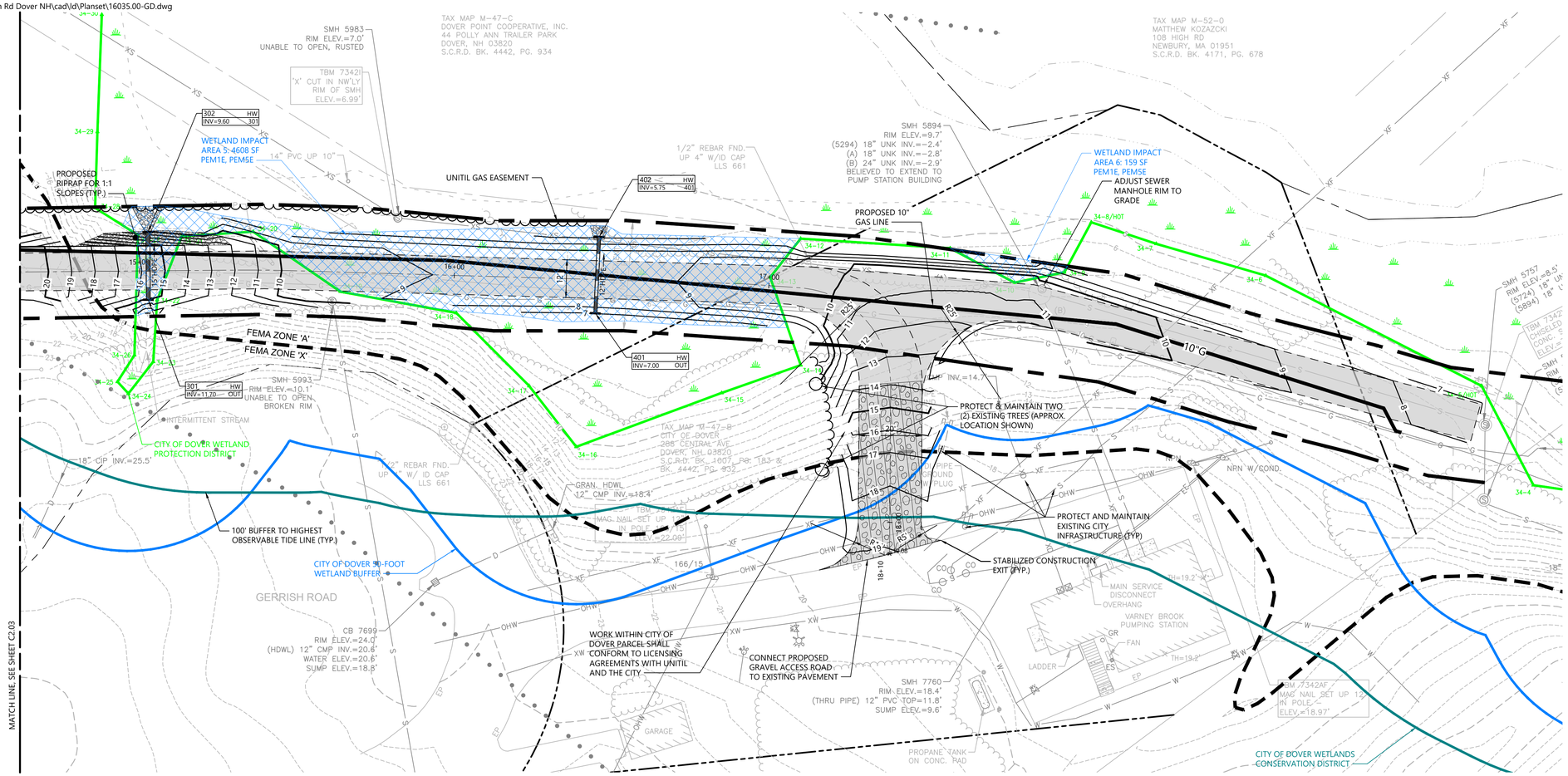

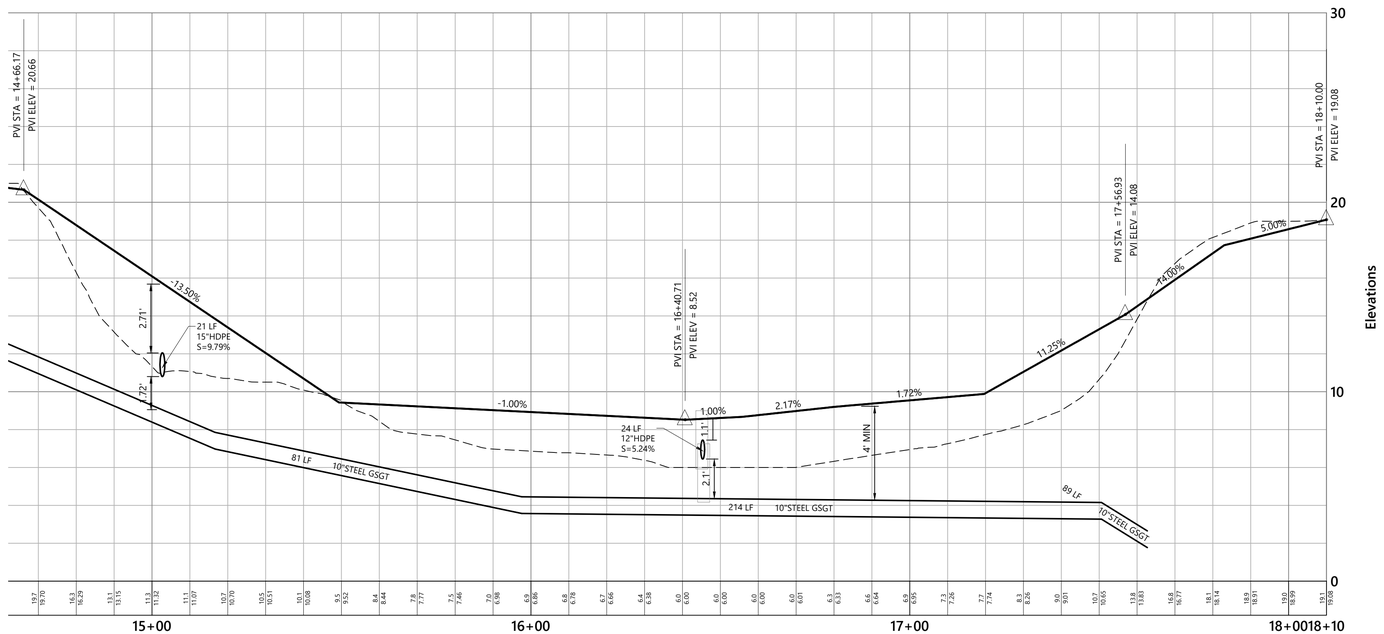

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WETLAND IMPACTS

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Drawing Title
Site Plan 4

Drawing Number
C2.04

Sheet 6 of 12

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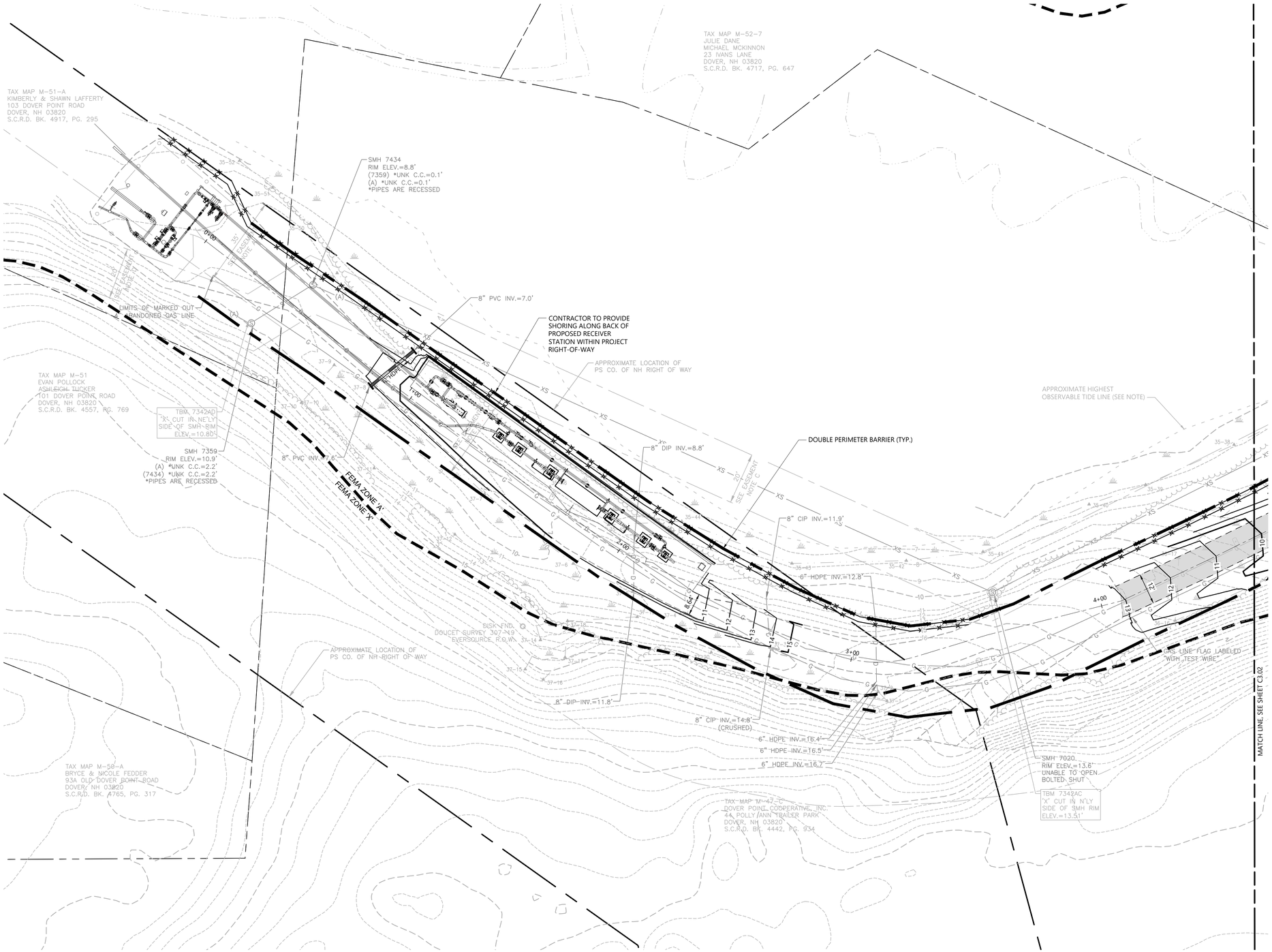

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Erosion & Sediment Control Plan 1

Drawing Number
C3.01

Sheet 7 of 12

Project Number
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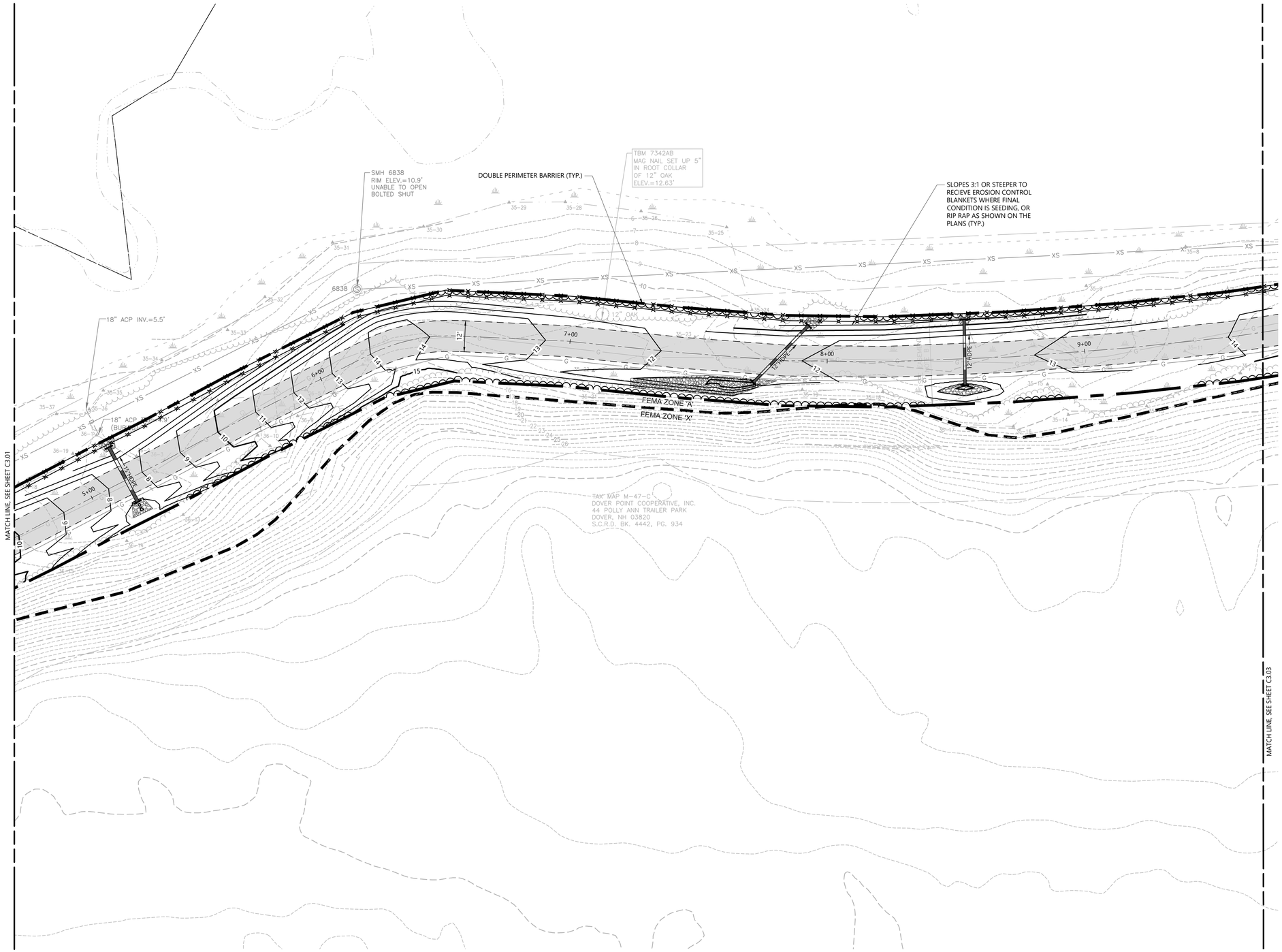

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Drawing Title: Erosion & Sediment Control Plan 2

Drawing Number: C3.02

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Drawing Title
Erosion & Sediment Control Plan 3

Drawing Number
C3.03

Sheet 9 of 12

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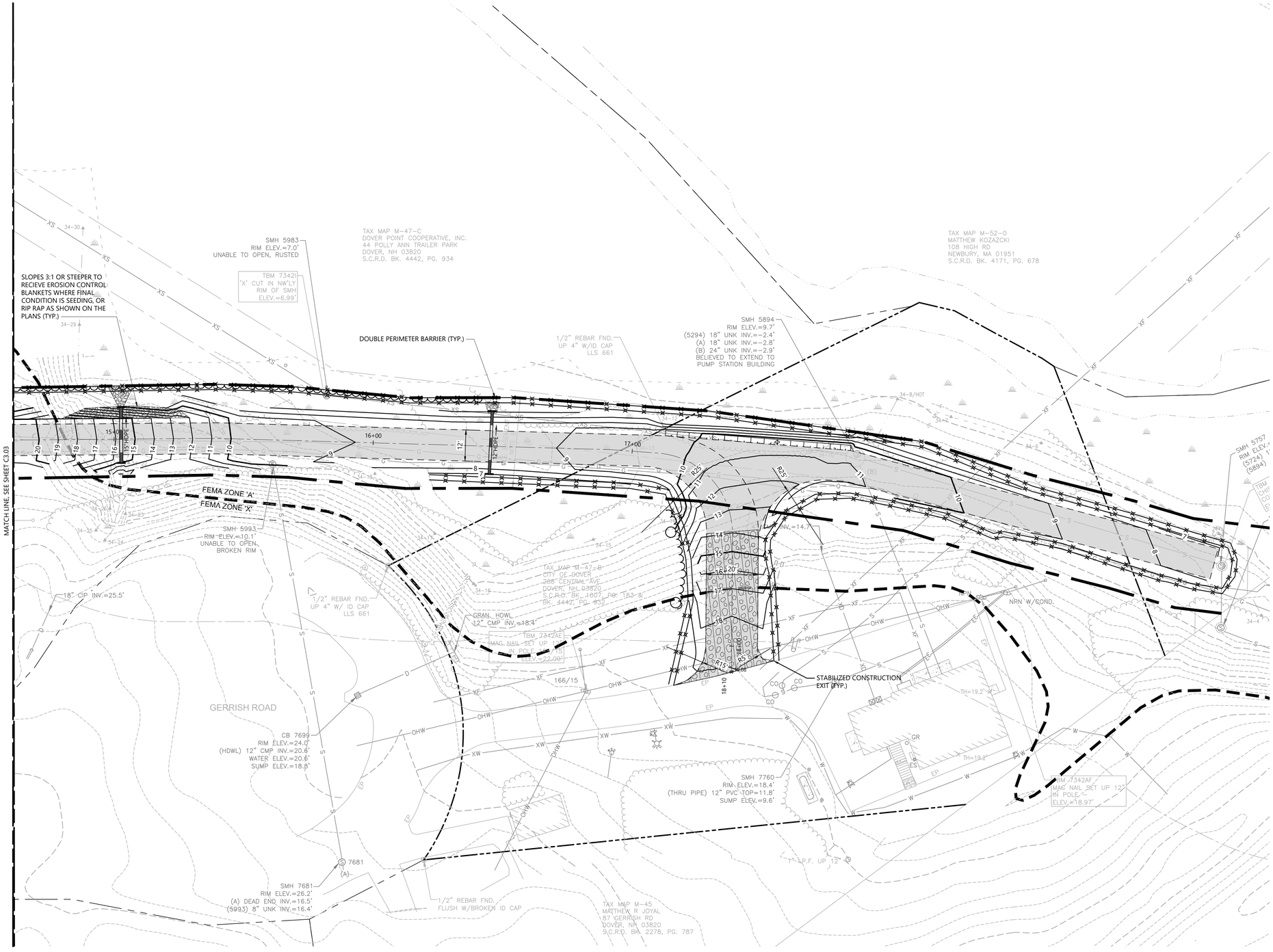

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Drawing Title: Erosion & Sediment Control Plan 4

Drawing Number: C3.04

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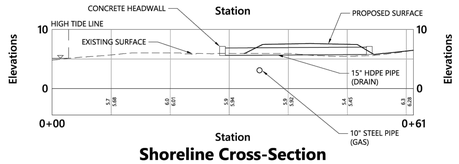
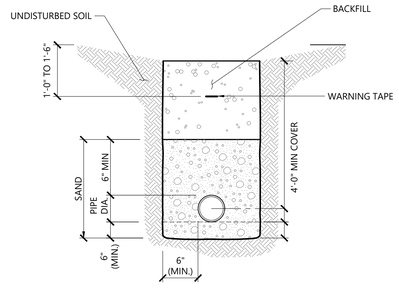
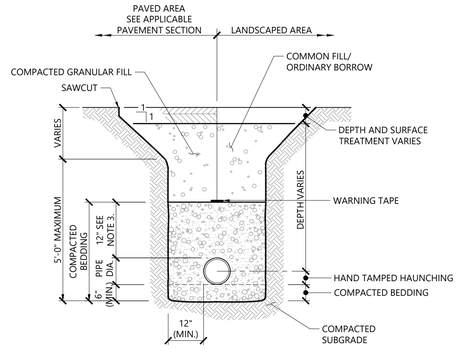


Shoreline Cross-Section



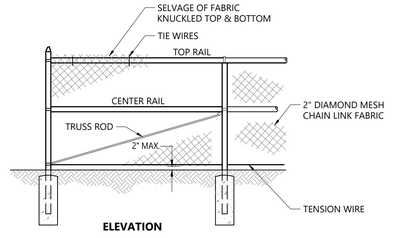
Utility Trench (Gas)



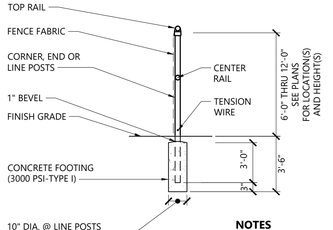
NOTES

1. WHERE UTILITY TRENCHES ARE CONSTRUCTED THROUGH DETENTION BASIN BERMS OR OTHER SUCH SPECIAL SECTIONS, PLACE TRENCH BACKFILL WITH MATERIALS SIMILAR TO THE SPECIAL SECTION REQUIREMENTS.
2. USE METALLIC TRACING/WARNING TAPE OVER ALL PIPES.
3. FOR HDPE PIPE, DIMENSION IS 24 INCHES.
4. MINIMUM COVER REQUIREMENTS:
   A. DRAIN: AS SPECIFIED ON PLANS
5. EMBEDMENT MATERIALS:
   A. DRAIN: GRAVEL (NHD0T 304.2-MODIFIED FOR 1-1/2 IN MAX. STONE SIZE)
6. WITHIN RIGHT OF WAY BACKFILL MUST BE PLACED IN 12" LIFTS AND COMPACTED.

Utility Trench (Drain)



ELEVATION

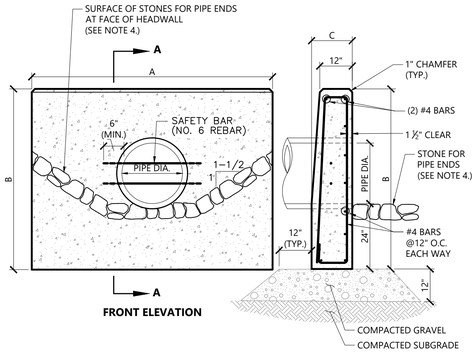


SECTION

NOTES

1. MATERIALS TO BE SUPPLIED AND INSTALLED IN CONFORMANCE WITH "CHAIN LINK MANUFACTURER'S INSTITUTE" PRODUCT MANUAL.

6' to 12' Chain Link Fence



FRONT ELEVATION

SECTION A-A

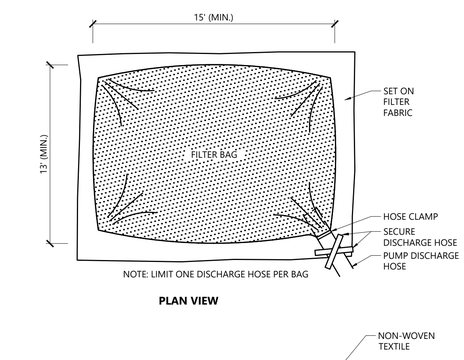
DIMENSIONAL TABLE

PIPE DIA.	A	B	C	#OF SAFETY BARS
12"	5'-6"	4'-2"	1'-6"	-
15"	6'-6"	4'-5"	1'-6"	-
18"	7'-6"	4'-9"	1'-6"	1
24"	9'-0"	5'-3"	1'-6"	1
30"	11'-0"	5'-10"	1'-6"	2
36"	13'-0"	6'-4"	1'-9"	2
42"	15'-9"	6'-11"	1'-9"	3
48"	17'-9"	7'-5"	2'-0"	3
60"	21'-9"	8'-6"	2'-6"	4
72"	25'-9"	9'-7"	3'-0"	5

NOTES

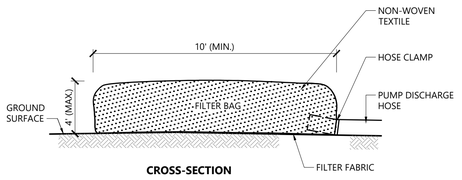
1. CONCRETE SHALL BE 6% ±1.5% AIR ENTRAINED TYPE II CEMENT WITH MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI.
2. SAFETY BARS TO BE OMITTED WHERE INDICATED ON PLANS.
3. SAFETY BARS SHALL BE SET TO CREATE EQUAL OPENING DIMENSIONS.
4. SEE STONE PROTECTION AT HEADWALL DETAIL.

Concrete Headwall (HW)



NOTE: LIMIT ONE DISCHARGE HOSE PER BAG

PLAN VIEW

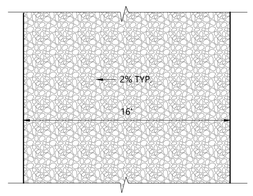


CROSS-SECTION

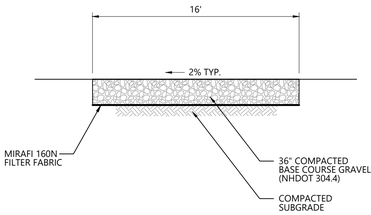
NOTES

1. BAG TO BE USED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

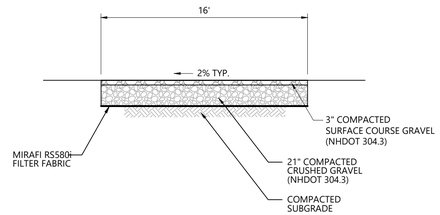
Dewatering Filter Bag



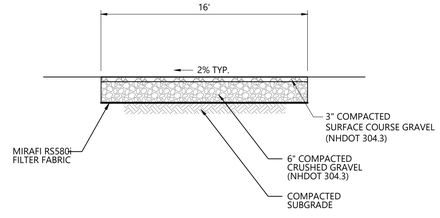
PLAN VIEW



SECTION VIEW - CONSTRUCTION ROAD



SECTION VIEW - HIGH STRENGTH



SECTION VIEW - LOW STRENGTH

NOTE

1. LOW STRENGTH SECTIONS ARE TO BE USED BETWEEN STATIONS 5+00 - 6+00, 7+20 - 8+30, AND 12+00 - 13+00. HIGH STRENGTH SECTIONS ARE TO BE USED EVERYWHERE ELSE.

Gravel Access Drive

vhb.com

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2 Bedford Farms Drive
Suite 200
Bedford, NH 03110
603.391.3900

Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

No.	Revision	Date	Appvd.

Designed by TMD Checked by EKG

Issued for Date

Conditional Use Permit — May 3, 2024

Not Approved for Construction

Drawing Title

Site Details 1

Drawing Number

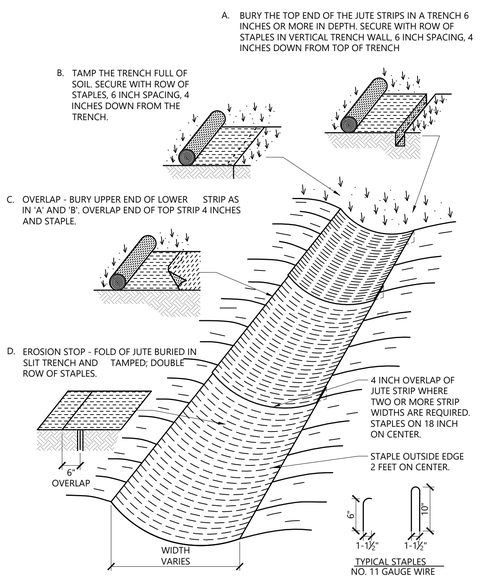
C4.01

Sheet 11 of 12

Project Number

16035.00

Saved Friday, January 19, 2024 12:27:19 PM DBOSWORTH Plotted Friday, May 3, 2024 8:59:04 AM Derek Bosworth

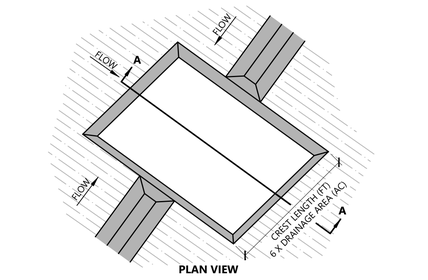


* INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS

Erosion Control Blanket Swale Installation

1/16

N.T.S. Source: VHB LD_681



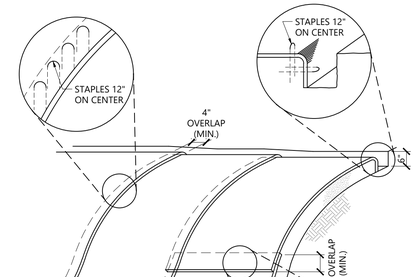
NOTES

1. TEMPORARY SEDIMENT TRAP TO BE REMOVED UPON APPROVAL OF ENGINEER AND WHEN ALL UPSTREAM AREAS HAVE BEEN STABILIZED.
2. DESIGN AND MAINTENANCE REQUIREMENTS SHALL BE IN ACCORDANCE WITH ENV-WQ 1506.10. WHICH INCLUDE, BUT ARE NOT LIMITED TO:
   - MINIMUM SEDIMENT STORAGE FOR SEDIMENT BASIN SHOULD BE 3,600 CF PER ACRE OF DRAINAGE AREA (MAXIMUM CONTRIBUTING AREA OF 5 ACRES).
   - SEDIMENT TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.

Temporary Sediment Trap

3/18

N.T.S. Source: LD_



NOTES

1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH BACKFILL AND COMPACT TRENCH AFTER STAPLING.
2. ROLL THE BLANKET DOWN THE SWALE IN THE DIRECTION OF THE WATER FLOW.
3. THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.
4. WHEN BLANKETS MUST BE SPLICED DOWN THE SWALE, PLACE UPPER BLANKET END OVER LOWER END WITH 6 INCH (MIN.) OVERLAP AND STAPLE BOTH TOGETHER.
5. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
6. EROSION CONTROL BLANKETS SHALL BE USED IN ALL AREAS WHERE SLOPES EXCEED 3:1.

Erosion Control Blanket Slope Installation

10/20

N.T.S. Source: VHB LD_680

Erosion Control

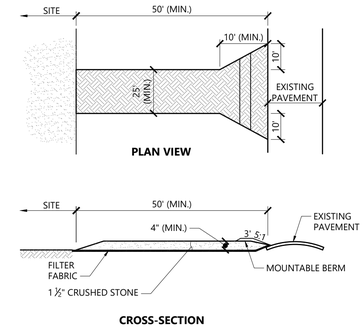
1. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
2. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES, AND REMOVE SEDIMENT THEREFROM ON A WEEKLY BASIS AND WITHIN TWELVE HOURS AFTER EACH STORM EVENT (0.5" OF RAINFALL OR GREATER) AND DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
4. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.
6. AREAS REMAINING UNSTABILIZED FOR A PERIOD OF MORE THAN 30 DAYS SHALL BE TEMPORARILY SEEDED AND MULCHED. STRAW MULCH SHALL BE APPLIED AT A MINIMUM RATE OF 1-1/2 TONS/ACRE.
7. PERMANENT SEEDING SHALL OCCUR BETWEEN APRIL 1 AND JUNE 1, AND/OR BETWEEN AUGUST 15 AND OCTOBER 15. ALL SEEDING FROM SEPTEMBER 15 SHALL BE STRAW MULCHED.
8. DUST SHALL BE CONTROLLED THROUGH THE USE OF WATER.
9. SOILS TO BE STOCKPILED FOR A PERIOD OF MORE THAN 30 DAYS SHALL BE TEMPORARILY SEEDED AND MULCHED. CONTRACTOR SHALL INSTALL SILT FENCING ALONG DOWNHILL SIDE OF STOCKPILES.
10. CONTRACTOR SHALL PROVIDE TEMPORARY SEDIMENTATION BASINS TO CONTROL SEDIMENTATION AND STORMWATER RUNOFF DURING THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL SUBMIT PROPOSED BASIN LOCATIONS, DESIGNS, ETC. TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION. TEMPORARY SEDIMENTATION BASINS SHALL MEET NHDES REQUIREMENTS.
11. CONTRACTOR SHALL PROVIDE NECESSARY EROSION CONTROL MEASURES TO INSURE THAT SURFACE WATER RUN-OFF FROM UNSTABILIZED AREAS DOES NOT CARRY SILT, SEDIMENT, AND OTHER DEBRIS OUTSIDE OF THE LIMITS OF WORK.
12. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
    A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
    B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
    C. A MINIMUM OF 3-IN OF NON-EROSIVE MATERIAL, SUCH AS STONE OR RIPRAP, HAS BEEN INSTALLED;
    D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
13. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES ON A WEEKLY BASIS (MINIMUM) OR AS REQUIRED PER THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL ADDRESS DEFICIENCIES AND MAINTENANCE ITEMS WITHIN TWENTY-FOUR HOURS OF INSPECTION. CONTRACTOR SHALL PROPERLY DISPOSE OF SEDIMENT SUCH THAT IT DOES NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
14. ALL DITCHES, SWALES, AND DRAINAGE BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
15. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
16. ALL CUT AND FILL SLOPES SHALL BE LOAMED AND SEEDED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
17. EROSION CONTROL BLANKETS SHALL BE INSTALLED ON ALL SLOPES THAT ARE STEEPER THAN 3-FT HORIZONTAL AND 1-FT VERTICAL (3:1). EROSION CONTROL BLANKETS SHALL BE NORTH AMERICAN GREEN SC150BN, OR APPROVED EQUAL. ANY ALTERNATIVE NETTING MUST CONSIST ENTIRELY OF NATURAL FIBERS.
18. THE PROJECT SHALL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
19. TEMPORARY WATER DIVERSION SWALES, BASINS, AND OTHER TEMPORARY BMPS SHALL BE INSTALLED EARLY IN THE CONSTRUCTION PROCESS, BEFORE ROUGH GRADING.

Restoration of Disturbed Areas

1. THE INTRODUCTION OR SPREAD OF INVASIVE PLANT SPECIES IN DISTURBED AREAS SHALL BE CONTROLLED. IF CONSTRUCTION MATS ARE TO BE USED IN AREAS OF INVASIVE PLANT SPECIES, THEY SHALL BE THOROUGHLY CLEANED BEFORE RE-USE.
2. UPON COMPLETION OF CONSTRUCTION, ALL AREAS OF AUTHORIZED DISTURBED WETLAND AREA SHALL BE STABILIZED WITH A WETLAND SEED MIX CONTAINING "NORTHEAST ANNUAL & PERENNIAL WILDFLOWER MIX" FOR UPLANDS AND "FACW WETLAND MEADOW MIX" FOR WETLANDS OR APPROVED EQUIVALENT.

Winter Construction

1. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED. STABILIZATION METHODS SHALL INCLUDE SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE TEMPORARILY STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL (NHDOT 304.3).



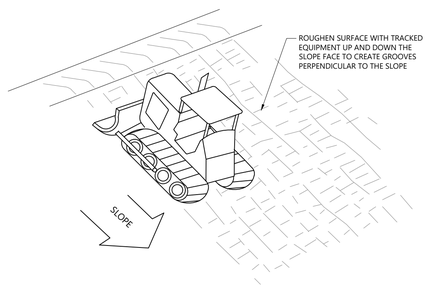
NOTES

1. EXIT WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
3. STABILIZED CONSTRUCTION EXIT SHALL BE REMOVED PRIOR TO FINAL FINISH MATERIALS BEING INSTALLED.

Stabilized Construction Exit

1/16

N.T.S. Source: VHB LD_682



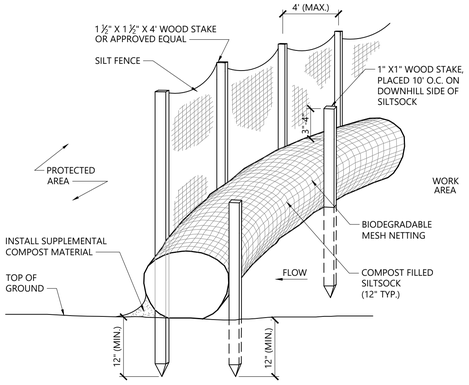
NOTE

1. SLOPES WITH A GRADE STEEPER THAN A 3:1 SLOPE SHALL REQUIRE SLOPE TRACKING IF THE STABILIZATION METHOD IS AN EROSION CONTROL BLANKET AND/OR HYDROSEEDING.

Slope Tracking

10/20

N.T.S. Source: VHB LD_693



NOTES

1. SILTSOCK SHALL BE FILTREXX SILTSOXX, OR APPROVED EQUAL.
2. SILTSOCKS SHALL OVERLAP A MINIMUM OF 12 INCHES.
3. SILTSOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
4. UPON SITE STABILIZATION, COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.
5. IF NON BIODEGRADABLE NETTING IS USED THE NETTING SHALL BE COLLECTED AND DISPOSED OF OFFSITE.

Double Perimeter Barrier

10/20

N.T.S. Source: VHB REV LD_658-A

vhb.com
vhb
2 Bedford Farms Drive
Suite 200
Bedford, NH 03110
603.391.3900

Unitil Gas Transmission Pipe Replacement, Right-of-Way Road Replacement, and Appurtenant Station Construction

Gerrish Road
Dover, New Hampshire

No.	Revision	Date	Appvd.

Designed by TMD Checked by EKG

Issued for Date

Conditional Use Permit — May 3, 2024

Not Approved for Construction

Drawing Title

Site Details 2

Drawing Number

C4.02

Sheet 12 of 12

Project Number

16035.00

Saved Friday, January 19, 2024 12:27:19 PM DBOSWORTH Plotted Friday, May 3, 2024 6:59:14 AM Derek Bosworth

Item 4.D

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #TRAN-2024-0006

Application Type:	Transfer of Development Rights
Applicant(s):	DBS Holdings, LLC
Owner(s):	DBS Holdings, LLC
Location:	512 Sixth Street (Assessor's Map F, Lot 21)
Meeting Date:	June 11, 2024

INTENT: To request the purchase three (3) non-restricted Transfer of Development Rights (TDR) units to allow a total of five (5) units on the site.

AGENDA ITEM #: 4-D

APPLICANT/OWNER: DBS Holdings, LLC

LOCATION: 512 Sixth Street (Assessor's Map B, Lot 2)

UNITS PROPOSED: Five (5) units total (including three (3) non-restricted TDR units)

ACREAGE: 1.87± acres

ZONING DISTRICT: R-40

EXISTING USE: Residential

PROPOSED USE: Residential

SURROUNDING USE: Residential

ZBA ACTION: N/A

PERMITS: N/A

WAIVERS REQUESTED: N/A

APPLICATION IS COMPLETE: Yes

REGIONAL IMPACT: No

NOTICES SENT: Abutter notices were sent by certified mail.

TRC: Not required unless determined as such by the Planning Board.

ATTACHMENTS: Application materials including site plan

Summary of Request and Background
The applicant is proposing a project for five (5) residential units by purchasing three (3) non-restricted units through TDR.

From conversations with the property owner, it was determined that a manufactured home was originally on site and then in the 1970s, a single-family dwelling was built. The current Zoning Ordinance would allow for that single-family dwelling to be converted into a two-family dwelling. With this information, two (2) units were calculated as allowable by right on the subject parcel.

Consistency with Land Use Regulations - TDR
§170-27.2 provides for additional density to be purchased through Transfer of Development Rights. This application meets the ordinance.

Staff understands the need for diverse housing in the City of Dover but also values the rural nature of the R-40 district and the intent of the TDR ordinance.

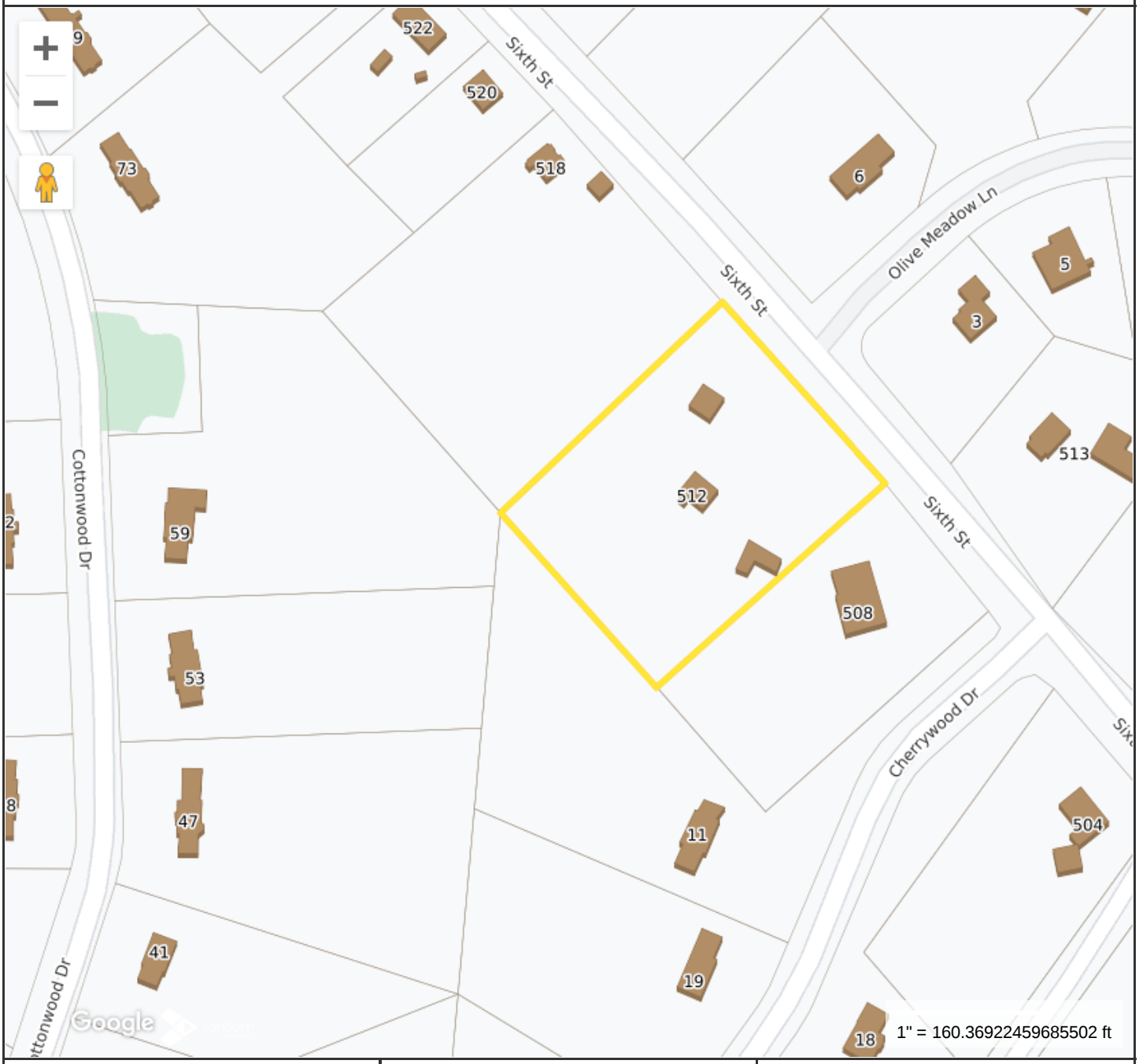
Staff has reviewed the proposal and supplied a TDR memo to the applicant and ownership team.

STAFF RECOMMENDATION - TDR:
The Planning Department recommends the Planning Board accept the application, open the public hearing, make findings, and vote to find the criteria of the TDR ordinance has been met with the following subsequent conditions:

Subsequent Conditions to be Met Prior to Granting TDR:

1.) Amend plan to:
   - 1.1) indicate size restriction of unit 5 and placement further away from the wetland buffer.
   - 1.2) Add owner's signature
   - 1.3) Add PE and LLS stamp and signature
   - 1.4) Add note about TDR units and restriction
   - 1.5) Indicate stormwater areas and management
   - 1.6) Provide road name and fire truck turnaround to the satisfaction of the Building Official and Fire Chief.
   - 1.7) Note open space calculations
   - 1.8) Note conservation of open space
   - 1.9) Revise pull off for mail kiosk and ensure it meets ADA requirements.
2.) Provide information on sight distance and traffic impact to the satisfaction of the Director of Planning.
3.) Payment of TDR fees.
4.) Provide HOA documents for review by the Director of Planning with consultation with the City Attorney for reserve amounts, maintenance of common areas, conserving open space

512 Sixth St



Property Information

Location	512 SIXTH ST
Owner	DBS HOLDINGS LLC
Land Use	
Zoning Code	R-40
Property Id	B0002-000000

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 10/30/2023
Data updated Daily

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

To: Kevin McEneaney
From: Donna Benton, AICP
Cc: DBS Holdings, LLC
Date: June 6, 2024
Re: TDR 512 Sixth St

ISSUE:
In February 2020, the Board recommended amendments to the Transfer of Development Rights (TDR) Ordinance. In June 2020, the Planning Board approved the amendments and on July 22, 2020, the City Council ratified them. One element is the requirement for staff to draft a review statement on the need for a sketch plan. Since then the criteria for TDR has also been amended.

INTENT:
This memo will serve as part of the staff report.

GOALS:
Provide background on balancing development vs. conservation needs and current housing shortage, and describe the TDR applications in Dover.

Background

On behalf of your client, you submitted a plan and narrative for a project for 5 residential units by purchasing 3through TDR (3 unrestricted TDR units). The project is located at 512 Sixth Street. Staff is aware from conversations with the property owner that a manufactured home was originally on site and then in the 1970s a single-family dwelling was built. Today, the Zoning Ordinance would allow for that single family to be converted into a duplex. The R-40 Table of Use does not have the footnote regarding using duplexes for the TDR calculation that other Tables of Uses have.

Staff performed this review based upon the information below, and is now providing the required staff report (Chapter 170-27.2 E.(4)a).

Project Information

Project:	512 Sixth St. TDR project
Where:	512 Sixth St.
What:	5 units. Three of which are requested to be purchased through TDR using the unrestricted option. The density calculation per Chapter 170-27.2.G(3)(a) was used to determine base calculation of 1 unit. Since there were two units on site, legal non-conforming and existing single-family units are permitted to be converted to a duplex, staff felt the applicant would be allowed 2 by right.
Acres:	1.87
Zone:	R-40
Public Water:	At road
Public Sewer:	At road
Units:	5 total units are proposed, staff considers 2 units to be the base, therefore the applicant is looking to purchase 3 unrestricted TDR units.
CUP:	Not per the plan, however wetland buffer area is close to the backyards/structures.

Staff Comment

When reviewing projects, review the context, discuss options with the applicant, and advise on the feasibility of requesting the purchase or exchange before or after designing a fully laid out plan.

In reviewing this project, we note:

- Traffic
  - Sixth Street is a public arterial road connecting Dover and Barrington. Sight distance and traffic should be discussed with the Board if this is not going before TRC.
  - Currently two curb cuts with the intent of reducing down to 1 curb cut.
- Existing layout/topography
  - There is currently an existing residence onsite and in the recent past, there was also a manufactured home.
- Environmental
  - The site is heavily wooded and contains and unpaved "u"-shaped driveway.
  - The R-40 District is intended to be the most rural in nature with 40,000 s.f. minimum lot sizes, longer frontage requirements, and open space subdivisions required for any major subdivision. Since this is a minor subdivision in nature

(considering the number of new lots and "new" units), staff is satisfied with the application being considered complete and the open space subdivisions not being fully met.

Staff Recommendation

Currently, the TDR unit cost is $15,000 per unit, which is reduced if the units are restricted by size or the HUD rental rates. The application is proposing 3 units to unrestricted TDR units.

Staff understands the need for additional housing units. But also understands the importance of the rural nature of the R-40 district as laid out in the Vision Chapter of the Master Plan:

> "*Dover maintains distinct areas that have defining land uses and characteristics, such as an urban, historic downtown center, residential neighborhoods, business districts, and rural residential, agricultural, and open lands.*"

Staff appreciates the open space areas proposed on the plan and would like to see an open space calculation similar to an open space subdivision. Staff also recommends either reducing the request to a total of 4 units and rearranging so that current unit 5 is removed and unit 3 can be moved further from the wetland buffer or at least reducing the size of unit 5 so that encroachment of the wetland buffer by the future residents does not occur.

Being only 3 "new" units and two "new" lots, this project does not fall within a threshold for requiring TRC unless the Planning Board makes that a condition of approval. However, as the applicant, when this item comes to Planning Board please be ready to discuss traffic, HOA set-up/reserve, sight distance, and stormwater management.

PLAN SNAPSHOT REPORT TRAN-2024-0006
FOR CITY OF DOVER, N.H.

Plan Type:	Transfer	**Project:**		**App Date:**	05/20/2024
Work Class:	Transfer of Development Rights	**District:**	None	**Exp Date:**	07/24/2024
Status:	In Review	**Square Feet:**	0.00	**Completed:**	NOT COMPLETED
Valuation:	$0.00	**Assigned To:**	Blonigen, Rachel	**Approval Expire Date:**	

Description: To increase the number of units through the TDR rule allowing maximum development while avoiding all wetlands and wetland buffers.

Parcel:	B0002-000000 Main	**Address:**	512 Sixth St Dover, NH Main	**Zone:**	R-40(Residential - Rural)

Applicant	Owner	Surveyor
McEneaney Survey Associates P.O. Box 1166 DOVER, NH 03821 Business: (603) 742-0911	David Sullivan Mobile: (603) 817-1206	Kevin McEneaney Mobile: (603) 742-0911

Plan Custom Fields

Parcel Map/Lot	B / 2	Parcel Zoning Overlay		Parcel Zoning	R-40
trandevdetail	To allow maximum development by increasing the number of units allowed using the TDR calculation.	Deed Book	5155	Deed Page	367
Property Address	512 Sixth Street	Deed Date		Owner Name	DBS Holdings, LLC
Existing Parcel Size (Ac)	1.87	Owner Address	71 Danielle Lane Dover, NH 03820	Owner Phone	603-817-1206
Existing Parcel Size (sqft)	81457.2	Owner EMail	dbsholdingsllc@gmail.com	Parcel Feedback	
Reference Plan ID Number:		Request Type	Purchase, Residential	trandevpermits	
Project Zone	Residential	Quantity of Non-Restricted Units	3	Relief Sought	Frontage, Lot Size, Setback, Unit increase

Attachment File Name	Added On	Added By	Attachment Group	Notes
Signature_Kevin_McEneaney_5/20/2024.jpg	05/20/2024 14:21	McEneaney, Kevin		Uploaded via CSS

Invoice No.	Fee		Fee Amount	Amount Paid
INV-00008002	Planning Transfer of Dev Rights Application Fee		$200.00	$200.00
		Total for Invoice INV-00008002	**$200.00**	**$200.00**
NOT INVOICED	Transfer of Dev Rights Fee - Non-Restricted		$45,000.00	$0.00
		Total for Invoice NOT INVOICED	**$45,000.00**	**$0.00**
		Grand Total for Plan	**$45,200.00**	**$200.00**

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1		05/21/2024 12:00	05/21/2024 12:01
Confirm application complete v.1	Generic Action		05/21/2024 12:01
Technical Review Committee Meeting Agenda v.1	Task		05/21/2024 12:01
Land Use Plan Technical Review v.1	Receive Submittal		05/21/2024 12:01
Technical Review Committee Meeting v.1	Hold Meeting		05/21/2024 12:01
Planning Board v.1		05/21/2024 12:01	
Planning Board Agenda v.1	Task	05/21/2024 12:01	05/28/2024 15:54
Invoice for Notices v.1	Task	05/28/2024 15:54	

Send Notices v.1	Task
Planner Creates Staff Recommendations v.1	Plan Activity
Distribute Planning Board Materials v.1	Task
Planning Board Hearing v.1	Hold Hearing
Planning Board Decision v.1	Plan Activity
NOD Sent to Applicant v.1	Create Report
Final Plan v.1	
Land Use Plan Stamped and Signed v.1	Generic Action
Recording v.1	Task
Document Archival v.1	Generic Action
Internal Notification of Plan Completion v.1	Generic Action
Building Official Notifies Address v.1	Generic Action
Pre-Con Meeting v.1	Hold Meeting
Create/Link to Records v.1	
Create / Link to Permit - Building Major v.1	Create Sub Permit
Create / Link to Permit - Site Work, Construction v.1	Create Sub Permit

City of Dover, New Hampshire
TRANSFER OF DEVELOPMENT RIGHTS APPLICATION

[Revision Date: October 1, 2020]

RECEIVED
Planning Office

Office Use Only	Project #: TRAN-2024-0006	Date Received: MAY 21 2024
	Amount Paid:	Time Received: Dover, New Hampshire

APPLICANT AND OWNER INFORMATION

Name of Applicant: DBS Holdings, LLC Telephone # 603-817-1206

Address of Applicant: 71 Danielle Lane Dover, NH 03820

E-Mail Address: dbsholdingsllc@gmail.com sullivanroofing@comcast.net

Name of Property Owner (if different from applicant): _____ Telephone #_____

Address of Property Owner: _____

PROPERTY INFORMATION

Assessor's Map # B Lot(s) # 2

Address of Property: 512 Sixth Street

Zoning District(s) R-40 Overlay District(s) _____

Existing Use of Property: Single Family Residential

New impervious area (in s.f.): _____

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

Type of TRANSFER OF DEVELOPMENT RIGHT REQUEST (Check All That Apply):

☒ Residential ☐ Residential (reduced size) ☐ Industrial | ☒ Purchase ☐ Land Preservation

Relief sought (Check All That Apply):

☒ Lot Size ☒ Frontage ☒ Setback ☒ Increase by 1 units

Describe Proposed Use or Activity that requires TDR; describe any impacts and document mitigation:

The increased number of units through the TDR rule allows maximum development potential while avoiding all wetland and buffer impacts.

CITY OF DOVER TRANSFER OF DEVELOPMENT RIGHTS
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
B	2	DBS Holdings, LLC	71 Danielle Lane Dover, NH 03820

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Kevin McEneaney	McEneaney Survey Associates	P.O. Box 1166 Dover, NH 03821

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status:

NONE

Name of Professional That Prepared TDR Plans: McEneaney Survey Associates

Address P.O. Box 1166 Dover, NH 03821 Telephone #: 603-742-0911

Professional License #: NH LLS #661 E-mail address: kevin@surveynh.com

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: David Sullivan Date: 5/20/24

Signature of Applicant (if different from owner): _____ Date: _____

Signature of Agent: _____ Date: _____

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: David Sullivan Date: 5/20/24

City of Dover, New Hampshire
TDR REVIEW SUBMISSION CHECKLIST

[Revision Date: January 5, 2021]

This Transfer of Development Rights Review Submission Checklist is intended to assist the applicant in the planning process of preparing a TDR Review application for Planning Board action. The size of the project will determine the types of information required for review, therefore, a **pre-application conference** with the Planning Department to determine the list of items that must be completed is strongly encouraged.

If staff indicates the scope of the project requires Technical Review Committee Review, to apply, eight (8) folded copies of the site plan with scale of not less than 1"=50' or 1" =100' for larger site plans, need to be provided, along with payment of plan review fees.

Two weeks prior to Planning Board, three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, including response to TRC comments, will be due. Abutter/Notice Fees will be invoiced and need to be paid 28 hours prior to the Planning Board meeting.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all Subdivision/Site plan review requirements. Please refer to the Subdivision/Site Plan Review Regulations for full details.

APPLICANT: DBS Holdings, LLC File Number: _____

PROJECT TITLE: TDR Open Space Plan

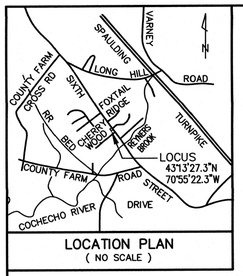
PROPERTY LOCATION: 512 Sixth Street Tax Map: B Lot: 2

	Where/How Provided	Reviewed
1. Completed and signed Application form	X	
2. Plan Review Fees are provided	X	
3. Electronic copy of the engineered/surveyed plan layout	X	
4. Electronic copy of supplementary materials and application	X	
5. Folded copies of site plan w/scale of not less than 1"=50' or 1"=100' for larger site plans, for TRC. Plans shall contain the following items as appropriate:	X	
Location map at appropriate scale	X	
Proposed Project name and title and Planning File #	X	
Date and scale	X	
Name and address of owners and/or applicants	X	
Location and widths of existing & proposed easements & right of ways	N/A	
Location and width of existing and proposed access/egress ways	X	
Existing and proposed buildings and structure locations and access	X	
Minimum building setbacks or build to lines on all lots	X	
Existing and proposed stormwater infrastructure/direction	N/A	
Neighborhood plan with unit counts	N/A	
Proposed landscaping	N/A	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	X	
Location, material and size of existing and proposed pavement area	N/A	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	X	
All applicable Dover Common Site Plan/Subdivision notes	X	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	X	

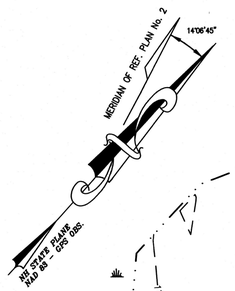
REVIEWED BY: _____ DATE_____ TRC DATE_____

TRAN-2024-0006 **512 SIXTH STREET**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
A0045-001000	6 OLIVE MEADOW LN	ROBINSON WILLIAM &	MODOONO JILLIAN	6 OLIVE MEADOW LN	DOVER	NH	03820
A0045-A00001	519 SIXTH ST	RIEL JAMES E &	RIEL SAMANTHA S	519 SIXTH ST	DOVER	NH	03820
A0046-000000	513 SIXTH ST	RICHARD CODY M		513 SIXTH ST	DOVER	NH	03820
A045A-002009	3 OLIVE MEADOW LN	THOMPSEN DAVID P &	THOMPSEN LINDA M	3 OLIVE MEADOW LN	DOVER	NH	03820
B0002-C00000	508 SIXTH ST	DURELL KENETH C & DONNA M CO-TRUSTEES	DURELL FAMILY REVOCABLE TRUST OF 2018	508 SIXTH ST	DOVER	NH	03820
B0003-000000	518 SIXTH ST	CORLEY J TODD &	CORLEY DENISE M	518 SIXTH STREET	DOVER	NH	03820
B0004-060000	59 COTTONWOOD DR	DOWNS NATHAN A &	DOWNS ELIZABETH A	59 COTTONWOOD DR	DOVER	NH	03820
B0004-061000	53 COTTONWOOD DR	BARTER ANDREW P	MCADAMS KATHLEEN	53 COTTONWOOD DR	DOVER	NH	03820
B0004-062000	47 COTTONWOOD DR	BOURQUE KEVIN R & LAURA K TRUSTEES	LK EAGLE ANCESTRAL GRANTOR TRUST	47 COTTONWOOD DR	DOVER	NH	03820
B0004-068000	19 CHERRYWOOD DR	TABOR FAMILY REVOCABLE TRUST	TABOR KEITH E AND CAROL T	19 CHERRYWOOD DR	DOVER	NH	03820
B0004-069000	11 CHERRYWOOD DR	SUYDAM ROBERT L &	SUYDAM JO ANN	11 CHERRYWOOD DR	DOVER	NH	03820
B0002-000000	512 SIXTH ST	DBS HOLDINGS LLC		71 DANIELLE LANE	DOVER	NH	03820
		MCENEANEY SURVEY ASSOCIATES	KEVIN MCENEANEY	PO BOX 1166	DOVER	NH	03821



LOCATION PLAN
(NO SCALE)



REFERENCE PLANS:

1.) PLAN OF LOTS BETHARLENE WEEDEN TO ROBERT W. & BEATRICE MILLER, L. WILLIAM & JOANNA E. DOTCHIN, DOVER, NEW HAMPSHIRE; SCALE: 1" = 50'; DATED: AUGUST 1973; BY: R.W. McCRONE; RECORDED S.C.R.D. PLAN 50, POCKET 4, FOLDER 2.

2.) ALDEN WOODS SUBDIVISION, SIXTH STREET, DOVER, NEW HAMPSHIRE; SCALE: 1" = 60'; DATED: APRIL 27, 1998, REVISED THROUGH 10/7/98; BY McENEANEY SURVEY ASSOCIATES, INC.; RECORDED S.C.R.D. PLAN 56–32.

B / 3
J. TODD CORLEY
DENISE M. CORLEY
518 SIXTH STREET
DOVER, NH 03820
1961 / 519

B / 4–6
NATHAN A. DOWNS
ELIZABETH A. DOWNS
59 COTTONWOOD DRIVE
DOVER, NH 03820
4263 / 364

B / 4–69
ROBERT L. SUYDAM
JO ANN SUYDAM
11 CHERRYWOOD DRIVE
DOVER, NH 03820
2963 / 798

B / 2C
DURELL FAMILY REVOCABLE
TRUST OF 2018
508 SIXTH STREET
DOVER, NH 03820
4572 / 641

A / 45–1
WILLIAM ROBINSON
JILLIAN MODOONO
6 OLIVE MEADOW LANE
DOVER, NH 03820
4748 / 180

A / 45–2–9
DAVID THOMPSEN
LINDA THOMPSEN
3 OLIVE MEADOW LANE
DOVER, NH 03820
4050 / 728

A / 46
CODY M. RICHARD
513 SIXTH STREET
DOVER, NH 03820
4705 / 729

B / 2 – PARCEL AREA
81,270 S.F.
1.87 Ac.

OPEN SPACE 2
23,522 S.F.±
0.54 Ac.±

OPEN SPACE 1
8143 S.F.±
0.19 Ac.±

324.91'
N47°41'39"E

250.22'
N42°24'46"W

250.00'
S42°25'40"E

324.97'
S47°39'20"W

I.R.(fnd)
I.R.(tbs)
WELL
WETLAND BUFFER
50'
WETLAND BUFFER PLACARDS TO BE PLACED EVERY 50' ALONG BUFFER LINE (TYP.)
SOIL BOUNDARY
SOIL TYPE (TYP.)
WfB
CfB
OPEN SPACE LINE (TYP.)
20' ABUT A ROAD SETBACK
30' EXTERIOR NO CUT BUFFER (TYP.)
WOODEN STOCKADE FENCE
20' WIDE x 45' LONG GRAVEL TURN-A-ROUND
DECK
GARAGE 20'X22'
2 STORY HOUSE 2,096 S.F. LIVING SPACE
MAIL KIOSK
60"ø OAK
36"ø OAK
SMH (2005)
RIM = 190.78'
INVERT IN 8" PVC = 179.5' (NORTH)
INVERT OUT 8" PVC = 179.4' (SOUTH, SMH (2001)) L=302.5'
BRICK SHELF ELEV. = 180.1'
TBM
SPIKE IN UTILITY POLE
ELEV. = 186.58
UP 58/19
SMH (2001)
RIM = 182.55'
INVERT IN 8" PVC = 173.0' (NORTH, SMH (2005)) L=302.5'
INVERT OUT 8" PVC = 172.6' (SOUTH)
BRICK SHELF ELEV. = 173.4'
UP 58/18
TBM
SPIKE IN UTILITY POLE
ELEV. = 182.09
18" RCP
INV. = 175.7'
18" RCP
INV. = 176.7'
EDGE OF PAVEMENT (TYP)
SIXTH STREET
{PUBLIC; VARIABLE WIDTH R.O.W.}
OLIVE MEADOW LANE

OWNER SIGNATURE

NOTES:

1.) OWNER OF RECORD:
DBS HOLDINGS, LLC
71 DANIELLE LANE
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOLUME 5155, PAGE 367

2.) B / 2 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) PARCEL AREA = 81,270 S.F. / 1.87 Ac.

4.) THE INTENT OF THIS PLAN IS TO DEPICT A PROPOSED TDR OPEN SPACE CONTAINING FIVE (5) SINGLE FAMILY DWELLINGS.

5.) ZONING DISTRICT: RURAL RESIDENTIAL (R40)
DIMENSIONAL REQUIREMENTS:

MINIMUM LOT SIZE	= 40,000 S.F.
MAXIMUM LOT COVERAGE	= 10 PERCENT
MINIMUM FRONTAGE	= 150 FEET
BUILDING SETBACK REQUIREMENTS:	
FRONT SETBACK	= 40 FEET
SIDE SETBACK	= 25 FEET
REAR SETBACK	= 30 FEET
MAXIMUM BUILDING HEIGHT	= 35 FEET
WETLAND BUFFER	= 50 FEET

TRANSFER OF DEVELOPMENT RIGHTS REGULATIONS:

ABUTTING A ROAD SETBACK	= 20 FEET
ABUTTING A LOT LINE SETBACK	= 10 FEET
STREET SIDES OF UNITS	= 20 FEET
ABUTTING STRUCTURES	= 20 FEET
NO CUT BUFFER FROM EXTERIOR LOT LINE	= 30 FEET

6.) THE SUBJECT PARCEL IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA (SFHA) AS SHOWN ON FLOOD INSURANCE RATE MAP 33017C0310E, EFFECTIVE DATE 9/30/2015.

7.) BASIS OF BEARING IS NH STATE PLANE (NAD83) AND VERTICAL DATUM IS NAVD88 BASED ON GPS OBSERVATION DATED DECEMBER 12, 2023.

8.) ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATIONS WITH THE RESPECTIVE UTILITY OWNERS PRIOR TO ANY WORK BEING PERFORMED. CALL DIGSAFE AT 1–888–344–7233.

9.) WETLANDS SHOWN WERE DELINEATED BY DAMON E. BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES ON DECEMBER 13, 2023 IN ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION MANUAL AND LOCATED BY THIS OFFICE.

10.) TDR UNIT CALCULATIONS:

A) 81,270 S.F.–CONSERVATION (8902 S.F.)	= 50,098 S.F.
B) 50,098 * 0.85	= 42,583 S.F.
C) 42,583 * 0.80	= 34,067 S.F.
D) 34,067 / 40,000	= 1 UNIT
E) SITE CONTAINS 2 DWELLINGS / 4 DUPLEX'S POSSIBLE REMAINING 1 UNIT TO BE PURCHASED, THUS ALLOWING FOR 5 UNITS.	

11.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND DURING JANUARY AND MARCH, 2024 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

12.) PARCEL IS SERVICED BY MUNICIPAL SEWER AND WATER.

13.) THE SOIL TYPES ON THE SITE ARE:
CfB CHARLTON FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES
WfB WINDSOR LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 0 TO 8 PERCENT SLOPES
THE SOURCE FOR THE SOIL TYPE DATA IS USDA NRCS WEB SOIL SURVEY http: //websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

LEGEND

I.P.(fnd) – IRON PIPE FOUND
I.R.(fnd) – IRON ROD FOUND
I.R.(tbs) – IRON ROD WITH ID CAP #661 TO BE SET
S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
ø – DIAMETER
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
UP 55/14 – UTILITY POLE W/ I.D. No.
OHU – OVERHEAD UTILITY WIRES

F.F. – FINISHED FLOOR ELEVATION
ELEV. – ELEVATION
R.O.W. – RIGHT OF WAY
SMH – SEWER MANHOLE
WG – WATER GATE VALVE
FH – FIRE HYDRANT
180 – CONTOUR LINE (2 FOOT INTERVAL)
WETLAND BOUNDARY
GV – GAS VALVE

NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		

23–2416	TDR	23–11	34–40
PROJECT NO	TYPE	FIELDBOOK & PAGES	

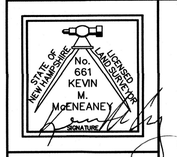
"I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL GROUND SURVEY PERFORMED WITH A TOTAL STATION, BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, SAID SURVEY MEETS OR EXCEEDS THE MINIMUM PRECISION REQUIREMENTS FOR SURVEY CLASSIFICATION "U" AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS."

TDR OPEN SPACE PLAN
PREPARED FOR
DBS HOLDINGS, LLC
TAX MAP B, LOT No. 2
512 SIXTH STREET
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DOVER PLANNING FILE No. 24 TDR

DRAWN BY: RJM	FILE:MSA\2416\D\23-2416CONCEPT
SCALE: 1" = 20'	DATE: APRIL 26, 2024

20 10 0 10 20 40 60 80



McEneaney Survey Associates of NEW ENGLAND
P.O. Box 1166 – 181 WATSON ROAD
DOVER, NH 03820 (603) 742–0911
SURVEYING – PLANNING – CONSULTING

5/13/2024 12:46:03 File: M:\2416\Dwg\dwg\23-2416 CONCEPT.dwg Layout: 23-2416 TDR CONCEPT

Item 4.E

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #COND-2024-0006

Application Type:	Conditional Use Permit
Applicant(s):	H.J. Stabile & Son, Inc.
Owner(s):	Double Diamond Holdings North, Inc
Location:	Fisher Street (Assessor's Map 15, Lot 40A-1)
Meeting Date:	June 11, 2024

INTENT: Proposal is for a CUP to construct a 21-unit townhouse condominium complex, (SITE-2023-0015), creating 16,250± square feet of wetland buffer impact and 6,329± square feet of overlapping impact to the Conservation District.

AGENDA ITEM #: 4-E

FILE: COND-2024-0006

APPLICANT: H.J. Stabile & Son, Inc.

OWNER: Double Diamond Holdings North, Inc

LOCATION: Fisher Street (Assessor's Map 15, Lot 40A-1)

UNITS PROPOSED: 21 residential units

ACREAGE: Total: 3.91± ac. (following proposed lot line adjustment)
To be developed: 77,000± sq. ft.

ZONING DISTRICT: Gateway

EXISTING USE: Vacant

PROPOSED USE: Residential

SURROUNDING USE: Residential, Community Trail, Commercial/Industrial

PERMITS:

- Conditional Use Permit- Wetland buffer impact
- Conditional Use Permit- Front build-to-line requirement

WAIVERS REQUESTED:

- Waiver from §153.14.G (3)(a)- Perimeter Landscaping, caliper minimum

ZBA ACTION: None

CONSERVATION COMMISSION: 5/13/24

TRC: 11/30/23 & 2/22/24

ATTACHMENTS: Application materials including site plan.

Summary of Request and Background
The applicant is proposing the construction of four (4) buildings creating a 21-unit townhouse condominium complex with associated parking. The parcel, as proposed, includes a yet to be approved lot line adjustment and totals 3.91± acres that is currently undeveloped and 77,000± square feet (1.77± acres) of the parcel is proposed to be developed.

In total, the project will create 16,250± square feet of wetland buffer impact and 6,329± square feet of overlapping impact to the Conservation District. (The impact to the Conservation District completely overlaps with the wetland buffer.)

One (1) additional Conditional Use Permit (CUP), that is non-environmental, is also being proposed as part of this project.

The Technical Review Committee reviewed the application at their November 30, 2023 and February 22, 2024 meetings.

The Conservation Commission reviewed and endorsed the application at their May 13, 2024 meeting. *(minutes attached)*

Consistency with Land Use Regulations – CUP 170.27.1.F
The Conservation District ordinance §170.27.1.F provides for Conditional Use Permits to allow impacts to the Wetlands Protection District if standards related to demonstration that no practicable alternative is available, impact avoidance was considered, impacts were minimized, and mitigation has been sought.

Planning Staff feels that the applicant considered the criteria and provided a site layout that avoids wetland impacts and minimizes wetland buffer impacts through the situation of the buildings, drive aisle, and parking lot. The applicant has also proposed use of a retaining wall along the bio-detention basin to minimize grading within the wetland buffer. Mitigation is not required for this proposal.

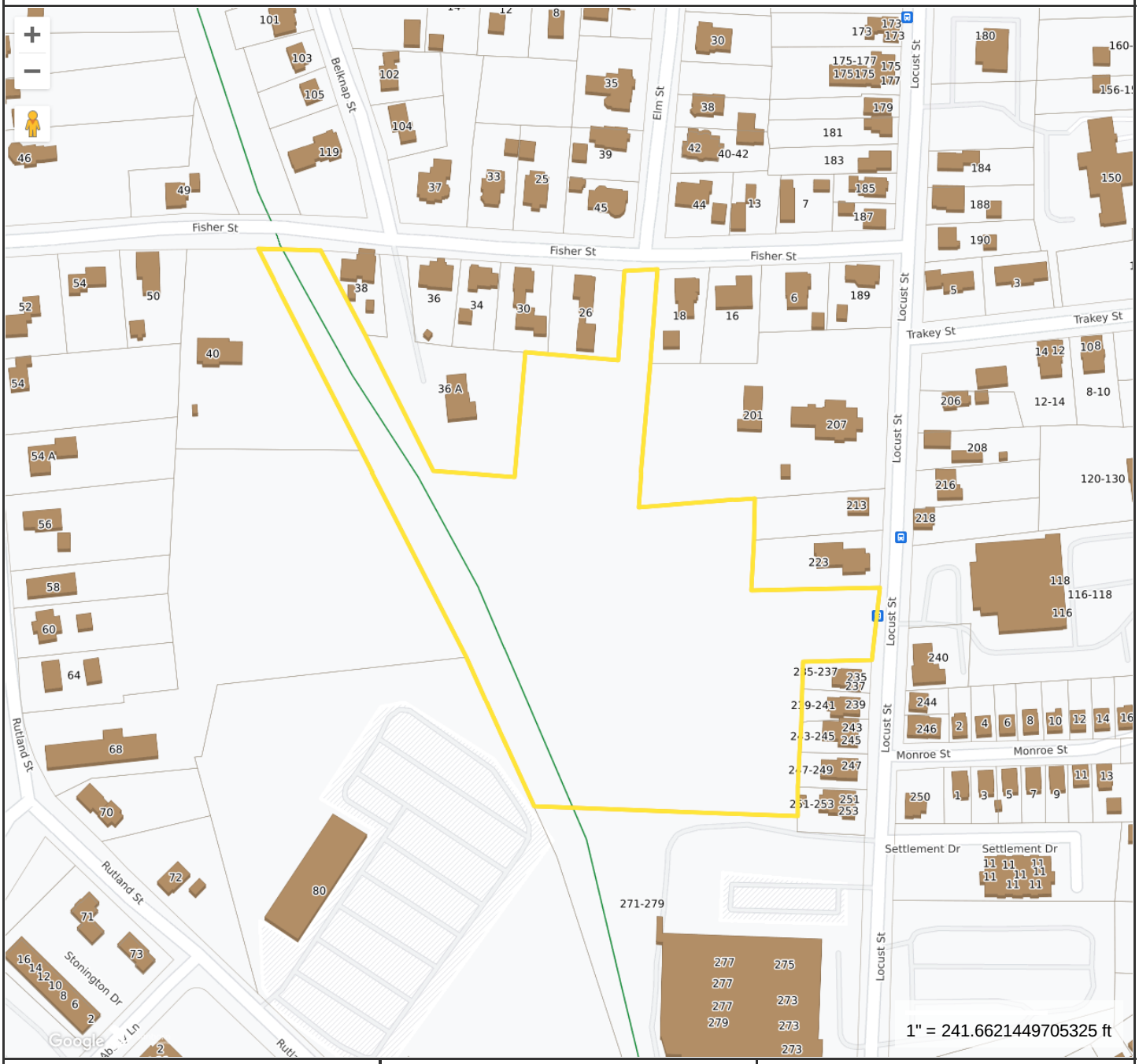
Planning Staff feels that the applicant has met all of the criteria as specified in §170-27.1.F.

STAFF RECOMMENDATION:
The Planning Department recommends that the Planning Board accept the application as complete, note it is not of regional impact, hold a public hearing, make the necessary and supporting findings of fact, and vote to approve the Conditional Use Permit with the following subsequent conditions:

Subsequent Conditions to Be Met Prior to Issuance of a Conditional Use Permit:

1. Approval of CUP (COND-2024-0009);
2. Approval of the site plan (SITE-2023-0015).
3. A note added to the plan that native plantings in the buffer beyond the seed mix proposed;

COND-2024-0006 Locust Street



Property Information

Location	LOCUST ST
Owner	DOUBLE DIAMOND HOLDINGS NORTH LLC
Land Use	
Zoning Code	G*
Property Id	15040-A00000

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 10/30/2023
Data updated Daily

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

PERMIT SNAPSHOT REPORT COND-2024-0006
FOR CITY OF DOVER, N.H.

Permit Type	Conditional Use	**Project:**		**App Date:**	05/06/2024
Work Class:	Environmental	**District:**	None	**Exp Date:**	NOT AVAILABLE
Status:	Fees Paid	**Square Feet:**	0.00	**Completed:**	NOT COMPLETED
Valuation:	$0.00	**Assigned To:**	Blonigen, Rachel	**Approval Expire Date:**	
Description:	Conditional Use - Wetland Buffer				

Parcel: 15040-A00000 Main	**Address:** Locust St Main Dover, NH	**Zone:** HR(Residential - Heritage) G(Gateway District)

Plan Preparer
Civilworks New England
Steve Haight
181 Watson Road PO Box 1166
Dover, NH 03820
Business: (603) 749-0443
Mobile: (603) 817-6651

Engineer
Civilworks New England
Steve Haight
181 Watson Road PO Box 1166
Dover, NH 03820
Business: (603) 749-0443
Mobile: (603) 817-6651

Applicant
Civilworks New England
Steve Haight
181 Watson Road PO Box 1166
Dover, NH 03820
Business: (603) 749-0443
Mobile: (603) 817-6651

Applicant
Eric Jackson
Business: (603) 889-0318

Owner
Chad Kageleiry
Business: (603) 749-2800

Permit Custom Fields

Select Permit Type	Conservation District	General Purpose	New Construction	Project Zone	Residential
What is the parcel zoned?	G	New Change in Impervious/Paved Area (sq ft)	26561	Work	Portions of the site design, including grading, drainage, pavement, and building will impact t16,250 s.f. of the wetland buffer and conservation district.
permitstatefed					

Attachment File Name	Added On	Added By	Attachment Group	Notes
Signature_Steve_Haight_5/6/2024.jpg	05/06/2024 14:11	Haight, Steve		Uploaded via CSS
Permit Snapshot Report.pdf	05/06/2024 14:11	Service, EnerGov		Attached by IO - ATTACH: Initial Permit Snapshot

Invoice No.	Fee	Fee Amount	Amount Paid
INV-00007788	Planning Impervious Paved Area Fee	$1,859.27	$1,859.27
	Planning General Application Fee	$200.00	$200.00
	Total for Invoice INV-00007788	$2,059.27	$2,059.27
	Grand Total for Permit	**$2,059.27**	**$2,059.27**

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1		05/06/2024 14:55	05/28/2024 16:23
Confirm application complete v.1	Generic Action		05/06/2024 14:55
Conditional Use Review v.1	Receive Submittal		05/28/2024 16:22
Planning Board v.1		05/28/2024 16:23	
Planning Board Agenda v.1	Task	05/28/2024 16:23	05/28/2024 17:07
Invoice for Notices v.1	Task	05/28/2024 17:07	
Send Notices v.1	Task		
Planner Creates Staff Recommendations v.1	Permit Activity		
Distribute Planning Board Materials v.1	Task		

Planning Board Hearing v.1	Hold Hearing
Planning Board Decision v.1	Permit Activity
NOD Sent to Applicant v.1	Create Report
Issue Permit v.1	
Verify Fees Prior to Permit v.1	Generic Action
Issue and Review Permit v.1	Generic Action
Print and Email Permit v.1	Generic Action
Plans uploaded to Treeno v.1	Generic Action
Internal Notification of Plan Completion v.1	Generic Action
Recording v.1	Task

City of Dover, New Hampshire
CONDITIONAL USE PERMIT APPLICATION

[Revision Date: October 19, 2020]

RECEIVED
Planning Office
MAY 21 2024
Dover, New Hampshire

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT AND OWNER INFORMATION

Name of Applicant: H.J. Stabile & Son, Inc. Telephone # 603-889-0318 x-515

Address of Applicant: 20 Cotton Road, Suite 200 Nashua, NH 03063

E-Mail Address: eric@stabilecompanies.com

Name of Property Owner (if different from applicant): Double Diamond Holdings North, LLC Telephone # 603-749-0443

Address of Property Owner: 340 Central Avenue, Suite 202 Dover, NH 03821

Name & Address of Property Owner #2: Carmel A. Casey 36A Fisher Street Dover, NH 03820

PROPERTY INFORMATION

Assessor's Map # 15 Lot(s) # 40A-1 (a portion of 15 / 40A & 51)

Address of Property: Fisher Street

Zoning District(s) G Overlay District(s) Dover Conservation District

Existing Use of Property: Vacant

CONDITIONAL USE PERMIT INFORMATION

Type of Conditional Use Permit (Check All That Apply):

☒ Conservation District	☐ RCM Use Overlay District	☐ Gateway District
☐ Groundwater Protection	☐ Off-Street Parking and Loading	☐ Alternative Treatment Center
☒ Wetland Protection District	☐ Central Business District	☐ Heritage Residential District

Describe Proposed Use or Activity That Requires Conditional Use Permit and Describe Any Impacts:

Construction of a townhouse condominium complex with associated grading will impact approximately 16,250 s.f. of the wetland buffer. Impact within the conservation district is 6,329 s.f. and falls completely within the wetland buffer area. No wetlands will be impacted by this project.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: None Requested

Name of Professional That Prepared Plans: Stephen J. Haight, PE - Civilworks New England

Address P.O. Box 1166 Dover, NH 03821 Telephone #: 603-749-0443

Professional License #: NH PE # 7978 E-mail address: shaight@civilworksne.com

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: _____ Date: _____

Signature of Applicant (if different from owner): Double Diamond Holdings North, LLC H.J. Stabile & Son, Inc. Date: 10/25/23

Signature of Agent: _____ Date: _____

Signature of Property Owner #2: C Casey Carmel A. Casey Date: 10.25.23

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: _____

Signature of 2nd Property Owner: for Double Diamond Holdings North, LLC C Casey Carmel A. Casey Date: 10.25.23

Carmel A. Casey
36A Fisher Street
Dover, NH 03820

October 25, 2023

City of Dover
288 Central Avenue
Dover, NH 03820

Attn: Planning Board

Re: LETTER OF OWNER AUTHORIZATION
Fisher Street Townhouse
Fisher Street, Tax Map 15, Lot 40A-1
(a portion of Tax Map 15, Lots 40A & 51

I, Carmel A Casey, authorize Civilworks New England to represent all applications made on behalf of H.J.Stabile & Son, Inc (APPLICANT).to the City of Dover Planning Board and any other Dover Board or Committee, as well as any State of NH departments, as necessary, relative to the pursuit of approvals and permits for the development of the subject parcel.

Sincerely,

Carmel A. Casey

Double Diamond Holdings North, LLC
340 Central Avenue, Suite 200
Dover, NH 03820

October 25, 2023

City of Dover
288 Central Avenue
Dover, NH 03820

Attn: Planning Board

Re: LETTER OF OWNER AUTHORIZATION
Fisher Street Townhouse
Fisher Street, Tax Map 15, Lot 40A-1
(a portion of 15 / 40A & 51)

I, Chad Kageleiry, Manager of Double Diamond Holdings North, LLC, authorize Civilworks New England to represent all applications made on behalf of H.J.Stabile & Son, Inc (APPLICANT).to the City of Dover Planning Board and any other Dover Board or Committee, as well as any State of NH departments, as necessary, relative to the pursuit of approvals and permits for the development of the subject parcel.

Sincerely,

Chad Kageleiry, Manager – Double Diamond Holdings North, LLC

H. J. Stabile & Son, Inc.
20 Cotton Road, Suite 200
Nashua, NH 03063

October 25, 2023

City of Dover
288 Central Avenue
Dover, NH 03820

Attn: Planning Board

Re: LETTER OF APPLICANT AUTHORIZATION
Fisher Street Townhouse
Fisher Street, Tax Map 15, Lot 40A-1
(a portion of Tax Map 15, Lots 40A & 51)

I, Eric Jackson of H. J. Stabile & Son, Inc., authorize Civilworks New England to represent us as APPLICANT for all applications made to the City of Dover Planning Board and any other Dover Board or Committee, as well as any State of NH departments, as necessary, relative to the pursuit of permits for the development of the subject parcel.

Sincerely,

10/25/23

Eric Jackson – Director of Acquisitions & Development

COND-2024-0006 **LOCUST STREET**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
12055-000000	40 42 ELM ST	40 42 ELM ST CONDOMINIUM ASSOCIATION	C/O TYLER PELLETIER	12 FALCON LN	DOVER	NH	03820-5017
12055-000001	42 ELM ST	FOURNIER DEAN A TRUSTEE	FOURNIER DEAN A REVOCABLE LIVING TRUST	42 ELM ST	DOVER	NH	03820
12055-000002	40 ELM ST	LAHIRI TRIPTI		17 OYSTER RIVER RD	DURHAM	NH	03824
12055-000003	42 A ELM ST	KING SUSAN E		42 A ELM ST	DOVER	NH	03820
12056-000000	44 ELM ST	MOYNIHAN THOMAS J &	MOYNIHAN KAREN E	44 ELM STREET	DOVER	NH	03820
12057-000000	13 FISHER ST	SMITH LIANE &	HOLLAND JOHN R AND MICHAEL D	13 FISHER ST	DOVER	NH	03820
12058-000000	7 FISHER ST	MONE MARY E & HARDY COLLEEN M TRUSTEES	MARY E MONE REV TRUST	7 FISHER STREET	DOVER	NH	03820
12101-000000	37 FISHER ST	WALTERS SCOTT B		37 FISHER ST	DOVER	NH	03820
12102-000000	33 FISHER ST	COX MATTHEW B &	COX FINOLA H	33 FISHER ST	DOVER	NH	03820
12103-000000	25 31 FISHER ST	COX MATTHEW B &	COX FINOLA H	33 FISHER ST	DOVER	NH	03820
12104-000000	45 ELM ST	COOPER DARYLE D & MARY ANN CO-TRUSTEES	COOPER FAMILY REVOCABLE TRUST OF 2019	45 ELM STREET	DOVER	NH	03820
12105-000000	39 ELM ST	HARTMAN KATHY L TRUSTEE	HARTMAN FAMILY TRUST 2023	39 ELM STREET	DOVER	NH	03820
12112-A00000	104 BELKNAP ST	HORAN PATRICK J	HORAN LAURA A S	104 BELKNAP STREET	DOVER	NH	03820
12113-000000	119 121 BELKNAP ST	HAWKINS MATTHEW & ASHLEY TRUSTEES	HAWKINS FAMILY REVOCABLE TRUST	PO BOX 308	DOVER	NH	03821
12114-A00000	105 BELKNAP ST	DIDIO MARISA A TRUSTEE	DIDIO MARISA A REVOCABLE LIVING TRUST	105 BELKNAP STREET	DOVER	NH	03820
12126-000000	FISHER ST	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
12138-000000	46 RUTLAND ST	GLOVER JULIE E		46 RUTLAND STREET	DOVER	NH	03820
12139-000000	49 FISHER ST	GRIFFIN ELISABETH		49 FISHER ST	DOVER	NH	03820
15021-022000	271 279 LOCUST ST	DOUBLE DIAMOND HOLDINGS SOUTH LLC		340 CENTRAL AVE #202	DOVER	NH	03820
15035-000000	251 LOCUST ST	GARSTKA JEFFREY M &	GARSTKA STACI	PO BOX 154	PORTSMOUTH	NH	03802-0154
15036-000000	247 249 LOCUST ST	NOYES RYAN F		PO BOX 1152	DOVER	NH	03821-1152
15037-000000	243 LOCUST ST	DION JEREMY P &	DION AIMEE L	3 EARLE ST	DOVER	NH	03820-2118
15038-000000	239 LOCUST ST	RANALDI GENO		21 LOW ST	NEWBURYPORT	MA	01950
15039-000000	235 237 LOCUST ST	NOYES RYAN F		PO BOX 1152	DOVER	NH	03821-1152
15041-000000	223 LOCUST ST	HUGHES KEVIN R &	HUGHES MAXINE M	223 LOCUST ST	DOVER	NH	03820
15042-000000	213 LOCUST ST	BRUNSON DANA &	COOLEY MOLLY	213 LOCUST ST	DOVER	NH	03820
15043-000000	207 LOCUST ST	CHILDREN'S HOME		207 LOCUST STREET	DOVER	NH	03820
15045-000000	6 8 FISHER ST	CBA PROPERTIES LLC		PO BOX 801	NEW CASTLE	NH	03854
15046-000000	18 20 FISHER ST	MACMILLAN BRYAN &	MACMILLAN ELIZABETH	18- 20 FISHER STREET	DOVER	NH	03820
15046-A00000	16 FISHER ST	KUBIET CHRIS		16 FISHER ST	DOVER	NH	03820
15047-000000	26 FISHER ST	HENERBERRY JAMES CHARLES &	HENERBERRY MELISSA FORD	26 FISHER STREET	DOVER	NH	03820
15048-000000	30 FISHER ST	DEMOUPOULOS STAVROS REV TRUST 1/2 &	DEMOUPOULOS ELEFTHERIA REV TRUST 1/2	7851 DUET COURT	NEW PORT RICHEY	FL	34654
15049-000000	34 FISHER ST	COHEN-HOLMES JACOB		52 HAMPTON FALLS RD	EXETER	NH	03833-4713
15050-000000	36 FISHER ST	SMITH LAURIE A	SMITH T GREGORY	36 FISHER STREET	DOVER	NH	03820
15051-000000	36 A FISHER ST	CASEY CARMEL A		36A FISHER ST	DOVER	NH	03820-2526
15052-000000	38 FISHER ST	SMART DONALD W &	ACKLER SAUNDRA R	38 FISHER ST	DOVER	NH	03820
15054-000000	40 FISHER ST	MUNIZ LOUIS A & JOSEPHINE A CO-TRUSTEES	MUNIZ REVOCABLE TRUST OF 2017	40 FISHER ST	DOVER	NH	03820
15055-000000	50 52 FISHER ST	YORKE HELEN MARILYN TRUSTEE	YORKE HELEN MARILYN REVOCABLE TRUST OF 2	52 FISHER ST	DOVER	NH	03820
15058-A00000	54 RUTLAND ST	BEKKALA RONALD S &	BEKKALA ANGELA M	54 RUTLAND ST	DOVER	NH	03820
15062-000000	68 RUTLAND ST	SOUTH DOVER STORAGE SOLUTIONS LLC	C/O ROBERT FOSTER	11 MOSES CARR RD	ROLLINSFORD	NH	03869
15066-000000	80 RUTLAND ST	RESTORATION CHURCH ASSEMBLY OF GOD		PO BOX 1664	DOVER	NH	03821
15067-000000	11 SETTLEMENT DR	DRVP DEVELOPERS LLC		242 CENTRAL AVE	DOVER	NH	03820
15088-000000	250 LOCUST ST	HO SANDRA B TRUSTEE	HO SANDRA B REVOCABLE TRUST	250 LOCUST ST	DOVER	NH	03820
15089-000000	246 LOCUST ST	KIMBALL EDWARD M &	KIMBALL CYNTHIA M	246 LOCUST ST	DOVER	NH	03820
15090-000000	244 LOCUST ST	ZHENG YA XIAN		19 MILL RD	DURHAM	NH	03824
15091-000000	2 MONROE ST	HEINDSELMAN ERICA-JENEE		3546 N SOUTHPORT AVE APT 205	CHICAGO	IL	60657-1472
15092-000000	4 MONROE ST	WIESNER ANDREW C		4 MONROE ST	DOVER	NH	03820
15111-000000	208 LOCUST ST	RUTLAND BRYAN L &	PASCALE NICHOLAS W	208 LOCUST STREET	DOVER	NH	03820
15112-000000	218 LOCUST ST	RAHMANN ALEXANDRA C		218 LOCUST ST	DOVER	NH	03820
15112-A00000	216 LOCUST ST	JONES RICHARD W SR & MARTHA TRUSTEES	JONES RICHARD AND MARTHA FAMILY TRUST	216 LOCUST STREET	DOVER	NH	03820
15113-000000	118 CENTRAL AV	CENTRAL AVENUE MANAGEMENT LLC		601 CENTRAL AVE	DOVER	NH	03802
15113-A00000	240 LOCUST ST	PETERSON STEPHAN L		246 DOVER POINT RD	DOVER	NH	03820
15040-A00000	LOCUST ST	DOUBLE DIAMOND HOLDINGS NORTH LLC		340 CENTRAL AVE #202	DOVER	NH	03820
		CIVILWORKS NEW ENGLAND	STEVE HAIGHT	PO BOX 1166	DOVER	NH	03820

CONDITIONAL USE NARRATIVE
§170-27.1
WETLAND PROTECTION DISTRICT
for
H.J. STABILE & SON, INC.
UPTOWN CROSSING
Residential Site Development
Tax Map 15, Lot 40A-1

F. Conditional use approval.

(1) Conditional use approval may be granted by the PLANNING BOARD (RSA 674:21II) after proper public notice and public hearing, for construction within the Wetland Protection District or buffer. Said construction may include but is not limited to a road or other accessway, utility right-of-way, communication lines, power lines and pipelines, STRUCTUREs, and parking LOTs provided that the proposed construction complies with the following standards:

(a) Practicable Alternative: There is no practicable alternative that would have a less adverse impact on the area. **To maximize the development density for this location while providing all the required components, site layout of the proposed buildings and bio-retention basin keeps the impervious areas furthest from the wetlands but requires disturbance within the wetland buffer for typical grading around the bio-detention basin and the buildings to the rear. These areas will be graded and restored as a maintained lawn area, having a more favorable relationship with the nearby wetlands than an impervious parking area. The site design will not impact the wetlands.**

(b) Avoidance: The potential impacts have been avoided to the maximum extent practicable. The APPLICANT will demonstrate by plan and example that the proposed construction represents the least impacting alternative. **There are 16,250 sf of wetland buffer impacts associated with the proposed buildings, bio-detention basin, and grading for the project. The design incorporated the unique site characteristics including existing slope, depth to ledge, and soil type to minimize wetland buffer impacts. The buildings have been situated to provide for the drive aisle and parking areas to further reduce wetland buffer impacts.**

(c) Minimization: Any unavoidable impacts have been minimized. No reasonable Alternative to the proposed construction exists which does not impact a wetland, or which has less detrimental impact on a wetland. Design, construction, and maintenance methods will be prepared by a registered engineer to minimize detrimental impacts to the wetlands and will include restoration of the site as nearly as possible to its original grade. **There are 16,250 sf of wetland buffer impacts. All impacts have been minimized to the greatest extent practicable, including the use of a retaining wall along the bio-detention basin to help minimize grading within the wetland buffer. Increasing the slopes from 3:1 to 2:1 in the area of the bio-retention basin is not allowed per Env-Wq 1508.08(m) (5).**

(d) Mitigation: If the APPLICANT is required by State rules to prepare a compensatory mitigation plan, the APPLICANT shall provide the Conservation Commission and PLANNING BOARD with one copy each of said plan for their review. **Mitigation is not required.**

(e) Approval for the wetlands impact has been received from the NHDES Wetlands Bureau pursuant to Section G (3), below. **There will be no impact to any wetlands.**

(f) To assess and summarize the wetland's functions and values as denoted in the NH Method and Section 170.27.1 (B)(2) **The function of this wetland serves as a passage for runoff from Locust Street. The ditch serves the City of Dover's drainage system and provides value to the City of Dover by eliminating flooding on Locust Street, by allowing continuous stormwater flows. No changes are proposed to the wetland; therefore, this project prevents the destruction of and prevents significant changes to the wetland. The main function of these wetlands is augmenting stream flow and allowing unobstructed continued flow from Locust Street areas. Due to low soil conductivity and steady downstream flow, recharging to groundwater is limited. It is our opinion that this project complies with Section 170.27.1(B)(2).**

G. Specific provisions.

(1) Wetland Buffers.

(a) Buffers Established. Buffers are hereby established around and encircling all wetlands other than those that were created as legally permitted sedimentation/detention basins or roadside drainage ditches. The minimum width of the wetland buffers shall be fifty (50) feet horizontal distance as measured outward from the perimeter edge of the wetland. Wherever a permit to fill a wetland has been issued by either the New Hampshire Department of Environmental Services (NHDES) or the U.S. Army Corps of Engineers (USACOE), the perimeter of the wetland shall be deemed to be the new edge between the fill as placed in accordance with the permit and the remaining wetland. If there is no remaining wetland, there is no buffer. All other wetland edges shall be determined in accordance with Section D (1) above. **There will be no disturbance within the wetlands. A 50-foot wetland buffer is shown on the site plan, a portion of which will be impacted by the project design for buildings, a bio-detention basin, and associated grading.**

(b) Natural Conditions to be Maintained within Buffers. Where wetland buffer disturbance is allowed pursuant to a state or federal permit, or a conditional use permit, restoration of the disturbed area is required. Restoration is defined as filling ruts or excavated area with similar soils while maintaining original grade. Applications for a City of Dover BUILDING permit that includes a temporary disturbance of wetlands buffers, pursuant to Section G (1) (e) (iv) below, shall include a "Wetlands Buffer Encroachment and Restoration Plan." Said plan shall be submitted, reviewed, and approved by Building Inspector, in consultation with City staff, prior to the disturbance. Replanting to restore buffers shall be with native non-invasive species specified in the "Wetlands Buffer Encroachment and Restoration Plan". Implementation of the plan shall include the clear delineation of the boundaries of wetland buffers in the field using construction tape or other clear marking devise. Mowing to maintain an existing lawn or field within a wetland buffer area is allowed without a permit, as specified in Section G (1)(e), below, provided the roots of the vegetation are not disturbed and the ground is frozen or sufficiently dry to avoid making ruts. **The wetland buffer impact for this project will be primarily of a permanent nature as allowed by obtaining a Conditional Use Permit. Some areas**

being impacted by typical grading around the buildings will be restored as much as is practical as a maintained lawn area.

(c) Certain Uses Prohibited in Buffers. The following uses and activities are prohibited within a wetland buffer: DOVER CODE P 170-107 (i) The establishment or expansion of salt storage, JUNKYARDs, resource recovery facilities, transfer stations, landfills, or solid or hazardous waste facilities; (ii) The BULK storage of chemicals, petroleum products, or toxic and hazardous materials; (iii) The dumping or disposal of snow and ice collected from roadways and parking LOTs; **Not applicable.**

(d) Uses Allowed Only With a Conditional Use Permit. The following uses and activities are allowed within a wetland buffer only if a conditional use permit is obtained in accordance with Section F above: (i) All uses not specifically prohibited in Section G (1) (c) above, or specifically exempted in Section G (1) (e) below. (ii) The erection or construction of a BUILDING or STRUCTURE, excluding FENCEs that meet the requirements of 170-33, or the construction of parking LOTs or loading areas. (iii) Timber harvesting, except as conducted in accordance with the terms and provisions of RSA 227-J, Timber Harvesting. (iv) The removal of stumps and roots (grubbing), the recontouring or grading of the land, or the placement of impervious surfaces or creation of storm water detention ponds. (v) The installation of water, sewer, or buried electrical or telecommunications cables. (vi) The installation of water-supply wells. **A Conditional Use Permit is being requested to allow for the buildings, bio-retention basin, associated grading within the wetland buffer for this project.**

(e) Uses Allowed Without a Conditional Use Permit. The following uses and activities are allowed within a wetland buffer with the noted conditions: (i) Activities within wetlands jurisdictional areas that are allowed without a State of New Hampshire Dredge and Fill Permit, in accordance with NHDES Rules Env-Wt 308.01(a) and 308.02 – repair of an existing legal STRUCTURE; or successor rules. (ii) The removal of vegetation in accordance with NHDES Rules Env-Wt 303.05(b), or successor rules, provided the roots of the vegetation are ZONING P 170-108 not disturbed and the ground is frozen or sufficiently dry to avoid making ruts. (iii) The installation of monitoring or test wells or geotechnical borings completed in accordance with NHDES Rules Env-Wt 309.02(i) or successor rules. (iv) Temporary disturbance of the wetland buffer to facilitate construction activities completed under a valid City of Dover BUILDING permit, provided the temporary disturbance is restored in accordance with Section G (1) (b) above. **Not applicable.**

(2) No septic tank or leach field may be constructed or enlarged closer than seventy-five (75) feet to any Wetland Protection District. In new subdivisions approved subsequent to adoption of this section, there must be sufficient LOT size to place a house, a state-approved septic system, where applicable, and a state-approved well, where applicable, without locating them in a wetland. This provision can be waived if a conditional use approval is obtained from the PLANNING BOARD. **Not applicable.**

(3) A state dredge and fill application shall be submitted for any proposed change to a wetland (RSA 482-A). **Not applicable.**

CITY OF DOVER

DOVER CONSERVATION COMMISSION – MINUTES

Meeting Type:	Regular Meeting
Meeting Location:	City Council Conference Room - 288 Central Avenue, Dover, NH
Meeting Date:	Monday, May 13, 2024
Meeting Time:	**5:30 pm**

MEMBERS PRESENT: Bill Hunt (Chair), Kristen Murphy, Amy Kramer Perry, Abigail Lyon, Russ Warnock (Alternate)
Absent (Excused):, Steve Fellows (Vice Chair), Robert Atwood (Secretary), Jake Geddes
Absent (Unexcused):
STAFF PRESENT: Jackson Kaspari – Resilience Manager
OTHERS PRESENT: Steve Haight, Mike Menary, Sarah Large, Kyle Pimental, Steve Herzog, Robert Schummrick, Councilor Williams

1. CALL TO ORDER AND ROLL CALL
The meeting was convened at 5:30 PM.

2. CITIZENS' FORUM
None

3. APPROVAL OF THE PRIOR MEETING MINUTES- April 8, 2024
K. Murphy moved to approve the minutes of April 8 as submitted. A. Lyon seconded. Vote: U/A

4. OLD BUSINESS:
None

5. NEW BUSINESS:
A. City of Dover Conditional Use Permit for H. J. Stabile & Son, Inc (Owner: Double Diamond Holdings North, LLC), Assessor's Map 15, Lot 40A-1, zoned G, located off of Fisher Street. Proposal is to construct a townhouse condominium complex creating 16,250 square feet of wetland buffer impact and 6,329 square feet of overlapping impact to the Conservation District.

Steve Haight and Mike Menary, CivilWorks Engineering represented the applicant and presented the item. The proposal is a CUP for a condominium complex off Fisher St. He gave background on the application noting they have been before TRC a few times and the project has changed and reduced during the review process. He explained the differences and the current proposal.

He highlighted details including:
- Drainage/ Treatment
- Sidewalk/ Pedestrian crossing
- Buffer/ Impacts

Committee members asked clarifying questions about the above topics.

Additional discussion and clarification about the following:
- Stormwater maintenance plans and reports
- Condominium documents
- Landscaping/ Plantings
- Driveways
- Recreation areas

DRAFT

Recommendations for native plantings was discussed and supported by the group.
S. Haight reviewed the process and boards and committees the plan will go through. If there is a recommendation for more native plantings and the applicant needs to make an update, they can make those adjustments.

A. Kramer Perry moved to endorse the project as presented with the stipulations relating to native species. R. Warnock seconded. Vote: U/A

B. City of Dover Conditional Use Permit for Unitil Granite State Gas Transmission (Owner: Dover Point Cooperative, Inc.), Assessor's Map M, Lot 47-C, zoned R-12, located within Unitil's existing right-of-way between the end of Gerrish Road and Dover Point Road. Proposal is to install a replacement section of gas pipe, replace the existing access road, and construct an above-ground station for pipeline inspection equipment creating 17,015 square feet of wetland impact

Steve Herzog and Robert Schummrick represented the applicant and presented the item. This is the same proposal as previously, but expanded to also upgrade pipes and provide access for the water department. Questions and clarifications ensued regarding:

- Access road frequency/ material/ vehicles
- Impact to the co-op community
- Wetland mitigation
- DES regulation change – new preferred methods/ mitigation
- Updated temporary and permanent impacts/ access points for future work
- Timeline for construction
- Erosion control on the disturbed areas during and following construction

A. Lyon moved to endorse the proposal as presented. A. Kramer Perry seconded. Vote: U/A

A request was made by the commission that when the applicant is back for the wetland permit, they revisit the local mitigation option to the state. Discussion occurred about the process, timeline and mitigation list.

In connection to a conversation surrounding this topic, A. Lyon moved to authorize J. Kaspari to approach NHDES about the payment into the ARM fund versus utilization of local mitigation priority lists. K. Murphy seconded. Vote: U/A

C. FB Environmental Project Selection
As part of the Natural Resources Inventory, there is a small budget to conduct some fieldwork. J. Kaspari has spoken to the forest management subcommittee and there is an existing rain garden with some discrepancy as to whether the school district or City should be maintaining it. An idea is to use the funding to go out there and evaluate it and provide some recommendations.

DRAFT

Autumn Scott who was running the NRI project has taken another position and is no longer with Strafford Regional Planning. Kyle Pimental, SRPC Assistant Director is taking this project over for her.

Kyle and Sarah want to find out tonight what is the priority project FB Environmental is going to work on. Several projects had come to the surface, and they want to be sure the one chosen is useful to the City and to this group as well as being within the expertise of FBE. The timeline will be from now through September/ October.

Sarah Large, wetland scientist for FB Environmental explained what they do and discussed options for projects that have been suggested and what her group could provide within the timeframe and financial constraints.
Projects discussed:

- Rain Garden
- Evaluation of the Book (not in FB scope of work)
- Habitat baseline documentation for Bellamy River/ dam removal
    - Rapid ecological assessment
- Community Trail expansion- preplan for any particular piece of land
    - Some design work has been done, but unsure of status
- Stream crossing assessment prioritization
- Culvert prioritization for replacement
- Rapid ecological assessment along a stream with recommendation for restoration projects

A. Lyon motioned to have FBE conduct an ecological assessment of the New Meadows conservation easement for the Community Trail expansion. R. Warnock seconded. Vote U/A

D. Native Species Resolution Discussion
J. Kaspari explained the goals and intentions of the resolution. Details and opinions were shared about the language and the lists. Discussion continued about whether a resolution is the best option or if procedures are a better way of moving forward and measuring success.

Councilor Williams explained the initiative came from a community member asking Council to take action. Council is asking for conversations to occur before moving forward.

The overarching agreement was for this topic to remain in the purview of the Commission longer for review and development of a new set of language within a resolution for review. Staff and the Commission will research best practices and what other peer NH cities are doing for reference and continue to discuss this topic at upcoming meetings to work towards some sort of policy to put in place.

E. Conservation and Open Space Chapter Update
J. Kaspari noted the consultants are making good progress and staff was provided a draft of existing conditions report prior to it going to the master plan committee.

DRAFT

6. REPORT FROM THE CHAIR

A. Review of Correspondence Received from NH Department of Environmental Services

A potential wetlands violation is being reviewed after a resident complaint.

7. OTHER BUSINESS

A. Update from Forest Management Subcommittee

J. Kaspari reported on the latest discussion topics:

- Met at the school to discuss the rain garden with the principal
- Site walk of a conservation property

8. ADJOURNMENT

A. Lyon moved to adjourn. R. Warnock seconded. Vote: U/A
The meeting was adjourned at 7:34 PM.

DRAFT

Item 4.F

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #COND-2024-0009

Application Type:	Conditional Use Permit
Applicant(s):	H.J. Stabile & Son, Inc.
Owner(s):	Double Diamond Holdings North, Inc
Location:	Fisher Street (Assessor's Map 15, Lot 40A-1)
Meeting Date:	June 11, 2024

INTENT: Proposal is for a CUP to construct a 21-unit townhouse condominium complex, (SITE-2023-0015), that is setback 235± feet from the front property line where a 5' to 20' build-to-line is required.

AGENDA ITEM #: 4-F

FILE: COND-2024-0009

APPLICANT: H.J. Stabile & Son, Inc.

OWNER: Double Diamond Holdings North, Inc

LOCATION: Fisher Street (Assessor's Map 15, Lot 40A-1)

UNITS PROPOSED: 21 residential units

ACREAGE: Total: 3.91± ac. (following proposed lot line adjustment)
To be developed: 77,000± sq. ft.

ZONING DISTRICT: Gateway

EXISTING USE: Vacant

PROPOSED USE: Residential

SURROUNDING USE: Residential, Community Trail, Commercial/Industrial

PERMITS:

- Conditional Use Permit- Wetland buffer impact
- Conditional Use Permit- Front build-to-line requirement

WAIVERS REQUESTED:

- Waiver from §153.14.G (3)(a)- Perimeter Landscaping, caliper minimum

ZBA ACTION: None

CONSERVATION COMMISSION: 5/13/24

TRC: 11/30/23 & 2/22/24

ATTACHMENTS: Application materials including site plan.

Summary of Request and Background
The applicant is proposing the construction of four (4) buildings creating a 21-unit townhouse condominium complex with associated parking. The parcel, as proposed, includes a yet to be approved lot line adjustment and totals 3.91± acres that is currently undeveloped and 77,000± square feet (1.77± acres) of the parcel is proposed to be developed.

The frontage for the subject parcel, along Fisher Street, is 50.25 feet wide and over 140 feet long and is proposed to serve as the access point for the complex. Due to the unique configuration of the parcel, the application is seeking relief from the maximum front build-to-line of 20 feet to allow a build-to setback of 235± feet.

One (1) additional Conditional Use Permit (CUP), that is related to wetland buffer impacts, is also being proposed as part of this project. The Technical Review Committee reviewed the application at their November 30, 2023 and February 22, 2024 meetings.

Consistency with Land Use Regulations – CUP 170-19.B(1)
§170-19.B(1) Zoning Ordinance allows for Conditional use approval for relief from the standards herein may be granted by the PLANNING BOARD (RSA §674:21 II) after proper public notice and public hearing provided that the proposed project complies with the following standards:

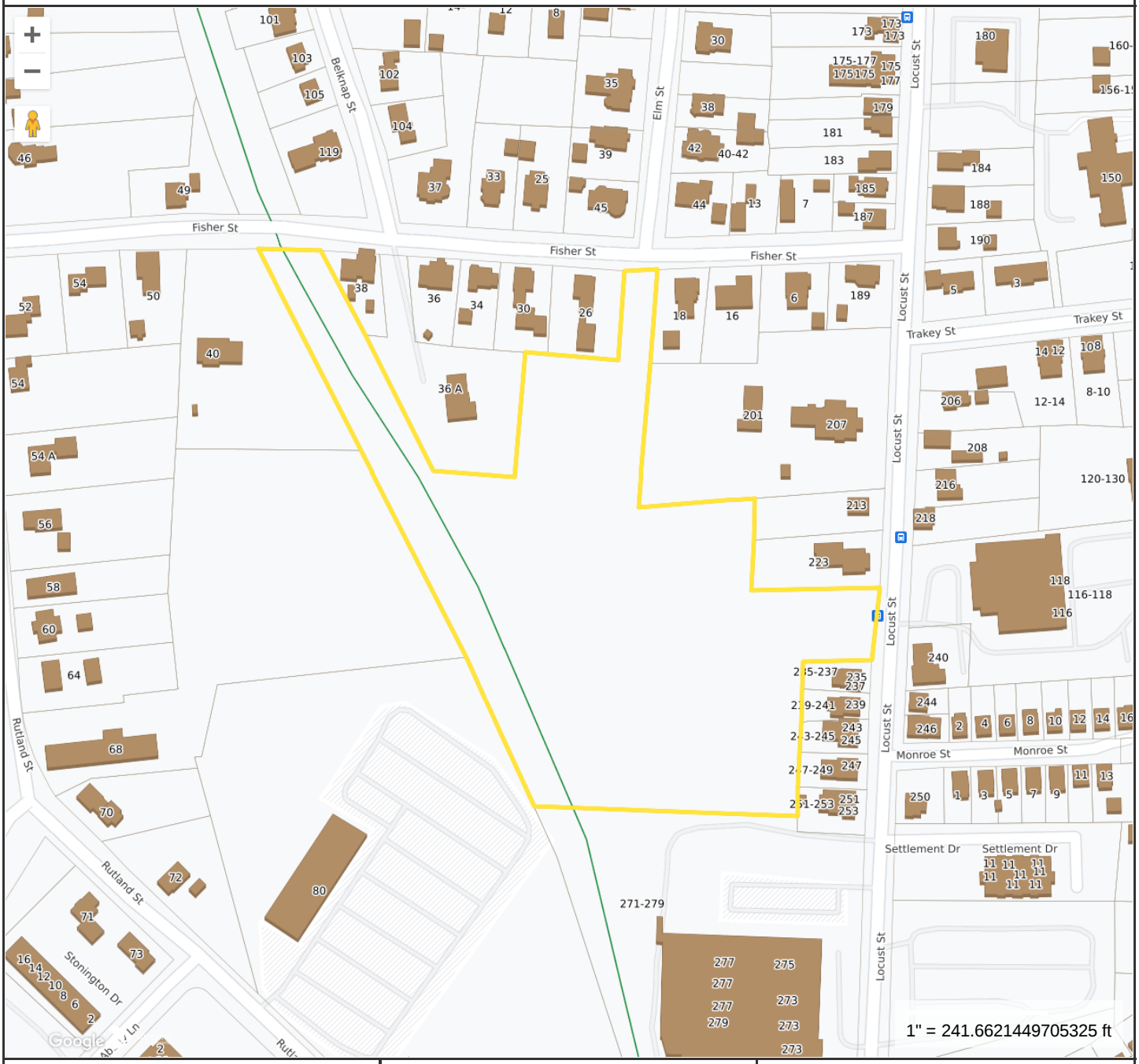
(a) That both public and private BUILDINGs and landscaping shall contribute to the physical definition of RIGHTs OF WAY as CIVIC SPACEs.
(b) That development shall adequately accommodate automobiles, while respecting the pedestrian and the spatial form of public areas.
(c) That the design of STREETs and BUILDINGs shall reinforce safe environments, but not at the expense of accessibility.
(d) That architecture and landscape design shall grow from local climate, topography, history, and BUILDING practice.
(e) That BUILDINGs shall provide their inhabitants with a clear sense of geography and climate through energy efficient methods.
(f) That CIVIC BUILDINGs and public gathering places shall be provided as locations that reinforce community identity and activity.
(g) That CIVIC BUILDINGs shall be distinctive and appropriate to a role more important than the other BUILDINGs that constitute the fabric of the city.
(h) That the preservation and renewal of historic BUILDINGs shall be facilitated.
(i) That the harmonious and orderly evolution of urban areas shall be advanced by the proposed BUILDING and/or use.

This plan is consistent with the criteria as described in the applicant's narrative.

STAFF RECOMMENDATION:
The Planning Department recommends that the Planning Board accept the application as complete, note it is not of regional impact, hold a public hearing, make the necessary and supporting findings of fact, and vote to approve the Conditional Use Permit with the following subsequent conditions:

Subsequent Conditions to Be Met Prior to Issuance of a Conditional Use Permit:
1. Approval of CUP (COND-2024-0006);
2. Approval of the site plan (SITE-2013-0015);
3. A Development Agreement be entered between the applicant and the Planning Board and recording at the SCRD per Chapter 170-19.B(3).

COND-2024-0009 Locust Street



Property Information

Location	LOCUST ST
Owner	DOUBLE DIAMOND HOLDINGS NORTH LLC
Land Use	
Zoning Code	G*
Property Id	15040-A00000

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 10/30/2023
Data updated Daily

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

PERMIT SNAPSHOT REPORT COND-2024-0009
FOR CITY OF DOVER, N.H.

Permit Type	Conditional Use	**Project:**		**App Date:**	05/30/2024
Work Class:	Non-Environmental	**District:**	None	**Exp Date:**	NOT AVAILABLE
Status:	Submitted	**Square Feet:**	0.00	**Completed:**	NOT COMPLETED
Valuation:	$0.00	**Assigned To:**	Blonigen, Rachel	**Approval Expire Date:**	

Description: 235+- front setback where a 20' maximum primary building build to line is required.

Parcel: 15040-A00000 Main	**Address:** Locust St Dover, 03820 Main	**Zone:** G(Gateway District) HR(Residential - Heritage)

Owner
Eric Jackson
20 Cotton Road Suite 200
Nashua, NH 03063
Home: (603) 889-0318
Business: (603) 889-0318
Mobile: (603) 661-3934

Plan Preparer
Civilworks New England
Steve Haight
181 Watson Road PO Box 1166
Dover, NH 03820
Business: (603) 749-0443
Mobile: (603) 817-6651

Permit Custom Fields

Select Permit Type	Gateway District	General Purpose	New Construction	Project Zone	Residential
What is the parcel zoned?	G	Work	See Narrative	permitstatefed	See Narrative

Attachment File Name	Added On	Added By	Attachment Group	Notes
Permit Snapshot Report.pdf	05/30/2024 12:00	Service, EnerGov		Attached by IO - ATTACH: Initial Permit Snapshot

Invoice No.	Fee	Fee Amount	Amount Paid
NOT INVOICED	Planning General Application Fee	$200.00	$0.00
	Total for Invoice NOT INVOICED	$200.00	$0.00
	Grand Total for Permit	**$200.00**	**$0.00**

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1			
Confirm application complete v.1	Generic Action		
Conditional Use Review v.1	Receive Submittal		
Planning Board v.1			
Planning Board Agenda v.1	Task		
Invoice for Notices v.1	Task		
Send Notices v.1	Task		
Planner Creates Staff Recommendations v.1	Permit Activity		
Distribute Planning Board Materials v.1	Task		
Planning Board Hearing v.1	Hold Hearing		
Planning Board Decision v.1	Permit Activity		
NOD Sent to Applicant v.1	Create Report		
Issue Permit v.1			
Verify Fees Prior to Permit v.1	Generic Action		
Issue and Review Permit v.1	Generic Action		
Print and Email Permit v.1	Generic Action		
Plans uploaded to Treeno v.1	Generic Action		
Internal Notification of Plan Completion v.1	Generic Action		

PERMIT SNAPSHOT REPORT (COND-2024-0009)

Recording v.1	Task

City of Dover, New Hampshire
CONDITIONAL USE PERMIT APPLICATION

[Revision Date: October 19, 2020]

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT AND OWNER INFORMATION

Name of Applicant: H.J. Stabile & Son, Inc. Telephone # 603-889-0318 x-515

Address of Applicant: 20 Cotton Road, Suite 200 Nashua, NH 03063

E-Mail Address: eric@stabilecompanies.com

Name of Property Owner (if different from applicant): Double Diamond Holdings North, LLC Telephone # 603-749-0443

Address of Property Owner: 340 Central Avenue, Suite 202 Dover, NH 03821

Name & Address of Property Owner #2: Carmel A. Casey 36A Fisher Street Dover, NH 03820

PROPERTY INFORMATION

Assessor's Map # 15 Lot(s) # 40A-1 (a portion of 15 / 40A & 51)

Address of Property: Fisher Street

Zoning District(s) G Overlay District(s) Dover Conservation District

Existing Use of Property: Vacant

CONDITIONAL USE PERMIT INFORMATION

Type of Conditional Use Permit (Check All That Apply):

☐ Conservation District	☐ RCM Use Overlay District	☒ Gateway District
☐ Groundwater Protection	☐ Off-Street Parking and Loading	☐ Alternative Treatment Center
☐ Wetland Protection District	☐ Central Business District	☐ Heritage Residential District

Describe Proposed Use or Activity That Requires Conditional Use Permit and Describe Any Impacts:

Ariticle IV, 170-12: Applicability of Table of Uses and Dimensional Regulations by District -

to allow a 235± front setback where a 20' maximum primary building build to line is required.

See attached CUP Narrative.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: None Requested

Name of Professional That Prepared Plans: Stephen J. Haight, PE - Civilworks New England

Address P.O. Box 1166 Dover, NH 03821 Telephone #: 603-749-0443

Professional License #: NH PE # 7978 E-mail address: shaight@civilworksne.com

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: Double Diamond Holdings North, LLC Date: 2/8/24

Signature of Applicant (if different from owner): H.J. Stabile & Son, Inc. Date: 2/8/24

Signature of Agent: Date:

Signature of Property Owner #2: Carmel A. Casey Date: 2.7.2024

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: for Double Diamond Holdings North, LLC Date: 2/8/24

Signature of 2nd Property Owner: Carmel A. Casey Date: 2.7.2024

CITY OF DOVER CONDITIONAL USE
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner: 15 / 51 Carmel A. Casey 36A Fisher Street Dover, NH 03820

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
15	40A-1	Double Diamond Holdings North, LLC	340 Central Ave, Ste 202 Dover, NH 03821

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Eric Jackson	H.J. Stabile & Son, Inc.	20 Cotton Road, Ste 200 Nashua, NH 03063

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Kevin McEneaney, LLS	McEneaney Survey Associates	P.O. Box 681 Dover, NH 03821
Stephen J. Haight, PE	Civilworks New England	P.O. Box 1166 Dover, NH 03821

Conservation Easement Holder: N/A

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

CONDITIONAL USE NARRATIVE
DIMENSIONAL REGULATIONS
ARTICLE IV - §170-12
for
H.J. STABILE & SON, INC.
Fisher Street
Tax Map 15, Lot 40A-1

170-12. Applicability of Tables of Use and Dimensional Regulations by District. [Amended on 12-09-2009 by Ord. No. 2009.09.09-15.]††

A. Uses permitted in those zoning districts identified in 170-7 shall be as set forth in the Tables of Use and Dimensional Regulations by District.

B. The minimum regulations for LOT size, LOT FRONTAGE, BUILDING SETBACK standards for front, side and REAR YARDs, BUILDING HEIGHTs, and LOT COVERAGE shall be as specified in the Tables of Use and Dimensional Regulations by District.

The project parcel consists of 3.91 acres, bounded easterly by three existing lots along Locust Street, southerly along the easement benefitting the City for the former railroad bed, now the Community Trail, westerly by three existing lots along Fisher Street, and northerly by Fisher Street, its only frontage. This frontage is 50.25 feet wide and over 140 feet long and serves as the only access/egress for the development of the bulk of the acreage located behind these abutting parcels. Due to this unusual configuration, the closest proposed building corner is over 235± feet from the road frontage at Fisher Street.

Due to this very unique circumstance, the project proponent is seeking relief from the maximum “front build to line” requirement of 20 feet to allow a minimum build to setback of 235±’.

Item 4.G

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #SITE-2023-0015

Application Type:	Site Plan
Applicant(s):	H.J. Stabile & Son, Inc.
Owner(s):	Double Diamond Holdings North, Inc
Location:	Fisher Street (Assessor's Map 15, Lot 40A-1)
Meeting Date:	June 11, 2024

INTENT: Proposal is to construct a 21-unit townhouse condominium complex with associated parking. Two CUPS are also being proposed as part of this project (COND-2024-0006 & COND-2024-0009)

AGENDA ITEM #: 4-G

FILE: SITE-2023-0015

APPLICANT: H.J. Stabile & Son, Inc.

OWNER: Double Diamond Holdings North, Inc

LOCATION: Fisher Street (Assessor's Map 15, Lot 40A-1)

UNITS PROPOSED: 21 residential units

ACREAGE: Total: 3.91± ac. (following proposed lot line adjustment)
To be developed: 77,000± sq. ft.

ZONING DISTRICT: Gateway

EXISTING USE: Vacant

PROPOSED USE: Residential

SURROUNDING USE: Residential, Community Trail, Commercial/Industrial

PERMITS:

- Conditional Use Permit- Wetland buffer impact
- Conditional Use Permit- Front build-to-line requirement

WAIVERS REQUESTED:

- Waiver from §153.14.G (3)(a)- Perimeter Landscaping, caliper minimum

ZBA ACTION: None

CONSERVATION COMMISSION: 5/13/24

TRC: 11/30/23 & 2/22/24

ATTACHMENTS: Application materials including site plan.

Summary of Request and Background
The applicant is proposing the construction of four (4) buildings creating a 21-unit townhouse condominium complex with associated parking. The parcel, as proposed, includes a yet to be approved lot line adjustment and totals 3.91± acres that is currently undeveloped and 77,000± square feet (1.77± acres) of the parcel is proposed to be developed.

Parking on site will consist of an 11-space parking lot and a single car garage for each unit, for a total of 32 spaces on site.

In total, the project will create 16,250± square feet of wetland buffer impact and 6,329± square feet of overlapping impact to the Conservation District. (The impact to the Conservation District completely overlaps with the wetland buffer.)

Two (2) Conditional Use Permits (CUPs) are being proposed as part of this project requesting relief from the front build-to-line and wetland buffer impacts. This project will create 16,250± square feet of wetland buffer impact and 6,329± square feet of overlapping impact to the Conservation District.

The Technical Review Committee reviewed the application at their November 30, 2023 and February 22, 2024 meetings. *(minutes attached)*

The Conservation Commission reviewed and endorsed the application at their May 13, 2024 meeting. *(minutes attached)* The Conservation Commission requested that native plantings be used in the buffer which staff has added as a condition of approval.

Summary of Waiver Requests:
The applicant is seeking one (1) waiver as part of this proposal which is from §153-14G(3)(a), Perimeter Landscaping, to allow a minimum caliper of 2.5" for new trees where a minimum caliper of 3" is required.

Consistency with Land Use Regulations – Site Plan
§153-4 of the Site Review Regulations of the City Code provides for site review by the Planning Board of new construction of various types. This plan is consistent with those regulations.

Consistency with Land Use Regulations –Waivers/Relief
§153-21 of the Site Plan Review Regulations state the "Planning Board may waive specific provisions of these regulations. The Planning Board may only grant a waiver if the Planning Board finds, by majority vote, that:

(1) Strict conformity would pose an unnecessary hardship to the applicant and the waiver would not be contrary to the spirit and intent of the regulations; or
(2) Specific circumstances relative to the subdivision, or conditions of the land in such site plan, indicate that the waiver will properly carry out the spirit and intent of the regulations."

Planning Staff believes the applicant's rational for the waivers meets criterion (1) and waiving such standards and requirements is not contrary to the spirit or intent of the ordinance.

STAFF RECOMMENDATION - Waivers/Relief:
The Planning Department recommends that the Planning Board accept the application as complete, note it is not of regional impact, hold a public hearing, make the necessary and supporting findings of fact, and vote to grant the waiver with the following subsequent condition:

Subsequent Condition to be Met Prior to the Signing of the Plans:

1. Add a note that the Planning Board approved a waiver for §153-14G(3)(a) to allow a minimum caliper of 2.5" and that the Board found the criteria of Chapter 153-21 have been met.

STAFF RECOMMENDATION- Site Plan:
The Planning Department recommends that the Planning Board make the necessary and supporting findings of fact, and vote to approve the Site Plan with the following subsequent conditions:

Subsequent Conditions to Be Met Prior to Signing of the Plans:

1. Approval of CUP (COND-2024-0006);
2. Approval of CUP (COND-2024-0009);
3. Approval of proposed lot line adjustment;
4. A note added to the plan that native plantings in the buffer beyond the seed mix proposed;
5. Revise to show true colors in the materials and renderings if switching to a darker color (gray/seagrass or similar);
6. Submit final plans (including CAD) with owner's signature and all professional stamps and signatures.

Subsequent Condition to Be Met Prior to Construction:

7. A site construction sign with the contact information for the general contractor must be displayed in a location approved by the City Engineer or Planning Director;

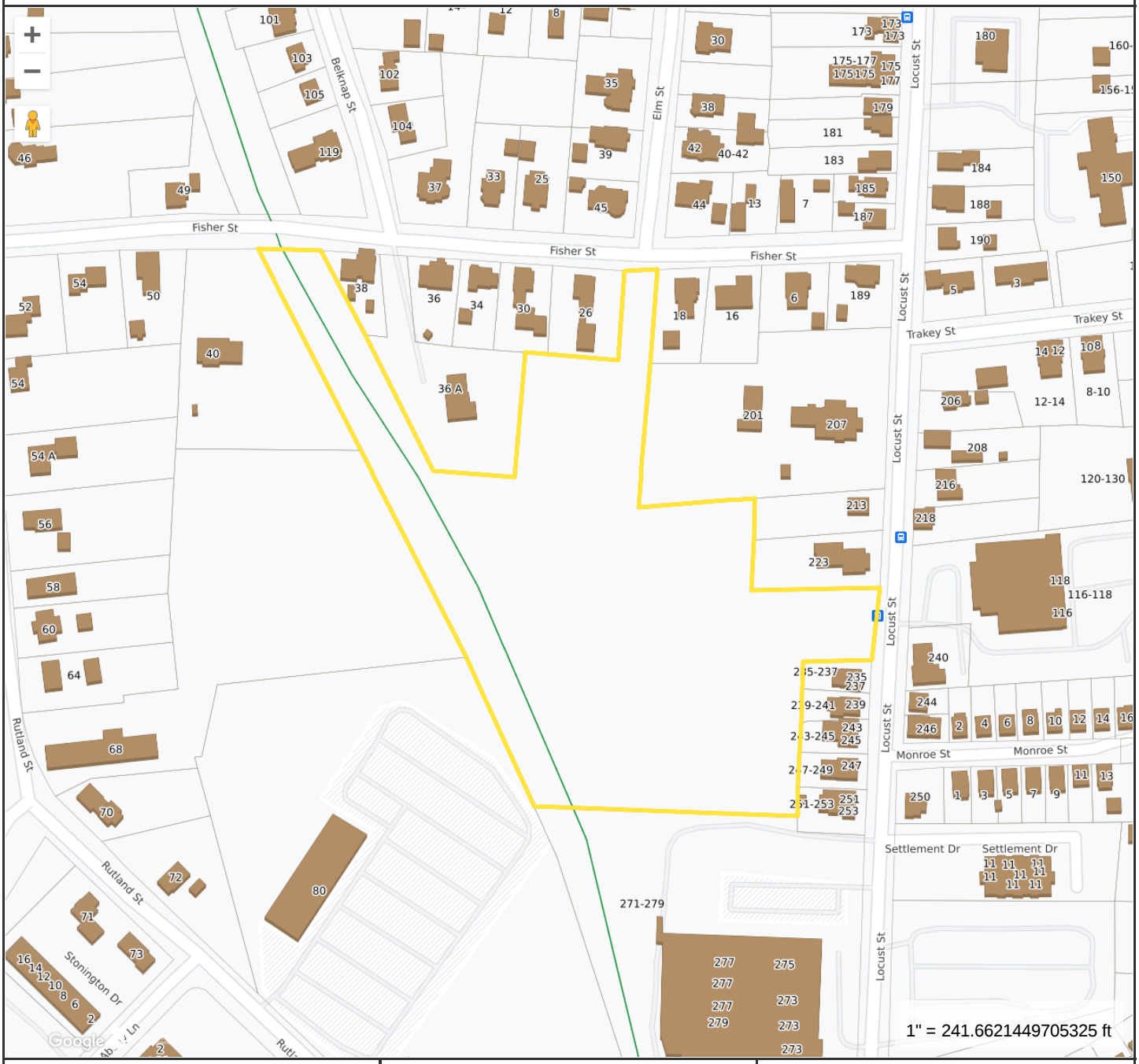
Subsequent Conditions to Be Met Prior to Building Permit:

8. Payment of Water and Sewer Investment Fees if applicable at time or request of service.

Subsequent Conditions to Be Met Prior to Occupancy:

9. Issuance of Certificate of Occupancy;
10. Payment of Impact Fees as noted in the invoice attached to the Decision Letter unless a change is made to the impact fee policy;
11. Confirmation, by staff, that the wetlands buffer signs are in place, or replaced if damaged during construction; and
12. Surety or other form of security acceptable to the City is provide for any unfinished work.
13. The design engineer meet with the HOA to go over any maintenance, stormwater or other design items.
14. Design engineer to submit a construction certification letter to the City ensuring construction was completed in accordance with the plans and specifications approved by the City of Dover.

SITE-2023-0015 Locust Street



Property Information

Location	LOCUST ST
Owner	DOUBLE DIAMOND HOLDINGS NORTH LLC
Land Use	
Zoning Code	G*
Property Id	15040-A00000

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 10/30/2023
Data updated Daily

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

PLAN SNAPSHOT REPORT SITE-2023-0015
FOR CITY OF DOVER, N.H.

Plan Type:	Site Plan - Major	**Project:**		**App Date:**	10/26/2023
Work Class:	New Construction	**District:**	None	**Exp Date:**	NOT AVAILABLE
Status:	Fees Due	**Square Feet:**	0.00	**Completed:**	NOT COMPLETED
Valuation:	$0.00	**Assigned To:**	Blonigen, Rachel	**Approval Expire Date:**	

Description: Site Plan for 22 Unit Townhouse Condominium Complex with Associated Parking & Drainage.

Parcel: 15040-A00000 Main	**Address:** Locust St Dover, NH Main	**Zone:** G(Gateway District)

Plan Preparer
Civilworks New England
Steve Haight
181 Watson Road PO Box 1166
Dover, NH 03820
Business: (603) 749-0443
Mobile: (603) 817-6651

Applicant
Eric Jackson
20 Cotton Road Suite 200
Nashua, NH 03063
Home: (603) 889-0318
Business: (603) 889-0318
Mobile: (603) 661-3934

Plan Custom Fields

Total	0	Total2	0	Total3	0
Total4	0	Total5	0	Total6	22
Total7	0	Total8	0	Total9	0
Street Classification Type	Municipal	Net Change in # Parking Spaces (+/-)	45	Water Service	Municipal
Recording Number		Sewer Service	Municipal	Total Acres (GIS)	3.91
Deed Book	SCRD 3166 & SCRD 4337	Total SQFT	170320	Deed Page	SCRD 780 & SCRD 566
Deed Date	4/4/20205 & 11/9/2015	Proposed Property Use	Residential - 22 Unit Townhouse Condominiums	Area of Parcel to be Developed (SQFT)	77000
Number of Parking Spaces Existing	0	Number of Parking Spaces Proposed	45	Number of Employees Total	0
Number of Employees in Max Shift	0	Distance to City Water	1	Distance to City Sewer	1
Type of Building to be Built	4 buildings with 22 townhouse units	Estimated Construction Value	550000.00	Refuse Removal	Private
Is there an existing Conservation Easement?	No	Existing Conservation Easement Details		TotalImpactFeeSDTOD	0.00
NumberofUnitsTH	22	TotalImpactFeeTHTOD	90640.00	TotalImpactFee23FTOD	0.00
TotalImpactFeeA4TOD	0.00	TotalImpactFeeMHTOD	0.00	TotalImpactFeeADUTOD	0.00
TotalImpactFeeAONRTOD	0.00	TotalImpactFeeAR55TOD	0.00	TotalImpactFeeAR62TOD	0.00
Sub Total Residential	90640.00	TotalImpactFeeRIRCTOD	0.00	TotalImpactFeeOCSTOD	0.00
TotalImpactFeeITWCTOD	0.00	TotalImpactFeeNHALTOD	0.00	TotalImpactFeeOIUTOD	0.00
TotalImpactFeeAFAOTOD	0.00	Sub Total Non-Residential	0.00	Total of Impact Fees to be Assessed	90640.00

Attachment File Name	Added On	Added By	Attachment Group	Notes
Signature_Steve_Haight_10/26/2023.jpg	10/26/2023 13:53	Haight, Steve		Uploaded via CSS
2023.11.30_PlanningTechnicalReviewCommittee.Agenda.pdf	11/09/2023 10:32	Blonigen, Rachel		

2023.11.30_PlanningTechnicalReviewCommittee.Locust Street_SITE-2023-0015.pdf	01/10/2024	11:10	Blonigen, Rachel		Approved TRC Minutes
2024.02.22_PlanningTechnicalReviewCommittee.Agenda.pdf	02/09/2024	8:38	Blonigen, Rachel		TRC Agenda
16 Landscape O&M (Fisher St)_231108_v3.pdf	05/09/2024	14:56	Blonigen, Rachel		
16 Landscape O&M (Fisher St)_231108_v2.pdf	05/09/2024	14:57	Blonigen, Rachel		
2 CNE#22017 - Section 153.14.G.3.a - Caliper Waiver_v1.pdf	05/21/2024	16:12	Blonigen, Rachel		
1 CNE#22017 - Response to TRC 2 comments_v1.pdf	05/21/2024	16:14	Blonigen, Rachel		
6 22017 - CUP Narrative (wet buffers) rev 5-7-24_v1.pdf	05/21/2024	16:14	Blonigen, Rachel		
4 CNE#22017 - Stormwater Management Narrative_v1.pdf	05/21/2024	16:16	Blonigen, Rachel		
5 22017 Conditional Use Permit Application 5-6-24_v1.pdf	05/21/2024	16:16	Blonigen, Rachel		
3 22017 Fisher Street Project Narrative 5-6-24_v1.pdf	05/21/2024	16:16	Blonigen, Rachel		
Post Master Confirmation_v1.pdf	05/21/2024	16:17	Blonigen, Rachel		
21 Flowage Rights Easement (draft 2-8-24)_v1.pdf	05/21/2024	16:18	Blonigen, Rachel		
20 Water Main Easement (draft 2-8-24)_v1.pdf	05/21/2024	16:19	Blonigen, Rachel		
18 Lot Line Adjustment Plan_v1.pdf	05/21/2024	16:20	Blonigen, Rachel		
17 Lot Line Adjustment Application_v1.pdf	05/21/2024	16:20	Blonigen, Rachel		
9 Waiver Request - Interior Landscaping_v1.pdf	05/21/2024	16:21	Blonigen, Rachel		
6 CUP Narrative (front set)_v1.pdf	05/21/2024	16:22	Blonigen, Rachel		
12 Traffic Memorandum 020724_v4.pdf	05/21/2024	16:23	Blonigen, Rachel	Available Online	
1 Response to TRC comments_v1.pdf	05/21/2024	16:27	Blonigen, Rachel		
10 Utilities to Serve (unitil, eversource, dover)_v2.pdf	05/21/2024	16:27	Blonigen, Rachel		
11 Test Boring Log & Location Plan_v2.pdf	05/21/2024	16:27	Blonigen, Rachel		
5 Conditional Use Permit Application (front setback)_v3.pdf	05/21/2024	16:27	Blonigen, Rachel		
7 Authorization Letters (owners & applicant)_v2.pdf	05/21/2024	16:27	Blonigen, Rachel	Available Online	
Fisher Street Townhouses Streetscapes_v2.pdf	05/21/2024	16:27	Haight, Steve		

Note	Created By	Date and Time Created
1. Emailed McEneaney survey that associated CUP application needs to be completed in Energov. RLB	Rachel Blonigen	10/27/2023 14:12
2. Per DB still missing updated streetscapes for resubmittal	Rachel Blonigen	11/01/2023 10:23

Invoice No.	Fee	Fee Amount	Amount Paid
INV-00005589	Planning General Application Fee	$200.00	$0.00
	Total for Invoice INV-00005589	**$200.00**	**$0.00**
INV-00008088	Planning Public Notice in Newspaper	$120.00	$0.00
	Total for Invoice INV-00008088	**$120.00**	**$0.00**
NOT INVOICED	Planning Residential Fee	$2,200.00	$0.00
	Total for Invoice NOT INVOICED	**$2,200.00**	**$0.00**

Grand Total for Plan	**$2,520.00**	**$0.00**

Activity Type	Activity Number	Name	Workflow Action Name	User	Created On
Email	ACT-000032-2024	Application Fee		Jean Glidden	05/08/2024

Comments: Please pay $200.00 application fee

Meeting Type	Location	Scheduled Date	Subject
Technical Review Committee Meeting v.1	City Hall, Second Floor Conference Room	11/30/2023	Technical Review Committee Meeting

Submittal Name	Status	Received Date	Due Date	Complete Date	Resubmit	Completed
Land Use Plan Technical Review v.1	Requires Re-submit	11/27/2023	12/25/2023	02/08/2024	Yes	Yes

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Business Development	Business Development	Burdin, James	Requires Re-submit	11/27/2023	12/25/2023	02/08/2024

Comments: Please discuss site design re: orientation to community trail. Project seems to be oriented with least-active face towards the trail.

Plans and renderings do not appear to show direct access to the trail, which would presumably be highly desirable for residents and lessen dependency on automobiles due to convenient access to the Transportation Center, downtown businesses, and transit stops on Silver St and Central Ave.

Pedestrian circulation is unclear, especially re: parking areas behind building A – sidewalk along access drive appears to end before reaching units, and no sidewalk appears to connect the parking areas to units. Users of these lots appear to either need to walk through landscaped rear yards or back along the access drive.

Overall character in terms of density and scale appears generally consistent with zoning and surrounding development. However, the design and layout feel heavily automobile-oriented and lacking in pedestrian/bicycle infrastructure or communal spaces that feel internally inconsistent with use of the medium-density townhouse form.

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
City Engineer	Community Services - Engineering	Mavrogeorge, Kenneth	Requires Re-submit	11/27/2023	12/25/2023	02/08/2024

Comments: Project: Fisher Street Townhouses
TRC Meeting: November 30, 2023
Reviewer: Kenneth A. Mavrogeorge, PE
Checked by: Engineering Staff
Comments:
- General Comment:
o Applicant and Contractor shall review the Dover Construction Guidelines prior to scheduling a Preconstruction meeting with City staff. The guidelines can be found on the City of Dover Website on the Engineering page. It is anticipated that an updated document may be in place by the time this project goes to construction. Applicant shall abide by the document adopted at the time of the precon. https://www.dover.nh.gov/Assets/government/city-operations/1form/community-services/engineering/engineering-documents/Construction%20Guidelines.pdf
o Some of the details noted as City standards are outdated. Please coordinate with Community Services (Engineering Department) for latest City Standard Details.
o Add note that Design Engineer shall provide signed letter to City Engineer certifying that the stormwater management system has been installed in accordance with approved plans.
o Recommend providing 1 sf of snow storage per 10 sf of pavement to be cleared. Verify snow storage meets or exceeds this recommendation or provide note to remove excess snow when storage areas are filled.
o Are any of the units intended to be ADA accessible?
o Recommend a contribution be made for RRFBs and crosswalk at Fisher Street Community Trail rail crossing.
o Precast manhole covers shall be Liftmate R-1743-LM or approved equal with 90 deg hinge.
o Applicant shall provide an easement to the City along the private drives within the property to allow for access and operation of the water infrastructure (hydrants and shut offs) to maintain water quality.
o Required Blasting and Excavation – Please note that the Dover Fire Department shall be notified prior to any blasting activities and that a blasting permit from the Dover Fire Department must be obtained.
o Please provide a test pit in the proposed bioretention basin location as the ESHWT various across the proposed project site.
o Will this be an HOA? If so, it is strongly recommended that the Applicant submit a detailed breakdown of proposed HOA costs for annual maintenance and replacement of private infrastructure including backup as to how the fees are estimated.
o Applicant should provide a drainage easement to the City for the existing swale as it takes water from Locust St.
- Sheet 4:
o Site Note 19 should read Director of Planning and Community Development instead of Assistant City Manager.
o Site Note 24: Change website to https://ptapp.unh.edu/
o Site Note 29: Note indicates snow storage areas are shown. Please show on plan view or revise note.
o Utility Note 7: Note that water main shall be poly wrapped in accordance with the City of Dover standards.
o Utility Note 29: Note that all sewer mains and manholes shall be tested in accordance with NHDES Env-Wq 700 requirements. Copies of test results shall be provided to the City of Dover Engineering Department.
o Grading Note 16: Wetland placards should identify the no cut wetland buffer and should be maintained throughout construction and after.
o Coordinate with CS Utilities for hydrant tests required for fire suppression design if applicable.
- Sheet 6:
o Add stop bar at intersection.
o Add crosswalks across Elm and the new driveway.
o Reconstruct sidewalks across the entire frontage of the property and with concrete curb ramps with ADA detectable warnings.
o Are there plans to connect to the Community Trail through a future phase?
o Provide termination detail for guardrail.
o Move porous pavement sign to the start of the porous pavement.
o Only one transformer pad proposed. It is presumed that Eversource may require additional infrastructure. Please identify space for additional transformers if they are required.
o Parking is very close to the abutting properties. Please confirm that all proper setbacks are met.
- Sheet 7:
o Proposed retaining walls exceed 4’; walls exceeding 4’ require building permit.
o Show top and bottom of wall elevations.
o Fence is shown on details. Call out fence on top of wall on plan views.
o Provide roadway profile for the new private drive per 153-14(C)(3) to show slopes approaching the public way.
o Grading is show on the property. Provide temporary grading easement from property owner or provide separation from property line.
o Label the rip rap aprons to match the detail.
o Eastern most apron is orientated the wrong way
o Utilities plan shows new sewer beyond the limits of grading. Revise one or the other to reflect the actual limit of disturbance.
o Provide minimum 3 feet of cover over drain lines (PCB 1 and PCB2).
o It appears that abutting property drainage is is being directed around the parking lot, will a drainage easement be provided.
- Sheet 8:
o Show utilities in the public right of way (all the linetypes are the same).
o Gas service isn’t connecting to a main.
o Show proposed sewer laterals
o Show proposed water services and fire lines if proposed.
o Show gate valves on the water main
o Hydrant gate valves attach directly to the anchor tee.
o Class 140 water fittings are required.

- o Gate valves must be manufactured by Mueller or Clow.
- o Show all proposed and existing sewer inverts and rims.
- o Have you evaluated running sewer down to Fisher (north) rather than towards Rutland.
- o Show the limits of the proposed sewer heading towards Rutland.
- o Sewer below the community trail towards Rutland is in poor condition and will need to be reconstructed.
- o Proposed sewer shown going through a wetland. Has a wetland permit been filed?
- o Proposed sewer looks very close to abutter property line. Construction easement appears to be needed.
- o Proposed electric and communication duct bank is touching a retaining wall. Clarify if geogrid or other wall component will be impacted.
- o Water Service Connection should be an 8”x8” stainless steel tapping sleeve.
- o Consolidate the utility trenches within City ROW and provide overlay of entire area of disturbance from curb to curb.
- o Label existing SMH in accordance with City of Dover numbering. Coordinate with Engineering and GIS department.
- Sheet 11:
- o Show street name sign
- o Show private sign
- o Recommend moving porous pavement sign to Sheet 11 or sign detail to 12 with porous pavement sign. Confirm text on sign would be legible on a 12x18 sign.
- o Provide detail on mail kiosk concrete pad and confirm that the shelter would be provided too.
- o Provide fence detail. Show fence on plan view.
- o Evaluate depth of wood guardrail. Depth seems insufficient for use on steep slopes. Please confirm that it is rated for vehicle impact and meets minimum clearance from the wall.
- o Provide detail for retaining wall that notes that the design of the wall must be prepared by a professional engineer licensed in the state of NH.
- Sheet 12:
- o City standard curbing is 5” wide for vertical granite.
- o Sidewalk within City right of way should be concrete. Provide concrete sidewalk detail.
- o Trench patch detail conflicts with the City trench detail on Sheet 13.
- o Stormwater is misspelled on the bottom of the porous pavement sign.
- Sheet 13:
- o City sewer MH detail shows plastic steps. Please revise.
- o City trench details have been updated. Please coordinate with CS to get latest details.
- Sheet 14:
- o Rip Rap Outlet Protection detail calls out the aprons. Add the dimensions or labels to the plan views to identify which is which.
- o What is the Dimension D in the Drip Edge Detail.
- Sheet 16:
- o Recommend using a grate for the top of an outlet structure that can be opened (one piece of metal versus individual rebar).
- Sheet 18:
- o Please confirm that there are to be no lights on the rear of the buildings as proposed on this plan. The architectural drawings did not show lighting.
- Sheet 19:
- o Show wall pack detail.
- L1.0:
- o Proposed landscaping appears to extend across the property line. Recommend submitting an email or letter to PB showing this abutter is on board with the proposed development.
- o Proposed sewer appears to go through much of the buffer called out to remain. Will the buffer be restored?
- o There is a lot of landscaping on top of the retaining wall in addition to the underground electric, guardrail and fence. Please confirm adequate space is provided.
- Drainage Analysis:
- o Narrative says 71,000 sf will be disturbed but other docs say 77,000. Please clarify.
- o Applicant shall review the section 153-14 of the Dover Code and clarify how the design meets the City’s requirements within the analysis. (Section 2.5.3: state the Dover requirement and state how this design exceeds it).
- o The bio-ponds appear to show exfiltration at 10 in/hr but the soils onsite are not conducive to infiltration. Please confirm if this is accurate.
- o Modeling of porous pavement typically includes a larger Tc for the contributing node. Clarify how the delay in runoff from the porous is accounted for in the analysis.
- o If the adjacent lot is developed in a future phase then an AOT may be required.

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
IS Building Official	Fire / Inspection Services	Maxfield, Jim	Requires Re-submit	11/27/2023	12/25/2023	02/08/2024

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Zoning Administrator	Planning	Benton, Donna	Requires Re-submit	11/27/2023	12/25/2023	02/08/2024

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Traffic Bureau	Police	Speidel, Marn	Requires Re-submit	11/27/2023	12/25/2023	02/08/2024

Submittal Name	Status	Received Date	Due Date	Complete Date	Resubmit	Completed

Land Use Plan Technical Review v.2	Approved	02/09/2024	02/22/2024	05/21/2024	No	Yes

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Business Development	Business Development	Burdin, James	Approved	02/09/2024	03/08/2024	05/08/2024

Comments: Approved- must resubmit for unofficial TRC.

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
City Engineer	Community Services - Engineering	Mavrogeorge, Kenneth	Approved	02/09/2024	02/22/2024	05/08/2024

Comments: Approved- must resubmit for unofficial TRC.

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
IS Building Official	Fire / Inspection Services	Maxfield, Jim	Approved	02/09/2024	02/22/2024	05/08/2024

Comments: Approved- must resubmit for unofficial TRC.

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Zoning Administrator	Planning	Crouser, Paul	Approved	02/09/2024	02/22/2024	05/08/2024

Comments: Approved- must resubmit for unofficial TRC.

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Traffic Bureau	Police	Speidel, Marn	Approved	02/09/2024	02/22/2024	05/08/2024

Comments: Approved- must resubmit for unofficial TRC.

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1		11/27/2023 10:53	05/21/2024 15:11
Confirm application complete v.1	Generic Action		11/27/2023 10:54
Technical Review Committee Meeting Agenda v.1	Task	11/27/2023 10:53	11/27/2023 10:54
Land Use Plan Technical Review v.1	Receive Submittal	11/27/2023 0:00	02/08/2024 13:48
Land Use Plan Technical Review v.2	Receive Submittal	02/09/2024 0:00	05/21/2024 15:11
Technical Review Committee Meeting v.1	Hold Meeting	11/27/2023 10:55	02/08/2024 8:08
Planning Board v.1		05/28/2024 17:20	
Planning Board Agenda v.1	Task	05/28/2024 17:20	05/28/2024 17:21
Invoice for Notices v.1	Task	05/28/2024 17:20	
Send Notices v.1	Task		
Planner Creates Staff Recommendations v.1	Plan Activity		
Distribute Planning Board Materials v.1	Task		
Planning Board Hearing v.1	Hold Hearing		
Planning Board Decision v.1	Plan Activity		
NOD Sent to Applicant v.1	Create Report		
Final Plan v.1			
Land Use Plan Stamped and Signed v.1	Generic Action		
Plans uploaded to Treeno v.1	Generic Action		
Recording v.1	Task		
Property Info Group v.1	Generic Action		
Building Official Notifies Address v.1	Generic Action		
Pre-Con Meeting v.1	Hold Meeting		
Create/Link to Records v.1			
Create / Link to Permit - Building Major v.1	Create Sub Permit		
Create / Link to Permit - Site Work, Construction v.1	Create Sub Permit		

City of Dover, New Hampshire
SITE REVIEW APPLICATION

[Revision Date: July 1, 2021]

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT AND OWNER INFORMATION

Name of Applicant: H.J. Stabile & Son, Inc. Telephone # 603-889-0318 x-515

Address of Applicant: 20 Cotton Road, Suite 200 Nashua, NH 03063

E-Mail Address: eric@stabilecompanies.com

Name of Property Owner (*if different from applicant*): Double Diamond Holdings North, LLC Telephone # 603-749-2800

Address of Property Owner: 340 Central Avenue, Suite 202 Dover, NH 03820

Name & Address of 2nd Property Owner: Carmel A. Casey 36A Fisher Street Dover, NH 03820

PROPERTY INFORMATION

Address of Property: Fisher Street

Assessor's Map # 15 Lot(s) # 40A-1 (a portion of 15 / 40A & 51)

Zoning District(s) G Overlay District(s) Dover Conservation District

Size of Parcel: 170,468 sq. ft. 3.91 ac. Property Deed: (portion of) Book 3166 / 4337 Page: 780 / 566 Double Diamond Holdings North, LLC / Carmel A. Casey

Existing Use of Property: Vacant

SITE PLAN INFORMATION

Describe Proposed Use: Residential - Condominium Townhouses

Area of Parcel to be Developed: 70,265± sq. ft.

If Multi-family Residential: Number of Units 21 & Buildings Proposed 4

If lodging: Number of Units N/A & number of Buildings N/A

Number of Parking Spaces: Existing 0 Proposed Total 32: 21 single space drive-under garages, plus 11 additional surface spaces

Highway Access (check where applicable): ✓ City Street ____ State Highway

Number of Employees Total: N/A In Maximum Shift: N/A

Disposition of Parcel:

Building Footprint 14,740 sq. ft.

Total Building Area 44,220 sq. ft.

Paved Area 26,100 sq. ft.

Building Setbacks:

Front Yard 5-20 ft.

Rear Yard 15 ft.

Side Yard: Right 10 ft. Left 10 ft.

City Water? ✓ Yes ___ No How far is city water from the property? at Fisher Street

City Sewer? ✓ Yes ___ No How far is city sewer from the property? at Fisher Street

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION N/A

Type of TRANSFER OF DEVELOPMENT RIGHT REQUEST (Check All That Apply):

□ Residential □ Residential (reduced size) □ Industrial | □ Purchase □ Land Preservation

Relief sought (Check All That Apply):

□ Lot Size □ Frontage □ Setback □ 30' Buffer □ Increase by _____ units

Describe Proposed Use or Activity that requires TDR; describe any impacts and document mitigation:

BUILDING INFORMATION

Type of Building to be Built: 4 Condominium Townhouse Buildings (21 total units)

Height of Building: 37.5 feet (highest peak) Finished Floor Elevation: variable: 83.75' - 89.90'

Number of Seats (where applicable) N/A

Estimated value of construction: $550,000 Refuse removal: Public Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: Section 153-14.G (3) (a)

Justification for waiver request(s) (*attach additional sheets as needed*): "To allow a minimum caliper of 2-1/2"
The landscape architect has indicated that trees with a 2-1/2" caliper establish themselves quicker and produce new growth sooner and with less maintenance than those of the required sizes. Granting this waiver is in general conformance with the intent of the Site Review Regulations.

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Kevin McEneaney, LLS - McEneaney Survey Associates

Address P.O. Box 681 Dover, NH 03821 Telephone #: 603-742-0911

Professional License #: NH LLS #661 E-mail address: kevin@surveynh.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Stephen J. Haight, PE - Civilworks New England

Address P.O. Box 1166 Dover, NH 03821 Telephone #: 603-749-0443

Professional License #: NH PE # 7978 E-mail address: shaight@civilworksne.com

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) JAD Design Group, Inc.

Address P.O. Box 728 Amherst, NH 03031 Telephone #: 603-554-1199

Professional License #: _____ E-mail address: _____

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) Jeffrey R. Hyland, Landscape Architect
Ironwood Design Group, LLC

Address 55 Main Street, Unit 129 Newmarket, NH 03857 Telephone #: 603-772-0590

Professional License #: Jeffrey R. Hyland, Landscape Architect #00026 E-mail address: jhyland@fewood.com

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) Bruce A. Gilday, CSS, CWS
BAG Land Consultants

Address 43 Rockingham Street Concord, NH 03301 Telephone #: 603-228-5775

Professional License #: Bruce A. Gilday, CWS #88 E-mail address: bagilday@comcast.net

CONSERVATION EASEMENT HOLDER

Name of Easement Holder: N/A Telephone #_____

Address Easement Holder: _____

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. Furthermore, I/we submit that the existing conditions sheet of the plan represents the lot in question, and that no alteration of the site shall take place during Planning Board review up to and including the pre-construction meeting. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: _____ Date: _____
for Double Diamond Holdings North, LLC

Signature of Applicant (*if different from owner*): _____ Date: 10/25/23
for H.J. Stabile & Son, Inc.

Signature of Agent: _____ Date: _____

Signature of 2nd Property Owner: _____ Date: 10.25.23
Carmel A. Casey

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of 2nd Property Owner: _____ Date: 10.25.23
Carmel A. Casey

Signature of Property Owner: _____ Date: _____
for Double Diamond Holdings North, LLC

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

I, and my successors, hereby the City of Dover or its assigns to enter my property for the purpose of completing the site work as required by the approved plan should the letter or credit or other surety be called. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of 2nd Property Owner: _____ Date: 10.25.23
Carmel A. Casey

Signature of Property Owner: _____ Date: _____
for Double Diamond Holdings North, LLC

Signature of Applicant (*if different from owner*): _____ Date: 10/25/23
for H.J. Stabile & Son, Inc.

CERTIFICATION OF FEES

I, and my successors, hereby certify that I understand that the City of Dover collects impact fees, utility investment fees and inspection fees for projects developed in Dover. Said fees must be paid before a Certificate of Occupancy can be obtained for a structure, unless a different payment schedule is agreed to by the applicant and the City prior to approvals being issued by the Dover Planning Board. Additionally, should the property be in "Current Use" it will be subject to the Land Use Change Tax.

Signature of 2nd Property Owner: _____ Date: 10.25.23
Carmel A. Casey

Signature of Property Owner: _____ Date: _____
for Double Diamond Holdings North, LLC

Signature of Applicant (*if different from owner*): _____ Date: 10/25/23
for H.J. Stabile & Son, Inc.

CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner: 15 / 51 Carmel A. Casey 36A Fisher Street Dover, NH 03820

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
15	40A-1	Double Diamond Holdings North, LLC	340 Central Avenue, Suite 202 Dover, NH 03820

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Eric Jackson	H.J. Stabile & Son, Inc.	20 Cotton Road, Ste. 200 Nashua, NH 03063

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Stephen J. Haight, PE	Civilworks New England	P.O. Box 1166 Dover, NH 03821
Kevin McEneaney, LLS	McEneaney Survey Associates	P.O. Box 1166 Dover, NH 03821

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS
		N/A	

City of Dover, New Hampshire
SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

This site plan review checklist, as required by Chapter 153-6-B(2), should be completed by the applicant. It is intended to assist the applicant in the planning process of preparing a Site Plan Review application for Planning Board action. The size of the project will determine the types of information required for review, therefore, a **pre-application conference** with the Planning Department to determine the list of items that must be completed is strongly encouraged.

The first step would be to appear before the Technical Review Committee, to apply, ~~eight (8)~~ five (5) folded copies of the site plan with scale of not less than 1"=50' or 1" =100' for larger site plans, need to be provided, along with payment of plan review fees.

Two weeks prior to Planning Board, three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, including response to TRC comments, will be due. Abutter/Notice Fees will be invoiced and need to be paid 28 hours prior to the Planning Board meeting.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan Review Regulations for full details.

APPLICANT: H.J. Stabile & Son, Inc. File Number: SITE-2023-0015

PROJECT TITLE: Fisher Street Townhouses

PROPERTY LOCATION: Fisher Street Tax Map: 15 Lot: 40A-1

	Where/How Provided	Reviewed
1. Completed and signed Application form	7 copies	
2. Plan Review Fees are provided	paid by client (refund due)	
3. Electronic copy of the engineered/surveyed plan layout	uploaded to City portal	
4. Electronic copy of supplementary materials and application	uploaded to City portal	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)	7 copies	
6. Waiver requests to the Site Plan Review Regulations, with written justification	Section 153-14.G (3) (a) 7 copies	
7. Conditional Use Permit applications x2	7 copies	
8. A colored rendering of the streetscape that will be created along the existing public right-of-way	included in application plan sets	
9. A colored architectural plan showing all sides of buildings	included in application plan sets	
10. Folded copies of site plan w/scale of not less than 1"=50' or 1"=100' for larger site plans, for TRC. Plans shall contain the following items as appropriate:	2 full size, 7 half size sets	
Location map at appropriate scale	x	
Proposed Project name and title and Planning File #	x	
Date, north arrow and scale	x	
Names of all abutting property owners	x	
Name and address of owners and/or applicants	x	
Signature & stamp of NH licensed land surveyor and/or engineer	x	
Zoning District boundaries, including any special or overlay districts	x	
Location of Conservation District areas	x	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	x	
Location and widths of existing & proposed easements & right of ways	x	
Location and width of existing and proposed access/egress ways	x	

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access	X	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	X	
Existing and proposed topographic information at two foot intervals	X	
Existing and proposed buildings and structure locations	X	
Minimum building setbacks or build to lines on all lots	X	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	X	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	X	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	X	
Existing and proposed stormwater lines and facilities	X	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	X	
Location of Flood Hazard Zone	N/A	
Location of all bodies of water and watercourses	X	
Location of wetlands and buffers	X	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	X	
Existing natural features and/or significant vegetation on property	X	
Depict existing contours up to 100 ft. beyond project limits	X	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	X	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	X	
Location, material and size of existing and proposed pavement area	X	
Location of proposed fire lanes	X	
Specify finished floor elevations of buildings	X	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	X	
Depict all service, storage, loading bays and utility areas	N/A	
All applicable Dover Common Site Plan notes	X	
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	1 copy delivered & uploaded to City portal	
Stormwater Management System Operation and Maintenance Plan	7 copies delivered	
Letter to Serve from Public and Private Utilities	7 copies delivered	
Erosion and Sedimentation Control Plan	7 copies delivered	
Landscape Operation and Maintenance Plan	7 copies delivered	
Proposed restrictive covenants or homeowners association documents	1 copy delivered & uploaded to City portal	
Dates and permit numbers of all required state and federal permits	none required	
If wetland buffer, indicate placards locations, as applicable	shown on plan set	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	7 copies delivered	
Location of proposed drive-in facilities	N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	tbd	

REVIEWED BY: _____ DATE_____ TRC DATE_____

Type text here

SITE-2023-0015 **LOCUST STREET**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
12055-000000	40 42 ELM ST	40 42 ELM ST CONDOMINIUM ASSOCIATION	C/O TYLER PELLETIER	12 FALCON LN	DOVER	NH	03820-5017
12055-000001	42 ELM ST	FOURNIER DEAN A TRUSTEE	FOURNIER DEAN A REVOCABLE LIVING TRUST	42 ELM ST	DOVER	NH	03820
12055-000002	40 ELM ST	LAHIRI TRIPTI		17 OYSTER RIVER RD	DURHAM	NH	03824
12055-000003	42 A ELM ST	KING SUSAN E		42 A ELM ST	DOVER	NH	03820
12056-000000	44 ELM ST	MOYNIHAN THOMAS J &	MOYNIHAN KAREN E	44 ELM STREET	DOVER	NH	03820
12057-000000	13 FISHER ST	SMITH LIANE &	HOLLAND JOHN R AND MICHAEL D	13 FISHER ST	DOVER	NH	03820
12058-000000	7 FISHER ST	MONE MARY E & HARDY COLLEEN M TRUSTEES	MARY E MONE REV TRUST	7 FISHER STREET	DOVER	NH	03820
12101-000000	37 FISHER ST	WALTERS SCOTT B		37 FISHER ST	DOVER	NH	03820
12102-000000	33 FISHER ST	COX MATTHEW B &	COX FINOLA H	33 FISHER ST	DOVER	NH	03820
12103-000000	25 31 FISHER ST	COX MATTHEW B &	COX FINOLA H	33 FISHER ST	DOVER	NH	03820
12104-000000	45 ELM ST	COOPER DARYLE D & MARY ANN CO-TRUSTEES	COOPER FAMILY REVOCABLE TRUST OF 2019	45 ELM STREET	DOVER	NH	03820
12105-000000	39 ELM ST	HARTMAN KATHY L TRUSTEE	HARTMAN FAMILY TRUST 2023	39 ELM STREET	DOVER	NH	03820
12112-A00000	104 BELKNAP ST	HORAN PATRICK J	HORAN LAURA A S	104 BELKNAP STREET	DOVER	NH	03820
12113-000000	119 121 BELKNAP ST	HAWKINS MATTHEW & ASHLEY TRUSTEES	HAWKINS FAMILY REVOCABLE TRUST	PO BOX 308	DOVER	NH	03821
12114-A00000	105 BELKNAP ST	DIDIO MARISA A TRUSTEE	DIDIO MARISA A REVOCABLE LIVING TRUST	105 BELKNAP STREET	DOVER	NH	03820
12126-000000	FISHER ST	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
12138-000000	46 RUTLAND ST	GLOVER JULIE E		46 RUTLAND STREET	DOVER	NH	03820
12139-000000	49 FISHER ST	GRIFFIN ELISABETH		49 FISHER ST	DOVER	NH	03820
15021-022000	271 279 LOCUST ST	DOUBLE DIAMOND HOLDINGS SOUTH LLC		340 CENTRAL AVE #202	DOVER	NH	03820
15035-000000	251 LOCUST ST	GARSTKA JEFFREY M &	GARSTKA STACI	PO BOX 154	PORTSMOUTH	NH	03802-0154
15036-000000	247 249 LOCUST ST	NOYES RYAN F		PO BOX 1152	DOVER	NH	03821-1152
15037-000000	243 LOCUST ST	DION JEREMY P &	DION AIMEE L	3 EARLE ST	DOVER	NH	03820-2118
15038-000000	239 LOCUST ST	RANALDI GENO		21 LOW ST	NEWBURYPORT	MA	01950
15039-000000	235 237 LOCUST ST	NOYES RYAN F		PO BOX 1152	DOVER	NH	03821-1152
15041-000000	223 LOCUST ST	HUGHES KEVIN R &	HUGHES MAXINE M	223 LOCUST ST	DOVER	NH	03820
15042-000000	213 LOCUST ST	BRUNSON DANA &	COOLEY MOLLY	213 LOCUST ST	DOVER	NH	03820
15043-000000	207 LOCUST ST	CHILDREN'S HOME		207 LOCUST STREET	DOVER	NH	03820
15045-000000	6 8 FISHER ST	CBA PROPERTIES LLC		PO BOX 801	NEW CASTLE	NH	03854
15046-000000	18 20 FISHER ST	MACMILLAN BRYAN &	MACMILLAN ELIZABETH	18- 20 FISHER STREET	DOVER	NH	03820
15046-A00000	16 FISHER ST	KUBIET CHRIS		16 FISHER ST	DOVER	NH	03820
15047-000000	26 FISHER ST	HENERBERRY JAMES CHARLES &	HENERBERRY MELISSA FORD	26 FISHER STREET	DOVER	NH	03820
15048-000000	30 FISHER ST	DEMOUPOULOS STAVROS REV TRUST 1/2 &	DEMOUPOULOS ELEFTHERIA REV TRUST 1/2	7851 DUET COURT	NEW PORT RICHEY	FL	34654
15049-000000	34 FISHER ST	COHEN-HOLMES JACOB		52 HAMPTON FALLS RD	EXETER	NH	03833-4713
15050-000000	36 FISHER ST	SMITH LAURIE A	SMITH T GREGORY	36 FISHER STREET	DOVER	NH	03820
15051-000000	36 A FISHER ST	CASEY CARMEL A		36A FISHER ST	DOVER	NH	03820-2526
15052-000000	38 FISHER ST	SMART DONALD W &	ACKLER SAUNDRA R	38 FISHER ST	DOVER	NH	03820
15054-000000	40 FISHER ST	MUNIZ LOUIS A & JOSEPHINE A CO-TRUSTEES	MUNIZ REVOCABLE TRUST OF 2017	40 FISHER ST	DOVER	NH	03820
15055-000000	50 52 FISHER ST	YORKE HELEN MARILYN TRUSTEE	YORKE HELEN MARILYN REVOCABLE TRUST OF 2	52 FISHER ST	DOVER	NH	03820
15058-A00000	54 RUTLAND ST	BEKKALA RONALD S &	BEKKALA ANGELA M	54 RUTLAND ST	DOVER	NH	03820
15062-000000	68 RUTLAND ST	SOUTH DOVER STORAGE SOLUTIONS LLC	C/O ROBERT FOSTER	11 MOSES CARR RD	ROLLINSFORD	NH	03869
15066-000000	80 RUTLAND ST	RESTORATION CHURCH ASSEMBLY OF GOD		PO BOX 1664	DOVER	NH	03821
15067-000000	11 SETTLEMENT DR	DRVP DEVELOPERS LLC		242 CENTRAL AVE	DOVER	NH	03820
15088-000000	250 LOCUST ST	HO SANDRA B TRUSTEE	HO SANDRA B REVOCABLE TRUST	250 LOCUST ST	DOVER	NH	03820
15089-000000	246 LOCUST ST	KIMBALL EDWARD M &	KIMBALL CYNTHIA M	246 LOCUST ST	DOVER	NH	03820
15090-000000	244 LOCUST ST	ZHENG YA XIAN		19 MILL RD	DURHAM	NH	03824
15091-000000	2 MONROE ST	HEINDSELMAN ERICA-JENEE		3546 N SOUTHPORT AVE APT 205	CHICAGO	IL	60657-1472
15092-000000	4 MONROE ST	WIESNER ANDREW C		4 MONROE ST	DOVER	NH	03820
15111-000000	208 LOCUST ST	RUTLAND BRYAN L &	PASCALE NICHOLAS W	208 LOCUST STREET	DOVER	NH	03820
15112-000000	218 LOCUST ST	RAHMANN ALEXANDRA C		218 LOCUST ST	DOVER	NH	03820
15112-A00000	216 LOCUST ST	JONES RICHARD W SR & MARTHA TRUSTEES	JONES RICHARD AND MARTHA FAMILY TRUST	216 LOCUST STREET	DOVER	NH	03820
15113-000000	118 CENTRAL AV	CENTRAL AVENUE MANAGEMENT LLC		601 CENTRAL AVE	DOVER	NH	03802
15113-A00000	240 LOCUST ST	PETERSON STEPHAN L		246 DOVER POINT RD	DOVER	NH	03820
15040-A00000	LOCUST ST	DOUBLE DIAMOND HOLDINGS NORTH LLC		340 CENTRAL AVE #202	DOVER	NH	03820
		CIVILWORKS NEW ENGLAND	STEVE HAIGHT	PO BOX 1166	DOVER	NH	03820

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – SITE-2023-0015

Application Type:	Site Review
Applicant(s):	H.J. Stabile & Son, Inc
Owner(s):	Double Diamond Holdings North, LLC
Location:	Locust Street (Tax Map 15, Lot 40-A)
Date:	February 22, 2024

INTENT: To construct a Townhouse Condominium Complex of 22 units with associated parking and drainage. A Conditional Use Permit application would also appear before the Planning Board.

UNITS PROPOSED: 22

AGENDA ITEM #: 1

ACREAGE:
Total: 3.91± ac. To be developed: 77,000± sq. ft.

ZONING DISTRICT: G

EXISTING LAND USE: Vacant

PROPOSED LAND USE: Add 22 residential units

SURROUNDING LAND USE: Residential, Community Trail, Commercial/Industrial

ZBA ACTION: None.

PERMITS REQUIRED:
- Conditional Use Permit- wetland buffer impact
- Conditional Use Permit- setbacks

WAIVERS REQUESTED:
- Waiver from §153.14.G (2)- Interior Landscaping

ATTENDANCE:
Paul Crouser, Zoning
Erin Bassegio, Planning
Marn Speidel, Police
Jim Maxfield, Fire/Inspection Services
Ken Mavrogeorge, Engineering
James Burdin, Business Development
Tom Clark, Planning Board

Others:
Michael Menary, Civilworks NE
Eric Jackson, Stabile Companies
Anthony Tringali, Stabile Companies

Approval of minutes from February 15, 2024:
T. Clark moved to approve the February 15, 2024 minutes. Seconded by: J. Burdin.Vote: U/A.

PLAN REVIEW:
Planning:
- Thank you for submitting HOA documents, will review further.
- Access to the Community Trail, sidewalk improvements (RRFBs), and currently proposed green space would be part of site connectivity and not active or passive recreation.
- Passive and active recreations fee in lieu of project inclusion.
- Thank you for providing Post Master approval of mail kiosk location- to confirm, this is approval outside public right of way.
- Ensure no conflict between bike rack and surrounding landscaping.
- Trees along street must have a 3" caliper minimum.
- Please add note detailing how the invasives (Japanese Knotweed) will be removed (possibly add to Operations and Maintenance Plan)
- Trash removal noted on site plan.
- Director Benton will send new Common Notes.

Zoning:
- CUP for wetland disturbance – unit count essential to make project financially viable?
- Waiver for Interior Landscaping not required
  - § 153-14G(2.B.) states "Parking lots which have more than two aisles which are approximately parallel shall be required to have continuous landscaped planting strips separating every four rows of parking."
- Ensure placement of wetland delineation placards.
- Revise plan to:
  - *Add file number to all sheets (SITE-2023-0015)* (Did not appear on Landscape Plan or Architechtuals)
  - *Add professional stamp and signatures on all submissions*
  - *Add a private road note (*Include note that road is a private road not built to City specifications)
  - Include consecutive numbering on plan set

Engineering:
- General Comment:
  - Check documents for spelling errors (plans and TRC response comments).

- Applicant could consider decreasing the sought number of parking spaces and potentially reducing the length of the driveways to decrease the site's impervious surface area.
- *Previous Comment: Applicant shall provide an easement to the City along the private drives within the property to allow for access and operation of the water infrastructure (hydrants and shut offs) to maintain water quality.* **New Comment: It is unclear where this is addressed in the plans. Please provide note and sheet numbers for responses to help with City review.**

- Sheet 4:
  - Notes 24 and 25 under Site Notes are missing.
- Sheet 6:
  - Remove snow storage from bioretention basin per Landscape Maintenance Plan recommendations.
  - Recommendation providing termination detail for guardrail.
- Sheet 9:
  - Please provide sizing calculations to confirm a 6 inch water main is sufficient to provide fire and domestic services to the homes. Recommend a minimum 8 inch line.
  - Label the size and slope of the sewer main.
  - Sewer mains with less than 6 feet of cover below pavement shall have insulation. Limits of insulation on the plans.
  - Label material and size of force main.
  - Provide detail on generator pad and generator for pump station.
  - Add note to rebuild the invert in the City's sewer structure.
- Sheet 11:
  - *Previous Comment: Show street name sign.* **New Comment: Sign detail should conform to MUTCD regulations and Dover's Standard Details.**
  - Confirm porous pavement text on sign would be legible on a 12x18 sign.
  - Add note that RRFB shall match Dover City Standards and to coordinate RRFB purchase with City of Dover Community Services Department.
  - *Previous Comment: Provide detail on mail kiosk concrete pad and confirm that the shelter would be provided too.* **New Comment: Revise note that the concrete pad shall be designed by a licensed professional engineer specifically to support the kiosk structure.**
  - *Previous Comment: Provide fence detail. Show fence on plan view.* **New Comment: check dimensions on fence. Will fence be embedded in concrete?**
- Capital Reserve Calculations:
  - It is unclear if the costs shown are in future dollars or in present dollars. If not adjusted for inflation then the reserve amount per year may be insufficient.
  - Calculations do not have an allocation for annual hydrant fees or maintenance of private utilities.
  - Costs do not appear to be provided for the reconstruction of the parking lot or maintenance or eventual reconstruction of the stormwater management system.
- The Site Development Design Narrative has references to Quality Way. Check document for project specific content.

Police:

- Sheet 4, Dover Note 25: With respect to commercial vehicle routes during construction, please be sure your earthwork contractor is familiar with this note and coordinates haul routes with Community Services Director and Police Traffic Coordinator.
- Remove proposed crosswalk that crosses Fisher Street at Elm, in light of your conclusions regarding all-way stop control warrants and in light of enhancements to be provided at the nearby Community Trail crossing. Tip-downs can remain but do not need tactile warning panels. Retain the proposed crosswalks across Elm and across the site driveway, as requested by the City Engineer.
- Thank you for the traffic memorandum and data collected. City staff may opt to refer Mr. Pernaw's analysis and conclusions to the City's Transportation Advisory Commission in support of assigning and posting a 25 mph speed limit on Fisher Street.

Fire/Inspection Services:

- Discuss Saturday/Sunday and holiday work hours due to proximity of residences. Construction hours limited on Saturdays through

4:00pm, and shall not be permitted on Sundays or on federal holidays.
- Sheet 9 – provide location of pump controller
- Sheet 17 – provide classification of pumping chamber/area (i.e. class I div I) due to connection to municipal waste water

Business Development:
- The revision to add a sidewalk from the parking lot to street level is acknowledged and appreciated.
- Please revise the landscape plan to reflect the new sidewalk.
- The pedestrian circulation design still seems to have potential pedestrian/auto conflicts:
    - Pedestrian access to and from the units still appears to be impossible without walking in the street
    - The parking lot has no pedestrian circulation options – after parking residents would need to walk through vehicle circulation or turnaround areas to access the stairs
- The Gateway District purpose and design standards repeatedly emphasize design that provides a safe, attractive, and desirable experience for pedestrians and cyclists. A project with fewer units that prioritized highly walkable connections to Fisher Street and/or the community trail may be more consistent with this purpose and the surrounding development and provide a more attractive product for future residents.

Planning Board:
- Correction to p. 2 of applicant's TRC response: Horne Street School should read Woodman Park School.

Next Steps: Revise, resubmit for unofficial TRC.

Adjournment:
T. Clark moved to adjourn at 11:18 a.m. Seconded by: K. Mavrogeorge. Vote: U/A.

CIVILWORKS NEW ENGLAND

181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

February 8, 2024

Dover Planning Board
288 Central Avenue
Dover, NH 03820

Attn: Technical Review Committee

Ref: The Fisher Street Townhouses, Fisher Street
Assessor's Map 15, Lot 40-A

Re: Technical Review Committee minutes – SITE-2023-0015 dated November 30, 2023

Dear Planning Board:

In response to Technical Review Committee minutes – SITE-2023-0015, by TRC dated November 30, 2023 we submit the following responses in bold beneath the review comments in italic.

Planning

1. *For rent or for sale?*
   The Condominium units will be for sale.
2. *Impact fees*
   Owner has been made aware of Impact Fees.
3. *LLA with Casey Lot*
   The LLA with the Casey Lot will be submitted for PB approval with the site plan PB submittal.
4. *Water and Sewer investment fees*
   Owner has been made aware of Water and Sewer investment fees.
5. *HOA documents including electric grills or indicating grills not within 10'*
   The applicant has incorporated grill usage in the draft condominium documents.
6. *Provide narrative for CUP and how the criteria have been addressed.*
   A CUP narrative has been attached to address the criteria relevant to the project in section 170-27.1 of the Dover regulations.
7. *Landscape plan to be reviewed in more detail. In addition to general, specifically request vegetative buffers and fencing details, to include parking lot (5% interior landscaping and perimeter landscaping);*
   Subsequent to the TRC meeting the landscape plan has been updated to show additional fences for screening to supplement the vegetative buffers proposed. The project proponent is requesting a waiver to include interior landscaping the parking lot as this would require a larger parking area footprint to accommodate the required parking spaces. The applicant will be requesting a waiver from the requirement to provide interior landscaping to the parking area.
8. *No screening/ fencing shown re: transformer pad:*
   The landscape plan has been updated to add additional screening around the transformer pads as requested. The screening is as robust as it can be given the constraints that Eversource places on plantings in proximity to their transformers.
9. *Provide Letter to Serve*
   Until and Eversource has provided their will serve letter. The City of Dover will serve letter is pending.

10. *Provide neighborhood density analysis discussed at TRC*
    The neighborhood density analysis has been attached in the resubmittal.
11. *Section 157-31F. Block size requires no less than 500'*
    The project access road is 515 lf and exceeds the minimum block length stipulated in section 157-13F therefore no waiver is required. Please note that this project is consistent the average block length for the Belknap Street and Elm Street's neighborhood's of 430'.
12. *Active and passive recreation requirement*
    As discussed at TRC, active recreation for this project is provided by sidewalk access to Fisher Street with access to the Dover Community trail. The project proponent has agreed to provide additional crosswalk markings at Elm Street, the project entrance as well as the addition of a blinking crosswalk sign (RRFBs) for the Dover community trail crossing on Fisher Street. Additional passive recreation will consist of the green spaces onsite. At TRC, the project applicant discussed passive recreation on other sites they have done and their experience is that onsite passive recreation such as playgrounds are under utilized and area liability for the condominium. With this project so close to the Dover Community trail and other existing recreation areas in close proximity to the site (such as Horne Street School) that the requirement for additional passive recreation onsite is not needed.
13. *Have Post Master approve mail kiosk*
    The project team has met onsite with the Dover Post office representative and the Dover USPS has accepted the placement and configuration of the mail kiosk proposed on the site.
14. *Revise plan to:*
    a. *Add professional stamps and signatures on all submissions.*
       Professional stamps and signatures will be on the final submission.
    b. *Add file number to all sheets (SITE-2023-0015)*
       Plans have been revised to include file numbers.
    c. *Reduce unit count to reduce buffer impact.*
       The number of units proposed for this development is 50% of the allowable density allowed by zoning and is consistent with the density of the surrounding multi family properties. The applicant has reduced the number of units as much as is practicable.
    d. *Reduce height of building*
       The closest building is set back over 250' from Fisher Street and the finished slab grades are 10' to 15' lower than the grade of Fisher Street at the project entrance. Said another way is that the maximum elevation of the peak of the closest building to Fisher Street is only 10' above the grade of Fisher Street.
    e. *Connect to Community Trail*
       Connectivity to the Dover Community trail has been provided in the form of a blinking crosswalk sign (RRFBs) on the community trail, and crosswalks on Elm Street from the proposed development.
    f. *Archs in plan set*
       Architectural plans have been included in the plan set.
    g. *Landscape plan in plan sets*
       Landscape plans have been included in the plan set.
    h. *TIA missing findings/ results summary?*
       The project team has met with the Dover Traffic coordinator and has completed a comprehensive TIA . The TIA recommends adding the painted cross walks at Elm Street and the project entrance. The TIA concludes that the proposed project does not add significant traffic to Fisher Street and no additional traffic controls are necessary. The TIA summary has been updated.

i. *Confirm side setback show dimension*
Side setbacks have been confirmed and included in the site plan.

j. *Limit cutting*
Cutting has been minimized so that existing trees can be used for screening, as well as the addition of more screening vegetation and fences.

k. *Add more pedestrian connectivity*
Pedestrian connectivity is being provided in the form of a blinking crosswalk sign (RRFBs) on the community trail, and crosswalks on Elm Street from the proposed development.

l. *Active and passive rec space?*
Active recreation that will be provided on site will be the addition to pedestrian facilities throughout and around the site. This includes the addition of crosswalks to Elm Street crossing Fisher Street, and the addition of a blinking crosswalk sign (RRFBs) for the Dover community trail crossing Fisher Street. This project is geared for an older clientele which the applicant has found do not use passive recreation. In this case, with the proximity to the Dover community trail and connectivity being provided, we believe this requirement is met.

m. *Build to line compliance?*
As discussed with the Planning Department the build to line is required and the applicant is requesting a CUP for setback compliance.

n. *Confirm all site review notes*
Most recent Dover Standard Planning and Construction Notes have been incorporated into the plan set. See Note Sheet, sheet 4.

o. *Add EVSE readiness to 5% of parking spaces*
An EVSE readiness parking space has been proposed in the common parking area.

p. *Indicate contiguous uplands on site*
The Demolition Sheet (Sheet 5) has been revised to include the contiguous uplands on site. Contiguous uplands: 153,596 s.f.

q. *Add bike rack*
The Site Plan have been revised to include a bike rack next to the mail kiosk, see sheet 6.

r. *Revise snow storage*
Sheet 6, Site Plan, has been revised to include snow storage, but when the snow is in excess of the areas provided, a note has been added that states "snow storage will be according to the operation and maintenance plan and within areas as indicated. on-site snow storage shall occur along the edges of proposed pavement. if snow volume becomes to great the snow will be haled off site."

s. *Add private road note*
A note has been added that states "prior to conveying the ownership and maintenance obligations from the developer to the association, the engineer of record shall meet with the association and review maintenance obligations, including stormwater, and roadway maintenance."

t. *Add note about private trash*
A note has been added to sheet 4, site note 10 that states "refuse pickup will be by private contractor at ends of driveways"

15. *G Specific Zoning*

a. *Project not proportional with surrounding buildings;*
As discussed with Planning and the TRC the proposed project is in keeping with the density and character of the surrounding neighborhood. The applicant is exploring color options.

b. *Project not broken into smaller masses;*
The applicant has provided aesthetically pleasing building and have provided architectural

features such as entry access porticos and staggered units.

c. *Buildings are all vinyl sided – must have wood, brick, or stone first 20 vertical feet.*
The applicant has spoken with Planning and Planning has confirmed that since the units do not front on a public way that the siding as proposed is acceptable.

Engineering

1. *General: Applicant and Contractor shall review the Dover Construction Guidelines prior to scheduling a Preconstruction meeting with City staff. The guidelines can be found on the City of Dover Website on the Engineering page. It is anticipated that an updated document may be in place by the time this project goes to construction. Applicant shall abide by the document adopted at the time of the precon.*
Acknowledged. The latest Dover construction standard notes and details have been added to the plan set.
2. *General: Some of the details noted as City standards are outdated. Please coordinate with Community Services (Engineering Department) for latest City Standard Details.*
Acknowledged. The latest Dover construction standard notes and details have been added to the plan set.
3. *General: Add note that Design Engineer shall provide signed letter to City Engineer certifying that the stormwater management system has been installed in accordance with approved plans.*
The requested note has been added to the standard notes on the note sheet.
4. *General: Recommend providing 1 sf of snow storage per 10 sf of pavement to be cleared. Verify snow storage meets or exceeds this recommendation or provide note to remove excess snow when storage areas are filled.*
Snow storage will be along the edges of pavement. A note has been added to the plans and in the condominium documents that excess sow will be removed from the stie as needed.
5. *General: Are any of the units intended to be ADA accessible?*
The applicant does not intend on providing an ADA accessible unit.
6. *General: Recommend a contribution be made for RRFBs and crosswalk at Fisher Street Community Trail rail crossing.*
The applicant has agreed to provide a RRFB at the Fisher street Community Trail rail crossing. The Applicant with coordinate the placement of the RRFB with Engineering during construction.
7. *General: Precast manhole covers shall be Liftmate R-1743-LM or approved equal with 90 deg hinge.*
Acknowledged. The latest Dover construction standard notes and details have been added to the plan set.
8. *General: Applicant shall provide an easement to the City along the private drives within the property to allow for access and operation of the water infrastructure (hydrants and shut offs) to maintain water quality.*
The requisite note has been added to the note sheet indicating that he City of Dover has the right to flush and maintain the potable water system for water quality
9. *General: Required Blasting and Excavation – Please note that the Dover Fire Department shall be notified prior to any blasting activities and that a blasting permit from the Dover Fire Department must be obtained.*
Acknowledged. The requisite note has been added to the note sheet.
10. *General: Please provide a test pit in the proposed bioretention basin location as the ESHWT various across the proposed project.*
A testpit is not required for this system design.
11. *General: Will this be an HOA? If so, it is strongly recommended that the Applicant submit a detailed breakdown of proposed HOA costs for annual maintenance and replacement of private infrastructure including backup as to how the fees are estimated.*
This will be a condominium. The applicant will provide a detailed breakdown of proposed

condominium costs for annual maintenance and replacement of private infrastructure including backup as to how the fees are estimated.

12. *General: Applicant should provide a drainage easement to the City for the existing swale as it takes water from Locus St.*
    The applicant is providing the City of Dover a drainage easement for the existing drainage ditch that takes the City water from Locust Street.
13. *Sheet 4: Site Note 19 should read Director of Planning and Community Development instead of Assistant City Manager.*
    The note has been updated.
14. *Sheet 4: Site Note 24: Change website to https://ptapp.unh.edu/*
    The note has been updated.
15. *Sheet 4:Site Note 29: Note indicates snow storage areas are shown. Please show on plan view or revise note.*
    The note has been updated. And snow storage has been identified on the plans and will be clarified in the condominium documents.
16. *Sheet 4: Utility Note 7: Note that water main shall be poly wrapped in accordance with the City of Dover standards.*
    The note has been updated.
17. *Sheet 4: Utility Note 29: Note that all sewer mains and manholes shall be tested in accordance with NHDES Env-Wq 700 requirements. Copies of test results shall be provided to the City of Dover Engineering Department.*
    The note has been updated.
18. *Sheet 4: Grading Note 16: Wetland placards should identify the no cut wetland buffer and should be maintained throughout construction and after.*
    The note has been updated.
19. *Sheet 4: Coordinate with CS Utilities for Hydrant tests required for fire suppression design if applicable.*
    Acknowledge.
20. *Sheet 6: Add stop bar at intersection.*
    The plans have been updated to include a stop bar at the site driveway entrance.
21. *Sheet 6: Add crosswalks across Elm and the new driveway.*
    The plans have been updated to show a cross walk at Elm Street and the new driveway.
22. *Sheet 6: Reconstruct sidewalks across the entire frontage of the property and with concrete curb ramps with ADA detectable warnings.*
    The plans have been updated and notes added to reconstruct sidewalks across the entire frontage of the property and with concrete curb ramps with ADA detectable warnings d
23. *Sheet 6: Are there plans to connect the Community Trail through a future phase?*
    As discussed with TRC and planning, the applicant will not be providing an access to the Rail Trail from the site. The access would invite the public to cross private property and the liability would be unacceptable to the condominium.
24. *Sheet 6: Provide termination detail for guardrail.*
    Looking at Main Line Fence (a fence provider in Maine), typically when terminating a wood guardrail, the final post will have the wood beam terminate at the same location.
25. *Sheet 6: Move porous pavement sign to the start of the porous pavement.*
    The plans have been updated accordingly.
26. *Sheet 6: Only one transformer pad proposed. It is presumed that Eversource may require additional infrastructure. Please identify space for additional transformers if they are required.*
    Discussion with Eversource indicated that the electrical layout shown can be provided. But the applicant/ applicant's electrician is working with Eversource for a final site loading, at that point

Eversource will decide if the proposed transformers and layout is adequate.

27. *Sheet 6: Parking is very close to the abutting properties. Please confirm that all proper setbacks are met.*
    Parking is allowed within 5' of a property line and the abutting property with Casey will be codified with an easement.
28. *Sheet 7: Proposed retaining walls exceed 4'; walls exceeding 4' require building permit.*
    Acknowledged. Engineered shop drawings for the walls will be provided during construction.
29. *Sheet 7: Show top and bottom of wall elevations.*
    The wall elevations have been added to the plans.
30. *Sheet 7: Fence is shown on details. Call out fence on top of wall on plan views.*
    Fencing has been called out on the plans, and the wall detail has been updated accordingly.
31. *Sheet 7: Provide roadway profile for the new private drive per 153-14(C)(3) to show slopes approaching the public way.*
    A road profile has been provided.
32. *Sheet 7: Grading is show on the property. Provide temporary grading easement from property owner or provide separation from property line.*
    The applicant has provided easements on the Casey property for grading, drainage and access.
33. *Sheet 7: Label the rip rap aprons to match the detail.*
    The plans have been updated accordingly.
34. *Sheet 7: Eastern most apron is orientated the wrong way*
    Bio-retention Pond 2 outlet is a defined channel, graphically on the plan, the wide end is at the outlet.
35. *Sheet 7: Utilities plan shows new sewer beyond the limits of grading. Revise one or the other to reflect the actual limit of disturbance.*
    The plans have been updated accordingly; sewer run no longer goes beyond limits of grading. The limit of disturbance has been revised to 77,000 sf.
36. *Sheet 7: Provide minimum 3 feet of cover over drain lines (PCB 1 and PCB2).*
    Drain line from PCB1 and PCB2 have been verified and have ±3.5' to ±4' of cover. Where the 3' of cover cannot be met the drain lines will have insulation.
37. *Sheet 7: It appears that abutting property drainage is is being directed around the parking lot, will a drainage easement be provided.*
    Easements are being provided as appropriate. Draft easement documents will be provided during resubmittal.
38. *Sheet 8: Show utilities in the public right of way (all linetypes are the same).*
    The plans have been updated accordingly to include approximate location of drain, sewer, water, and gas lines within the public ROW.
39. *Sheet 8: Gas service isn't connecting to a main.*
    The plans have been updated accordingly.
40. *Sheet 8: Show proposed sewer laterals.*
    The plans have been updated accordingly.
41. *Sheet 8: Show proposed water services and fire lines if proposed.*
    The plans have been updated accordingly.
42. *Sheet 8: Show gate valves on the water main*
    The plans have been updated accordingly.
43. *Sheet 8: Hydrant gate valves attach directly to the anchor tee.*
    The plans have been updated accordingly.
44. *Sheet 8: Class 140 water fittings are required.*

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A note has been added to the Note Sheet 4, Dover Note 48.

45. *Sheet 8: Gate valves must be manufactured by Mueller or Clow.*
    A note has been added to the Note Sheet 4, Dover Note 49.
46. *Sheet 8: Show all proposed and existing sewer inverts and rims.*
    The plans have been updated accordingly.
47. *Sheet 8: Have you evaluated running sewer down to Fisher (north) rather than towards Rutland.*
    Sewer will consist of a pump station onsite to the manhole in Fisher Street.
48. *Sheet 8: Show the limits of the proposed sewer heading towards Rutland.*
    Sewer will consist of a pump station onsite to the manhole in Fisher Street, sewer no longer heads towards Rutland Street.
49. *Sheet 8: Sewer below the community trail towards Rutland is in poor condition and will need to be reconstructed.*
    The applicant will be providing a sewer pumpstation onsite tying into the sewer manhole in Fisher Street.
50. *Sheet 8: Proposed sewer shown going through a wetland. Has a wetland permit been filed?*
    The applicant will be providing a sewer pumpstation onsite tying into the sewer manhole in Fisher Street. There are no wetland impacts proposed.
51. *Sheet 8: Proposed electric and communication duct bank is touching a retaining wall. Clarify if geogrid or other wall component will be impacted.*
    The plans have been updated accordingly to verify that the utility trench will not come into conflict with the retaining wall.
52. *Sheet 8: Water Service Connection should be an 8"x8" stainless steel tapping sleeve.*
    The plans have been updated accordingly, to include a 8"x6" stainless steel tapping sleeve.
53. *Sheet 8: Consolidate the utility trenches within City ROW and provide overlay of entire area of disturbance from curb to curb.*
    The plans have been updated accordingly to show the water and gas being consolidated in the City ROW. See Demolition Plan sheet 5 for area of disturbance from curb to curb in the City ROW.
54. *Sheet 8: Label existing SMH in accordance with City of Dover numbering. Coordinate with Engineering and GIS department.*
    The plans have been updated accordingly.
55. *Sheet 11: Show street name sign*
    The plans have been updated accordingly.
56. *Sheet 11: Show private sign*
    The plans have been updated accordingly.
57. *Sheet 11: Recommend moving porous pavement sign to Sheet 11 or sign detail to 12 with porous pavement sign. Confirm text on sign would be legible on a 12x18 sign.*
    The plans have been updated accordingly.
58. *Sheet 11: Provide detail on mail kiosk concrete pad and confirm that the shelter would be provided too.*
    A note has been added to the mail kiosk that states "see city of dover d-6 concrete sidewalk detail for concrete pad specifications."
59. *Sheet 11: Provide fence detail. Show fence on plan view.*
    The plans have been updated accordingly.
60. *Sheet 11: Evaluate depth of wood guardrail. Depth seems insufficient for use on steep slopes. Please confirm that it is rated for vehicle impact and meets minimum clearance from the wall.*

Looking at the NHDOT "Guardrail Standard – Beam Guardrail Standard Section-Wood Posts & Hardware Details" the detail shows 4'-5" depth of the post in the ground, the detail in the plan has been revised to show this. The detail also shows the guardrail 2' minimum from slopes steeper than 4:1, this is provided.

61. *Sheet 11: Provide detail for retaining wall that notes that the design of the wall must be prepared by a professional engineer licensed in the state of NH.*
    The plans have been updated accordingly. See sheet 16.
62. *Sheet 12: City standard curbing is 5" wide for vertical granite.*
    The plans have been updated accordingly.
63. *Sheet 12: Sidewalk within City right of way should be concrete. Provide concrete sidewalk detail.*
    The plans have been updated accordingly.
64. *Sheet 12: Trench patch detail conflicts with the City trench detail on Sheet 13.*
    The plans have been updated accordingly.
65. *Sheet 12: Stormwater is misspelled on the bottom of the porous pavement sign.*
    The plans have been updated accordingly.
66. *Sheet 13: City sewer MH detail shows plastic steps. Please revise.*
    The most recent City of Dover details have been included, the plans have been updated accordingly.
67. *Sheet 13: City trench details have been updated. Please coordinate with CS to get latest details.*
    The most recent City of Dover details have been included, the plans have been updated accordingly.
68. *Sheet 14: Rip Rap Outlet Protection detail calls out the aprons. Add the dimensions or labels to the plan views to identify which is which.*
    The plans have been updated accordingly to include the same nomenclature as the detail.
69. *Sheet 14: What is the Dimension D in the Drip Edge Detail.*
    Elev. D is the bottom of the filter layer, the detail has been updated accordingly.
70. *Sheet 16: Recommend using a grate for the top of an outlet structure that can be opened (one piece of metal versus individual rebar).*
    The plans have been updated accordingly.
71. *Sheet 18: Please confirm that there are to be no lights on the rear of the buildings as proposed on this plan. The architectural drawings did not show lighting.*
    As discussed at TRC the applicant is expecting that there will be wall sconces at the rear of each unit. The lighting plan has been updated accordingly.
72. *Sheet 19: Show wall pack detail.*
    The plans have been updated accordingly.
73. *Sheet L1.0: Proposed landscaping appears to extend across the property line. Recommend submitting an email or letter to PB showing this abutter is on board with the proposed development.*
    An easement on the Casey lot will be provided for drainage, grading, snow storage, and landscape maintenance.
74. *Sheet L1.0: Proposed sewer appears to go through much of the buffer called out to remain. Will the buffer be restored?*
    The applicant will be providing a sewer pumpstation onsite tying into the sewer manhole in Fisher Street. There are no wetland impacts proposed.
75. *Sheet L1.0: There is a lot of landscaping on top of the retaining wall in addition to the underground*

electric, guardrail and fence. Please confirm adequate space is provided.
Discussion with Jeffery Hyland with Ironwood Design Group indicated that the plantings in this area are low growth bushes that will be underneath the wooden guardrail.

76. *Drainage Analysis: Narrative says 71,000 sf will be disturbed but other docs say 77,000. Please clarify.*
The Drainage Analysis introduction has been revised to 77,000 sf of disturbance.
77. *Drainage Analysis: Applicant shall review the section 153-14 of the Dover Code and clarify how the design meets the City's requirements within the analysis. (Section 2.5.3: state the Dover requirement and state how this design exceeds it).*
A stormwater narrative has been provided.
78. *Drainage Analysis: The bio-ponds appear to show exfiltration at 10 in/hr but the soils onsite are not conducive to infiltration. Please confirm if this is accurate.*
This 10 in/hr exfiltration is the rate at which the water goes through the media of the pond. The 10 in/hr exfiltration is not discarded into the ground, but rather routed to the underdrains.
79. *Drainage Analysis: Modeling of porous pavement typically includes a larger Tc for the contributing node. Clarify how the delay in runoff from the porous is accounted for in the analysis.*
Discussion with Mike Schlosser with the Alteration of Terrain Bureau indicated that you only need to add a lag time for porous pavement when calculating the 1" storm for WQV. The porous pavement is designed to AOT standards. See attached discussion with Mike Schlosser.
80. *Drainage Analysis: If the adjacent lot is developed in a future phase then an AOT may be required.*
As discussed at TRC the applicant is not aware of any development being proposed on the abutting property.

Police

1. *Show imprint or outline of the developed project area on Neighborhood Plan. Seems confusing otherwise because it isn't clear what's happening with the Locust Street access to this parcel.*
The neighborhood plan has been updated accordingly.
2. *Sheet 4, Note Sheet:*
    a. *Show imprint or outline of the developed project area on Neighborhood Plan. Seems confusing otherwise because it isn't clear what's happening with the Locust Street access to this parcel.*
    The neighborhood plan has been updated accordingly.
    b. *Refuse pickup is noted as private and curbside. How would that be implemented in practice?*
    The condominium will be responsible for refuse pick up and will be noted in the condominium documents.
    c. *Utility Note 27 references a "security alarm system". The language in Chapter 58 requires a security system, not a security alarm system, if applicable. But this project does not appear to be applicable.*
    As discussed at TRC the note is a standard dover note. We has indicated that it is not applicable in the notes.
3. *Would snow storage in the most obvious location (end of roadway between Units B5 and D5) have adverse effect on the proposed Bio-Retention Basin 1? If so, how would the basin be protected?*
The drainage system is designed to accommodate snow storage. The HO will have excess snow removed from the site as necessary.
4. *Based on the steep slopes, it appears substantial fill or excavation is required to achieve buildable area for Building B. This should be shown on Sheet 5 Demo Plan.*

The demolition plan is used to show the limits of disturbance of a site. The grading plan shows the limits of the cuts and fills necessary for construction.

5. *Add street sign with PRIVATE supplemental placard to detail sheet*
   Most recent City of Dover details have been updated accordingly.
6. *Sheet 8, Utility Plan: is this a hydrant at end of road? (there is no legend or key for this sheet) If end unit owner has a car parked in their driveway, would they be blocking this hydrant?*
   The site layout has been revised to move the driveway away from the proposed hydrant
7. *Traffic Impact Assessment is missing some important information. Would like to see:*
   a. *Trip generation and distributions figures are provided, but with no context on how they fit into current traffic volumes.*
      The project team has met with the Dover Traffic coordinator and has completed a comprehensive TIA . The TIA recommends adding the painted cross walks at Elm Street and the project entrance. The TIA concludes that the proposed project does not add significant traffic to Fisher Street and no additional traffic controls are necessary. The TIA summary has been updated.
   b. *A traffic count on Fisher Street would provide this volume information, and also 85th percentile speeds (note that the PD has a history of resident complaints for this street)*
      The project team has met with the Dover Traffic coordinator and has completed a comprehensive TIA . The TIA recommends adding the painted cross walks at Elm Street and the project entrance. The TIA concludes that the proposed project does not add significant traffic to Fisher Street and no additional traffic controls are necessary. The TIA summary has been updated.
   c. *Results of traffic count may show justification for a reduced speed limit posting of 25 mph per RSA 265:63 and City's Master Plan, Transportation chapter*
      The project team has met with the Dover Traffic coordinator and has completed a comprehensive TIA . The TIA recommends adding the painted cross walks at Elm Street and the project entrance. The TIA concludes that the proposed project does not add significant traffic to Fisher Street and no additional traffic controls are necessary. The TIA summary has been updated.
   d. *Discuss potential for all-way stop at Elm/ Fisher intersection with addition of this new private roadway*
      The project team has met with the Dover Traffic coordinator and has completed a comprehensive TIA . The TIA recommends adding the painted cross walks at Elm Street and the project entrance. The TIA concludes that the proposed project does not add significant traffic to Fisher Street and no additional traffic controls are necessary. The TIA summary has been updated.
   e. *Provide painted stop lines at subject driveway and on Elm Street to enhance the existing stop conditions, even if this remains a two-way stop*
      A stop bar has been provided at the subject driveway.

Fire/ Inspection Services

1. *Indicate compliance with NFPA 1 relative to rear driveway and parking area*
   The site plan has been revised to provide NFPA 1 access in the driveway and parking area.
2. *Accessible parking space and access to mail kiosk needed.*

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The plans have been updated accordingly.

3. *EV readiness for parking area.*
   The plans have been updated accordingly.
4. *Include street name on resubmitted plans.*
   The plans have been updated accordingly to include Lenox drive.
5. *NFPA 13D sprinkler design for townhome style-units.*
   The applicant will provide appropriate design plans regarding sprinkler design for the building permit application.

Business Development

1. *Please discuss site design re: orientation to community trail. Project seems to be oriented with least-active face towards the trail.*
   The project has been oriented to provide as much privacy for the proposed residence as possible.
2. *Plans and renderings do not appear to show direct access to the trail, which would presumably be highly desirable for residents and lessen dependency on automobiles due to convenient access to the Transportation Center, downtown businesses, and transit stops on Silver St and Central Ave.*
   Access will be via onsite sidewalks connecting to the sidewalk system on Fisher Street.
3. *Pedestrian circulation is unclear, especially re: parking areas behind building A – sidewalks along access drive appears to end before reaching units, and no sidewalk appears to connect the parking areas to units. Users of these lots appear to either need to walk through landscaped rear yards or back along the access drive.*
   Internal walkways have been added to facilitate movements within the site and offsite.
4. *Overall character in terms of density and scale appears generally consistent with zoning and surrounding development. However, the design and layout feel heavily automobile-oriented and lacking in pedestrian/ bicycle infrastructure or communal spaces that feels internally inconsistent with use of the medium-density townhouse form.*
   The layout and amenities provided are consistent with this type of residential condominium development.

CIVILWORKS NEW ENGLAND

Sincerely,

Stephen J Haight, PE

WAIVER REQUEST

for

SITE REVIEW APPLICATION

Uptown Crossing

Tax Map 15, Lot 40A-1

Fisher Street

Dover Site Review Regulations: Section 153-14. G (3) (a)

(3) Perimeter landscaping.

(a) Along the perimeter of parking lots with 10 or more spaces, deciduous and/or evergreen shade trees shall be planted at 35 feet on center within the buffer area required by § 153-17C. Trees shall be species tolerant to the climatic conditions of Dover and shall be a minimum caliper of 3 inches (measured at four feet above grade level). Within the perimeter buffer, shrubs shall be planted between the trees at five feet on center. The shrubs shall be a mix of deciduous and evergreen species, tolerant to the climatic conditions of Dover and shall be a minimum height of two feet at the time of planting. All trees, shrubs and landscaping materials shall be maintained in good condition so as to present a healthy, neat, and orderly appearance. ***[Amended 10-12-2021]***

Waiver request: To allow a minimum caliper of 2-1/2".

The Landscape Architect has indicated that trees with a 2-1/2" caliper generally establish themselves quicker and produce new growth sooner and with less maintenance than those of the required sizes.

Granting this waiver is in general conformance with the intent of the Site Review Regulations.

Michael Menary

From: Joseph Griffin
Sent: Wednesday, December 6, 2023 11:33 AM
To: Engineering
Subject: FW: Porous Pavement Design - Direct entry of Tc

Team,

I reached out to NH DES AoT regarding providing an additional lag to the contributing sub-catchment of porous pavement practices, the conversation is below. This conversation was a result of a comment from Dover TRC in which the review engineer provided the following comment:

" Modeling of porous pavement typically includes a larger Tc for the contributing node. Clarify how the delay in runoff from the porous is accounted for in the analysis."

Moving forward we will continue to design porous pavement without providing an arbitrary Tc in the contributing sub-catchment. Once a response has been drafted to the City it will be forwarded to this group to incorporate into responses for future projects if necessary.

Please let me know if you have any questions.

V/r,

Joe

From: Schlosser, Michael <Michael.J.Schlosser@des.nh.gov>
Sent: Wednesday, December 6, 2023 10:53 AM
To: Joseph Griffin <jgriffin@civilworksne.com>
Subject: RE: Porous Pavement Design - Direct entry of Tc

Hi Joe,

My earlier email is correct from an AoT perspective. We are typically only allowing the use of the extended Tc time for porous pavement during the 1" storm. This doesn't affect the design per AoT rules. Although if someone argued their case, we may allow the use of a reasonable lag time added to the Tc because we did allow it in the past.

Thanks,

Mike Schlosser, PE
Alteration of Terrain Bureau, Land Resources Management

Water Division, NH Department of Environmental Services
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095
(603) 271-3568
Michael.J.Schlosser@des.nh.gov

From: Joseph Griffin <jgriffin@civilworksne.com>
Sent: Wednesday, December 6, 2023 9:49 AM
To: Schlosser, Michael <Michael.J.Schlosser@des.nh.gov>
Subject: RE: Porous Pavement Design - Direct entry of Tc

EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.

Hi Mike,

I know how busy you are and really appreciate your taking the time to provide this background information, it helps me better understand the BMP. I look forward to further information/discussion.

Thank you,

Joe

From: Schlosser, Michael <Michael.J.Schlosser@des.nh.gov>
Sent: Tuesday, December 5, 2023 2:28 PM
To: Joseph Griffin <jgriffin@civilworksne.com>
Subject: RE: Porous Pavement Design - Direct entry of Tc

Hi Joe,

The UNHSC did note a lag time of 790 minutes in their porous pavement system. Porous pavement systems have lower loading rates (drainage area to porous pavement area) than standard stormwater BMPs. It's my understanding that these systems function under unsaturated flow conditions and this adds the additional lag time. UNH's system cross section was larger than that required currently in the rules. In the past we have allowed the use of a lag time adjusted to the smaller cross section depth of the system, but we do not require it.

We have had more recent discussions with the UNHSC so let me check to see what we have decided to allow in these situations. It may be that the additional lag time can only be applied to the total Tc during the WQV calculation and not during larger storm events.

Thanks,

Mike Schlosser, PE
Alteration of Terrain Bureau, Land Resources Management

Water Division, NH Department of Environmental Services
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095
(603) 271-3568
Michael.J.Schlosser@des.nh.gov

From: Joseph Griffin <jgriffin@civilworksne.com>
Sent: Tuesday, December 5, 2023 12:15 PM
To: Schlosser, Michael <Michael.J.Schlosser@des.nh.gov>
Subject: Porous Pavement Design - Direct entry of Tc

EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.

Good afternoon Mike,

I have a question regarding modeling of the Tc associated with the contributing sub-catchment to a porous pavement practice.

A city review engineer has asked us to provide a larger Tc in the upstream sub-catchment for a porous pavement design to account for a delay in runoff from the porous pavement practice. In this specific instance the time difference between the inflow and outflow of the device during the 2-yr event is 0.44 hours or 26.4 minutes. This “natural” delay would seem appropriate in my estimation and is approximately the same as the onsite bio-ponds that model 10 in/hr to the underdrain.

Is this a standard engineering practice that AoT approves of, and if so, does AoT recommend what that additional length of time should be? Does AoT require some other form of modeling that accounts for a delay in runoff from the porous pavement practice? We’ve never applied an arbitrary “retardant” factor into our design of porous pavement in the past and are looking for direction from NH DES on this practice.

Any additional information regarding this engineering practice is greatly appreciated.

V/r,

Joe

Joseph P. Griffin, P.E.
Project Manager
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PROJECT NARRATIVE

for

H.J. Stabile & Son, Inc.

Site Plan Review & Conditional Use Permit

UPTOWN CROSSING

Residential Site Development

Tax Map 15, Lot 40A-1

May 6, 2024

PROJECT OVERVIEW & SITE CHARACTERISTICS

The parcel, Tax Map 15, Lot 40A-1, being 3.54 acres per a recently approved subdivision of Tax Map 15, Lot 40A. However, the site design is based on a future Lot Line Adjustment with an abutting parcel, Tax Map 15, Lot 51, which will bring the subject parcel to 3.91 acres as depicted on the Site Plan.

The proposed project is for the construction of 4 buildings consisting of a total of 21 townhouse condominiums with associated parking on a 3.91-acre undeveloped parcel of land located on the southerly side of Fisher Street opposite the intersection with Elm Street. The parcel is in the Gateway (G) District. All other parcels on the same side of the street between Locust Street and the Community Trail (old railroad bed) are zoned Heritage Residential (HR). All parcels directly opposite this section of Fisher Street, and on both sides of Elm Street north of Fisher Street, as well as the closest section of the westerly side of Locust Street or westerly side, fall within the HR zone. All adjacent parcels to the west and south of the subject parcel are within the G zone.

The proposed site will include public water and sewer connections, underground electric and communication services, natural gas service, and associated drainage improvements. A portion of grading, drainage, pavement, and building is proposed within the 50' wetland buffer and the 50' conservation buffer from a stream, with total impacts of 16,250 sf. The impact within the conservation buffer is wholly within the wetland buffer. (See Conditional Use Permit applications). There are no proposed impacts to any wetlands.

The project site consists of the following general improvements:

- Clear the site, as necessary, for construction.
- Construction of 4 buildings containing 21 townhouse condominiums with associated parking and landscaping.
- Construction of on-site stormwater detention and treatment system, grading, and other drainage requirements.
- Site utility construction & installation.
- Reconstruction and upgrade of the existing entrance on Fisher Street.
- Stabilize remaining areas with loam and seed.

PROJECT NARRATIVE

for

H.J. Stabile & Son, Inc.

Site Plan Review & Conditional Use Permit

UPTOWN CROSSING

Residential Site Development

Tax Map 15, Lot 40A-1

May 6, 2024

DRIVEWAY AND PARKING LOT

Access to the parcel is from Fisher Street. The driveway will be 24' wide with a 5' sidewalk on the west side connecting to the sidewalk on Fisher Street. Parking will consist of an 11-space parking lot and a single car garage for each of the 21 units, for a total of 32 spaces on site. The lighting will consist of pole mounted LED fixtures that are dark sky compliant. Each unit will also have wall mounted lighting which will also be dark sky compliant.

WETLAND SETBACK IMPACT TYPE

The project work requires a conditional use permit from the City of Dover. Approximately +/- 16,250 s.f. of the wetland buffer will be impacted, and approximately +/-6,329 s.f. impact to the Conservation District buffer along the stream. Note: The impact to the Conservation District completely overlaps with the wetland buffer. The project does not impact bogs, marshes, sand dunes, tidal wetlands, cedar swamps, undisturbed tidal buffer zone, or involve any work within 50 feet of a salt marsh. The project is not located within 100 feet of prime wetlands.

DRAINAGE

This is a hydrologic analysis of the subject parcel located on Fisher Street in Dover, NH. The 3.91± acre lot is identified as Tax Map 15, Lot 40A-1. This site was a former laydown yard for the City of Dover, a 45,000± s.f. compacted gravel area was created at that time. The site is partially compacted gravel, and the groundcover primarily consists of wooded vegetation with grassed areas along the edge of an unnamed drainageway. The parcel is bifurcated by the drainageway that runs east to west. It is bounded to the north by Fisher Street, to the west by the rail trail, to the east by residential development and to the south by undeveloped land. All drainage from the site discharges to a large stone railroad culvert beneath the rail trail, which is located on the south side of the site.

The project proposes 70,265± s.f. of disturbance including the construction of (4) multifamily residential townhomes and corresponding site improvements including site grading, paved parking, as well as stormwater quality and detention drainage improvements.

An 8.5± acre watershed was used to effectively analyze the pre-development conditions, that incorporates offsite areas that drain directly onsite and that will be incorporated into the proposed onsite drainage improvements. The post development analysis has been divided into twelve (12) sub-catchments that discharge to the same point of analysis developed for the pre-development model. Sub-catchments model the areas of the site that are directed through proposed drainage structures, conveyances, water quality practices, and Ferguson Waterworks Rain Guardian. Stormwater conveyance consists of overland flow, a swale, pipes, and a closed drainage system. The project proposes bioretention ponds, drip edges, and porous pavement to meet water quality criteria and stone outlet aprons for energy dissipation. The analysis shows that with the mitigation measures proposed will have negligible impact on the watersheds.

TRAFFIC

Please see Stephen G. Pernaw & Company, Inc. Traffic Memorandum. This Traffic Memorandum outlines traffic counts on Fisher Street/ Elm Street, an intersection turning movement and vehicle classification count at the Fisher Street/ Elm Street intersections, and traffic speed survey on Fisher Street, the purpose of the memorandum is to summarize the results of the surveys and analyses. This memorandum will assist Police Sergeant Marn Speidel of the Dover Police Department, City Staff, and the City's Transportation Advisory Commission in support of assigning and posting a 25 mph speed limit on Fisher Street.

UTILITIES

The proposed project will connect to City of Dover water and sewer as well as Unitil for natural gas, and Eversource for electricity. Water, sewer, electric lines, and natural gas lines are currently located within Fisher Street. Building connections will be made per the City's Community Services Utility Division and Fire Department requirements and standards.

SITE DEVELOPMENT DESIGN CRITERIA NARRATIVE
§153-14
STORMWATER MANAGEMENT
for
H.J. STABILE & SON, INC.
Uptown Crossing
Tax Map 15, Lot 40A-1

A. Stormwater management, erosion control and flood hazards.

(1) Purpose and objective. These regulations establish standards to manage the discharge of runoff to the City of Dover's municipal storm sewer system and water bodies, in a manner compliant with the requirements of state and federal law, including provisions of the federal stormwater management legislation for municipal separate storm sewer systems (MS4), as amended. These provisions and standards are implemented for the purpose of:

(a) Managing stormwater runoff to protect water quality and quantity. **The proposed development has been designed in accordance with NH DES AoT permitting requirements to include the treatment and mitigation of stormwater runoff from the site.**

(b) Minimizing the contribution of a pollutant for which a water body is impaired to the maximum extent practicable (MEP). **The proposed development has been designed in accordance with NH DES AoT permitting requirements to include the treatment of stormwater runoff from all impervious areas of the site to minimize pollutant runoff.**

(c) Causing no discharge of runoff to an adjacent property in excess of runoff discharge in the existing developed or undeveloped condition. **The proposed development does not propose an increase in the peak rate of runoff from the project site.**

(d) Encouraging the use of low-impact development (LID) strategies. **The project proposes the use of a bioretention practices, porous pavement, and rain guardian fortress for pretreatment and stormwater treatment.**

(2) Applicability of the stormwater standards.

(a) All projects requiring site plan or major subdivision approval shall be subject to the following set of stormwater standards according to the amount and type of disturbance. Applicability is as follows: **The project does not qualify for the redevelopment standards and will disturb greater than 20,000 square feet, as such, the stormwater standards apply.**

[1] The minimum protections and management standards shall apply to all projects. **The design incorporates these standards.**

[2] The stormwater management for new development standards shall apply to any project that results in a contiguous land disturbance of more than 20,000 square feet or creates more than 4,000 square feet of new impervious area. **The design incorporates these standards.**

[3] The stormwater management for redevelopment standards shall apply to any project that results in a contiguous land disturbance of more than 20,000 square feet or creates more than 4,000 square feet of new impervious area where the existing land use has been previously developed as commercial, industrial, institutional, governmental, recreational, or multifamily. **The redevelopment standards are not applicable to this project.**

(b) All projects of such magnitude as to require a permit from the National Pollutant Discharge Elimination System (NPDES) Program or the New Hampshire Department of Environmental Services (NHDES) Alteration of Terrain (AoT) Program shall also comply with the standards of the Environmental Protection Agency (EPA) and/or NHDES permits and this section, whereas the stricter standards shall apply. **The project will not require NH DES permitting, but the stormwater design is to AoT standard.**

(3) Design standards.

(a) Minimum protections and management standards.

[1] Where applicable, all development must comply with the EPA Phase II Stormwater Rules and the City's MS4 permit, as amended. **The project complies with the City's design and stormwater requirements.**

[2] Existing surface waters, including ponds, rivers, perennial and intermittent streams (natural or channelized), and wetlands (including vernal pools), shall be protected by the minimum buffer setback as specified in Chapter 170, Zoning, § 170-27.1. Stormwater and erosion and sediment control best management practices (BMPs) shall be located outside the specified buffer zone unless otherwise approved by the Planning Board. **A Conditional Use Permit application has been submitted as part of the application process.**

[3] Low-impact development (LID) site planning and design strategies shall be used to the MEP in order to reduce the generation of the stormwater runoff Volume for both new and redevelopment projects. An owner/applicant must document why LID strategies are not appropriate if not used to manage stormwater. **LID strategies were implemented to the maximum extent practicable. The site was evaluated for infiltration practices but the site characteristics, including soil types, topography, depth to the SHWT and depth to ledge prevent the use of infiltration practices. A rain guardian fortress was implemented, this is a pretreatment structure. This structure reduces the footprint, for example, removing the need for a sediment forebay.**

[4] All proposed stormwater practices and measures shall be installed and maintained in accordance with manufacturers' specifications and performance specifications outlined in the New Hampshire Stormwater Management Manual Volume 2 (December 2008 or current revision) a copy of which can be found on The NHDES website. **The project incorporates stormwater BMP designed in accordance with NH DES AoT permitting requirements. Details provided for construction are aligned with the NH Stormwater Manual and the engineer of design will be required to review material submittals and witness the installation of the practices.**

[5] All storage facilities for fuel, chemicals, chemical or industrial wastes, and biodegradable raw materials shall meet the regulations of the NHDES, including but not limited to those involving underground storage tanks, aboveground storage tanks, hazardous waste, and best management practices for groundwater protection (Part Env Wq 401). **The project does not propose the storage of the referenced materials onsite.**

[6] Salt and other deicing materials shall be stored under cover or located such that no direct discharges to receiving waters are possible. Snow storage areas shall be located such that no direct discharges to receiving waters are possible. See the NHDES guidance fact sheet on road salt and snow disposal. **The project does not propose the**

storage of deicing materials onsite. Snow storage will not direct discharges to receiving waters.

[7] The use of sodium-chloride-based materials for winter maintenance shall be the minimum necessary for safety. The use of sodium-chloride-based materials is discouraged within the groundwater protection districts. **The project I&M manual directs the owner/operator to produce salt minimization plan as part of the winter maintenance of the site.**

[8] Impervious surfaces for parking areas and roads shall be minimized to the extent possible. **The project design incorporated the minimization of impervious areas to the maximum extent possible. All aspects of the design including road width, required number of parking spaces, drive aisle widths, and turning areas were evaluated.**

[9] Stormwater runoff from new impervious surfaces shall be directed to a best management practice for flow mitigation, treatment and/or infiltration. **The proposed design includes the treatment of stormwater runoff from all impervious areas of the site.**

(b) Stormwater management for new development.

[1] Runoff of impervious surfaces shall be treated to provide 80% removal of total suspended solids (TSS) and 50% removal of both total nitrogen and phosphorus. Removal rates shall be determined using approved manufacturer's pollutant removal efficiency analysis or the pollutant removal efficiencies outlined in the New Hampshire Stormwater Management Manual Volume 1, Appendix E (December 2008 or current revision), a copy of which is available from the NHDES website. **The project utilizes a bioretention basin for treatment of all impervious areas on site. This system provides 90% removal of TSS and 65% removal of both total nitrogen and phosphorous per the NH Stormwater Manual.**

[2] Rainfall amount shall be based on current extreme precipitation estimates obtained from the Northeast Regional Climate Center. **The design incorporates NRCC precipitation amounts and the associated storm distribution data.**

[3] Measures shall be taken to control the post-development peak rate runoff so that it does not exceed predevelopment runoff for the two-, ten-, twenty-five- and fifty-year, twenty-four-hour storm events. **The proposed design mitigates post-development peak rate runoff to less than the pre-developed conditions.**

[4] Measures shall be taken to control the post-development surface water runoff volume so that it does not exceed predevelopment runoff for the two-, ten-, twenty-five- and fifty-year, twenty-four-hour storm events. For sites where infiltration/recharge is limited or not practicable, the owner/applicant must demonstrate that the project will not cause or contribute to flooding or functional impairments to streets, adjacent properties, and downstream properties. **The site was evaluated for the inclusion of infiltration practices but the site characteristics, including soil types, topography, depth to the SHWT and depth to ledge prevent the use of infiltration practices. The project proposes an increase in the volume of runoff from the site. Although the site increases runoff, the project design will still meet the Channel Protection requirements of Env-Wq 1507.05 as required by NH DES AoT regulation. The increase in volume will not cause flooding to adjacent or downstream properties.**

[5] Infiltration rates for designing groundwater recharge practices shall be determined in accordance with Section Env-Wq 1504.14. **The site was not feasible for infiltration practices and as such infiltration rates were not calculated.**

[6] Stormwater conveyance practices shall be sized appropriately to convey the ten-year, twenty-four-hour storm event without overtopping or causing flooding on the property. **Stormwater conveyance practices are designed to ensure they pass the 50-yr, 24-hour storm events without overtopping.**

[7] For large projects adding greater than or equal to 10 acres of impervious cover, or projects located in known areas of flooding concern, or specifically within areas with a 1% chance of being inundated by water in any given year, the owner/applicant shall submit a supplementary report that describes how the project will not increase the future flooding potential and complies with the AoT requirements pertaining to floodplain impacts as described in Section Env-Wq 1503.09, regardless of whether an AoT permit is required. **The project is located outside of the 0.2 percent annual chance floodplain. The project does not propose permanent or temporary disturbance or alteration of terrain within the flood plain.**

[8] The design of the stormwater management systems shall take into account upstream and upgradient runoff that flows onto, over, or through the site to be developed or redeveloped and provide for this contribution of runoff. **The project has incorporated offsite and upgradient stormwater runoff from the abutting lot and the ditch from Locust Street.**

[9] Seasonal high-water table elevations must be accounted for in all BMP design criteria. **Test pit information and design intent (underdrained system) were utilized in determining the SHWT associated with the bioretention basin design.**

[10] Access for maintenance of stormwater facilities must be included as part of the design, where necessary. Access easements may be required. **Stormwater facilities are included on site and maintenance will be solely of the condo association. Stormwater maintenance will be laid out in the I&M for the condominium, access easements are not required for this project.**

[11] Plantings in treatment areas shall be native grasses, shrubs and/or other native plants in sufficient numbers and density to prevent soil erosion and to achieve water-quality treatment. **A licensed Landscape Architect has produced a site-specific planting plan and O&M document in support of site revegetation including the stormwater BMP(s).**

(c) Stormwater management for redevelopment. In order to determine the stormwater requirements for redevelopment projects, the percentage of the site covered by existing impervious areas must be calculated. Stormwater requirements for redevelopment will vary based upon the amount of site surface area that is covered by existing impervious surfaces. **The project does not meet redevelopment requirements and this section is Not Applicable (N/A).**

[1] For sites meeting the definition of a redevelopment project and having less than 40% existing impervious surface coverage, the stormwater management requirements will be the same as new development projects, with the important distinction that the applicant can meet those requirements either on site or at an approved off-site location (i.e., off-

site mitigation). The applicant must satisfactorily demonstrate that impervious area reduction, LID strategies and BMPs have been implemented on site to the MEP. **N/A**

[2] For sites meeting the definition of a redevelopment project and having more than 40% existing impervious surface coverage, stormwater shall be managed in accordance with one or more of the following techniques, listed in order of preference: **N/A**

[a] Implement measures on site that result in mitigation and treatment of at least 30% of the existing impervious cover as well as 50% of the additional proposed impervious surfaces and pavement areas through the application of LID; or

[b] Implement other LID techniques on site to the MEP to provide mitigation and treatment for at least 50% of the entire site area.

[3] The owner/applicant may utilize off-site mitigation to meet the redevelopment requirements when the following standards have been met. **N/A**

[a] The owner/applicant shall demonstrate, to the satisfaction of the Planning Board, that on-site treatment has been implemented to the MEP.

[b] The owner/applicant shall find an approved, off-site location within the same watershed as the project site or within the drainage area of the same receiving water body.

[c] Off-site mitigation shall be equivalent to no less than the total area of pervious cover not treated on site.

[d] The owner/applicant shall submit a full design of the proposed off-site measures for review and approval.

[e] The owner/applicant must also demonstrate that there is no downstream drainage or flooding impact as a result of not providing on-site management.

(d) Erosion control standards during construction. The following standards shall be applied in project planning and shall be implemented prior to and during construction activity: **The plan set includes temporary and permanent sediment and erosion control practice notes and details in support of meeting the erosion control standards.**

[1] All proposed measures shall meet, at a minimum, the design standards for best management practices set forth in the New Hampshire Stormwater Management Manual Volume 3 (December 2008 or current revision), a copy of which is available from the NHDES website. **The sediment and erosion control details provided in the plan set are all designed in accordance with the NH Stormwater Manual.**

[2] When a project requires a stormwater permit from the EPA Construction General Permit (CGP) Program, copies of the stormwater pollution prevention plan (SWPPP) inspections shall be provided to the Community Services Department. **If required, the SWPPP will be provided prior to construction.**

[3] Stripping of vegetation shall be done in a manner that minimizes soil erosion. Whenever practical, natural vegetation shall be retained, protected, or supplemented. **The Erosion Control Notes in the provided plan set indicate that the smallest practical area shall be disturbed during construction.**

[4] The area of land disturbance shall be kept to a minimum and be limited to an area only large enough to accommodate construction activities for a particular construction phase. **The Erosion Control Notes in the provided plan set indicate that the smallest practical area shall be disturbed during construction and that in no case shall greater than 5 acres be disturbed at any time.**

[5] Off-site surface water and runoff from undisturbed areas shall be diverted away from disturbed areas where feasible, or measures to convey stormwater through the project area without causing erosion of sediment must be included. The integrity of downstream drainage systems shall be maintained. **Direction to ensure that stormwater conveyance practices shall be stabilized prior to receiving stormwater runoff is included on the Erosion Control Notes sheet provided as part of this submittal.**

[6] Appropriate erosion and sediment control measures shall be installed prior to any soil land disturbance and must be reviewed and approved by the Community Services Department. **Construction scheduling and inspections will be discussed with Community Services at the required pre-construction meeting.**

[7] Perimeter site controls shall not be placed within wetland areas, stream channels or wetland buffers. **No perimeter controls are proposed in wetland areas.**

[8] Disturbed soil areas shall be either temporarily or permanently stabilized. In areas where final grading has not occurred, temporary stabilization measures should be in place within seven calendar days for exposed soil areas that are within 100 feet of a surface water body or a wetland and no more than 14 calendar days for all other areas. Permanent stabilization should be in place within three calendar days following completion of final grading of exposed soil areas. **The definitions of, and direction for, stabilization of the site is provided on the Erosion Control Notes sheet provided as part of this submittal.**

[9] All temporary erosion and sediment control measures shall be maintained in functioning condition until final site stabilization is accomplished. A proposed BMP inspection schedule shall be included in the submittal. **The erosion control inspection scheduling requirements are identified on the Erosion Control Notes sheet provided as part of this submittal.**

[10] Additional temporary stabilization for the winter season consistent with NHDES guidelines shall be in place for disturbed areas that are not permanently stabilized by October 1, or at the discretion of the Community Services Department. **The NH DES AoT winter construction notes are identified on the Erosion Control Notes sheet provided as part of this submittal.**

[11] Special stabilization details shall be provided with the submission for any land disturbance on slopes equal to or steeper than 3:1. **Slopes greater than 3:1 require erosion control matting and a detail is provided in the plan set.**

[12] All temporary erosion and sediment control measures shall be removed after final site stabilization. Trapped sediment and other disturbed soil areas resulting from the removal of temporary measures shall be permanently stabilized within 30 calendar days unless conditions dictate otherwise. **Temporary practice details identify the need to remove sediment and/or stabilize the area once the practices have been removed.**

[13] For projects proposing to disturb and expose soils in areas of 10 acres or more at one time, a temporary (or permanent) sediment basin must be provided with storage for

a calculated volume of runoff from a drainage area from a two-year, twenty-four-hour storm, or equivalent control measures, where attainable, until final stabilization of the site. Alternatively, the sediment of storage per acre of drainage area until final stabilization of the site. In determining appropriate locations and number of sediment basins needed, the operators may consider such factors as erodibility of site soils, slope lengths, available area on site, construction period and other unique site considerations. **The project does not propose the disturbance of greater than 10 acres of area.**

[14] Use of temporary sediment basins should avoid any additional vegetation clearing or site land disturbance not otherwise needed for post-construction. Sediment basin locations must be reviewed by the Community Services Department prior to construction and must consider the potential for off-site impacts, including public safety, especially as it relates to sediment movement and/or sediment basin failure, and alternative sediment controls must be used where site limitations preclude a safe design. **Temporary sediment basin locations, if constructed, will be discussed with Community Services prior to the construction of the practices. These discussions will occur upon submission/review of the SWPPP, if required.**

(e) Installation and construction inspections. The owner/applicant shall be responsible for inspection requirements as follow:

[1] The Community Services Department or its designated agent shall have access to the site to complete routine inspections. **Community Services access and inspection requirements will be discussed at the pre-construction meeting.**

[2] The Community Services Department shall be notified 24 hours prior to installation of a stormwater BMP in order to schedule an inspection. These inspections shall be completed during normal working hours. **The project notes provide direction for the contractor to notify the design engineer and the Community Services Department as required.**

[3] The Planning Board or Community Services Department may require the design engineer and/or an independent third party to provide inspection and oversight of the construction of the stormwater management facilities and erosion and sediment control measures at its discretion. Such oversight may be especially important for implementing techniques such as porous pavement or subsurface stormwater infiltration systems. The owner/applicant shall be responsible for all fees associated with third-party inspections. **The design engineer will be present during the installation of BMPs, Community Services Department will be notified.**

[4] All SWPPP inspections must be conducted by a qualified professional such as a professional engineer (PE), a certified professional in erosion and sediment control (CPESC), a certified erosion sediment and stormwater inspector (CESSWI), or a certified professional in stormwater quality (CPSWQ). Inspection reports shall be submitted to the Community Services Department. **The project notes provide direction for the inspector to be qualified and for all reports to be submitted to the Community Services Department.**

[5] The owner is ultimately responsible for the installation, construction, inspection, and disposition of all stormwater management and erosion control measures required by the provisions of these regulations. **The project notes identify the owner as having the**

responsibility for ensuring the stormwater management and erosion control measures are installed as approved.

(f) Stormwater management plan (SWMP) submittal requirements. At the discretion of the Planning Board or Community Services Department, a technical review by an independent third party may be required of any SWMP prepared under these regulations. Such a review shall be performed by a qualified professional consultant and the expense of which shall be the full responsibility of the owner/applicant. **The SWMP is a comprehensive set of documents that include, at a minimum, a drainage report, plan set, and Stormwater I&M Manual. These documents each serve a role in presenting the necessary information to the appropriate audience. The information required in this section is provided within the SWMP documents.**

[1] For projects requiring minimum protection standards, a plan including the following information shall be submitted:

[a] Description of erosion and sediment control measures as well as sequence for final stabilization of the project site. **This information is provided within the Erosion Control Notes within the plan set.**

[b] Proposed changes in impervious cover areas and any changes in pre- and post-development drainage patterns. **This information is provided within the drainage report and the Pre/Post Development Watershed Plans.**

[c] Description of LID proposed measures. **This information is provided in the drainage report and throughout the plan set and details.**

[2] For projects requiring new development or redevelopment standards, a drainage report that contains the following items shall be submitted: **The SWMP documents include the proposed information when applicable.**

[a] Description of construction period and earth movement schedule, including anticipated project start and completion dates, sequence and duration of grading and construction activities, sequence, and timing of installation and/or application of soil erosion and sediment control measures as well as sequence for final stabilization of the project site. **The SWMP documents include the proposed information when applicable.**

[b] Description of the on-site and adjacent wetlands, streams and other water resources, including methods used to identify these resources, and a description of any buffer setbacks that may apply, steep slopes, critical habitat, existing vegetation, areas with a 1% chance of being inundated by water in any given year, and whether any downstream water bodies are listed as impaired according to NHDES's most recent 303(d) list. **The SWMP documents include the proposed information when applicable.**

[c] Soils information for proposed disturbed areas shall be delineated by a certified soil scientist. For all other areas that contribute runoff to the project site, soil types may be identified in accordance with Natural Resources Conservation Service (NRCS) countywide soil survey. **The SWMP documents include the proposed information when applicable.**

[d] Description of existing drainage patterns, receiving water bodies or drainage infrastructure and soil types for recharge potential. **The SWMP documents include the proposed information when applicable.**

[e] Watershed area limits, including any off-site and upstream areas contributing flow to shared drainage channels and/or infrastructure. **The SWMP documents include the proposed information when applicable.**

[f] Description of proposed changes in impervious cover areas and any changes in pre- and post-development drainage patterns. **The SWMP documents include the proposed information when applicable.**

[g] Methods and assumptions used to calculate pre- and post-development runoff volume, peak discharge, and discharge velocity for the specified design storm events. **The SWMP documents include the proposed information when applicable.**

[h] Methods and assumptions used to calculate the pollutant load removal. **The SWMP documents include the proposed information when applicable.**

[i] Description of LID measures that are proposed to limit the development footprint, preserve existing vegetation and mimic existing hydrology to the extent feasible. **The SWMP documents include the proposed information when applicable.**

[j] If not used, provide rationale why LID measures are not practical for the site. **The SWMP documents include the proposed information when applicable.**

[k] Describe measures and calculations for proposed practices used to achieve no net increase in runoff volumes leaving the site. **The SWMP documents include the proposed information when applicable.**

[l] Provide calculations for the infiltration or exfiltration system. **The SWMP documents include the proposed information when applicable.**

[m] If an increase in post-development runoff volume is anticipated due to limited applicability for LID measures and site constraints, provide an assessment and supporting calculations to demonstrate no adverse impacts to downstream infrastructure, adjacent properties, or aquatic habitat. **The SWMP documents include the proposed information when applicable.**

[n] Descriptions, details, and design criteria and calculations for all structural, nonstructural, permanent, and temporary erosion and sedimentation control measures and BMPs. This information should include seeding mixtures and rates, types of sod, methods of seedbed preparation, expected seeding dates (or limitations on seeding time frames), type and rate of lime and fertilizer application, and type and quantity of mulching for temporary and permanent control facilities. **The SWMP documents include the proposed information when applicable.**

[o] Where proposed changes are anticipated within mapped limits of the areas with a 1% chance of being inundated by water in any given year, provide hydrologic and hydraulic analysis to show no net increase in flood elevations. **The SWMP documents include the proposed information when applicable.**

[p] Proposed schedule for the inspection and maintenance of all erosion control measures on site prior to achieving final site stabilization. **The SWMP documents include the proposed information when applicable.**

[q] Describe procedures for removing temporary erosion control measures and removal of accumulated sediment captured by such measures. **The SWMP documents include the proposed information when applicable.**

[r] Any other specific study, calculation, or investigation as requested by the City. **Additional information is provided as requested and may include traffic studies, structural designs, septic/sewer designs, geotechnical reports, etc. These documents are provided on a case-by-case basis and as requested by the City.**

[s] Describe procedures to limit and/or optimize the use of deicing materials and minimize off-site increases in chloride levels in adjacent surface water and groundwater. **The Stormwater I&M Manual includes the implementation of a salt minimization plan.**

[t] Provide a maintenance and inspection plan for post-construction monitoring of stormwater BMPs to ensure long-term performance and functionality, including details of who will be responsible for inspections and maintenance, proposed schedule, documentation, submittal procedures and contingency plans if future maintenance is required. **A Stormwater I&M Manual is provided as part of the submission.**

[u] Provide copies of pertinent state and federal permits. **Copies of permits will be provided to the City.**

(g) Long-term operation and maintenance. The owner shall be responsible for continued inspection and maintenance requirements. **An I&M Manual that identifies the owner's responsibilities has been provided as a part of the submission.**

[1] An operation and maintenance manual shall be created with the following information:

[a] The names of the responsible qualified professionals who will implement the required reporting, inspections, and maintenance activities. **The Owner, Responsible Party, and the Management Company are identified in the I&M Manual.**

[b] An inspection checklist, identifying item or BMP, inspection frequency, and components to be inspected. The list shall clearly outline performance thresholds and triggers for maintenance. **Inspection requirements and maintenance thresholds are identified in the I&M Manual.**

[c] Snow and ice removal shall be performed by a contractor certified by the "Green SnoPro" Program, or approved equivalent, following best management practices for the application of deicing materials. **The I&M Manual requires the use of a Green SnowPro contractor.**

[d] Deicing log to track amount and type of deicing material applied. **The I&M Manual requires the implementation of a salt minimization plan that also requires the owner or operator to track salt usage onsite through a quantity usage log.**

[e] A site plan clearly identifying the locations of all stormwater practices to be inspected and maintained. **The approved Grading and Drainage Plan accompanies the I&M Manual.**

[f] Inspection and maintenance log to be submitted to the City of Dover Community Services Department on an annual basis. Documents shall be submitted no later than December 15 of each year. **The I&M Manual identifies this requirement.**

[2] The owner of record shall record at the Registry of Deeds documentation sufficient to provide notice to all persons that may acquire any property subject to the requirements and responsibilities described in the approved stormwater management plan. The notice shall comply with the applicable requirements for recording contained in RSA 477 and 478. The notice need not set forth the requirements at length, so long as it is sufficient to provide notice to prospective purchasers of the requirements for maintenance and reporting. **Not Applicable.**

Unitil

June 27, 2022

Stabile Companies
Attn: Anthony Tringali
20 Cotton Rd.
Nashua, NH 03063

RE: Locust St/Fisher St. Dover, NH

To Whom It May Concern:

Based on the provided scope and current operation of our distribution system, I am pleased to inform you that Unitil can supply your project with natural gas. The specific terms would be spelled out in a contract with the owner or the above referenced address.

Let me know if you have any questions. You can email me at dupliseas@unitil.com. My phone number is 603-294-5147.

Sincerely,

Susan L. Duplisea
Business Development Representative

CUSTOMER ENERGY SOLUTIONS
325 West Road
Portsmouth, NH 03801

T 888.486.4845 www.unitil.com

EVERSOURCE ENERGY

February 5, 2024

1700 Lafayette Road
Portsmouth, NH 03801

Trevor S Emmons
603-332-7515
Trevor.emmons@eversource.com

Anthony Tringali
H. J. Stabile & Son Inc.
20 Cotton Road
Nashua, NH 03063

Dear Anthony Tringali:

I am responding to your request to confirm the availability of electric service for the proposed Fisher Street project being constructed for/by H. J. Stabile & Son Inc.

The proposed project consists of 4 3-story building with 24 residential units approximately 1,800 s/f of retail/office space at the ground level and parking below grade. The proposed development will be constructed along Fisher Street.

The developer will be responsible for the installation of all underground facilities and infrastructure required to service the new building. The service will be as shown on attached marked up Utility Plan 9. The proposed building service will be fed from Eversource P. 37/5 to be determined by Eversource Engineering as depicted on utility plan 9. The developer will work with Eversource to obtain all necessary easements and licenses for the proposed underground facilities listed above.

This letter serves as confirmation that Eversource has sufficient capacity in the area to provide service to this proposed development. The cost of extending service to the aforementioned location and any associated infrastructure improvements necessary to provide service will be borne by the developer unless otherwise agreed upon.

The attached drawing titled "Utility Plan Fisher Street Townhouses" dated 10/26/23, shows transformer locations to service your proposed project.

Eversource approves the locations shown; assuming the final installed locations meet all clearances, physical protection, and access requirements as outlined in Eversource's "Information & Requirements For Electric Supply" (https://www.eversource.com/content/docs/default-source/pdfs/requirements-for-electric-service-connections.pdf?sfvrsn=2).

If you require additional information or I can be of further assistance please do not hesitate to contact me at our Rochester Office, 603-332-7515

Respectfully.

Trevor Emmons
Eastern Regional Engineer, Eversource

cc: Michael J. Busby, PE, Eastern Regional Engineering and Design Manager, Eversource
Thomas Boulter, Eastern Region Operations Manager, Eversource
Nickolai Kosko, Field Supervisor, Electric Design, Eversource

Steve Haight

From: Eric Jackson <ejackson@stabilecompanies.com>
Sent: Friday, June 2, 2023 3:04 PM
To: Steve Haight; Douglas LaRosa
Cc: Anthony Tringali
Subject: FW: [EXTERNAL] Work Request Submission Confirmation #13273510
Attachments: Unitil Will Serve Letter.pdf

Hi Steve and Doug,

Thanks again for your time yesterday. Per our discussion, I've attached the will-serve letter we received from Until when we initially inquired about it. And below, I've included the work order number from Eversource. We didn't get a work order number from Until – not sure if they actually provide one. We've inquired, but figured we'd send along what we had. Thanks!

Eric

Eric L. Jackson
Director of Acquisitions & Development
The Stabile Companies
20 Cotton Road, Suite 200
Nashua, NH 03063

P 603.889.0318 ext. 515
F 603.595.2571
www.stabilecompanies.com

From: Anthony Tringali <atringali@stabilecompanies.com>
Sent: Friday, June 2, 2023 2:35 PM
To: Eric Jackson <ejackson@stabilecompanies.com>
Subject: FW: [EXTERNAL] Work Request Submission Confirmation #13273510

EJ,

See below for the new work request number for Fisher street from Eversource

---

From: Eversource Do Not Reply <noreply@notifications.eversource.com>
Sent: Friday, June 2, 2023 2:33 PM
To: Anthony Tringali <atringali@stabilecompanies.com>
Subject: [EXTERNAL] Work Request Submission Confirmation #13273510

Work Request Submission Confirmation

Work Request Type:
Install Permanent Service - Underground

Work Request Number:
13273510

Job Location:
Lot 40 LOCUST STREET

Dear Valued Customer,

We received your work request with the following information:

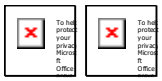
* Request Type: Install Permanent Service - Underground
* Request Number: 13273510
* Work Requested Date: 2023-06-02
* Job Location: Lot 40 LOCUST STREET
* Contractor Name: ANTHONY TRINGALI
* Contractor Phone Number: 6038890318

NOTE: This email confirms we received your request and does not imply that work will be performed.

Log into your Eversource.com account to track the status of your request. For questions or to cancel your request, call or email us and we'll be happy to assist you.

Sincerely,
Eversource Electric Service Support Center.
18003627764
NHNewService@eversource.com

Please save this confirmation email for your records.
This is an unmonitored mailbox - please do not reply.



Cheryl Andreason

From: Michael Menary
Sent: Monday, October 23, 2023 11:25 AM
To: Mavrogeorge, Kenneth
Cc: Joseph Griffin; Steve Haight; Cheryl Andreason
Subject: CNE#22017 - Fisher Street Townhouses - Fisher St, Dover NH - Utility Will Serve

Hello Ken,

H.J Stabile & Son, Inc. is proposing to construct 4 residential buildings, 22 units, with 2 beds each on Fisher Street; Tax Map 15, Lot 40A-1.

The project will consist of a total of 44 beds. This will result in approximate water & sewer usage of approximately **6,600 gpd**. [1]

[1] Volume is based on NHDES Env-Wq 1008.03 Table 1008-1 Design Flow figures: for Apartments – 2 or more (150 gpd/bedroom).

Please advise on the availability of sewer and water to the site.

Thank you for your time,

Michael Menary
Staff Engineer II
Civilworks New England, PLLC.
181 Watson Road
P.O. Box 1166
Dover, New Hampshire 03821
O: (603) 749-0443
C: (973) 907-0370

TEST BORING LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Fisher St. Townhomes
Dover, NH
Project No: 22.131.NH
Date Start: 08-18-22
Date End: 08-18-22

Sheet 1 **of** 2
Boring No: B-1
Location: See Plan
Approx. Surface Elev: 92

	CASING	SAMPLER	GROUNDWATER OBSERVATIONS Date	Depth	Casing At	Stabilization Period
Type	HSA	SS	08-18-22	19'	36'	Upon Completion
Size	2-1/4" ID	1-3/8" ID				
Hammer		140 lbs.				
Fall		30"				

Depth/ Elev.	Cas bl/ft	SAMPLE Sample No.	Depth Range	Pen.	Rec.	BLOWS 0-6"	6-12"	12-18"	18-24"	Strata Change	Sample Description	Notes
0 92		-	0.0-0.2	2	3	6					-: 2" of 1-1/2" crushed stone	
		S-1	0.2-0.5	4	13		13	13	9		S-1: Brown, fine to coarse sand, some gravel, little silt (FILL)	
		S-1A	0.5-2.0	18							S-1A: Gray/Brown (mottled), desiccated silty clay	
		S-2	2.0-4.0	24	17	5	8	13	15		S-2: Gray/Brown (mottled), desiccated silty clay	
5 87		S-3	4.0-6.0	24	19	5	8	11	15		S-3: Gray/Brown (mottled), desiccated silty clay	
10 82		S-4	9.0-11.0	24	19	4	6	7	9		S-4: Gray, silty clay	
15 77		S-5	14.0-16.0	24	24	3	4	4	5		S-5: Gray, silty clay	
20 72		S-6	19.0-21.0	24	24	1	1	1	1		S-6: Gray, silty clay, wet	
25 67		S-7	24.0-25.5	18	16	WOH/ 18					S-7: Gray, clay, trace fine sand, wet	
		S-7A	25.5-26.0	6	4				WOH		S-7A: Gray, fine sand, little silt, trace clay	
30 62		S-8	29.0-31.0	24	18	3	4	4	11		S-8: Gray, fine to medium sand, some silt, little subangular gravel	

Driller: R. Marcoux
Helper: J. Donahue
Inspector: T. Young

COHESIVE CONSISTENCY (Blows/Foot)
0-2 VERY SOFT
2-4 SOFT
4-8 MEDIUM STIFF
8-15 STIFF
15-30 HARD

COHESIONLESS (Blows/Foot)
0-4 VERY LOOSE
4-10 LOOSE
10-30 MEDIUM DENSE
30-50 DENSE
50+ VERY DENSE

PROPORTIONS USED
TRACE: 0-10%
LITTLE: 10-20%
SOME: 20-35%
AND: 35-50%

NOTES:

REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITION MAY BE GRADUAL.
WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS.
FLUCTUATIONS IN THE LEVEL OF THE GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

TEST BORING LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Fisher St. Townhomes
Dover, NH
Project No.: 22.131.NH
Date Start: 08-18-22
Date End: 08-18-22

Sheet 2 **of** 2
Boring No: B-1
Location: See Plan
Approx. Surface Elev: 92

			GROUNDWATER OBSERVATIONS			
	CASING	**SAMPLER**	**Date**	**Depth**	**Casing At**	**Stabilization Period**
Type	HSA	SS	08-18-22	19'	36'	Upon Completion
Size	2-1/4" ID	1-3/8" ID				
Hammer		140 lbs.				
Fall		30"				

Depth/ Elev.	Cas bl/ft	SAMPLE Sample No.	SAMPLE Depth Range	SAMPLE Pen.	SAMPLE Rec.	BLOWS 0-6"	BLOWS 6-12"	BLOWS 12-18"	BLOWS 18-24"	Strata Change	Sample Description	Notes
35 — 57		S-9	34.0-36.0	24	15	3	14	18	24		S-9: Gray, fine to medium sand, some silt, little subangular gravel	
											BORING TERMINATED AT 36 ft	
40 — 52												
45 — 47												
50 — 42												
55 — 37												
60 — 32												

Driller: R. Marcoux
Helper: J. Donahue
Inspector: T. Young

COHESIVE CONSISTENCY (Blows/Foot)
0-2 VERY SOFT
2-4 SOFT
4-8 MEDIUM STIFF
8-15 STIFF
15-30 HARD

COHESIONLESS (Blows/Foot)
0-4 VERY LOOSE
4-10 LOOSE
10-30 MEDIUM DENSE
30-50 DENSE
50+ VERY DENSE

PROPORTIONS USED
TRACE: 0-10%
LITTLE: 10-20%
SOME: 20-35%
AND: 35-50%

NOTES:

REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITION MAY BE GRADUAL.
WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS.
FLUCTUATIONS IN THE LEVEL OF THE GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

TEST BORING LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Fisher St. Townhomes
Dover, NH
Project No: 22.131.NH
Date Start: 08-18-22
Date End: 08-18-22

Sheet 1 **of** 1
Boring No: B-2
Location: See Plan
Approx. Surface Elev: 82

	CASING	SAMPLER	GROUNDWATER OBSERVATIONS Date	Depth	Casing At	Stabilization Period
Type	HSA	SS	08-18-22	14.5'	17'	Upon Completion
Size	2-1/4" ID	1-3/8" ID				
Hammer		140 lbs.				
Fall		30"				

Depth/ Elev.	Cas bl/ft	SAMPLE Sample No.	Depth Range	Pen.	Rec.	BLOWS 0-6"	6-12"	12-18"	18-24"	Strata Change	Sample Description	Notes
0 — 82		-	0.0-0.2	2	5	5					-: 2" of 1-1/2" crushed stone	
		S-1	0.2-0.6	5	13		16	10	10		S-1: Brown, fine to coarse sand, some gravel, little silt (FILL)	
		S-1A	0.6-2.0	17							S-1A: Gray, fine to coarse sand, little gravel, little silt (FILL)	
		S-2	2.0-4.0	24	11	8	6	8	13		S-2: Gray/Brown (mottled), desiccated clay, trace roots	
5 — 77		S-3	4.0-6.0	24	17	5	13	16	21		S-3: Gray/Brown (mottled), desiccated silty clay, trace roots	
10 — 72		S-4	9.0-11.0	24	23	5	4	6	6		S-4: Brown/Gray, silty clay, sand lenses, wet	
15 — 67		S-5	14.0-16.0	24	10	2	3	6	8		S-5: Gray, fine to medium sand, some silt, some subangular gravel, wet Auger Refusal at 17'	
20 — 62											BORING TERMINATED AT 17 ft	
25 — 57												
30 — 52												

Driller: R. Marcoux
Helper: J. Donahue
Inspector: T. Young

COHESIVE CONSISTENCY (Blows/Foot)
0-2 VERY SOFT
2-4 SOFT
4-8 MEDIUM STIFF
8-15 STIFF
15-30 HARD

COHESIONLESS (Blows/Foot)
0-4 VERY LOOSE
4-10 LOOSE
10-30 MEDIUM DENSE
30-50 DENSE
50+ VERY DENSE

PROPORTIONS USED
TRACE: 0-10%
LITTLE: 10-20%
SOME: 20-35%
AND: 35-50%

NOTES:

REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITION MAY BE GRADUAL.
WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS.
FLUCTUATIONS IN THE LEVEL OF THE GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

TEST BORING LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Fisher St. Townhomes
Dover, NH
Project No: 22.131.NH
Date Start: 08-19-22
Date End: 08-19-22

Sheet 1 **of** 2
Boring No: B-3
Location: See Plan
Approx. Surface Elev: 93

	CASING	SAMPLER	GROUNDWATER OBSERVATIONS Date	Depth	Casing At	Stabilization Period
Type	HSA	SS	08-19-22	16'	46'	Upon Completion
Size	2-1/4" ID	1-3/8" ID				
Hammer		140 lbs.				
Fall		30"				

Depth/ Elev.	Cas bl/ft	SAMPLE Sample No.	Depth Range	Pen.	Rec.	BLOWS 0-6"	6-12"	12-18"	18-24"	Strata Change	Sample Description	Notes
0 93		S-1	0.0-1.0	12	8	1	4				S-1: Topsoil	
		S-1A	1.0-2.0	12	9			3	4		S-1A: Tan, fine sand and silt, trace fine roots	
		S-2	2.0-2.5	6	5	5					S-2: Tan, fine sand and silt, trace fine roots	
		S-2A	2.5-4.0	18	13		10	13	10		S-2A: Brown, fine sand, little silt	
5 88		S-3	4.0-6.0	24	17	3	5	6	10		S-3: Gray/Brown (mottled), silt, some fine sand	
10 83		S-4	9.0-11.0	24	17	1	4	5	8		S-4: Gray, silty clay	
15 78		S-5	14.0-16.0	24	24	2	3	5	3		S-5: Gray, silty clay (bottom 6" of sample was wet)	
20 73		S-6	19.0-21.0	24	24	WOH/ 12		1	3		S-6: Gray, silty clay, wet	
25 68		S-7	24.0-26.0	24	24	1	1	1	2		S-7: Gray, silty clay, wet	
30 63		S-8	29.0-31.0	24	24	WOR/ 24					S-8: Gray, silty clay, wet	

Driller: R. Marcoux
Helper: J. Donahue
Inspector: T. Young

COHESIVE CONSISTENCY (Blows/Foot)
0-2 VERY SOFT
2-4 SOFT
4-8 MEDIUM STIFF
8-15 STIFF
15-30 HARD

COHESIONLESS (Blows/Foot)
0-4 VERY LOOSE
4-10 LOOSE
10-30 MEDIUM DENSE
30-50 DENSE
50+ VERY DENSE

PROPORTIONS USED
TRACE: 0-10%
LITTLE: 10-20%
SOME: 20-35%
AND: 35-50%

NOTES:

REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITION MAY BE GRADUAL.
WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS.
FLUCTUATIONS IN THE LEVEL OF THE GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

TEST BORING LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Fisher St. Townhomes
Dover, NH
Project No.: 22.131.NH
Date Start: 08-19-22
Date End: 08-19-22

Sheet 2 **of** 2
Boring No: B-3
Location: See Plan
Approx. Surface Elev: 93

	CASING	SAMPLER	GROUNDWATER OBSERVATIONS			
			Date	Depth	Casing At	Stabilization Period
Type	HSA	SS	08-19-22	16'	46'	Upon Completion
Size	2-1/4" ID	1-3/8" ID				
Hammer		140 lbs.				
Fall		30"				

Depth/ Elev.	Cas bl/ft	SAMPLE Sample No.	SAMPLE Depth Range	SAMPLE Pen.	SAMPLE Rec.	BLOWS 0-6"	BLOWS 6-12"	BLOWS 12-18"	BLOWS 18-24"	Strata Change	Sample Description	Notes
35 — 58 40 — 53		S-9	34.0-36.0	24	24	WOR/ 12		WOH	2		S-9: Gray, fine sand, some silt, trace clay, wet (6 - 1" layers of gray, clay)	
45 — 48		S-10	45.0-46.0	12	10			6	10		S-10: Gray, fine to medium sand, some silt, little subangular gravel, wet	
50 — 43 55 — 38 60 — 33											BORING TERMINATED AT 46 ft	

Driller: R. Marcoux
Helper: J. Donahue
Inspector: T. Young

COHESIVE CONSISTENCY (Blows/Foot)
0-2 VERY SOFT
2-4 SOFT
4-8 MEDIUM STIFF
8-15 STIFF
15-30 HARD

COHESIONLESS (Blows/Foot)
0-4 VERY LOOSE
4-10 LOOSE
10-30 MEDIUM DENSE
30-50 DENSE
50+ VERY DENSE

PROPORTIONS USED
TRACE: 0-10%
LITTLE: 10-20%
SOME: 20-35%
AND: 35-50%

NOTES:

REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITION MAY BE GRADUAL.
WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS.
FLUCTUATIONS IN THE LEVEL OF THE GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

TEST BORING LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Fisher St. Townhomes
Dover, NH
Project No: 22.131.NH
Date Start: 08-18-22
Date End: 08-18-22

Sheet 1 **of** 2
Boring No: B-4
Location: See Plan
Approx. Surface Elev: 80

	CASING	SAMPLER	GROUNDWATER OBSERVATIONS Date	Depth	Casing At	Stabilization Period
Type	HSA	SS	08-18-22	19'	36'	Upon Completion
Size	2-1/4" ID	1-3/8" ID				
Hammer		140 lbs.				
Fall		30"				

Depth/ Elev.	Cas bl/ft	SAMPLE Sample No.	Depth Range	Pen.	Rec.	BLOWS 0-6"	6-12"	12-18"	18-24"	Strata Change	Sample Description	Notes
0 — 80		-	0.0-0.2	2	0	8	9	5	7		-: 2" of 1-1/2" crushed stone	
		S-1	0.2-2.0	22							S-1: No recovery (pushed stone)	
		S-2	2.0-4.0	24	0	16	16	19	18		S-2: No recovery (pushed stone)	
5 — 75		S-3	4.0-6.0	24	5	5	7	9	13		S-3: Gray/Brown (mottled), desiccated silty clay	
10 — 70		S-4	9.0-11.0	24	19	2	3	4	5		S-4: Gray/Brown, silty clay	
15 — 65		S-5	14.0-16.0	24	24	2	4	3	5		S-5: Gray/Brown, silty clay	
20 — 60		S-6	19.0-21.0	24	24	1/12"		1/12"			S-6: Gray, silty clay, wet	
25 — 55		S-7	24.0-26.0	24	22	WOH/ 12		1	2		S-7: Gray, fine sand, little silt, trace clay, wet	
30 — 50		S-8	29.0-31.0	24	15	4	4	6	17		S-8: Gray, fine to medium sand, some silt, little subangular gravel, wet	

Driller: R. Marcoux
Helper: J. Donahue
Inspector: T. Young

COHESIVE CONSISTENCY (Blows/Foot)
0-2 VERY SOFT
2-4 SOFT
4-8 MEDIUM STIFF
8-15 STIFF
15-30 HARD

COHESIONLESS (Blows/Foot)
0-4 VERY LOOSE
4-10 LOOSE
10-30 MEDIUM DENSE
30-50 DENSE
50+ VERY DENSE

PROPORTIONS USED
TRACE: 0-10%
LITTLE: 10-20%
SOME: 20-35%
AND: 35-50%

NOTES: Trial #2; S-1; 0-1: 5-4: R=5; Brown, fine to coarse sand, some gravel, little silt (FILL)
S-1A; 1-5; 5-7; R=8; Gray/Brown, desiccated clay, trace fine roots
S-2; 2-4; 11-12-17-17; R=18; Gray/Brown, desiccated clay

REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITION MAY BE GRADUAL.
WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS.
FLUCTUATIONS IN THE LEVEL OF THE GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

TEST BORING LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Fisher St. Townhomes
Dover, NH
Project No.: 22.131.NH
Date Start: 08-18-22
Date End: 08-18-22

Sheet 2 **of** 2
Boring No: B-4
Location: See Plan
Approx. Surface Elev: 80

			GROUNDWATER OBSERVATIONS			
	CASING	**SAMPLER**	**Date**	**Depth**	**Casing At**	**Stabilization Period**
Type	HSA	SS	08-18-22	19'	36'	Upon Completion
Size	2-1/4" ID	1-3/8" ID				
Hammer		140 lbs.				
Fall		30"				

Depth/ Elev.	Cas bl/ft	SAMPLE Sample No.	SAMPLE Depth Range	SAMPLE Pen.	SAMPLE Rec.	BLOWS 0-6"	BLOWS 6-12"	BLOWS 12-18"	BLOWS 18-24"	Strata Change	Sample Description	Notes
35 — 45		S-9	34.0-36.0	24	10	1	6	9	14		S-9: Gray, fine to medium sand, some silt, some subangular gravel, wet	
											BORING TERMINATED AT 36 ft	
40 — 40												
45 — 35												
50 — 30												
55 — 25												
60 — 20												

Driller: R. Marcoux
Helper: J. Donahue
Inspector: T. Young

COHESIVE CONSISTENCY (Blows/Foot)
0-2 VERY SOFT
2-4 SOFT
4-8 MEDIUM STIFF
8-15 STIFF
15-30 HARD

COHESIONLESS (Blows/Foot)
0-4 VERY LOOSE
4-10 LOOSE
10-30 MEDIUM DENSE
30-50 DENSE
50+ VERY DENSE

PROPORTIONS USED
TRACE: 0-10%
LITTLE: 10-20%
SOME: 20-35%
AND: 35-50%

NOTES: Trial #2; S-1; 0-1: 5-4: R=5; Brown, fine to coarse sand, some gravel, little silt (FILL)
S-1A; 1-5; 5-7; R=8; Gray/Brown, desiccated clay, trace fine roots
S-2; 2-4; 11-12-17-17; R=18; Gray/Brown, desiccated clay

REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITION MAY BE GRADUAL.
WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS.
FLUCTUATIONS IN THE LEVEL OF THE GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

TEST BORING LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Fisher St. Townhomes
Dover, NH
Project No: 22.131.NH
Date Start: 08-19-22
Date End: 08-19-22

Sheet 1 **of** 2
Boring No: B-5
Location: See Plan
Approx. Surface Elev: 80

	CASING	SAMPLER	GROUNDWATER OBSERVATIONS Date	Depth	Casing At	Stabilization Period
Type	HSA	SS	08-19-22	14'	36'	Upon Completion
Size	2-1/4" ID	1-3/8" ID				
Hammer		140 lbs.				
Fall		30"				

Depth/ Elev.	Cas bl/ft	SAMPLE Sample No.	Depth Range	Pen.	Rec.	BLOWS 0-6"	6-12"	12-18"	18-24"	Strata Change	Sample Description	Notes
0 80		S-1	0.0-1.0	12	7	3	7				S-1: Topsoil	
		S-1A	1.0-2.0	12	12			12	21		S-1A: Tan, silt, little fine sand, trace fine roots	
		S-2	2.0-4.0	24	18	17	20	31	37		S-2: Gray/Brown (mottled), desiccated silty clay	
5 75		S-3	4.0-6.0	24	19	3	10	11	17		S-3: Gray/Brown (mottled), desiccated silty clay	
10 70		S-4	9.0-10.8	22	24	3	9	8	11		S-4: Gray/Brown (mottled), desiccated silty clay	
15 65		S-5	14.0-16.0	24	22	2	2	2	2		S-5: Gray, silty clay, wet	
20 60		S-6	19.0-21.0	24	24	WOR	1	1/12"			S-6: Gray, silty clay, wet	
25 55		S-7	24.0-26.0	24	12	WOr/12		2	1		S-7: Gray, fine sand, some silt, trace clay	
30 50		S-8	29.0-31.0	24	12	WOR	WOH	4	4		S-8: Gray, fine sand, trace silt, wet	

Driller: R. Marcoux
Helper: J. Donahue
Inspector: T. Young

COHESIVE CONSISTENCY (Blows/Foot)
0-2 VERY SOFT
2-4 SOFT
4-8 MEDIUM STIFF
8-15 STIFF
15-30 HARD

COHESIONLESS (Blows/Foot)
0-4 VERY LOOSE
4-10 LOOSE
10-30 MEDIUM DENSE
30-50 DENSE
50+ VERY DENSE

PROPORTIONS USED
TRACE: 0-10%
LITTLE: 10-20%
SOME: 20-35%
AND: 35-50%

NOTES:

REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITION MAY BE GRADUAL.
WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS.
FLUCTUATIONS IN THE LEVEL OF THE GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

TEST BORING LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Fisher St. Townhomes
Dover, NH
Project No.: 22.131.NH
Date Start: 08-19-22
Date End: 08-19-22

Sheet 2 **of** 2
Boring No: B-5
Location: See Plan
Approx. Surface Elev: 80

	CASING	SAMPLER	GROUNDWATER OBSERVATIONS Date	Depth	Casing At	Stabilization Period
Type	HSA	SS	08-19-22	14'	36'	Upon Completion
Size	2-1/4" ID	1-3/8" ID				
Hammer		140 lbs.				
Fall		30"				

Depth/ Elev.	Cas bl/ft	SAMPLE Sample No.	Depth Range	Pen.	Rec.	BLOWS 0-6"	6-12"	12-18"	18-24"	Strata Change	Sample Description	Notes
35 — 45		S-9	34.0-36.0	24	15	WOR/ 12		2	5		S-9: Gray, fine sand, trace silt, wet	
40 — 40											BORING TERMINATED AT 36 ft	
45 — 35												
50 — 30												
55 — 25												
60 — 20												

Driller: R. Marcoux
Helper: J. Donahue
Inspector: T. Young

COHESIVE CONSISTENCY (Blows/Foot)
0-2 VERY SOFT
2-4 SOFT
4-8 MEDIUM STIFF
8-15 STIFF
15-30 HARD

COHESIONLESS (Blows/Foot)
0-4 VERY LOOSE
4-10 LOOSE
10-30 MEDIUM DENSE
30-50 DENSE
50+ VERY DENSE

PROPORTIONS USED
TRACE: 0-10%
LITTLE: 10-20%
SOME: 20-35%
AND: 35-50%

NOTES:

REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITION MAY BE GRADUAL.
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TEST BORING LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Fisher St. Townhomes
Dover, NH
Project No: 22.131.NH
Date Start: 08-19-22
Date End: 08-19-22

Sheet 1 **of** 2
Boring No: B-6
Location: See Plan
Approx. Surface Elev: 72

	CASING	SAMPLER	GROUNDWATER OBSERVATIONS Date	Depth	Casing At	Stabilization Period
Type	HSA	SS	08-19-22	14'	36'	Upon Completion
Size	2-1/4" ID	1-3/8" ID				
Hammer		140 lbs.				
Fall		30"				

Depth/ Elev.	Cas bl/ft	SAMPLE Sample No.	Depth Range	Pen.	Rec.	BLOWS 0-6"	6-12"	12-18"	18-24"	Strata Change	Sample Description	Notes
0 — 72		S-1	0.0-0.5	6	2	2					S-1: Topsoil	
		S-1A	0.5-2.0	18	15		8	15	18		S-1A: Gray/Brown, silt, little fine sand, trace fine roots	
		S-2	2.0-3.5	18	13	24	31	50			S-2: Gray/Brown (mottled), desiccated silty clay	
5 — 67		S-3	4.0-6.0	24	16	4	11	14	20		S-3: Gray/Brown (mottled), desiccated silty clay	
10 — 62		S-4	9.0-11.0	24	24	6	6	7	8		S-4: Gray, silty clay	
15 — 57		S-5	14.0-15.5	18	15	2	1	1			S-5: Gray, clay, trace fine sand, wet	
20 — 52		S-6	19.0-21.0	24	18	WOR/ 12		2	7		S-6: Gray, fine sand, trace silt, wet (2 - 1/2" clay varves)	
25 — 47		S-7	24.0-26.0	24	20	WOR	1	1	2		S-7: Bray, fine sand, little clay (3 - 1/2" clay varves)	
30 — 42		S-8	29.0-31.0	24	18	3	18	16	26		S-8: Gray, fine to medium sand, little silt, little subangular gravel	

Driller: R. Marcoux
Helper: J. Donahue
Inspector: T. Young

COHESIVE CONSISTENCY (Blows/Foot)
0-2 VERY SOFT
2-4 SOFT
4-8 MEDIUM STIFF
8-15 STIFF
15-30 HARD

COHESIONLESS (Blows/Foot)
0-4 VERY LOOSE
4-10 LOOSE
10-30 MEDIUM DENSE
30-50 DENSE
50+ VERY DENSE

PROPORTIONS USED
TRACE: 0-10%
LITTLE: 10-20%
SOME: 20-35%
AND: 35-50%

NOTES:

REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITION MAY BE GRADUAL.
WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS.
FLUCTUATIONS IN THE LEVEL OF THE GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

TEST BORING LOG

MILLER ENGINEERING & TESTING, INC.
100 Sheffield Road - Manchester, NH 03103
Ph. (603) 668-6016 - Fax: (603) 668-8641

Project: Fisher St. Townhomes
Dover, NH
Project No.: 22.131.NH
Date Start: 08-19-22
Date End: 08-19-22

Sheet 2 **of** 2
Boring No: B-6
Location: See Plan
Approx. Surface Elev: 72

	CASING	SAMPLER	GROUNDWATER OBSERVATIONS Date	Depth	Casing At	Stabilization Period
Type	HSA	SS	08-19-22	14'	36'	Upon Completion
Size	2-1/4" ID	1-3/8" ID				
Hammer		140 lbs.				
Fall		30"				

Depth/ Elev.	Cas bl/ft	SAMPLE Sample No.	Depth Range	Pen.	Rec.	BLOWS 0-6"	6-12"	12-18"	18-24"	Strata Change	Sample Description	Notes
35 — 37		S-9	34.0-36.0	24	12	12	26	26	33		S-9: Gray, fine to medium sand, little silt, little subangular gravel	
40 — 32											BORING TERMINATED AT 36 ft	
45 — 27												
50 — 22												
55 — 17												
60 — 12												

Driller: R. Marcoux
Helper: J. Donahue
Inspector: T. Young

COHESIVE CONSISTENCY (Blows/Foot)
0-2 VERY SOFT
2-4 SOFT
4-8 MEDIUM STIFF
8-15 STIFF
15-30 HARD

COHESIONLESS (Blows/Foot)
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4-10 LOOSE
10-30 MEDIUM DENSE
30-50 DENSE
50+ VERY DENSE

PROPORTIONS USED
TRACE: 0-10%
LITTLE: 10-20%
SOME: 20-35%
AND: 35-50%

NOTES:

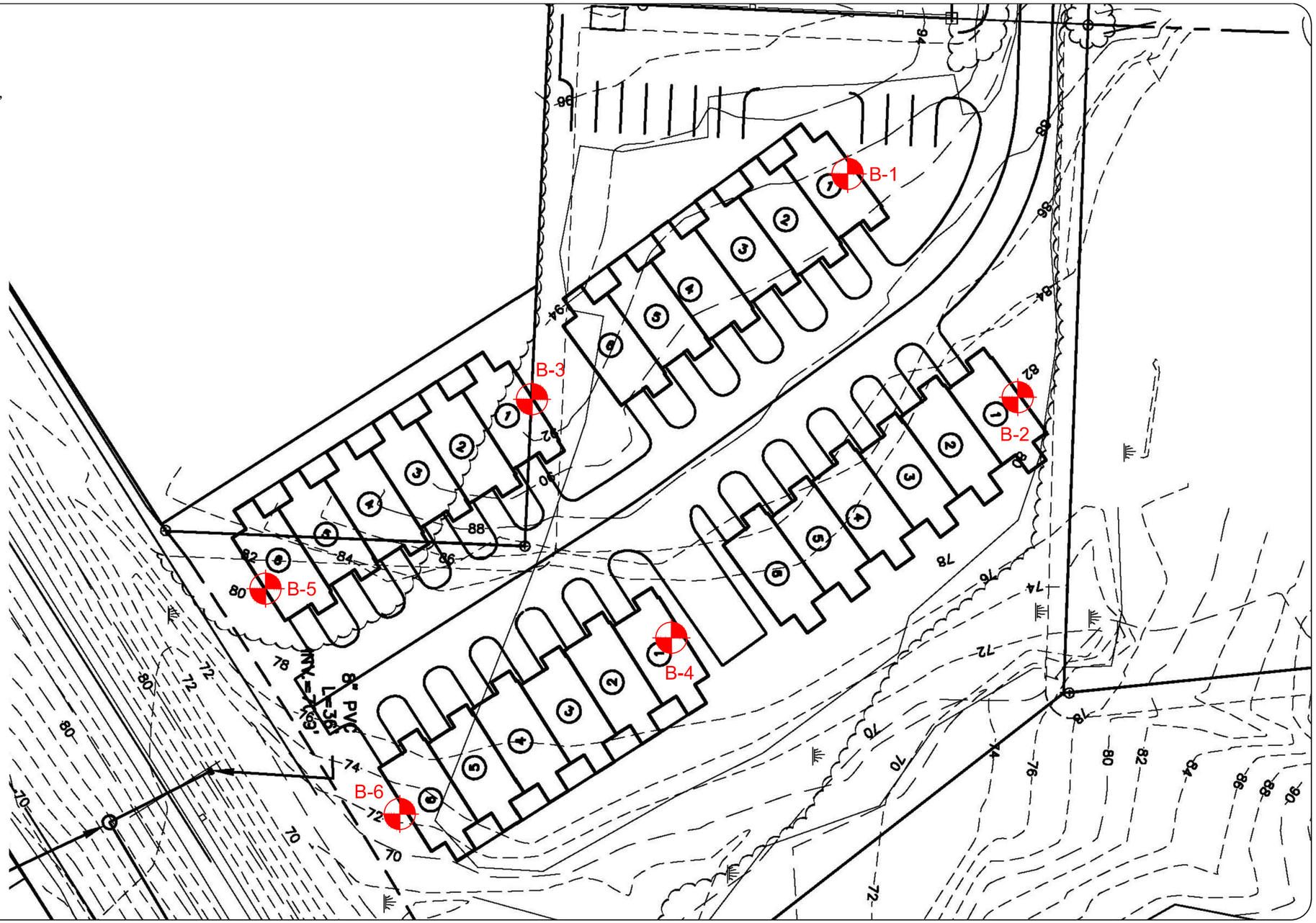
REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITION MAY BE GRADUAL.
WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS.
FLUCTUATIONS IN THE LEVEL OF THE GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

NOTES

1. This plan is a reproduction of portions of "Conceptual Site Plan, Dover, NH", (dated May 22, 2022) by Civil Works New England of Dover, NH.
2. A geotechnical engineer from Miller Engineering & Testing, Inc. inspected the test borings.
3. Exploration locations were established by others and using the tape and pace method.

KEY

Approximate Boring Location



GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

MILLER ENGINEERING & TESTING, INC.

100 SHEFFIELD ROAD - PO BOX 4776
MANCHESTER, NEW HAMPSHIRE 03108
TEL (603) 668-6016 // FAX (603) 668-8641

Fisher Street Townhomes
Dover, NH
August 2022
Project No. 22.131.NH

SUBSURFACE EXPLORATION LOCATION PLAN

FIGURE No. 1

Stephen G. Pernaw & Company, Inc.
P.O. Box 1721 • Concord, NH 03302
tel: (603) 731-8500 • fax: (866) 929-6094 • sgp@ pernaw.com
Transportation: Engineering • Planning • Design

M E M O R A N D U M

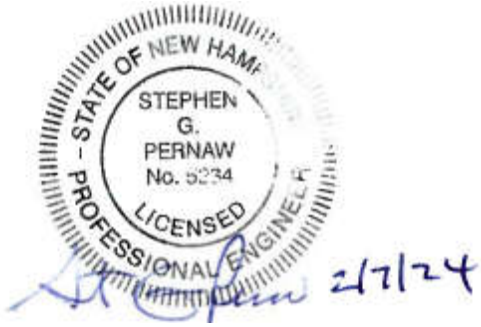
Ref: 2291A

To: Eric Jackson, The Stabile Companies
Stephen Haight, P.E., Civilworks

From: Stephen G. Pernaw, P.E.

Subject: Fisher Street – Traffic Surveys
Dover, New Hampshire

Date: February 7, 2024



Background – In accordance with our meeting on December 7, 2023 with Police Sergeant Marn Speidel of the Dover Police Department, our office has conducted: 1) traffic counts on Fisher Street and Elm Street, 2) an intersection turning movement and vehicle classification count at the Fisher Street/Elm Street intersection, and 3) a travel speed survey on Fisher Street (west of Elm Street). The purpose of this memorandum is to summarize the results of our surveys and analyses. Appended to this memorandum you will find additional details relevant to each topic.

Existing Roadway Volumes - Automatic traffic recorders were installed on Fisher Street (west of Elm Street) and on Elm Street (north of Fisher Street) for several days in December 2023. The table below summarizes the overall results. Section A provides additional summaries as well as the raw traffic count data.

Automatic Traffic Recorder Count Summary

	Fisher Street	Elm Street
Average Weekday Volume (24 Hours) =	522 vehicles	143 vehicles
Average Weekday AM Peak Hour Volume =	62 vehicles	10 vehicles
Average Weekday PM Peak Hour Volume =	63 vehicles	14 vehicles
Saturday Peak Hour Volume =	47 vehicles	25 vehicles
Sunday Peak Hour Volume =	31 vehicles	15 vehicles

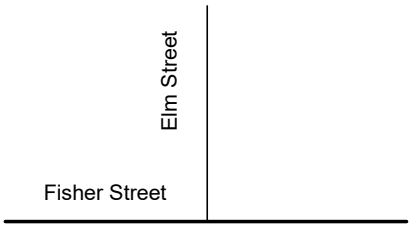
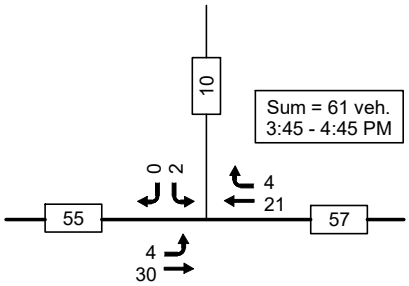
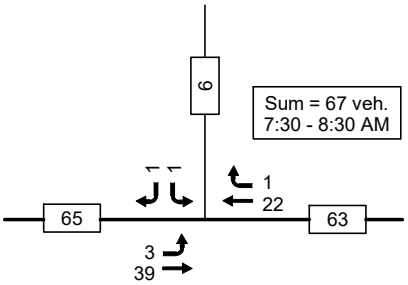
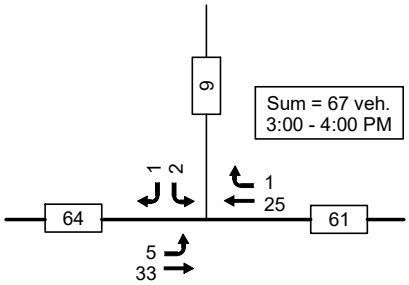
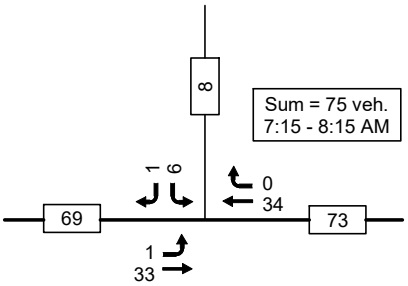
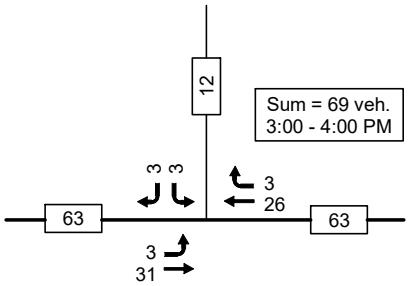
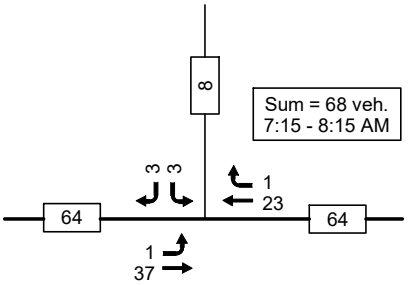
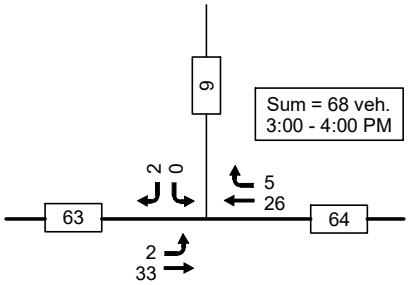
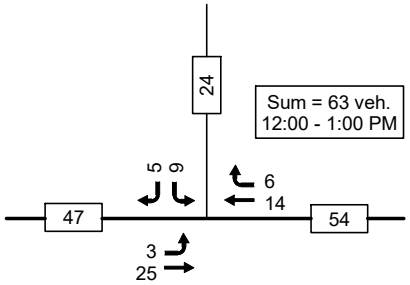
Existing Intersection Volumes – Peak period intersection counts were conducted at the Fisher Street/Elm Street intersection on several weekdays and a Saturday in December 2023. This intersection accommodated between 63-75 vehicles during the various peak hour periods, as shown below.

Intersection Traffic Volume Summary

Weekday AM Peak Hour Volume =	67 - 75	vehicles	(7:15 - 8:15 or 7:30 - 8:30 AM)
Weekday PM Peak Hour Volume =	61 - 69	vehicles	(3:00 - 4:00 or 3:45 - 4:45 PM)
Saturday Peak Hour Volume =	63	vehicles	(12:00 - 1:00 PM)

Figure 1 shows the various travel patterns at this intersection. Section B includes the raw data.

Pernaw & Company, Inc

	AM PEAK HOUR	PM PEAK HOUR
TUESDAY 12/12/23		
WEDNESDAY 12/13/23		
THURSDAY 12/14/23		
FRIDAY 12/15/23		
SATURDAY MIDDAY 12/16/23		

NORTH

2291A

Figure 1

2023 Existing Traffic Volumes - Fisher Street / Elm Street Intersection

Traffic Survey, Dover, New Hampshire

Existing Travel Speeds – A travel speed survey was conducted on the section of Fisher Street west of Elm Street. The following table summarizes the statistical results. Section C provides the raw data.

Vehicle Speed Summary - Fisher Street

	Eastbound	Westbound
Average Speed =	27 mph	25 mph
85th Percentile Speed =	33 mph	31 mph
Speed Range =	7-46 mph	5-56 mph

All-Way Stop Control Warrants – The City of Dover is considering the need for additional stop signs at the Fisher Street/Elm Street intersection. The *"Manual on Uniform Traffic Control Devices"*[1] (MUTCD) includes guidelines or warrants for providing all-way stop control at intersections (see Section D). The following table summarizes the various warrants and our findings.

All-Way Stop Control Warrants

	Requirement	Commentary
Warrant A Crash Experience	Four or more reported crashes in a 12-month period, or: Five or more reported crashes in a 36-month period [1]	The Police Department has "no crash history over the previous five years 2019-2023" at Fisher/Elm.
Warrant B Sight Distance	For minor-road approaches with inadequate sight lines	Looking left from Elm requires drivers to pull forward due to tree line on north side of Fisher.
Warrant C Transition to Signals	Interim measure in advance of traffic signal control	Traffic signal control not warranted, not planned.
Warrant D 8-Hour Volume	Entering volume (veh, bikes, peds.) > 300 for 8 hours & minor-approach > 200 units for same 8 hours	Not warranted. Highest entering volume = 75 for 1 hour.
Warrant E Other Factors	To control left-turn conflicts, to improve traffic operations; pedestrian and bicyclist movements	Not warranted. All traffic operations are nominal.

[1] Must be a type of crash that is susceptible to correction by the installation of all-way stop control

The MUTCD also states that *"stop signs should not be used for speed control."*

Posted Speed Limits – The City of Dover is also considering the need to install speed limit signs on Fisher Street. Oftentimes, the 85th percentile speed is utilized for establishing the speed limit. In addition, the Federal Highway Administration (FHWA) has adopted the USLIMIT2 program as a tool in assessing speed limits on all types of roads (see Section E). The table below summarizes the results from both methods.

Speed Limit Guidance

Method A: USLIMTS Version 2 system:	Recommended Speed Limit = 25 mph
Method B: 85th percentile speed method:	Recommended Speed Limit = 30 mph

[1] Federal Highway Administration, *Manual on Uniform Traffic Control Devices,* 2009 edition (Washington, D.C., 2009).

Trip Generation – To estimate the quantity of vehicle-trips that will be produced by the proposed condominiums, Pernaw & Company, Inc. considered the standard trip generation rates and equations published by the Institute of Transportation Engineers[2] (ITE). The most applicable ITE Land Use Code (LUC) for this type of development is LUC 220 (Multifamily Housing), and the number of dwelling units was used as the independent variable. Table 1 summarizes the results of the trip generation analyses for two types of urban settings. The subsequent analyses are based on Estimate B, the higher of the two estimates, and the calculations are attached.

Table 1 — Trip Generation Summary

	ESTIMATE A [1] (Dense Urban Setting)	ESTIMATE B [1] (General Urban Setting)
Weekday Total (24 hours)		
Entering	NA	74 veh
Exiting	NA	74 veh
Total	NA	148 trips
Weekday AM Peak Hour [2]		
Entering	1 veh	**2 veh**
Exiting	6 veh	**7 veh**
Total	7 trips	**9 trips**
Weekday PM Peak Hour [3]		
Entering	5 veh	**7 veh**
Exiting	1 veh	**4 veh**
Total	6 trips	**11 trips**

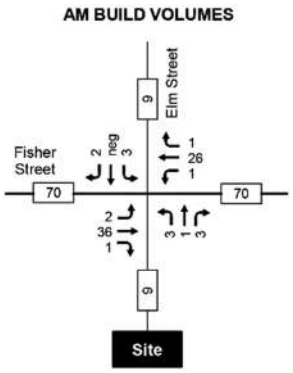
[1] ITE Land Use Code 220 (Multifamily Housing / Low-Rise)

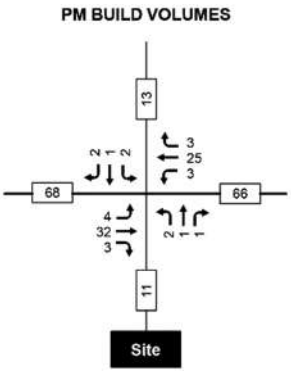
[2] One Hour Between 7 and 9 a.m.

[3] One Hour Between 4 and 6 p.m.

This table shows that the 22 proposed condominiums will generate its highest traffic flow during the weekday PM commuter peak hour period, with an increase of only +11 vehicle-trips, approximately. This impact translates into only one additional vehicle every six minutes, on average, during the worst-case weekday peak hour period.

The following diagrams depict post-development traffic volumes at the subject intersection using the weekday AM and PM peak hour volumes from Figure 1 (averaged), and the following trip distribution patterns for site traffic: 45% to/from points east and west via Fisher Street, and 10% via Elm Street.





[2] Institute of Transportation Engineers, *Trip Generation Manual*, Eleventh Edition (Washington, D.C., 2021)

Impact Summary – A simple before-after comparison of the traffic volumes on Fisher Street is summarized below, and shows that site traffic will increase the peak hour traffic volumes on Fisher Street by +6% to +8%, depending on location and time of day.

IMPACT SUMMARY

	2023 AM Peak Hour				2023 PM Peak Hour			
Location	No-Build	Build	Change	% Change	No-Build	Build	Change	% Change
Fisher St. (W. of Elm St.)	66	70	4 veh	**6%**	63	68	5 veh	**8%**
Fisher St. (E. of Elm St.)	66	70	4 veh	**6%**	62	66	4 veh	**6%**

The anticipated traffic increases on Fisher Street from the proposed development (approximately 4-5 additional peak hour vehicles) are less than the normal "day-to-day" variations in Fisher Street traffic flow (peak hour changes of up to +10 vehicles; see Figure 1).

Intersection Capacity - The 2023 Build traffic projections were utilized to assess traffic operations at the subject intersection on Fisher Street. This intersection was analyzed according to the methodologies of the *Highway Capacity Manual*[3] as replicated by the latest edition of the *Synchro Traffic Signal Coordination Software (Version 10)*, which also performs unsignalized intersection capacity analyses.

Capacity and Level of Service (LOS) calculations pertaining to unsignalized intersections address the quality of service for those vehicles turning into and out of intersecting side streets along a corridor. The availability of adequate gaps in the traffic stream on the major street (Fisher Street) controls the potential capacity for vehicle movements to and from the minor approaches (Elm Street and the proposed site access road). Levels of Service are simply letter grades (A-F) that categorize the vehicle delays associated with specific turning maneuvers. Table 2 describes the criteria used in this analysis.

Table 2 — Level-of-Service Criteria for Unsignalized Intersections

Control Delay (seconds/vehicle)	Level of Service by Volume-to-Capacity Ratio	
	v/c ≤ 1.0	v/c > 1.0
0 - 10	A	F
> 10 - 15	B	F
> 15 - 25	C	F
> 25 - 35	D	F
> 35 - 50	E	F
> 50	F	F

Source: Transportation Research Board, Highway Capacity Manual 2010.

The results of these analyses demonstrate that all applicable turning movements will operate well below capacity with the proposed development fully occupied, and at Level of Service A. Level of Service A is the highest or best level attainable and demonstrates that vehicle delays will be minimal and traffic congestion will not result. The computations pertaining to these analyses are attached.

[3] Transportation Research Board, *Highway Capacity Manual* (Washington, D.C., 2010).

Conclusions – Based on our evaluation of existing traffic conditions on Fisher Street, and the proposal to construct a fourth leg at the Fisher Street/Elm Street intersection to provide access for 22 new residential condominium units, we conclude:

1. Fisher Street (west of Elm Street) currently carries approximately 500 vehicles per day and 60-70 vehicles during the peak hour periods.

2. The Fisher Street/Elm Street intersection currently operates with stop sign control on the minor approach, and accommodates approximately 60-75 vehicles on a peak hour basis.

3. Vehicle speeds on Fisher Street (west of Elm Street) averaged 27 mph (eastbound) and 25 mph (westbound). The 85th percentile speed, often used for design purposes, was 33 mph (eastbound) and 31 mph (westbound).

4. Proposed residential development (22 condominium units) is expected to generate approximately 9 vehicle-trips (2 arrivals, 7 departures) during the AM peak hour period, and 11 vehicle-trips (7 arrivals, 4 departures) during the PM peak hour period. It is reasonable to expect that the majority will travel to/from points east and west on Fisher Street, and the minority will travel via Elm Street.

5. A simple "before-after" comparison revealed that the proposed development will increase the peak period traffic levels on Fisher Street by +6% to +8%, depending upon location and time of day. By way of comparison, random traffic flow on Fisher Street from one day to the next accounts for greater impacts than will be created by the proposed development.

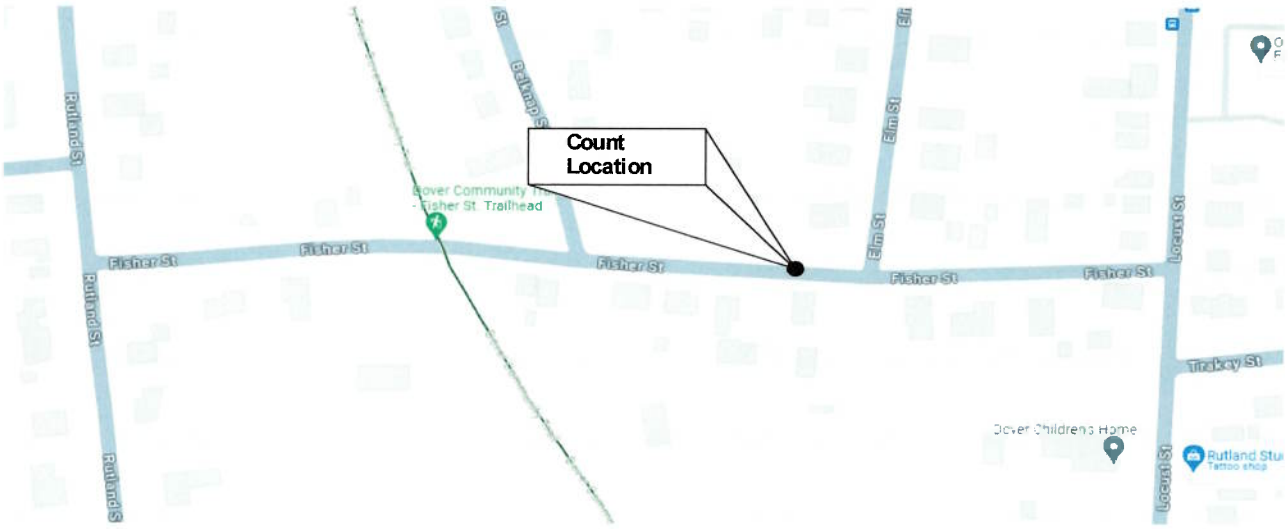
6. An intersection capacity and Level of Service analysis of the Fisher Street/Elm Street/Proposed Site Access Road intersection confirmed that all applicable traffic movements will operate well below capacity, with minimal delay (Level of Service A) and queuing. Level of Service A is the highest or best level attainable and confirms that traffic congestion will not result.

7. The appropriate form of traffic control at the subject intersection is the installation of a stop sign (MUTCD R1-1) on the site driveway approach to Fisher Street. All-Way Stop Control (AWSC) is not needed as traffic volumes are well below minimum thresholds, and there have been no reported crashes (2019-2023) in recent years. It should be noted that the MUTCD states that *"stop signs should not be used for speed control."*

8. In the event that speed limit signs are installed on Fisher Street (independent of the proposed development), then the posted speed limit of 25 or 30 mph is justifiable.

SECTION A – TRAFFIC RECORDER COUNT DATA

FISHER STREET LOCATION



SUMMARY

1. GENERAL LOCATION:	Fisher Street
2. SPECIFIC LOCATION:	West of Elm Street
3. YEAR:	2023
4. MONTH:	December
5. DATES:	12/14/23 - 12/20/23
6. DURATION:	Seven Days
7. NOTES:	Partial Count on Friday & Saturday

TRAFFIC VOLUME SUMMARY

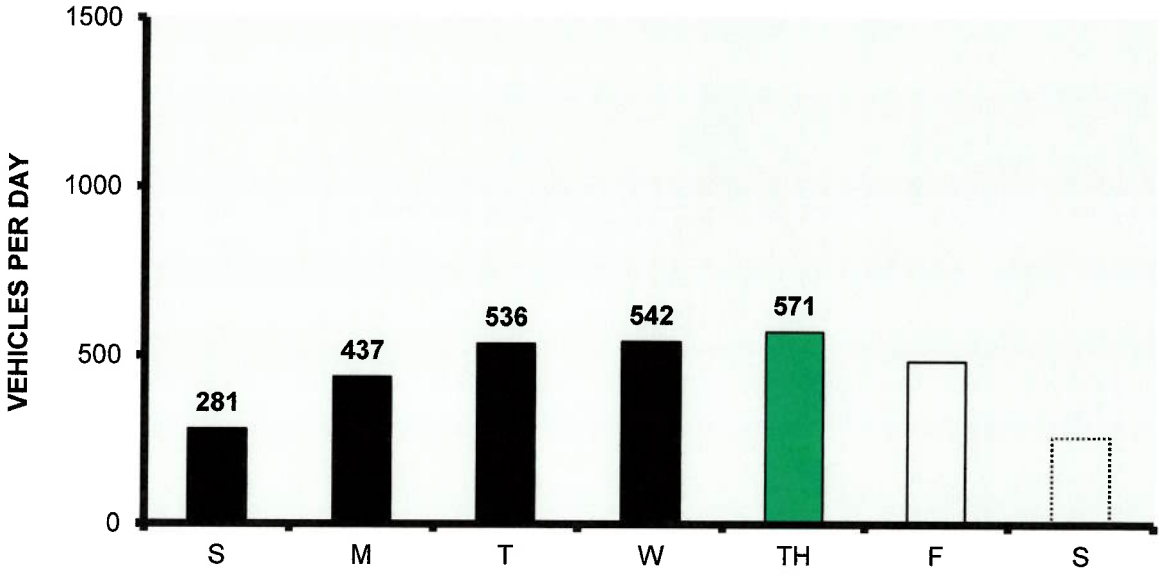
	AVERAGE	RANGE		K
WEEKDAY	522 VPD	437 - 571	VPD	-----
AM Peak	62 VPH	57 - 69	VPH	11.9
PM Peak	63 VPH	59 - 68	VPH	12.1
SATURDAY	NA VPD	N/A		-----
Saturday Peak	47 VPH	N/A		-----
SUNDAY	281 VPD	N/A		-----
Sunday Peak	31 VPH	N/A		11.0

VPD = Vehicles Per Day VPH = Vehicles Per Hour K = Percent of Daily Volume

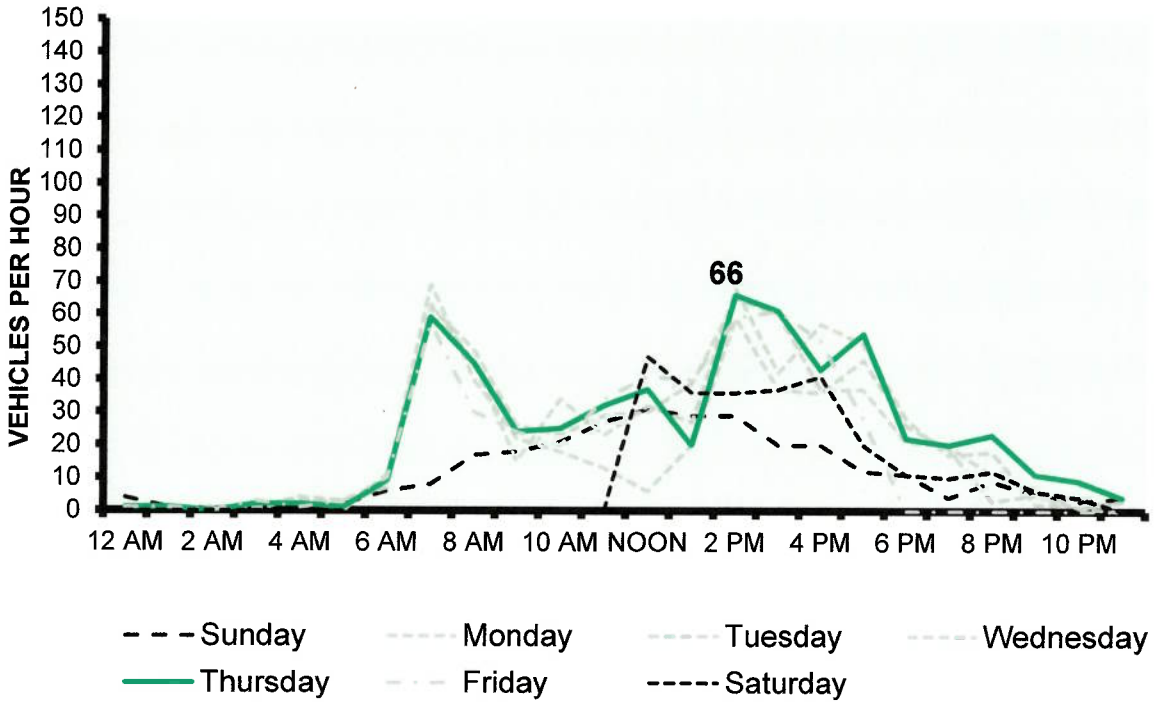
Stephen G. Pernaw & Company, Inc.

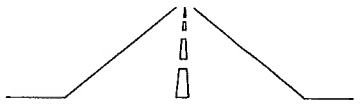
DAILY VARIATIONS

Fisher Street (West of Elm Street)
December 2023



HOURLY VARIATIONS





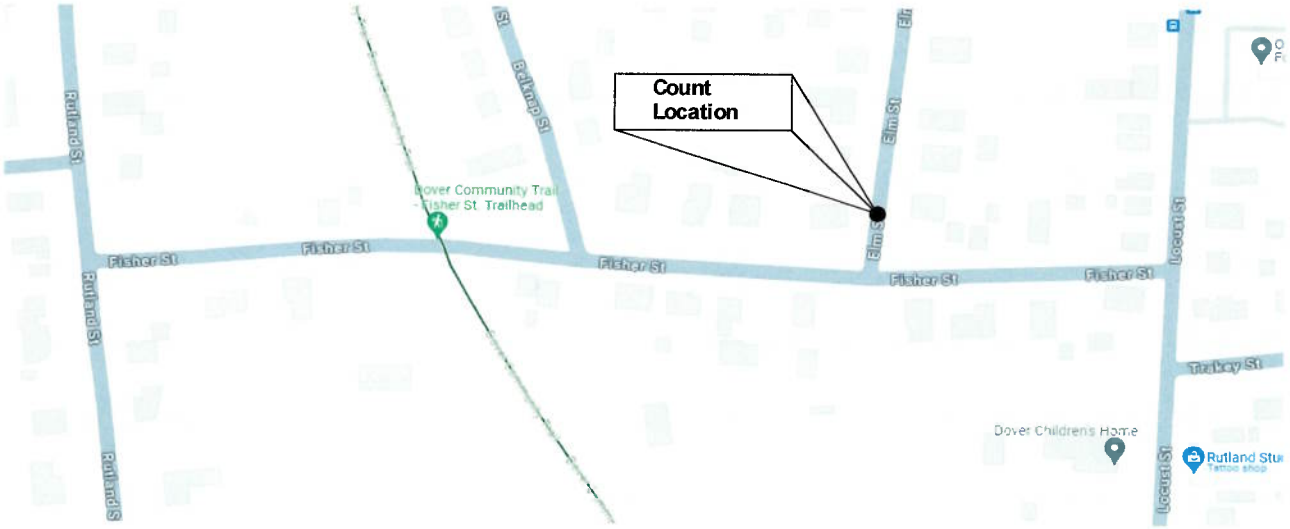
Stephen G. Pernaw & Company, Inc.

FISHER STREET TALLY SHEET

Hour Beginning	S 12/17/2023	M 12/18/2023	T 12/19/2023	W 12/20/2023	Th 12/14/2023	F 12/15/2023	S 12/16/2023	Weekday Avg
	VEHICLES PER HOUR							
12 AM	4	1	0	0	1	1	X	1
1 AM	1	0	0	0	1	1	X	0
2 AM	0	0	0	1	0	0	X	0
3 AM	0	0	1	1	2	3	X	1
4 AM	0	4	4	3	2	1	X	3
5 AM	2	3	0	3	1	3	X	2
6 AM	6	9	11	7	9	10	X	9
7 AM	8	69	62	63	59	57	X	62
8 AM	17	40	49	45	45	30	X	42
9 AM	18	22	26	15	24	24	X	22
10 AM	21	18	23	34	25	20	X	24
11 AM	27	13	29	23	32	34	X	26
NOON	31	6	30	32	37	41	47	29
1 PM	29	20	39	27	20	40	36	29
2 PM	29	59	65	68	66	59	36	63
3 PM	20	37	60	42	61	61	37	52
4 PM	20	36	37	57	43	52	41	45
5 PM	12	46	37	51	54	28	20	43
6 PM	11	26	21	28	22	X	11	24
7 PM	4	19	20	17	20	X	10	19
8 PM	9	3	11	18	23	X	12	14
9 PM	5	5	7	2	11	X	6	6
10 PM	3	1	1	2	9	X	4	3
11 PM	4	0	3	3	4	X	0	3
Sum	**281**	**437**	**536**	**542**	**571**	X	X	**522**

Stephen G. Pernaw & Company, Inc.

ELM STREET LOCATION



SUMMARY

1. GENERAL LOCATION:	Elm Street
2. SPECIFIC LOCATION:	North of Fisher Street
3. YEAR:	2023
4. MONTH:	December
5. DATES:	12/14/23 - 12/20/23
6. DURATION:	Seven Days
7. NOTES:	Partial Count on Saturday

TRAFFIC VOLUME SUMMARY

	AVERAGE	RANGE		K
WEEKDAY	143 VPD	117-158	VPD	-----
AM Peak	10 VPH	7-15	VPH	7.0
PM Peak	14 VPH	12-18	VPH	9.8
SATURDAY	NA VPD	N/A		-----
Saturday Peak	25 VPH	N/A		NA
SUNDAY	120 VPD	N/A		-----
Sunday Peak	15 VPH	N/A		12.5

VPD = Vehicles Per Day VPH = Vehicles Per Hour K = Percent of Daily Volume

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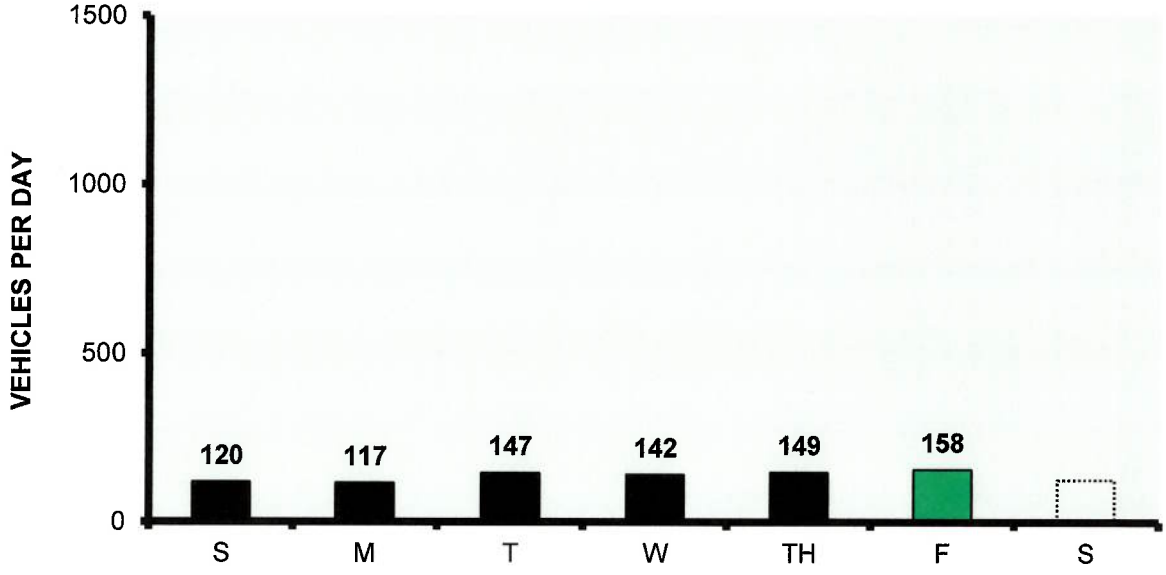
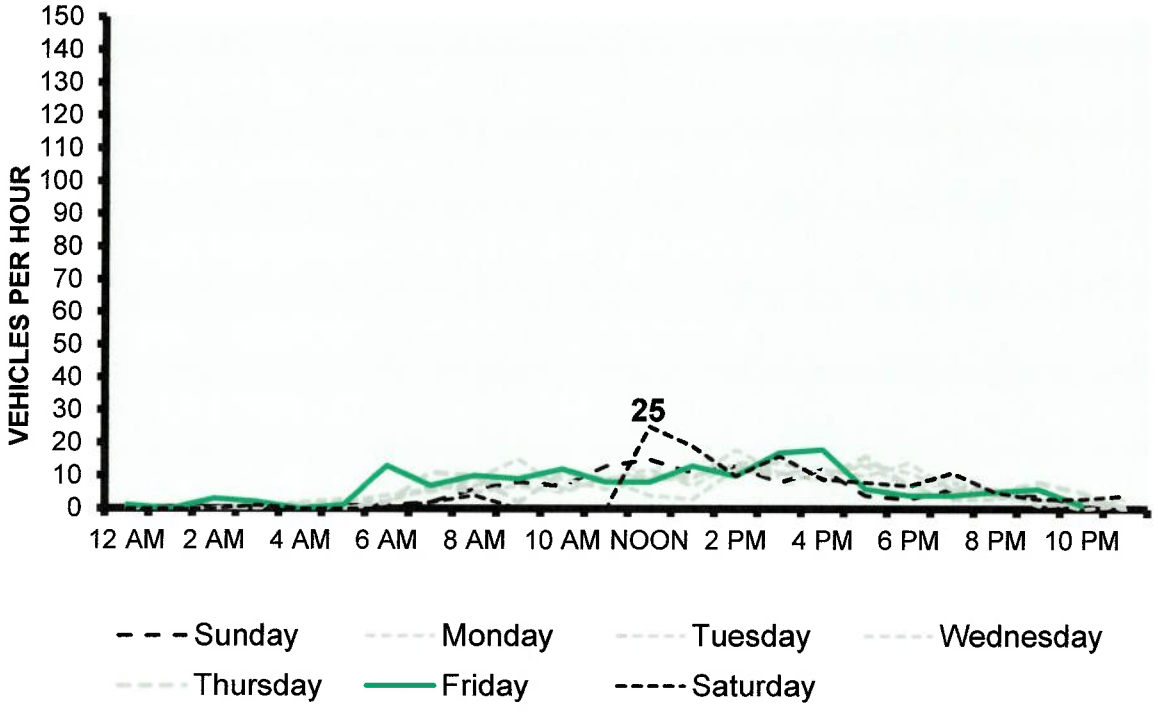
DAILY VARIATIONS

Elm Street (North of Fisher Street)
December 2023



HOURLY VARIATIONS



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ELM STREET TALLY SHEET

Hour Beginning	S 12/17/2023	M 12/18/2023	T 12/19/2023	W 12/20/2023	Th 12/14/2023	F 12/15/2023	S 12/16/2023	Weekday Avg
	VEHICLES PER HOUR							
12 AM	1	0	0	1	0	1	0	1
1 AM	0	0	0	0	0	1	0	0
2 AM	0	0	0	0	0	0	0	0
3 AM	0	0	0	0	1	3	1	1
4 AM	0	2	2	2	1	2	0	2
5 AM	1	3	2	0	0	0	0	1
6 AM	1	2	4	2	2	1	0	2
7 AM	2	7	5	6	11	13	2	7
8 AM	6	5	9	7	10	7	4	7
9 AM	8	7	15	10	2	10	x	9
10 AM	7	5	6	9	11	9	x	8
11 AM	13	9	9	6	9	12	x	10
NOON	15	4	12	9	10	8	25	10
1 PM	11	3	7	9	10	8	19	8
2 PM	13	12	14	18	13	13	10	14
3 PM	8	10	14	11	11	10	16	11
4 PM	12	9	11	12	9	17	9	12
5 PM	4	14	13	10	16	18	8	13
6 PM	3	11	7	14	7	6	7	8
7 PM	6	6	3	6	8	4	11	6
8 PM	4	4	3	6	5	4	5	4
9 PM	4	3	6	1	8	5	3	5
10 PM	1	0	2	2	5	6	3	3
11 PM	0	1	3	1	0	1	4	1
Sum	**120**	**117**	**147**	**142**	**149**	**158**	**X**	**143**

SECTION B – INTERSECTION TURNING MOVEMENT COUNT DATA

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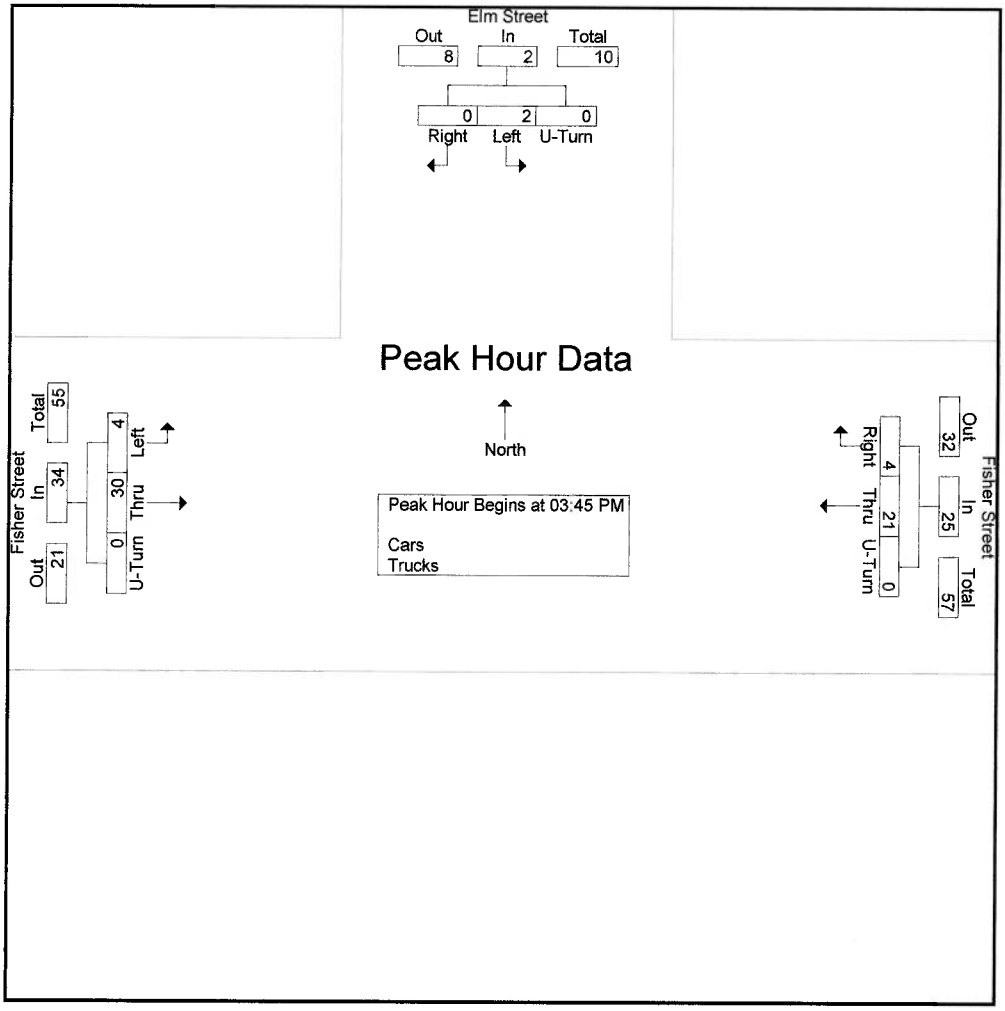
P.O. Box 1721
Concord, New Hampshire 03302

File Name : 2291A_INT_1_Tues_PM_1143281_12-12-2023
Site Code : 2291A
Start Date : 12/12/2023
Page No : 3

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:00 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:45 PM													
03:45 PM	0	0	0	0	**2**	2	0	4	6	**2**	0	8	12
04:00 PM	0	0	0	0	2	5	0	**7**	8	0	0	8	15
04:15 PM	0	0	0	0	0	**7**	0	7	**11**	1	0	**12**	**19**
04:30 PM	0	**2**	0	**2**	0	7	0	7	5	1	0	6	15
Total Volume	0	2	0	2	4	21	0	25	30	4	0	34	61
% App. Total	0	100	0		16	84	0		88.2	11.8	0		
PHF	.000	.250	.000	.250	.500	.750	.000	.893	.682	.500	.000	.708	.803



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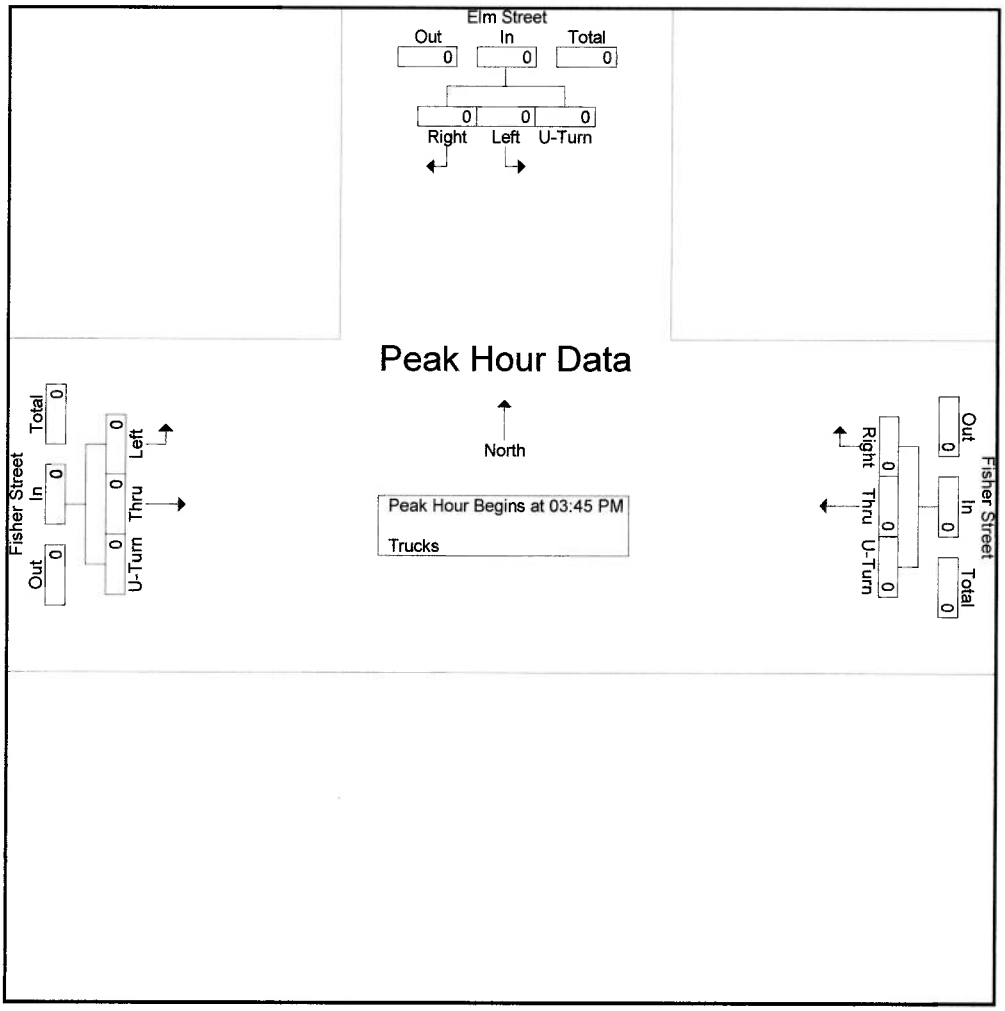
	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:45 PM to 04:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:45 PM													
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



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P.O. Box 1721
Concord, New Hampshire 03302

Weather: Fair
Collected By: MV
Job Number: 2291A
Town/State: Dover, New Hampshire

File Name : 2291A_INT_1_Tues_PM_1143281_12-12-2023
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Start Date : 12/12/2023
Page No : 1

Groups Printed- Cars - Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
03:00 PM	0	0	0	0	0	9	0	9	8	3	0	11	20
03:15 PM	0	0	0	0	1	6	0	7	6	0	0	6	13
03:30 PM	1	0	0	1	3	2	0	5	6	1	0	7	13
03:45 PM	0	0	0	0	2	2	0	4	6	2	0	8	12
Total	1	0	0	1	6	19	0	25	26	6	0	32	58
04:00 PM	0	0	0	0	2	5	0	7	8	0	0	8	15
04:15 PM	0	0	0	0	0	7	0	7	11	1	0	12	19
04:30 PM	0	2	0	2	0	7	0	7	5	1	0	6	15
04:45 PM	1	2	0	3	0	5	0	5	2	0	0	2	10
Total	1	4	0	5	2	24	0	26	26	2	0	28	59
05:00 PM	1	1	0	2	1	4	0	5	1	2	0	3	10
05:15 PM	1	1	0	2	0	2	0	2	6	2	0	8	12
05:30 PM	1	1	0	2	1	6	0	7	4	1	0	5	14
05:45 PM	1	1	0	2	1	7	0	8	8	1	0	9	19
Total	4	4	0	8	3	19	0	22	19	6	0	25	55
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	6	8	0	14	11	62	0	73	71	14	0	85	172
Apprch %	42.9	57.1	0		15.1	84.9	0		83.5	16.5	0		
Total %	3.5	4.7	0	8.1	6.4	36	0	42.4	41.3	8.1	0	49.4	
Cars	6	8	0	14	11	62	0	73	71	14	0	85	172
% Cars	100	100	0	100	100	100	0	100	100	100	0	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0

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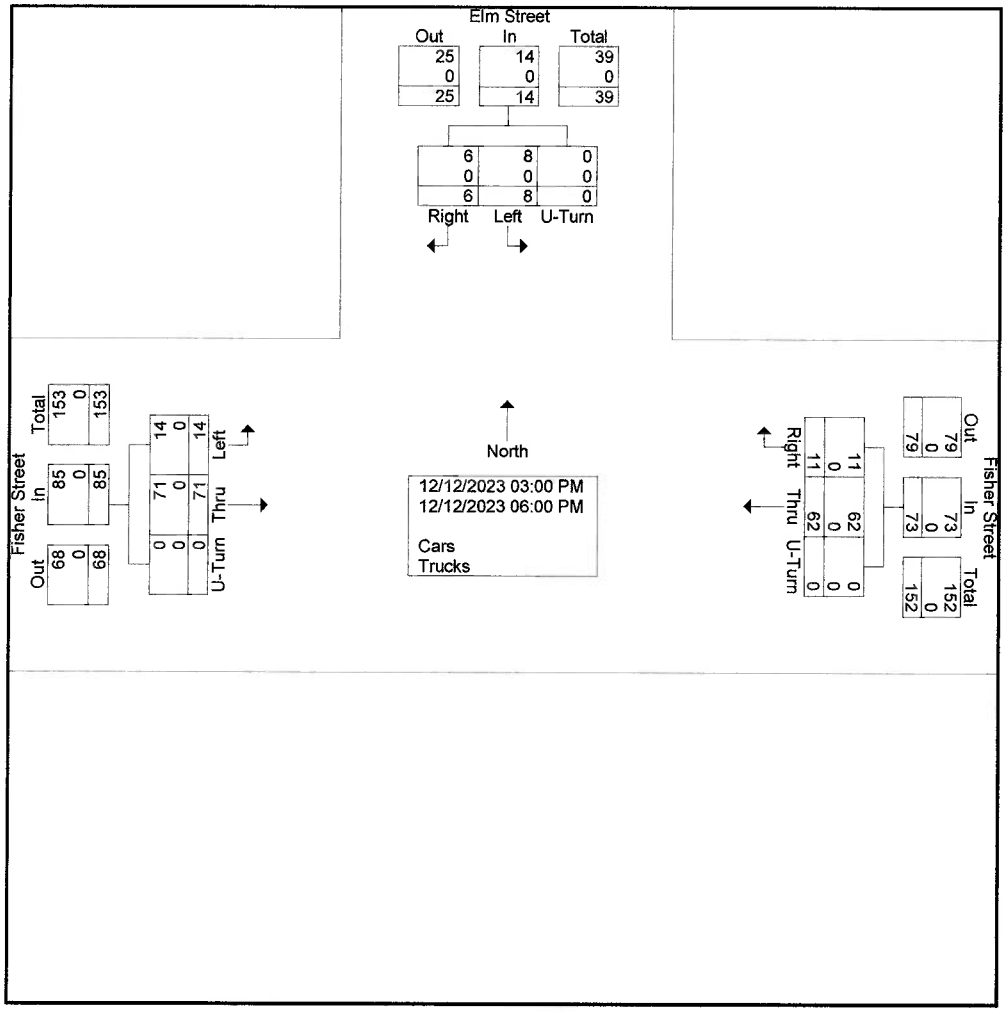

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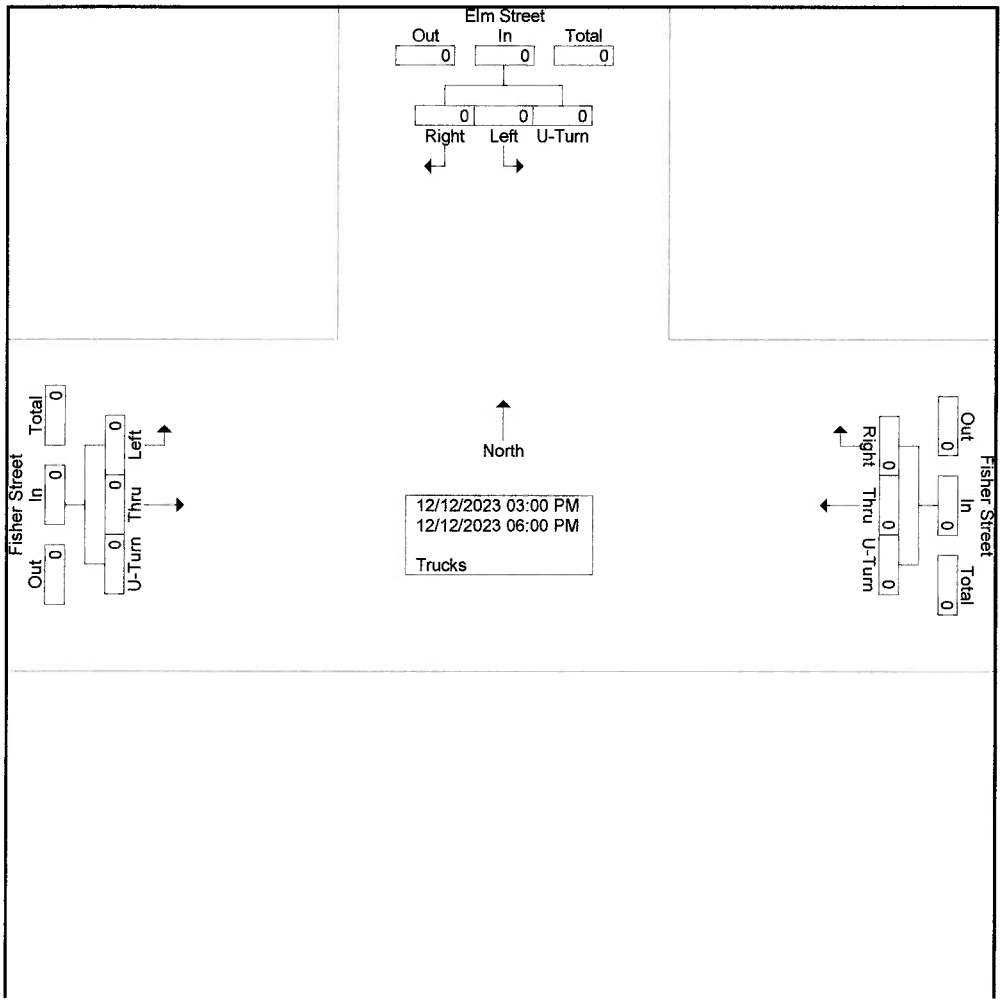
Groups Printed- Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		
Total %													



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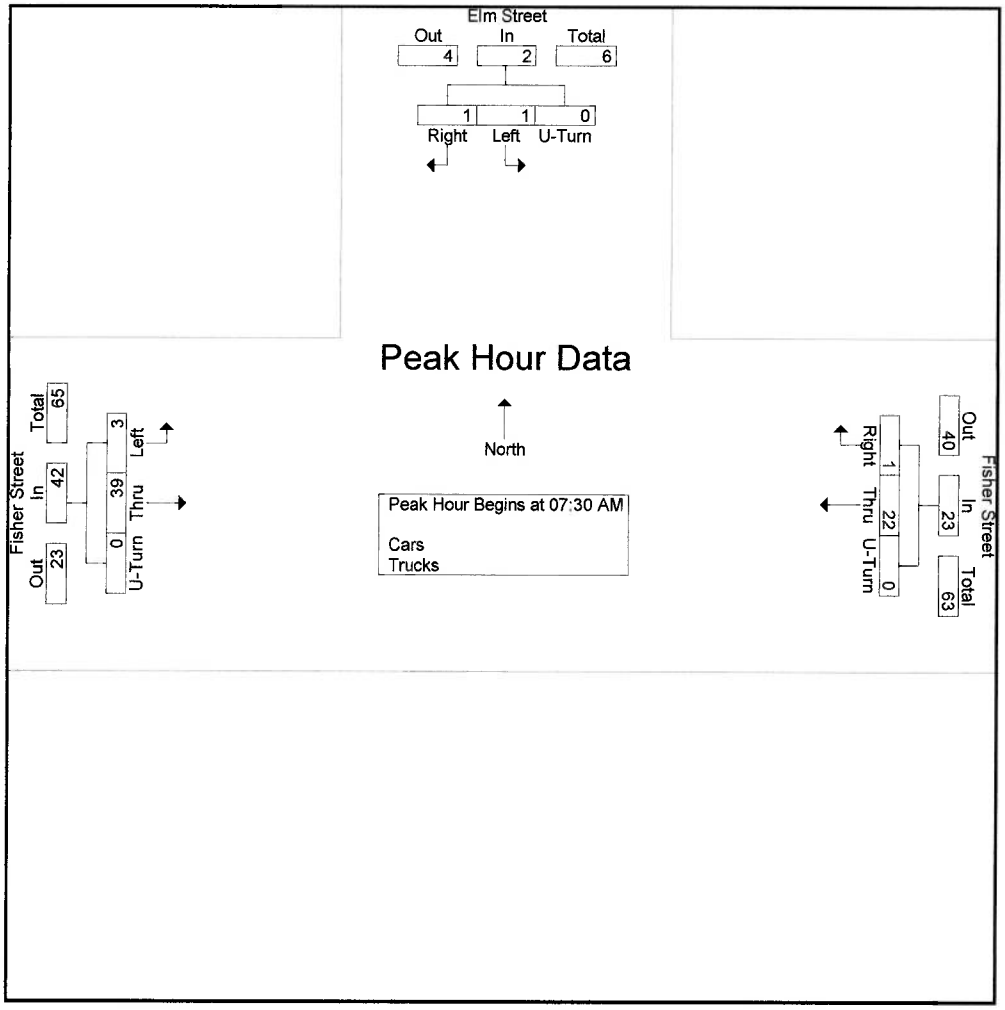
	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	**1**	0	0	**1**	0	3	0	3	9	0	0	9	13
07:45 AM	0	0	0	0	**1**	6	0	**7**	**10**	0	0	10	17
08:00 AM	0	0	0	0	0	6	0	6	10	1	0	11	17
08:15 AM	0	**1**	0	1	0	**7**	0	7	10	**2**	0	**12**	**20**
Total Volume	1	1	0	2	1	22	0	23	39	3	0	42	67
% App. Total	50	50	0		4.3	95.7	0		92.9	7.1	0		
PHF	.250	.250	.000	.500	.250	.786	.000	.821	.975	.375	.000	.875	.838



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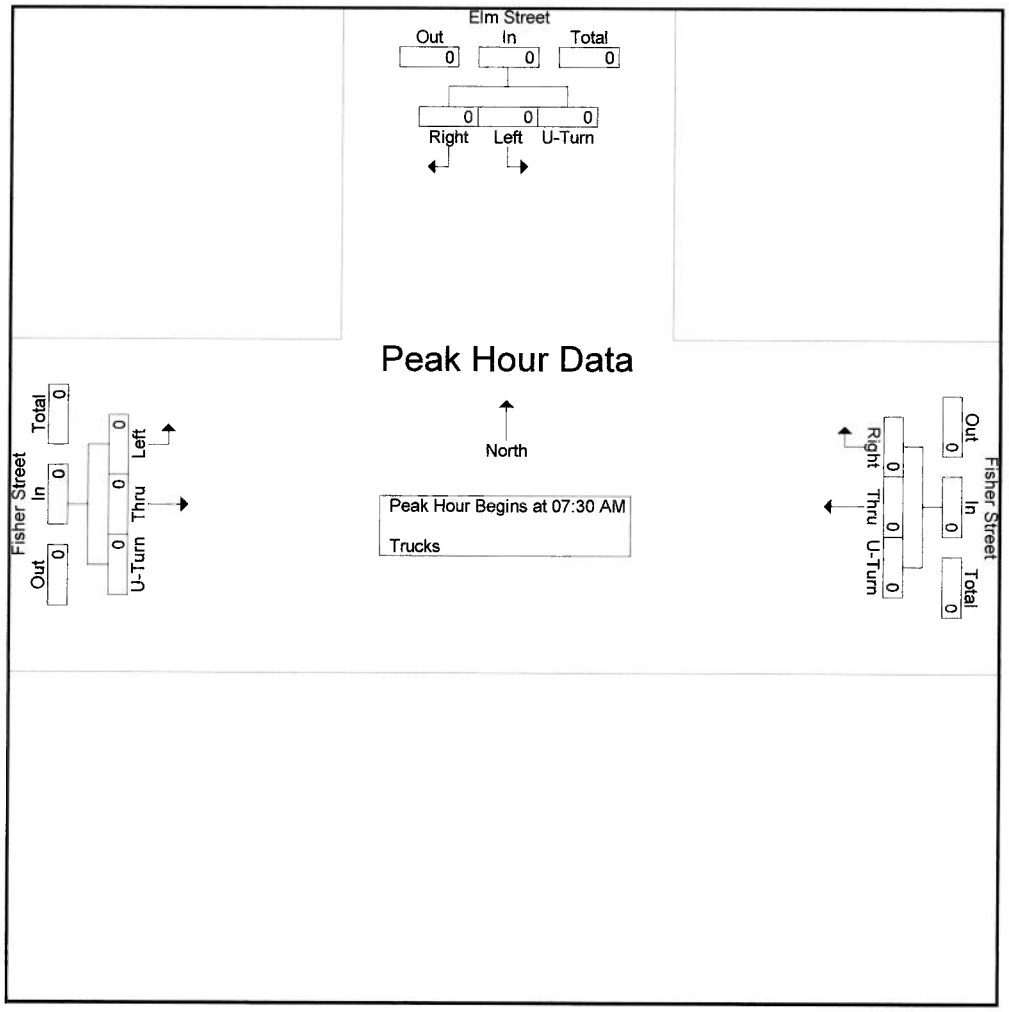
	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



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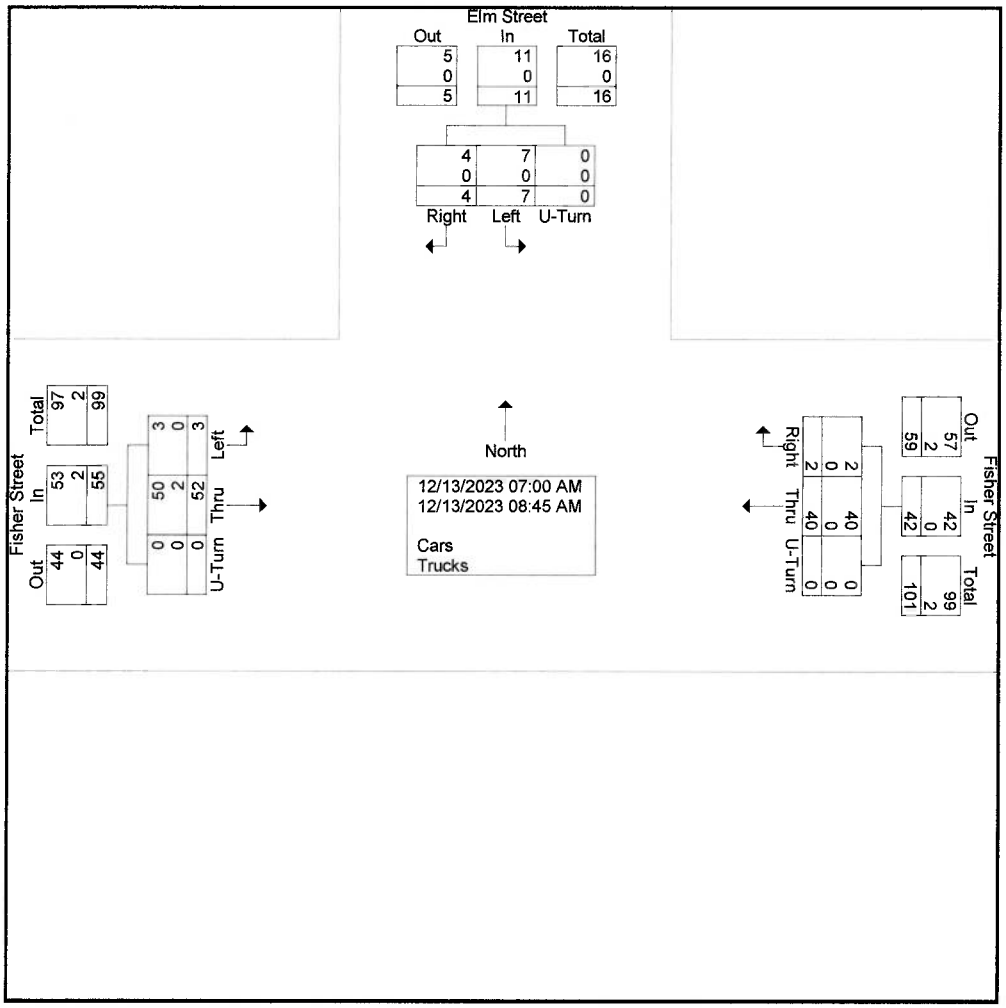
Groups Printed- Cars - Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	1	3	0	4	0	5	0	5	1	0	0	1	10
07:15 AM	0	0	0	0	0	11	0	11	7	0	0	7	18
07:30 AM	1	0	0	1	0	3	0	3	9	0	0	9	13
07:45 AM	0	0	0	0	1	6	0	7	10	0	0	10	17
Total	2	3	0	5	1	25	0	26	27	0	0	27	58
08:00 AM	0	0	0	0	0	6	0	6	10	1	0	11	17
08:15 AM	0	1	0	1	0	7	0	7	10	2	0	12	20
08:30 AM	1	2	0	3	0	2	0	2	3	0	0	3	8
08:45 AM	1	1	0	2	1	0	0	1	2	0	0	2	5
Total	2	4	0	6	1	15	0	16	25	3	0	28	50
Grand Total	4	7	0	11	2	40	0	42	52	3	0	55	108
Apprch %	36.4	63.6	0		4.8	95.2	0		94.5	5.5	0		
Total %	3.7	6.5	0	10.2	1.9	37	0	38.9	48.1	2.8	0	50.9	
Cars	4	7	0	11	2	40	0	42	50	3	0	53	106
% Cars	100	100	0	100	100	100	0	100	96.2	100	0	96.4	98.1
Trucks	0	0	0	0	0	0	0	0	2	0	0	2	2
% Trucks	0	0	0	0	0	0	0	0	3.8	0	0	3.6	1.9



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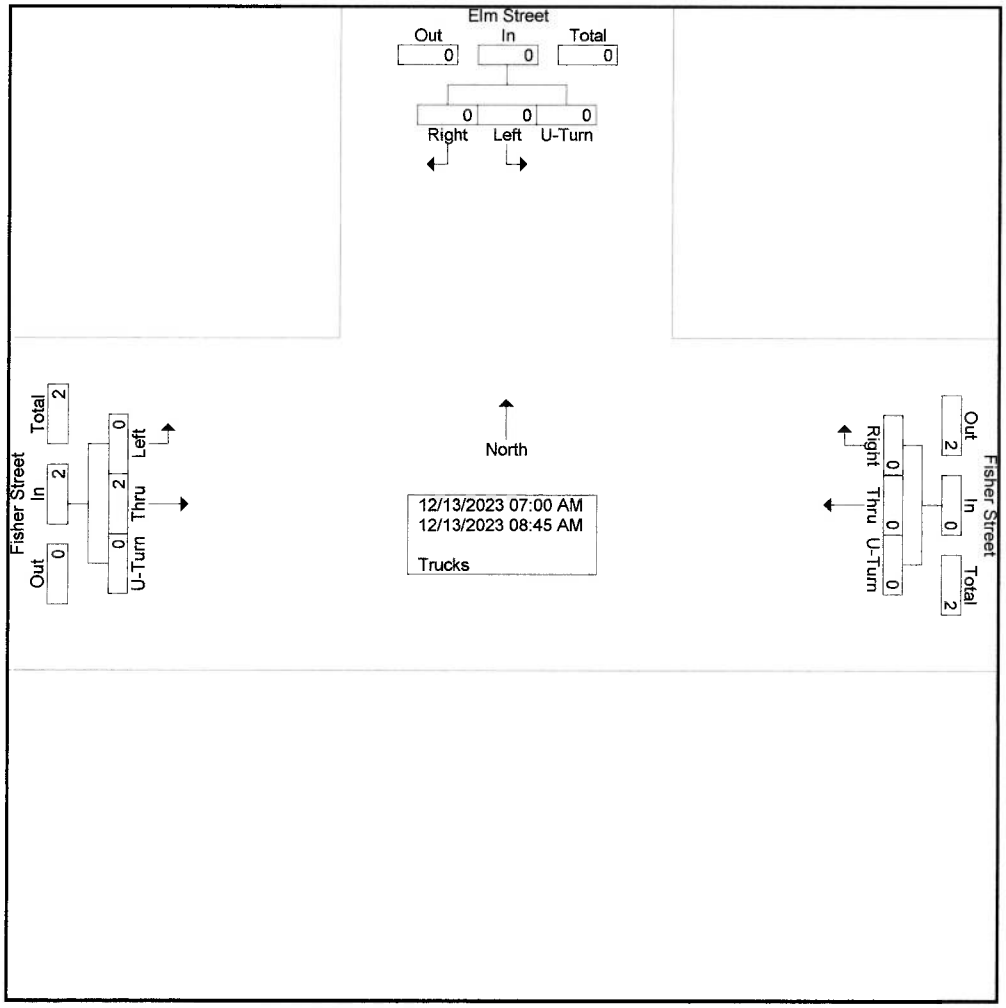
	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	2	0	0	2	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	2	0	0	2	2
Apprch %	0	0	0		0	0	0		100	0	0		
Total %	0	0	0	0	0	0	0	0	100	0	0	100	



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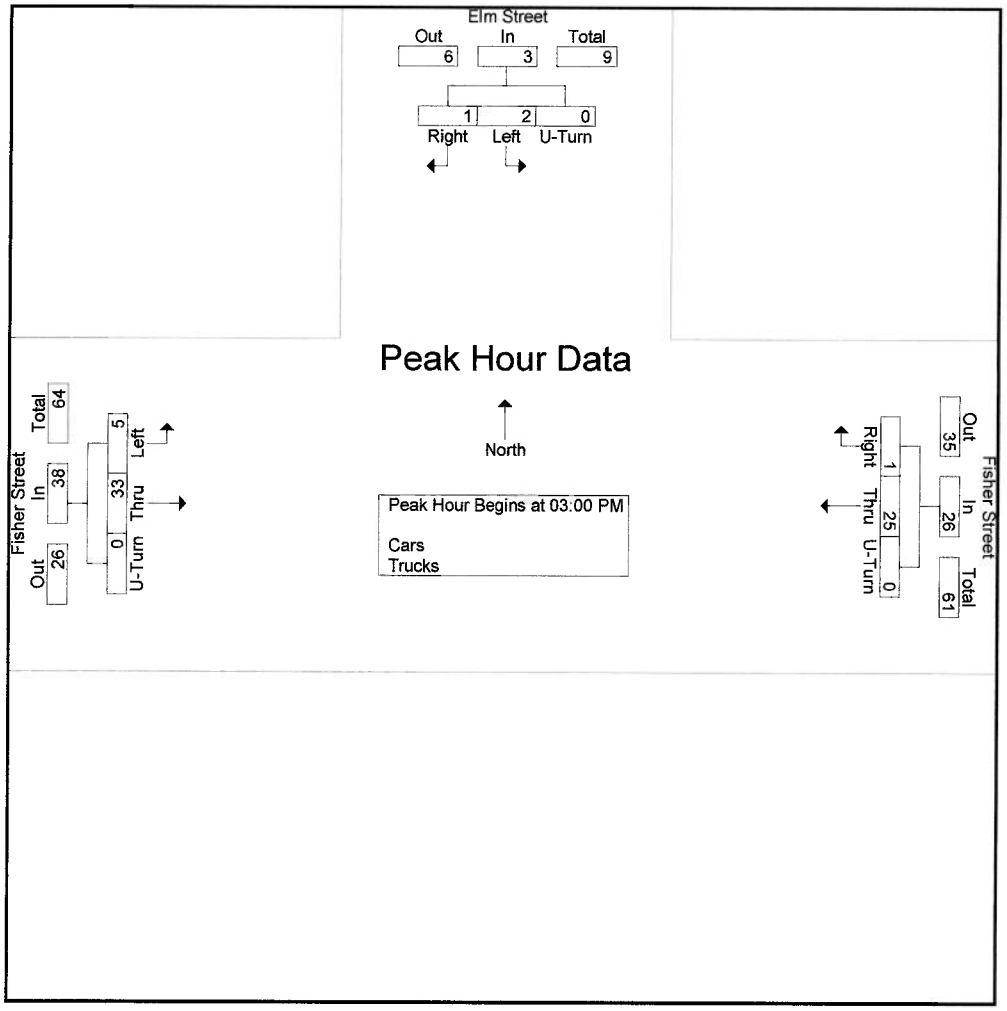
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:00 PM													
03:00 PM	0	0	0	0	0	**8**	0	**8**	**12**	1	0	**13**	**21**
03:15 PM	**1**	**1**	0	**2**	0	7	0	7	6	1	0	7	16
03:30 PM	0	0	0	0	**1**	4	0	5	7	**3**	0	10	15
03:45 PM	0	1	0	1	0	6	0	6	8	0	0	8	15
Total Volume	1	2	0	3	1	25	0	26	33	5	0	38	67
% App. Total	33.3	66.7	0		3.8	96.2	0		86.8	13.2	0		
PHF	.250	.500	.000	.375	.250	.781	.000	.813	.688	.417	.000	.731	.798



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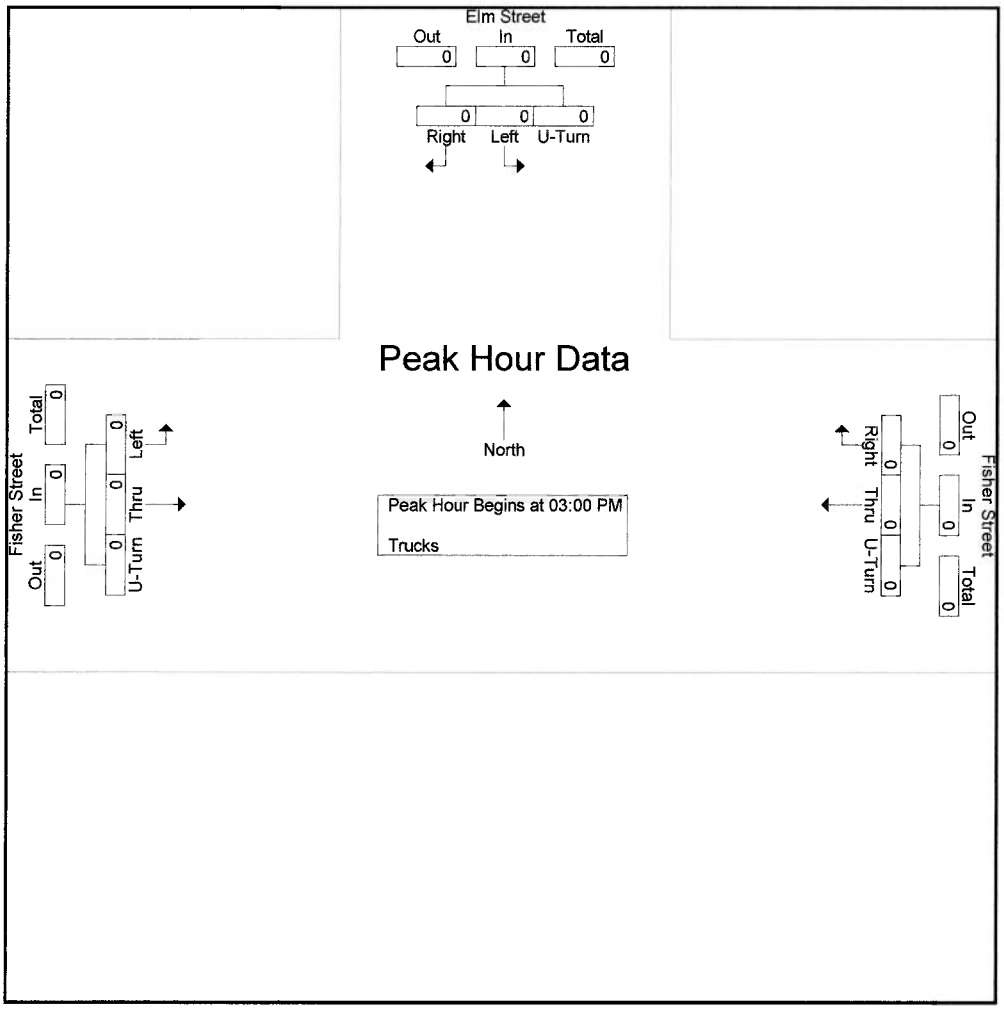
Peak Hour Analysis From 03:00 PM to 03:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:00 PM													
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Stephen G. Pernaw & Company, Inc.

P.O. Box 1721
Concord, New Hampshire 03302

Weather: Fair
Collected By: MV
Job Number: 2291A
Town/State: Dover, New Hampshire

File Name : 2291A_INT_1_Wed_AM_&_PM_1143283_12-13-2023
Site Code : 2291A
Start Date : 12/13/2023
Page No : 1

Groups Printed- Cars - Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
03:00 PM	0	0	0	0	0	8	0	8	12	1	0	13	21
03:15 PM	1	1	0	2	0	7	0	7	6	1	0	7	16
03:30 PM	0	0	0	0	1	4	0	5	7	3	0	10	15
03:45 PM	0	1	0	1	0	6	0	6	8	0	0	8	15
Total	1	2	0	3	1	25	0	26	33	5	0	38	67
04:00 PM	1	1	0	2	0	4	0	4	2	0	0	2	8
04:15 PM	0	1	0	1	2	5	0	7	2	1	0	3	11
04:30 PM	0	0	0	0	2	4	0	6	6	0	0	6	12
04:45 PM	0	1	0	1	0	3	0	3	9	0	0	9	13
Total	1	3	0	4	4	16	0	20	19	1	0	20	44
05:00 PM	1	0	0	1	1	5	0	6	2	2	0	4	11
05:15 PM	1	0	0	1	1	5	0	6	1	0	0	1	8
05:30 PM	0	2	0	2	3	6	0	9	8	0	0	8	19
05:45 PM	0	1	0	1	2	8	0	10	7	2	0	9	20
Total	2	3	0	5	7	24	0	31	18	4	0	22	58
Grand Total	4	8	0	12	12	65	0	77	70	10	0	80	169
Apprch %	33.3	66.7	0		15.6	84.4	0		87.5	12.5	0		
Total %	2.4	4.7	0	7.1	7.1	38.5	0	45.6	41.4	5.9	0	47.3	
Cars	3	8	0	11	12	65	0	77	70	10	0	80	168
% Cars	75	100	0	91.7	100	100	0	100	100	100	0	100	99.4
Trucks	1	0	0	1	0	0	0	0	0	0	0	0	1
% Trucks	25	0	0	8.3	0	0	0	0	0	0	0	0	0.6

Stephen G. Pernaw & Company, Inc.

P.O. Box 1721
Concord, New Hampshire 03302

File Name : 2291A_INT_1_Wed_AM_&_PM_1143283_12-13-2023
Site Code : 2291A
Start Date : 12/13/2023
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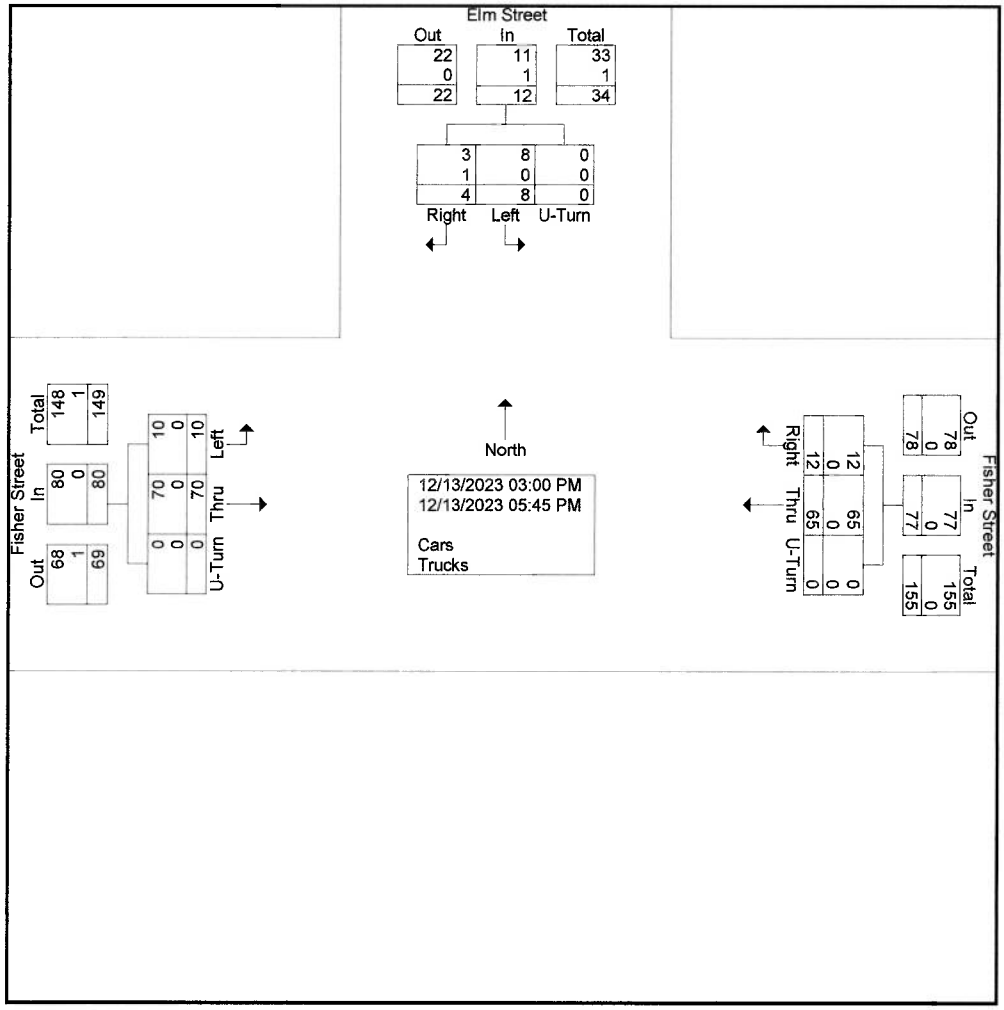


Stephen G. Pernaw & Company, Inc.

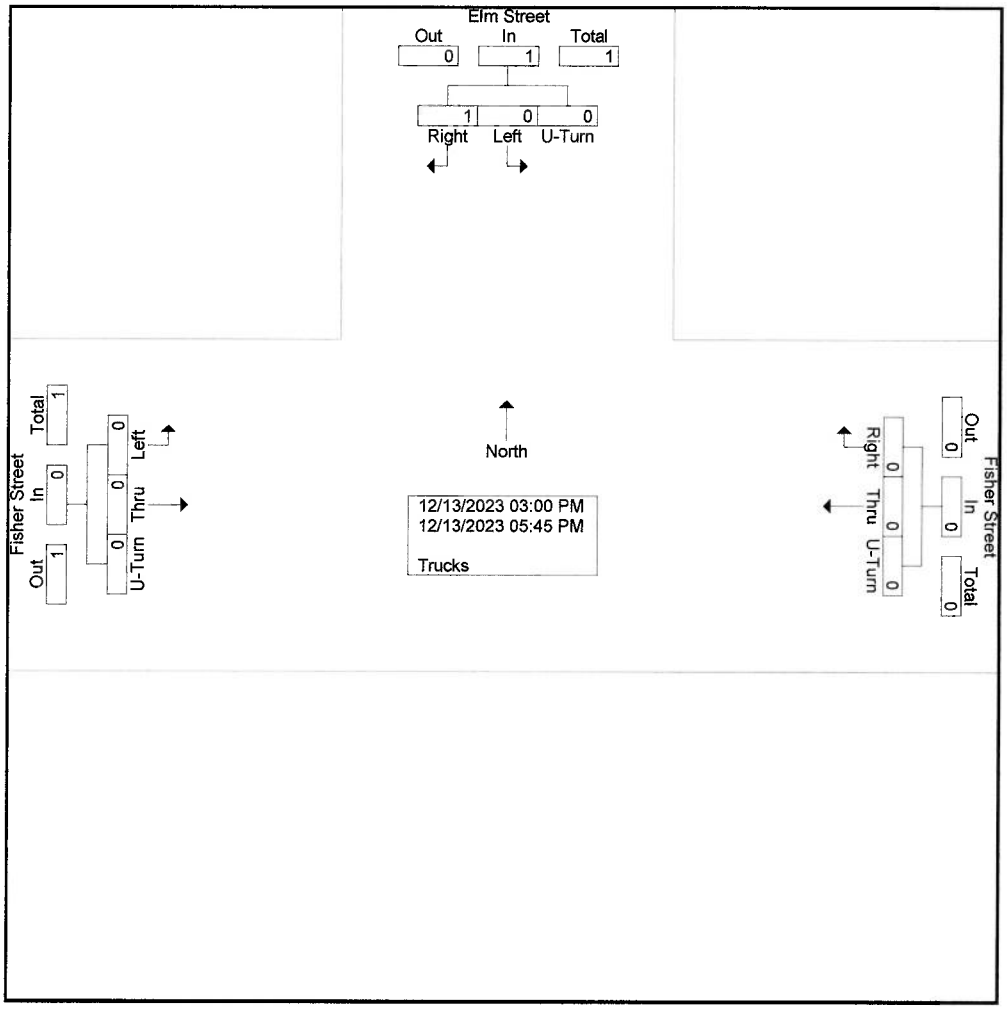
P.O. Box 1721
Concord, New Hampshire 03302

Weather: Fair
Collected By: MV
Job Number: 2291A
Town/State: Dover, New Hampshire

File Name : 2291A_INT_1_Wed_AM_&_PM_1143283_12-13-2023
Site Code : 2291A
Start Date : 12/13/2023
Page No : 1

Groups Printed- Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	0	0	0	1
Grand Total	1	0	0	1	0	0	0	0	0	0	0	0	1
Apprch %	100	0	0		0	0	0		0	0	0		
Total %	100	0	0	100	0	0	0	0	0	0	0	0	



Stephen G. Pernaw & Company, Inc.

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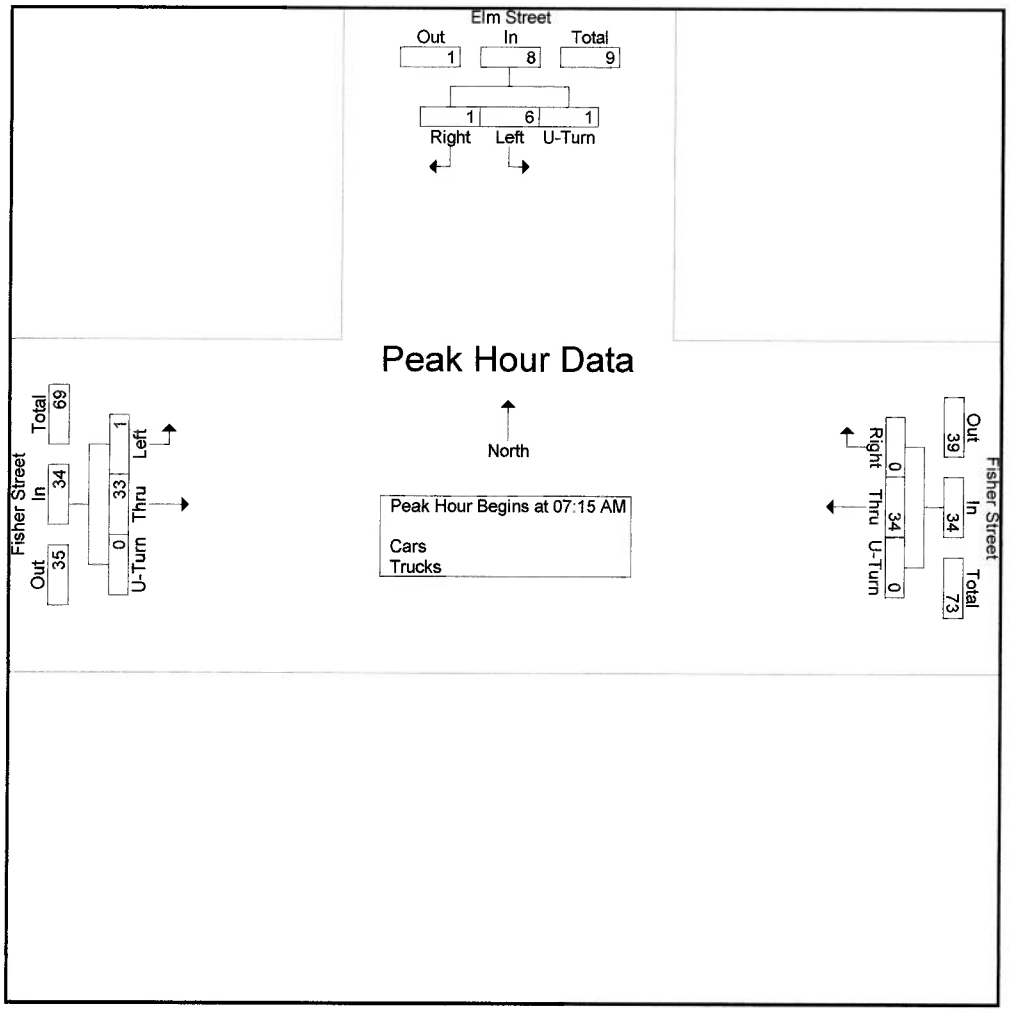
Concord, New Hampshire 03302

File Name : 2291a_int_1_thurs_am_&_pm_1143285_12-14-2023
Site Code : 2291A
Start Date : 12/14/2023
Page No : 2

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	0	1	0	1	0	12	0	12	8	**1**	0	**9**	22
07:30 AM	**1**	1	0	2	0	4	0	4	**9**	0	0	9	15
07:45 AM	0	**2**	0	2	0	4	0	4	8	0	0	8	14
08:00 AM	0	2	**1**	**3**	0	**14**	0	**14**	8	0	0	8	**25**
Total Volume	1	6	1	8	0	34	0	34	33	1	0	34	76
% App. Total	12.5	75	12.5		0	100	0		97.1	2.9	0		
PHF	.250	.750	.250	.667	.000	.607	.000	.607	.917	.250	.000	.944	.760



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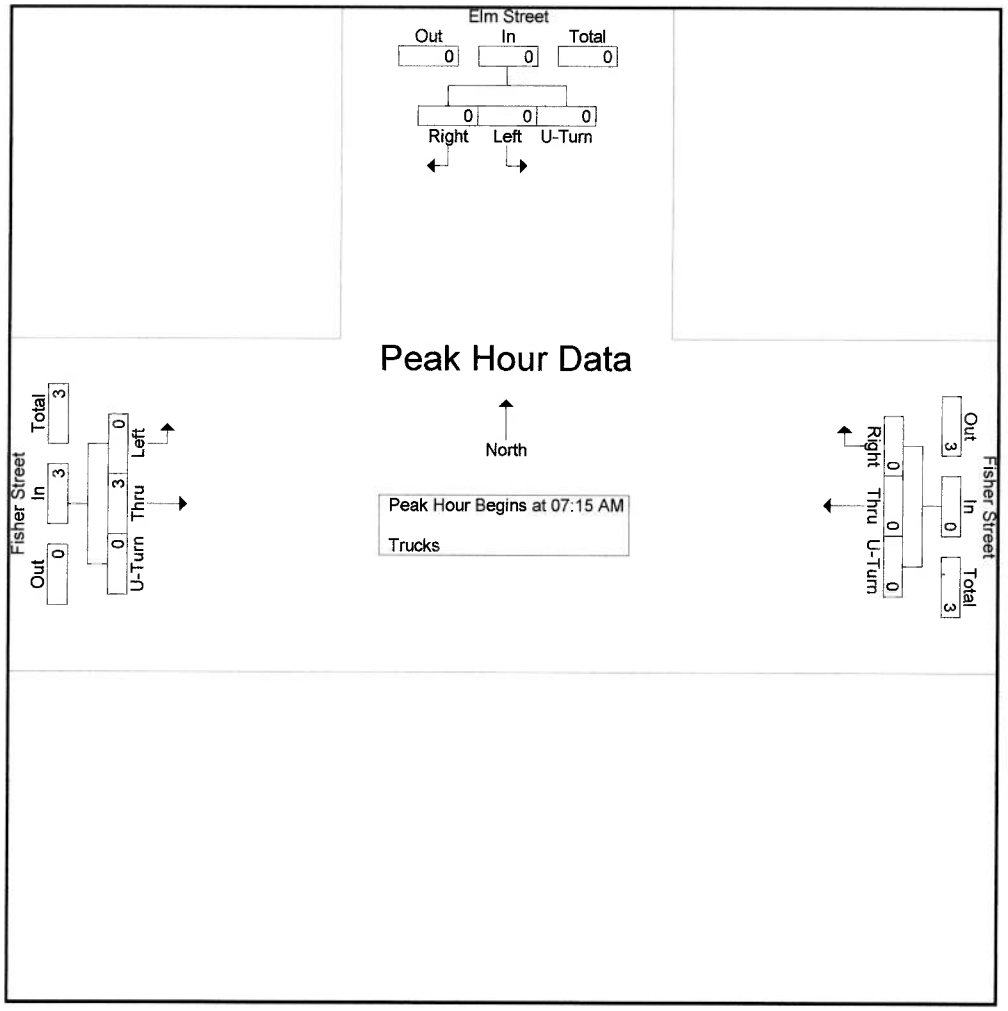
Concord, New Hampshire 03302

File Name : 2291a_int_1_thurs_am_&_pm_1143285_12-14-2023
Site Code : 2291A
Start Date : 12/14/2023
Page No : 2

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	0	0	0	0	0	0	0	0	**3**	0	0	**3**	**3**
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	3	0	0	3	3
% App. Total	0	0	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250



Stephen G. Pernaw & Company, Inc.

P.O. Box 1721
Concord, New Hampshire 03302

Weather: Fair
Collected By: MV
Job Number: 2291A
Town/State: Dover, New Hampshire

File Name : 2291a_int_1_thurs_am_&_pm_1143285_12-14-2023
Site Code : 2291A
Start Date : 12/14/2023
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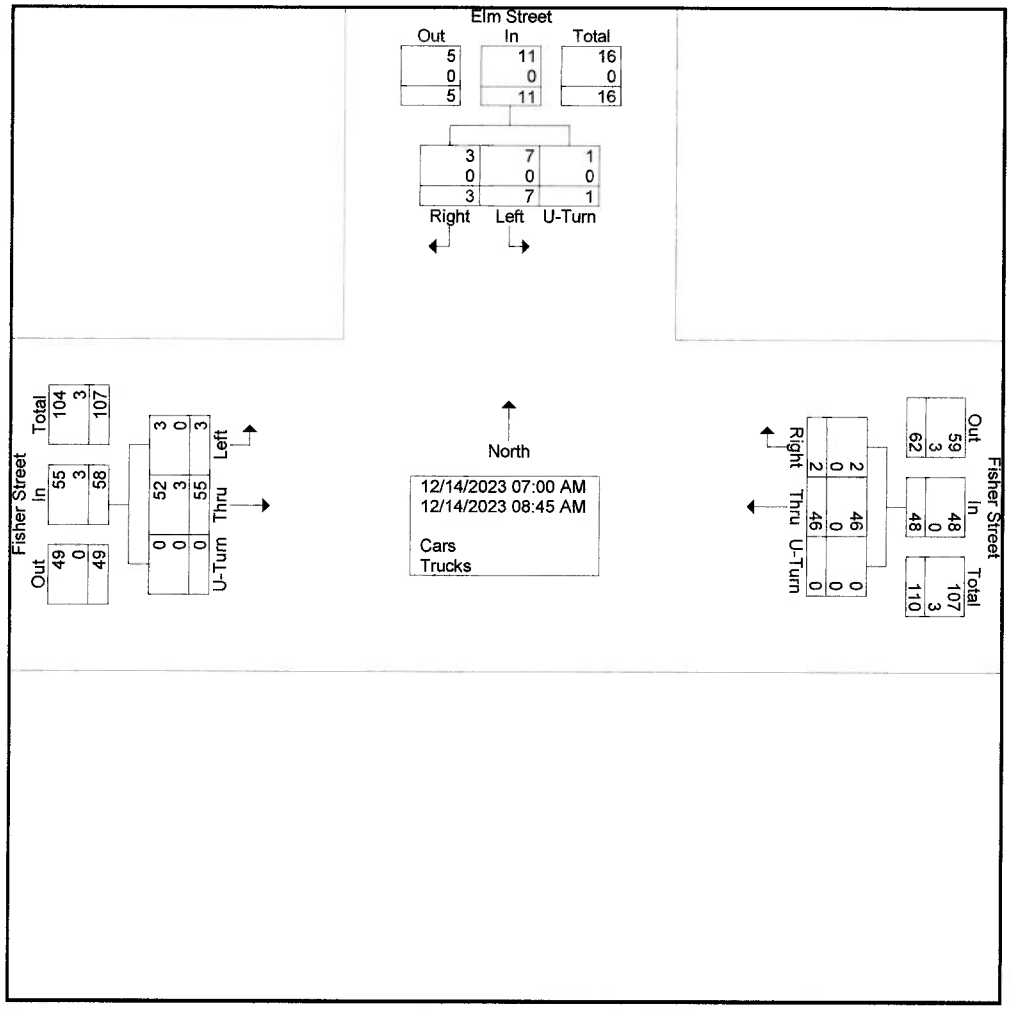
Groups Printed- Cars - Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	1	0	0	1	0	4	0	4	6	0	0	6	11
07:15 AM	0	1	0	1	0	12	0	12	8	1	0	9	22
07:30 AM	1	1	0	2	0	4	0	4	9	0	0	9	15
07:45 AM	0	2	0	2	0	4	0	4	8	0	0	8	14
Total	2	4	0	6	0	24	0	24	31	1	0	32	62
08:00 AM	0	2	1	3	0	14	0	14	8	0	0	8	25
08:15 AM	0	0	0	0	0	7	0	7	7	1	0	8	15
08:30 AM	1	0	0	1	1	1	0	2	3	0	0	3	6
08:45 AM	0	1	0	1	1	0	0	1	6	1	0	7	9
Total	1	3	1	5	2	22	0	24	24	2	0	26	55
Grand Total	3	7	1	11	2	46	0	48	55	3	0	58	117
Apprch %	27.3	63.6	9.1		4.2	95.8	0		94.8	5.2	0		
Total %	2.6	6	0.9	9.4	1.7	39.3	0	41	47	2.6	0	49.6	
Cars	3	7	1	11	2	46	0	48	52	3	0	55	114
% Cars	100	100	100	100	100	100	0	100	94.5	100	0	94.8	97.4
Trucks	0	0	0	0	0	0	0	0	3	0	0	3	3
% Trucks	0	0	0	0	0	0	0	0	5.5	0	0	5.2	2.6



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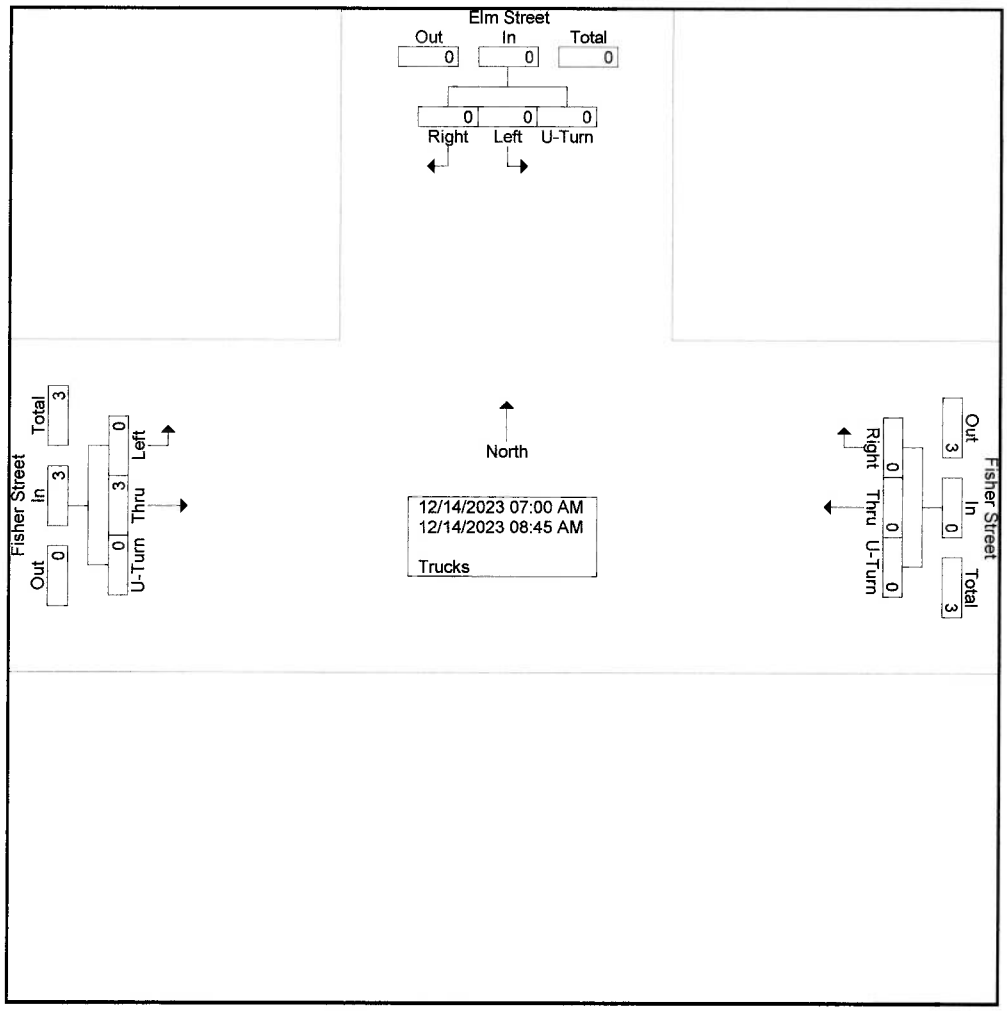
P.O. Box 1721
Concord, New Hampshire 03302

Weather: Fair
Collected By: MV
Job Number: 2291A
Town/State: Dover, New Hampshire

File Name : 2291a_int_1_thurs_am_&_pm_1143285_12-14-2023
Site Code : 2291A
Start Date : 12/14/2023
Page No : 1

Groups Printed- Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	3	0	0	3	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	3	0	0	3	3
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	3	0	0	3	3
Apprch %	0	0	0		0	0	0		100	0	0		
Total %	0	0	0	0	0	0	0	0	100	0	0	100	

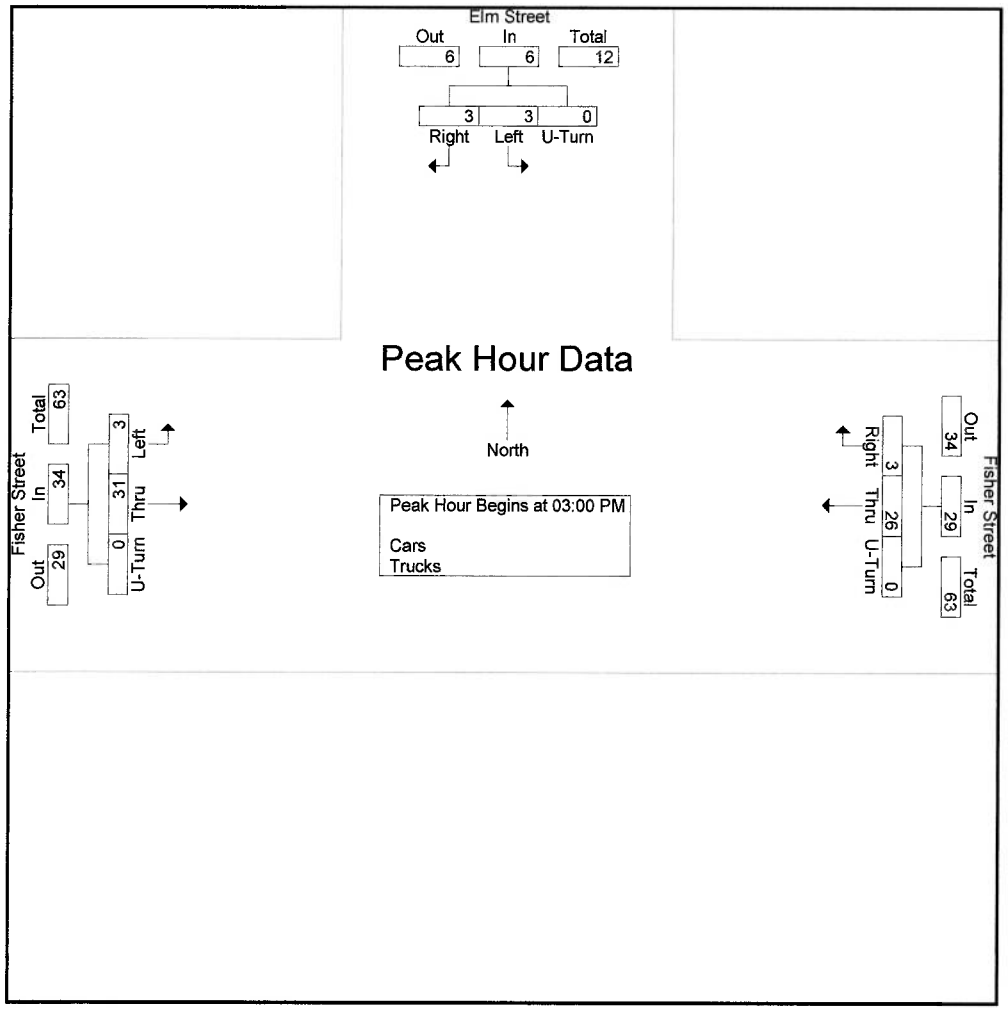


Stephen G. Pernaw & Company, Inc.

P.O. Box 1721
Concord, New Hampshire 03302

File Name : 2291a_int_1_thurs_am_&_pm_1143285_12-14-2023
Site Code : 2291A
Start Date : 12/14/2023
Page No : 3

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:00 PM													
03:00 PM	**2**	**1**	0	**3**	0	**8**	0	**8**	**12**	**2**	0	**14**	**25**
03:15 PM	1	0	0	1	1	5	0	6	7	0	0	7	14
03:30 PM	0	1	0	1	0	8	0	8	5	1	0	6	15
03:45 PM	0	1	0	1	**2**	5	0	7	7	0	0	7	15
Total Volume	3	3	0	6	3	26	0	29	31	3	0	34	69
% App. Total	50	50	0		10.3	89.7	0		91.2	8.8	0		
PHF	.375	.750	.000	.500	.375	.813	.000	.906	.646	.375	.000	.607	.690



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File Name : 2291a_int_1_thurs_am_&_pm_1143285_12-14-2023
Site Code : 2291A
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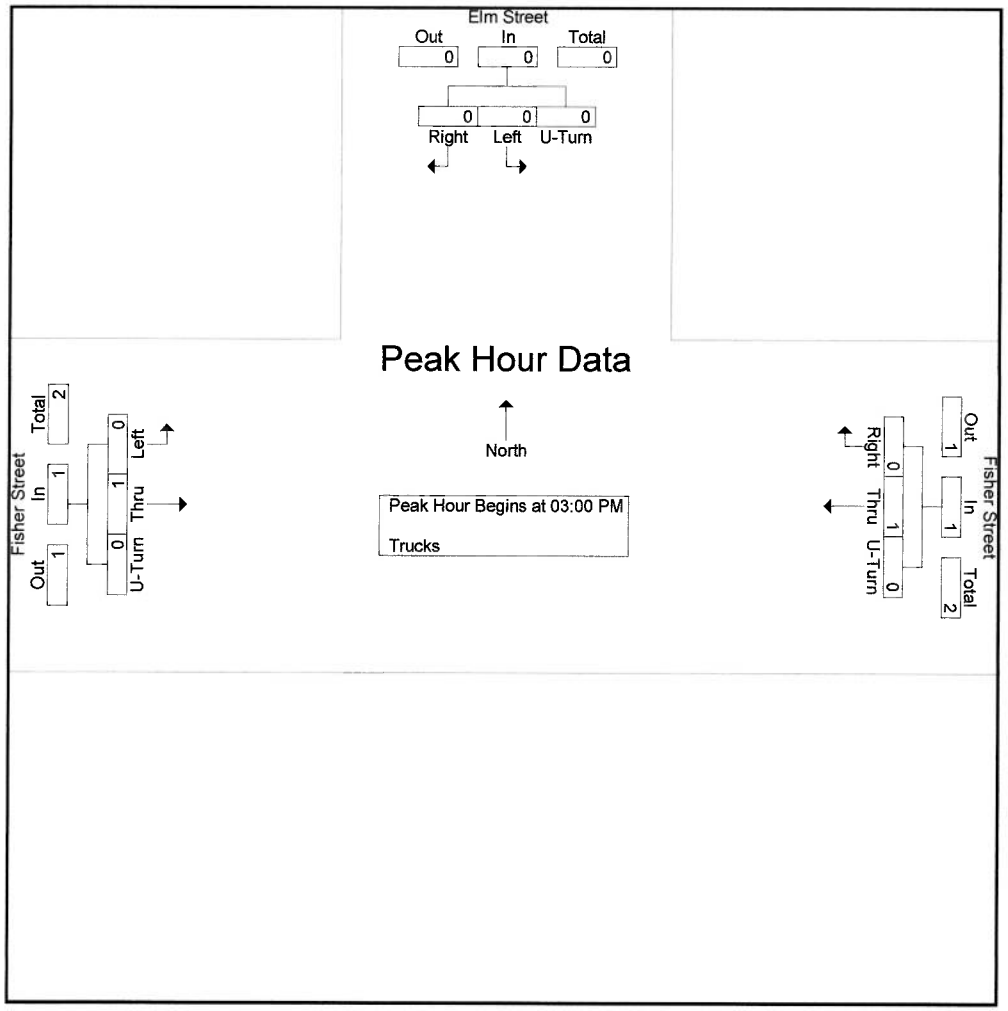
Page No : 2

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 03:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:00 PM													
03:00 PM	0	0	0	0	0	**1**	0	**1**	**1**	0	0	**1**	**2**
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	1	0	0	1	2
% App. Total	0	0	0		0	100	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	.250



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P.O. Box 1721
Concord, New Hampshire 03302

Weather: Fair
Collected By: MV
Job Number: 2291A
Town/State: Dover, New Hampshire

File Name : 2291a_int_1_thurs_am_&_pm_1143285_12-14-2023
Site Code : 2291A
Start Date : 12/14/2023
Page No : 1

Groups Printed- Cars - Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
03:00 PM	2	1	0	3	0	8	0	8	12	2	0	14	25
03:15 PM	1	0	0	1	1	5	0	6	7	0	0	7	14
03:30 PM	0	1	0	1	0	8	0	8	5	1	0	6	15
03:45 PM	0	1	0	1	2	5	0	7	7	0	0	7	15
Total	3	3	0	6	3	26	0	29	31	3	0	34	69
04:00 PM	0	0	0	0	0	4	0	4	5	2	0	7	11
04:15 PM	0	1	0	1	1	5	0	6	3	0	0	3	10
04:30 PM	0	1	0	1	1	4	0	5	7	1	0	8	14
04:45 PM	0	0	0	0	1	7	0	8	4	0	0	4	12
Total	0	2	0	2	3	20	0	23	19	3	0	22	47
05:00 PM	1	2	0	3	1	3	0	4	4	4	0	8	15
05:15 PM	0	0	0	0	2	7	0	9	7	1	0	8	17
05:30 PM	1	0	0	1	0	5	0	5	7	2	0	9	15
05:45 PM	1	0	0	1	0	7	0	7	6	1	0	7	15
Total	3	2	0	5	3	22	0	25	24	8	0	32	62
Grand Total	6	7	0	13	9	68	0	77	74	14	0	88	178
Apprch %	46.2	53.8	0		11.7	88.3	0		84.1	15.9	0		
Total %	3.4	3.9	0	7.3	5.1	38.2	0	43.3	41.6	7.9	0	49.4	
Cars	6	7	0	13	9	67	0	76	73	14	0	87	176
% Cars	100	100	0	100	100	98.5	0	98.7	98.6	100	0	98.9	98.9
Trucks	0	0	0	0	0	1	0	1	1	0	0	1	2
% Trucks	0	0	0	0	0	1.5	0	1.3	1.4	0	0	1.1	1.1

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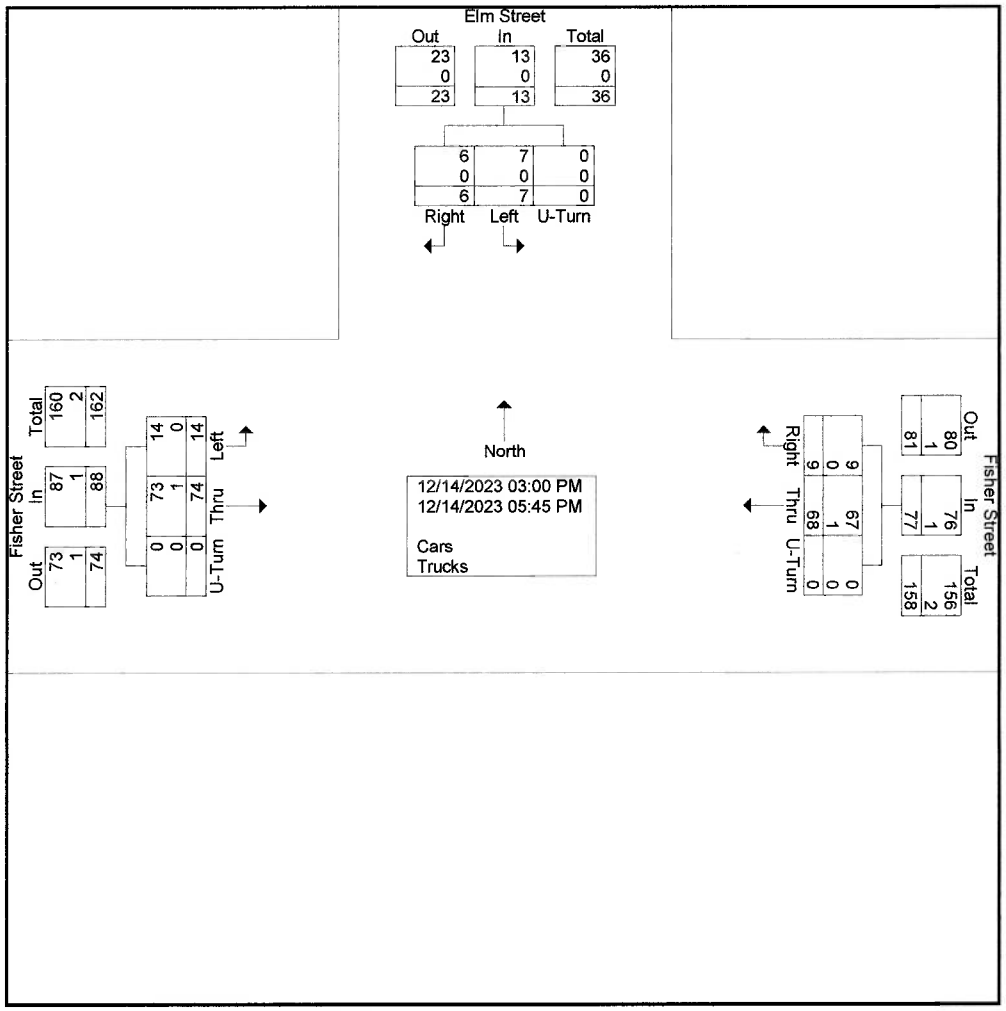

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Site Code : 2291A
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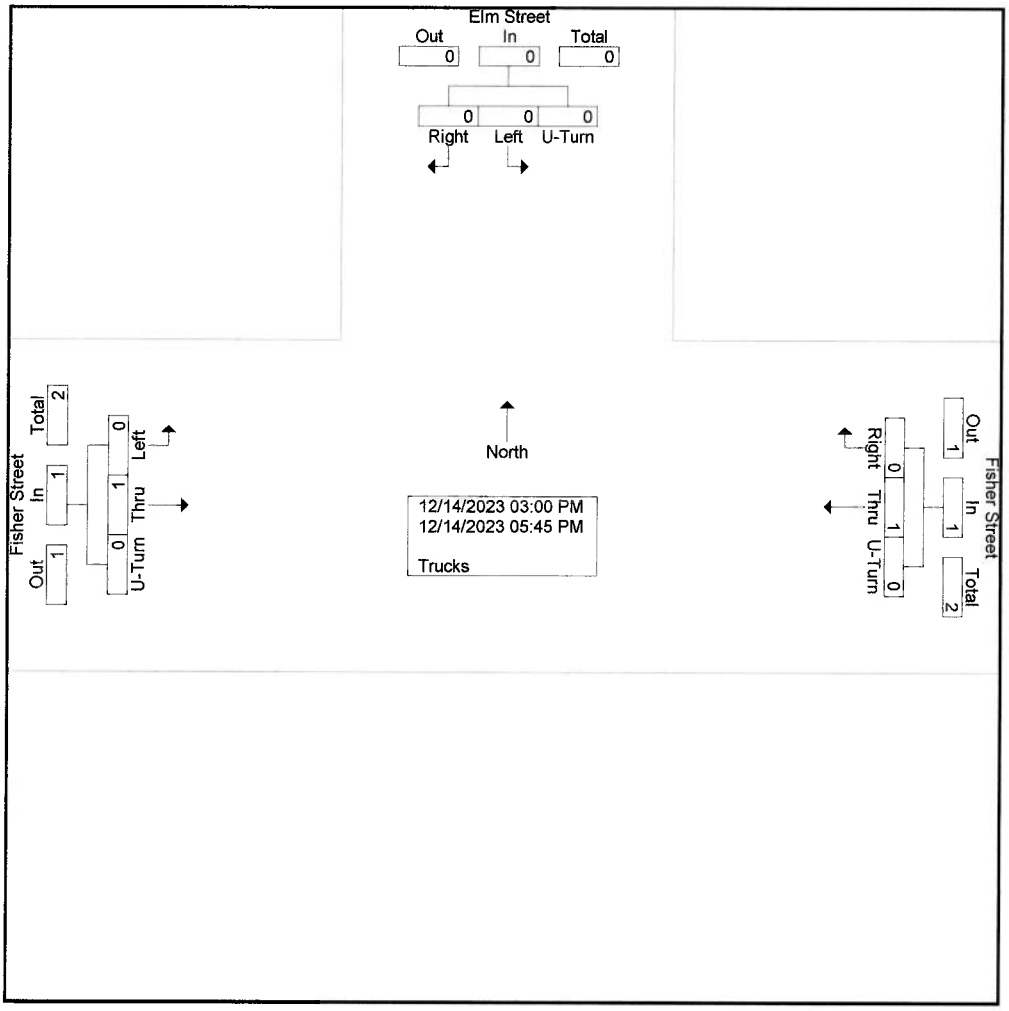
Page No : 1

Groups Printed- Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
03:00 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	1	0	0	1	2
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	1	0	1	1	0	0	1	2
Apprch %	0	0	0		0	100	0		100	0	0		
Total %	0	0	0	0	0	50	0	50	50	0	0	50	



Stephen G. Pernaw & Company, Inc.

P.O. Box 1721
Concord, New Hampshire 03302

File Name : 2291A_INT_1_Fri__AM_&_PM_1143289_12-15-2023
Site Code : 2291A
Start Date : 12/15/2023
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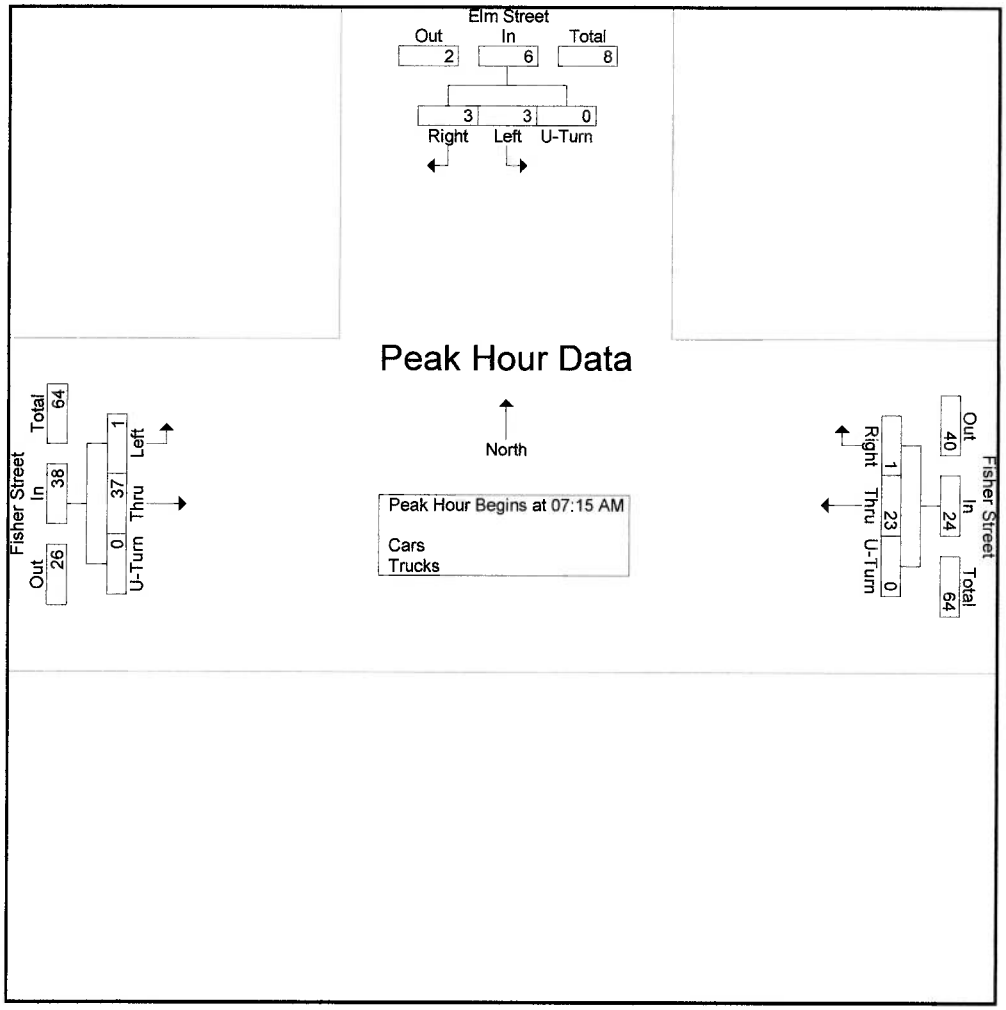
	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	**1**	0	0	1	0	**11**	0	**11**	8	0	0	8	**20**
07:30 AM	0	**1**	0	1	**1**	3	0	4	**13**	0	0	**13**	18
07:45 AM	1	1	0	**2**	0	4	0	4	5	**1**	0	6	12
08:00 AM	1	1	0	2	0	5	0	5	11	0	0	11	18
Total Volume	3	3	0	6	1	23	0	24	37	1	0	38	68
% App. Total	50	50	0		4.2	95.8	0		97.4	2.6	0		
PHF	.750	.750	.000	.750	.250	.523	.000	.545	.712	.250	.000	.731	.850



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File Name : 2291A_INT_1_Fri__AM_&_PM_1143289_12-15-2023
Site Code : 2291A
Start Date : 12/15/2023
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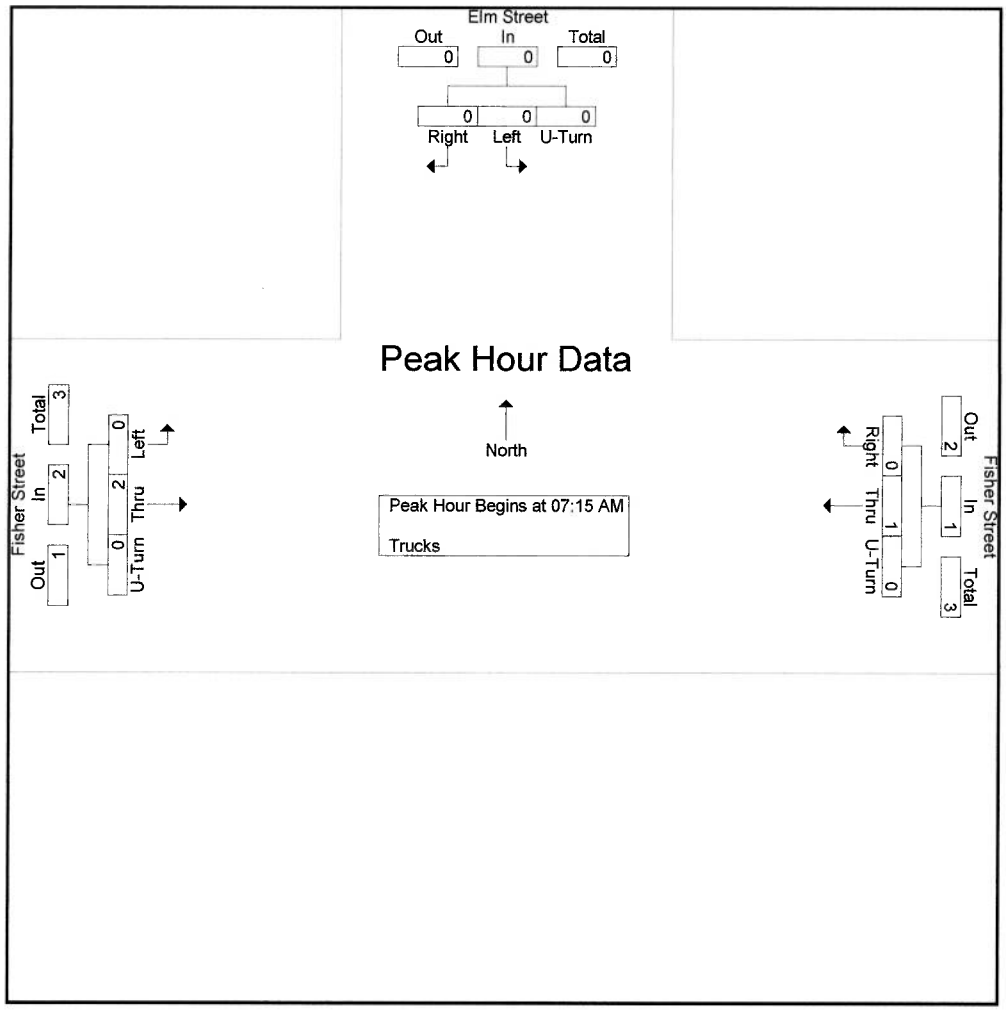
	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	0	0	0	0	0	0	0	0	**2**	0	0	**2**	**2**
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	2	0	0	2	3
% App. Total	0	0	0		0	100	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	.375



Stephen G. Pernaw & Company, Inc.

P.O. Box 1721
Concord, New Hampshire 03302

Weather: Fair
Collected By: MV
Job Number: 2291A
Town/State: Dover, New Hampshire

File Name : 2291A_INT_1_Fri__AM_&_PM_1143289_12-15-2023
Site Code : 2291A
Start Date : 12/15/2023
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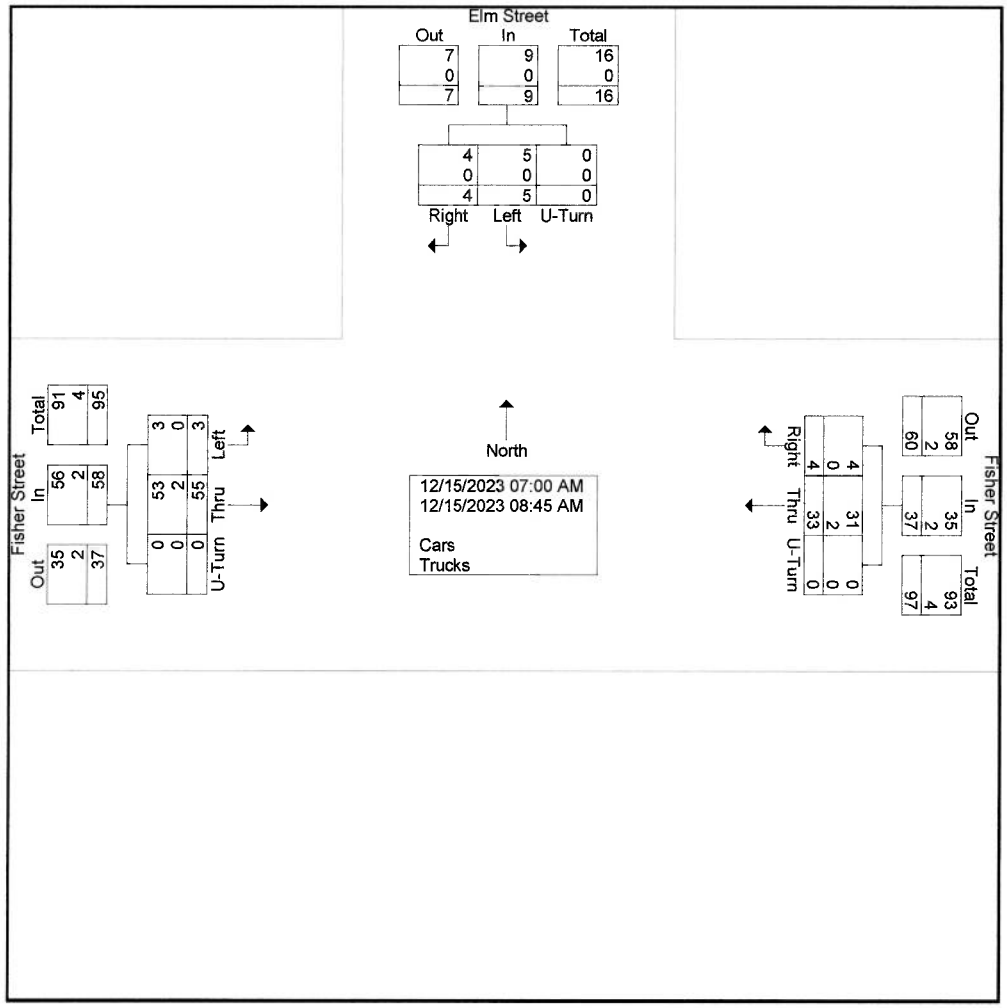
Groups Printed- Cars - Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	1	1	0	2	1	5	0	6	5	1	0	6	14
07:15 AM	1	0	0	1	0	11	0	11	8	0	0	8	20
07:30 AM	0	1	0	1	1	3	0	4	13	0	0	13	18
07:45 AM	1	1	0	2	0	4	0	4	5	1	0	6	12
Total	3	3	0	6	2	23	0	25	31	2	0	33	64
08:00 AM	1	1	0	2	0	5	0	5	11	0	0	11	18
08:15 AM	0	1	0	1	1	3	0	4	7	1	0	8	13
08:30 AM	0	0	0	0	1	2	0	3	3	0	0	3	6
08:45 AM	0	0	0	0	0	0	0	0	3	0	0	3	3
Total	1	2	0	3	2	10	0	12	24	1	0	25	40
Grand Total	4	5	0	9	4	33	0	37	55	3	0	58	104
Apprch %	44.4	55.6	0		10.8	89.2	0		94.8	5.2	0		
Total %	3.8	4.8	0	8.7	3.8	31.7	0	35.6	52.9	2.9	0	55.8	
Cars	4	5	0	9	4	31	0	35	53	3	0	56	100
% Cars	100	100	0	100	100	93.9	0	94.6	96.4	100	0	96.6	96.2
Trucks	0	0	0	0	0	2	0	2	2	0	0	2	4
% Trucks	0	0	0	0	0	6.1	0	5.4	3.6	0	0	3.4	3.8



Stephen G. Pernaw & Company, Inc.

P.O. Box 1721
Concord, New Hampshire 03302

Weather: Fair
Collected By: MV
Job Number: 2291A
Town/State: Dover, New Hampshire

File Name : 2291A_INT_1_Fri__AM_&_PM_1143289_12-15-2023
Site Code : 2291A
Start Date : 12/15/2023
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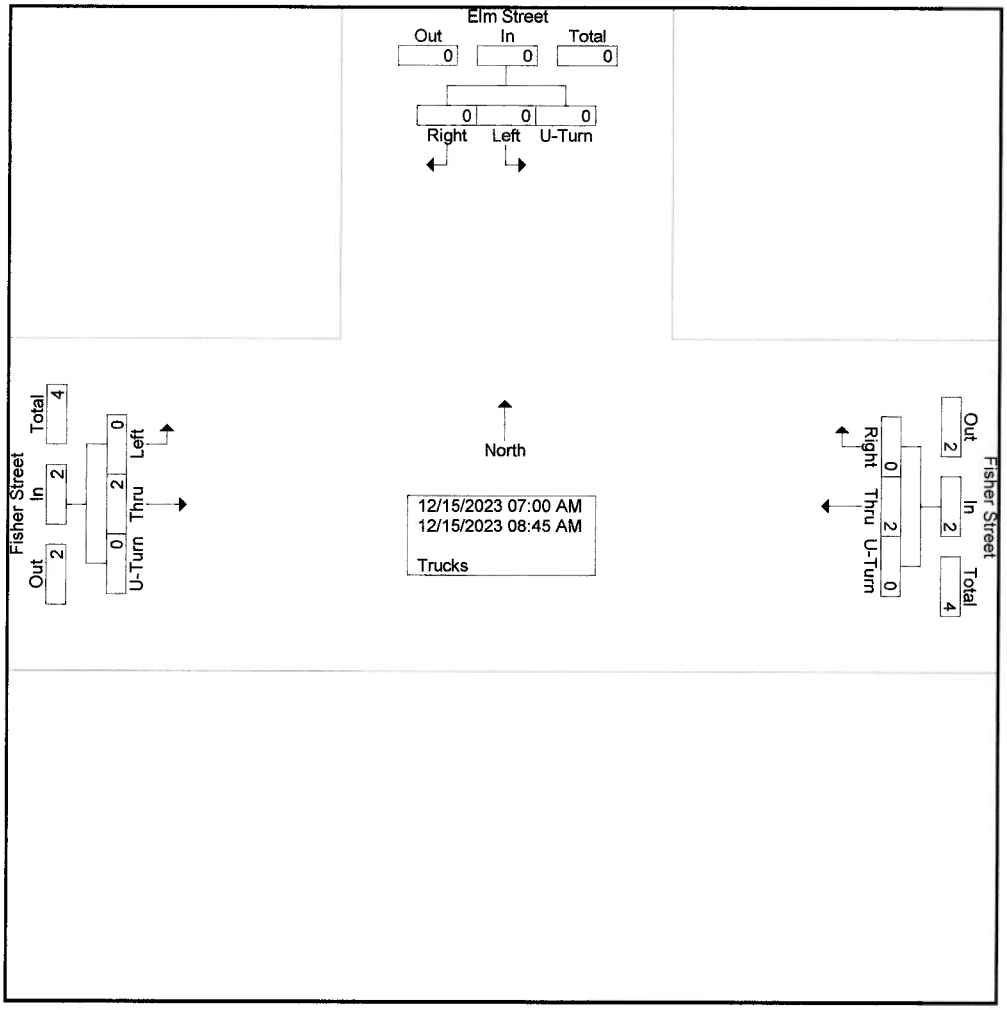
Groups Printed- Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	1	0	1	2	0	0	2	3
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total	0	0	0	0	0	2	0	2	2	0	0	2	4
Apprch %	0	0	0		0	100	0		100	0	0		
Total %	0	0	0	0	0	50	0	50	50	0	0	50	



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Concord, New Hampshire 03302

File Name : 2291A_INT_1_Fri__AM_&_PM_1143289_12-15-2023
Site Code : 2291A
Start Date : 12/15/2023
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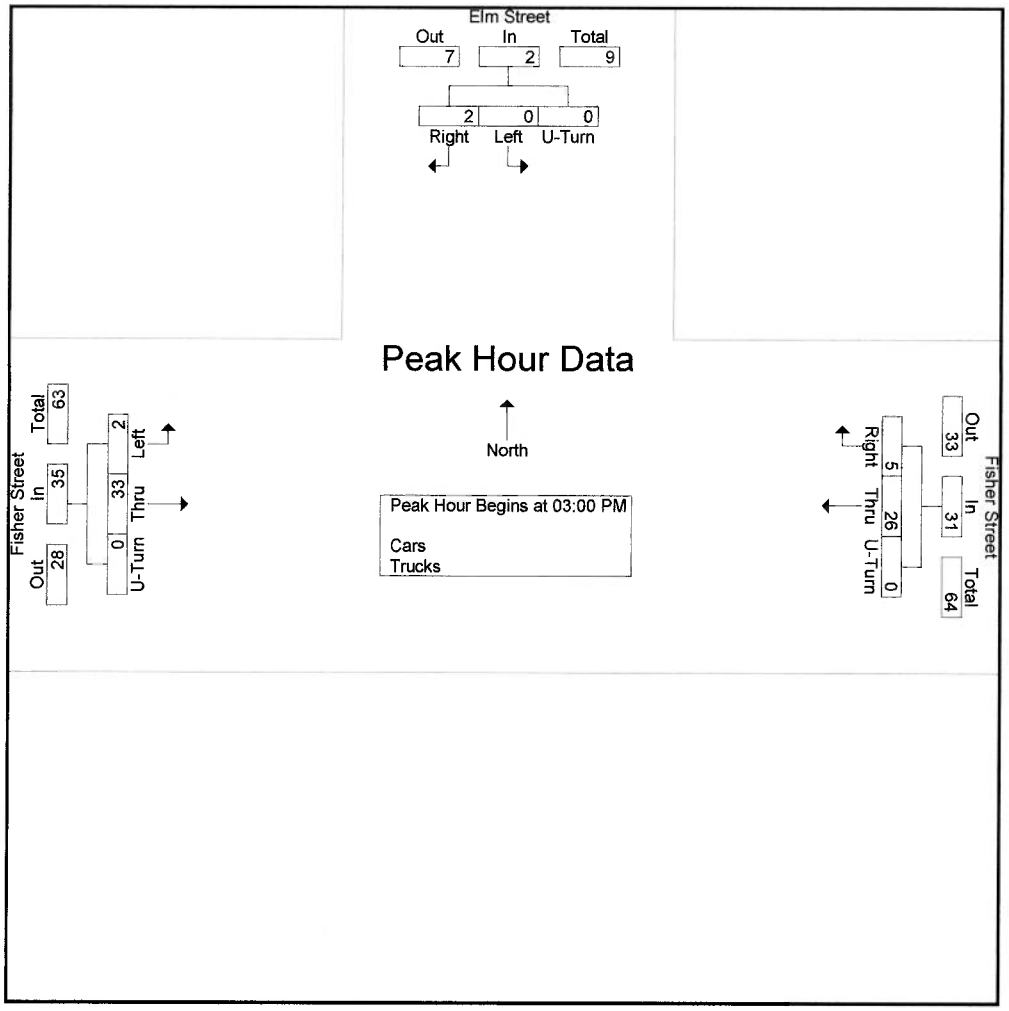
	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:00 PM													
03:00 PM	**1**	0	0	**1**	0	**8**	0	8	**14**	0	0	**14**	**23**
03:15 PM	1	0	0	1	0	6	0	6	8	**1**	0	9	16
03:30 PM	0	0	0	0	2	5	0	7	7	1	0	8	15
03:45 PM	0	0	0	0	**3**	7	0	**10**	4	0	0	4	14
Total Volume	2	0	0	2	5	26	0	31	33	2	0	35	68
% App. Total	100	0	0		16.1	83.9	0		94.3	5.7	0		
PHF	.500	.000	.000	.500	.417	.813	.000	.775	.589	.500	.000	.625	.739



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Concord, New Hampshire 03302

File Name : 2291A_INT_1_Fri__AM_&_PM_1143289_12-15-2023
Site Code : 2291A
Start Date : 12/15/2023
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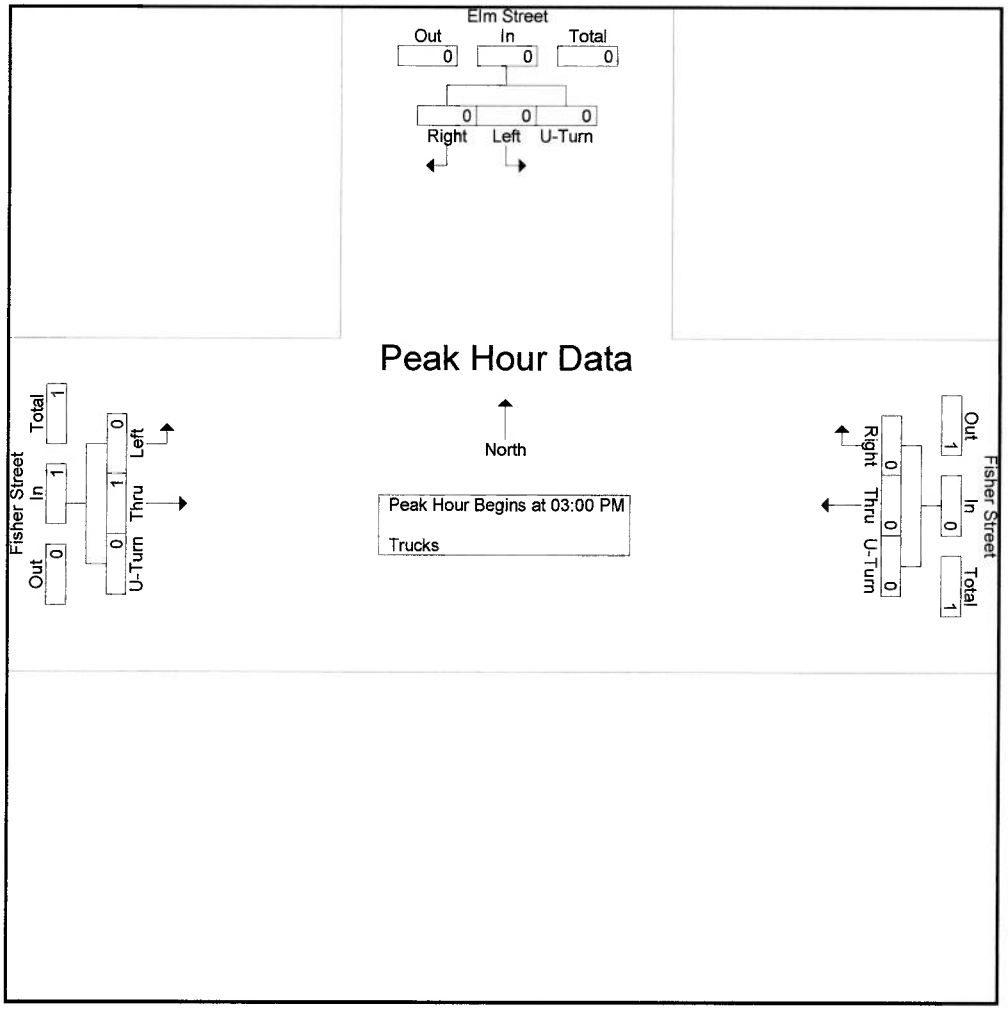
	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 03:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:00 PM													
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	**1**
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	1
% App. Total	0	0	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250



Stephen G. Pernaw & Company, Inc.

P.O. Box 1721
Concord, New Hampshire 03302

Weather: Fair
Collected By: MV
Job Number: 2291A
Town/State: Dover, New Hampshire

File Name : 2291A_INT_1_Fri__AM_&_PM_1143289_12-15-2023
Site Code : 2291A
Start Date : 12/15/2023
Page No : 1

Groups Printed- Cars - Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
03:00 PM	1	0	0	1	0	8	0	8	14	0	0	14	23
03:15 PM	1	0	0	1	0	6	0	6	8	1	0	9	16
03:30 PM	0	0	0	0	2	5	0	7	7	1	0	8	15
03:45 PM	0	0	0	0	3	7	0	10	4	0	0	4	14
Total	2	0	0	2	5	26	0	31	33	2	0	35	68
04:00 PM	1	1	0	2	1	7	0	8	6	3	0	9	19
04:15 PM	0	3	0	3	1	4	0	5	1	2	0	3	11
04:30 PM	0	1	0	1	1	1	0	2	8	0	0	8	11
04:45 PM	2	0	0	2	2	11	0	13	6	1	0	7	22
Total	3	5	0	8	5	23	0	28	21	6	0	27	63
05:00 PM	3	1	0	4	1	5	0	6	3	2	0	5	15
05:15 PM	0	1	0	1	2	4	0	6	5	0	0	5	12
05:30 PM	1	1	0	2	2	2	0	4	1	0	0	1	7
05:45 PM	1	1	0	2	1	4	0	5	4	0	0	4	11
Total	5	4	0	9	6	15	0	21	13	2	0	15	45
Grand Total	10	9	0	19	16	64	0	80	67	10	0	77	176
Apprch %	52.6	47.4	0		20	80	0		87	13	0		
Total %	5.7	5.1	0	10.8	9.1	36.4	0	45.5	38.1	5.7	0	43.8	
Cars	10	9	0	19	16	64	0	80	66	10	0	76	175
% Cars	100	100	0	100	100	100	0	100	98.5	100	0	98.7	99.4
Trucks	0	0	0	0	0	0	0	0	1	0	0	1	1
% Trucks	0	0	0	0	0	0	0	0	1.5	0	0	1.3	0.6

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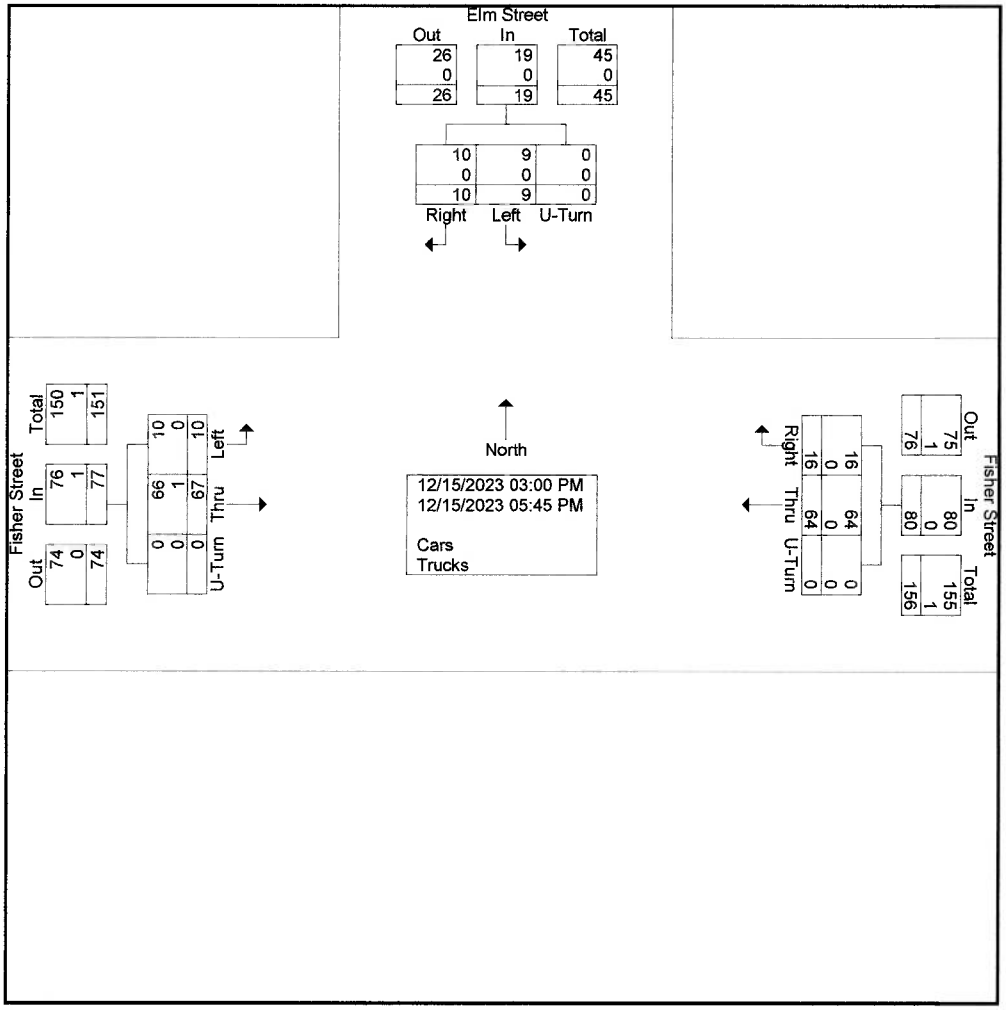

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Weather: Fair
Collected By: MV
Job Number: 2291A
Town/State: Dover, New Hampshire

File Name : 2291A_INT_1_Fri__AM_&_PM_1143289_12-15-2023
Site Code : 2291A
Start Date : 12/15/2023
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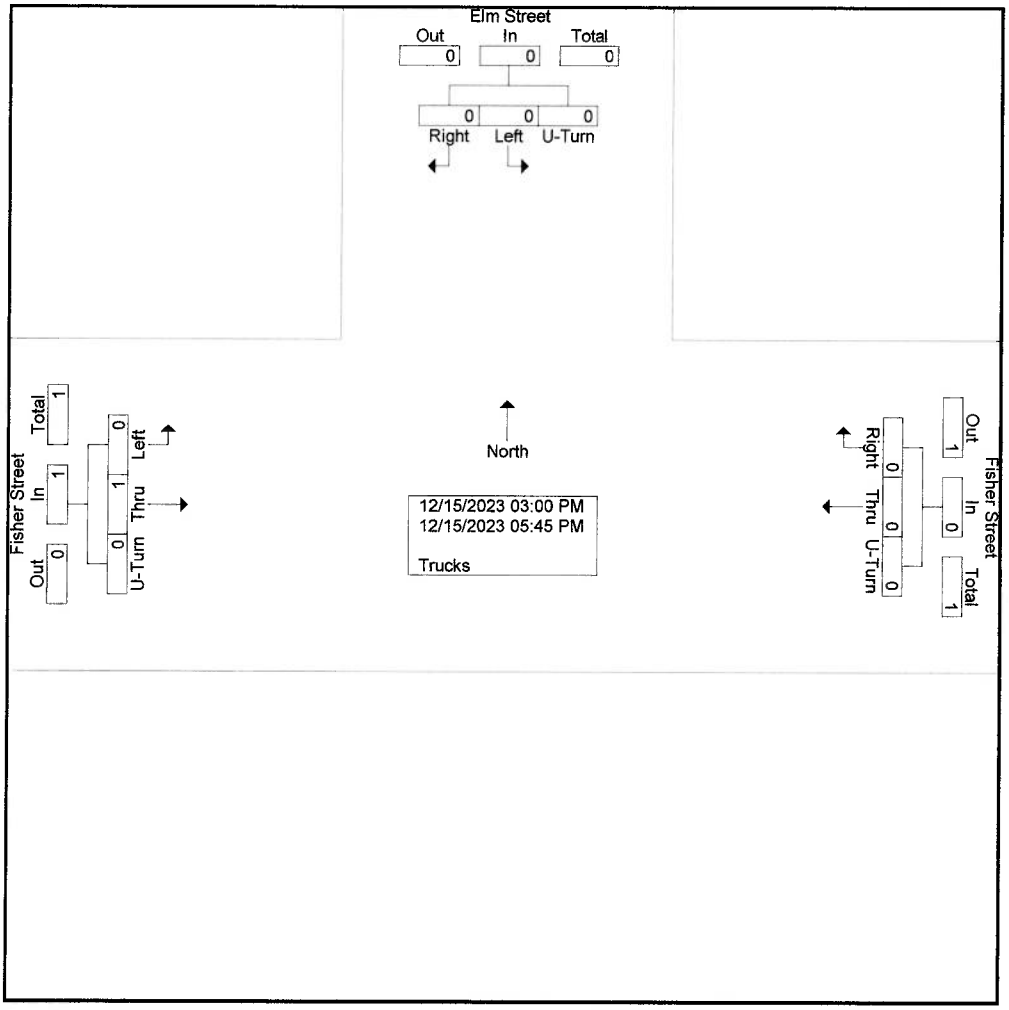
Groups Printed- Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	1
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	1	0	0	1	1
Apprch %	0	0	0		0	0	0		100	0	0		
Total %	0	0	0	0	0	0	0	0	100	0	0	100	

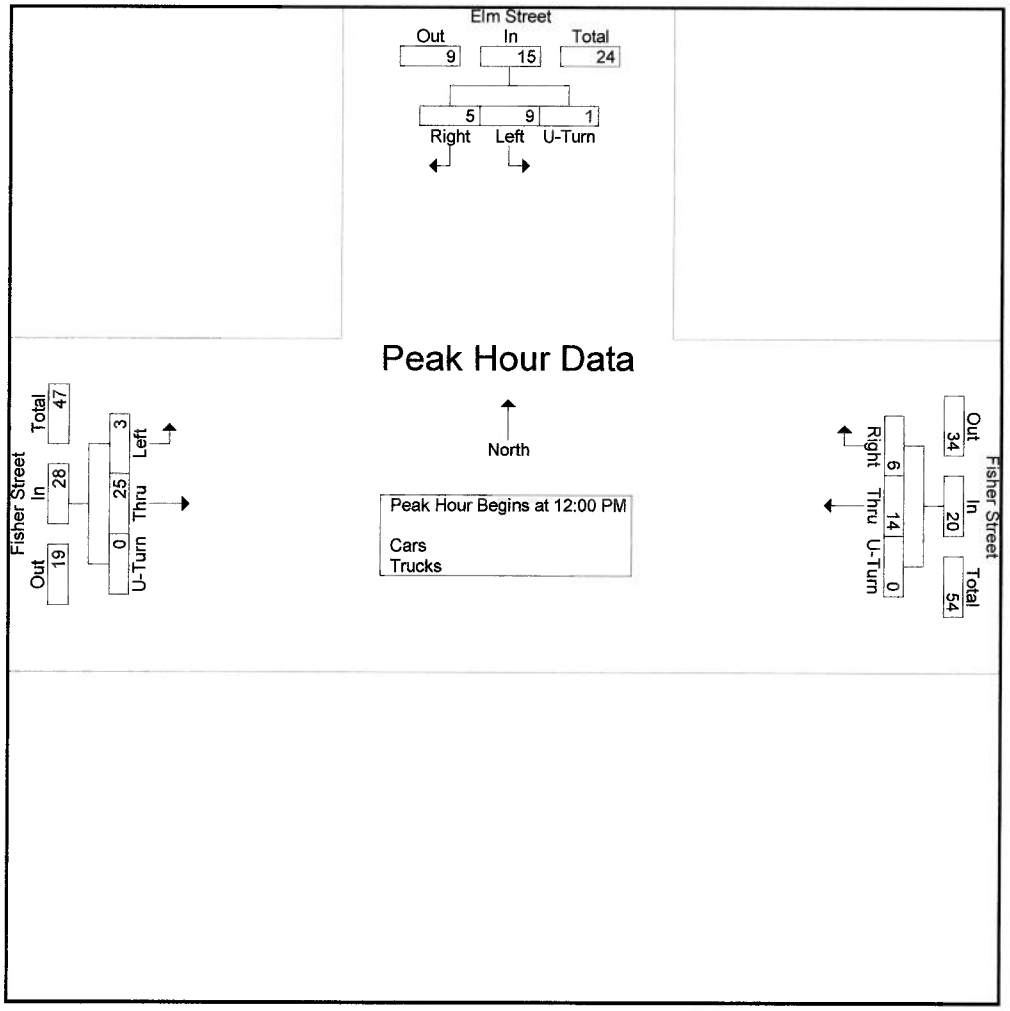


Stephen G. Pernaw & Company, Inc.

P.O. Box 1721
Concord, New Hampshire 03302

File Name : 2291A_INT_1_Sat_Mid_1143293_12-16-2023
Site Code : 2291A
Start Date : 12/16/2023
Page No : 2

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:00 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 12:00 PM													
12:00 PM	**2**	2	0	4	**2**	1	0	3	8	0	0	8	15
12:15 PM	1	0	**1**	2	1	4	0	5	3	**3**	0	6	13
12:30 PM	1	3	0	4	1	4	0	5	5	0	0	5	14
12:45 PM	1	**4**	0	**5**	2	**5**	0	**7**	**9**	0	0	**9**	**21**
Total Volume	5	9	1	15	6	14	0	20	25	3	0	28	63
% App. Total	33.3	60	6.7		30	70	0		89.3	10.7	0		
PHF	.625	.563	.250	.750	.750	.700	.000	.714	.694	.250	.000	.778	.750



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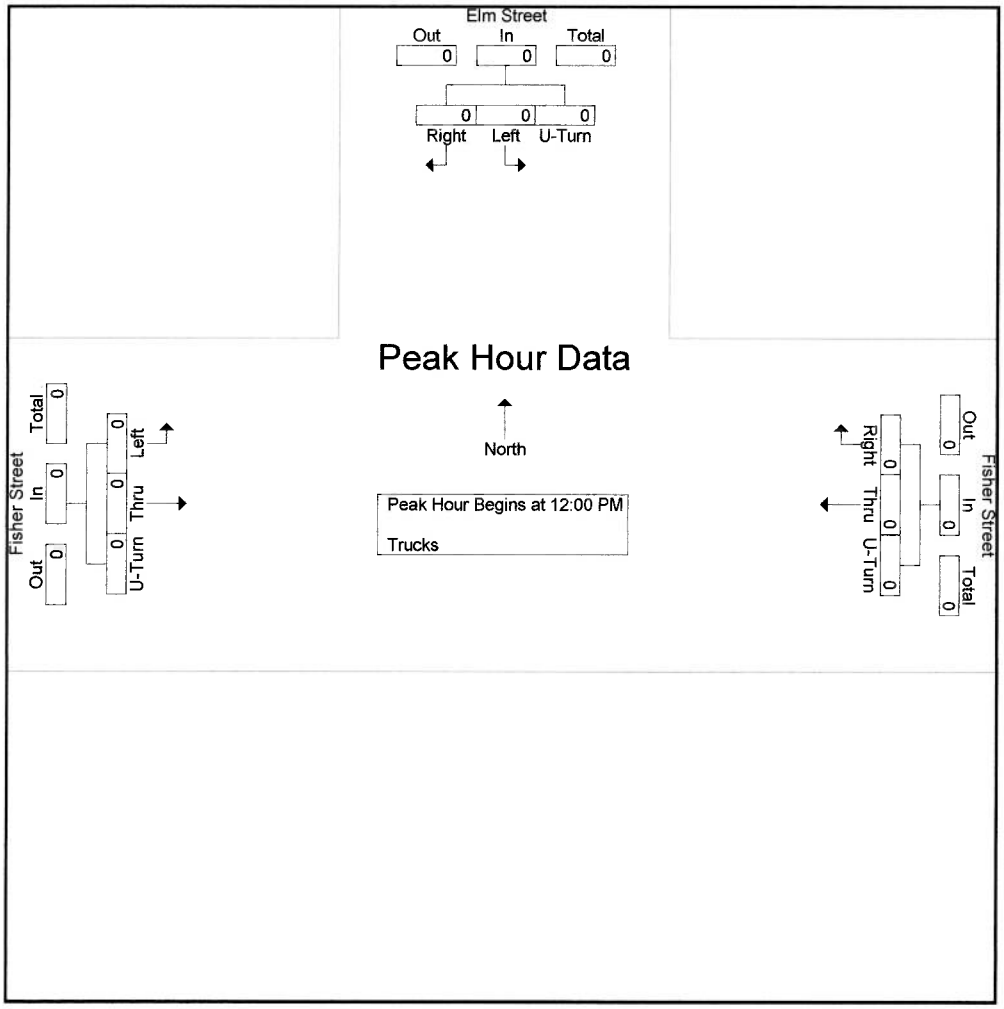
File Name : 2291A_INT_1_Sat_Mid_1143293_12-16-2023
Site Code : 2291A
Start Date : 12/16/2023
Page No : 2

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:00 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 12:00 PM													
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Stephen G. Pernaw & Company, Inc.

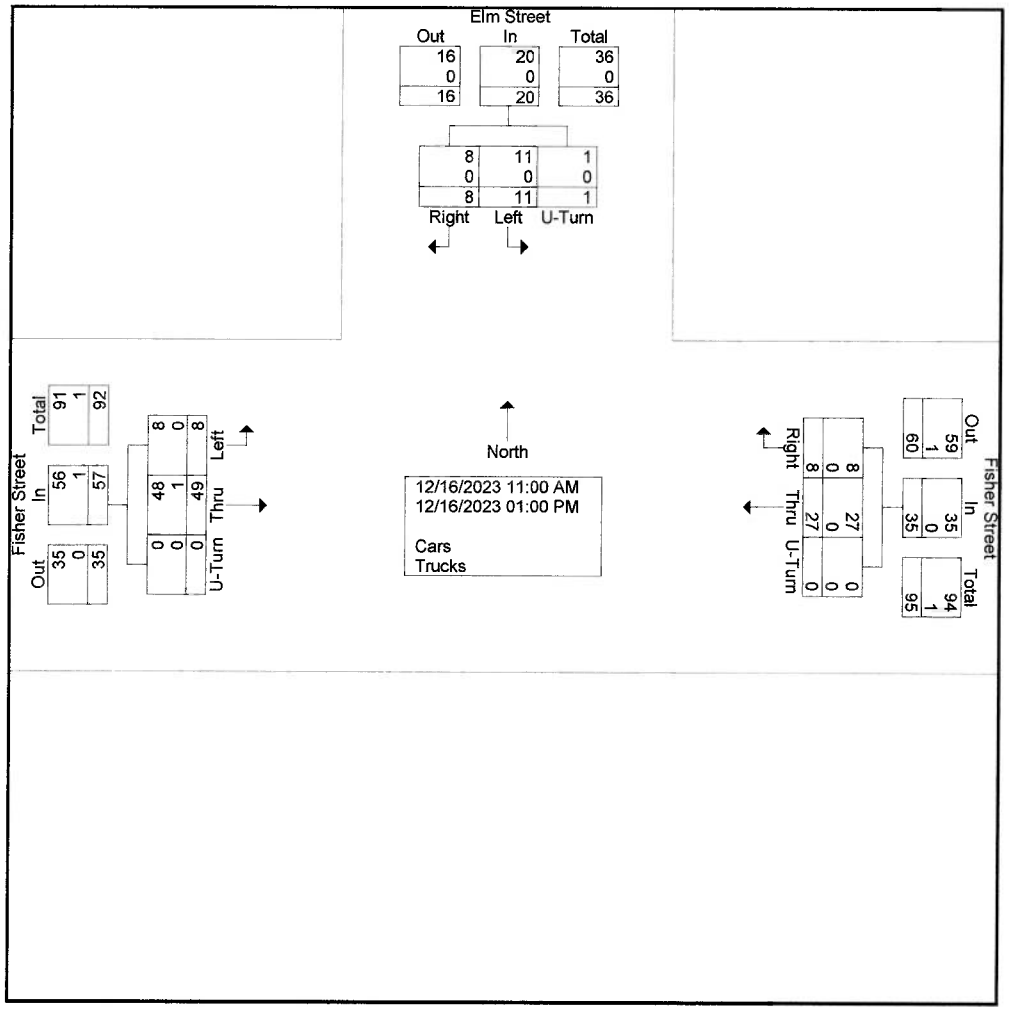
P.O. Box 1721
Concord, New Hampshire 03302

Weather: Fair
Collected By: MV
Job Number: 2291A
Town/State: Dover, New Hampshire

File Name : 2291A_INT_1_Sat_Mid_1143293_12-16-2023
Site Code : 2291A
Start Date : 12/16/2023
Page No : 1

Groups Printed- Cars - Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
11:00 AM	0	1	0	1	0	3	0	3	7	0	0	7	11
11:15 AM	1	0	0	1	0	2	0	2	5	2	0	7	10
11:30 AM	1	0	0	1	1	4	0	5	5	2	0	7	13
11:45 AM	1	1	0	2	1	4	0	5	7	1	0	8	15
Total	3	2	0	5	2	13	0	15	24	5	0	29	49
12:00 PM	2	2	0	4	2	1	0	3	8	0	0	8	15
12:15 PM	1	0	1	2	1	4	0	5	3	3	0	6	13
12:30 PM	1	3	0	4	1	4	0	5	5	0	0	5	14
12:45 PM	1	4	0	5	2	5	0	7	9	0	0	9	21
Total	5	9	1	15	6	14	0	20	25	3	0	28	63
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	8	11	1	20	8	27	0	35	49	8	0	57	112
Apprch %	40	55	5		22.9	77.1	0		86	14	0		
Total %	7.1	9.8	0.9	17.9	7.1	24.1	0	31.2	43.8	7.1	0	50.9	
Cars	8	11	1	20	8	27	0	35	48	8	0	56	111
% Cars	100	100	100	100	100	100	0	100	98	100	0	98.2	99.1
Trucks	0	0	0	0	0	0	0	0	1	0	0	1	1
% Trucks	0	0	0	0	0	0	0	0	2	0	0	1.8	0.9



Stephen G. Pernaw & Company, Inc.

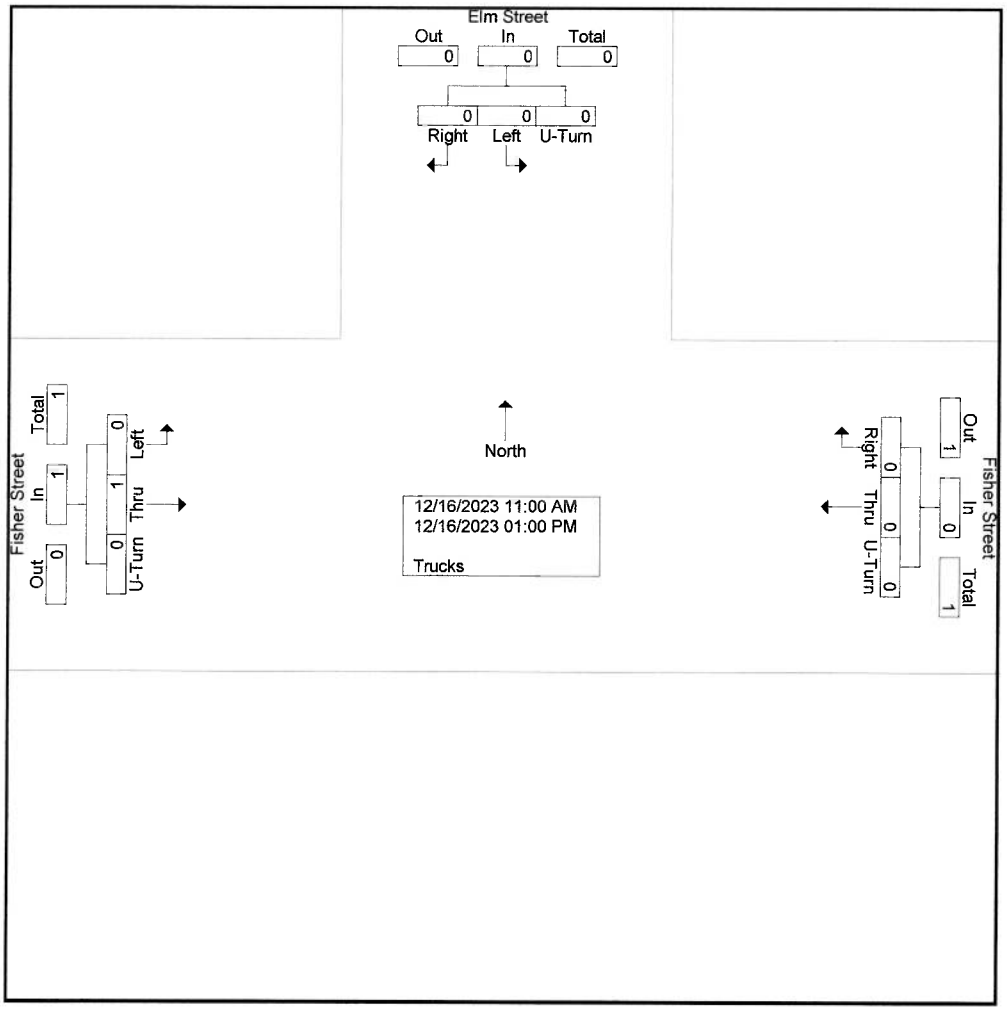
P.O. Box 1721
Concord, New Hampshire 03302

Weather: Fair
Collected By: MV
Job Number: 2291A
Town/State: Dover, New Hampshire

File Name : 2291A_INT_1_Sat_Mid_1143293_12-16-2023
Site Code : 2291A
Start Date : 12/16/2023
Page No : 1

Groups Printed- Trucks

	Elm Street From North				Fisher Street From East				Fisher Street From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	1	0	0	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	1	0	0	1	1
Apprch %	0	0	0		0	0	0		100	0	0		
Total %	0	0	0	0	0	0	0	0	100	0	0	100	



SECTION C – TRAVEL SPEED DATA

Stephen G. Pernaw & Company, Inc.

TRAFFIC DATA REPORT - SPEED

Study Name: Dover Third Attempt
Location: Fisher Street (West of Elm Street) - Dover, NH
Start Date: 12/18/2023

All Vehicles
Direction: Eastbound
Channel: All Lanes

MON E.B

12/18/2023																	
Time	0-5 mph	6-10 mph	11-15 mph	16-20 mph	21-25 mph	26-30 mph	31-35 mph	36-40 mph	41-45 mph	46-50 mph	51-55 mph	56-60 mph	61-65 mph	66-70 mph	> 70 mph	Total
13:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
13:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
13:30	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
13:45	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	4
Hourly Total	0	0	0	0	5	4	1	0	0	0	0	0	0	0	0	10
14:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
14:15	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	3
14:30	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
14:45	0	0	1	2	3	1	3	0	0	0	0	0	0	0	0	10
Hourly Total	0	0	1	2	6	2	5	0	0	0	0	0	0	0	0	16
15:00	0	1	1	4	3	8	3	0	0	0	0	0	0	0	0	20
15:15	0	0	0	1	3	3	0	1	0	0	0	0	0	0	0	8
15:30	0	0	0	0	2	2	1	0	0	1	0	0	0	0	0	6
15:45	0	0	0	0	1	5	0	1	0	0	0	0	0	0	0	7
Hourly Total	0	1	1	5	9	18	4	2	0	1	0	0	0	0	0	41
16:00	0	0	0	2	0	3	1	0	0	0	0	0	0	0	0	6
16:15	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	4

16:30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
16:45	0	0	0	0	1	3	1	0	0	0	0	0	0	0	0	5
Hourly Total	0	1	1	2	1	9	2	0	0	0	0	0	0	0	0	16
17:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/19/2023																
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Tues
EB

02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
07:15	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	3
07:30	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	5
07:45	0	1	0	0	2	4	1	0	0	0	0	0	0	0	0	8

Hourly Total	0	1	0	0	3	11	3	0	0	0	0	0	0	0	0	18
08:00	0	0	0	0	4	6	3	0	0	0	0	0	0	0	0	13
08:15	0	0	0	0	1	2	2	0	0	0	0	0	0	0	0	5
08:30	0	0	0	0	2	4	2	2	0	0	0	0	0	0	0	10
08:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	1	7	12	7	2	0	0	0	0	0	0	0	29
09:00	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	4
09:15	0	0	1	3	2	1	1	1	0	0	0	0	0	0	0	9
09:30	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
09:45	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	4
Hourly Total	0	0	3	4	5	5	2	1	0	0	0	0	0	0	0	20
10:00	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	4
10:15	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
10:30	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
10:45	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	3
Hourly Total	0	1	0	1	2	4	2	2	0	0	0	0	0	0	0	12
11:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	4
11:45	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	8
12:00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
12:15	0	0	0	1	1	3	0	0	0	0	0	0	0	0	0	5
12:30	0	0	1	0	2	1	1	0	0	0	0	0	0	0	0	5
12:45	0	0	0	1	1	2	1	1	0	0	0	0	0	0	0	6
Hourly Total	0	0	1	2	4	8	2	1	0	0	0	0	0	0	0	18

13:00	0	0	1	0	1	2	0	0	0	0	0	0	0	0	0	4
13:15	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	3
13:30	0	0	1	0	1	2	1	1	0	0	0	0	0	0	0	6
13:45	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	4
Hourly Total	0	0	2	0	4	6	3	2	0	0	0	0	0	0	0	17
14:00	0	0	0	0	1	3	0	1	0	0	0	0	0	0	0	5
14:15	0	0	0	0	2	3	1	0	0	0	0	0	0	0	0	6
14:30	0	0	1	0	1	4	3	0	0	0	0	0	0	0	0	9
14:45	0	0	0	0	1	4	2	0	0	0	0	0	0	0	0	7
Hourly Total	0	0	1	0	5	14	6	1	0	0	0	0	0	0	0	27
15:00	0	0	1	0	3	6	4	4	2	0	0	0	0	0	0	20
15:15	0	0	0	0	1	2	1	2	0	0	0	0	0	0	0	6
15:30	0	0	0	2	6	4	0	1	0	0	0	0	0	0	0	13
15:45	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	3
Hourly Total	0	0	1	2	11	13	6	7	2	0	0	0	0	0	0	42
16:00	0	0	1	1	0	3	5	3	0	0	0	0	0	0	0	13
16:15	0	0	0	0	1	3	1	0	0	0	0	0	0	0	0	5
16:30	0	0	0	0	1	3	2	1	0	0	0	0	0	0	0	7
16:45	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	4
Hourly Total	0	0	1	1	3	10	10	4	0	0	0	0	0	0	0	29
17:00	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	4
17:15	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	3
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	2	1	0	1	0	0	0	0	0	0	0	4
Hourly Total	0	0	0	0	3	5	1	2	0	0	0	0	0	0	0	11
18:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2

18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	4
19:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
19:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
20:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/20/2023																
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
05:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
07:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
07:30	0	0	0	0	0	3	3	1	0	0	0	0	0	0	0	7
07:45	0	0	1	0	0	2	3	1	0	0	0	0	0	0	0	7
Hourly Total	0	0	1	1	0	7	6	2	0	0	0	0	0	0	0	17
08:00	0	0	0	0	1	6	3	0	0	0	0	0	0	0	0	10
08:15	0	0	0	0	1	4	3	0	0	0	0	0	0	0	0	8
08:30	0	0	0	0	2	4	3	1	0	0	0	0	0	0	0	10
08:45	0	0	1	1	0	4	1	0	0	0	0	0	0	0	0	7
Hourly Total	0	0	1	1	4	18	10	1	0	0	0	0	0	0	0	35
09:00	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	4
09:15	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	3
09:30	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2

09:45	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	1	0	1	3	4	2	0	0	0	0	0	0	0	11
10:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
10:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
10:30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
10:45	0	0	0	1	1	3	5	0	0	0	0	0	0	0	0	10
Hourly Total	0	0	0	1	1	5	5	1	0	0	0	0	0	0	0	13
11:00	0	0	1	1	2	0	1	0	0	0	0	0	0	0	0	5
11:15	0	0	1	0	1	1	2	0	0	0	0	0	0	0	0	5
11:30	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
11:45	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	3
Hourly Total	0	1	2	1	5	2	4	0	0	0	0	0	0	0	0	15
12:00	0	0	0	0	1	2	1	0	1	0	0	0	0	0	0	5
12:15	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
12:30	0	0	0	0	1	5	0	1	0	0	0	0	0	0	0	7
12:45	0	0	0	1	0	4	1	0	0	0	0	0	0	0	0	6
Hourly Total	0	0	0	2	2	12	2	1	1	0	0	0	0	0	0	20
13:00	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3
13:15	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
13:30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
13:45	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	6
Hourly Total	0	0	0	1	5	5	1	0	0	0	0	0	0	0	0	12
14:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
14:15	0	0	2	2	2	1	1	0	0	0	0	0	0	0	0	8
14:30	0	0	0	1	4	1	1	0	0	0	0	0	0	0	0	7
14:45	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	4

Hourly Total	0	0	2	3	6	4	3	2	0	0	0	0	0	0	0	20
15:00	0	0	2	3	1	9	7	2	1	0	0	0	0	0	0	25
15:15	0	0	0	0	3	2	2	2	0	0	0	0	0	0	0	9
15:30	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	4
15:45	0	0	0	0	1	3	2	1	0	0	0	0	0	0	0	7
Hourly Total	0	0	2	3	6	16	12	5	1	0	0	0	0	0	0	45
16:00	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	5
16:15	0	0	0	0	4	0	2	0	0	0	0	0	0	0	0	6
16:30	0	0	0	2	1	5	1	0	0	0	0	0	0	0	0	9
16:45	0	0	0	0	3	2	1	1	0	0	0	0	0	0	0	7
Hourly Total	0	0	0	3	9	9	5	1	0	0	0	0	0	0	0	27
17:00	0	0	1	0	2	1	0	0	0	0	0	0	0	0	0	4
17:15	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	1	0	4	4	0	0	0	0	0	0	0	0	0	9
18:00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
18:15	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	4
18:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	2	0	3	0	1	1	0	0	0	0	0	0	7
19:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
19:15	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
19:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3

20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
21:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/21/2023																
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	3
07:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
07:30	0	0	0	0	0	5	2	0	0	0	0	0	0	0	0	7
07:45	0	0	1	2	2	2	2	0	0	0	0	0	0	0	0	9
Hourly Total	0	0	1	2	3	8	5	1	0	0	0	0	0	0	0	20
08:00	0	0	0	0	1	1	2	0	1	0	0	0	0	0	0	5
08:15	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	5
08:30	0	0	0	1	2	5	2	0	0	0	0	0	0	0	0	10
08:45	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0	8
Hourly Total	0	0	0	1	5	12	9	0	1	0	0	0	0	0	0	28
09:00	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
09:15	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	4
09:30	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
09:45	0	0	1	1	2	0	1	0	0	0	0	0	0	0	0	5
Hourly Total	0	0	1	2	2	5	2	2	0	0	0	0	0	0	0	14
10:00	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
10:15	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	4
10:30	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
10:45	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	3
Hourly Total	0	0	0	1	1	3	3	2	1	0	0	0	0	0	0	11
11:00	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	3
11:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1

11:30	0	0	0	0	1	2	3	2	0	0	0	0	0	0	0	8
11:45	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	1	0	1	5	4	2	0	0	0	0	0	0	0	13
12:00	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	3
12:15	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	3
12:30	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	4
12:45	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	4
Hourly Total	0	0	1	1	3	5	4	0	0	0	0	0	0	0	0	14
13:00	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0	4
13:15	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
13:30	0	0	2	1	1	2	0	0	0	0	0	0	0	0	0	6
13:45	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	5
Hourly Total	0	0	2	2	1	8	4	1	0	0	0	0	0	0	0	18
14:00	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	4
14:15	0	0	0	0	1	1	3	0	0	0	0	0	0	0	0	5
14:30	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	3
14:45	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	4
Hourly Total	0	0	1	0	5	4	5	1	0	0	0	0	0	0	0	16
15:00	0	0	1	2	3	7	5	2	1	0	0	0	0	0	0	21
15:15	0	0	0	0	1	6	3	1	2	0	0	0	0	0	0	13
15:30	0	0	0	0	3	7	1	1	2	0	0	0	0	0	0	14
15:45	0	0	0	0	1	5	1	1	0	0	0	0	0	0	0	8
Hourly Total	0	0	1	2	8	25	10	5	5	0	0	0	0	0	0	56
16:00	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	5
16:15	0	0	0	0	0	7	0	0	1	0	0	0	0	0	0	8
16:30	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	4

16:45	0	0	0	1	4	2	0	0	0	0	0	0	0	0	0	7
Hourly Total	0	0	0	2	4	11	5	1	1	0	0	0	0	0	0	24
17:00	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
17:15	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	3
17:30	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	3
17:45	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Hourly Total	0	1	1	3	0	0	4	0	0	0	0	0	0	0	0	9
18:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
18:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
18:30	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	2	0	2	1	0	0	0	0	0	0	0	0	5
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:30	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
19:45	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	4
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
21:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Hourly Total	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/22/2023																
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FRI
FEB

Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
07:15	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
07:30	0	0	0	1	0	1	3	0	0	0	0	0	0	0	0	5
07:45	0	0	1	2	1	1	2	0	0	0	0	0	0	0	0	7
Hourly Total	0	0	1	3	2	4	6	0	0	0	0	0	0	0	0	16

08:00	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	4
08:15	0	0	0	0	2	1	1	1	0	0	0	0	0	0	0	5
08:30	0	0	0	0	4	2	1	1	0	0	0	0	0	0	0	8
08:45	0	0	0	0	3	1	1	1	1	0	0	0	0	0	0	7
Hourly Total	0	0	0	0	9	5	4	4	2	0	0	0	0	0	0	24
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	6	33	62	168	315	178	59	16	1	0	0	0	0	1	839

15th Percentile Speed:	22 mph
50th Percentile Speed:	28 mph. 27
85th Percentile Speed:	34 mph ✓
95th Percentile Speed:	38 mph
Mean Speed:	28 mph 27
[redacted]	[redacted]

EB

Direction: Westbound
Channel: All Lanes

12/18/2023																
Time	0-5 mph	6-10 mph	11-15 mph	16-20 mph	21-25 mph	26-30 mph	31-35 mph	36-40 mph	41-45 mph	46-50 mph	51-55 mph	56-60 mph	61-65 mph	66-70 mph	> 70 mph	Total
13:00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
13:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
13:30	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
13:45	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Hourly Total	0	0	0	0	6	2	0	0	0	0	0	0	0	0	0	8
14:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
14:15	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
14:30	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	4
14:45	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	0	1	5	2	2	0	0	0	0	0	0	0	0	10
15:00	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	8
15:15	0	0	0	1	2	3	0	1	0	0	0	0	0	0	0	7
15:30	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	5
15:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	4	6	8	1	2	0	0	0	0	0	0	0	21
16:00	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	3
16:15	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	4
16:30	0	0	0	0	1	4	2	0	0	0	0	0	0	0	0	7
16:45	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	3
Hourly Total	0	1	0	2	4	7	3	0	0	0	0	0	0	0	0	17
17:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
17:15	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Mon WB

17:45	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
Hourly Total	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	6
18:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
18:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	1	0	3	2	0	0	0	0	0	0	0	0	0	6
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
19:45	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
Hourly Total	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	3
20:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/19/2023																
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Tues WB

Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	2	1	2	0	0	0	0	0	0	0	0	0	5
07:30	0	0	0	0	3	3	4	0	0	0	0	0	0	0	0	10
07:45	0	0	0	1	1	5	2	0	0	0	0	0	0	0	0	9
Hourly Total	0	0	0	3	5	10	6	0	0	0	0	0	0	0	0	24
08:00	0	0	0	1	0	3	2	1	0	0	0	0	0	0	0	7
08:15	0	0	0	0	2	4	1	0	0	0	0	0	0	0	0	7
08:30	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	6
08:45	0	0	0	0	1	1	2	1	0	0	0	0	0	0	0	5
Hourly Total	0	0	0	1	4	10	8	2	0	0	0	0	0	0	0	25

09:00	0	0	0	1	1	2	1	1	0	0	0	0	0	0	0	6
09:15	0	0	0	1	3	1	0	0	0	0	0	0	0	0	0	5
09:30	0	0	1	4	1	0	0	0	0	0	0	0	0	0	0	6
09:45	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	1	6	6	4	1	1	0	0	0	0	0	0	0	19
10:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
10:15	0	0	0	0	1	3	1	0	0	0	0	0	0	0	0	5
10:30	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4
10:45	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3
Hourly Total	0	0	0	1	3	8	1	0	0	0	0	0	0	0	0	13
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	5
11:30	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
11:45	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	4
Hourly Total	0	0	0	3	2	5	1	0	0	0	0	0	0	0	0	11
12:00	0	0	0	0	2	3	1	0	0	0	0	0	0	0	0	6
12:15	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	6
12:30	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
12:45	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	2	1	4	6	3	0	0	0	0	0	0	0	0	16
13:00	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
13:15	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	3
13:30	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	4
13:45	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	0	1	5	4	2	0	0	0	0	0	0	0	0	12
14:00	0	0	0	1	3	2	1	0	0	0	0	0	0	0	0	7

14:15	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	6
14:30	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	4
14:45	0	0	0	0	2	1	1	1	0	0	0	0	0	0	0	5
Hourly Total	0	0	1	2	10	6	2	1	0	0	0	0	0	0	0	22
15:00	0	0	1	1	4	2	0	0	0	0	0	0	0	0	0	8
15:15	0	0	0	0	1	4	1	0	0	0	0	0	0	0	0	6
15:30	0	1	0	0	2	2	1	0	0	0	0	0	0	0	0	6
15:45	0	0	0	1	2	2	2	0	0	0	0	0	0	0	0	7
Hourly Total	0	1	1	2	9	10	4	0	0	0	0	0	0	0	0	27
16:00	0	0	1	1	0	3	1	0	0	0	0	0	0	0	0	6
16:15	0	0	0	0	1	4	2	0	0	0	0	0	0	0	0	7
16:30	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	5
16:45	0	0	0	1	1	4	0	0	0	0	0	0	0	0	0	6
Hourly Total	0	0	1	2	3	15	3	0	0	0	0	0	0	0	0	24
17:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
17:15	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
17:30	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	4
17:45	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	0	2	4	3	1	0	0	0	0	0	0	0	0	10
18:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
18:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	4
19:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
19:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1

19:30	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
19:45	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	4
Hourly Total	0	0	0	1	4	2	2	0	0	0	0	0	0	0	0	9
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/20/2023																
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

05:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
07:30	0	0	0	0	2	7	4	1	0	0	0	0	0	0	0	14
07:45	0	0	1	1	0	1	3	0	1	0	0	0	0	0	0	7
Hourly Total	0	0	1	1	3	9	8	1	1	0	0	0	0	0	0	24
08:00	0	0	1	0	1	2	2	0	0	0	0	1	0	0	0	7
08:15	0	0	0	0	3	5	0	0	0	0	0	0	0	0	0	8
08:30	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	5
08:45	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	5
Hourly Total	0	0	1	0	6	11	4	2	0	0	0	1	0	0	0	25
09:00	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	4
09:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
09:30	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
09:45	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	3
Hourly Total	0	1	0	1	2	5	0	0	1	0	0	0	0	0	0	10
10:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
10:15	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	4
10:30	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	3
10:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1

Hourly Total	0	0	1	1	2	2	1	1	0	0	1	0	0	0	0	9
11:00	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	4
11:15	0	0	0	3	1	1	1	0	0	0	0	0	0	0	0	6
11:30	0	0	0	1	1	3	0	0	0	0	0	0	0	0	0	5
11:45	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	4
Hourly Total	0	2	0	4	6	6	1	0	0	0	0	0	0	0	0	19
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
12:30	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	4
12:45	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	6
Hourly Total	0	0	2	1	6	3	0	0	0	0	0	0	0	0	0	12
13:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
13:15	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
13:30	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
13:45	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3
Hourly Total	0	0	0	1	5	3	0	0	0	0	0	0	0	0	0	9
14:00	0	0	0	0	1	2	2	0	0	0	0	0	0	0	0	5
14:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
14:30	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	6
14:45	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	6
Hourly Total	0	0	3	1	9	4	2	0	0	0	0	0	0	0	0	19
15:00	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	3
15:15	1	0	0	0	2	4	0	1	0	0	0	0	0	0	0	8
15:30	0	0	1	0	0	3	1	0	0	0	0	0	0	0	0	5
15:45	0	1	1	0	0	3	0	0	0	0	0	0	0	0	0	5
Hourly Total	1	1	2	0	4	10	2	1	0	0	0	0	0	0	0	21

16:00	0	0	0	1	1	4	0	0	0	0	0	0	0	0	0	6
16:15	0	0	0	0	1	3	2	0	0	0	0	0	0	0	0	6
16:30	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
16:45	0	0	0	0	3	5	1	0	0	0	0	0	0	0	0	9
Hourly Total	0	0	0	1	6	14	3	0	0	0	0	0	0	0	0	24
17:00	0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	7
17:15	0	1	1	2	3	0	0	0	0	0	0	0	0	0	0	7
17:30	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
17:45	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	4
Hourly Total	0	1	1	3	10	4	1	0	0	0	0	0	0	0	0	20
18:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
18:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
18:30	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
18:45	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	2	0	1	2	2	0	0	0	0	0	0	0	0	0	7
19:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
19:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
19:30	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
19:45	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Hourly Total	0	1	0	1	1	2	1	0	0	0	0	0	0	0	0	6
20:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
20:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
21:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1

21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/21/2023																
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2

07:30	0	0	0	0	1	3	0	2	0	0	0	0	0	0	0	6
07:45	1	0	0	2	0	1	4	2	0	0	0	0	0	0	0	10
Hourly Total	1	0	0	2	3	4	4	4	0	0	0	0	0	0	0	18
08:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	4
08:30	0	0	0	0	2	0	2	1	0	0	0	0	0	0	0	5
08:45	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	3
Hourly Total	0	0	1	0	3	3	5	1	0	0	0	0	0	0	0	13
09:00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
09:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
09:30	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	5
09:45	1	0	0	0	3	0	1	0	0	0	0	0	0	0	0	5
Hourly Total	1	0	0	0	6	4	2	0	0	0	0	0	0	0	0	13
10:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
10:15	0	0	0	1	2	0	1	0	0	0	0	0	0	0	0	4
10:30	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
10:45	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	4
Hourly Total	0	0	0	3	4	4	1	0	0	0	0	0	0	0	0	12
11:00	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
11:15	0	0	0	1	4	2	0	0	0	0	0	0	0	0	0	7
11:30	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
11:45	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
Hourly Total	0	0	0	1	9	6	0	0	0	0	0	0	0	0	0	16
12:00	0	0	1	0	1	3	0	0	0	0	0	0	0	0	0	5
12:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
12:30	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3

12:45	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	4
Hourly Total	0	1	1	0	4	7	1	0	0	0	0	0	0	0	0	14
13:00	0	0	0	0	2	5	0	0	0	0	0	0	0	0	0	7
13:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
13:30	0	0	0	3	2	3	0	0	0	0	0	0	0	0	0	8
13:45	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	4
Hourly Total	0	0	0	3	6	10	1	0	0	0	0	0	0	0	0	20
14:00	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	3
14:15	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	4
14:30	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	4
14:45	0	0	0	1	2	3	1	1	0	0	0	0	0	0	0	8
Hourly Total	0	0	1	3	7	6	1	1	0	0	0	0	0	0	0	19
15:00	0	0	0	1	2	1	3	1	0	0	0	0	0	0	0	8
15:15	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	6
15:30	0	0	0	1	1	4	2	0	0	0	0	0	0	0	0	8
15:45	0	0	0	0	1	4	2	1	0	0	0	0	0	0	0	8
Hourly Total	0	0	0	2	5	14	7	2	0	0	0	0	0	0	0	30
16:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:15	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	5
16:30	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	3
16:45	0	0	0	3	2	2	0	0	0	0	0	0	0	0	0	7
Hourly Total	0	0	0	4	4	6	2	0	0	0	0	0	0	0	0	16
17:00	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	3
17:15	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
17:30	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	3
17:45	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2

Hourly Total	0	0	0	2	4	4	1	0	0	0	0	0	0	0	0	11
18:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
18:15	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3
19:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
19:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
19:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
19:45	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	0	3	0	0	2	0	0	0	0	0	0	0	0	5
20:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
22:00	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2

23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/22/2023																
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FRI WB

04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	4
07:30	0	0	0	0	4	2	2	0	0	0	0	0	0	0	0	8
07:45	0	0	0	0	0	4	1	3	0	0	0	0	0	0	0	8
Hourly Total	0	0	0	0	5	8	4	3	0	0	0	0	0	0	0	20
08:00	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	4
08:15	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	4
08:30	0	0	0	0	0	2	1	0	1	0	0	0	0	0	0	4
08:45	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
Hourly Total	0	0	0	0	2	6	3	1	1	1	0	0	0	0	0	14
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

7:30-8:30 AM

09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	11	23	81	218	270	98	25	4	1	1	1	0	0	0	736

15th Percentile Speed:	20 mph
50th Percentile Speed:	26 mph
85th Percentile Speed:	31 mph
95th Percentile Speed:	35 mph
Mean Speed:	26 mph
Max Speed:	56 mph

WB

SECTION D – ALL-WAY STOP CONTROL WARRANTS

Guidance:

04 *The YIELD signs should be installed on opposing minor-street approaches (for a four-leg intersection) or on the minor-street approach (for a three-leg intersection). When two intersecting roadways have relatively equal volumes, speeds, and other characteristics, yield control should be installed on the approach that conflicts the most with established pedestrian crossing activity, school walking routes, or bicycle crossing activity.*

Standard:

05 **A YIELD sign shall be used to require road users to yield the right-of-way to other traffic at the entrance to a roundabout. YIELD signs at roundabouts shall be used to control the approach roadways and shall not be used to control the circulatory roadway.**

06 **YIELD signs shall not be placed on all of the approaches to an intersection, except at roundabouts.**

Section 2B.11 Minor Road Stop Control

Guidance:

01 *Stop control on the minor-road approach or approaches to an intersection should be considered when engineering judgment indicates that one or more of the following conditions exist:*

- *A. A restricted view exists that requires road users to stop in order to adequately observe conflicting traffic on the through street or highway.*
- *B. Crash records indicate that:*
  - *1. For a four-leg intersection, there are three or more reported crashes in a 12-month period or six or more reported crashes in a 36-month period. The crashes should be susceptible to correction by installation of minor-road stop control.*
  - *2. For a three-leg intersection, there are three or more reported crashes in a 12-month period or five or more reported crashes in a 36-month period. The crashes should be susceptible to correction by installation of minor-road stop control.*
- *C. The intersection is of a lower functional classification road with a higher functional classification road.*
- *D. Conditions that previously supported the installation of all-way stop control no longer exist.*

02 *On low-volume rural roads, a STOP sign should be considered at an intersection where engineering judgment indicates that Item C in Paragraph 1 of this Section is applicable or where the intersection has inadequate sight distance for the operating vehicle speeds.*

Section 2B.12 All-Way Stop Control

Support:

01 The provisions in the following sections describe warrants for the recommended engineering study to determine all-way stop control. Warrants are not a substitute for engineering judgment. The fact that a warrant for a particular traffic control device is met is not conclusive justification to install or not install all-way stop control. Because each intersection will have unique characteristics that affect its operational performance or safety, it is the engineering study for a given intersection that is ultimately the basis for a decision to install or not install all-way stop control.

02 All-way stop controls at intersections with substantially differing approach volumes can reduce the effectiveness of these devices for all roadway users.

Guidance:

03 *The decision to establish all-way stop control at an unsignalized intersection should be based on an engineering study. The engineering study for all-way stop control should include an analysis of factors related to the existing operation and safety at the intersection, the potential to improve these conditions, and the applicable factors contained in the following all-way stop control warrants:*

- *A. All-Way Stop Control Warrant A: Crash Experience (see Section 2B.13)*
- *B. All-Way Stop Control Warrant B: Sight Distance (see Section 2B.14)*
- *C. All-Way Stop Control Warrant C: Transition to Signal Control or Transition to Yield Control at a Circular Intersection (see Section 2B.15)*
- *D. All-Way Stop Control Warrant D: 8-Hour Volume (Vehicles, Pedestrians, Bicycles) (see Section 2B.16)*
- *E. All-Way Stop Control Warrant E: Other Factors (see Section 2B.17)*

Option:

04 The decision to install all-way stop control on site roadways open to public travel may be based on engineering judgment.

Standard:

05 **The satisfaction of an all-way stop control warrant or warrants shall not in itself require the installation of all-way stop control at an unsignalized intersection.**

Section 2B.13 All-Way Stop Control Warrant A: Crash Experience

Option:

01 All-way stop control may be installed at an intersection where an engineering study indicates that:

A. For a four-leg intersection, there are five or more reported crashes in a 12-month period or six or more reported crashes in a 36-month period that were of a type susceptible to correction by the installation of all-way stop control.

B. For a three-leg intersection, there are four or more reported crashes in a 12-month period or five or more reported crashes in a 36-month period that were of a type susceptible to correction by the installation of all-way stop control.

Section 2B.14 All-Way Stop Control Warrant B: Sight Distance

Option:

01 All-way stop control may be installed at an intersection where an engineering study indicates that sight distance on the minor-road approaches controlled by a STOP sign is not adequate for a vehicle to turn onto or cross the major (uncontrolled) road.

Support:

02 At such a location, a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop.

Section 2B.15 All-Way Stop Control Warrant C: Transition to Signal Control or Transition to Yield Control at a Circular Intersection

Option:

01 All-way stop control may be installed at locations where all-way stop control is an interim measure that can be installed to control traffic while arrangements are being made for the installation of a traffic control signal (see Chapter 4C) at the intersection or for the installation of yield control at a circular intersection.

Section 2B.16 All-Way Stop Control Warrant D: 8-Hour Volume (Vehicles, Pedestrians, Bicycles)

Option:

01 All-way stop control may be installed at an intersection where an engineering study indicates:

A. The combined motor vehicle, bicycle, and pedestrian volume entering the intersection from the major-street approaches is at least 300 units per hour for each of any 8 hours of a typical day; and

B. The combined motor vehicle, bicycle, and pedestrian volume entering the intersection from the minor-street approaches is at least 200 units per hour for each of any of the same 8 hours.

02 If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants may be reduced to 70 percent of the values given in Items A and B in Paragraph 1 of this Section.

Section 2B.17 All-Way Stop Control Warrant E: Other Factors

Option:

01 All-way stop control may be installed at an intersection where an engineering study indicates that all-way stop control is needed due to other factors not addressed in the other all-way stop control warrants. Such other factors may include, but are not limited to, the following:

A. The need to control left-turn conflicts,

B. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where all-way stop control would improve traffic operational characteristics of the intersection, or

C. Where pedestrian and/or bicyclist movements support the installation of all-way stop control.

Section 2B.18 STOP Sign or YIELD Sign Placement

Standard:

01 **The STOP or YIELD sign shall be installed on the near side of the intersection on the right-hand side of the approach to which it applies. When the STOP or YIELD sign is installed at this required location and the sign visibility is restricted, a Stop Ahead sign (see Section 2C.35) shall be installed in advance of the STOP sign or a Yield Ahead sign (see Section 2C.35) shall be installed in advance of the YIELD sign.**

02 **The STOP or YIELD sign shall be located as close as practicable to the intersection it regulates, while optimizing its visibility to the road user it is intended to regulate.**

03 **STOP signs and YIELD signs shall not be mounted on the same post.**

SECTION E – SPEED LIMIT GUIDANCE

USLIMITS2 Speed Zoning Report

Project Overview

Project Name: Fisher Street, Dover, NH

Analyst: Stephen G Pernaw

Date: 2024-01-10

Basic Project Information
Project Number: 2291A
Route Name: PO BOX 1721
State: New Hampshire
County: Strafford County
City: Dover city
Route Type: Road Section in Developed Area
Route Status: Existing

Roadway Information
Section Length: 0.28 mile(s)
Statutory Speed Limit: 30 mph
Existing Speed Limit: mph
Adverse Alignment: No
One-Way Street: No
Divided/Undivided: Undivided
Number of Through Lanes: 2
Area Type: Residential-Collector/Arterial
Number of Driveways: 25
Number of Signals: 0

Crash Data Information
Crash Data Years: 0
Crash AADT: N/A
Total Number of Crashes: N/A
Total Number of Injury Crashes: N/A

Traffic Information
85th Percentile Speed: 33 mph
50th Percentile Speed: 27 mph
AADT: 522 veh/day
On Street Parking and Usage: Not High
Pedestrian / Bicyclist Activity: Not High

Recommended Speed Limit:

Note: Crash data were not entered for this project. A comprehensive crash study is a critical component of any traffic engineering study. We suggest that you repeat this process when crash data become available.

Disclaimer: The U.S. Government assumes no liability for the use of the information contained in this report. This report does not constitute a standard, specification, or regulation.

Stephen G. Pernaw & Company, Inc.

FISHER STREET SPEED SURVEY

Study Name:	Dover, NH 2291A
Start Date:	12/18/2023
Start Time:	12:30 PM
Location:	Fisher Street (West of Elm Street) - Dover, NH
Latitude and Longitude:	43.187165, -70.877865
Group:	All Vehicles

Direction:	Eastbound		Westbound	
12/22/2023 7:58	24.12 mph	24.12	24.12	
12/22/2023 8:02	22.25 mph	22.25	22.25	
12/22/2023 8:03	29.49 mph	29.49	29.49	
12/22/2023 8:06	24.77 mph	24.77	24.77	
12/22/2023 8:06	23.71 mph	23.71	23.71	
12/22/2023 8:08	37.72 mph	37.72	37.72	
12/22/2023 8:10	29.92 mph	29.92	29.92	
12/22/2023 8:10	28.95 mph	28.95	28.95	
12/22/2023 8:11	24.21 mph	24.21	24.21	
12/22/2023 8:15	30.36 mph	30.36	30.36	
12/22/2023 8:16	24.48 mph	24.48	24.48	
12/22/2023 8:17	39.78 mph	39.78	39.78	
12/22/2023 8:21	42.48 mph	42.48	42.48	
12/22/2023 8:23	20.31 mph	20.31	20.31	
12/22/2023 8:28	24.95 mph	24.95	24.95	
12/22/2023 8:29	23.51 mph	23.51	23.51	

EASTBOUND	
Min Speed =	7.41 mph
Max Speed =	46.30 mph
Avg Speed =	27.04 mph
85th Percentile Speed =	**33.18 mph**

WESTBOUND	
Min Speed =	4.87 mph
Max Speed =	55.62 mph
Avg Speed =	25.14 mph
85th Percentile Speed =	**30.47 mph**

Use 30 mph

SECTION F – TRIP GENERATION CALCULATIONS

ITETripGen Web-based App

Help Stephen Pernaw

Graph Look Up

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
220

LAND USE GROUP:
(200-299) Residential

LAND USE :
220 - Multifamily Housing (Low-Rise)

LAND USE SUBCATEGORY:
Not Close to Rail Transit

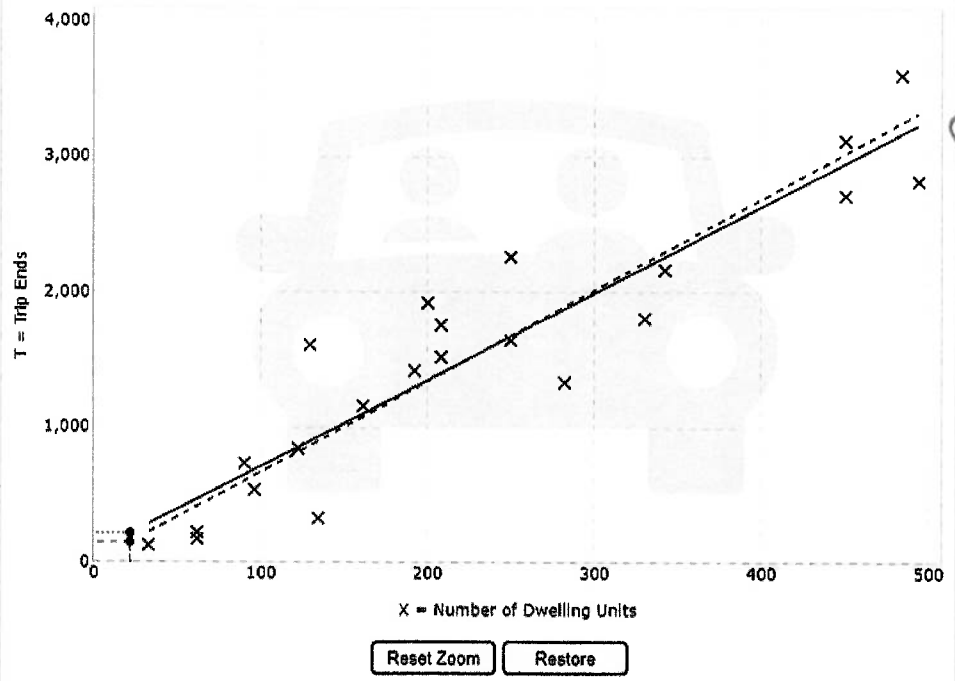
SETTING/LOCATION:
General Urban/Suburban

INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
22 Calculate



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Land Use:
Multifamily Housing (Low-Rise) - Not Close to Rail Transit (220) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
22

Avg. Num. of Dwelling Units:
229

Average Rate:
6.74

Range of Rates:
2.46 - 12.50

Standard Deviation:
1.79

Fitted Curve Equation:
T = 6.41(X) + 75.31

R^2:
0.86

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 148 (Total), 74 (Entry), 74 (Exit)
Fitted Curve: 216 (Total), 108 (Entry), 108 (Exit)

Graph Look Up

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
220

LAND USE GROUP:
(200-299) Residential

LAND USE :
220 - Multifamily Housing (Low-Rise)

LAND USE SUBCATEGORY:
Not Close to Rail Transit

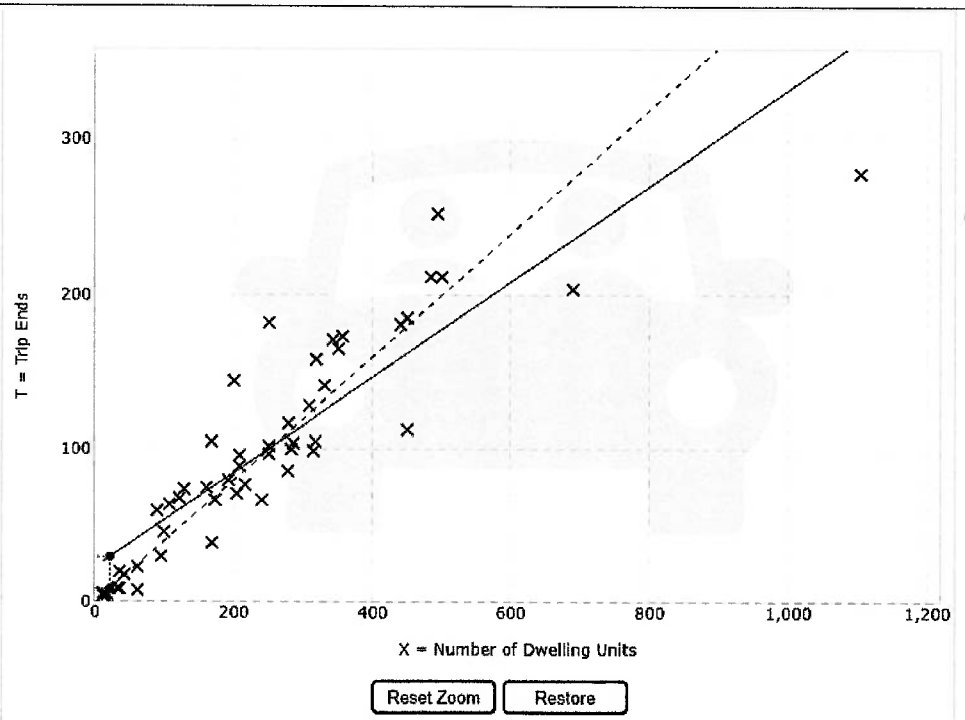
SETTING/LOCATION:
General Urban/Suburban

INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE
22
Calculate



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Land Use:
Multifamily Housing (Low-Rise) - Not Close to Rail Transit (220) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
49

Avg. Num. of Dwelling Units:
249

Average Rate:
0.40

Range of Rates:
0.13 - 0.73

Standard Deviation:
0.12

Fitted Curve Equation:
T = 0.31(X) + 22.85

R^2:
0.79

Directional Distribution:
24% entering, 76% exiting

Calculated Trip Ends:
Average Rate: 9 (Total), 2 (Entry), 7 (Exit)
Fitted Curve: 30 (Total), 7 (Entry), 23 (Exit)

Graph Look Up

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
220

LAND USE GROUP:
(200-299) Residential

LAND USE :
220 - Multifamily Housing (Low-Rise)

LAND USE SUBCATEGORY:
Not Close to Rail Transit

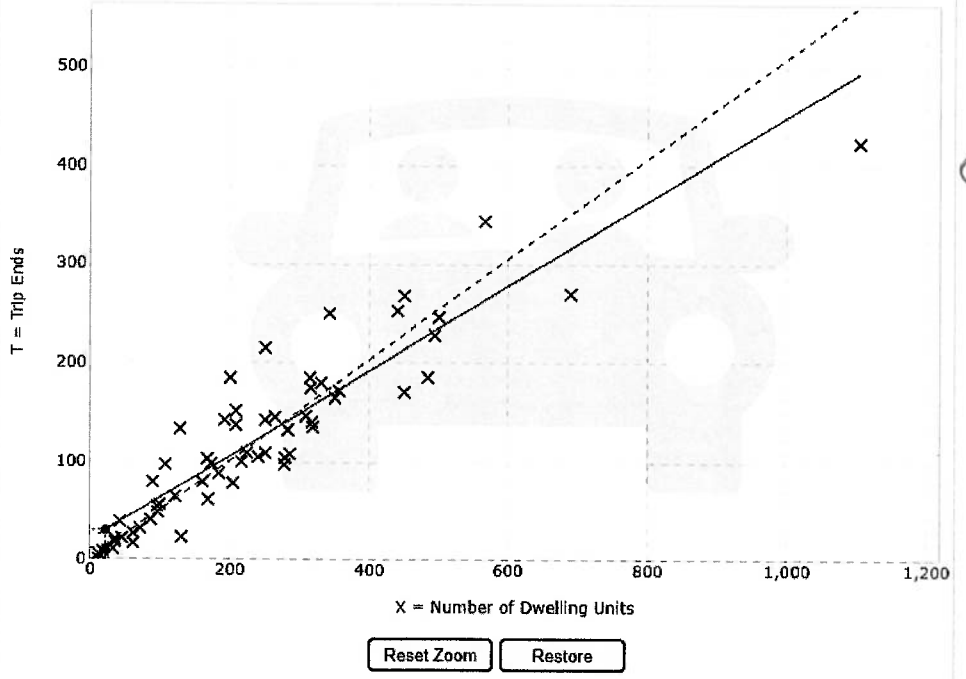
SETTING/LOCATION:
General Urban/Suburban

INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
22 Calculate



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Land Use:
Multifamily Housing (Low-Rise) - Not Close to Rail Transit (220) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
59

Avg. Num. of Dwelling Units:
241

Average Rate:
0.51

Range of Rates:
0.08 - 1.04

Standard Deviation:
0.15

Fitted Curve Equation:
T = 0.43(X) + 20.55

R^2:
0.84

Directional Distribution:
63% entering, 37% exiting

Calculated Trip Ends:
Average Rate: 11 (Total), 7 (Entry), 4 (Exit)
Fitted Curve: 30 (Total), 19 (Entry), 11 (Exit)

ITETripGen Web-based App

Help Stephen Pernaw

Graph Look Up

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
220

LAND USE GROUP:
(200-299) Residential

LAND USE :
220 - Multifamily Housing (Low-Rise)

LAND USE SUBCATEGORY:
Not Close to Rail Transit

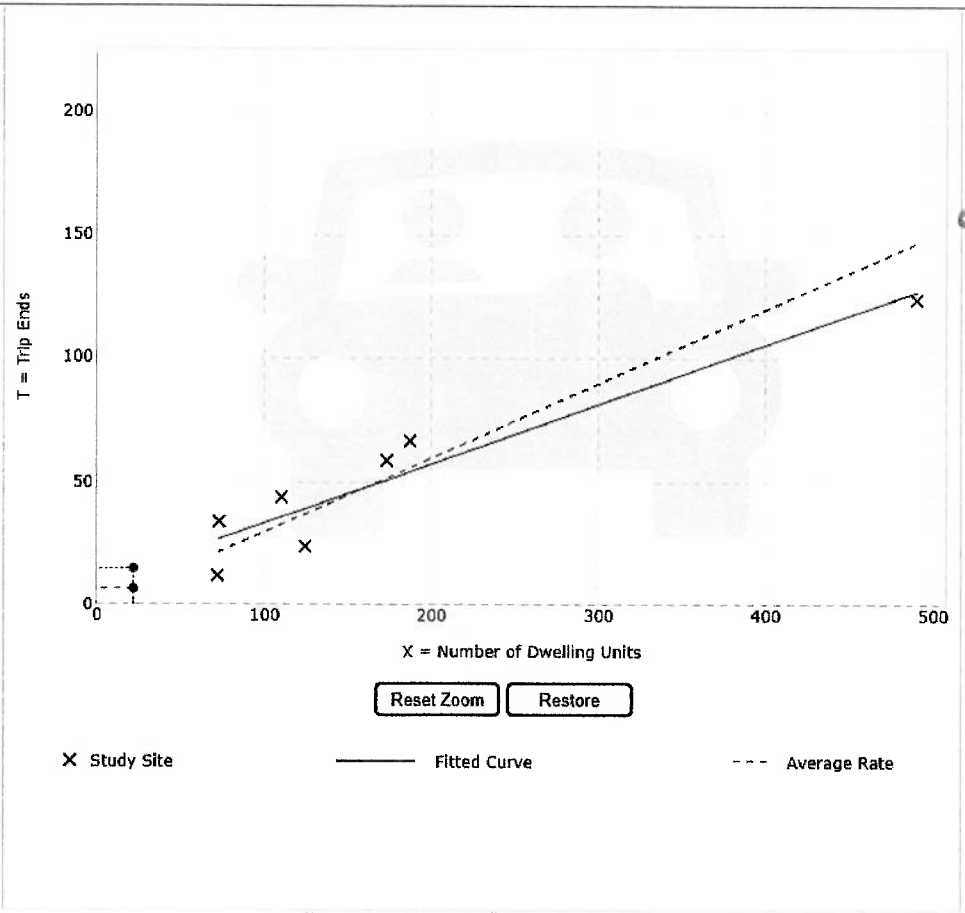
SETTING/LOCATION:
Dense Multi-Use Urban

INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
22 Calculate



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Land Use:
Multifamily Housing (Low-Rise) - Not Close to Rail Transit (220) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
Dense Multi-Use Urban

Trip Type:
Vehicle

Number of Studies:
7

Avg. Num. of Dwelling Units:
176

Average Rate:
0.30

Range of Rates:
0.17 - 0.47

Standard Deviation:
0.09

Fitted Curve Equation:
T = 0.24(X) + 9.56

R^2:
0.90

Directional Distribution:
10% entering, 90% exiting

Calculated Trip Ends:
Average Rate: 7 (Total), 1 (Entry), 6 (Exit)
Fitted Curve: 15 (Total), 1 (Entry), 14 (Exit)

Graph Look Up

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
220

LAND USE GROUP:
(200-299) Residential

LAND USE :
220 - Multifamily Housing (Low-Rise)

LAND USE SUBCATEGORY:
Not Close to Rail Transit

SETTING/LOCATION:
Dense Multi-Use Urban

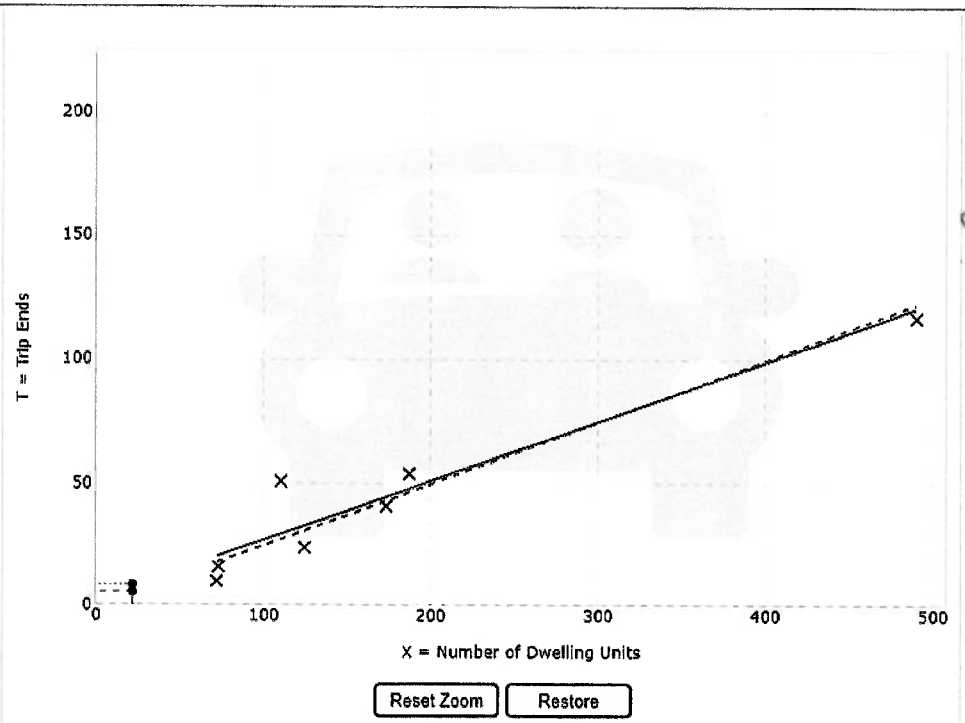
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
22 Calculate



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Land Use:
Multifamily Housing (Low-Rise) - Not Close to Rail Transit (220) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
~~Peak Hour of Adjacent Street Traffic~~
One Hour Between 4 and 6 p.m.

Setting/Location:
Dense Multi-Use Urban

Trip Type:
Vehicle

Number of Studies:
7

Avg. Num. of Dwelling Units:
176

Average Rate:
0.25

Range of Rates:
0.14 - 0.46

Standard Deviation:
0.08

Fitted Curve Equation:
T = 0.24(X) + 3.25

R^2:
0.91

Directional Distribution:
90% entering, 10% exiting

~~Calculated Trip Ends:~~
Average Rate: 6 (Total), 5 (Entry), 1 (Exit)
Fitted Curve: **9 (Total), 8 (Entry)**, 1 (Exit)

SECTION G – INTERSECTION CAPACITY & LEVEL OF SERVICE ANALYSES

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	36	1	1	26	1	3	1	3	3	0	2
Future Vol, veh/h	2	36	1	1	26	1	3	1	3	3	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	40	1	1	29	1	3	1	3	3	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	30	0	0	41	0	0	78	77	41	79	77	30
Stage 1	-	-	-	-	-	-	45	45	-	32	32	-
Stage 2	-	-	-	-	-	-	33	32	-	47	45	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1583	-	-	1568	-	-	911	813	1030	910	813	1044
Stage 1	-	-	-	-	-	-	969	857	-	984	868	-
Stage 2	-	-	-	-	-	-	983	868	-	967	857	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1583	-	-	1568	-	-	907	811	1030	905	811	1044
Mov Cap-2 Maneuver	-	-	-	-	-	-	907	811	-	905	811	-
Stage 1	-	-	-	-	-	-	968	856	-	983	867	-
Stage 2	-	-	-	-	-	-	980	867	-	962	856	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	8.9	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	939	1583	-	-	1568	-	-	956
HCM Lane V/C Ratio	0.008	0.001	-	-	0.001	-	-	0.006
HCM Control Delay (s)	8.9	7.3	0	-	7.3	0	-	8.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	32	3	3	25	3	2	1	1	2	1	2
Future Vol, veh/h	4	32	3	3	25	3	2	1	1	2	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	36	3	3	28	3	2	1	1	2	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	31	0	0	39	0	0	83	83	38	83	83	30
Stage 1	-	-	-	-	-	-	46	46	-	36	36	-
Stage 2	-	-	-	-	-	-	37	37	-	47	47	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1582	-	-	1571	-	-	904	807	1034	904	807	1044
Stage 1	-	-	-	-	-	-	968	857	-	980	865	-
Stage 2	-	-	-	-	-	-	978	864	-	967	856	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1582	-	-	1571	-	-	898	803	1034	899	803	1044
Mov Cap-2 Maneuver	-	-	-	-	-	-	898	803	-	899	803	-
Stage 1	-	-	-	-	-	-	965	854	-	977	863	-
Stage 2	-	-	-	-	-	-	973	862	-	962	853	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.7	9	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	901	1582	-	-	1571	-	-	928
HCM Lane V/C Ratio	0.005	0.003	-	-	0.002	-	-	0.006
HCM Control Delay (s)	9	7.3	0	-	7.3	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Address	Lot Size (sf)	Height	Units	Density (sf/ unit)
Site (Map 15 Lot 40A-1)	**170,468**	**3**	**22**	**7749**
6-8 Fisher Street	11,238	3	2	5619
16 Fisher Street	12,545	1	1	12545
18-20 Fisher Street	11,456	3	2	5728
26 Fisher Street	15,943	3	2	7972
30 Fisher Street	11,500	3	3	3833
34 Fisher Street	9,932	2	1	9932
36 Fisher Street	10,803	2	1	10803
36A Fisher Street (Casey)	30,323	2	1	30323
38 Fisher Street	10,150	2	1	10150
7 Fisher Street	8,625	2	2	4313
13 Fisher Street	7,057	3	1	7057
44 Elm Street	10,498	2	2	5249
45 Elm Street	11,021	3	1	11021
25-31 Fisher Street	13,504	3	4	3376
33 Fisher Street	12,807	3	1	12807
37 Fisher Street	19,341	3	1	19341

Allowable Density in Gateway (sf/ unit): 4,000

Allowable Units on Site: **43**

DRAINAGE ANALYSIS

FISHER STREET
TAX MAP 15, LOT 40-A-1

Uptown Crossing
Dover, New Hampshire
Strafford County

October 2023
Rev: February 2024
Rev: May 2024

Prepared For:

H. J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

Prepared By:

Civilworks NE
PO Box 1166
181 Watson Road
Dover, NH 03820

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1.0 INTRODUCTION

This is a hydrologic analysis of the subject parcel located on Fisher Street in Dover, NH. The 3.54± acre lot is identified as Tax Map 15, Lot 40-A-1. This site was a former laydown yard for the City of Dover, a 45,000± sf compacted gravel area was created. The site is partially compacted gravel, and the groundcover primarily consists of wooded vegetation with grassed areas along the edge of an unnamed drainageway. The parcel is bifurcated by the drainageway that runs east to west. It is bounded to the north by Fisher Street, to the west by the rail trail, to the east by residential development and to the south by undeveloped land. All drainage from the site discharges to a large stone railroad culvert beneath the rail trail, which is located on the south side of the site.

The project proposes 70,265± sf of disturbance including the construction of (4) multifamily residential townhomes and corresponding site improvements including site grading, paved parking, as well as stormwater quality and detention drainage improvements.

An 8.5± acre watershed was used to effectively analyze the pre-development conditions, that incorporates offsite areas that drain directly onsite and that will be incorporated into the proposed onsite drainage improvements. This watershed is identified as Watershed A.

The post development analysis has been divided into eleven (11) sub-catchments that discharge to the same point of analysis developed for the pre-development model. Sub-catchments model the areas of the site that are directed through proposed drainage structures, conveyances, water quality practices, and Ferguson Waterworks Rain Guardians. Stormwater conveyance consists of overland flow, a swale, pipes, and a closed drainage system. The project proposes bioretention ponds, drip edges, and porous pavement to meet water quality criteria and stone outlet aprons for energy dissipation. The analysis shows that with the mitigation measures proposed the project will have negligible impact on the watershed.

2.0 DRAINAGE ANALYSIS

A comprehensive hydrologic study of this site has been performed utilizing nationally recognized runoff estimating techniques developed by the USDA, Soil Conservation Services (SCS). The technique and runoff models are described in various SCS publications and references as follows:

- “Stormwater Management and Erosion Sediment Control Handbook for Urban and Developing Areas in New Hampshire”
- “New Hampshire Stormwater Manual Volume 2 - Post-Construction Best Management Practices Selection & Design”
- “Civil Engineering Reference Manual, Fifth Edition”
- “Open-Channel Hydraulics” Chow.
- “Stormwater Modeling System” HydroCAD Ver. 10.10

2.1 DRAINAGE DESIGN PARAMETERS

A brief review of the procedures and parameters used in the drainage study follows:

2.1.1 Watersheds

The watersheds and sub-catchment areas were delineated using wetland data provided by BAG Land Consultants, Bruce A. Gilday CWS #88 in April 2024, and field located by McEneaney Survey Associates of New England.

2.1.2 Soils

Soil types were determined utilizing the NRCS Web Soil Survey (WSS) mapping tool at http://websoilsurvey.nrcs.usda.gov which references the Strafford County, New Hampshire Soil Survey Area.

Hydrologic Drainage Class C:

HISS	Slopes	Map Name
SfC	8 to 15%	Suffield Silt Loam

2.1.3 Rainfall Data

Extreme precipitation estimate values from the Northeast Regional Climate Center were utilized in this analysis. The analysis has been performed for the 2-year, 10-year, 25-year, and 50-year storm events with 3.15”, 4.75”, 6.01”, and 7.18” rainfall depths respectively.

2.1.4 Runoff Curve Numbers

The SCS runoff curve numbers were used and are summarized within each sub-catchment drainage summary in Appendix A.

2.2 EXISTING CONDTIONS

For purposes of this analysis the subject parcel was analyzed with one point of discharge.

2.2.1 Table A – Existing Conditions (2, 10, 25, and 50-year storm events)

Watershed	**Pre-Development Volume (af)**	**Pre Development Peak Flows (cfs)**			
Point of Analysis	**2-yr**	**2-yr**	**10-yr**	**25-yr**	**50-yr**
A	0.83	6.2	11.9	16.2	20.4

2.3 DEVELOPED CONDITIONS

The post development watershed was analyzed utilizing the same summing point as the pre development analysis.

2.3.1 Table B – Developed Conditions (2, 10, 25, and 50-year storm events)

Watershed	**Post-Development Volume (af)**	**Post Development Peak Flows (cfs)**			
Point of Analysis	**2-yr**	**2-yr**	**10-yr**	**25-yr**	**50-yr**
A	0.84	4.9	10.5	14.5	18.3

2.4 HYDROLOGIC COMPARISON

The analysis indicates that the proposed project will have negligible impact on the watershed.

2.4.1 Table C – Pre/Post Development Comparison (2, 10, 25, and 50-year storm events)

Watershed	Pre/**Post-Development Volume (af)**	Pre/**Post Development Peak Flows (cfs)**			
Point of Analysis	**2-yr**	**2-yr**	**10-yr**	**25-yr**	**50-yr**
A	0.83/**0.84**	6.2/**4.9**	11.9/**10.5**	16.2/**14.5**	20.4/**18.3**

2.5 STORMWATER DESIGN

The project incorporates best management practices to treat stormwater and mitigate runoff.

2.5.1 Stormwater Best Management Practices

The project incorporates two bioretention systems, drip edges, and porous pavement to mitigate flow and water quality from the proposed development. Pre-treatment for the bioretention systems includes deep sump catch basins and/or Ferguson Waterworks Rain Guardian Fortress, this is an accepted proprietary pre-treatment water quality inlet by NHDES.

2.5.2 Groundwater Recharge

This lot was formerly owned by the City of Dover, they used this lot as a lay down yard. During this time, they compacted 45,259 sf of gravel. Much of this lot is udorthents and currently does not infiltrate water. Impervious area decreases by 1,695 sf. The Suffield Silt Loam soils identified by the NRCS Web Soil Survey have a minimum Ksat value of 0.0 in/hr. The site is not conducive to groundwater recharge.

2.5.3 Pollutant Removal

The site stormwater design captures 100% of the proposed onsite impervious area 60,230± sf and directs it to best management practices that provide pollutant removal. The project incorporates the following practices and associated pollutant removal efficacies as identified in the New Hampshire Stormwater Management Manual Volume 1, Appendix E:

	TSS	TN	TP
Bioretention System:	90%	65%	65%
Permeable Pavement with underdrain:	90%	10%	45%
Drip Edges:	90%	55%	60%

The pollutant removal meets or exceeds The City of Dover's, Site Review Regulations.

2.5.4 Outlet Protection

BMP's, conveyance structures, and outlet protection have been sized to convey the 50-year, 24 hour storm event. All proposed rip-rap applications shall consist of min. d50 = 6" stone with a stone layer thickness of 12" (min) on a filter fabric layer over a 6" thick (min) gravel base. See the plan set for rip-rap locations and the drainage details for additional information.

APPENDIX A

HYDROLOGIC CALCULATIONS

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point	
Smoothing	Yes
State	
Location	
Latitude	43.187 degrees North
Longitude	70.878 degrees West
Elevation	20 feet
Date/Time	Wed Aug 30 2023 09:34:43 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.03	1yr	0.70	0.98	1.20	1.54	2.00	2.60	2.87	1yr	2.31	2.76	3.15	3.88	4.45	1yr
2yr	0.32	0.49	0.61	0.81	1.01	1.29	2yr	0.88	1.17	1.50	1.91	2.45	3.15	3.50	2yr	2.79	3.37	3.86	4.60	5.23	2yr
5yr	0.37	0.57	0.72	0.96	1.23	1.58	5yr	1.06	1.44	1.85	2.39	3.08	3.98	4.49	5yr	3.52	4.32	4.94	5.81	6.57	5yr
10yr	0.40	0.63	0.80	1.09	1.42	1.85	10yr	1.22	1.69	2.18	2.83	3.66	4.75	5.42	10yr	4.20	5.21	5.95	6.93	7.80	10yr
25yr	0.46	0.74	0.94	1.30	1.72	2.27	25yr	1.49	2.09	2.70	3.53	4.61	6.01	6.95	25yr	5.32	6.68	7.61	8.77	9.80	25yr
50yr	0.52	0.83	1.06	1.48	2.00	2.67	50yr	1.73	2.46	3.18	4.19	5.49	7.18	8.39	50yr	6.35	8.07	9.17	10.48	11.65	50yr
100yr	0.58	0.94	1.21	1.71	2.32	3.12	100yr	2.00	2.89	3.75	4.96	6.53	8.58	10.14	100yr	7.60	9.75	11.06	12.53	13.86	100yr
200yr	0.64	1.05	1.36	1.95	2.70	3.67	200yr	2.33	3.40	4.43	5.89	7.79	10.26	12.26	200yr	9.08	11.79	13.34	14.98	16.49	200yr
500yr	0.76	1.24	1.62	2.36	3.30	4.54	500yr	2.85	4.22	5.50	7.37	9.82	13.01	15.75	500yr	11.51	15.15	17.10	18.99	20.77	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.60	0.74	0.90	1yr	0.64	0.88	0.92	1.26	1.57	2.12	2.46	1yr	1.88	2.36	2.88	3.35	4.03	1yr
2yr	0.31	0.49	0.60	0.81	1.00	1.18	2yr	0.86	1.16	1.36	1.83	2.36	3.04	3.40	2yr	2.69	3.27	3.75	4.47	5.05	2yr
5yr	0.35	0.54	0.67	0.91	1.16	1.40	5yr	1.00	1.37	1.61	2.15	2.78	3.71	4.12	5yr	3.28	3.97	4.61	5.41	6.11	5yr
10yr	0.38	0.59	0.73	1.02	1.31	1.60	10yr	1.13	1.56	1.81	2.44	3.13	4.27	4.78	10yr	3.78	4.60	5.32	6.24	7.01	10yr
25yr	0.44	0.66	0.82	1.18	1.55	1.91	25yr	1.34	1.87	2.11	2.84	3.65	4.94	5.79	25yr	4.37	5.57	6.48	7.55	8.42	25yr
50yr	0.48	0.73	0.91	1.31	1.76	2.19	50yr	1.52	2.14	2.35	3.19	4.09	5.64	6.68	50yr	4.99	6.42	7.53	8.71	9.66	50yr
100yr	0.54	0.81	1.01	1.46	2.01	2.51	100yr	1.73	2.45	2.63	3.57	4.57	6.42	7.69	100yr	5.68	7.40	8.74	10.06	11.07	100yr
200yr	0.59	0.89	1.13	1.64	2.29	2.87	200yr	1.97	2.80	2.93	4.00	5.10	7.31	8.87	200yr	6.47	8.53	10.14	11.61	12.70	200yr
500yr	0.69	1.03	1.33	1.93	2.74	3.45	500yr	2.36	3.37	3.40	4.63	5.92	8.64	10.68	500yr	7.65	10.27	12.33	14.06	15.18	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.53	0.71	0.87	1.08	1yr	0.75	1.05	1.23	1.74	2.21	2.87	3.08	1yr	2.54	2.97	3.43	4.22	4.81	1yr
2yr	0.33	0.51	0.62	0.85	1.04	1.25	2yr	0.90	1.22	1.48	1.95	2.51	3.29	3.62	2yr	2.91	3.49	4.00	4.75	5.45	2yr
5yr	0.39	0.61	0.75	1.03	1.31	1.58	5yr	1.13	1.55	1.86	2.50	3.20	4.24	4.85	5yr	3.75	4.67	5.28	6.23	7.00	5yr
10yr	0.46	0.70	0.87	1.22	1.57	1.92	10yr	1.36	1.88	2.23	3.05	3.86	5.21	6.06	10yr	4.62	5.83	6.65	7.65	8.53	10yr
25yr	0.56	0.84	1.05	1.50	1.97	2.48	25yr	1.70	2.42	2.88	3.97	4.96	7.07	8.14	25yr	6.26	7.82	8.90	10.07	11.12	25yr
50yr	0.64	0.98	1.22	1.75	2.35	2.99	50yr	2.03	2.93	3.49	4.83	6.03	8.74	10.20	50yr	7.74	9.80	11.12	12.38	13.59	50yr
100yr	0.75	1.13	1.42	2.04	2.80	3.62	100yr	2.42	3.54	4.24	5.92	7.33	10.81	12.78	100yr	9.56	12.28	13.88	15.25	16.63	100yr
200yr	0.87	1.30	1.65	2.39	3.34	4.39	200yr	2.88	4.29	5.16	7.24	8.90	13.39	16.03	200yr	11.85	15.41	17.35	18.78	20.38	200yr
500yr	1.06	1.58	2.03	2.95	4.19	5.64	500yr	3.62	5.51	6.66	9.47	11.54	17.81	21.63	500yr	15.76	20.80	23.31	24.76	26.67	500yr

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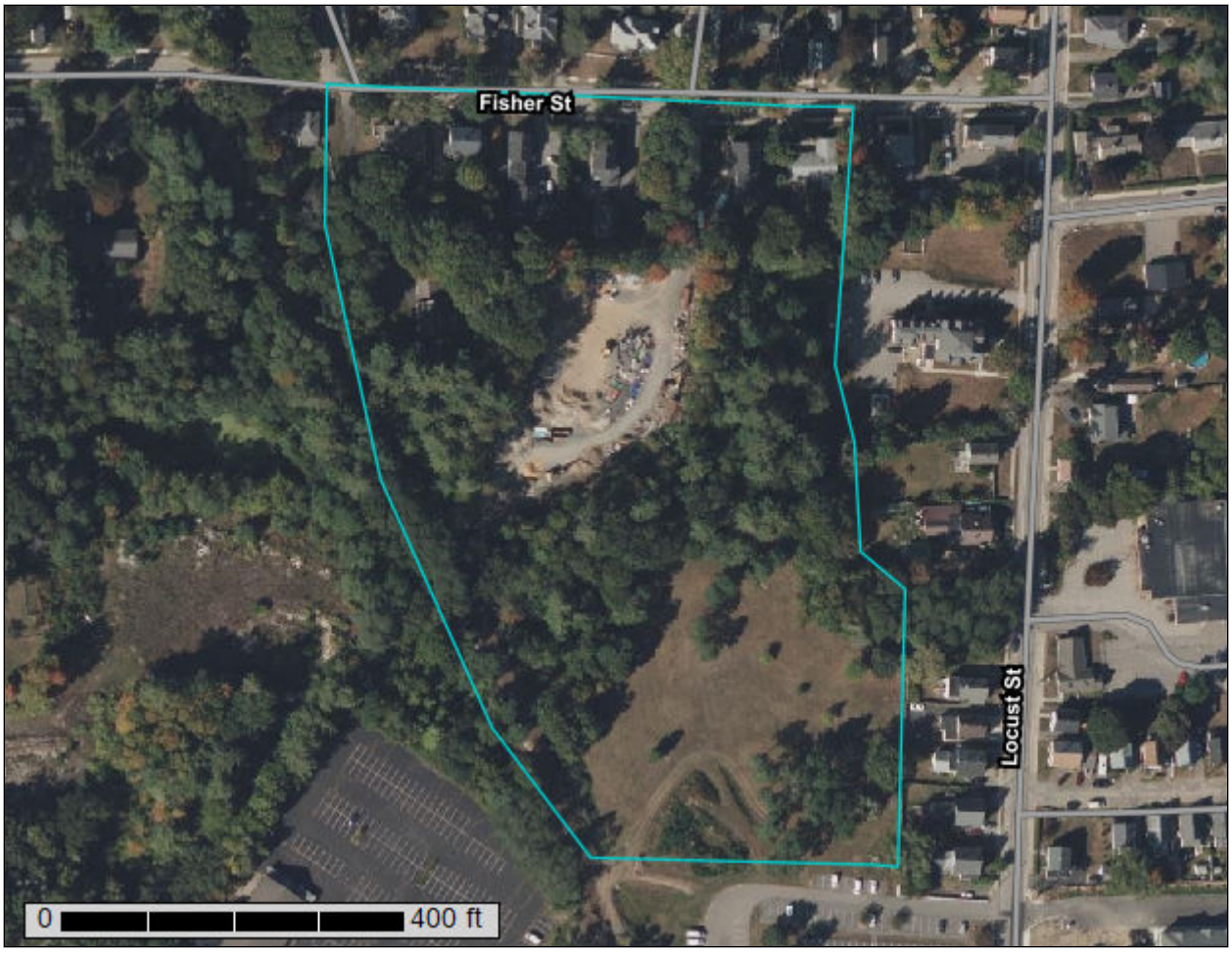
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Strafford County, New Hampshire



July 6, 2023

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Custom Soil Resource Report
Soil Map

Map Scale: 1:1,620 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Strafford County, New Hampshire
Survey Area Data: Version 23, Sep 9, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SfC	Suffield silt loam, 8 to 15 percent slopes	9.5	86.2%
WfB	Windsor loamy fine sand, clay subsoil variant, 0 to 8 percent slopes	1.5	13.8%
Totals for Area of Interest		**11.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the

development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Strafford County, New Hampshire

SfC—Suffield silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9d8v
Elevation: 0 to 250 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Suffield and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Suffield

Typical profile

H1 - 0 to 19 inches: silt loam
H2 - 19 to 28 inches: silt loam
H3 - 28 to 41 inches: silty clay

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F144AY017NH - Well Drained Lake Plain
Hydric soil rating: No

Minor Components

Not named

Percent of map unit: 9 percent
Hydric soil rating: No

Buxton

Percent of map unit: 5 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent
Hydric soil rating: No

WfB—Windsor loamy fine sand, clay subsoil variant, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9d9b
Elevation: 0 to 280 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Windsor variant and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Windsor Variant

Typical profile

H1 - 0 to 26 inches: loamy fine sand
H2 - 26 to 30 inches: loamy sand
H3 - 30 to 42 inches: silt loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 24 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Not named

Percent of map unit: 15 percent
Hydric soil rating: No

A-1

EXISTING WATERSHEDS

WS-A

Subcat Reach Pond Link

Routing Diagram for 22017 -PRE
Prepared by Civilworks New England, Printed 10/25/2023
HydroCAD® 10.10-5a s/n 03240 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
191,289	74	>75% Grass cover, Good, HSG C (WSA)
45,259	96	Gravel surface, HSG C (WSA)
16,853	98	Paved parking, HSG C (WSA)
1,765	98	Roofs, HSG C (WSA)
113,826	70	Woods, Good, HSG C (WSA)
368,992	**77**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
368,992	HSG C	WSA
0	HSG D	
0	Other	
368,992		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Su Nu
0	0	191,289	0	0	191,289	>75% Grass cover, Good	
0	0	45,259	0	0	45,259	Gravel surface	
0	0	16,853	0	0	16,853	Paved parking	
0	0	1,765	0	0	1,765	Roofs	
0	0	113,826	0	0	113,826	Woods, Good	
0	**0**	**368,992**	**0**	**0**	**368,992**	**TOTAL AREA**	

A – 1

NODE LISTING – 2-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WSA: WS-A Runoff Area=368,992 sf 5.05% Impervious Runoff Depth=1.18"
Flow Length=769' Tc=21.4 min CN=77 Runoff=6.2 cfs 36,168 cf

Total Runoff Area = 368,992 sf Runoff Volume = 36,168 cf Average Runoff Depth = 1.18"
94.95% Pervious = 350,374 sf 5.05% Impervious = 18,618 sf

A – 1

NODE LISTING – 10-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WSA: WS-A Runoff Area=368,992 sf 5.05% Impervious Runoff Depth=2.42"
Flow Length=769' Tc=21.4 min CN=77 Runoff=11.9 cfs 74,268 cf

Total Runoff Area = 368,992 sf Runoff Volume = 74,268 cf Average Runoff Depth = 2.42"
94.95% Pervious = 350,374 sf 5.05% Impervious = 18,618 sf

A – 1

10-YR STORM SUMMARY

Summary for Subcatchment WSA: WS-A

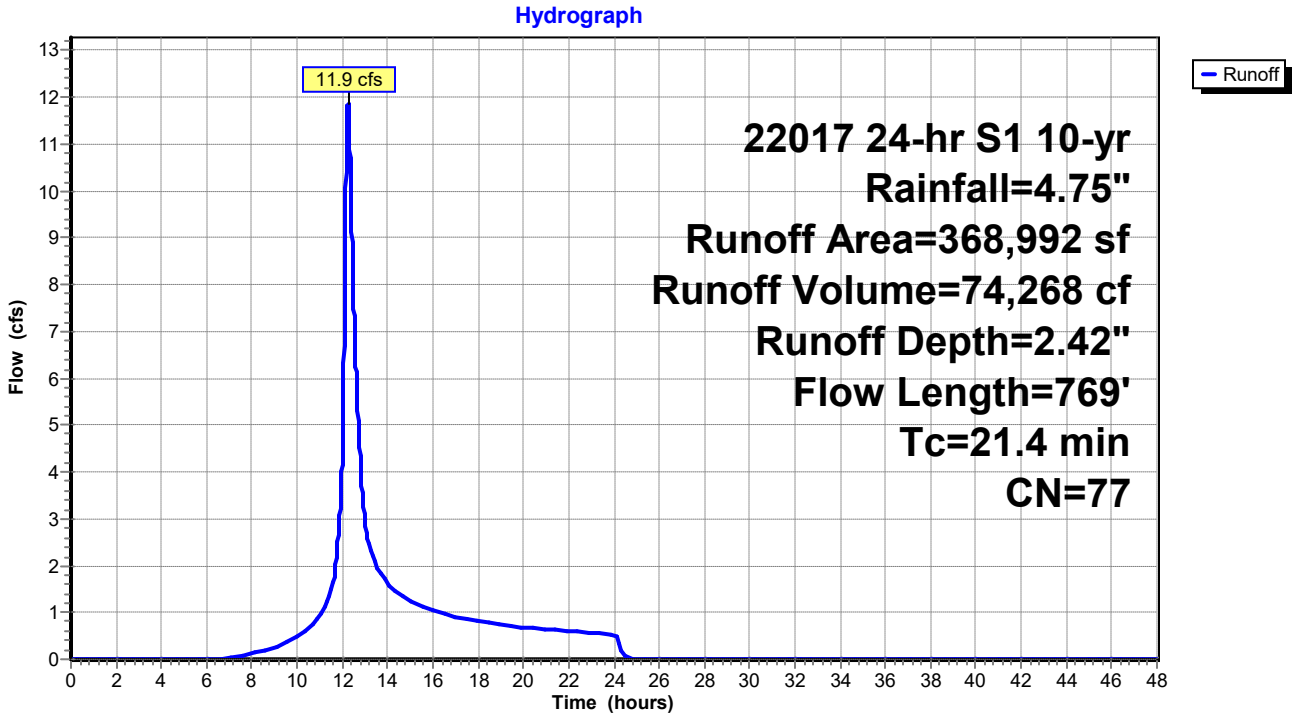
Runoff = 11.9 cfs @ 12.25 hrs, Volume= 74,268 cf, Depth= 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22017 24-hr S1 10-yr Rainfall=4.75"

Area (sf)	CN	Description
113,826	70	Woods, Good, HSG C
191,289	74	>75% Grass cover, Good, HSG C
1,765	98	Roofs, HSG C
45,259	96	Gravel surface, HSG C
16,853	98	Paved parking, HSG C
368,992	77	Weighted Average
350,374		94.95% Pervious Area
18,618		5.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.3	94	0.0213	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.15"
5.2	471	0.0467	1.51		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
2.9	204	0.0539	1.16		**Shallow Concentrated Flow, 3** Woodland Kv= 5.0 fps
21.4	769	Total			

Subcatchment WSA: WS-A



A – 1

NODE LISTING – 25-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WSA: WS-A Runoff Area=368,992 sf 5.05% Impervious Runoff Depth=3.49"
Flow Length=769' Tc=21.4 min CN=77 Runoff=16.2 cfs 107,248 cf

Total Runoff Area = 368,992 sf Runoff Volume = 107,248 cf Average Runoff Depth = 3.49"
94.95% Pervious = 350,374 sf 5.05% Impervious = 18,618 sf

A – 1

NODE LISTING – 50-YR

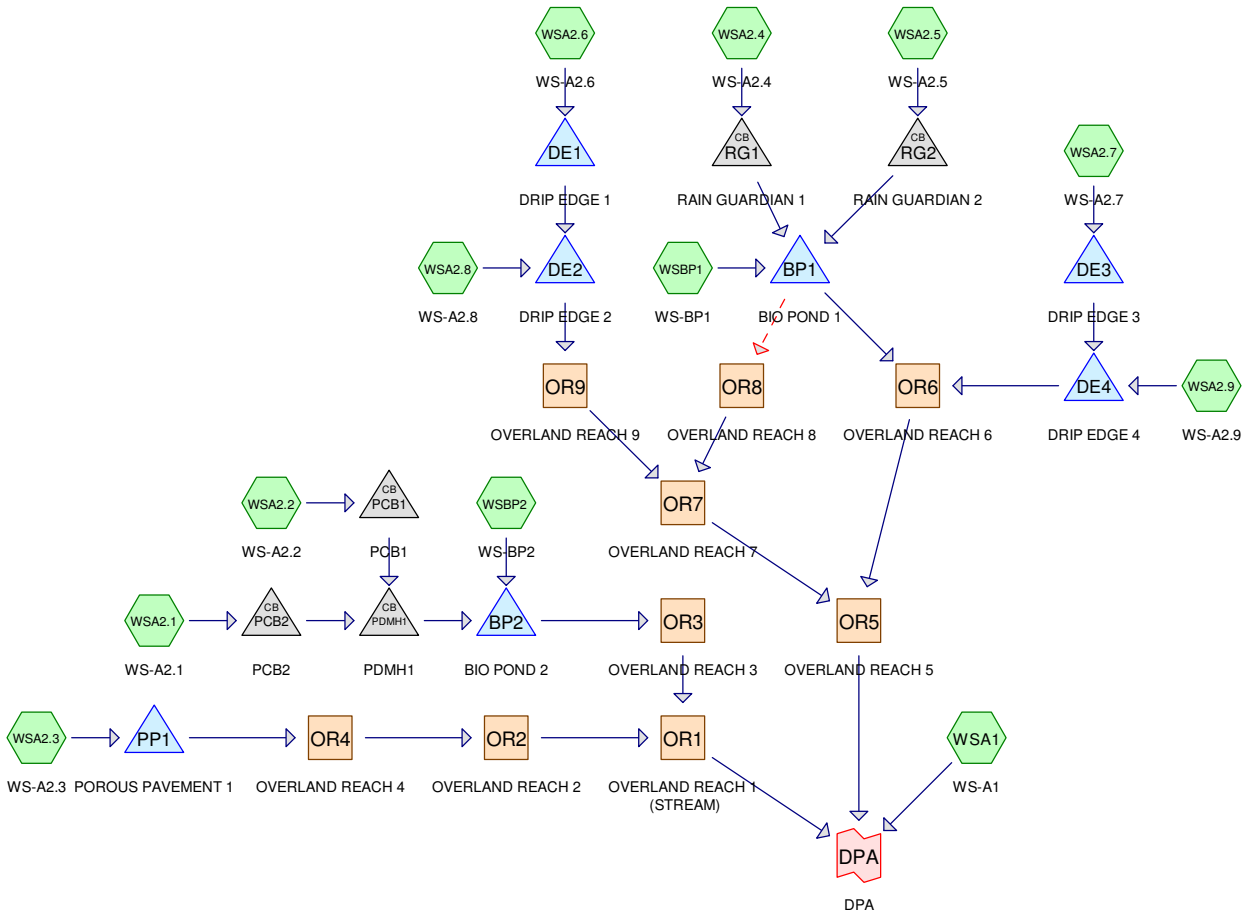
Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WSA: WS-A Runoff Area=368,992 sf 5.05% Impervious Runoff Depth=4.53"
Flow Length=769' Tc=21.4 min CN=77 Runoff=20.4 cfs 139,231 cf

Total Runoff Area = 368,992 sf Runoff Volume = 139,231 cf Average Runoff Depth = 4.53"
94.95% Pervious = 350,374 sf 5.05% Impervious = 18,618 sf

A-2

DEVELOPED WATERSHEDS



Subcat Reach Pond Link

Routing Diagram for 22017 -POST
Prepared by Civilworks NE
HydroCAD® 10.10-5a s/n 03240 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
212,402	74	>75% Grass cover, Good, HSG C (WSA1, WSA2.1, WSA2.2, WSA2.3, WSA2.4, WSA2.5, WSA2.6, WSA2.8, WSBP1, WSBP2)
1,422	96	Gravel surface, HSG C (WSA1)
42,403	98	Paved parking, HSG C (WSA1, WSA2.1, WSA2.2, WSA2.3, WSA2.4, WSA2.5, WSBP2)
1,680	68	RIP RAP Drip Edge (WSA2.6, WSA2.7, WSA2.8, WSA2.9)
17,825	98	Roofs, HSG C (WSA1, WSA2.4, WSA2.5, WSA2.6, WSA2.7, WSA2.8, WSA2.9)
532	98	Unconnected pavement, HSG C (WSA1, WSA2.4, WSBP2)
92,728	70	Woods, Good, HSG C (WSA1, WSA2.2)
368,992	**77**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
367,312	HSG C	WSA1, WSA2.1, WSA2.2, WSA2.3, WSA2.4, WSA2.5, WSA2.6, WSA2.7, WSA2.8, WSA2.9, WSBP1, WSBP2
0	HSG D	
1,680	Other	WSA2.6, WSA2.7, WSA2.8, WSA2.9
368,992		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatch Numbers
0	0	212,402	0	0	212,402	>75% Grass cover, Good	
0	0	1,422	0	0	1,422	Gravel surface	
0	0	42,403	0	0	42,403	Paved parking	
0	0	0	0	1,680	1,680	RIP RAP Drip Edge	
0	0	17,825	0	0	17,825	Roofs	
0	0	532	0	0	532	Unconnected pavement	
0	0	92,728	0	0	92,728	Woods, Good	
0	**0**	**367,312**	**0**	**1,680**	**368,992**	**TOTAL AREA**	

A – 2

NODE LISTING – 2-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WSA1: WS-A1 Runoff Area=307,079 sf 5.88% Impervious Runoff Depth=1.00"
Flow Length=769' Tc=21.4 min CN=74 Runoff=4.3 cfs 25,712 cf

Subcatchment WSA2.1: WS-A2.1 Runoff Area=4,294 sf 77.06% Impervious Runoff Depth=2.30"
Flow Length=316' Tc=7.0 min CN=92 Runoff=0.2 cfs 824 cf

Subcatchment WSA2.2: WS-A2.2 Runoff Area=5,259 sf 77.96% Impervious Runoff Depth=2.30"
Flow Length=241' Slope=0.0400 '/' Tc=6.0 min CN=92 Runoff=0.3 cfs 1,009 cf

Subcatchment WSA2.3: WS-A2.3 Runoff Area=7,096 sf 77.78% Impervious Runoff Depth=2.40"
Flow Length=24' Slope=0.0996 '/' Tc=6.0 min CN=93 Runoff=0.4 cfs 1,418 cf

Subcatchment WSA2.4: WS-A2.4 Runoff Area=15,364 sf 68.61% Impervious Runoff Depth=2.12"
Flow Length=310' Tc=7.3 min CN=90 Runoff=0.8 cfs 2,717 cf

Subcatchment WSA2.5: WS-A2.5 Runoff Area=13,781 sf 80.55% Impervious Runoff Depth=2.40"
Flow Length=254' Tc=6.0 min CN=93 Runoff=0.8 cfs 2,754 cf

Subcatchment WSA2.6: WS-A2.6 Runoff Area=4,911 sf 45.23% Impervious Runoff Depth=1.64"
Flow Length=32' Slope=0.0534 '/' Tc=6.0 min CN=84 Runoff=0.2 cfs 671 cf

Subcatchment WSA2.7: WS-A2.7 Runoff Area=2,717 sf 82.33% Impervious Runoff Depth=2.40"
Flow Length=5' Slope=0.0100 '/' Tc=6.0 min CN=93 Runoff=0.2 cfs 543 cf

Subcatchment WSA2.8: WS-A2.8 Runoff Area=3,025 sf 64.79% Impervious Runoff Depth=2.04"
Flow Length=16' Slope=0.1250 '/' Tc=6.0 min CN=89 Runoff=0.2 cfs 513 cf

Subcatchment WSA2.9: WS-A2.9 Runoff Area=1,893 sf 83.10% Impervious Runoff Depth=2.40"
Flow Length=5' Slope=0.0100 '/' Tc=6.0 min CN=93 Runoff=0.1 cfs 378 cf

Subcatchment WSBP1: WS-BP1 Runoff Area=2,088 sf 0.00% Impervious Runoff Depth=1.00"
Flow Length=25' Slope=0.1250 '/' Tc=6.0 min CN=74 Runoff=0.1 cfs 175 cf

Subcatchment WSBP2: WS-BP2 Runoff Area=1,485 sf 8.69% Impervious Runoff Depth=1.06"
Flow Length=25' Slope=0.0840 '/' Tc=6.0 min UI Adjusted CN=75 Runoff=0.0 cfs 131 cf

Reach OR1: OVERLAND REACH 1 (STREAM) Avg. Flow Depth=0.10' Max Vel=1.03 fps Inflow=0.2 cfs 3,161 cf
n=0.035 L=285.0' S=0.0228 '/' Capacity=32.1 cfs Outflow=0.2 cfs 3,161 cf

Reach OR2: OVERLAND REACH 2 Avg. Flow Depth=0.06' Max Vel=1.00 fps Inflow=0.1 cfs 1,196 cf
n=0.030 L=197.3' S=0.0324 '/' Capacity=44.6 cfs Outflow=0.1 cfs 1,196 cf

Reach OR3: OVERLAND REACH 3 Avg. Flow Depth=0.08' Max Vel=2.08 fps Inflow=0.1 cfs 1,965 cf
n=0.030 L=99.0' S=0.0939 '/' Capacity=28.2 cfs Outflow=0.1 cfs 1,965 cf

Reach OR4: OVERLAND REACH 4 Avg. Flow Depth=0.04' Max Vel=2.24 fps Inflow=0.1 cfs 1,196 cf
n=0.030 L=29.6' S=0.2672 '/' Capacity=101.5 cfs Outflow=0.1 cfs 1,196 cf

Reach OR5: OVERLAND REACH 5 Avg. Flow Depth=0.14' Max Vel=1.49 fps Inflow=0.5 cfs 7,751 cf
n=0.030 L=64.4' S=0.0214 '/' Capacity=36.3 cfs Outflow=0.5 cfs 7,751 cf

Reach OR6: OVERLAND REACH 6 Avg. Flow Depth=0.09' Max Vel=2.78 fps Inflow=0.4 cfs 6,567 cf
n=0.030 L=28.6' S=0.1266 '/' Capacity=69.9 cfs Outflow=0.4 cfs 6,567 cf

Reach OR7: OVERLAND REACH 7 Avg. Flow Depth=0.06' Max Vel=1.10 fps Inflow=0.1 cfs 1,184 cf
n=0.030 L=142.9' S=0.0341 '/' Capacity=36.3 cfs Outflow=0.1 cfs 1,184 cf

Reach OR8: OVERLAND REACH 8 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.0 cfs 0 cf
n=0.030 L=49.4' S=0.2126 '/' Capacity=42.4 cfs Outflow=0.0 cfs 0 cf

Reach OR9: OVERLAND REACH 9 Avg. Flow Depth=0.05' Max Vel=2.85 fps Inflow=0.1 cfs 1,184 cf
n=0.030 L=37.7' S=0.2851 '/' Capacity=49.1 cfs Outflow=0.1 cfs 1,184 cf

Pond BP1: BIO POND 1 Peak Elev=81.41' Storage=1,412 cf Inflow=1.7 cfs 5,646 cf
Primary=0.4 cfs 5,646 cf Secondary=0.0 cfs 0 cf Outflow=0.4 cfs 5,646 cf

Pond BP2: BIO POND 2 Peak Elev=85.49' Storage=467 cf Inflow=0.6 cfs 1,965 cf
Outflow=0.1 cfs 1,965 cf

Pond DE1: DRIP EDGE 1 Peak Elev=87.83' Storage=160 cf Inflow=0.2 cfs 671 cf
Outflow=0.1 cfs 671 cf

Pond DE2: DRIP EDGE 2 Peak Elev=84.61' Storage=257 cf Inflow=0.3 cfs 1,184 cf
Outflow=0.1 cfs 1,184 cf

Pond DE3: DRIP EDGE 3 Peak Elev=73.73' Storage=141 cf Inflow=0.2 cfs 543 cf
Outflow=0.1 cfs 543 cf

Pond DE4: DRIP EDGE 4 Peak Elev=72.50' Storage=192 cf Inflow=0.2 cfs 921 cf
Outflow=0.1 cfs 921 cf

Pond PCB1: PCB1 Peak Elev=85.58' Inflow=0.3 cfs 1,009 cf
12.0" Round Culvert n=0.012 L=22.0' S=0.0136 '/' Outflow=0.3 cfs 1,009 cf

Pond PCB2: PCB2 Peak Elev=85.54' Inflow=0.2 cfs 824 cf
12.0" Round Culvert n=0.012 L=11.0' S=0.0182 '/' Outflow=0.2 cfs 824 cf

Pond PDMH1: PDMH1 Peak Elev=85.49' Inflow=0.6 cfs 1,833 cf
12.0" Round Culvert n=0.012 L=10.0' S=0.0150 '/' Outflow=0.6 cfs 1,833 cf

Pond PP1: POROUS PAVEMENT 1 Peak Elev=89.08' Storage=1,281 cf Inflow=0.4 cfs 1,418 cf
Outflow=0.1 cfs 1,196 cf

Pond RG1: RAIN GUARDIAN 1 Peak Elev=81.41' Inflow=0.8 cfs 2,717 cf
Outflow=0.8 cfs 2,717 cf

Pond RG2: RAIN GUARDIAN 2 Peak Elev=81.41' Inflow=0.8 cfs 2,754 cf
Outflow=0.8 cfs 2,754 cf

Link DPA: DPA

Inflow=4.9 cfs 36,624 cf
Primary=4.9 cfs 36,624 cf

Total Runoff Area = 368,992 sf Runoff Volume = 36,846 cf Average Runoff Depth = 1.20"
83.53% Pervious = 308,232 sf 16.47% Impervious = 60,760 sf

A – 2

NODE LISTING – 10-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WSA1: WS-A1 Runoff Area=307,079 sf 5.88% Impervious Runoff Depth=2.17"
Flow Length=769' Tc=21.4 min CN=74 Runoff=8.8 cfs 55,441 cf

Subcatchment WSA2.1: WS-A2.1 Runoff Area=4,294 sf 77.06% Impervious Runoff Depth=3.85"
Flow Length=316' Tc=7.0 min CN=92 Runoff=0.3 cfs 1,376 cf

Subcatchment WSA2.2: WS-A2.2 Runoff Area=5,259 sf 77.96% Impervious Runoff Depth=3.85"
Flow Length=241' Slope=0.0400 '/' Tc=6.0 min CN=92 Runoff=0.4 cfs 1,685 cf

Subcatchment WSA2.3: WS-A2.3 Runoff Area=7,096 sf 77.78% Impervious Runoff Depth=3.95"
Flow Length=24' Slope=0.0996 '/' Tc=6.0 min CN=93 Runoff=0.6 cfs 2,337 cf

Subcatchment WSA2.4: WS-A2.4 Runoff Area=15,364 sf 68.61% Impervious Runoff Depth=3.64"
Flow Length=310' Tc=7.3 min CN=90 Runoff=1.2 cfs 4,655 cf

Subcatchment WSA2.5: WS-A2.5 Runoff Area=13,781 sf 80.55% Impervious Runoff Depth=3.95"
Flow Length=254' Tc=6.0 min CN=93 Runoff=1.2 cfs 4,539 cf

Subcatchment WSA2.6: WS-A2.6 Runoff Area=4,911 sf 45.23% Impervious Runoff Depth=3.04"
Flow Length=32' Slope=0.0534 '/' Tc=6.0 min CN=84 Runoff=0.3 cfs 1,245 cf

Subcatchment WSA2.7: WS-A2.7 Runoff Area=2,717 sf 82.33% Impervious Runoff Depth=3.95"
Flow Length=5' Slope=0.0100 '/' Tc=6.0 min CN=93 Runoff=0.2 cfs 895 cf

Subcatchment WSA2.8: WS-A2.8 Runoff Area=3,025 sf 64.79% Impervious Runoff Depth=3.53"
Flow Length=16' Slope=0.1250 '/' Tc=6.0 min CN=89 Runoff=0.2 cfs 891 cf

Subcatchment WSA2.9: WS-A2.9 Runoff Area=1,893 sf 83.10% Impervious Runoff Depth=3.95"
Flow Length=5' Slope=0.0100 '/' Tc=6.0 min CN=93 Runoff=0.2 cfs 624 cf

Subcatchment WSBP1: WS-BP1 Runoff Area=2,088 sf 0.00% Impervious Runoff Depth=2.17"
Flow Length=25' Slope=0.1250 '/' Tc=6.0 min CN=74 Runoff=0.1 cfs 377 cf

Subcatchment WSBP2: WS-BP2 Runoff Area=1,485 sf 8.69% Impervious Runoff Depth=2.25"
Flow Length=25' Slope=0.0840 '/' Tc=6.0 min UI Adjusted CN=75 Runoff=0.1 cfs 278 cf

Reach OR1: OVERLAND REACH 1 (STREAM) Avg. Flow Depth=0.15' Max Vel=1.41 fps Inflow=0.6 cfs 5,454 cf
n=0.035 L=285.0' S=0.0228 '/' Capacity=32.1 cfs Outflow=0.6 cfs 5,454 cf

Reach OR2: OVERLAND REACH 2 Avg. Flow Depth=0.08' Max Vel=1.27 fps Inflow=0.2 cfs 2,115 cf
n=0.030 L=197.3' S=0.0324 '/' Capacity=44.6 cfs Outflow=0.2 cfs 2,115 cf

Reach OR3: OVERLAND REACH 3 Avg. Flow Depth=0.15' Max Vel=3.15 fps Inflow=0.5 cfs 3,339 cf
n=0.030 L=99.0' S=0.0939 '/' Capacity=28.2 cfs Outflow=0.5 cfs 3,339 cf

Reach OR4: OVERLAND REACH 4 Avg. Flow Depth=0.05' Max Vel=2.83 fps Inflow=0.2 cfs 2,115 cf
n=0.030 L=29.6' S=0.2672 '/' Capacity=101.5 cfs Outflow=0.2 cfs 2,115 cf

Reach OR5: OVERLAND REACH 5 Avg. Flow Depth=0.23' Max Vel=2.09 fps Inflow=1.6 cfs 13,225 cf
n=0.030 L=64.4' S=0.0214 '/' Capacity=36.3 cfs Outflow=1.6 cfs 13,225 cf

Reach OR6: OVERLAND REACH 6 Avg. Flow Depth=0.17' Max Vel=4.07 fps Inflow=1.5 cfs 11,086 cf
n=0.030 L=28.6' S=0.1266 '/' Capacity=69.9 cfs Outflow=1.5 cfs 11,086 cf

Reach OR7: OVERLAND REACH 7 Avg. Flow Depth=0.07' Max Vel=1.14 fps Inflow=0.1 cfs 2,138 cf
n=0.030 L=142.9' S=0.0341 '/' Capacity=36.3 cfs Outflow=0.1 cfs 2,138 cf

Reach OR8: OVERLAND REACH 8 Avg. Flow Depth=0.03' Max Vel=1.55 fps Inflow=0.0 cfs 3 cf
n=0.030 L=49.4' S=0.2126 '/' Capacity=42.4 cfs Outflow=0.0 cfs 3 cf

Reach OR9: OVERLAND REACH 9 Avg. Flow Depth=0.05' Max Vel=2.85 fps Inflow=0.1 cfs 2,136 cf
n=0.030 L=37.7' S=0.2851 '/' Capacity=49.1 cfs Outflow=0.1 cfs 2,136 cf

Pond BP1: BIO POND 1 Peak Elev=81.77' Storage=1,922 cf Inflow=2.4 cfs 9,571 cf
Primary=1.4 cfs 9,568 cf Secondary=0.0 cfs 3 cf Outflow=1.4 cfs 9,571 cf

Pond BP2: BIO POND 2 Peak Elev=85.81' Storage=654 cf Inflow=0.9 cfs 3,339 cf
Outflow=0.5 cfs 3,339 cf

Pond DE1: DRIP EDGE 1 Peak Elev=88.28' Storage=246 cf Inflow=0.3 cfs 1,245 cf
Outflow=0.1 cfs 1,245 cf

Pond DE2: DRIP EDGE 2 Peak Elev=86.02' Storage=481 cf Inflow=0.3 cfs 2,136 cf
Outflow=0.1 cfs 2,136 cf

Pond DE3: DRIP EDGE 3 Peak Elev=73.91' Storage=174 cf Inflow=0.2 cfs 895 cf
Outflow=0.1 cfs 895 cf

Pond DE4: DRIP EDGE 4 Peak Elev=73.71' Storage=301 cf Inflow=0.3 cfs 1,518 cf
Outflow=0.1 cfs 1,518 cf

Pond PCB1: PCB1 Peak Elev=85.84' Inflow=0.4 cfs 1,685 cf
12.0" Round Culvert n=0.012 L=22.0' S=0.0136 '/' Outflow=0.4 cfs 1,685 cf

Pond PCB2: PCB2 Peak Elev=85.84' Inflow=0.3 cfs 1,376 cf
12.0" Round Culvert n=0.012 L=11.0' S=0.0182 '/' Outflow=0.3 cfs 1,376 cf

Pond PDMH1: PDMH1 Peak Elev=85.83' Inflow=0.8 cfs 3,061 cf
12.0" Round Culvert n=0.012 L=10.0' S=0.0150 '/' Outflow=0.8 cfs 3,061 cf

Pond PP1: POROUS PAVEMENT 1 Peak Elev=89.20' Storage=1,501 cf Inflow=0.6 cfs 2,337 cf
Outflow=0.2 cfs 2,115 cf

Pond RG1: RAIN GUARDIAN 1 Peak Elev=81.78' Inflow=1.2 cfs 4,655 cf
Outflow=1.2 cfs 4,655 cf

Pond RG2: RAIN GUARDIAN 2 Peak Elev=81.78' Inflow=1.2 cfs 4,539 cf
Outflow=1.2 cfs 4,539 cf

Link DPA: DPA

Inflow=10.5 cfs 74,120 cf
Primary=10.5 cfs 74,120 cf

Total Runoff Area = 368,992 sf Runoff Volume = 74,343 cf Average Runoff Depth = 2.42"
83.53% Pervious = 308,232 sf 16.47% Impervious = 60,760 sf

A – 2

10-YR STORM SUMMARY

Summary for Subcatchment WSA1: WS-A1

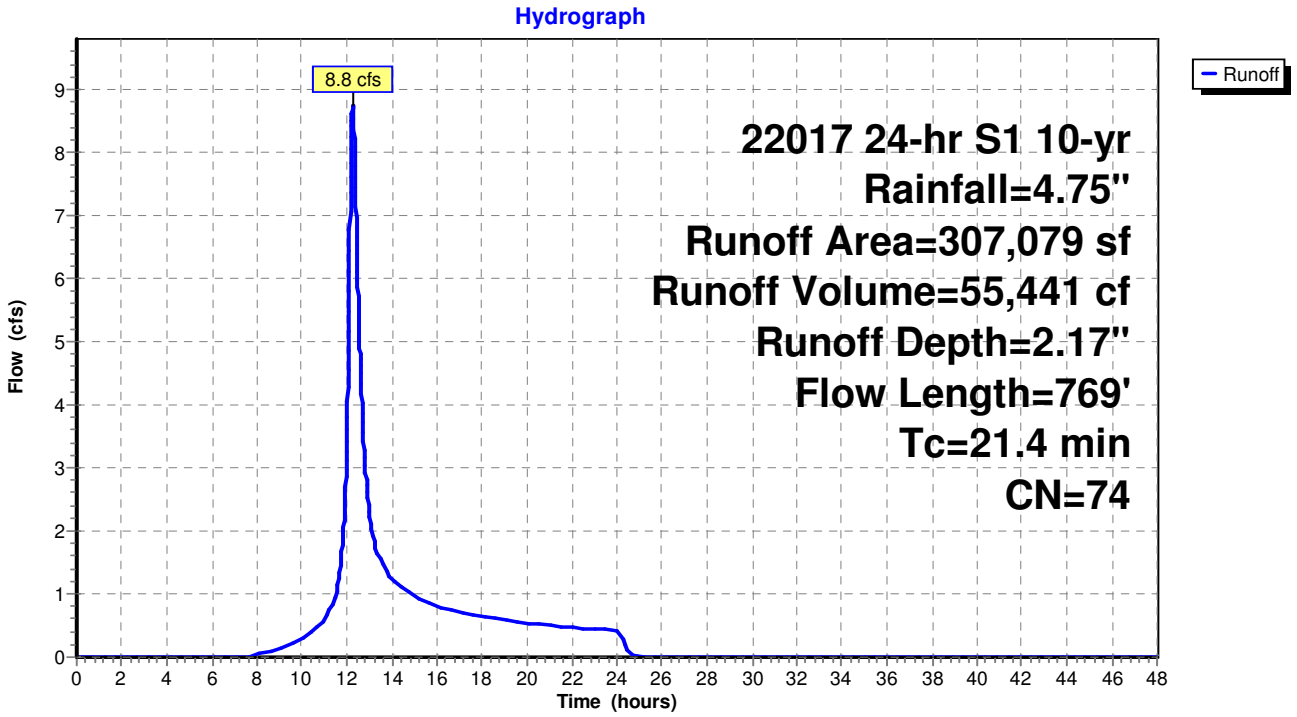
Runoff = 8.8 cfs @ 12.25 hrs, Volume= 55,441 cf, Depth= 2.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22017 24-hr S1 10-yr Rainfall=4.75"

Area (sf)	CN	Description
92,233	70	Woods, Good, HSG C
195,353	74	>75% Grass cover, Good, HSG C
1,422	96	Gravel surface, HSG C
1,622	98	Roofs, HSG C
364	98	Unconnected pavement, HSG C
16,085	98	Paved parking, HSG C
307,079	74	Weighted Average
289,008		94.12% Pervious Area
18,071		5.88% Impervious Area
364		2.01% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.3	94	0.0213	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.15"
5.2	471	0.0467	1.51		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
2.9	204	0.0539	1.16		**Shallow Concentrated Flow, 3** Woodland Kv= 5.0 fps
21.4	769	Total			

Subcatchment WSA1: WS-A1



Summary for Subcatchment WSA2.1: WS-A2.1

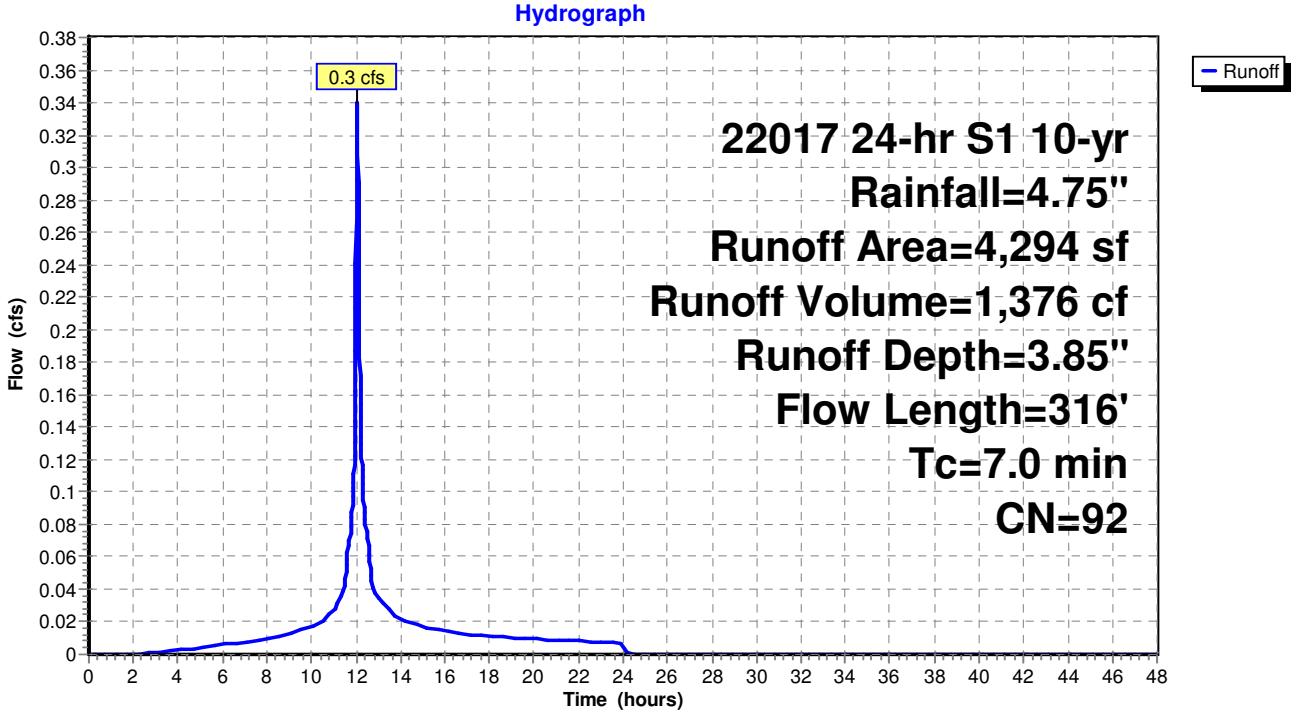
Runoff = 0.3 cfs @ 12.05 hrs, Volume= 1,376 cf, Depth= 3.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22017 24-hr S1 10-yr Rainfall=4.75"

Area (sf)	CN	Description
985	74	>75% Grass cover, Good, HSG C
3,309	98	Paved parking, HSG C
4,294	92	Weighted Average
985		22.94% Pervious Area
3,309		77.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	55	0.0727	0.17		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.15"
1.1	149	0.0134	2.35		**Shallow Concentrated Flow, 2** Paved Kv= 20.3 fps
0.5	85	0.0235	3.11		**Shallow Concentrated Flow, 3** Paved Kv= 20.3 fps
0.1	27	0.0544	4.73		**Shallow Concentrated Flow, 4** Paved Kv= 20.3 fps
7.0	316	Total			

Subcatchment WSA2.1: WS-A2.1



Summary for Subcatchment WSA2.2: WS-A2.2

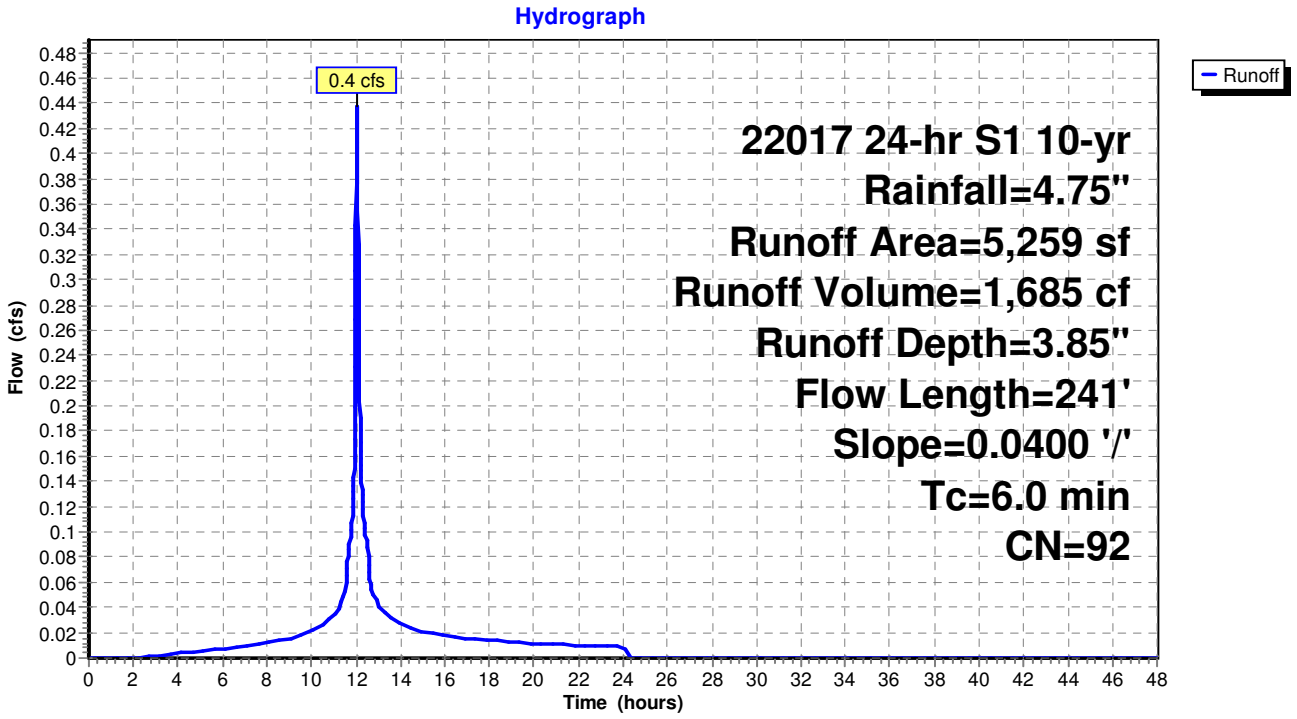
Runoff = 0.4 cfs @ 12.04 hrs, Volume= 1,685 cf, Depth= 3.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22017 24-hr S1 10-yr Rainfall=4.75"

Area (sf)	CN	Description
495	70	Woods, Good, HSG C
664	74	>75% Grass cover, Good, HSG C
4,100	98	Paved parking, HSG C
5,259	92	Weighted Average
1,159		22.04% Pervious Area
4,100		77.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	241	0.0400	4.06		**Shallow Concentrated Flow, 1** Paved Kv= 20.3 fps
1.0	241	Total, Increased to minimum Tc = 6.0 min			

Subcatchment WSA2.2: WS-A2.2



Summary for Subcatchment WSA2.3: WS-A2.3

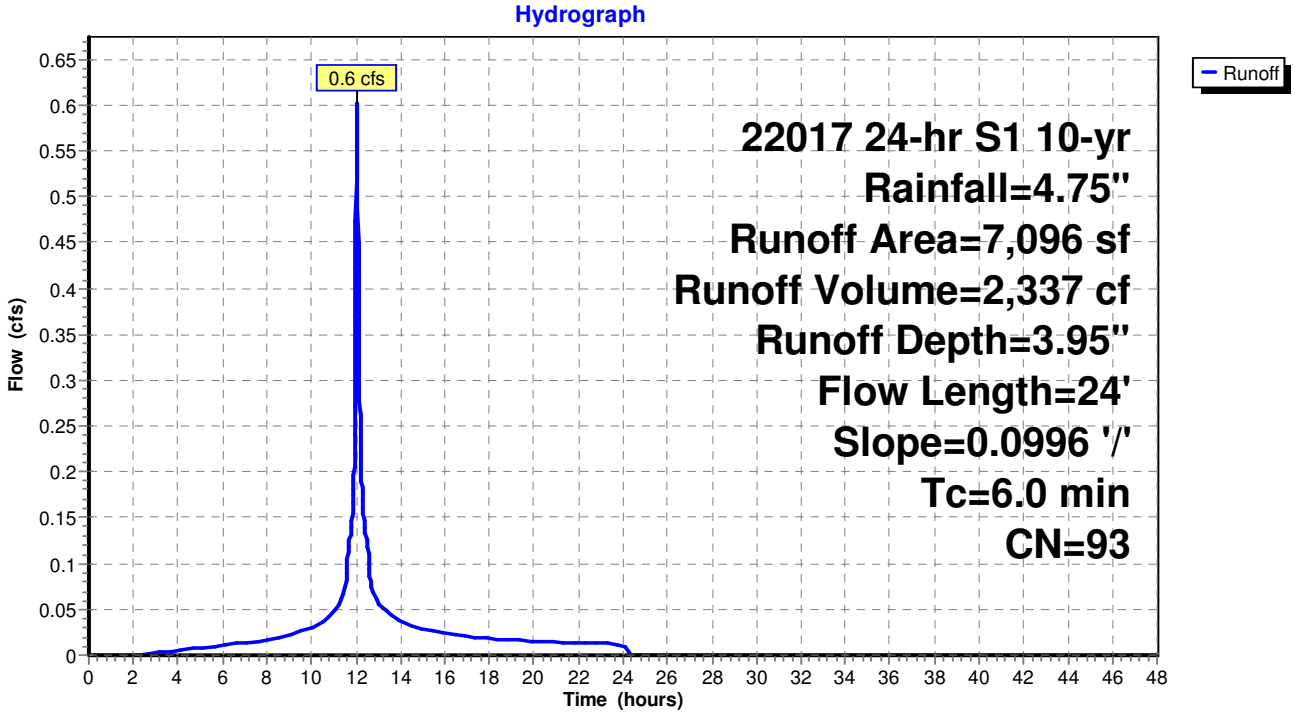
Runoff = 0.6 cfs @ 12.04 hrs, Volume= 2,337 cf, Depth= 3.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22017 24-hr S1 10-yr Rainfall=4.75"

Area (sf)	CN	Description
1,577	74	>75% Grass cover, Good, HSG C
5,519	98	Paved parking, HSG C
7,096	93	Weighted Average
1,577		22.22% Pervious Area
5,519		77.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	24	0.0996	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.15"
2.4	24	Total, Increased to minimum Tc = 6.0 min			

Subcatchment WSA2.3: WS-A2.3



Summary for Subcatchment WSA2.4: WS-A2.4

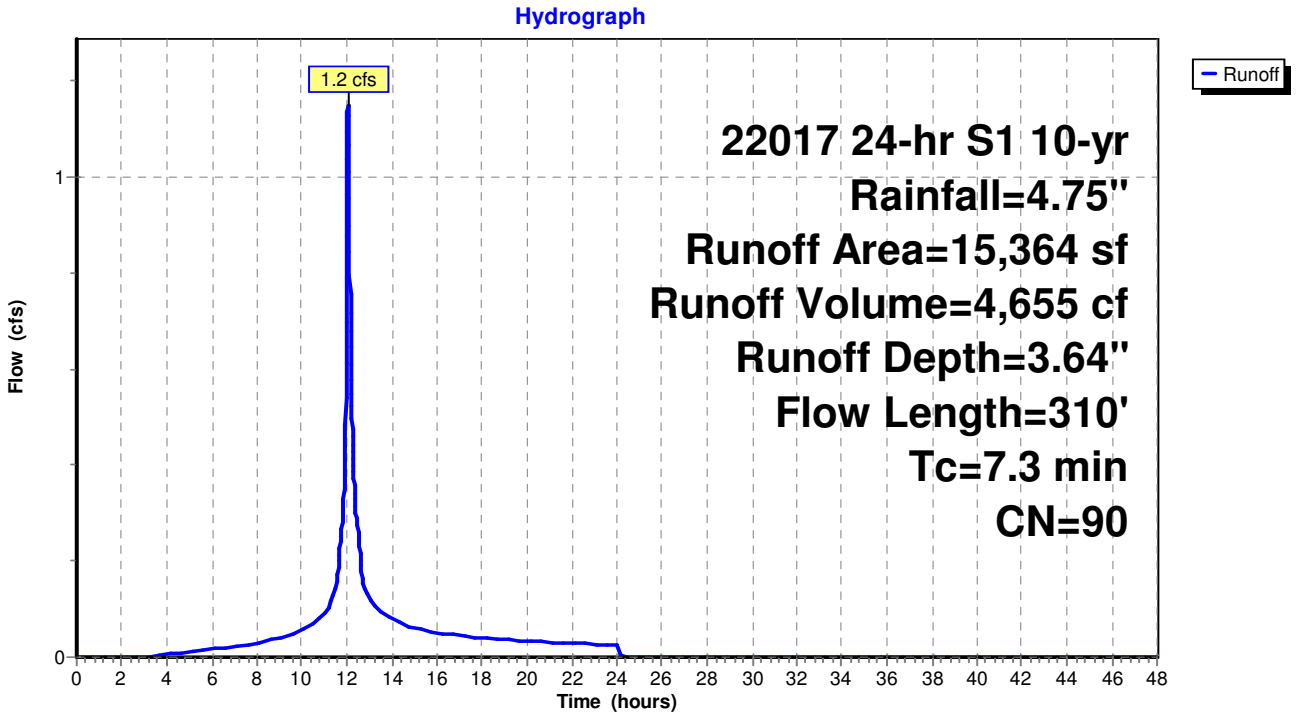
Runoff = 1.2 cfs @ 12.05 hrs, Volume= 4,655 cf, Depth= 3.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22017 24-hr S1 10-yr Rainfall=4.75"

Area (sf)	CN	Description
4,823	74	>75% Grass cover, Good, HSG C
4,337	98	Roofs, HSG C
54	98	Unconnected pavement, HSG C
6,150	98	Paved parking, HSG C
15,364	90	Weighted Average
4,823		31.39% Pervious Area
10,541		68.61% Impervious Area
54		0.51% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	65	0.0754	0.18		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.15"
0.7	115	0.0174	2.68		**Shallow Concentrated Flow, 2** Paved Kv= 20.3 fps
0.1	38	0.0487	4.48		**Shallow Concentrated Flow, 3** Paved Kv= 20.3 fps
0.5	92	0.0250	3.21		**Shallow Concentrated Flow, 4** Paved Kv= 20.3 fps
7.3	310	Total			

Subcatchment WSA2.4: WS-A2.4



Summary for Subcatchment WSA2.5: WS-A2.5

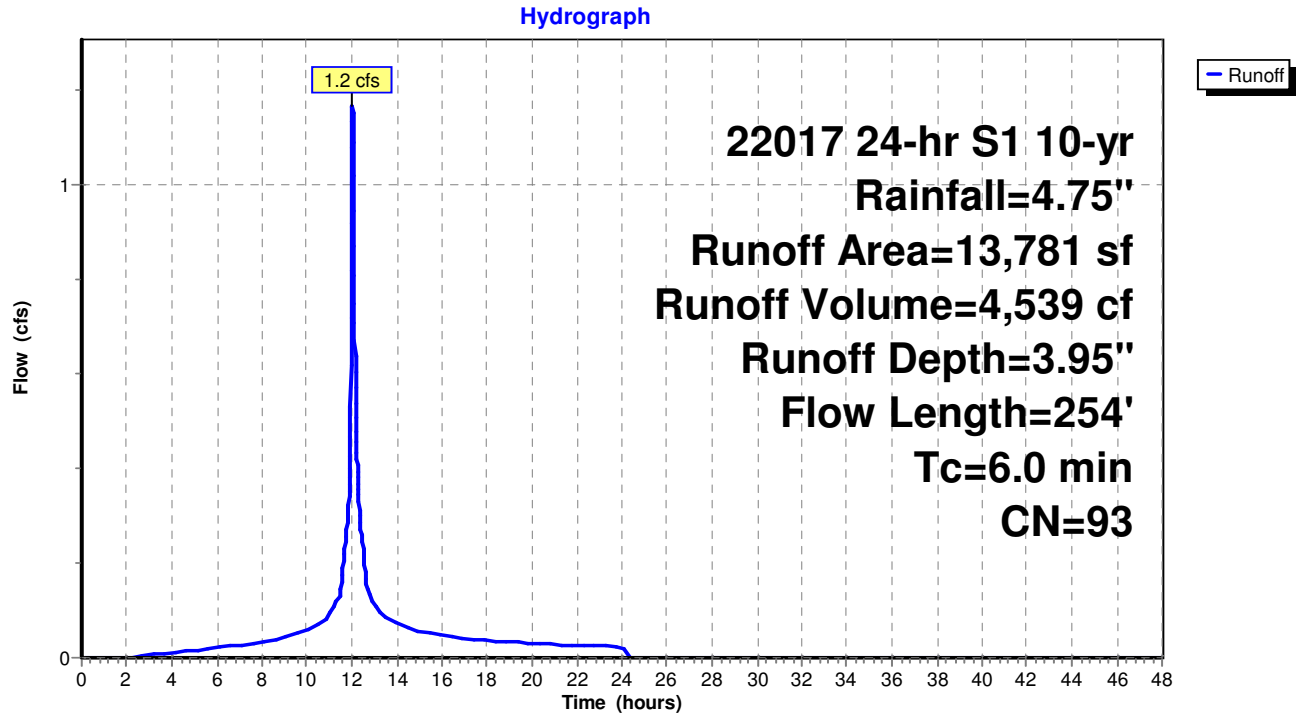
Runoff = 1.2 cfs @ 12.04 hrs, Volume= 4,539 cf, Depth= 3.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22017 24-hr S1 10-yr Rainfall=4.75"

Area (sf)	CN	Description
2,681	74	>75% Grass cover, Good, HSG C
3,875	98	Roofs, HSG C
7,225	98	Paved parking, HSG C
13,781	93	Weighted Average
2,681		19.45% Pervious Area
11,100		80.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0236	1.27		**Sheet Flow, 1** Smooth surfaces n= 0.011 P2= 3.15"
0.4	73	0.0185	2.76		**Shallow Concentrated Flow, 2** Paved Kv= 20.3 fps
0.1	39	0.0474	4.42		**Shallow Concentrated Flow, 3** Paved Kv= 20.3 fps
0.5	92	0.0250	3.21		**Shallow Concentrated Flow, 4** Paved Kv= 20.3 fps
1.7	254	Total, Increased to minimum Tc = 6.0 min			

Subcatchment WSA2.5: WS-A2.5



Summary for Subcatchment WSA2.6: WS-A2.6

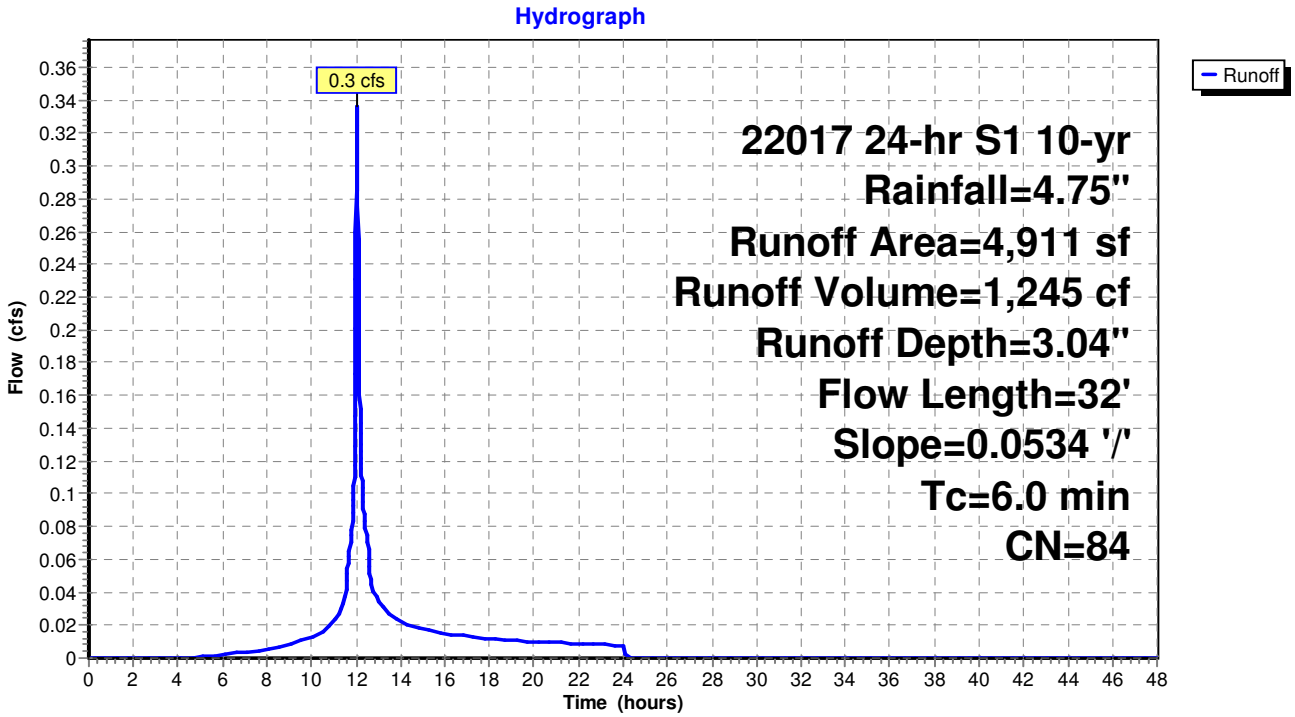
Runoff = 0.3 cfs @ 12.04 hrs, Volume= 1,245 cf, Depth= 3.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22017 24-hr S1 10-yr Rainfall=4.75"

	Area (sf)	CN	Description
*	480	68	RIP RAP Drip Edge
	2,210	74	>75% Grass cover, Good, HSG C
	2,221	98	Roofs, HSG C
	4,911	84	Weighted Average
	2,690		54.77% Pervious Area
	2,221		45.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	32	0.0534	0.14		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.15"
3.9	32	Total, Increased to minimum Tc = 6.0 min			

Subcatchment WSA2.6: WS-A2.6



Summary for Subcatchment WSA2.7: WS-A2.7

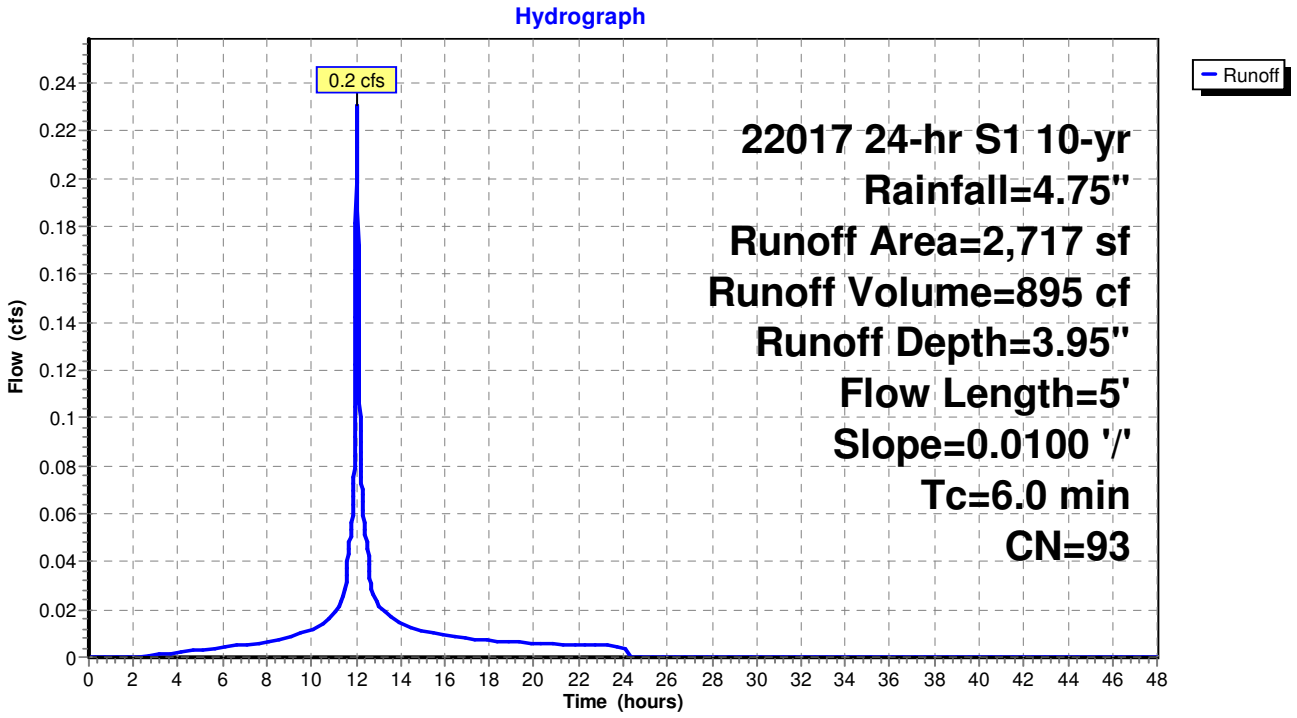
Runoff = 0.2 cfs @ 12.04 hrs, Volume= 895 cf, Depth= 3.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22017 24-hr S1 10-yr Rainfall=4.75"

	Area (sf)	CN	Description
*	480	68	RIP RAP Drip Edge
	2,237	98	Roofs, HSG C
	2,717	93	Weighted Average
	480		17.67% Pervious Area
	2,237		82.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	5	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	5	Total, Increased to minimum Tc = 6.0 min			

Subcatchment WSA2.7: WS-A2.7



Summary for Subcatchment WSA2.8: WS-A2.8

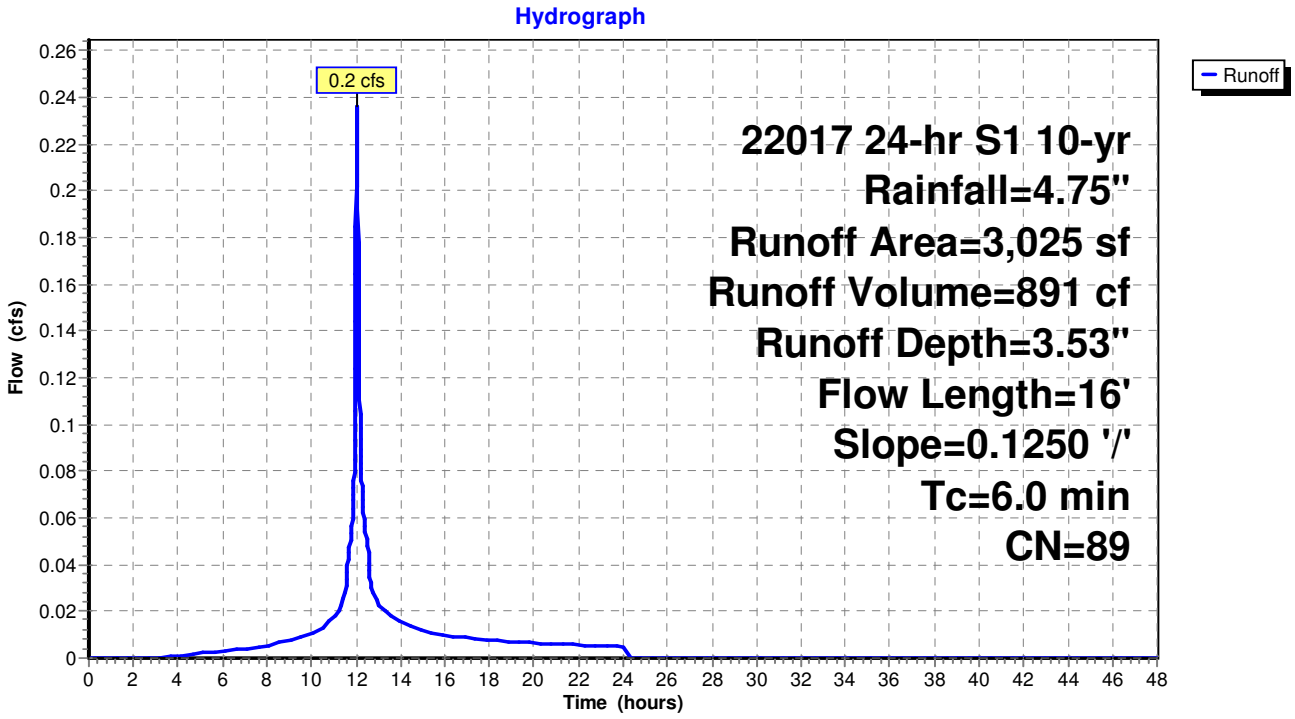
Runoff = 0.2 cfs @ 12.04 hrs, Volume= 891 cf, Depth= 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22017 24-hr S1 10-yr Rainfall=4.75"

	Area (sf)	CN	Description
*	400	68	RIP RAP Drip Edge
	665	74	>75% Grass cover, Good, HSG C
	1,960	98	Roofs, HSG C
	3,025	89	Weighted Average
	1,065		35.21% Pervious Area
	1,960		64.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	16	0.1250	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.15"
1.6	16	Total, Increased to minimum Tc = 6.0 min			

Subcatchment WSA2.8: WS-A2.8



Summary for Subcatchment WSA2.9: WS-A2.9

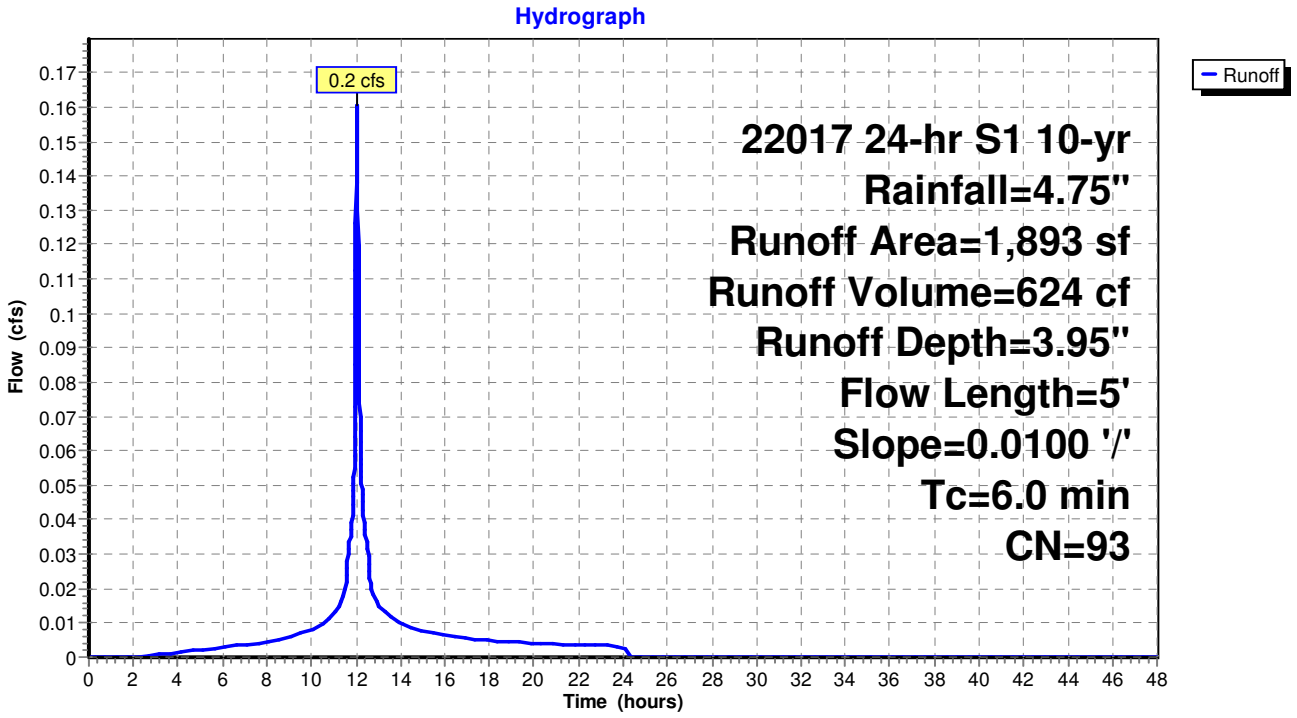
Runoff = 0.2 cfs @ 12.04 hrs, Volume= 624 cf, Depth= 3.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22017 24-hr S1 10-yr Rainfall=4.75"

	Area (sf)	CN	Description
*	320	68	RIP RAP Drip Edge
	1,573	98	Roofs, HSG C
	1,893	93	Weighted Average
	320		16.90% Pervious Area
	1,573		83.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	5	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	5	Total, Increased to minimum Tc = 6.0 min			

Subcatchment WSA2.9: WS-A2.9



Summary for Subcatchment WSBP1: WS-BP1

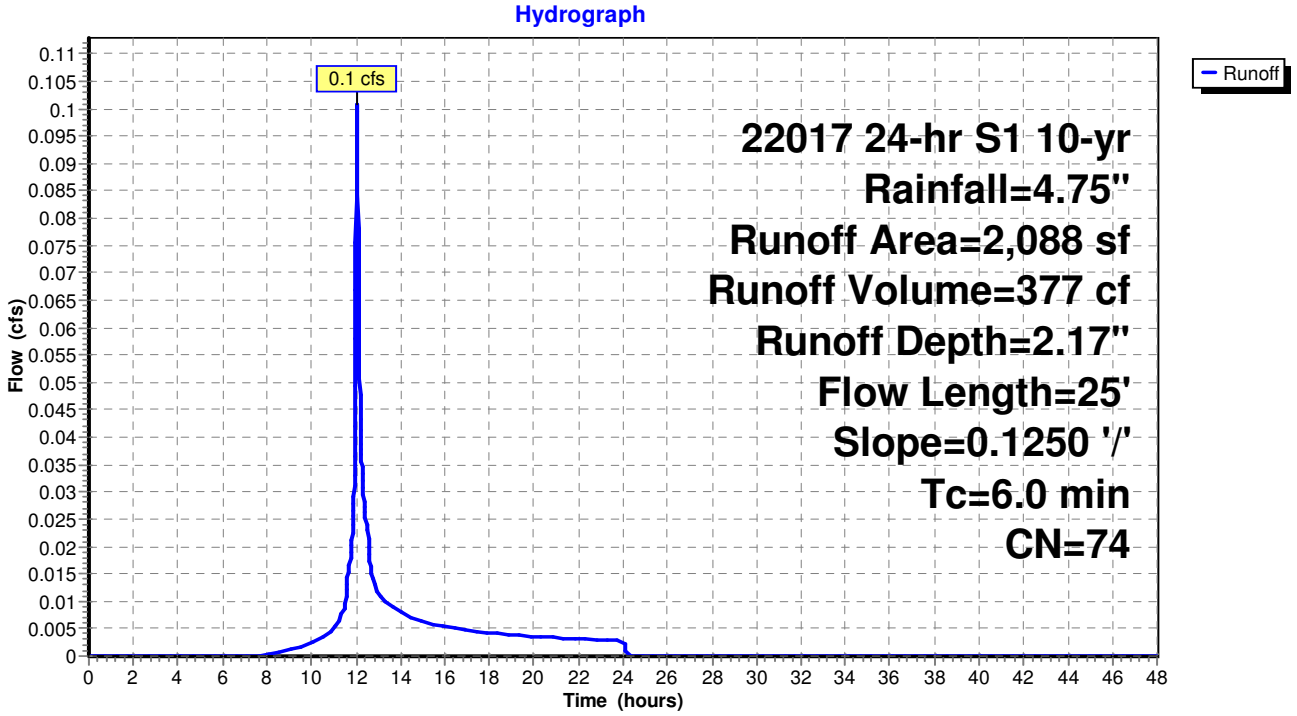
Runoff = 0.1 cfs @ 12.04 hrs, Volume= 377 cf, Depth= 2.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22017 24-hr S1 10-yr Rainfall=4.75"

Area (sf)	CN	Description
2,088	74	>75% Grass cover, Good, HSG C
2,088		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	25	0.1250	0.18		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.15"
2.3	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment WSBP1: WS-BP1



Summary for Subcatchment WSBP2: WS-BP2

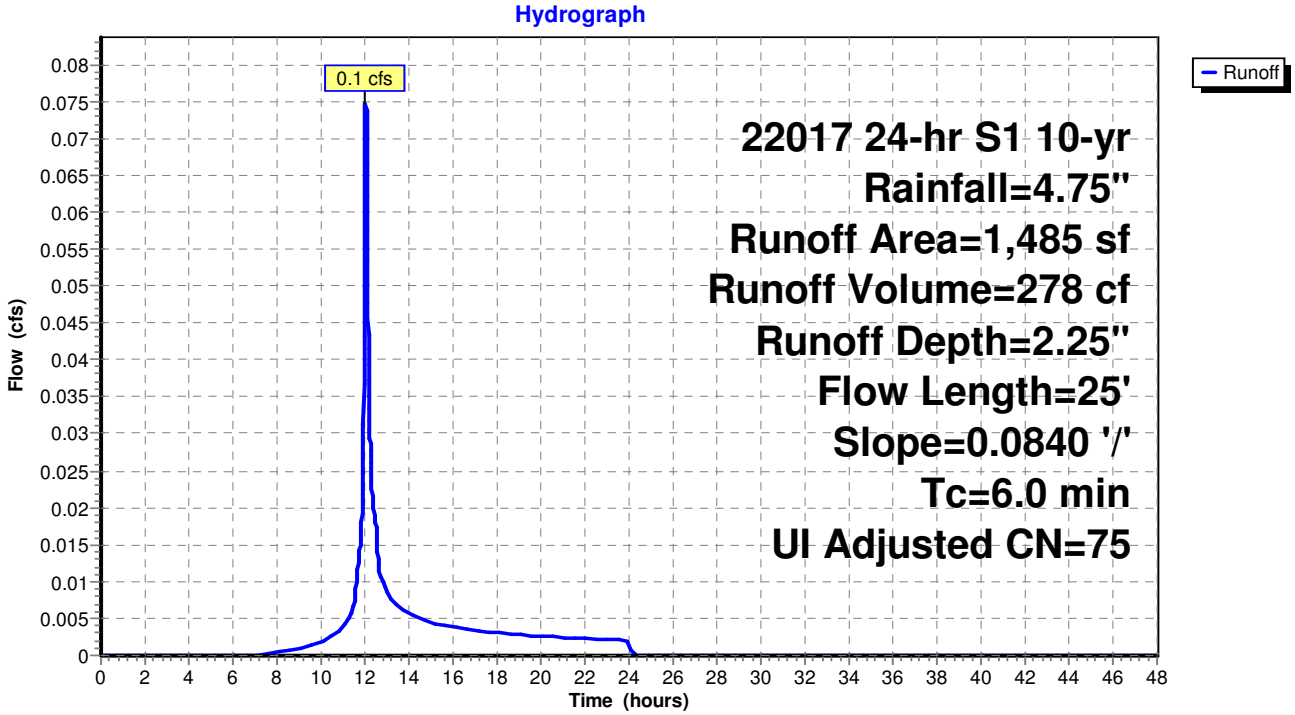
Runoff = 0.1 cfs @ 12.04 hrs, Volume= 278 cf, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22017 24-hr S1 10-yr Rainfall=4.75"

Area (sf)	CN	Adj	Description
1,356	74		>75% Grass cover, Good, HSG C
114	98		Unconnected pavement, HSG C
15	98		Paved parking, HSG C
1,485	76	75	Weighted Average, UI Adjusted
1,356			91.31% Pervious Area
129			8.69% Impervious Area
114			88.37% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	25	0.0840	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.15"
2.7	25	Total, Increased to minimum Tc = 6.0 min			

Subcatchment WSBP2: WS-BP2



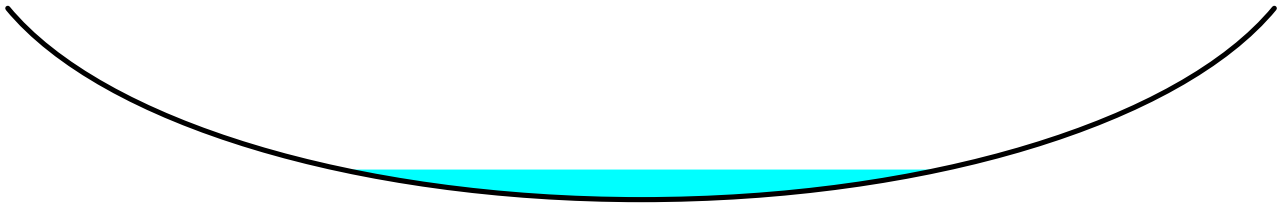
Summary for Reach OR1: OVERLAND REACH 1 (STREAM)

Inflow Area = 18,134 sf, 72.00% Impervious, Inflow Depth > 3.61" for 10-yr event
Inflow = 0.6 cfs @ 12.16 hrs, Volume= 5,454 cf
Outflow = 0.6 cfs @ 12.22 hrs, Volume= 5,454 cf, Atten= 11%, Lag= 3.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.41 fps, Min. Travel Time= 3.4 min
Avg. Velocity = 0.44 fps, Avg. Travel Time= 10.7 min

Peak Storage= 116 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.15' , Surface Width= 3.94'
Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 32.1 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.035 Earth, dense weeds
Length= 285.0' Slope= 0.0228 '/'
Inlet Invert= 71.50', Outlet Invert= 65.00'



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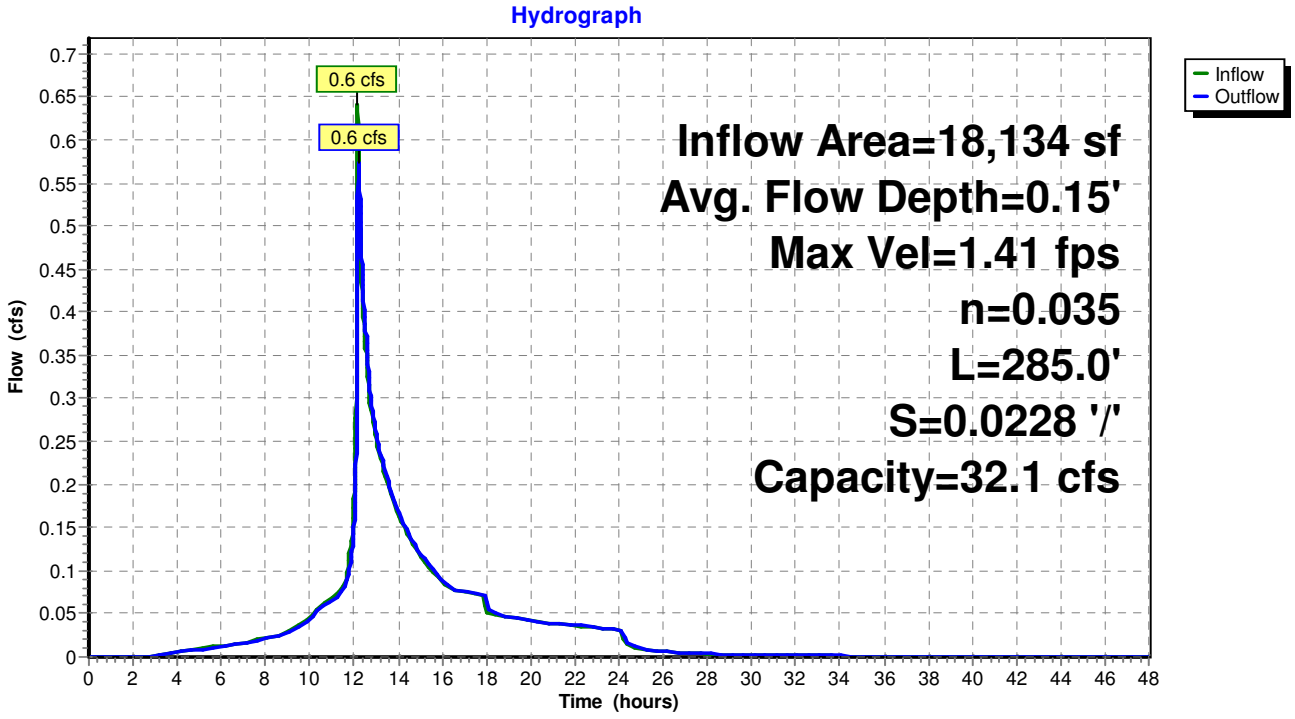
Reach OR1: OVERLAND REACH 1 (STREAM)



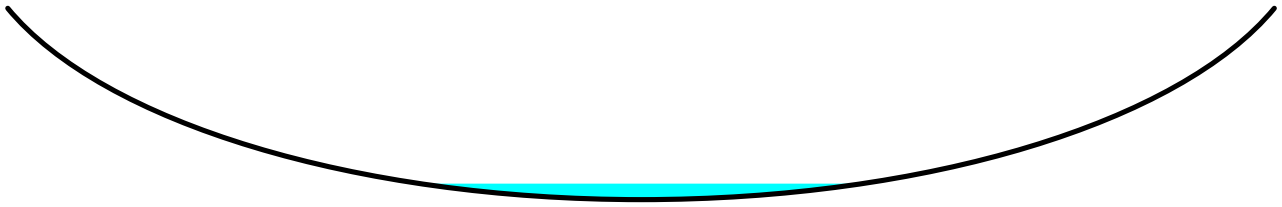
Summary for Reach OR2: OVERLAND REACH 2

Inflow Area = 7,096 sf, 77.78% Impervious, Inflow Depth > 3.58" for 10-yr event
Inflow = 0.2 cfs @ 12.26 hrs, Volume= 2,115 cf
Outflow = 0.2 cfs @ 12.29 hrs, Volume= 2,115 cf, Atten= 0%, Lag= 2.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.27 fps, Min. Travel Time= 2.6 min
Avg. Velocity = 0.48 fps, Avg. Travel Time= 6.9 min

Peak Storage= 30 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.08' , Surface Width= 2.84'
Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 44.6 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.030 Earth, grassed & winding
Length= 197.3' Slope= 0.0324 '/'
Inlet Invert= 78.09', Outlet Invert= 71.70'



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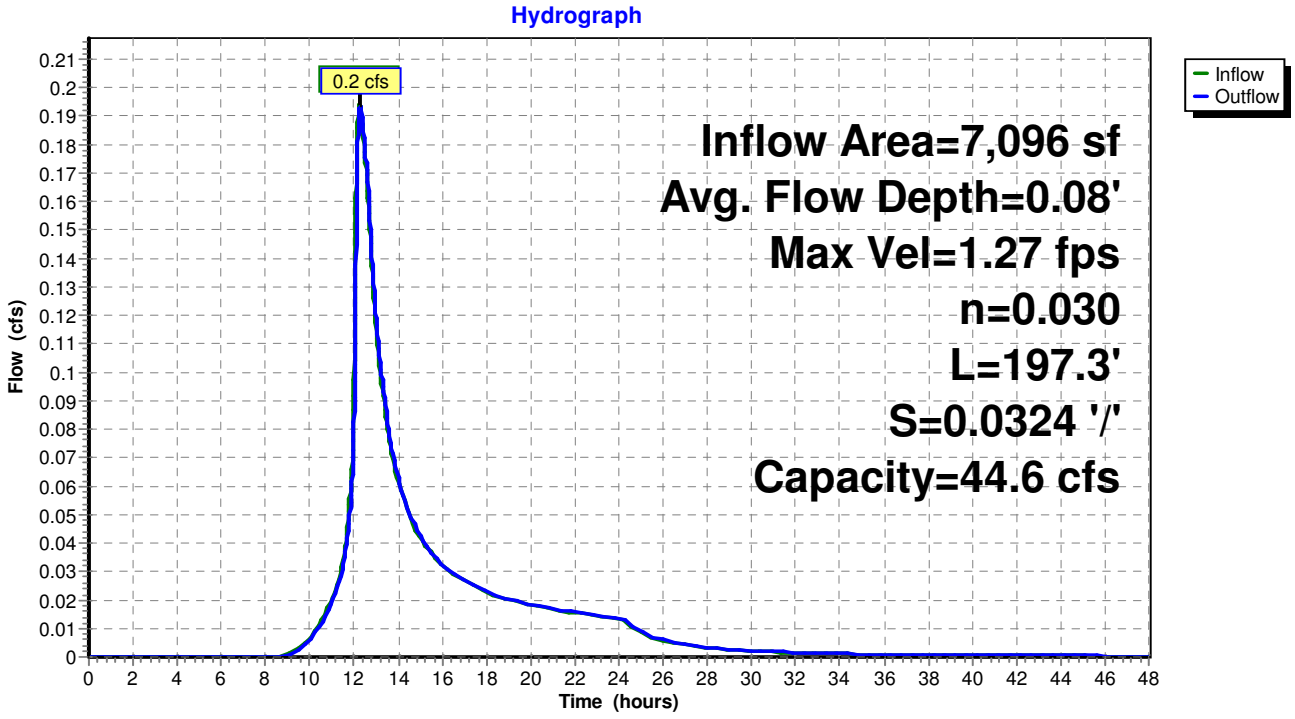
Reach OR2: OVERLAND REACH 2



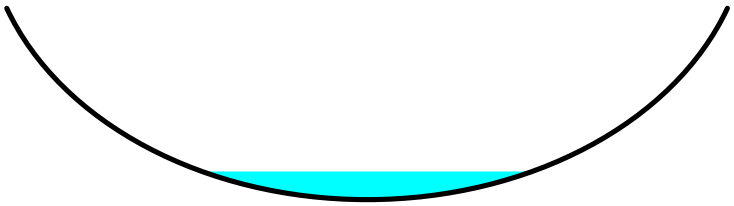
Summary for Reach OR3: OVERLAND REACH 3

Inflow Area = 11,038 sf, 68.29% Impervious, Inflow Depth = 3.63" for 10-yr event
Inflow = 0.5 cfs @ 12.15 hrs, Volume= 3,339 cf
Outflow = 0.5 cfs @ 12.16 hrs, Volume= 3,339 cf, Atten= 1%, Lag= 0.4 min

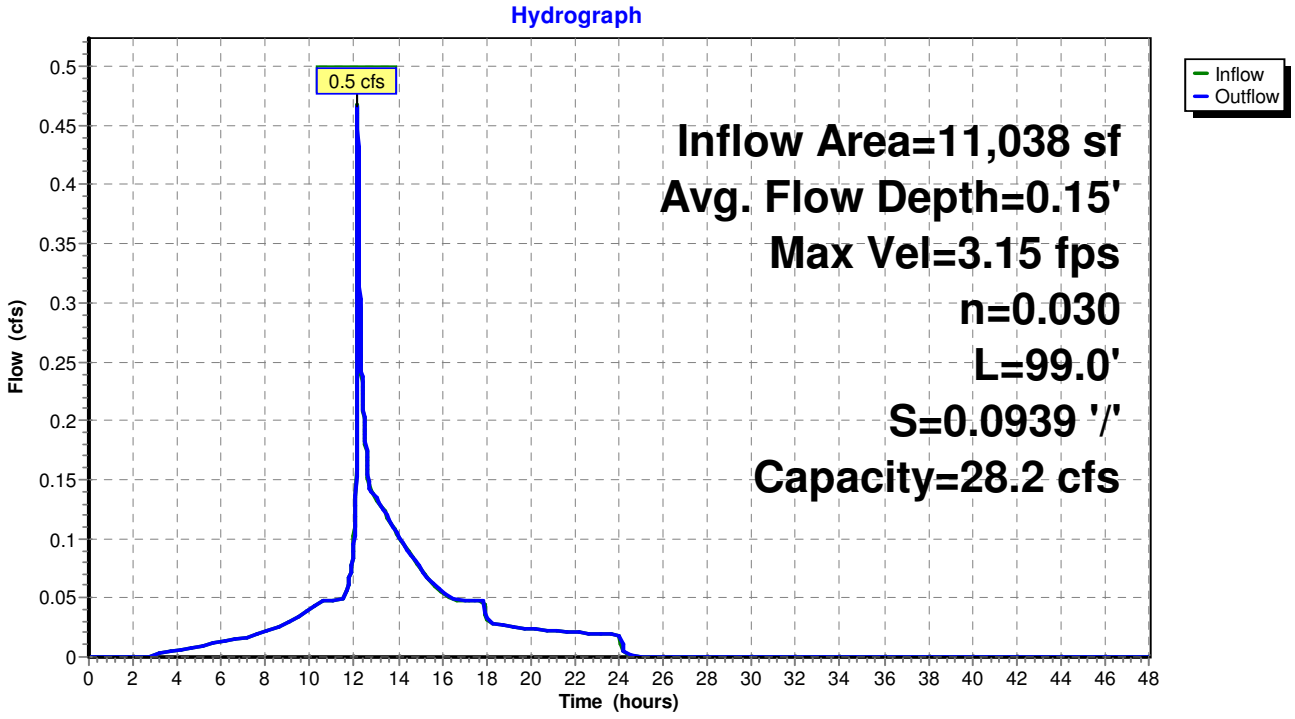
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.15 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.34 fps, Avg. Travel Time= 1.2 min

Peak Storage= 15 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.15' , Surface Width= 1.52'
Bank-Full Depth= 1.00' Flow Area= 2.7 sf, Capacity= 28.2 cfs

4.00' x 1.00' deep Parabolic Channel, n= 0.030 Earth, grassed & winding
Length= 99.0' Slope= 0.0939 '/'
Inlet Invert= 81.00', Outlet Invert= 71.70'



Reach OR3: OVERLAND REACH 3



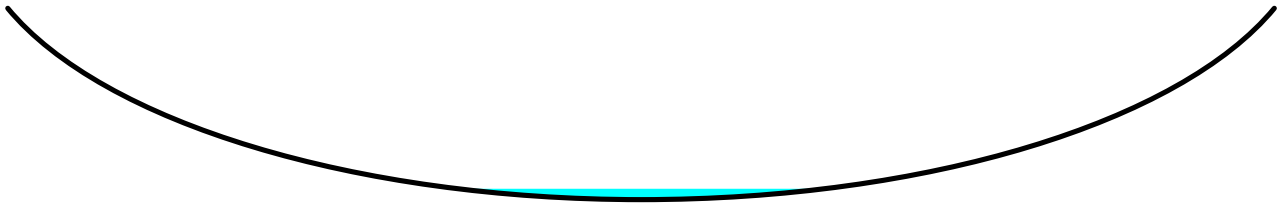
Summary for Reach OR4: OVERLAND REACH 4

Inflow Area = 7,096 sf, 77.78% Impervious, Inflow Depth > 3.58" for 10-yr event
Inflow = 0.2 cfs @ 12.25 hrs, Volume= 2,115 cf
Outflow = 0.2 cfs @ 12.26 hrs, Volume= 2,115 cf, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.83 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.17 fps, Avg. Travel Time= 0.4 min

Peak Storage= 2 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.05' , Surface Width= 1.87'
Bank-Full Depth= 1.00' Flow Area= 5.3 sf, Capacity= 101.5 cfs

8.00' x 1.00' deep Parabolic Channel, n= 0.030 Earth, grassed & winding
Length= 29.6' Slope= 0.2672 '/'
Inlet Invert= 86.00', Outlet Invert= 78.09'



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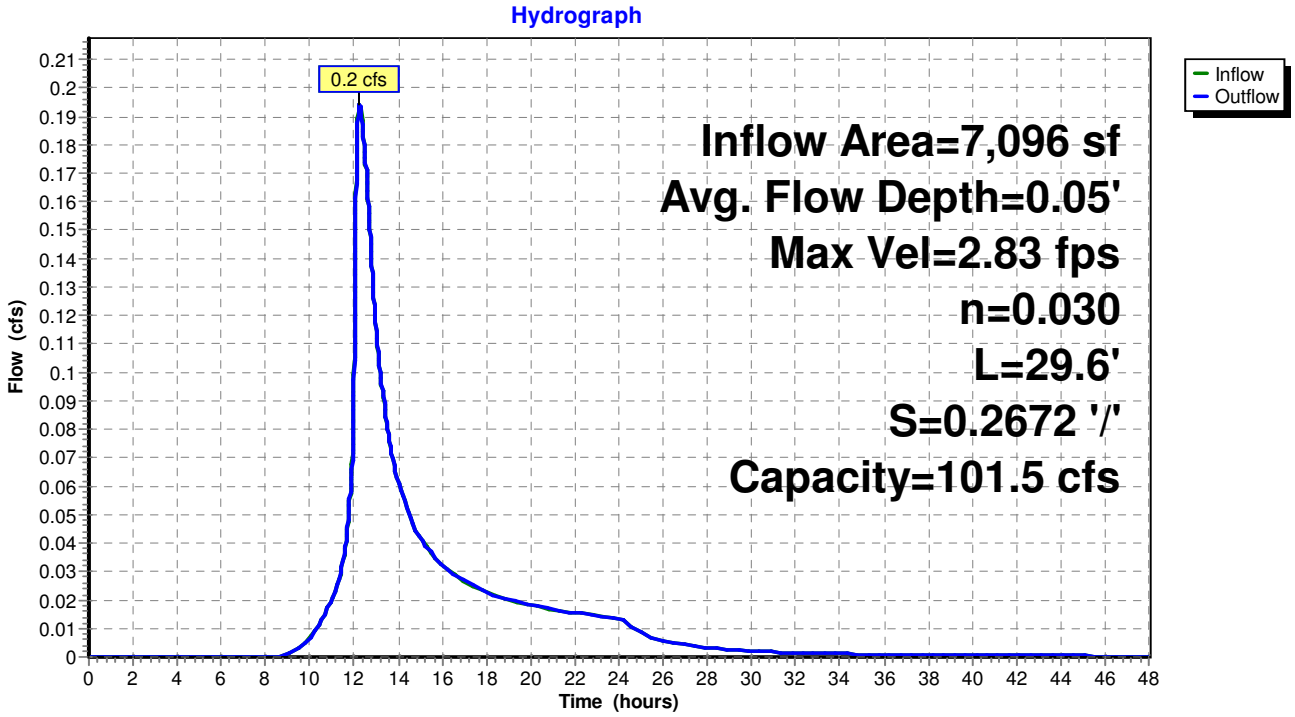
Reach OR4: OVERLAND REACH 4



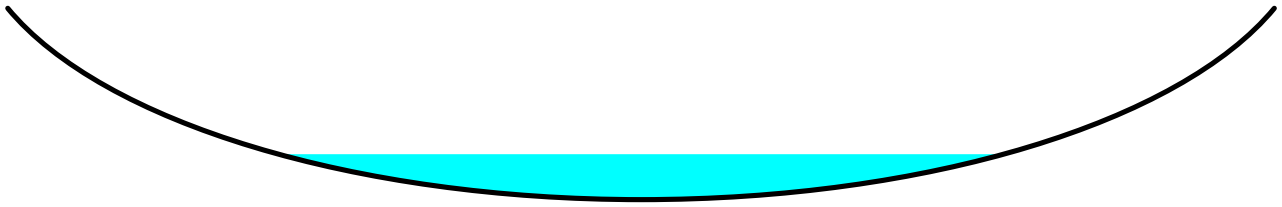
Summary for Reach OR5: OVERLAND REACH 5

Inflow Area = 43,779 sf, 67.69% Impervious, Inflow Depth = 3.62" for 10-yr event
Inflow = 1.6 cfs @ 12.15 hrs, Volume= 13,225 cf
Outflow = 1.6 cfs @ 12.15 hrs, Volume= 13,225 cf, Atten= 0%, Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.09 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.71 fps, Avg. Travel Time= 1.5 min

Peak Storage= 49 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.23' , Surface Width= 4.84'
Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 36.3 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.030 Earth, grassed & winding
Length= 64.4' Slope= 0.0214 '/'
Inlet Invert= 66.38', Outlet Invert= 65.00'



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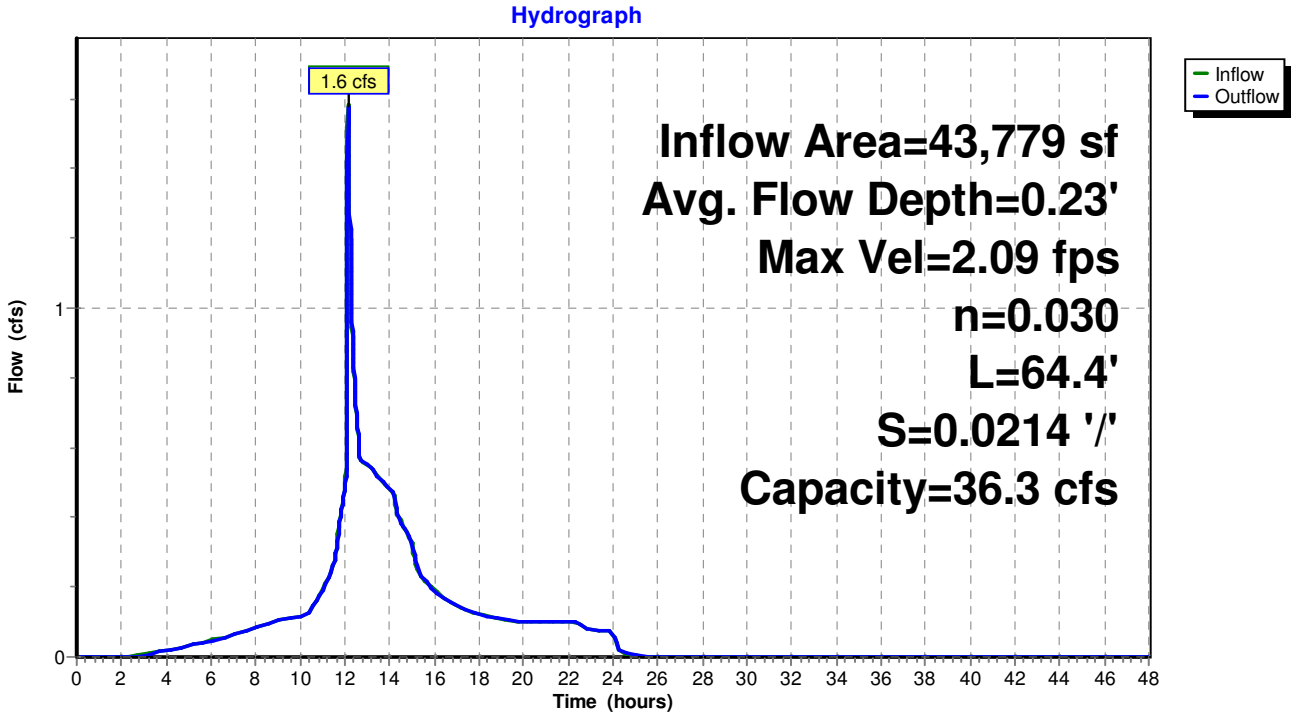
Reach OR5: OVERLAND REACH 5



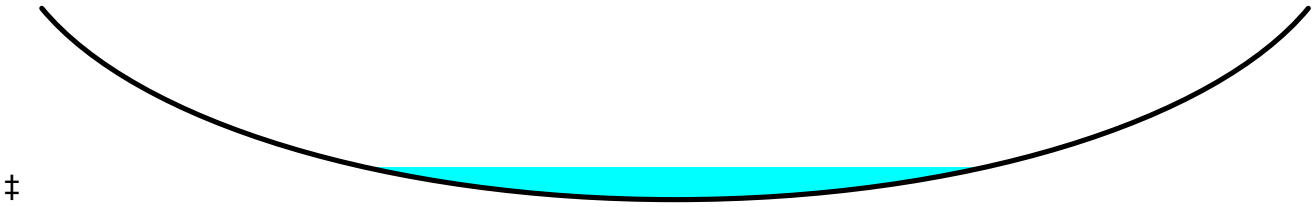
Summary for Reach OR6: OVERLAND REACH 6

Inflow Area = 35,843 sf, 71.01% Impervious, Inflow Depth = 3.71" for 10-yr event
Inflow = 1.5 cfs @ 12.15 hrs, Volume= 11,086 cf
Outflow = 1.5 cfs @ 12.15 hrs, Volume= 11,086 cf, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.07 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.57 fps, Avg. Travel Time= 0.3 min

Peak Storage= 10 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.17' , Surface Width= 3.27'
Bank-Full Depth= 1.00' Flow Area= 5.3 sf, Capacity= 69.9 cfs

8.00' x 1.00' deep Parabolic Channel, n= 0.030 Earth, grassed & winding
Length= 28.6' Slope= 0.1266 '/'
Inlet Invert= 70.00', Outlet Invert= 66.38'



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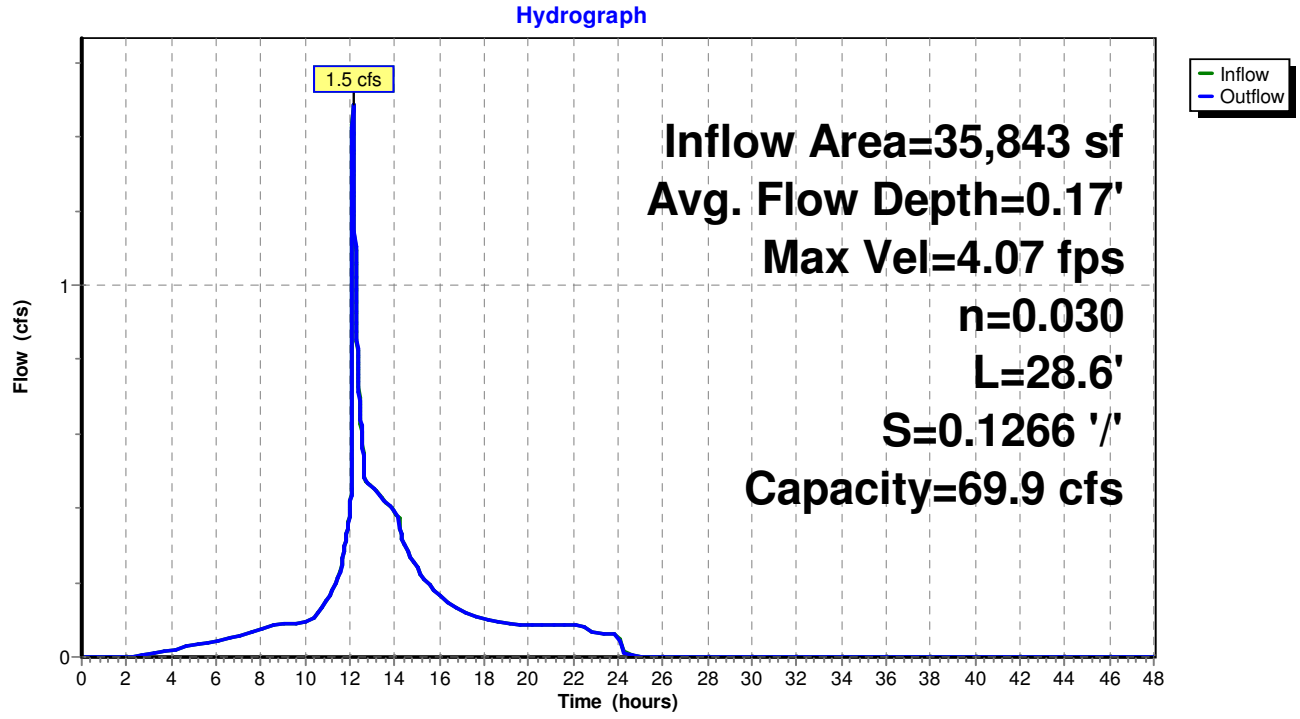
Reach OR6: OVERLAND REACH 6



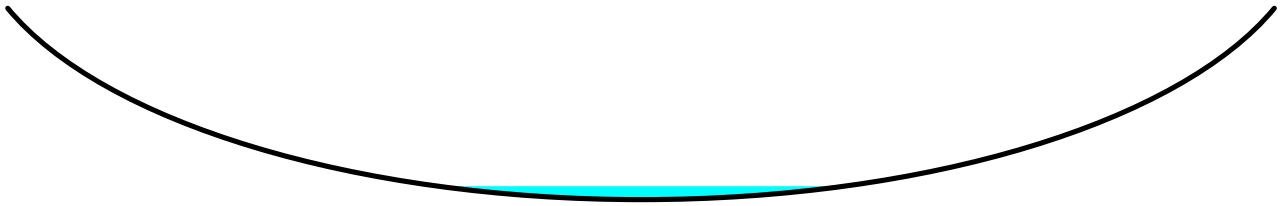
Summary for Reach OR7: OVERLAND REACH 7

Inflow Area = 7,936 sf, 52.68% Impervious, Inflow Depth = 3.23" for 10-yr event
Inflow = 0.1 cfs @ 12.13 hrs, Volume= 2,138 cf
Outflow = 0.1 cfs @ 12.17 hrs, Volume= 2,138 cf, Atten= 7%, Lag= 2.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.14 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 0.60 fps, Avg. Travel Time= 3.9 min

Peak Storage= 13 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.07' , Surface Width= 2.05'
Bank-Full Depth= 1.00' Flow Area= 5.3 sf, Capacity= 36.3 cfs

8.00' x 1.00' deep Parabolic Channel, n= 0.030 Earth, grassed & winding
Length= 142.9' Slope= 0.0341 '/'
Inlet Invert= 71.25', Outlet Invert= 66.38'



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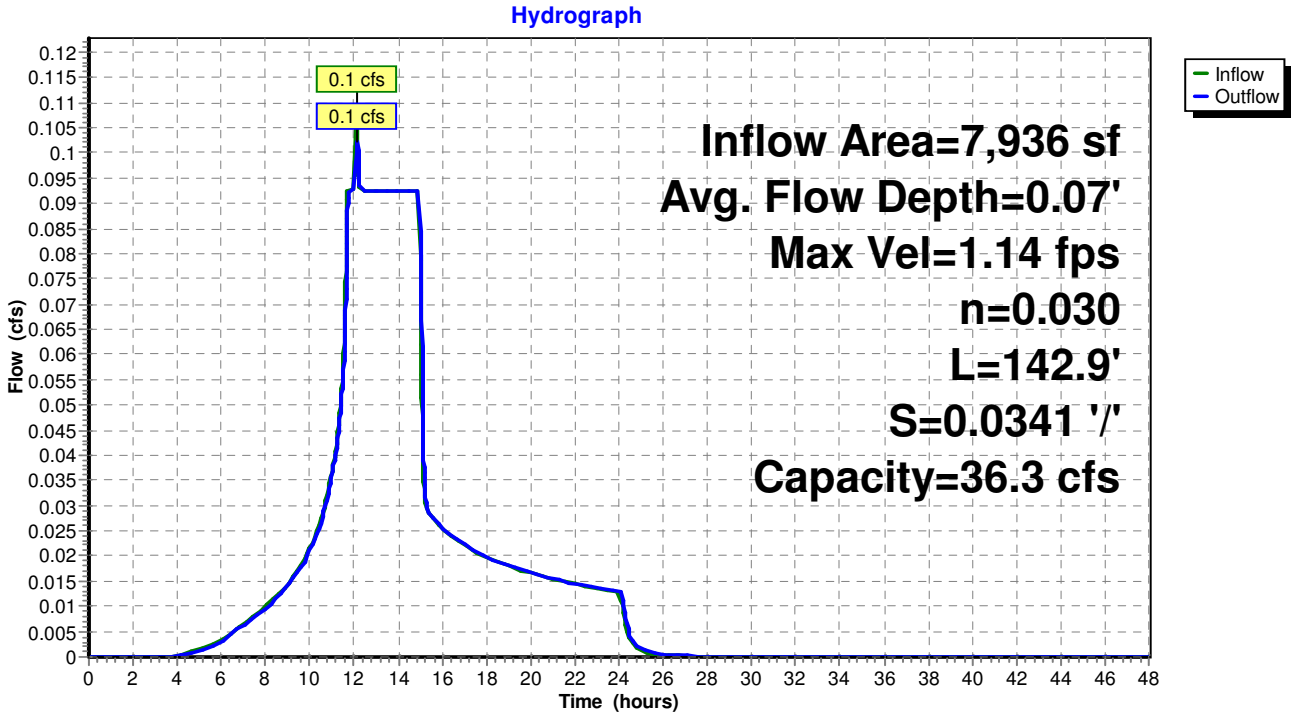
Reach OR7: OVERLAND REACH 7



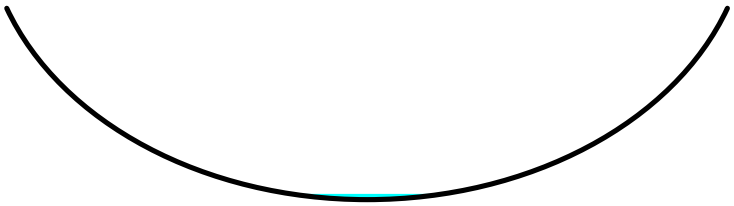
Summary for Reach OR8: OVERLAND REACH 8

Inflow = 0.0 cfs @ 12.16 hrs, Volume= 3 cf
Outflow = 0.0 cfs @ 12.13 hrs, Volume= 3 cf, Atten= 26%, Lag= 0.0 min

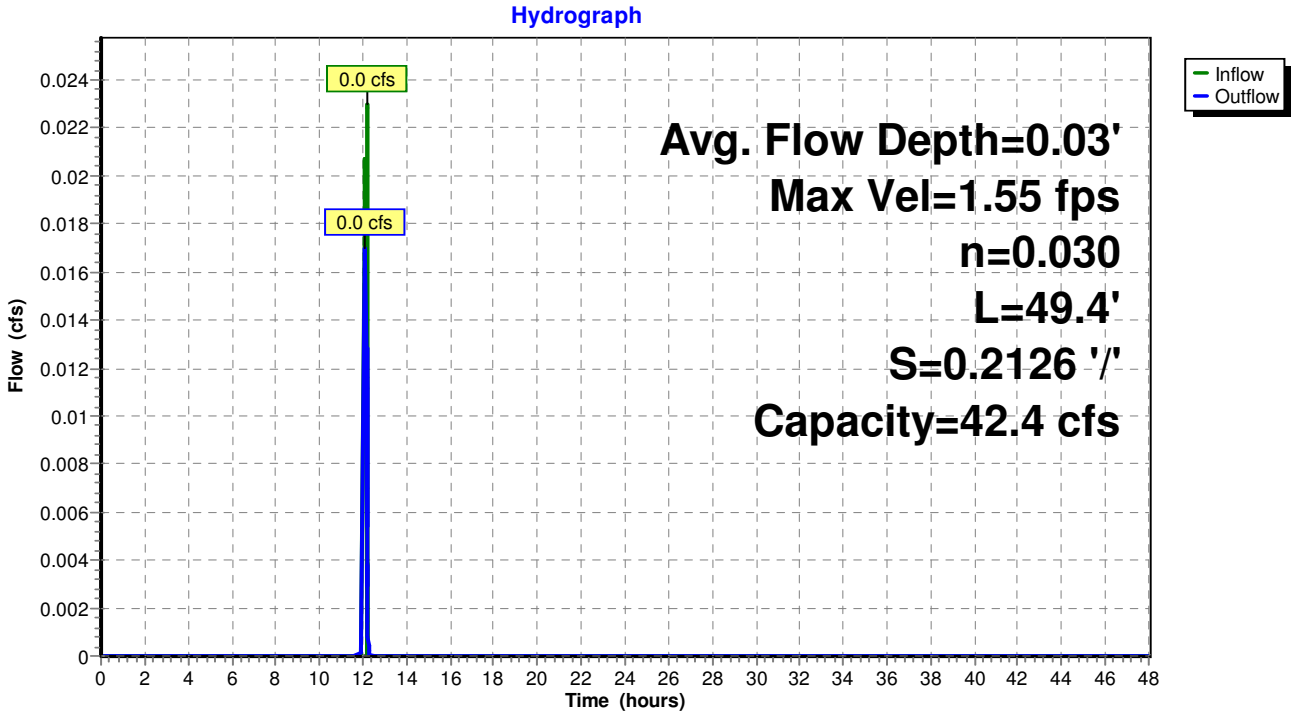
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.55 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.07 fps, Avg. Travel Time= 0.8 min

Peak Storage= 1 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.03' , Surface Width= 0.64'
Bank-Full Depth= 1.00' Flow Area= 2.7 sf, Capacity= 42.4 cfs

4.00' x 1.00' deep Parabolic Channel, n= 0.030 Earth, grassed & winding
Length= 49.4' Slope= 0.2126 '/'
Inlet Invert= 81.75', Outlet Invert= 71.25'



Reach OR8: OVERLAND REACH 8



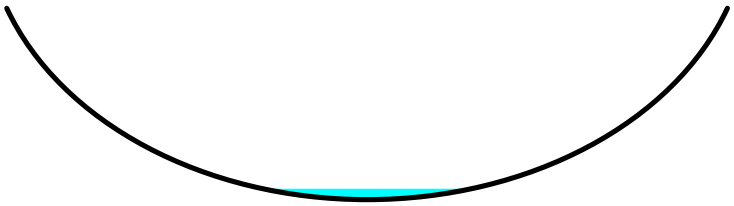
Summary for Reach OR9: OVERLAND REACH 9

Inflow Area = 7,936 sf, 52.68% Impervious, Inflow Depth = 3.23" for 10-yr event
Inflow = 0.1 cfs @ 11.83 hrs, Volume= 2,136 cf
Outflow = 0.1 cfs @ 11.72 hrs, Volume= 2,136 cf, Atten= 0%, Lag= 0.0 min

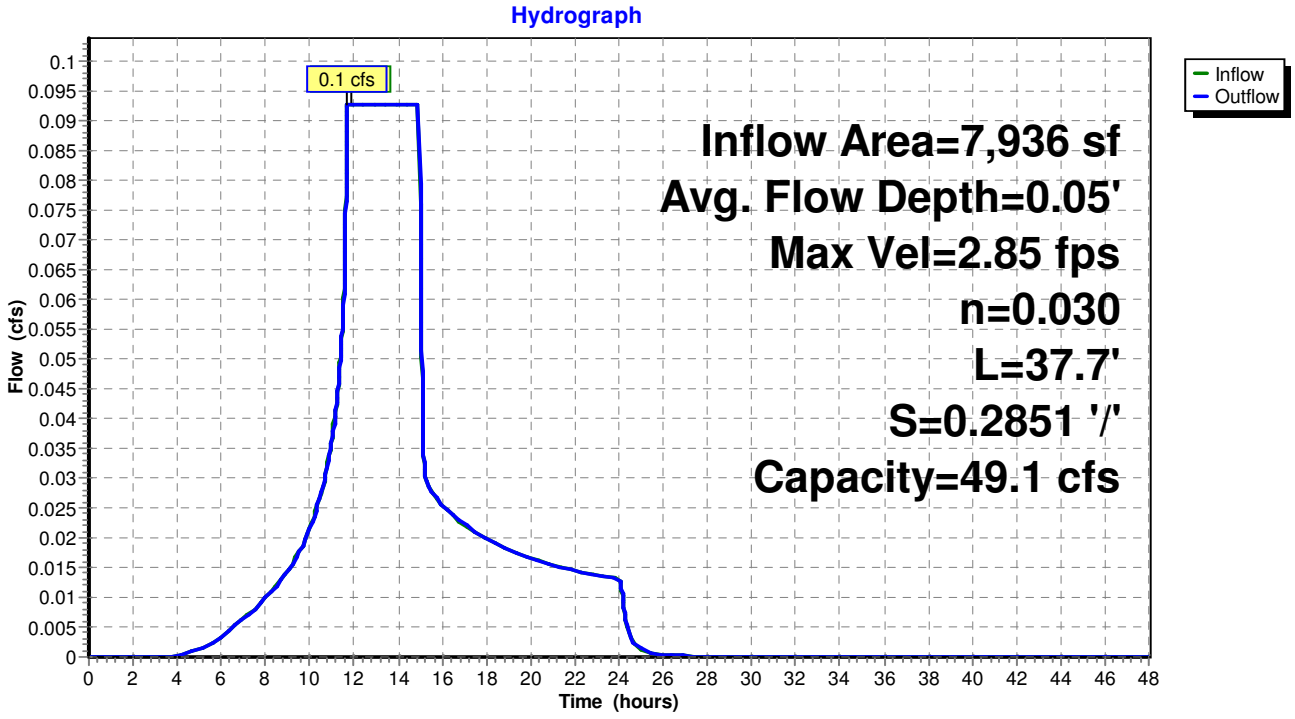
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.85 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.68 fps, Avg. Travel Time= 0.4 min

Peak Storage= 1 cf @ 11.72 hrs
Average Depth at Peak Storage= 0.05' , Surface Width= 0.92'
Bank-Full Depth= 1.00' Flow Area= 2.7 sf, Capacity= 49.1 cfs

4.00' x 1.00' deep Parabolic Channel, n= 0.030 Earth, grassed & winding
Length= 37.7' Slope= 0.2851 '/'
Inlet Invert= 82.00', Outlet Invert= 71.25'



Reach OR9: OVERLAND REACH 9



Summary for Pond BP1: BIO POND 1

Inflow Area = 31,233 sf, 69.29% Impervious, Inflow Depth = 3.68" for 10-yr event
Inflow = 2.4 cfs @ 12.04 hrs, Volume= 9,571 cf
Outflow = 1.4 cfs @ 12.15 hrs, Volume= 9,571 cf, Atten= 41%, Lag= 6.3 min
Primary = 1.4 cfs @ 12.15 hrs, Volume= 9,568 cf
Secondary = 0.0 cfs @ 12.16 hrs, Volume= 3 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 77.42' Surf.Area= 325 sf Storage= 39 cf
Peak Elev= 81.77' @ 12.15 hrs Surf.Area= 1,789 sf Storage= 1,922 cf (1,884 cf above start)
Flood Elev= 82.25' Surf.Area= 2,394 sf Storage= 2,797 cf (2,759 cf above start)

Plug-Flow detention time= 45.1 min calculated for 9,530 cf (100% of inflow)
Center-of-Mass det. time= 40.0 min (844.0 - 804.0)

Volume	Invert	Avail.Storage	Storage Description
#1	77.08'	198 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
#2	77.08'	2,599 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		2,797 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
77.08	84	38.1	0.0	0	0	84
78.25	84	38.1	35.0	34	34	129
78.50	84	38.1	20.0	4	39	138
80.00	84	38.1	10.0	13	51	195
80.99	224	56.8	100.0	147	198	344

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
77.08	241	87.5	0.0	0	0	241
78.25	241	87.5	35.0	99	99	343
78.50	241	87.5	20.0	12	111	365
80.00	241	87.5	10.0	36	147	497
81.00	1,027	233.4	100.0	589	735	4,226
81.70	1,500	238.1	100.0	879	1,615	4,467
82.00	1,781	286.9	100.0	492	2,106	6,508
82.25	2,170	258.9	100.0	493	2,599	7,726

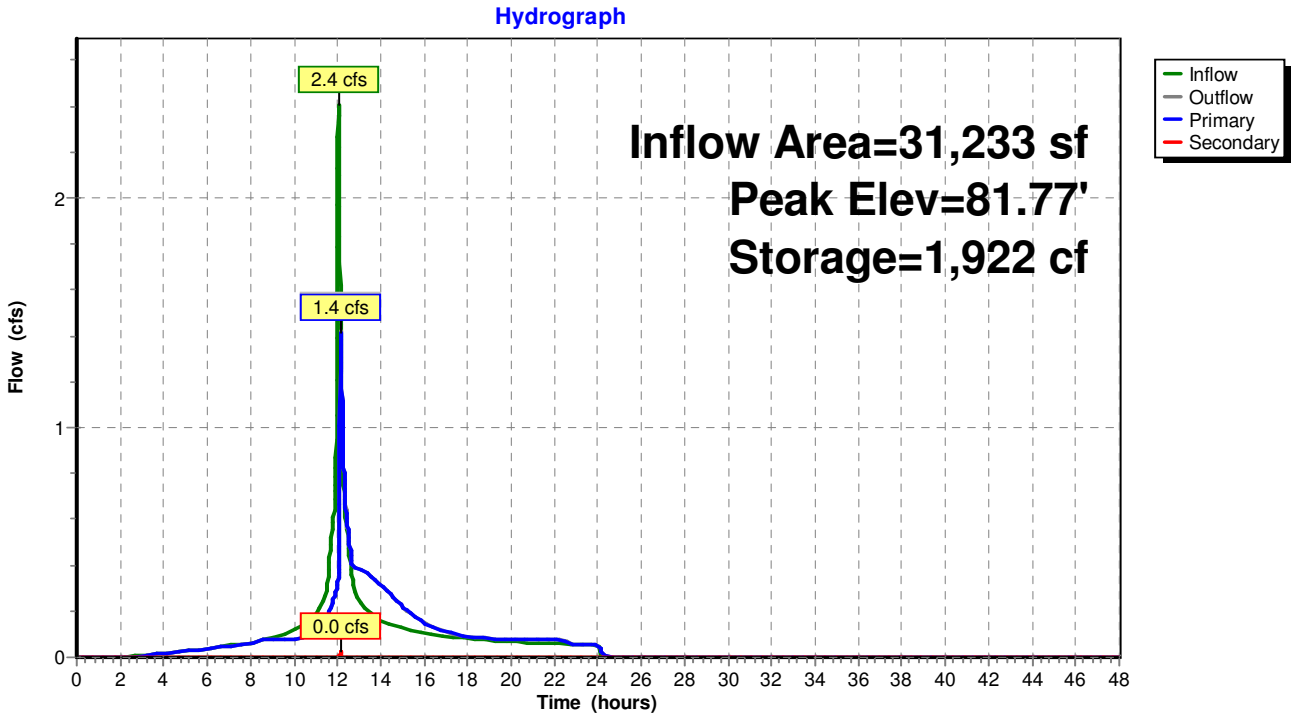
Device	Routing	Invert	Outlet Devices
#1	Primary	70.16'	**12.0" Round Culvert** L= 4.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 70.16' / 70.00' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	77.42'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 2	77.08'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#4	Device 1	81.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	81.75'	**5.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68
2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=1.4 cfs @ 12.15 hrs HW=81.77' TW=70.17' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.4 cfs of 12.6 cfs potential flow)
└─**2=Orifice/Grate** (Passes 0.4 cfs of 1.9 cfs potential flow)
└─**3=Exfiltration** (Exfiltration Controls 0.4 cfs)
└─**4=Orifice/Grate** (Weir Controls 1.0 cfs @ 0.87 fps)

Secondary OutFlow Max=0.0 cfs @ 12.16 hrs HW=81.77' TW=81.77' (Dynamic Tailwater)
└─**5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond BP1: BIO POND 1



Summary for Pond BP2: BIO POND 2

Inflow Area = 11,038 sf, 68.29% Impervious, Inflow Depth = 3.63" for 10-yr event
Inflow = 0.9 cfs @ 12.04 hrs, Volume= 3,339 cf
Outflow = 0.5 cfs @ 12.15 hrs, Volume= 3,339 cf, Atten= 45%, Lag= 6.7 min
Primary = 0.5 cfs @ 12.15 hrs, Volume= 3,339 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 81.92' Surf.Area= 208 sf Storage= 25 cf
Peak Elev= 85.81' @ 12.15 hrs Surf.Area= 638 sf Storage= 654 cf (629 cf above start)
Flood Elev= 86.10' Surf.Area= 920 sf Storage= 862 cf (837 cf above start)

Plug-Flow detention time= 42.0 min calculated for 3,314 cf (99% of inflow)
Center-of-Mass det. time= 32.7 min (837.2 - 804.4)

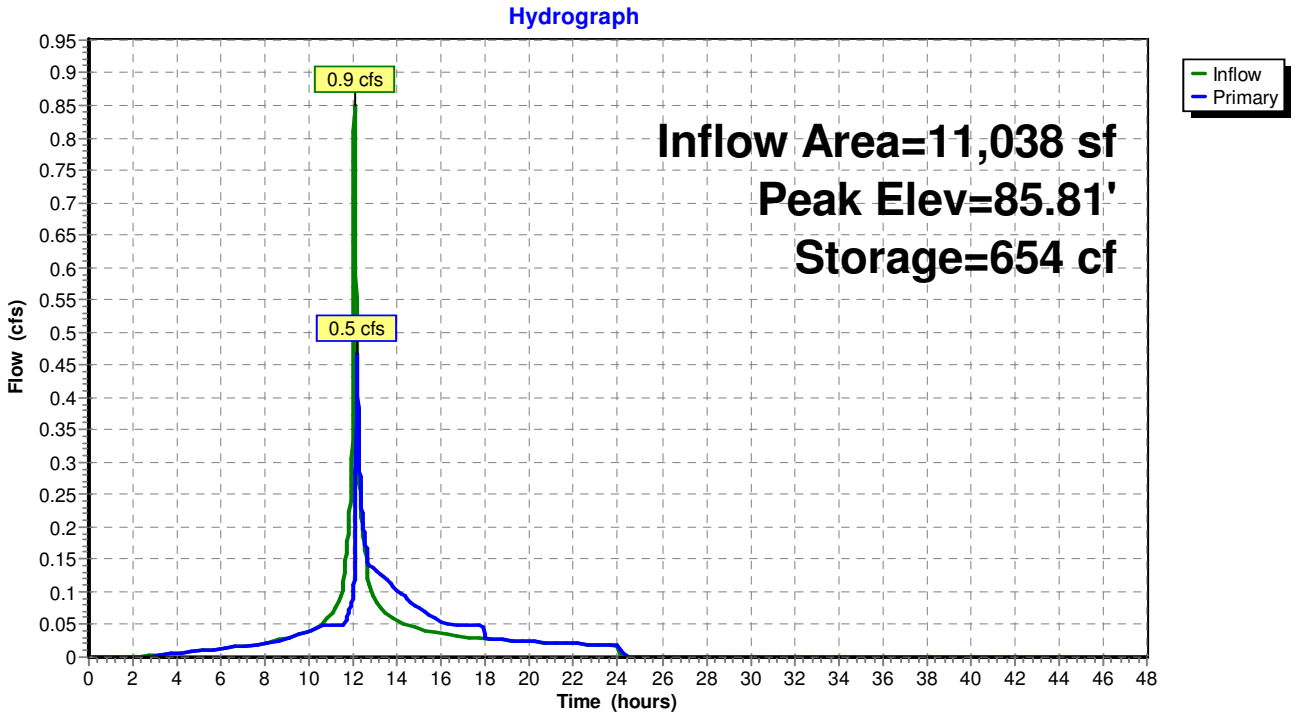
Volume	Invert	Avail.Storage	Storage Description
#1	81.58'	862 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
81.58	208	68.5	0.0	0	0	208
82.75	208	68.5	35.0	85	85	288
83.00	208	68.5	20.0	10	96	305
84.50	208	68.5	10.0	31	127	408
85.00	340	90.3	100.0	136	262	686
85.75	614	128.9	100.0	353	615	1,365
86.00	712	133.6	100.0	166	781	1,468
86.10	920	143.0	100.0	81	862	1,676

Device	Routing	Invert	Outlet Devices
#1	Primary	81.50'	**12.0" Round Culvert** L= 23.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 81.50' / 81.00' S= 0.0217 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	81.92'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 2	81.58'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#4	Device 1	85.75'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.5 cfs @ 12.15 hrs HW=85.81' TW=81.14' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.5 cfs of 7.4 cfs potential flow)
  - **2=Orifice/Grate** (Passes 0.1 cfs of 1.8 cfs potential flow)
    - **3=Exfiltration** (Exfiltration Controls 0.1 cfs)
  - **4=Orifice/Grate** (Weir Controls 0.3 cfs @ 0.82 fps)

Pond BP2: BIO POND 2



Summary for Pond DE1: DRIP EDGE 1

Inflow Area = 4,911 sf, 45.23% Impervious, Inflow Depth = 3.04" for 10-yr event
Inflow = 0.3 cfs @ 12.04 hrs, Volume= 1,245 cf
Outflow = 0.1 cfs @ 11.96 hrs, Volume= 1,245 cf, Atten= 67%, Lag= 0.0 min
Primary = 0.1 cfs @ 11.96 hrs, Volume= 1,245 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 87.50' Surf.Area= 480 sf Storage= 96 cf
Peak Elev= 88.28' @ 12.26 hrs Surf.Area= 480 sf Storage= 246 cf (150 cf above start)
Flood Elev= 93.25' Surf.Area= 480 sf Storage= 1,080 cf (984 cf above start)

Plug-Flow detention time= 84.7 min calculated for 1,149 cf (92% of inflow)
Center-of-Mass det. time= 14.8 min (852.7 - 837.9)

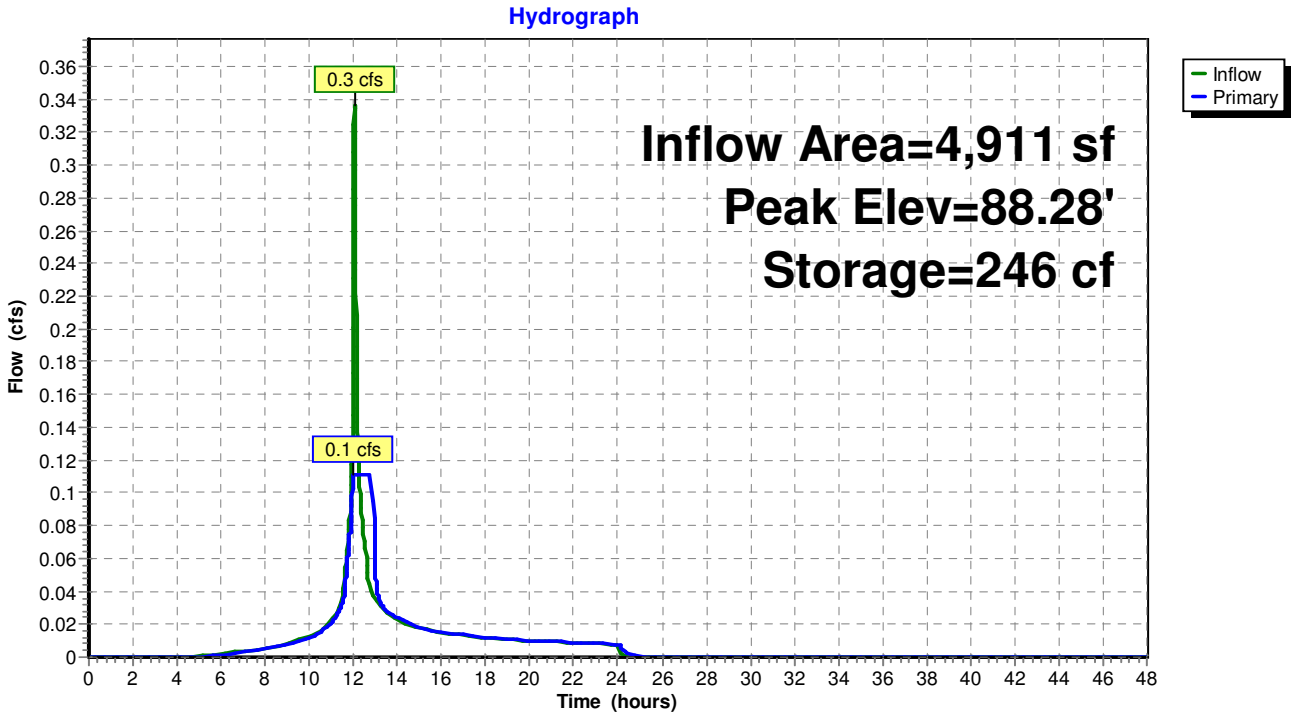
Volume	Invert	Avail.Storage	Storage Description
#1	87.00'	1,080 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
87.00	480	0.0	0	0
89.00	480	40.0	384	384
91.00	480	20.0	192	576
93.00	480	40.0	384	960
93.25	480	100.0	120	1,080

Device	Routing	Invert	Outlet Devices
#1	Primary	87.50'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 87.50' / 87.00' S= 0.0208 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	87.00'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Primary OutFlow Max=0.1 cfs @ 11.96 hrs HW=87.69' TW=83.95' (Dynamic Tailwater)
↑—**1=Culvert** (Passes 0.1 cfs of 0.1 cfs potential flow)
↑—**2=Exfiltration** (Exfiltration Controls 0.1 cfs)

Pond DE1: DRIP EDGE 1



Summary for Pond DE2: DRIP EDGE 2

Inflow Area = 7,936 sf, 52.68% Impervious, Inflow Depth = 3.23" for 10-yr event
Inflow = 0.3 cfs @ 12.04 hrs, Volume= 2,136 cf
Outflow = 0.1 cfs @ 11.83 hrs, Volume= 2,136 cf, Atten= 73%, Lag= 0.0 min
Primary = 0.1 cfs @ 11.83 hrs, Volume= 2,136 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 83.50' Surf.Area= 400 sf Storage= 80 cf
Peak Elev= 86.02' @ 12.96 hrs Surf.Area= 400 sf Storage= 481 cf (401 cf above start)
Flood Elev= 90.25' Surf.Area= 400 sf Storage= 1,060 cf (980 cf above start)

Plug-Flow detention time= 66.5 min calculated for 2,056 cf (96% of inflow)
Center-of-Mass det. time= 27.3 min (864.0 - 836.8)

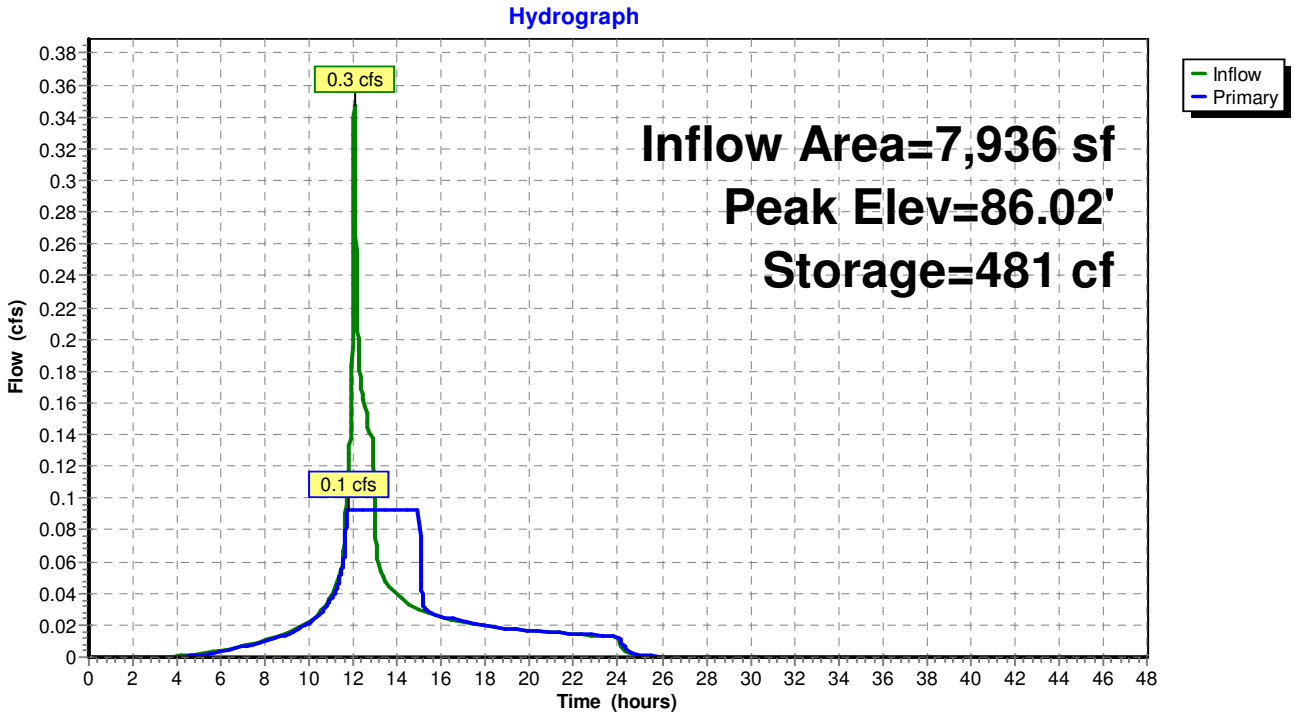
Volume	Invert	Avail.Storage	Storage Description
#1	83.00'	1,060 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
83.00	400	0.0	0	0
86.00	400	40.0	480	480
88.00	400	20.0	160	640
90.00	400	40.0	320	960
90.25	400	100.0	100	1,060

Device	Routing	Invert	Outlet Devices
#1	Primary	83.50'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 83.50' / 82.00' S= 0.0625 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	83.00'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Primary OutFlow Max=0.1 cfs @ 11.83 hrs HW=83.73' TW=82.05' (Dynamic Tailwater)
↑—**1=Culvert** (Passes 0.1 cfs of 0.2 cfs potential flow)
↑—**2=Exfiltration** (Exfiltration Controls 0.1 cfs)

Pond DE2: DRIP EDGE 2



Summary for Pond DE3: DRIP EDGE 3

Inflow Area = 2,717 sf, 82.33% Impervious, Inflow Depth = 3.95" for 10-yr event
Inflow = 0.2 cfs @ 12.04 hrs, Volume= 895 cf
Outflow = 0.1 cfs @ 11.99 hrs, Volume= 895 cf, Atten= 52%, Lag= 0.0 min
Primary = 0.1 cfs @ 11.99 hrs, Volume= 895 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 73.50' Surf.Area= 480 sf Storage= 96 cf
Peak Elev= 73.91' @ 12.16 hrs Surf.Area= 480 sf Storage= 174 cf (78 cf above start)
Flood Elev= 78.25' Surf.Area= 480 sf Storage= 984 cf (888 cf above start)

Plug-Flow detention time= 121.0 min calculated for 799 cf (89% of inflow)
Center-of-Mass det. time= 15.7 min (807.2 - 791.5)

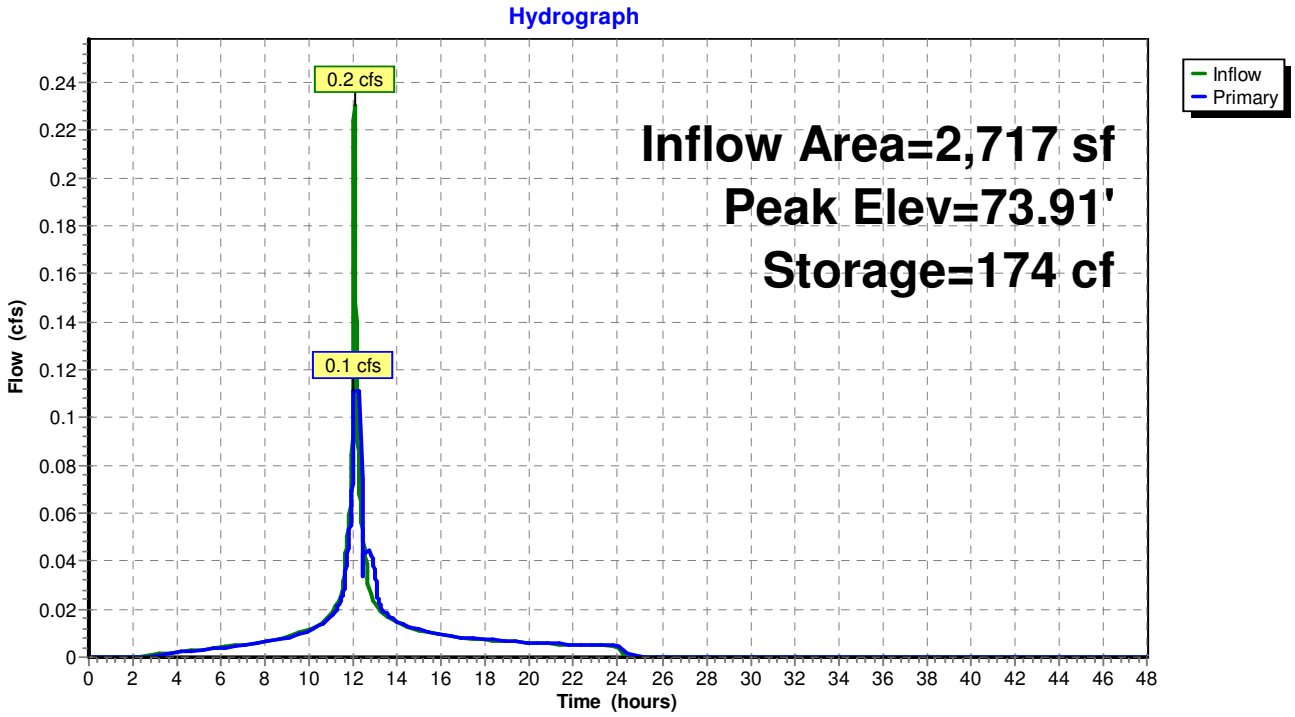
Volume	Invert	Avail.Storage	Storage Description
#1	73.00'	984 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
73.00	480	0.0	0	0
75.00	480	40.0	384	384
76.00	480	20.0	96	480
78.00	480	40.0	384	864
78.25	480	100.0	120	984

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 73.50' / 73.00' S= 0.0208 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	73.00'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Primary OutFlow Max=0.1 cfs @ 11.99 hrs HW=73.69' TW=71.94' (Dynamic Tailwater)
↑—**1=Culvert** (Passes 0.1 cfs of 0.1 cfs potential flow)
↑—**2=Exfiltration** (Exfiltration Controls 0.1 cfs)

Pond DE3: DRIP EDGE 3



Summary for Pond DE4: DRIP EDGE 4

Inflow Area = 4,610 sf, 82.65% Impervious, Inflow Depth = 3.95" for 10-yr event
Inflow = 0.3 cfs @ 12.04 hrs, Volume= 1,518 cf
Outflow = 0.1 cfs @ 11.84 hrs, Volume= 1,518 cf, Atten= 73%, Lag= 0.0 min
Primary = 0.1 cfs @ 11.84 hrs, Volume= 1,518 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 71.50' Surf.Area= 320 sf Storage= 64 cf
Peak Elev= 73.71' @ 12.53 hrs Surf.Area= 320 sf Storage= 301 cf (237 cf above start)
Flood Elev= 76.25' Surf.Area= 320 sf Storage= 656 cf (592 cf above start)

Plug-Flow detention time= 68.1 min calculated for 1,454 cf (96% of inflow)
Center-of-Mass det. time= 20.2 min (821.0 - 800.7)

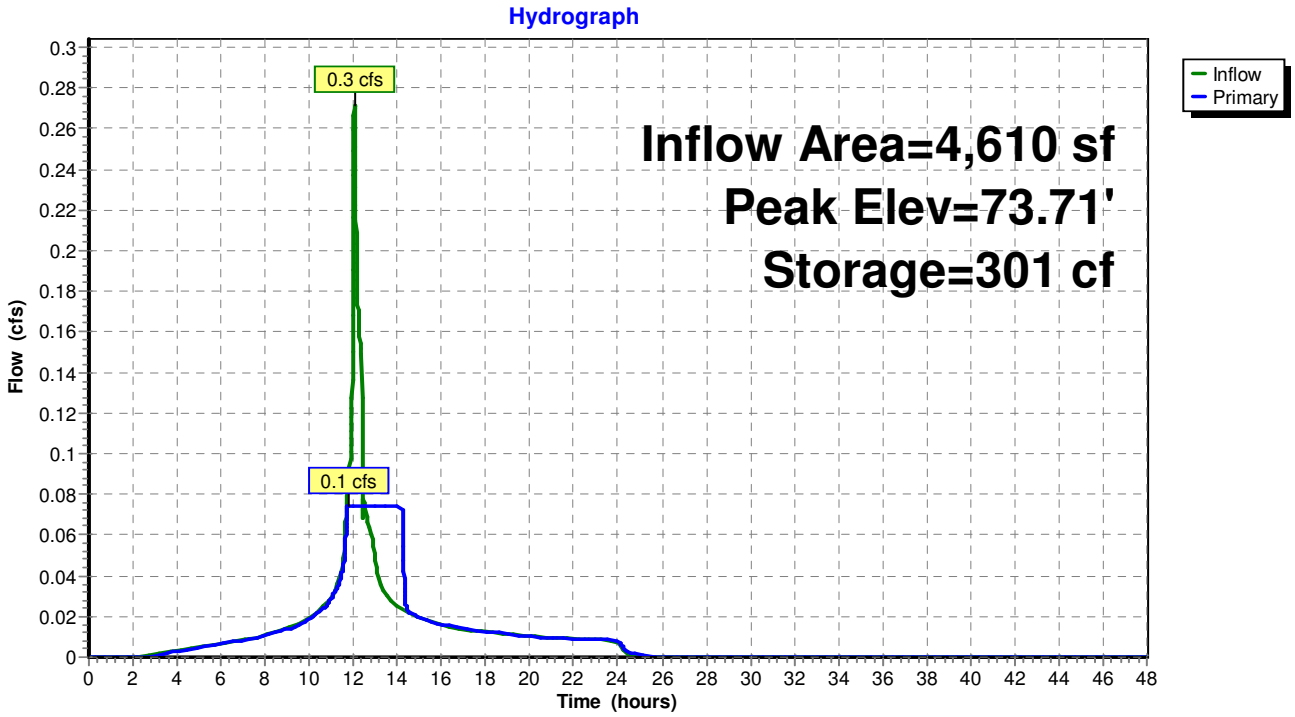
Volume	Invert	Avail.Storage	Storage Description
#1	71.00'	656 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
71.00	320	0.0	0	0
73.00	320	40.0	256	256
74.00	320	20.0	64	320
76.00	320	40.0	256	576
76.25	320	100.0	80	656

Device	Routing	Invert	Outlet Devices
#1	Primary	71.50'	**12.0" Round Culvert** L= 38.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 71.50' / 70.00' S= 0.0393 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	71.00'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Primary OutFlow Max=0.1 cfs @ 11.84 hrs HW=71.68' TW=70.08' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.1 cfs of 0.1 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.1 cfs)

Pond DE4: DRIP EDGE 4



Summary for Pond PCB1: PCB1

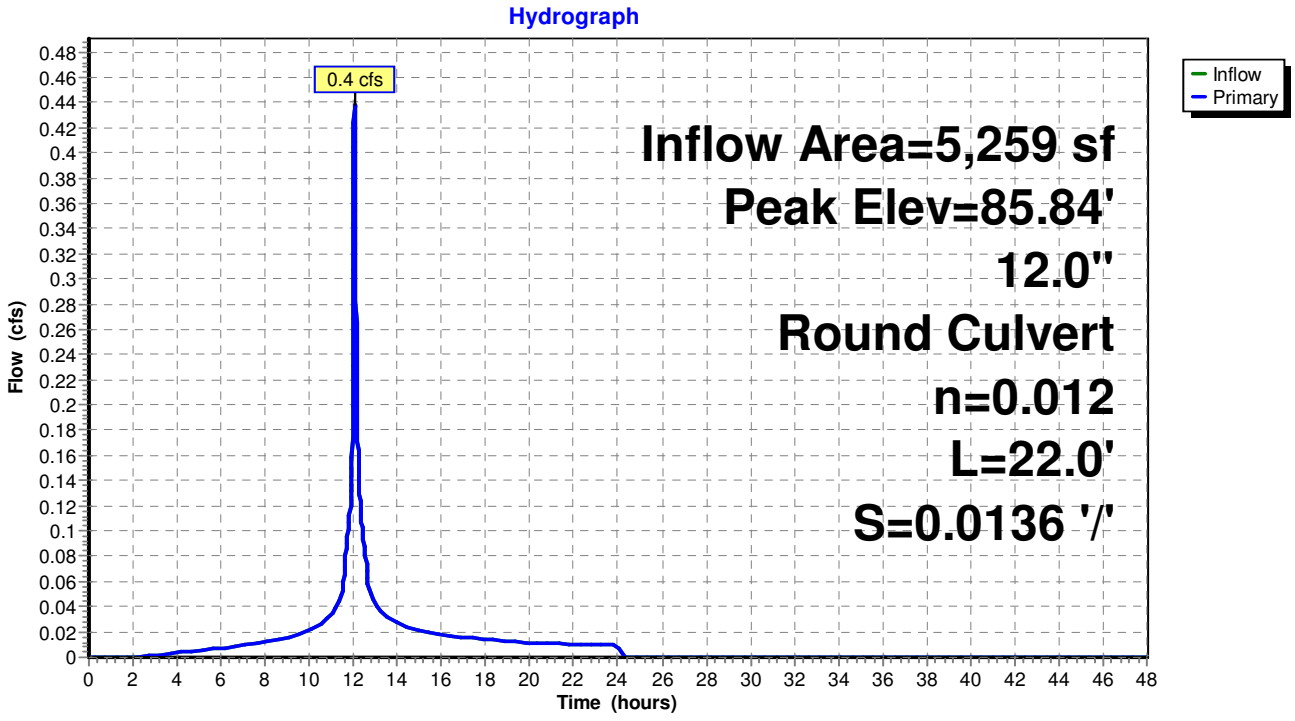
Inflow Area = 5,259 sf, 77.96% Impervious, Inflow Depth = 3.85" for 10-yr event
Inflow = 0.4 cfs @ 12.04 hrs, Volume= 1,685 cf
Outflow = 0.4 cfs @ 12.04 hrs, Volume= 1,685 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.04 hrs, Volume= 1,685 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 85.84' @ 12.15 hrs
Flood Elev= 88.53'

Device	Routing	Invert	Outlet Devices
#1	Primary	85.30'	**12.0" Round Culvert** L= 22.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 85.30' / 85.00' S= 0.0136 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.04 hrs HW=85.71' TW=85.57' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 0.4 cfs @ 1.92 fps)

Pond PCB1: PCB1



Summary for Pond PCB2: PCB2

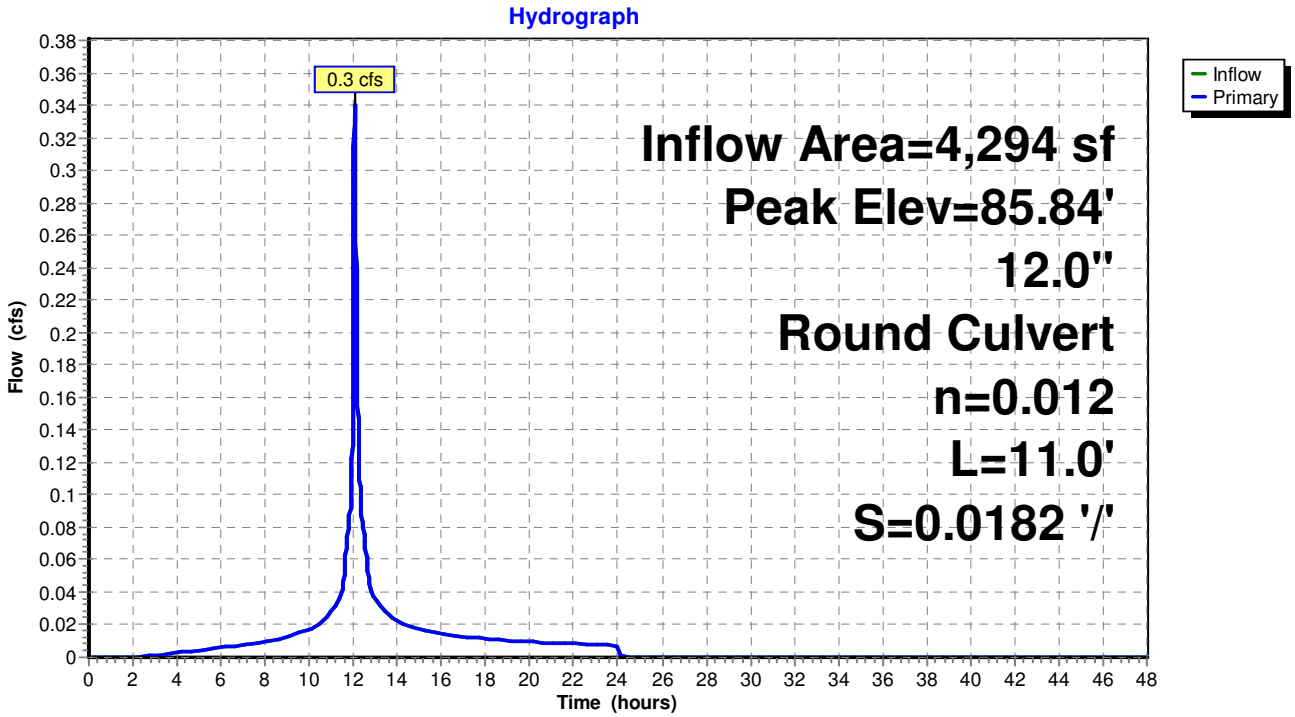
Inflow Area = 4,294 sf, 77.06% Impervious, Inflow Depth = 3.85" for 10-yr event
Inflow = 0.3 cfs @ 12.05 hrs, Volume= 1,376 cf
Outflow = 0.3 cfs @ 12.05 hrs, Volume= 1,376 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.05 hrs, Volume= 1,376 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 85.84' @ 12.16 hrs
Flood Elev= 88.53'

Device	Routing	Invert	Outlet Devices
#1	Primary	85.30'	**12.0" Round Culvert** L= 11.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 85.30' / 85.10' S= 0.0182 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.05 hrs HW=85.68' TW=85.61' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.3 cfs @ 1.52 fps)

Pond PCB2: PCB2



Summary for Pond PDMH1: PDMH1

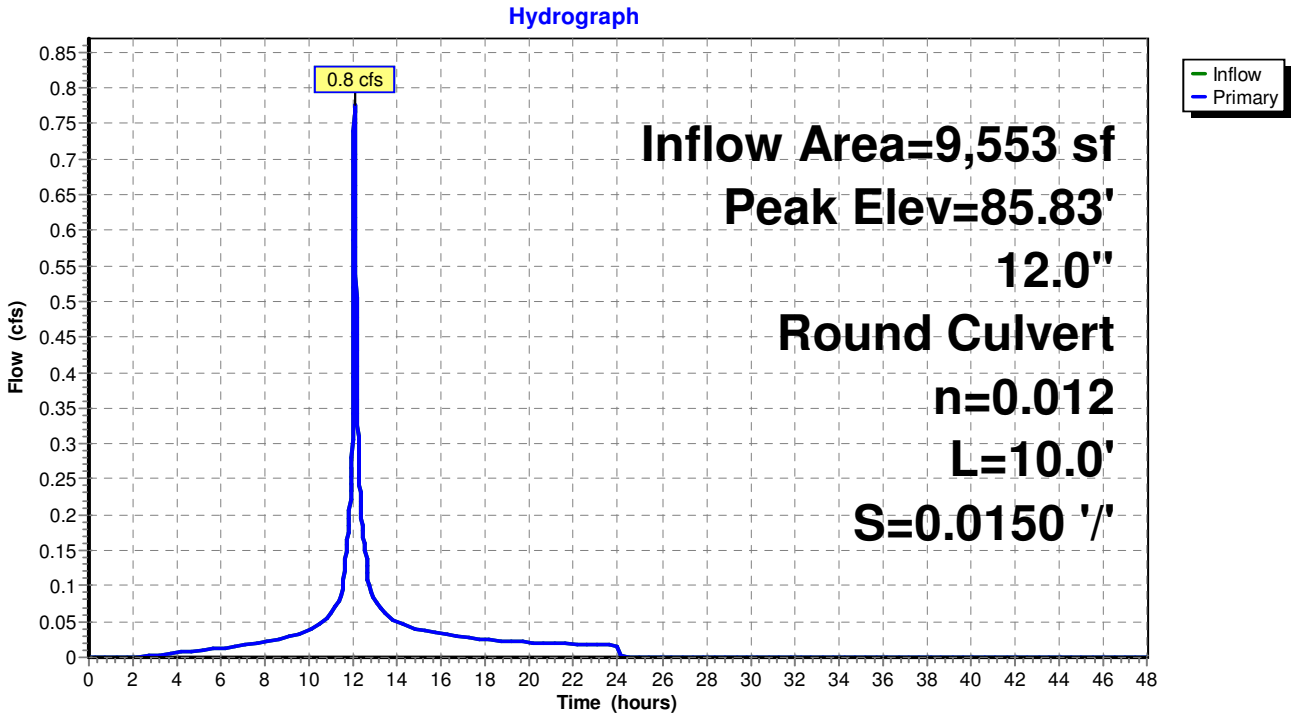
Inflow Area = 9,553 sf, 77.56% Impervious, Inflow Depth = 3.85" for 10-yr event
Inflow = 0.8 cfs @ 12.04 hrs, Volume= 3,061 cf
Outflow = 0.8 cfs @ 12.04 hrs, Volume= 3,061 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.8 cfs @ 12.04 hrs, Volume= 3,061 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 85.83' @ 12.15 hrs
Flood Elev= 89.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	84.90'	**12.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 84.90' / 84.75' S= 0.0150 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.5 cfs @ 12.04 hrs HW=85.58' TW=85.53' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.5 cfs @ 1.36 fps)

Pond PDMH1: PDMH1



Summary for Pond PP1: POROUS PAVEMENT 1

Inflow Area = 7,096 sf, 77.78% Impervious, Inflow Depth = 3.95" for 10-yr event
Inflow = 0.6 cfs @ 12.04 hrs, Volume= 2,337 cf
Outflow = 0.2 cfs @ 12.25 hrs, Volume= 2,115 cf, Atten= 68%, Lag= 13.0 min
Primary = 0.2 cfs @ 12.25 hrs, Volume= 2,115 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 88.75' Surf.Area= 5,519 sf Storage= 637 cf
Peak Elev= 89.20' @ 12.25 hrs Surf.Area= 5,519 sf Storage= 1,501 cf (864 cf above start)
Flood Elev= 91.50' Surf.Area= 5,519 sf Storage= 3,990 cf (3,353 cf above start)

Plug-Flow detention time= 405.8 min calculated for 1,477 cf (63% of inflow)
Center-of-Mass det. time= 164.4 min (955.8 - 791.5)

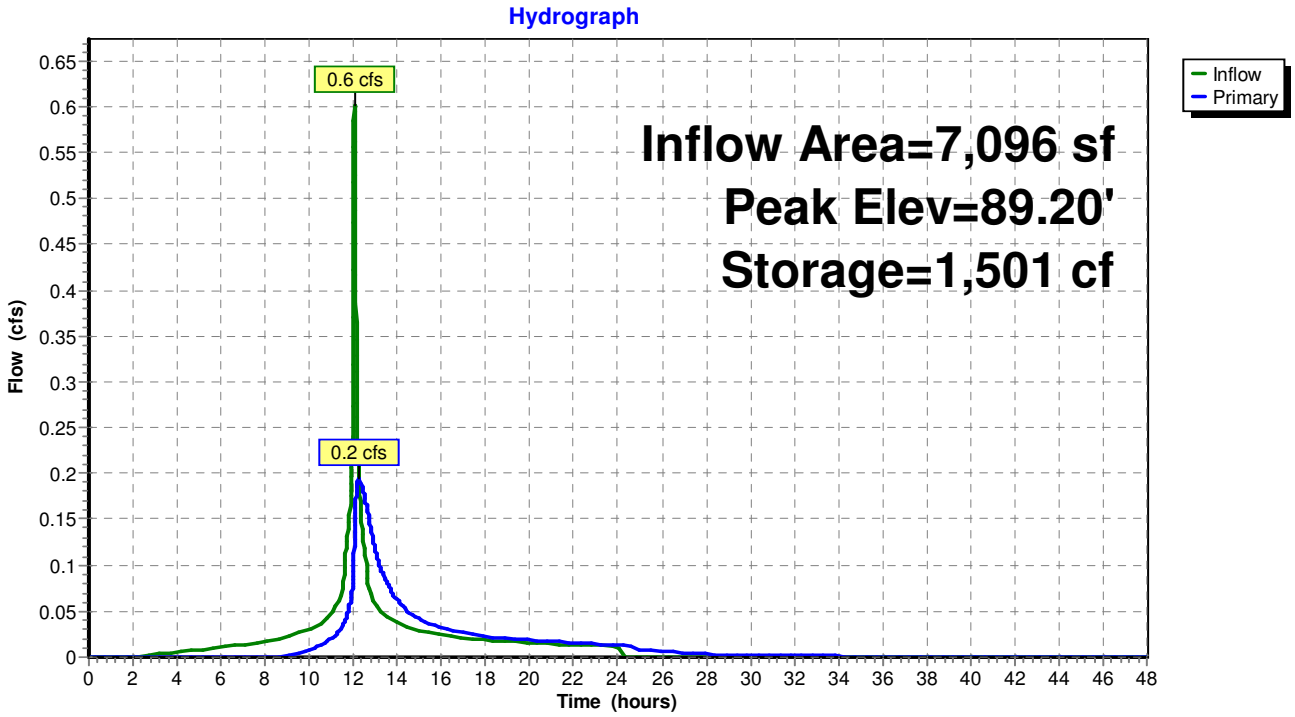
Volume	Invert	Avail.Storage	Storage Description
#1	88.42'	3,990 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
88.42	5,519	429.2	0.0	0	0	5,519
89.58	5,519	429.2	35.0	2,241	2,241	6,017
89.83	5,519	429.2	20.0	276	2,517	6,124
90.83	5,519	429.2	10.0	552	3,069	6,553
91.17	5,519	429.2	20.0	375	3,444	6,699
91.50	5,519	429.2	30.0	546	3,990	6,841

Device	Routing	Invert	Outlet Devices
#1	Primary	88.25'	**12.0" Round Culvert** L= 48.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.25' / 86.00' S= 0.0469 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	88.85'	**6.0" Round Culvert X 2.00** L= 180.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 88.85' / 88.75' S= 0.0006 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=0.2 cfs @ 12.25 hrs HW=89.20' TW=86.05' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.2 cfs of 2.5 cfs potential flow)
↑**2=Culvert** (Barrel Controls 0.2 cfs @ 0.94 fps)

Pond PP1: POROUS PAVEMENT 1



Summary for Pond RG1: RAIN GUARDIAN 1

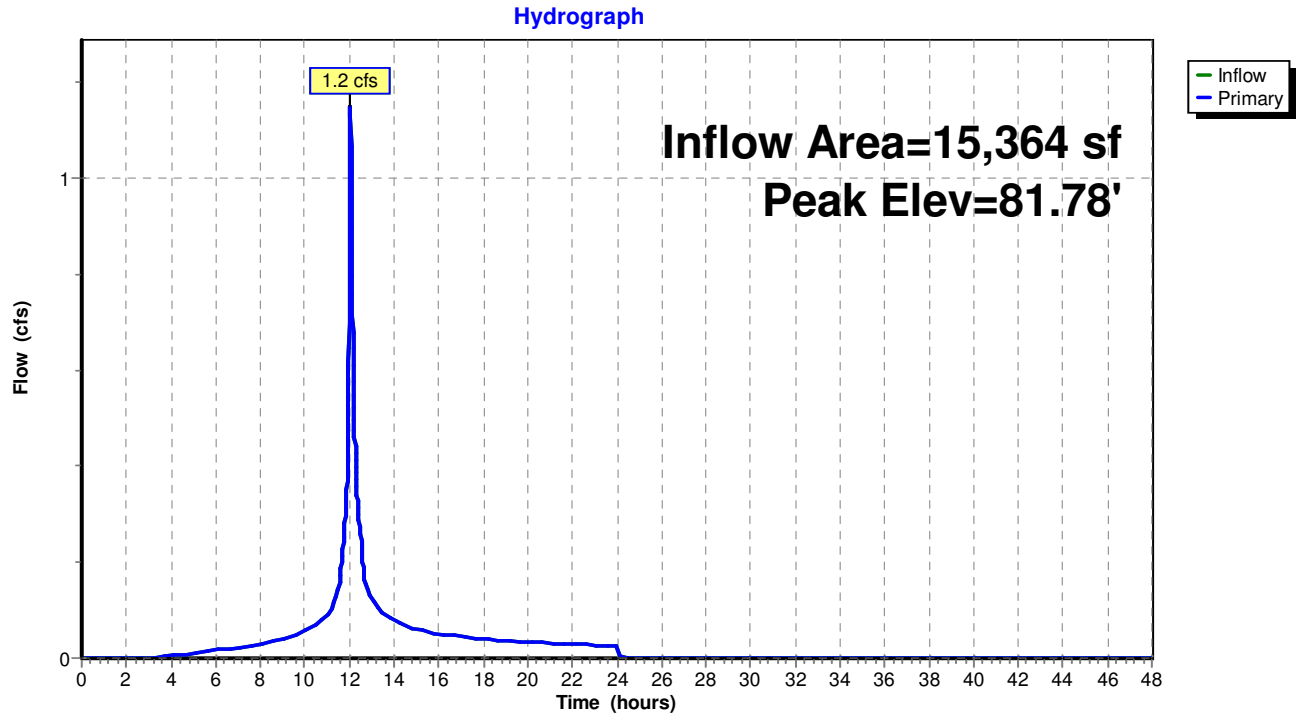
Inflow Area = 15,364 sf, 68.61% Impervious, Inflow Depth = 3.64" for 10-yr event
Inflow = 1.2 cfs @ 12.05 hrs, Volume= 4,655 cf
Outflow = 1.2 cfs @ 12.05 hrs, Volume= 4,655 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.2 cfs @ 12.05 hrs, Volume= 4,655 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 81.78' @ 12.15 hrs
Flood Elev= 82.16'

Device	Routing	Invert	Outlet Devices
#1	Primary	81.09'	**38.0" W x 5.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	81.94'	**41.0" W x 3.2" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0 cfs @ 12.05 hrs HW=81.50' TW=81.52' (Dynamic Tailwater)
└─**1=Orifice/Grate** (Controls 0.0 cfs)
└─**2=Orifice/Grate** (Controls 0.0 cfs)

Pond RG1: RAIN GUARDIAN 1



Summary for Pond RG2: RAIN GUARDIAN 2

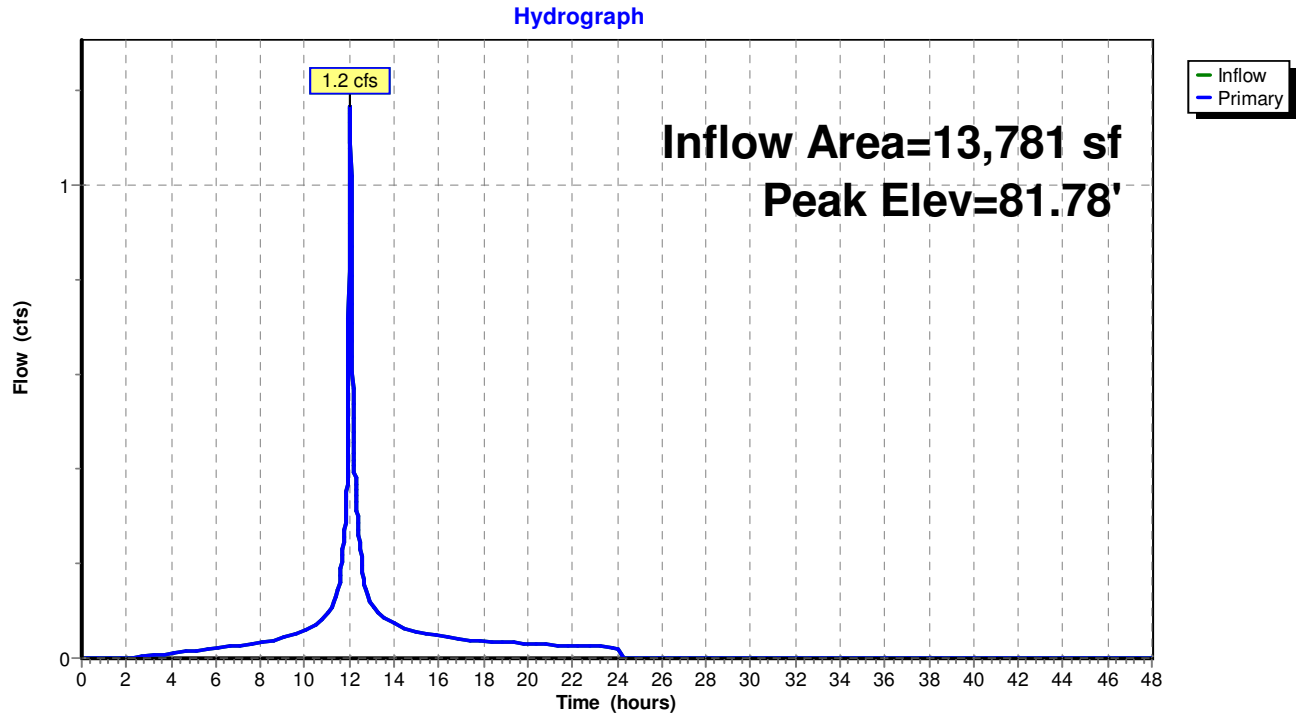
Inflow Area = 13,781 sf, 80.55% Impervious, Inflow Depth = 3.95" for 10-yr event
Inflow = 1.2 cfs @ 12.04 hrs, Volume= 4,539 cf
Outflow = 1.2 cfs @ 12.04 hrs, Volume= 4,539 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.2 cfs @ 12.04 hrs, Volume= 4,539 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 81.78' @ 12.15 hrs
Flood Elev= 82.16'

Device	Routing	Invert	Outlet Devices
#1	Primary	81.09'	**38.0" W x 5.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	81.94'	**41.0" W x 3.2" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0 cfs @ 12.04 hrs HW=81.44' TW=81.44' (Dynamic Tailwater)
└─**1=Orifice/Grate** (Controls 0.0 cfs)
└─**2=Orifice/Grate** (Controls 0.0 cfs)

Pond RG2: RAIN GUARDIAN 2

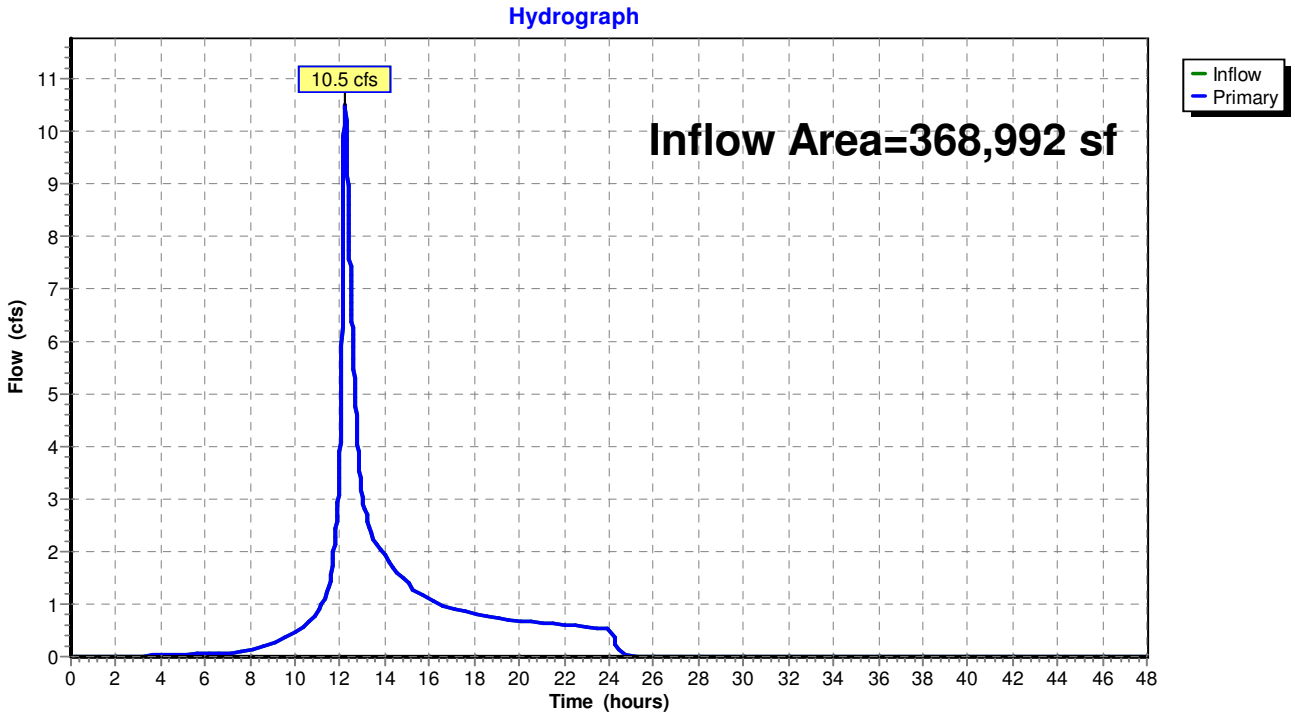


Summary for Link DPA: DPA

Inflow Area = 368,992 sf, 16.47% Impervious, Inflow Depth = 2.41" for 10-yr event
Inflow = 10.5 cfs @ 12.24 hrs, Volume= 74,120 cf
Primary = 10.5 cfs @ 12.24 hrs, Volume= 74,120 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link DPA: DPA



A – 2

NODE LISTING – 25-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WSA1: WS-A1 Runoff Area=307,079 sf 5.88% Impervious Runoff Depth=3.19"
Flow Length=769' Tc=21.4 min CN=74 Runoff=12.3 cfs 81,716 cf

Subcatchment WSA2.1: WS-A2.1 Runoff Area=4,294 sf 77.06% Impervious Runoff Depth=5.08"
Flow Length=316' Tc=7.0 min CN=92 Runoff=0.4 cfs 1,818 cf

Subcatchment WSA2.2: WS-A2.2 Runoff Area=5,259 sf 77.96% Impervious Runoff Depth=5.08"
Flow Length=241' Slope=0.0400 '/' Tc=6.0 min CN=92 Runoff=0.5 cfs 2,226 cf

Subcatchment WSA2.3: WS-A2.3 Runoff Area=7,096 sf 77.78% Impervious Runoff Depth=5.19"
Flow Length=24' Slope=0.0996 '/' Tc=6.0 min CN=93 Runoff=0.7 cfs 3,070 cf

Subcatchment WSA2.4: WS-A2.4 Runoff Area=15,364 sf 68.61% Impervious Runoff Depth=4.86"
Flow Length=310' Tc=7.3 min CN=90 Runoff=1.4 cfs 6,217 cf

Subcatchment WSA2.5: WS-A2.5 Runoff Area=13,781 sf 80.55% Impervious Runoff Depth=5.19"
Flow Length=254' Tc=6.0 min CN=93 Runoff=1.4 cfs 5,963 cf

Subcatchment WSA2.6: WS-A2.6 Runoff Area=4,911 sf 45.23% Impervious Runoff Depth=4.21"
Flow Length=32' Slope=0.0534 '/' Tc=6.0 min CN=84 Runoff=0.4 cfs 1,721 cf

Subcatchment WSA2.7: WS-A2.7 Runoff Area=2,717 sf 82.33% Impervious Runoff Depth=5.19"
Flow Length=5' Slope=0.0100 '/' Tc=6.0 min CN=93 Runoff=0.3 cfs 1,176 cf

Subcatchment WSA2.8: WS-A2.8 Runoff Area=3,025 sf 64.79% Impervious Runoff Depth=4.75"
Flow Length=16' Slope=0.1250 '/' Tc=6.0 min CN=89 Runoff=0.3 cfs 1,196 cf

Subcatchment WSA2.9: WS-A2.9 Runoff Area=1,893 sf 83.10% Impervious Runoff Depth=5.19"
Flow Length=5' Slope=0.0100 '/' Tc=6.0 min CN=93 Runoff=0.2 cfs 819 cf

Subcatchment WSBP1: WS-BP1 Runoff Area=2,088 sf 0.00% Impervious Runoff Depth=3.19"
Flow Length=25' Slope=0.1250 '/' Tc=6.0 min CN=74 Runoff=0.1 cfs 556 cf

Subcatchment WSBP2: WS-BP2 Runoff Area=1,485 sf 8.69% Impervious Runoff Depth=3.29"
Flow Length=25' Slope=0.0840 '/' Tc=6.0 min UI Adjusted CN=75 Runoff=0.1 cfs 407 cf

Reach OR1: OVERLAND REACH 1 (STREAM) Avg. Flow Depth=0.20' Max Vel=1.66 fps Inflow=1.1 cfs 7,298 cf
n=0.035 L=285.0' S=0.0228 '/' Capacity=32.1 cfs Outflow=1.0 cfs 7,298 cf

Reach OR2: OVERLAND REACH 2 Avg. Flow Depth=0.09' Max Vel=1.39 fps Inflow=0.3 cfs 2,848 cf
n=0.030 L=197.3' S=0.0324 '/' Capacity=44.6 cfs Outflow=0.3 cfs 2,848 cf

Reach OR3: OVERLAND REACH 3 Avg. Flow Depth=0.20' Max Vel=3.88 fps Inflow=0.9 cfs 4,451 cf
n=0.030 L=99.0' S=0.0939 '/' Capacity=28.2 cfs Outflow=0.9 cfs 4,451 cf

Reach OR4: OVERLAND REACH 4 Avg. Flow Depth=0.06' Max Vel=3.10 fps Inflow=0.3 cfs 2,848 cf
n=0.030 L=29.6' S=0.2672 '/' Capacity=101.5 cfs Outflow=0.3 cfs 2,848 cf

Reach OR5: OVERLAND REACH 5 Avg. Flow Depth=0.30' Max Vel=2.49 fps Inflow=2.8 cfs 17,647 cf
n=0.030 L=64.4' S=0.0214 '/' Capacity=36.3 cfs Outflow=2.8 cfs 17,647 cf

Reach OR6: OVERLAND REACH 6 Avg. Flow Depth=0.22' Max Vel=4.84 fps Inflow=2.6 cfs 14,694 cf
n=0.030 L=28.6' S=0.1266 '/' Capacity=69.9 cfs Outflow=2.6 cfs 14,694 cf

Reach OR7: OVERLAND REACH 7 Avg. Flow Depth=0.09' Max Vel=1.36 fps Inflow=0.2 cfs 2,953 cf
n=0.030 L=142.9' S=0.0341 '/' Capacity=36.3 cfs Outflow=0.2 cfs 2,953 cf

Reach OR8: OVERLAND REACH 8 Avg. Flow Depth=0.06' Max Vel=2.72 fps Inflow=0.1 cfs 36 cf
n=0.030 L=49.4' S=0.2126 '/' Capacity=42.4 cfs Outflow=0.1 cfs 36 cf

Reach OR9: OVERLAND REACH 9 Avg. Flow Depth=0.05' Max Vel=2.85 fps Inflow=0.1 cfs 2,917 cf
n=0.030 L=37.7' S=0.2851 '/' Capacity=49.1 cfs Outflow=0.1 cfs 2,917 cf

Pond BP1: BIO POND 1 Peak Elev=81.82' Storage=1,997 cf Inflow=2.9 cfs 12,736 cf
Primary=2.6 cfs 12,700 cf Secondary=0.1 cfs 36 cf Outflow=2.7 cfs 12,736 cf

Pond BP2: BIO POND 2 Peak Elev=85.86' Storage=687 cf Inflow=1.0 cfs 4,451 cf
Outflow=0.9 cfs 4,451 cf

Pond DE1: DRIP EDGE 1 Peak Elev=88.73' Storage=333 cf Inflow=0.4 cfs 1,721 cf
Outflow=0.1 cfs 1,721 cf

Pond DE2: DRIP EDGE 2 Peak Elev=88.03' Storage=645 cf Inflow=0.4 cfs 2,917 cf
Outflow=0.1 cfs 2,917 cf

Pond DE3: DRIP EDGE 3 Peak Elev=74.15' Storage=221 cf Inflow=0.3 cfs 1,176 cf
Outflow=0.1 cfs 1,176 cf

Pond DE4: DRIP EDGE 4 Peak Elev=74.15' Storage=339 cf Inflow=0.3 cfs 1,995 cf
Outflow=0.1 cfs 1,995 cf

Pond PCB1: PCB1 Peak Elev=85.95' Inflow=0.5 cfs 2,226 cf
12.0" Round Culvert n=0.012 L=22.0' S=0.0136 '/' Outflow=0.5 cfs 2,226 cf

Pond PCB2: PCB2 Peak Elev=85.94' Inflow=0.4 cfs 1,818 cf
12.0" Round Culvert n=0.012 L=11.0' S=0.0182 '/' Outflow=0.4 cfs 1,818 cf

Pond PDMH1: PDMH1 Peak Elev=85.91' Inflow=0.9 cfs 4,044 cf
12.0" Round Culvert n=0.012 L=10.0' S=0.0150 '/' Outflow=0.9 cfs 4,044 cf

Pond PP1: POROUS PAVEMENT 1 Peak Elev=89.26' Storage=1,621 cf Inflow=0.7 cfs 3,070 cf
Outflow=0.3 cfs 2,848 cf

Pond RG1: RAIN GUARDIAN 1 Peak Elev=81.86' Inflow=1.4 cfs 6,217 cf
Outflow=1.4 cfs 6,217 cf

Pond RG2: RAIN GUARDIAN 2 Peak Elev=81.85' Inflow=1.4 cfs 5,963 cf
Outflow=1.4 cfs 5,963 cf

Link DPA: DPA

Inflow=14.5 cfs 106,661 cf
Primary=14.5 cfs 106,661 cf

Total Runoff Area = 368,992 sf Runoff Volume = 106,885 cf Average Runoff Depth = 3.48"
83.53% Pervious = 308,232 sf 16.47% Impervious = 60,760 sf

A – 2

NODE LISTING – 50-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WSA1: WS-A1 Runoff Area=307,079 sf 5.88% Impervious Runoff Depth=4.20"
Flow Length=769' Tc=21.4 min CN=74 Runoff=15.7 cfs 107,462 cf

Subcatchment WSA2.1: WS-A2.1 Runoff Area=4,294 sf 77.06% Impervious Runoff Depth=6.23"
Flow Length=316' Tc=7.0 min CN=92 Runoff=0.5 cfs 2,230 cf

Subcatchment WSA2.2: WS-A2.2 Runoff Area=5,259 sf 77.96% Impervious Runoff Depth=6.23"
Flow Length=241' Slope=0.0400 '/' Tc=6.0 min CN=92 Runoff=0.6 cfs 2,731 cf

Subcatchment WSA2.3: WS-A2.3 Runoff Area=7,096 sf 77.78% Impervious Runoff Depth=6.35"
Flow Length=24' Slope=0.0996 '/' Tc=6.0 min CN=93 Runoff=0.8 cfs 3,755 cf

Subcatchment WSA2.4: WS-A2.4 Runoff Area=15,364 sf 68.61% Impervious Runoff Depth=6.00"
Flow Length=310' Tc=7.3 min CN=90 Runoff=1.7 cfs 7,682 cf

Subcatchment WSA2.5: WS-A2.5 Runoff Area=13,781 sf 80.55% Impervious Runoff Depth=6.35"
Flow Length=254' Tc=6.0 min CN=93 Runoff=1.6 cfs 7,292 cf

Subcatchment WSA2.6: WS-A2.6 Runoff Area=4,911 sf 45.23% Impervious Runoff Depth=5.31"
Flow Length=32' Slope=0.0534 '/' Tc=6.0 min CN=84 Runoff=0.5 cfs 2,174 cf

Subcatchment WSA2.7: WS-A2.7 Runoff Area=2,717 sf 82.33% Impervious Runoff Depth=6.35"
Flow Length=5' Slope=0.0100 '/' Tc=6.0 min CN=93 Runoff=0.3 cfs 1,438 cf

Subcatchment WSA2.8: WS-A2.8 Runoff Area=3,025 sf 64.79% Impervious Runoff Depth=5.88"
Flow Length=16' Slope=0.1250 '/' Tc=6.0 min CN=89 Runoff=0.3 cfs 1,483 cf

Subcatchment WSA2.9: WS-A2.9 Runoff Area=1,893 sf 83.10% Impervious Runoff Depth=6.35"
Flow Length=5' Slope=0.0100 '/' Tc=6.0 min CN=93 Runoff=0.2 cfs 1,002 cf

Subcatchment WSBP1: WS-BP1 Runoff Area=2,088 sf 0.00% Impervious Runoff Depth=4.20"
Flow Length=25' Slope=0.1250 '/' Tc=6.0 min CN=74 Runoff=0.2 cfs 731 cf

Subcatchment WSBP2: WS-BP2 Runoff Area=1,485 sf 8.69% Impervious Runoff Depth=4.31"
Flow Length=25' Slope=0.0840 '/' Tc=6.0 min UI Adjusted CN=75 Runoff=0.1 cfs 533 cf

Reach OR1: OVERLAND REACH 1 (STREAM) Avg. Flow Depth=0.23' Max Vel=1.81 fps Inflow=1.4 cfs 9,026 cf
n=0.035 L=285.0' S=0.0228 '/' Capacity=32.1 cfs Outflow=1.3 cfs 9,026 cf

Reach OR2: OVERLAND REACH 2 Avg. Flow Depth=0.10' Max Vel=1.47 fps Inflow=0.3 cfs 3,532 cf
n=0.030 L=197.3' S=0.0324 '/' Capacity=44.6 cfs Outflow=0.3 cfs 3,531 cf

Reach OR3: OVERLAND REACH 3 Avg. Flow Depth=0.22' Max Vel=4.18 fps Inflow=1.2 cfs 5,495 cf
n=0.030 L=99.0' S=0.0939 '/' Capacity=28.2 cfs Outflow=1.2 cfs 5,495 cf

Reach OR4: OVERLAND REACH 4 Avg. Flow Depth=0.07' Max Vel=3.28 fps Inflow=0.3 cfs 3,532 cf
n=0.030 L=29.6' S=0.2672 '/' Capacity=101.5 cfs Outflow=0.3 cfs 3,532 cf

Reach OR5: OVERLAND REACH 5 Avg. Flow Depth=0.34' Max Vel=2.67 fps Inflow=3.5 cfs 21,800 cf
n=0.030 L=64.4' S=0.0214 '/' Capacity=36.3 cfs Outflow=3.5 cfs 21,800 cf

Reach OR6: OVERLAND REACH 6 Avg. Flow Depth=0.24' Max Vel=5.17 fps Inflow=3.3 cfs 18,060 cf
n=0.030 L=28.6' S=0.1266 '/' Capacity=69.9 cfs Outflow=3.3 cfs 18,060 cf

Reach OR7: OVERLAND REACH 7 Avg. Flow Depth=0.10' Max Vel=1.51 fps Inflow=0.3 cfs 3,740 cf
n=0.030 L=142.9' S=0.0341 '/' Capacity=36.3 cfs Outflow=0.3 cfs 3,740 cf

Reach OR8: OVERLAND REACH 8 Avg. Flow Depth=0.08' Max Vel=3.15 fps Inflow=0.2 cfs 83 cf
n=0.030 L=49.4' S=0.2126 '/' Capacity=42.4 cfs Outflow=0.2 cfs 83 cf

Reach OR9: OVERLAND REACH 9 Avg. Flow Depth=0.05' Max Vel=2.85 fps Inflow=0.1 cfs 3,657 cf
n=0.030 L=37.7' S=0.2851 '/' Capacity=49.1 cfs Outflow=0.1 cfs 3,657 cf

Pond BP1: BIO POND 1 Peak Elev=81.84' Storage=2,033 cf Inflow=3.5 cfs 15,704 cf
Primary=3.2 cfs 15,621 cf Secondary=0.2 cfs 83 cf Outflow=3.4 cfs 15,704 cf

Pond BP2: BIO POND 2 Peak Elev=85.89' Storage=702 cf Inflow=1.2 cfs 5,495 cf
Outflow=1.2 cfs 5,495 cf

Pond DE1: DRIP EDGE 1 Peak Elev=89.52' Storage=434 cf Inflow=0.5 cfs 2,174 cf
Outflow=0.1 cfs 2,173 cf

Pond DE2: DRIP EDGE 2 Peak Elev=88.76' Storage=762 cf Inflow=0.5 cfs 3,657 cf
Outflow=0.1 cfs 3,657 cf

Pond DE3: DRIP EDGE 3 Peak Elev=74.52' Storage=292 cf Inflow=0.3 cfs 1,438 cf
Outflow=0.1 cfs 1,438 cf

Pond DE4: DRIP EDGE 4 Peak Elev=74.52' Storage=387 cf Inflow=0.3 cfs 2,439 cf
Outflow=0.1 cfs 2,439 cf

Pond PCB1: PCB1 Peak Elev=86.02' Inflow=0.6 cfs 2,731 cf
12.0" Round Culvert n=0.012 L=22.0' S=0.0136 '/' Outflow=0.6 cfs 2,731 cf

Pond PCB2: PCB2 Peak Elev=86.00' Inflow=0.5 cfs 2,230 cf
12.0" Round Culvert n=0.012 L=11.0' S=0.0182 '/' Outflow=0.5 cfs 2,230 cf

Pond PDMH1: PDMH1 Peak Elev=85.97' Inflow=1.1 cfs 4,962 cf
12.0" Round Culvert n=0.012 L=10.0' S=0.0150 '/' Outflow=1.1 cfs 4,962 cf

Pond PP1: POROUS PAVEMENT 1 Peak Elev=89.31' Storage=1,722 cf Inflow=0.8 cfs 3,755 cf
Outflow=0.3 cfs 3,532 cf

Pond RG1: RAIN GUARDIAN 1 Peak Elev=81.91' Inflow=1.7 cfs 7,682 cf
Outflow=1.7 cfs 7,682 cf

Pond RG2: RAIN GUARDIAN 2 Peak Elev=81.90' Inflow=1.6 cfs 7,292 cf
Outflow=1.6 cfs 7,292 cf

Link DPA: DPA

Inflow=18.3 cfs 138,288 cf
Primary=18.3 cfs 138,288 cf

Total Runoff Area = 368,992 sf Runoff Volume = 138,512 cf Average Runoff Depth = 4.50"
83.53% Pervious = 308,232 sf 16.47% Impervious = 60,760 sf

APPENDIX B

DESIGN

B – 1

STORMWATER BEST MANAGEMENT PRACTICES

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: **Bio-Retention Pond 1 (BP1)**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

Yes		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a).	
0.70	ac	A = Area draining to the practice	
0.47	ac	A_I = Impervious area draining to the practice	
0.67	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.66	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.46	ac-in	WQV= 1" x Rv x A	
1,665	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
416	cf	25% x WQV (check calc for sediment forebay volume)	
1,249	cf	75% x WQV (check calc for surface sand filter volume)	
Rain Guardians		Method of Pretreatment? (not required for clean or roof runoff)	
na	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
na	sf	A_{SA} = Surface area of the practice	
na	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
		If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
na	Yes/No	(Use the calculations below)	
-	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
81.70	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
0.50	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
1.85	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
78.50	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
77.42	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
70.00	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
36.00	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.08	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
42.50	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
8.50	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
81.84	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
82.25	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
na	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ 75%WQV**
na	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
1,665	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
18.0	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	**≥ 3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
NA		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
na	acres	A_{SA} = Surface area of the pervious pavement	
#VALUE!	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
na	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA mod. 304.1 (see spec)**
Sheet	na	Note what sheet in the plan set contains the filter course spec.	

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

Summary for Pond BP1: BIO POND 1

Inflow Area = 30,461 sf, 67.34% Impervious, Inflow Depth = 6.02" for 50-yr event
Inflow = 3.4 cfs @ 12.04 hrs, Volume= 15,280 cf
Outflow = 3.3 cfs @ 12.06 hrs, Volume= 15,280 cf, Atten= 3%, Lag= 1.0 min
Primary = 3.1 cfs @ 12.06 hrs, Volume= 15,204 cf
Secondary = 0.2 cfs @ 12.06 hrs, Volume= 75 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 77.42' Surf.Area= 325 sf Storage= 39 cf
Peak Elev= 81.84' @ 12.06 hrs Surf.Area= 1,850 sf Storage= 2,028 cf (1,989 cf above start)
Flood Elev= 82.25' Surf.Area= 2,394 sf Storage= 2,797 cf (2,759 cf above start)

Plug-Flow detention time= 44.2 min calculated for 15,241 cf (100% of inflow)
Center-of-Mass det. time= 40.6 min (829.3 - 788.7)

Volume	Invert	Avail.Storage	Storage Description
#1	77.08'	198 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
#2	77.08'	2,599 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		2,797 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
77.08	84	38.1	0.0	0	0	84
78.25	84	38.1	35.0	34	34	129
78.50	84	38.1	20.0	4	39	138
80.00	84	38.1	10.0	13	51	195
80.99	224	56.8	100.0	147	198	344

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
77.08	241	87.5	0.0	0	0	241
78.25	241	87.5	35.0	99	99	343
78.50	241	87.5	20.0	12	111	365
80.00	241	87.5	10.0	36	147	497
81.00	1,027	233.4	100.0	589	735	4,226
81.70	1,500	238.1	100.0	879	1,615	4,467
82.00	1,781	286.9	100.0	492	2,106	6,508
82.25	2,170	258.9	100.0	493	2,599	7,726

Device	Routing	Invert	Outlet Devices
#1	Primary	70.16'	**12.0" Round Culvert** L= 4.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 70.16' / 70.00' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	77.42'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 2	77.08'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#4	Device 1	81.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	81.75'	**5.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00

2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66
2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=3.1 cfs @ 12.06 hrs HW=81.84' TW=70.24' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.1 cfs of 12.6 cfs potential flow)
  └─**2=Orifice/Grate** (Passes 0.4 cfs of 1.9 cfs potential flow)
    └─**3=Exfiltration** (Exfiltration Controls 0.4 cfs)
  └─**4=Orifice/Grate** (Weir Controls 2.7 cfs @ 1.21 fps)

Secondary OutFlow Max=0.2 cfs @ 12.06 hrs HW=81.84' TW=81.82' (Dynamic Tailwater)
└─**5=Broad-Crested Rectangular Weir** (Weir Controls 0.2 cfs @ 0.39 fps)

Stage-Area-Storage for Pond BP1: BIO POND 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
77.08	325	0
77.18	325	11
77.28	325	23
77.38	325	34
77.48	325	46
77.58	325	57
77.68	325	68
77.78	325	80
77.88	325	91
77.98	325	102
78.08	325	114
78.18	325	125
78.28	325	135
78.38	325	142
78.48	325	148
78.58	325	152
78.68	325	155
78.78	325	158
78.88	325	162
78.98	325	165
79.08	325	168
79.18	325	171
79.28	325	175
79.38	325	178
79.48	325	181
79.58	325	184
79.68	325	188
79.78	325	191
79.88	325	194
79.98	325	197
80.08	377	226
80.18	447	267
80.28	523	316
80.38	605	372
80.48	694	437
80.58	788	511
80.68	889	595
80.78	996	689
80.88	1,109	794
80.98	1,228	911
81.08	1,301	1,018
81.18	1,364	1,128
81.28	1,429	1,246
81.38	1,497	1,370
81.48	1,566	1,500
81.58	1,637	1,638
81.68	1,709	1,783
81.78	1,797	1,936
81.88	1,890	2,098
81.98	1,986	2,269
82.08	2,125	2,452
82.18	**2,281**	**2,649**

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: **Bio-Retention Pond 2 (BP2)**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

Yes		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a).	
0.25	ac	A = Area draining to the practice	
0.17	ac	A_I = Impervious area draining to the practice	
0.68	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.66	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.17	ac-in	WQV= 1" x Rv x A	
610	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
152	cf	25% x WQV (check calc for sediment forebay volume)	
457	cf	75% x WQV (check calc for surface sand filter volume)	
Deep Sump CB's		Method of Pretreatment? (not required for clean or roof runoff)	
114	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
N/A	sf	A_{SA} = Surface area of the practice	
N/A	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
N/A	Yes/No	If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided? (Use the calculations below)	
-	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
85.75	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
0.15	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
2.26	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
83.00	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
81.92	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
81.92	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
81.92	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.08	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
1.08	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
1.08	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
85.89	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
86.10	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
N/A	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ 75%WQV**
N/A	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet	N/A	Note what sheet in the plan set contains the filter course specification.	
N/A	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
634	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
18.0	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	**≥ 3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
N/A		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
N/A	acres	A_{SA} = Surface area of the pervious pavement	
#VALUE!	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
N/A	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA mod. 304.1 (see spec)**
Sheet	N/A	Note what sheet in the plan set contains the filter course spec.	

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

Summary for Pond BP2: BIO POND 2

Inflow Area = 11,029 sf, 68.15% Impervious, Inflow Depth = 5.99" for 50-yr event
Inflow = 1.2 cfs @ 12.04 hrs, Volume= 5,505 cf
Outflow = 1.2 cfs @ 12.06 hrs, Volume= 5,505 cf, Atten= 3%, Lag= 1.0 min
Primary = 1.2 cfs @ 12.06 hrs, Volume= 5,505 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 81.92' Surf.Area= 208 sf Storage= 25 cf
Peak Elev= 85.89' @ 12.06 hrs Surf.Area= 667 sf Storage= 703 cf (678 cf above start)
Flood Elev= 86.10' Surf.Area= 920 sf Storage= 862 cf (837 cf above start)

Plug-Flow detention time= 39.8 min calculated for 5,479 cf (100% of inflow)
Center-of-Mass det. time= 33.9 min (826.0 - 792.1)

Volume	Invert	Avail.Storage	Storage Description
#1	81.58'	862 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
81.58	208	68.5	0.0	0	0	208
82.75	208	68.5	35.0	85	85	288
83.00	208	68.5	20.0	10	96	305
84.50	208	68.5	10.0	31	127	408
85.00	340	90.3	100.0	136	262	686
85.75	614	128.9	100.0	353	615	1,365
86.00	712	133.6	100.0	166	781	1,468
86.10	920	143.0	100.0	81	862	1,676

Device	Routing	Invert	Outlet Devices
#1	Primary	81.50'	**12.0" Round Culvert** L= 23.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 81.50' / 81.00' S= 0.0217 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	81.92'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 2	81.58'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#4	Device 1	85.75'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.2 cfs @ 12.06 hrs HW=85.89' TW=81.22' (Dynamic Tailwater)
- **1=Culvert** (Passes 1.2 cfs of 7.5 cfs potential flow)
  - **2=Orifice/Grate** (Passes 0.2 cfs of 1.8 cfs potential flow)
    - **3=Exfiltration** (Exfiltration Controls 0.2 cfs)
  - **4=Orifice/Grate** (Weir Controls 1.0 cfs @ 1.21 fps)

Stage-Area-Storage for Pond BP2: BIO POND 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
81.58	208	0
81.68	208	7
81.78	208	15
81.88	208	22
81.98	208	29
82.08	208	36
82.18	208	44
82.28	208	51
82.38	208	58
82.48	208	66
82.58	208	73
82.68	208	80
82.78	208	86
82.88	208	91
82.98	208	95
83.08	208	97
83.18	208	99
83.28	208	101
83.38	208	103
83.48	208	106
83.58	208	108
83.68	208	110
83.78	208	112
83.88	208	114
83.98	208	116
84.08	208	118
84.18	208	120
84.28	208	122
84.38	208	124
84.48	208	126
84.58	227	144
84.68	252	168
84.78	278	195
84.88	305	224
84.98	334	256
85.08	365	291
85.18	398	329
85.28	433	370
85.38	469	415
85.48	506	464
85.58	545	517
85.68	585	573
85.78	625	634
85.88	664	698
85.98	704	767
86.08	**876**	**844**

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: **Porous Pavement (PP1)**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

YES		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a).	
0.16	ac	A = Area draining to the practice	
0.13	ac	A_I = Impervious area draining to the practice	
0.78	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.75	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.12	ac-in	WQV= 1" x Rv x A	
444	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
111	cf	25% x WQV (check calc for sediment forebay volume)	
333	cf	75% x WQV (check calc for surface sand filter volume)	
na		Method of Pretreatment? (not required for clean or roof runoff)	
na	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
na	sf	A_{SA} = Surface area of the practice	
na	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
		If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
na	Yes/No	(Use the calculations below)	
-	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
-	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
-	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
-	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
89.83	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
88.75	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
88.75	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
56.00	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.08	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
33.83	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
1.08	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
89.35	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
91.50	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
na	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ 75%WQV**
na	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
na	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
na	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification	
	:1	Pond side slopes	**≥ 3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
asphalt		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
0.1	acres	A_{SA} = Surface area of the pervious pavement	
1.3	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
12.0	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA mod. 304.1 (see spec)**
Sheet		Note what sheet in the plan set contains the filter course spec.	

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes: REV: 5-21-24

Summary for Pond PP1: POROUS PAVEMENT 1

Inflow Area = 7,096 sf, 77.78% Impervious, Inflow Depth = 6.35" for 50-yr event
Inflow = 0.8 cfs @ 12.04 hrs, Volume= 3,755 cf
Outflow = 0.3 cfs @ 12.22 hrs, Volume= 3,532 cf, Atten= 62%, Lag= 11.0 min
Primary = 0.3 cfs @ 12.22 hrs, Volume= 3,532 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 88.75' Surf.Area= 5,519 sf Storage= 637 cf
Peak Elev= 89.31' @ 12.22 hrs Surf.Area= 5,519 sf Storage= 1,722 cf (1,084 cf above start)
Flood Elev= 91.50' Surf.Area= 5,519 sf Storage= 3,990 cf (3,353 cf above start)

Plug-Flow detention time= 304.8 min calculated for 2,894 cf (77% of inflow)
Center-of-Mass det. time= 132.5 min (909.1 - 776.7)

Volume	Invert	Avail.Storage	Storage Description
#1	88.42'	3,990 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
88.42	5,519	429.2	0.0	0	0	5,519
89.58	5,519	429.2	35.0	2,241	2,241	6,017
89.83	5,519	429.2	20.0	276	2,517	6,124
90.83	5,519	429.2	10.0	552	3,069	6,553
91.17	5,519	429.2	20.0	375	3,444	6,699
91.50	5,519	429.2	30.0	546	3,990	6,841

Device	Routing	Invert	Outlet Devices
#1	Primary	88.25'	**12.0" Round Culvert** L= 48.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.25' / 86.00' S= 0.0469 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	88.85'	**6.0" Round Culvert X 2.00** L= 180.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 88.85' / 88.75' S= 0.0006 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=0.3 cfs @ 12.22 hrs HW=89.31' TW=86.07' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.3 cfs of 2.8 cfs potential flow)
└─**2=Culvert** (Barrel Controls 0.3 cfs @ 1.09 fps)

GENERAL CALCULATIONS - WQV and WQF
(optional worksheet)

This worksheet may be useful when designing a BMP **that does not fit into one of the specific worksheets already provided** (i.e. for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

0.11	ac	A = Area draining to the practice
0.05	ac	A_I = Impervious area draining to the practice
0.42	decimal	I = Percent impervious area draining to the practice, in decimal form
0.42	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
0.05	ac-in	WQV= 1" x Rv x A
172	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.42	inches	Q = Water quality depth. Q = WQV/A
92	unitless	CN = Unit peak discharge curve number. $CN = 1000/(10+5P+10Q-10*[Q^2 + 1.25*Q*P]^{0.5})$
0.8	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.163	inches	Ia = Initial abstraction. Ia = 0.2S
	minutes	T_c = Time of Concentration
	$cfs/mi^2/in$	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
-	cfs	WQF = q_u x WQV. Conversion: to convert "$cfs/mi^2/in$ * ac-in" to "cfs" multiply by $1mi^2/640ac$.

Designer's Notes: Drip Edge 1 (DE1): WQV Required = 172 CF, Provided = 696 CF

Summary for Pond DE1: DRIP EDGE 1

Inflow Area = 4,878 sf, 41.59% Impervious, Inflow Depth = 5.20" for 50-yr event
Inflow = 0.5 cfs @ 12.04 hrs, Volume= 2,113 cf
Outflow = 0.1 cfs @ 11.80 hrs, Volume= 2,113 cf, Atten= 78%, Lag= 0.0 min
Primary = 0.1 cfs @ 11.80 hrs, Volume= 2,113 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 87.50' Surf.Area= 480 sf Storage= 96 cf
Peak Elev= 89.37' @ 12.51 hrs Surf.Area= 480 sf Storage= 419 cf (323 cf above start)
Flood Elev= 93.25' Surf.Area= 480 sf Storage= 1,080 cf (984 cf above start)

Plug-Flow detention time= 80.3 min calculated for 2,016 cf (95% of inflow)
Center-of-Mass det. time= 32.0 min (853.7 - 821.7)

Volume	Invert	Avail.Storage	Storage Description
#1	87.00'	1,080 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
87.00	480	0.0	0	0
89.00	480	40.0	384	384
91.00	480	20.0	192	576
93.00	480	40.0	384	960
93.25	480	100.0	120	1,080

Device	Routing	Invert	Outlet Devices
#1	Primary	87.50'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 87.50' / 87.00' S= 0.0208 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	87.00'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Primary OutFlow Max=0.1 cfs @ 11.80 hrs HW=87.69' TW=84.15' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.1 cfs of 0.1 cfs potential flow)
↑**2=Exfiltration** (Exfiltration Controls 0.1 cfs)

GENERAL CALCULATIONS - WQV and WQF
(optional worksheet)

This worksheet may be useful when designing a BMP **that does not fit into one of the specific worksheets already provided** (i.e. for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

0.08	ac	A = Area draining to the practice
0.04	ac	A_I = Impervious area draining to the practice
0.51	decimal	I = Percent impervious area draining to the practice, in decimal form
0.51	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
0.04	ac-in	WQV= 1" x Rv x A
151	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.51	inches	Q = Water quality depth. Q = WQV/A
94	unitless	CN = Unit peak discharge curve number. $CN = 1000/(10+5P+10Q-10*[Q^2 + 1.25*Q*P]^{0.5})$
0.6	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.125	inches	Ia = Initial abstraction. Ia = 0.2S
	minutes	T_c = Time of Concentration
	$cfs/mi^2/in$	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
-	cfs	WQF = q_u x WQV. Conversion: to convert "$cfs/mi^2/in$ * ac-in" to "cfs" multiply by $1mi^2/640ac$.

Designer's Notes: Drip Edge 2 (DE2): WQV Required = 151 CF, Provided = 660 CF

Summary for Pond DE2: DRIP EDGE 2

Inflow Area = 8,433 sf, 45.59% Impervious, Inflow Depth = 5.34" for 50-yr event
Inflow = 0.5 cfs @ 12.04 hrs, Volume= 3,754 cf
Outflow = 0.1 cfs @ 11.56 hrs, Volume= 3,754 cf, Atten= 81%, Lag= 0.0 min
Primary = 0.1 cfs @ 11.56 hrs, Volume= 3,754 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 83.50' Surf.Area= 400 sf Storage= 80 cf
Peak Elev= 88.91' @ 13.12 hrs Surf.Area= 400 sf Storage= 786 cf (706 cf above start)
Flood Elev= 90.25' Surf.Area= 400 sf Storage= 1,060 cf (980 cf above start)

Plug-Flow detention time= 84.0 min calculated for 3,674 cf (98% of inflow)
Center-of-Mass det. time= 58.6 min (893.1 - 834.5)

Volume	Invert	Avail.Storage	Storage Description
#1	83.00'	1,060 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
83.00	400	0.0	0	0
86.00	400	40.0	480	480
88.00	400	20.0	160	640
90.00	400	40.0	320	960
90.25	400	100.0	100	1,060

Device	Routing	Invert	Outlet Devices
#1	Primary	83.50'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 83.50' / 82.00' S= 0.0625 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	83.00'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Primary OutFlow Max=0.1 cfs @ 11.56 hrs HW=83.73' TW=82.05' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.1 cfs of 0.2 cfs potential flow)
↑**2=Exfiltration** (Exfiltration Controls 0.1 cfs)

GENERAL CALCULATIONS - WQV and WQF
(optional worksheet)

This worksheet may be useful when designing a BMP **that does not fit into one of the specific worksheets already provided** (i.e. for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

0.06	ac	A = Area draining to the practice
0.05	ac	A_I = Impervious area draining to the practice
0.75	decimal	I = Percent impervious area draining to the practice, in decimal form
0.73	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
0.05	ac-in	WQV= 1" x Rv x A
164	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.73	inches	Q = Water quality depth. Q = WQV/A
97	unitless	CN = Unit peak discharge curve number. $CN = 1000/(10+5P+10Q-10*[Q^2 + 1.25*Q*P]^{0.5})$
0.3	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.056	inches	Ia = Initial abstraction. Ia = 0.2S
	minutes	T_c = Time of Concentration
	$cfs/mi^2/in$	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
-	cfs	WQF = q_u x WQV. Conversion: to convert "$cfs/mi^2/in$ * ac-in" to "cfs" multiply by $1mi^2/640ac$.

Designer's Notes: Drip Edge 3 (DE3): WQV Required = 164 CF, Provided = 600 CF

Summary for Pond DE3: DRIP EDGE 3

Inflow Area = 2,712 sf, 75.22% Impervious, Inflow Depth = 6.12" for 50-yr event
Inflow = 0.3 cfs @ 12.04 hrs, Volume= 1,382 cf
Outflow = 0.1 cfs @ 11.95 hrs, Volume= 1,382 cf, Atten= 65%, Lag= 0.0 min
Primary = 0.1 cfs @ 11.95 hrs, Volume= 1,382 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 73.50' Surf.Area= 480 sf Storage= 96 cf
Peak Elev= 74.27' @ 12.63 hrs Surf.Area= 480 sf Storage= 244 cf (148 cf above start)
Flood Elev= 78.25' Surf.Area= 480 sf Storage= 984 cf (888 cf above start)

Plug-Flow detention time= 95.9 min calculated for 1,286 cf (93% of inflow)
Center-of-Mass det. time= 19.7 min (806.8 - 787.1)

Volume	Invert	Avail.Storage	Storage Description
#1	73.00'	984 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
73.00	480	0.0	0	0
75.00	480	40.0	384	384
76.00	480	20.0	96	480
78.00	480	40.0	384	864
78.25	480	100.0	120	984

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 73.50' / 73.00' S= 0.0208 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	73.00'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Primary OutFlow Max=0.1 cfs @ 11.95 hrs HW=73.68' TW=72.09' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.1 cfs of 0.1 cfs potential flow)
↑**2=Exfiltration** (Exfiltration Controls 0.1 cfs)

GENERAL CALCULATIONS - WQV and WQF
(optional worksheet)

This worksheet may be useful when designing a BMP **that does not fit into one of the specific worksheets already provided** (i.e. for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

0.04	ac	A = Area draining to the practice
0.03	ac	A_I = Impervious area draining to the practice
0.76	decimal	I = Percent impervious area draining to the practice, in decimal form
0.74	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
0.03	ac-in	WQV= 1" x Rv x A
116	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.74	inches	Q = Water quality depth. Q = WQV/A
97	unitless	CN = Unit peak discharge curve number. $CN = 1000/(10+5P+10Q-10*[Q^2 + 1.25*Q*P]^{0.5})$
0.3	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.054	inches	Ia = Initial abstraction. Ia = 0.2S
	minutes	T_c = Time of Concentration
	$cfs/mi^2/in$	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
-	cfs	WQF = q_u x WQV. Conversion: to convert "$cfs/mi^2/in$ * ac-in" to "cfs" multiply by $1mi^2/640ac$.

Designer's Notes: Drip Edge 4 (DE4): WQV Required = 116 CF, Provided = 500 CF

Summary for Pond DE4: DRIP EDGE 4

[80] Warning: Exceeded Pond DE3 by 0.02' @ 12.33 hrs (0.1 cfs 362 cf)

Inflow Area = 4,610 sf, 82.65% Impervious, Inflow Depth = 6.35" for 50-yr event
Inflow = 0.3 cfs @ 12.04 hrs, Volume= 2,439 cf
Outflow = 0.1 cfs @ 11.64 hrs, Volume= 2,439 cf, Atten= 78%, Lag= 0.0 min
Primary = 0.1 cfs @ 11.64 hrs, Volume= 2,439 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 71.50' Surf.Area= 320 sf Storage= 64 cf
Peak Elev= 74.52' @ 12.72 hrs Surf.Area= 320 sf Storage= 387 cf (323 cf above start)
Flood Elev= 76.25' Surf.Area= 320 sf Storage= 656 cf (592 cf above start)

Plug-Flow detention time= 62.8 min calculated for 2,375 cf (97% of inflow)
Center-of-Mass det. time= 29.7 min (821.9 - 792.2)

Volume	Invert	Avail.Storage	Storage Description
#1	71.00'	656 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
71.00	320	0.0	0	0
73.00	320	40.0	256	256
74.00	320	20.0	64	320
76.00	320	40.0	256	576
76.25	320	100.0	80	656

Device	Routing	Invert	Outlet Devices
#1	Primary	71.50'	**12.0" Round Culvert** L= 38.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 71.50' / 70.00' S= 0.0393 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	71.00'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Primary OutFlow Max=0.1 cfs @ 11.64 hrs HW=71.69' TW=70.09' (Dynamic Tailwater)
↑—**1=Culvert** (Passes 0.1 cfs of 0.1 cfs potential flow)
↑—**2=Exfiltration** (Exfiltration Controls 0.1 cfs)

B – 2

OUTLET PROTECTION

OUTLET PROTECTION DESIGN CALCS

NON DEFINED CHANNEL

Job #: 22017
Date: 5/21/2024
Structure: DE 1 & 2
ED1

Variables:

Q= Discharge from the pipe (cfs)
$D_{0=}$ Diameter of the pipe (ft)
Tw= Tailwater depth above the invert of the pipe (ft)
La= Apron length
w_1= Apron width at pipe outlet
w_2= Apron width at downstream end of apron

Input:		
Outlet elev:	82	
Tailwater elev:	82.05	
Tw:	0.05	
Q:	0.1	
D_0:	1	

Apron Dimensions

w_1=	**3**	(ft)
w_2=	**11**	(ft)
La=	**8**	(ft)

Apron Length:

Tw > .5D_0	Tw < .5D_0
La: 7.300	La: 7.180

Apron Width:

Tw > .5D_0	Tw < .5D_0
w_2: 5.92	w_2: 10.18

w_1: 3

w_1=	3.00
w_2=	10.18
La=	7.18

RipRap Sizing

d_{50}=	0.02	(ft)
d_{50}=	0.22	(in)

RipRap Gradation

Stone Size			% of Weight Smaller Then the Given Size
0.03	TO	0.04	100
0.02	TO	0.03	85
0.02	TO	0.03	50
0.01	TO	0.01	15

Minimum Depth of Rock= 0.06 (ft)

Summary for Pond DE2: DRIP EDGE 2

[80] Warning: Exceeded Pond DE1 by 0.01' @ 13.16 hrs (0.1 cfs 67 cf)

Inflow Area = 7,936 sf, 52.68% Impervious, Inflow Depth = 5.53" for 50-yr event
Inflow = 0.5 cfs @ 12.04 hrs, Volume= 3,657 cf
Outflow = 0.1 cfs @ 11.58 hrs, Volume= 3,657 cf, Atten= 80%, Lag= 0.0 min
Primary = 0.1 cfs @ 11.58 hrs, Volume= 3,657 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 83.50' Surf.Area= 400 sf Storage= 80 cf
Peak Elev= 88.76' @ 13.16 hrs Surf.Area= 400 sf Storage= 762 cf (682 cf above start)
Flood Elev= 90.25' Surf.Area= 400 sf Storage= 1,060 cf (980 cf above start)

Plug-Flow detention time= 80.6 min calculated for 3,577 cf (98% of inflow)
Center-of-Mass det. time= 54.1 min (880.0 - 825.9)

Volume	Invert	Avail.Storage	Storage Description
#1	83.00'	1,060 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
83.00	400	0.0	0	0
86.00	400	40.0	480	480
88.00	400	20.0	160	640
90.00	400	40.0	320	960
90.25	400	100.0	100	1,060

Device	Routing	Invert	Outlet Devices
#1	Primary	83.50'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 83.50' / 82.00' S= 0.0625 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	83.00'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Primary OutFlow Max=0.1 cfs @ 11.58 hrs HW=83.73' TW=82.05' (Dynamic Tailwater)
↳**1=Culvert** (Passes 0.1 cfs of 0.2 cfs potential flow)
↳**2=Exfiltration** (Exfiltration Controls 0.1 cfs)

OUTLET PROTECTION DESIGN CALCS

NON DEFINED CHANNEL

Job #: 22017
Date: 5/21/2024
Structure: DE 3 & 4
ED2

Variables:

Q= Discharge from the pipe (cfs)
$D_{0=}$ Diameter of the pipe (ft)
Tw= Tailwater depth above the invert of the pipe (ft)
La= Apron length
w_1= Apron width at pipe outlet
w_2= Apron width at downstream end of apron

Input:		
Outlet elev:	70
Tailwater elev:	70.09
Tw:	0.09
Q:	0.1
D_0:	1

Apron Dimensions

w_1=	**3**	(ft)
w_2=	**11**	(ft)
La=	**8**	(ft)

Apron Length:

Tw > .5D_0	Tw < .5D_0
La: 7.300	La: 7.180

Apron Width:

Tw > .5D_0	Tw < .5D_0
w_2: 5.92	w_2: 10.18

w_1: 3

w_1=	3.00
w_2=	10.18
La=	7.18

RipRap Sizing

d_{50}=	0.01	(ft)
d_{50}=	0.12	(in)

RipRap Gradation

Stone Size			% of Weight Smaller Then the Given Size
0.02	TO	0.02	100
0.01	TO	0.02	85
0.01	TO	0.02	50
0.00	TO	0.01	15

Minimum Depth of Rock= 0.03 (ft)

Summary for Pond DE4: DRIP EDGE 4

[80] Warning: Exceeded Pond DE3 by 0.02' @ 12.33 hrs (0.1 cfs 362 cf)

Inflow Area = 4,610 sf, 82.65% Impervious, Inflow Depth = 6.35" for 50-yr event
Inflow = 0.3 cfs @ 12.04 hrs, Volume= 2,439 cf
Outflow = 0.1 cfs @ 11.64 hrs, Volume= 2,439 cf, Atten= 78%, Lag= 0.0 min
Primary = 0.1 cfs @ 11.64 hrs, Volume= 2,439 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 71.50' Surf.Area= 320 sf Storage= 64 cf
Peak Elev= 74.52' @ 12.72 hrs Surf.Area= 320 sf Storage= 387 cf (323 cf above start)
Flood Elev= 76.25' Surf.Area= 320 sf Storage= 656 cf (592 cf above start)

Plug-Flow detention time= 62.8 min calculated for 2,375 cf (97% of inflow)
Center-of-Mass det. time= 29.7 min (821.9 - 792.2)

Volume	Invert	Avail.Storage	Storage Description
#1	71.00'	656 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
71.00	320	0.0	0	0
73.00	320	40.0	256	256
74.00	320	20.0	64	320
76.00	320	40.0	256	576
76.25	320	100.0	80	656

Device	Routing	Invert	Outlet Devices
#1	Primary	71.50'	**12.0" Round Culvert** L= 38.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 71.50' / 70.00' S= 0.0393 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	71.00'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Primary OutFlow Max=0.1 cfs @ 11.64 hrs HW=71.69' TW=70.09' (Dynamic Tailwater)
↳**1=Culvert** (Passes 0.1 cfs of 0.1 cfs potential flow)
↳**2=Exfiltration** (Exfiltration Controls 0.1 cfs)

OUTLET PROTECTION DESIGN CALCS

NON DEFINED CHANNEL

Job #: 22017
Date: 5/21/2024
Structure: BP1
ED3

Variables:

Q= Discharge from the pipe (cfs)
$D_{0=}$ Diameter of the pipe (ft)
Tw= Tailwater depth above the invert of the pipe (ft)
La= Apron length
w_1= Apron width at pipe outlet
w_2= Apron width at downstream end of apron

Input:

Outlet elev:	70
Tailwater elev:	70.24
Tw:	0.24
Q:	3.1
D_0:	1

Apron Dimensions

w_1=	**3**	(ft)
w_2=	**16**	(ft)
La=	**13**	(ft)

Apron Length:

Tw > .5D_0	Tw < .5D_0
La: 16.300	La: 12.580

Apron Width:

Tw > .5D_0	Tw < .5D_0
w_2: 9.52	w_2: 15.58

w_1: 3

w_1=	3.00
w_2=	15.58
La=	12.58

RipRap Sizing

d_{50}=	0.38	(ft)
d_{50}=	4.52	(in)

RipRap Gradation

Stone Size			% of Weight Smaller Then the Given Size
0.57	TO	0.75	100
0.49	TO	0.68	85
0.38	TO	0.57	50
0.11	TO	0.19	15

Minimum Depth of Rock= 1.13 (ft)

Summary for Pond BP1: BIO POND 1

[80] Warning: Exceeded Pond RG1 by 0.02' @ 11.96 hrs (0.8 cfs 406 cf)
[80] Warning: Exceeded Pond RG2 by 0.01' @ 11.92 hrs (0.7 cfs 387 cf)

Inflow Area =	31,233 sf,	69.29% Impervious,	Inflow Depth =	6.03"	for 50-yr event
Inflow =	3.5 cfs @	12.04 hrs,	Volume=	15,704 cf	
Outflow =	3.4 cfs @	12.06 hrs,	Volume=	15,704 cf,	Atten= 2%, Lag= 0.8 min
Primary =	3.2 cfs @	12.06 hrs,	Volume=	15,621 cf	
Secondary =	0.2 cfs @	12.05 hrs,	Volume=	83 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 77.42' Surf.Area= 325 sf Storage= 39 cf
Peak Elev= 81.84' @ 12.06 hrs Surf.Area= 1,853 sf Storage= 2,033 cf (1,994 cf above start)
Flood Elev= 82.25' Surf.Area= 2,394 sf Storage= 2,797 cf (2,759 cf above start)

Plug-Flow detention time= 43.9 min calculated for 15,662 cf (100% of inflow)
Center-of-Mass det. time= 40.6 min (828.9 - 788.3)

Volume	Invert	Avail.Storage	Storage Description
#1	77.08'	198 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
#2	77.08'	2,599 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		2,797 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
77.08	84	38.1	0.0	0	0	84
78.25	84	38.1	35.0	34	34	129
78.50	84	38.1	20.0	4	39	138
80.00	84	38.1	10.0	13	51	195
80.99	224	56.8	100.0	147	198	344

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
77.08	241	87.5	0.0	0	0	241
78.25	241	87.5	35.0	99	99	343
78.50	241	87.5	20.0	12	111	365
80.00	241	87.5	10.0	36	147	497
81.00	1,027	233.4	100.0	589	735	4,226
81.70	1,500	238.1	100.0	879	1,615	4,467
82.00	1,781	286.9	100.0	492	2,106	6,508
82.25	2,170	258.9	100.0	493	2,599	7,726

Device	Routing	Invert	Outlet Devices
#1	Primary	70.16'	**12.0" Round Culvert** L= 4.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 70.16' / 70.00' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	77.42'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 2	77.08'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#4	Device 1	81.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

#5 Secondary 81.75' **5.0' long x 4.0' breadth Broad-Crested Rectangular Weir**
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=3.2 cfs @ 12.06 hrs HW=81.84' TW=70.24' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.2 cfs of 12.6 cfs potential flow)
  ├─**2=Orifice/Grate** (Passes 0.4 cfs of 1.9 cfs potential flow)
  │ └─**3=Exfiltration** (Exfiltration Controls 0.4 cfs)
  └─**4=Orifice/Grate** (Weir Controls 2.8 cfs @ 1.23 fps)

Secondary OutFlow Max=0.2 cfs @ 12.05 hrs HW=81.84' TW=81.83' (Dynamic Tailwater)
└─**5=Broad-Crested Rectangular Weir** (Weir Controls 0.2 cfs @ 0.39 fps)

OUTLET PROTECTION DESIGN CALCS

DEFINED CHANNEL

Job #: 22017
Date: 5/21/2024
Structure: BP2
ED4

Variables:

Q= Discharge from the pipe (cfs)
$D_{0=}$ Diameter of outlet pipe (ft)
D= Width of channel (ft)
z= Channel side slope (H:V ft/ft)
Tw= Tailwater depth above the invert of the pipe (ft)
La= Apron length
w_1= Apron width at pipe outlet
w_2= Apron width at downstream end of apron

Input:

Outlet elev:	81
Tailwater elev:	81.22
Tw:	0.22
Q:	1.2
D_0:	1.00
D:	2
z:	3

Apron Dimensions

w_1=	**8**	(ft)
w_2=	**2**	(ft)
La=	**10**	(ft)

Apron Length:

$Tw > .5D_0$	$Tw < .5D_0$
La: 10.600	La: 9.160

Apron Width:

w_2: 2

w_1: 8

w_1=	8.00
w_2=	2.00
La=	9.16

RipRap Sizing

d_{50}=	0.12	(ft)
d_{50}=	1.39	(in)

RipRap Gradation

Stone Size			% of Weight Smaller Then the Given Size
0.17	TO	0.23	100
0.15	TO	0.21	85
0.12	TO	0.17	50
0.03	TO	0.06	15

Minimum Depth of Rock= 0.35 (ft)

Summary for Pond BP2: BIO POND 2

Inflow Area = 11,038 sf, 68.29% Impervious, Inflow Depth = 5.97" for 50-yr event
Inflow = 1.2 cfs @ 12.04 hrs, Volume= 5,495 cf
Outflow = 1.2 cfs @ 12.06 hrs, Volume= 5,495 cf, Atten= 3%, Lag= 1.0 min
Primary = 1.2 cfs @ 12.06 hrs, Volume= 5,495 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 81.92' Surf.Area= 208 sf Storage= 25 cf
Peak Elev= 85.89' @ 12.06 hrs Surf.Area= 667 sf Storage= 702 cf (678 cf above start)
Flood Elev= 86.10' Surf.Area= 920 sf Storage= 862 cf (837 cf above start)

Plug-Flow detention time= 39.7 min calculated for 5,469 cf (100% of inflow)
Center-of-Mass det. time= 33.7 min (822.8 - 789.0)

Volume	Invert	Avail.Storage	Storage Description
#1	81.58'	862 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
81.58	208	68.5	0.0	0	0	208
82.75	208	68.5	35.0	85	85	288
83.00	208	68.5	20.0	10	96	305
84.50	208	68.5	10.0	31	127	408
85.00	340	90.3	100.0	136	262	686
85.75	614	128.9	100.0	353	615	1,365
86.00	712	133.6	100.0	166	781	1,468
86.10	920	143.0	100.0	81	862	1,676

Device	Routing	Invert	Outlet Devices
#1	Primary	81.50'	**12.0" Round Culvert** L= 23.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 81.50' / 81.00' S= 0.0217 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	81.92'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 2	81.58'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#4	Device 1	85.75'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.2 cfs @ 12.06 hrs HW=85.89' TW=81.22' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.2 cfs of 7.5 cfs potential flow)
  ├─**2=Orifice/Grate** (Passes 0.2 cfs of 1.8 cfs potential flow)
  │ └─**3=Exfiltration** (Exfiltration Controls 0.2 cfs)
  └─**4=Orifice/Grate** (Weir Controls 1.0 cfs @ 1.21 fps)

APPENDIX C

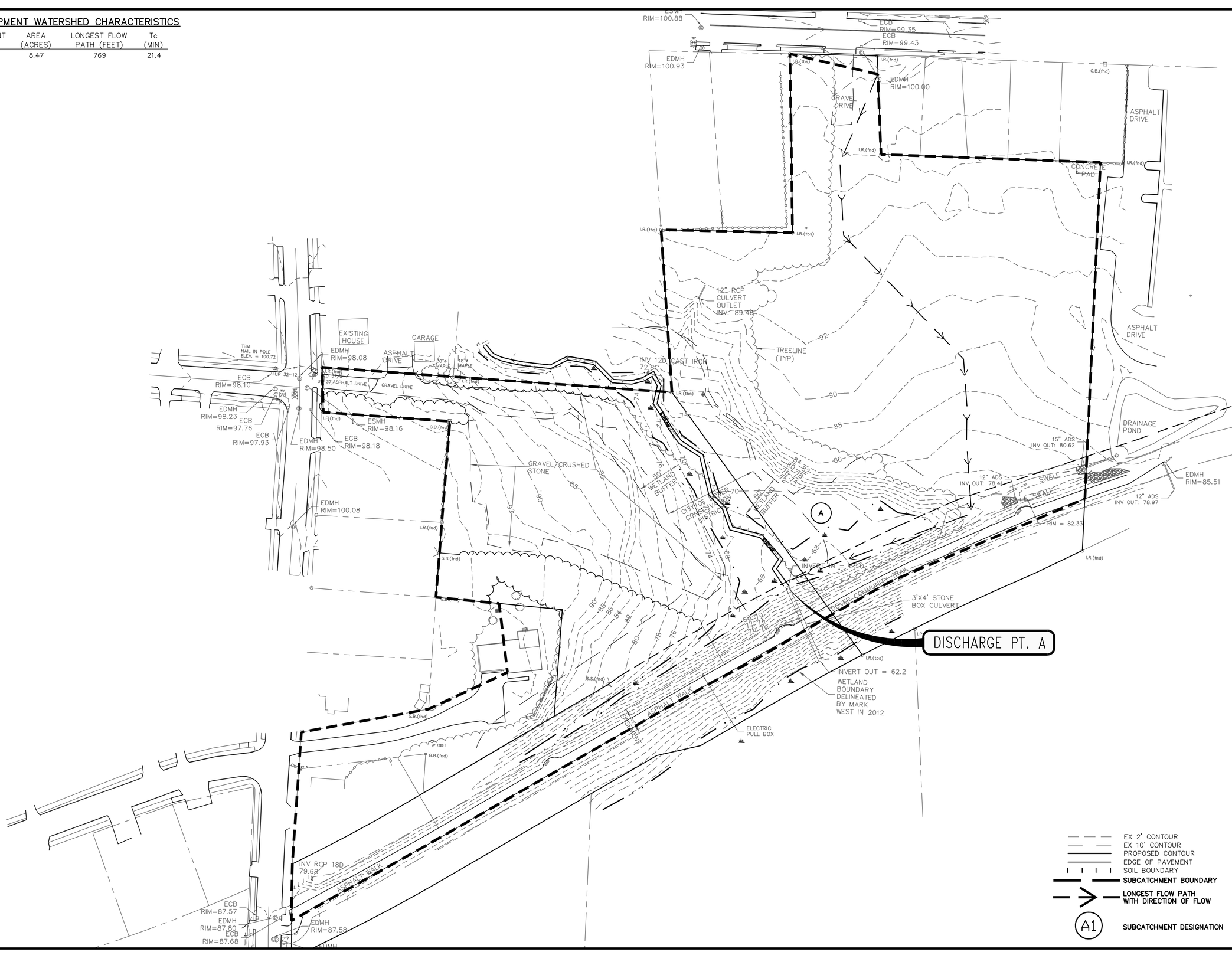
WATERSHED PLANS

C – 1

PRE-DEVELOPMENT CONDITIONS

PRE-DEVELOPMENT WATERSHED CHARACTERISTICS

SUBCATCHMENT DESIGNATION	AREA (ACRES)	LONGEST FLOW PATH (FEET)	Tc (MIN)
A	8.47	769	21.4



NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE

DATE: 10-26-23
SCALE: 1"=10'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO: 22017
FILE DATE\DWG

PRE-CONSTRUCTION WATERSHED PLAN

FISHER STREET TOWNHOUSES
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

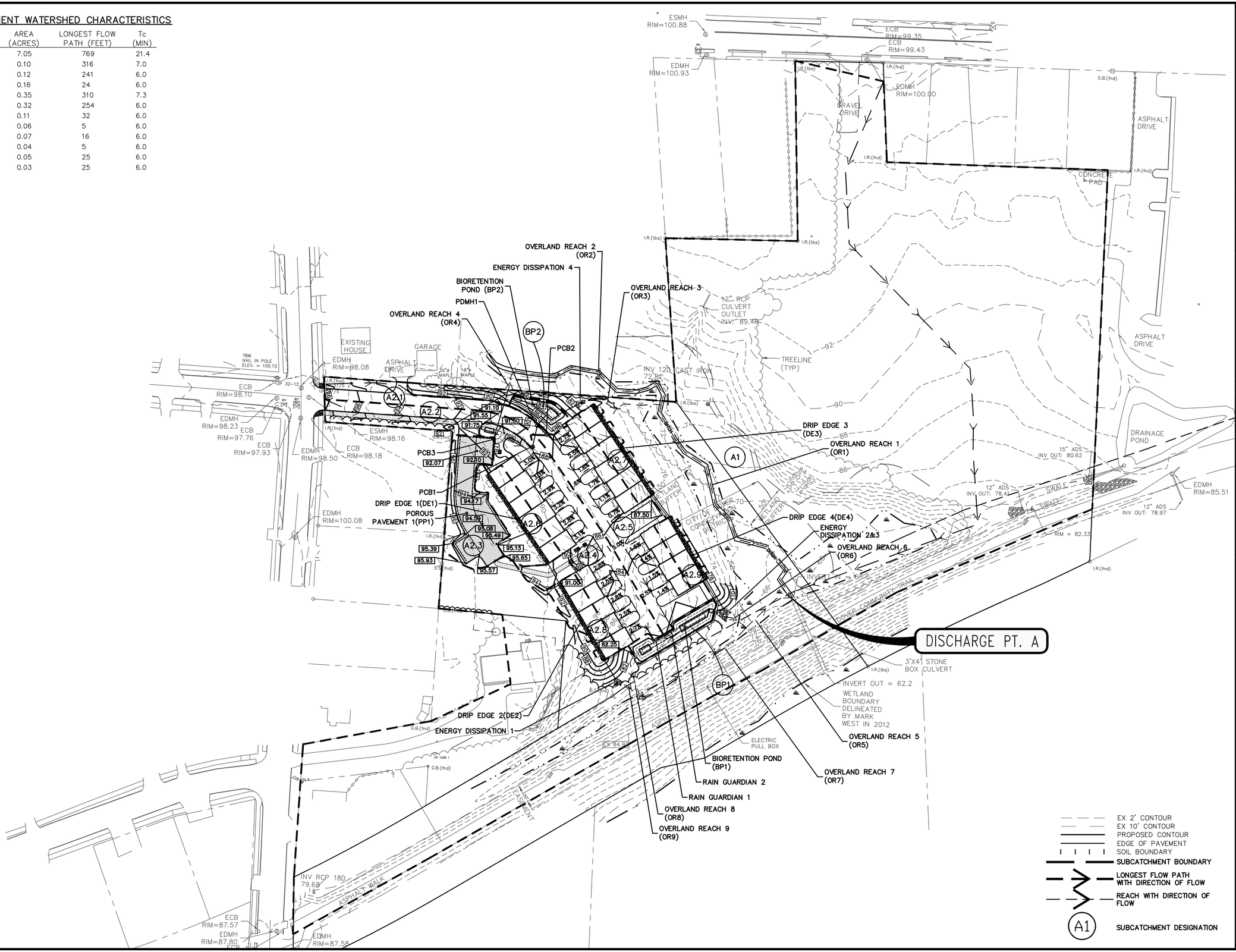
WS-1

C – 2

POST-DEVELOPMENT CONDITIONS

POST-DEVELOPMENT WATERSHED CHARACTERISTICS

SUBCATCHMENT DESIGNATION	AREA (ACRES)	LONGEST FLOW PATH (FEET)	Tc (MIN)
A1	7.05	769	21.4
A2.1	0.10	316	7.0
A2.2	0.12	241	6.0
A2.3	0.16	24	6.0
A2.4	0.35	310	7.3
A2.5	0.32	254	6.0
A2.6	0.11	32	6.0
A2.7	0.06	5	6.0
A2.8	0.07	16	6.0
A2.9	0.04	5	6.0
BP1	0.05	25	6.0
BP2	0.03	25	6.0



NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE

DATE: 10-26-23
SCALE: 1"=50'
DRAWN BY: MJM
DESIGN BY: MJM
APPROVED BY:SJH
PROJECT NO: 22017
FILE NAME:DRN.DWG

POST-CONDITION WATERSHED PLAN

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

FISHER STREET TOWNHOUSES
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

WS-2

Stormwater Management System Inspection & Maintenance Plan

UPTOWN CROSSING
TAX MAP 15, LOT 40-A-1

Fisher Street
Dover, New Hampshire
Strafford County

October 2023
May 2024

Prepared For:

H. J. STABILE & SON, INC.
20 Cotton Road, Suite 200
Nashua, New Hampshire 03063

Prepared By:

CIVILWORKS NEW ENGLAND
P.O. Box 1166
181 Watson Road
Dover, New Hampshire 03821

Introduction

Civilworks New England has prepared the following Stormwater Management System Inspection & Maintenance Plan for the **Uptown Crossing, Dover, NH.** The intent of this plan is to provide a list of procedures that document the inspection and maintenance requirements of the Stormwater Management System for this site.

The following inspection and maintenance program is necessary to keep the Stormwater Management System functioning properly. These measures will also help to minimize potential environmental impacts to the areas surrounding the developed site. By following the enclosed procedures, the property owners, and maintenance personnel will be able to maintain the functional design of the Stormwater Management System and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff while at the same time ensuring the recharge of groundwater resources through continued infiltration.

This plan also requires the Owner/Operator to prepare and implement a salt minimization plan to reduce salt usage on-site and ultimately within the watershed. This plan will allow the owner/operator to monitor and modify how much salt is needed, when it should be applied, where it needs to be applied, with the ultimate goal of reducing salt-use without compromising safety. It is expected that salt-use reduction will lead to long-term cost-savings because of purchasing less salt and reduced impacts on vegetation (e.g., landscaping) and corrosion of infrastructure .

The salt minimization plan should include the retention of a contractor who has completed the Green SnowPro Training course and obtained NH DES Salt Application Certification.

It is anticipated that this be a living document that will be updated at regular intervals (recommend updating annually in advance of the winter season to facilitate adjustments).

Owner

H.J. Stabile & Son, Inc.
Eric Jackson, Director of Acquisitions & Development
20 Cotton Road, Suite 200
Nashua, New Hampshire 03063

In the event of a change in ownership, this Inspection and Maintenance Plan shall be transferred to the new party; transfer shall be documented to NH DES in writing.

Contact / Responsible Party

H.J. Stabile & Son, Inc.
Eric Jackson, Director of Acquisitions & Development
20 Cotton Road, Suite 200
Nashua, New Hampshire 03063

Phone: (603) 889-0318
Email: ericjackson@stabilecompanies.com

The contact information for the Contact / Responsible Party shall be kept current; transfer shall be documented to NH DES in writing.

Management Company

H.J. Stabile & Son, Inc.
Eric Jackson, Director of Acquisitions & Development
20 Cotton Road, Suite 200
Nashua, New Hampshire 03063

The contact information for the Management Party shall be kept current.

Inspection Schedule / Record Retention

Inspection frequency should, at a minimum, be in accordance with New Hampshire Stormwater Manual, Volume 2, latest edition, as updated by NH DES. See the Inspection and Maintenance Plan for frequency requirements. A copy of the completed Stormwater Management System's Inspection & Maintenance Log and Deicing Salt Quantity Use Log shall be maintained, kept on-site, and be made available to local, state, or federal regulators as applicable by law. All Inspection and Maintenance records must be provided to NH DES upon request.

Stormwater Management System Components

The Stormwater Management System associated with the project is designed to mitigate both the quantity and quality of site-generated stormwater runoff and to recharge the underlying groundwater resources. As a result, its design includes the following elements:

- Pipes/Culverts
- Outlet Structures
- Energy Dissipation Structures (Rip Rap)
- Catch Basins
- Bio-Retention Basin
- Ferguson Waterworks Rain Guardians Fortress
- Stone Drip Edges
- Porous Pavement
- Pavement
- Litter / Trash Removal

Structure callouts correlate to the design plans, a copy of which shall be maintained with this Inspection and Maintenance Plan.

Control of Invasive Species

During maintenance activities, check for the presence of invasive plants and remove them in a safe manner. Invasive plants shall be controlled to prevent them from reproducing, spreading, or re-growing. See the University of New Hampshire – Cooperative Extension's "Method for Disposing Non-Native Invasive Plants", included at the end of this manual, for guidance on the removal and disposal of invasive species.

Inspection and Maintenance Plan

By implementing the following procedures, the owners will be able to maintain the functional design of the Stormwater Management System and maximize the system's ability to remove sediment and other contaminants from site generated stormwater runoff and to effectively recharge the underlying groundwater resources.

PIPES/CULVERTS:

- Inspect once per year.
- Inspect for clogging and sediment accumulation.
- Remove all debris immediately and sediment accumulations ≥ 2 inches.

OUTLET STRUCTURE(S):

- Inspect once per year.
- Inspect for clogging and sediment accumulation.
- Remove all debris immediately and sediment accumulations ≥ 2 inches.

ENERGY DISSIPATION STRUCTURES (RIP RAP):

- Inspect the outlet protection annually for damage and deterioration. Repair damages immediately.
- If stones become displaced from the riprap areas, they should be replaced immediately and chinked in to assure stability. Add additional riprap as needed. Vegetation growing through the riprap should be eliminated at least yearly.

CATCH BASIN(S):

- Inspect once per year.
- Inspect for floatables, sediment accumulation, and hydrocarbons (oils and grease).
- Remove all floatables immediately and sediment accumulations ≥ 1 foot.
- Hydrocarbons shall be removed immediately by skimming, absorbent materials, or other methods and should be disposed of in accordance with applicable State and Federal regulations.

BIO-RETENTION BASINS:

- Inspection, by a **qualified professional**, of the Bio-Retention Basins at least twice annually, and following any rainfall event exceeding 2.5 inches in a 24-hour period, with maintenance or rehabilitation conducted as warranted by such inspection. If the Bio-Retention Basin systems do not drain within 72-hours following a rainfall event, a qualified professional should assess the condition and determine measures required to restore filtration practice (as applicable).
- Embankments and spillways should be inspected by a **qualified professional** for settlement, erosion, seepage, animal burrows, woody vegetation, and other conditions that could degrade the embankment and reduce its stability for impounding water. Immediately take corrective action if any such conditions are found.
- Inlet and outlet pipes, inlet and outlet structures, energy dissipation structures or practices, and other structural appurtenances should be inspected by a **qualified professional**, and corrective action implemented (e.g., maintenance, repairs, or replacement) as indicated by such inspection.
- The bottoms, interior and exterior side slopes, and crest of earthen Bio-Retention Basins should be mowed, and the vegetation maintained in healthy condition, as appropriate to the function of the facility and type of vegetation.

- Vegetated embankments that serve as “berms” or “dams” that impound water should be mowed at least once annually to prevent the establishment of woody vegetation.
- Trash and debris should be removed from the basin and any inlet or outlet structures whenever observed.
- Accumulated sediment should be removed when it significantly affects pond capacity.
- Grass bio-retention basin shall be mowed weekly during growing season.

FERGUSON WATERWORKS RAIN GUARDIANS FORTRESS:

- Common maintenance needs include periodic removal of accumulated leaves (and other organic debris) and garbage from the internal grate and sediment and fine debris from the concrete and metal dry filter box. Contributing watersheds with high sediment concentrations may require up to monthly or twice monthly visits to satisfy maintenance needs.
- If sediment accumulates beyond an acceptable level in the system, it will be necessary to remove. This can be done by manual removal with a shovel or vacuum device. The filter screen can be cleaned manually through brushing or with pressurized water.

STONE DRIP EDGES:

- Inspect twice annually and following any rainfall event exceeding 2.5 inches in a 24-hour period.
- If the system does not drain within 72-hours following a rainfall event, a qualified engineer should inspect the system and determine measures required to restore the condition of the facility.
- Follow the University of New Hampshire’s “Methods for Disposing Non-Native Invasive Plants” for disposing of invasive species (Attached).
- There shall be no use of chemical herbicides or pesticides, except for wildlife habitat management and then only in coordination with the New Hampshire Fish and Game Nongame and Endangered Wildlife Program. Herbicides or pesticides are absolutely prohibited within wetlands or wetland buffer setbacks.

POROUS PAVEMENT:

- Prohibit sanding.
- Minimize application of salt for ice control.
- Monitor periodically, at least twice annually, within 30 minutes of a precipitation event, to ensure that the pavement surface drains effectively after storms.
- See attached checklist for inspection requirements.
- Inspect for salt accumulation, sediment, organic debris, etc. and periodically clean (1-2 times per year) using a sweeper or vacuum sweeper. Vacuum sweeping is the preferred method.
- Inspect adjacent non-permeable pavement sections (1-2 times per year) and ensure they are free of debris/sediment to prevent tracking.
- Inspect adjacent vegetated areas (1-2 times per year) to ensure there are no signs of erosion and sediment/organic debris run-on to the porous pavement areas.
- Inspect areas (as needed) to ensure stock piling of snow, sand/salt, mulch, soil, yard waste, etc. is not occurring.
- Inspect pavement for damaged areas (as needed) and repair as they are identified.

PAVEMENT:

- Minimize sanding.
- Minimize application of salt for ice control.
- Clean periodically (1-2 times per year) using a sweeper or vacuum sweeper. Vacuum sweeping is the preferred method.

LITTER / TRASH REMOVAL:

- Routinely patrol site for litter pick up.

DE-ICING AGENTS:

- To address the concerns associated with the application of chlorides and other deicing materials, NHDES recommends that the Owner/Operator develop a Road Salt and Deicing Minimization Plan for the parking lots and roadways. The plan should develop the policies that the development will keep in place to minimize salt and other deicer use after the project has been completed. The plan should include tracking the use of salt and other deicers for each storm event and compiling salt use data annually. (See Anti-Icing Data Form in the appendix).
- Use sand as primary agent for driveway and access way safety during ice and snow conditions.
- Minimize the use of salt during the winter.
- Use de-icing or anti-caking agents, added to enhance performance and application characteristics of sand mixtures, only as necessary and at minimum application rates.
- Recommend using a certified Winter Operator (Green SnowPro Trained) for applying de-icing agents.
- Monitor weather and apply de-icing agents based on weather conditions and temperatures.
- See attached "Winter Maintenance Guidelines for Porous Pavements" for de-icing agent recommendations.

ANTI-ICING AND SALT MINIMIZATION:

- Owner to develop a Road Salt and Deicing Minimization Plan
- Provide a written policy that the "Development" will keep in place to minimize salt and other deicer use after the project has been completed.
- Use the attached form to track the use of salt and other deicers for each storm event and compiling salt use data annually.
- See attached "Winter Maintenance Guidelines for Porous Pavements" for sanding and salting recommendations.

Inspection & Maintenance Table

System Component / BMP	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
Pipes/Culverts	Annually	• Check for sediment accumulation • Check for erosion • Ensure swale is stabilized • Maintain healthy stand of veg., 4" minimum • Inspect for invasive species	≥ 1 in. sediment Repair immediately Restore veg. in-kind Mow twice per year Remove/Dispose of accordingly
Outlet Structure(s)	No sanding Limit 2-4 x's Year Periodically Periodically	• No sanding • Minimize salt use for ice • Vacuum to prevent tracking issues and clogging • Monitor to ensure surface drains effectively • Check for trash/debris • See attached for winter maintenance	No sanding Minimize as Req. 2-4 x's a year Remove when noticed
Energy Dissipation (ED) Structures (Rip Rap)	Annually	• Check for displaced stones • Check for woody vegetation	Replace immediately Remove annually
Catch Basins	Annually	• Check for sediment accumulation • Check for floatable contaminants	≥ 1 ft. sediment depth Remove all floatables
Bio-Retention Basins	Bi-Annually " " Periodically " " " "	• Check for erosion, settlement, seepage, etc. • Check for sediment accumulation in pond • Check for trash (in pond and structures) • Maintain 95% veg. (pond & slopes) • Maintain healthy stand of veg.	Repair immediately ≥ 2 in. sediment Remove all trash/debris Restore veg. in-kind Mow when ≥ 6 in Mow weekly in growing season
Ferguson Waterworks Rain Guardians Fortress	Periodically	• Check for trash, debris, and accumulated sediments in grate • Check sediment level	Remove debris and veg. periodically ≥ 3 in. sediment depth shovel sediment
Stone Drip Edges	Bi-Annually	• Check for sediment accumulation, debris, and invasive species. • Check for water draining	Remove any accumulated Sediment, debris, and invasive species and dispose of accordingly. 72 hours after a 2.5 inch storm event in a 24 hour period
Porous Pavement • Sanding • Salt Applications • Accumulated Salt • Sediment/Organic debris • Adj. Vegetated Areas • Underdrain Outlet • Trash/Debris • Pavement Condition • Stockpiles • Standing Water in Pavement • Winter Maintenance	Prohibit use As Req. Winter/Spring 1-2 x's / yr 1-2 x's / yr Annually Periodically Annually Regularly 1-2 x's / yr Rain Event	Prohibit use to prevent clogging issues RECORD APPLICATION RATES Inspect surface for salt accumulation Inspect surface for sediment/organics Inspect for erosion and prevent run-on to PP Inspect outlet for blockages Inspect for trash/debris Inspect for deteriorated pavement sections Inspect for stockpiled materials Inspect for standing water within 30 min of rain event See attached Winter Maintenance Fact Sheet	Vacuum to prevent issues Minimize as Req. Vacuum immediately Vacuum immediately Stabilize areas Remove blockage Remove when noticed Repair as identified Remove stockpiles Power wash or compressed air blower at 30 degrees or less
Pavement • Sanding • Salt Applications • Sweep/Vacuum • Trash/Debris	Limit use As Req. 1 - 2 x's Year Periodically	• Minimize use to prevent tracking issues • RECORD APPLICATION RATES • Sweep or vacuum to prevent tracking issues • Check for trash/debris	Sweep to prevent issues Minimize as Req. Sweep/Vac as needed Remove when noticed
Litter / Trash Removal	Periodically	• Check for litter and trash	Remove when noticed

Inspection & Maintenance Checklist/Log

The following page contains a blank copy of the Stormwater Management System's Inspection & Maintenance Log and a Deicing Salt Quantity Use Log. These forms are provided to assist the owners with the inspection and maintenance of the Stormwater Management System. The attached "Checklist for Inspection of Permeable Pavement" shall be used for logging the inspections of the porous pavement section.

Stormwater Management System's Inspection & Maintenance Log

Date of Inspection/Maintenance: _____ Inspector: _____

System Component / BMP	Cleaning / Repair Needed (List Items / Comments)	Date of Cleaning/Repair	Performed By

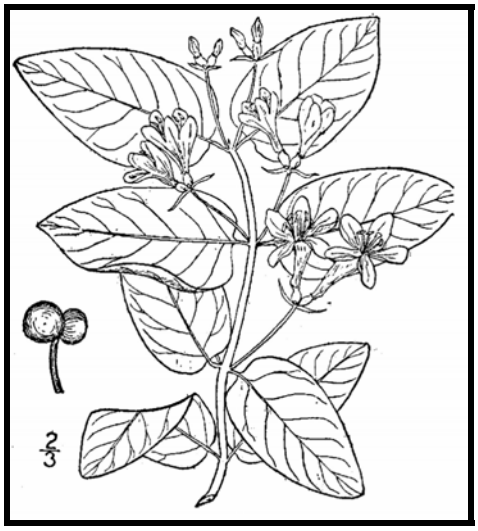
Deicing Salt Quantity Use Log

Date	Amount of Material Applied	Comments

University of New Hampshire Cooperative Extension

Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle
Lonicera tatarica
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

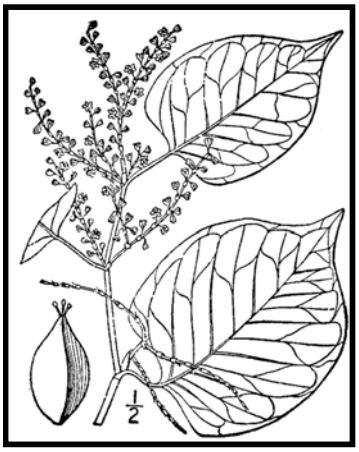
Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag "head first" at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can't be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn't be burned as the seeds may disperse by the hot air created by the fire.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don't reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn't used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don't compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.

Be diligent looking for seedlings for *years* in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

<table>
<tr><th>Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">Norway maple
(Acer platanoides)
European barberry
(Berberis vulgaris)
Japanese barberry
(Berberis thunbergii)
autumn olive
(Elaeagnus umbellata)
burning bush
(Euonymus alatus)
Morrow's honeysuckle
(Lonicera morrowii)
Tatarian honeysuckle
(Lonicera tatarica)
showy bush honeysuckle
(Lonicera x bella)
common buckthorn
(Rhamnus cathartica)
glossy buckthorn
(Frangula alnus)</td><td rowspan="2">Fruit and Seeds
 </td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Use as firewood.
▪ Make a brush pile.
▪ Chip.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip once all fruit has dropped from branches.
▪ Leave resulting chips on site and monitor.</td></tr>
<tr><td rowspan="2">oriental bittersweet
(Celastrus orbiculatus)
multiflora rose
(Rosa multiflora)</td><td rowspan="2">Fruits, Seeds, Plant Fragments
 </td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Make a brush pile.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.</td></tr>
</table>

Non-Woody Plants	Method of Reproducing	Methods of Disposal
garlic mustard *(Alliaria petiolata)* spotted knapweed *(Centaurea maculosa)* ▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling. black swallow-wort *(Cynanchum nigrum)* ▪ May cause skin rash. Wear gloves and long sleeves when handling. pale swallow-wort *(Cynanchum rossicum)* giant hogweed *(Heracleum mantegazzianum)* ▪ Can cause major skin rash. Wear gloves and long sleeves when handling. dame's rocket *(Hesperis matronalis)* perennial pepperweed *(Lepidium latifolium)* purple loosestrife *(Lythrum salicaria)* Japanese stilt grass *(Microstegium vimineum)* mile-a-minute weed *(Polygonum perfoliatum)*	**Fruits and Seeds** 	**Prior to flowering** Depends on scale of infestation Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material. **During and following flowering** Do nothing until the following year or remove flowering heads and bag and let rot. Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material.
common reed (*Phragmites australis*) Japanese knotweed *(Polygonum cuspidatum)* Bohemian knotweed *(Polygonum x bohemicum)*	**Fruits, Seeds, Plant Fragments** Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn't materially influence disposal activities.	**Small infestation** ▪ Bag all plant material and let rot. ▪ Never pile and use resulting material as compost. ▪ Burn. **Large infestation** ▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile. ▪ Monitor and remove any sprouting material. ▪ Pile, let dry, and burn.

January 2010

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CHECKLIST FOR INSPECTION OF PERMEABLE PAVEMENT

Location:
Inspector:
Date:
Time:
Site Conditions:
Date Since Last Rain Event:

Inspection Items	Satisfactory (S) or Unsatisfactory (U)	Comments/Corrective Action
1. Salt / Deicing (Winter/Spring)		
Use salt only for ice management	**S U**	
Accumulated salt removed in spring	**S U**	
2. Debris Cleanup (1-2 times per year minimum, Spring/Fall)		
Remove sediment and organic debris using vacuum street sweeper	**S U**	
Clean catch basins (if available)	**S U**	
3. Controlling Run-On		
Adjacent vegetated areas show no signs of erosion and run-on to permeable pavement	**S U**	
4. Outlet / Catch Basin Inspection (if available) (1-2 times per year, after large storm events)		
No evidence of blockage	**S U**	
Good condition, no need for cleaning/repair	**S U**	
5. Poorly Drained Pavement		
Recently cleaned and vacuumed	**S U**	
6. Pavement Condition		
No evidence of deterioration	**S U**	
7. Signage / Stockpiling (As Needed)		
No evidence of damage	**S U**	
Proper signage posted indicating usage for traffic load	**S U**	
No stockpiling of materials and other unauthorized uses	**S U**	

Corrective Action Needed	Due Date
1.	
2.	
3.	
Inspector's Signature	Date

Winter Maintenance Guidelines for Porous Pavements

Maintenance Guidelines

- Road surfaces, porous and non-porous, are commonly not treated and plowed until 2 or more inches of snow accumulation.
- Plow after every storm. If possible plow with a slightly raised blade, while not necessary, this will help prevent pavement scarring.
- Up to ~75% salt reduction for porous asphalt can be achieved. Salt reduction amounts are site specific and are affected by degree of shading.

  USE SALT REDUCTION NUMBERS WITH CAUTION!!!
- Pervious concrete salt reduction will vary and is heavily dependent upon shading. For shaded areas, pervious concrete may not achieve salt reduction.
- Apply anti-icing treatments prior to storms. Anti-icing has the potential to provide the benefit of increased traffic safety at the lowest cost and with less environmental impact.
- Deicing is NOT required for black ice development. Meltwater readily drains through porous surfaces thereby preventing black ice.
- Apply deicing treatments during, and after storms as necessary to control compact snow and ice not removed by plowing.
- Sand application should be limited since its use will increase the need for vacuuming
- Vacuum porous areas a minimum of 2-4 times per year, especially after winter and fall seasons when debris accumulation and deposition is greatest.
- If ponding water is observed during precipitation cleaning is recommended.

Winter Maintenance Challenges

- Mixed precipitation and compact snow or ice is problematic for all paved surfaces, but is particularly problematic for porous surfaces. This is corrected by application of excess deicing chemicals.
- De-icing chemicals work by lowering the freezing point of water. Generally, the longer a de-icing chemical has to react, the greater the amount of melting. Meltwater readily drains through porous surfaces thereby reducing chemical contact time. This is corrected by excess salt application.
- Excess salt application in these instances is offset by the overall reduced salt during routine winter maintenance and salt reduction.

Additional Resources

- The UNH Stormwater Center: http://www.unh.edu/erg/cstev/
- Pennsylvania Asphalt Pavement Association (PAPA) Porous Asphalt Pavements Guide: http://www.pahotmix.org/PDF/porous1.pdf
- National Asphalt Pavement Association (NAPA) Porous Asphalt Pavements for Stormwater Management Revised 11/2008, Information Series 131

City of Dover, New Hampshire
MINOR LOT LINE ADJUSTMENT APPLICATION

[Revision Date: June 4, 2019]

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT INFORMATION

Name of Applicant: H.J. Stabile & Son, Inc. Telephone # 603-889-0318 x-515

Address of Applicant: 20 Cotton Road, #200 Nashua, NH 03063

FIRST PROPERTY OWNER AND PARCEL INFORMATION

Name of 1st Property Owner (*if different from applicant*): Double Diamond Holdings North, LLC Telephone # 603-749-2800

Address of 1st Property Owner: 340 Central Avenue, Suite 202 Dover, NH 03820

Address of Property: Locust Street

Assessor's Map # 15 Lot(s) # 40A-1

Property Deed: Book 3166 Page: 780

Zoning District(s) G - Gateway Overlay District(s) None

Size of Existing Parcel (sq. ft.): 154,408 Size of Proposed Parcel (sq. ft.): 170,468

SECOND PROPERTY OWNER AND PARCEL INFORMATION

Name of 2nd Property Owner (*if different from applicant*): Carmel A. Casey Telephone # N/A

Address of 2nd Property Owner: 36A Fisher Street Dover, NH 03820

Address of Property: Fisher Street

Assessor's Map # 15 Lot(s) # 51

Property Deed: Book 4337 Page: 566

Zoning District(s) G - Gateway Overlay District(s) None

Size of Existing Parcel (sq. ft.): 46,382 Size of Proposed Parcel (sq. ft.): 30,323

THIRD PROPERTY OWNER AND PARCEL INFORMATION N/A

Name of 3rd Property Owner (*if different from applicant*): _____ Telephone # _____

Address of 3rd Property Owner: _____

Address of Property: _____

Assessor's Map # _____ Lot(s) # _____

Property Deed: Book _____ Page: _____

Zoning District(s) _____ Overlay District(s) _____

Size of Existing Parcel (sq. ft.): _____ Size of Proposed Parcel (sq. ft.): _____

[Use additional application form if more than two lots are being adjusted]

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Kevin McEneaney, LLS - McEneaney Survey Associates

Address P.O. Box 1166 Dover, NH 03821 Telephone #: 603-742-0911

Professional License #: NH LLS #661 E-mail address: kevin@surveynh.com

CONSERVATION EASEMENT HOLDER (s) N/A

Name of Easement Holder: _____ Telephone #_____

Address Easement Holder: _____

Name of 2nd Easement Holder: _____ Telephone #_____

Address 2nd Easement Holder: _____

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of First Property Owner: _____ Date: _____

Signature of Second Property Owner: _____ Date: _____

Signature of Applicant (*if different from owner*): _____ Date: _____

Signature of Agent: _____ Date: _____

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: _____

Signature of 2nd Property Owner: _____ Date: _____

CITY OF DOVER MINOR LOT LINE ADJUSTMENT LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
15	51	Carmel A. Casey	36A Fisher Street Dover, NH 03820

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Eric Jackson	H.J. Stabile & Son, Inc.	20 Cotton Road, #200 Nashua, NH 03063

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Kevin McEneaney, LLS	McEneaney Survey Associates	P.O. Box 1166 Dover, NH 03821

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

City of Dover, New Hampshire
LOT LINE ADJUSTMENT SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

This review checklist is intended to assist the applicant in the planning process of preparing a Subdivision application for Planning Board action. The size of the project will determine the types of information required for review, therefore, a **pre-application conference** with the Planning Department to determine the list of items that must be completed is strongly encouraged.

Plan Review Fees are due along with three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, 3 weeks prior to the Planning Board meeting. Abutter/Notice Fees will be invoiced and are due 28 hours prior to Planning Board.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all subdivision requirements. Please refer to the Subdivision Regulations for full details.

APPLICANT: H.J. Stabile & Son, Inc. File Number: _____

PROPERTY LOCATION: Fisher Street Tax Map: 15 Lot: 51 and Lot: 40A-1

	Where/How Provided	Reviewed
1. Completed and signed Application form	X	
2. Plan Review Fees are provided	X	
3. Electronic copy of the surveyed plat layout	X	
4. Electronic copy of supplementary materials and application	X	
5. Fifteen copies of LLA plan w/scale of not less than 1"=50' or 1"=100' for larger adjustments. Plans shall contain the following items as appropriate:	X	
Location map at appropriate scale	X	
Planning File #	X	
Date, north arrow and scale	X	
Names of all abutting property owners	X	
Name and address of owners	X	
Signature & stamp of NH licensed land surveyor	X	
Zoning District boundaries, including any special or overlay districts	N/A	
Location of Conservation District areas	N/A	
Location, names and widths of existing and streets, including pavement widths, grades, curbs and crosswalks	X	
Location and widths of existing & proposed easements & right of ways	X	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	X	
Existing and proposed lot areas in square feet	X	
Existing and proposed buildings and structure locations	X	
Minimum building setbacks or build to lines on all lots	X	
Map and lot numbers for existing and proposed lots as assigned by Tax Assessor	X	
Location, material and size of existing and proposed permanent monuments	X	
All applicable Dover Common Subdivision notes	X	

REVIEWED BY: _____ DATE_____

Landscape Best Management Practices
Operations and Maintenance Plan

Fisher Street Townhouses

TAX MAP 15, LOT 40-A-1
Dover, New Hampshire 03820

November 8, 2023

Prepared for
Civilworks New England/Haight Engineering, PLLC
181 Watson Road
PO Box 1166
Dover, New Hampshire 03821

Prepared by
Ironwood Design Group, LLC
PO Box 873
Exeter, New Hampshire 03833

Landscape Maintenance

Introduction

The landscape enhancements proposed for the Fisher St. Townhouse Project will require modest maintenance at various times throughout the year. For the site plantings, maintenance is most important during the first 1-2 years following installation when plants are becoming established. Anyone involved in the upkeep of the facility should become familiar with the landscape and its features. Identified below are basic, at minimum, maintenance tasks:

Weekly Tasks

1. Prune back any shrubs overhanging curbs or sidewalks.
2. Remove litter from plants bed.
3. Remove broken or fallen branches from trees.
4. Prune sucker growth from tree trunks.
5. Remove weeds larger than 2 inches high or wide from plant beds. Weeds 2 inches and larger must be removed, not just killed. **The application of herbicides such as Roundup is discouraged.**
6. Any invasive species seedlings observed should be removed and disposed of properly.
7. Replace bark mulch that may have been washed out of planting beds. Smooth mulch layer if it has been disturbed.
8. Check plants for signs of stress, pests or disease and notify Owner for authorization to replace.
9. If a significant decline in plant health is attributed to an insect pest, **apply an organic product and/or process** to control the pest.
10. Water plants that are dry and stressed.
11. Notify Owner for authorization to replace dead plants at the appropriate time (see annual tasks, September).
12. Identify other tasks listed on the Annual and Monthly checklist of tasks.

Annual Tasks

Early Spring

1. Prune winter damage such as broken tree branches that interfere with public safety.
2. Trim dead perennial foliage left in the fall for winter interest to within six inches of the ground.
3. Add new mulch to plant beds where the mulch depth has been reduced to less than 2 inches. Mulch depth shall not exceed two inches (top dressed). Mulch is not required where shrubs or groundcover completely hide the soil surface from view.
4. Gently prune shrubs at appropriate time of year based on species, for shape and form. **Do not shear.**
5. Energize the irrigation system, repair damaged components, test the system, adjust heads, and update programing.
6. Conduct a soil test to measure at a minimum, pH, phosphorus, potassium, calcium, and magnesium. Follow the recommendations provided with the soil test results.
7. Apply fertilizer only when required. A single application of fertilizer per year before Memorial Day is encouraged.

Monthly Tasks

June

No additional items

July

No additional items

August

Mow native meadow areas at 6”-9” height.

September

1. Inventory all plant materials, including an exact count of all shrubs and trees.
2. Replace any dead or missing plants.
3. Aerate lawn areas.
4. Apply pelletized lime at a rate of 80 lbs/1,000 square feet or as soil test dictates.

October

1. Winterize irrigation system.

November

1. Remove leaves from lawn areas and planting beds.
2. Remove perennial vegetation that has died back for the season.
3. Apply “WILT-PRUF” to broadleaf evergreens, according to label instructions, to protect shrubs from winter die back.

December

1. Prune any tree branches that interfere with public safety.
2. Prune desiduous trees yearly to encourage strong growth the following growing season. Trees adjacent to pedestrian sidewalks shall have branches pruned to 6-foot height.

Management Task or Activity	Time or Frequency						
	Weekly	Monthly	Spring	Summer	Fall	Winter	After Major Rain Events
Replace dead or dying plants			X				
Remove weeds	X		X	X	X		
Cut down grasses			X				
Remove accumulated leaves, litter, and plant debris		X					X

Stormwater Detention Facilities

Introduction

The stormwater facilities are used to attenuate flow and treat stormwater. The stormwater treatment areas consist of a large basin and linear swales seeded with a variety of native, adaptable, and rugged perennial grasses, and sometimes additional flowering plants. There are maintenance tasks associated with stormwater facilities.

Erosion

The soil in the facility and in areas draining to the facility shall be inspected for erosion. Eroded areas shall be filled with soil or mulch and seeded with the approved seed mix for the location.

Sediment Accumulation & Clogging

The accumulation of sediment within the facility may reduce its infiltration capacity and impair performance. The facility shall be inspected for accumulation of sediment and excessive sediment shall be removed with the area re-mulched and replanted as appropriate and necessary.

Outlet Structure Maintenance

The facility outlet structure requires monitoring. Periodically, the orifice on the outlet pipe may clog with debris. Any found debris should be removed and appropriately disposed of off-site.

Debris & Litter

Debris and litter should be removed monthly to maintain aesthetic appearance and public acceptance.

Plant Maintenance

Healthy vegetation contributes to the optimal operation of the stormwater facility. Planting area maintenance tasks include the removal of accumulated leaves, litter, and plant debris as needed. During the first 1-2 years after planting, the facility should be monitored for invasive species and weeded as needed and appropriate. Well-established facility vegetation should be mowed annually in the fall.

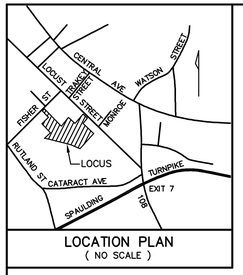
Snow Storage

Snow shall not be dumped directly onto the facility.

Chlorides

The stormwater facility is not suitable for treating chlorides. Chloride use on source surface areas tributary to the facility should be avoided if possible. In these locations, it would be prudent to eliminate or reduce application of chloride-containing deicing compounds, use alternative deicers, or apply clean sand as needed. Aggressive sweeping in these areas, along with pretreatment sumps and filter strips, will minimize the negative impact of the sand on the facility.

Management Task or Activity	Time or Frequency						
	Weekly	Monthly	Spring	Summer	Fall	Winter	After Major Rain Events
Inspect for erosion. Rake and redistribute/replenish any soil, rap, or mulch that has eroded		X					X
Inspect for standing water							X
Remove accumulated leaves, litter, and plant debris		X					X
Weed plant material		X					
Mow plant material					X		



LOCATION PLAN
(NO SCALE)

NH STATE PLANE NAD 83 – GPS OBS.

REFERENCE PLANS:

1.) BOUNDARY LINE ADJUSTMENT PLAN, DOUBLE DIAMOND HOLDINGS SOUTH, LLC AND DOUBLE DIAMOND HOLDINGS NORTH, LLC, CENTRAL AVENUE, LOCUST STREET AND FISHER STREET, DOVER, NEW HAMPSHIRE; SCALE: 1" = 60'; DATED: FEBRUARY 12, 2008, REVISED THROUGH 4/9/08; BY: TRITECH EGINEERING CORPORATION; RECORDED SC.R.D. PLANS 94–16 & 94–17.

2.) PLAN OF LAND PREPARED FOR MOORE BUSINESS FORMS, INC. TAX MAP 15, LOT No. 21 & 22, 23, 40A & 68, LOCUST AND FISHER STREETS, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE; SCALE: 1" = 50'; DATED: DECEMBER 9, 1999, REVISED THROUGH 1/20/05; BY: McENEANEY SURVEY ASSOCIATES, INC.; RECORDED S.C.R.D. PLANS 78–96 & 78–97.

3.) COMMUNITY TRAIL PHASE III, TAX MAP 15, LOTS 21–22 & 40A; SCALE: 1" = 20'; DATED: NOV. 2017, REVISED THROUGH 9/9/2019; BY: FUSS & O'NEILL; RECORDED S.C.R.D. PLANS 11976 & 11977.

4.) SUBDIVISION PLAN PREPARED FOR DOUBLE DIAMOND HOLDINGS NORTH, LLC AND CARMEL A. CASEY, TAX MAP 15, LOT No. 40A, FISHER STREET, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE; SCALE: 1" = 40'; DATED: JULY 12, 2022; BY: THIS OFFICE.

No.	Central Angle	Radius	Arc Length	Chord Length	Chord Bearing
C1	4°14'33"	1864.00'	138.02'	137.99'	S28°01'47"E
C2	5°35'27"	1957.00'	190.97'	190.89'	N27°20'49"W
C3	2°41'09"	2803.00'	131.40'	131.39'	N28°47'57"W

No.	Bearing	Distance
L1	S85°28'46"E	50.00'
L2	N88°23'57"E	50.25'
L3	N30°24'53"W	28.22'
L4	N12°41'05"W	50.00'
L5	S86°03'39"E	41.38'
L6	S86°14'18"E	44.05'

LEGEND

I.R.(tbs) – IRON ROD TO BE SET
I.R.(fnd) – IRON ROD FOUND
I.P.(fnd) – IRON PIPE FOUND
S.S.(fnd) – STEEL STAKE FOUND
G.B.(fnd) – GRANITE BOUND FOUND
-o- UP – UTILITY POLE
ELEV. – ELEVATION
EOP – EDGE OF PAVEMENT
S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS

NO.	DATE	DESCRIPTION	BY	CHK
CNE #22017		REVISIONS		

21–2282	EXIST.COND.	21–10	64–72
PROJECT NO	TYPE	FIELDBOOK & PAGES	

12 / 56
THOMAS J. MOYNIHAN
KAREN E. MOYNIHAN
44 ELM STREET
DOVER, NH 03820
4528 / 4

15 / 46
BRYAN MCMILLAN
ELIZABETH MCMILLAN
18–20 FISHER STREET
DOVER, NH 03820
4807 / 723
SEE NOTE #11

15 / 43
DOVER CHILDREN'S HOME
207 LOCUST STREET
DOVER, NH 03820
312 / 440

15 / 40A
DOUBLE DIAMOND HOLDINGS NORTH, LLC
340 CENTRAL AVENUE #202
DOVER, NH 03820
3166 / 780

12 / 104
COOPER FAMILY REVOCABLE TRUST OF 2019
45 ELM STREET
DOVER, NH 03820
4733 / 767

15 / 47
JAMES CHARLES HENERBERRY
MELISSA FORD HENERBERRY
26 FISHER STREET
DOVER, NH 03820
4752 / 593

15 / 48
STAVROS DEMOPOULOS REVOCABLE TRUST
ELEFTHERIA DEMOPOULOS REVOCABLE TRUST
7851 DUET COURT
PORT RICHEY, FL 34654
2668 / 620

15 / 49
JACOB COHEN–HOLMES
52 HAMPTON FALLS ROAD
EXETER, NH 03833
4630 / 864

15 / 50
LAURIE A. SMITH
GREGORY T. SMITH
36 FISHER STREET
DOVER, NH 03820
1073 / 386

15 / 51
CARMEL A. CASEY
36A FISHER STREET
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOLUME 4337, PAGE 566

15 / 52
DONALD W. SMART
SAUNDRA R. ACKLER
38 FISHER STREET
DOVER, NH 03820
1659 / 556

15 / 54
MUNIZ REVOCABLE TRUST OF 2017
40 FISHER STREET
DOVER, NH 03820
4463 / 193

15 / 62
SOUTH DOVER STORAGE SOLUTIONS, LLC
11 MOSES CARR ROAD
ROLLINSFORD, NH 03869
4055 / 77

12 / 113
HAWKINS FAMILY REVOCABLE TRUST
P.O. BOX 308
DOVER, NH 03821
4307 / 762

12 / 126
CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820
3311 / 694

12 / 139
ELISABETH GRIFFON
49 FISHER STREET
DOVER, NH 03820
44858 / 218

ELM STREET
FISHER STREET {PUBLIC R.O.W.}
BELKNAP STREET
FISHER STREET

TBM
NAIL IN POLE
ELEV. = 100.72

S04°05'50"W 147.00'
S04°05'50"W 245.00'
S85°28'46"E 147.37'
S04°05'50"W 141.68'
S04°35'38"W 199.95'
LOT LINE TO BE ABANDONED
142.00'
N05°33'32"E
NEW LOT LINE
S86°14'18"E 125.23'
S85°37'16"E 119.46'
NEW LOT LINE
LOT LINE TO BE ABANDONED
N85°32'43"W 131.39'
S10°16'03"E 144.48'
N06°50'52"W 142.74'
N30°24'53"W 70.54'
LOT LINE TO BE ABANDONED
170.00'
S30°24'53"E
276.41'
N30°08'32"W
S89°25'22"E 105.18'
S54°03'49"W 362.44'
S54°03'49"W 397.45'
75.89'
N30°08'32"W
50.25'
N88°23'57"E

I.R.(tbs) I.R.(fnd) I.P.(fnd) S.S.(fnd) G.B.(fnd) BOLT(fnd)

18"ø MAPLE
30"ø MAPLE
HOUSE
GARAGE
ASPHALT DRIVE
GRAVEL DRIVE
EXISTING DECK
EXISTING HOUSE
RETAINING WALL
EXISTING DRIVE
TREELINE (TYP)
STREAM
50' WETLAND BUFFER
CITY OF DOVER CONSERVATION DISTRICT
PROPOSED DRAINAGE EASEMENT (SEE NOTE 12)
WETLAND BOUNDARY (TYP)
3'X4' STONE BOX CULVERT
12"ø SLEEVE FOR PROPOSED SEWER
30' EASEMENT
ASPHALT WALK
SIDEWALK
GRAVEL/CRUSHED STONE
WOODEN STOCKADE FENCE
BUILDING ZONE HR
BUILDING ZONE G
DOVER COMMUNITY TRAIL (SEE NOTE 10)

15 / 40A–1
NEW PARCEL AREA
170,468 S.F.
3.91 Ac.

A

C1 C2 C3 L1 L2 L3 L4 L5 L6

NOTES:

1.) OWNER OF RECORD:
15 / 40–A DOUBLE DIAMOND HOLDINGS NORTH, LLC
340 CENTRAL AVENUE #202
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOLUME 3166, PAGE 780

15 / 51 CARMEL A. CASEY
36A FISHER STREET
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOLUME 4337, PAGE 566

2.) – DENOTES TAX MAP AND PARCEL NUMBER.

3.) THE INTENT OF THIS PLAN IS TO ADJUST THE LOT LINES AS SHOWN. PARCEL "A" (16,059 S.F.) WILL BE ADDED TO LOT 15/40A–1.

4.) LOT AREAS:

LOT	ORIGINAL AREA	NEW AREA
15/40A–1	154,408 S.F. / 3.54 Ac.	170,468 S.F. / 3.91 Ac.
15/51	46,382 S.F. / 1.06 Ac.	30,323 S.F. / 0.70 Ac.

5.) ZONING DISTRICT:
GATEWAY (G)
DIMENSIONAL REQUIREMENTS:

MINIMUM LOT SIZE	= N/A
MINIMUM LOT COVERAGE	= 50 PERCENT
MINIMUM FRONTAGE BUILD–OUT	= 60%
BUILDING SETBACK REQUIREMENTS:	
FRONT SETBACK	= 5–20 FEET
SIDE SETBACK	= 10 FEET
REAR SETBACK	= 15 FEET
MAXIMUM BUILDING HEIGHT	= 4 STORY

6.) THE SUBJECT PARCEL IS NOT LOCATED WITHIN THE SPECIAL FLOOD HAZARD AREA (SFHA) AS SHOWN ON FLOOD INSURANCE RATE MAP 33017C0320E, EFFECTIVE DATE 9/30/2015.

7.) BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED 12/10/2021.
VERTICAL DATUM IS NH STATE PLANE (NAVD88) BASED ON GPS OBSERVATION DATED 12/10/2021.

8.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND DURING AUGUST 2022 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

9.) WETLAND FLAGGED LINES SHOWN WERE DELINEATED BY BAG LAND CONSULTANTS, BRUCE A. GILDAY CWS #88, DATED NOVEMBER 2021. IN ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION MANUAL AND LOCATED BY THIS OFFICE.

10.) THE PARCEL 15/40A–1 IS ENCUMBERED BY DRAINAGE AND COMMUNITY TRAIL EASEMENTS BENEFITING THE CITY OF DOVER, SEE REFERENCE PLAN 3.

11.) THE SUBJECT PARCEL IS ENCUMBERED BY A RIGHT OF WAY BENEFITING LOT 15/46, S.C.R.D. BOOK 4807, PAGE 723.

12.) A PROPOSED 50' WIDE DRAINAGE EASEMENT ON PARCEL 15/40A–1 TO BENEFIT PARCEL 15/40A.

13.) THE INSTALLATION OF POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE.

14.) THE SUBJECT PARCELS ARE SERVED BY MUNICIPAL WATER AND SEWER.

"I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL GROUND SURVEY PERFORMED WITH A TOTAL STATION, BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, SAID SURVEY MEETS OR EXCEEDS THE MINIMUM PRECISION REQUIREMENTS FOR SURVEY CLASSIFICATION "U" AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS."

LOT LINE ADJUSTMENT PLAN
PREPARED FOR
DOUBLE DIAMOND HOLDINGS NORTH, LLC
AND
CARMEL A. CASEY
TAX MAP 15, LOT Nos. 40A–1 & 51
FISHER STREET
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DOVER PLANNING FILE No.

DRAWN BY: KJF	FILE: MSA\2282\DWG\21–2282
SCALE: 1" = 40'	DATE: OCTOBER 25, 2023

40 20 0 20 40 80 120 160

STATE OF NEW HAMPSHIRE No. 661 KEVIN M. McENEANEY LICENSED LAND SURVEYOR SIGNATURE

McENEANEY SURVEY ASSOCIATES of NEW ENGLAND
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742–0911

SURVEYING – PLANNING – CONSULTING

2/7/2024 08:33:52 File: M:\2282\Drawings\23-2282.DWG Layout: LLADJ

Ironwood
Landscape Architecture • Planning

Civilworks New England/Haight Engineering, PLLC
181 Watson Road
PO Box 1166
Dover, NH 03821

Sent via email: shaight@civilworksne.com
Cc: mmenary@civilworksne.com

RE: Fisher Street Townhouses Dover, NH – Conservations Commission Comments

May 21, 2024

Dear Steve,

Thank you for sharing with me comments from the Dover Conservation Commission meeting regarding the proposed Fisher Street Townhouses planting.

It is confirmed that the landscape plan set submitted for City's review (dated 5/8/24) has no proposed plant species identified on the State of NH invasive species list. I have attached that list for your reference.

Typically, Ironwood planting plans focus heavily on using native plants or cultivars of natives. Sometimes we must look beyond true natives to hybrids of native species. On occasion we must look to non-native species, but only when it is in the best interest of project goals and objectives. The reason for looking beyond pure native varieties is pragmatic; maintenance, salt tolerance, pest issues (no pesticides), urban tolerance, landscape biodiversity, aesthetics, commercial availability, etc. For the Fisher Street planting, the only true non-natives on the plant schedule are *Acer griseum* (Paperbark Maple) and *Cornus mas* (Corneliancherry dogwood) -- all others are natives, native cultivars, or native hybrids from the Eastern Coast of North America hardy to USDA Hardiness Zone 5a.

After looking a second time at the plant schedule, I choose to make a substitution for the Red Canada Cherry. This tree, although native, can be popular habitat for tent caterpillars, which I was reminded of recently. Shown in the revised plan (dated 5/21/2024) in its place, I have specified a Red Bud (Minnesota strain). The Red Bud will do nicely in that location and provide a pleasant spring flower.

To further enhance the biodiversity of the plants on the site, in the revised plan I have specified a dry site restoration seed mix for the sunny slope up-hill from the wetland. This location was previously identified to be seeded with the perennial lawn seed mix.

Sincerely,

Jeffrey R. Hyland, PLA, ASLA, CLARB
Principal and Senior Landscape Architect
Ironwood Design Group, LLC

Ironwood Design Group
PO Box 873
Exeter, NH 03833

JHyland@FeWood.com
603.772.0590 | voice

www.FeWood.com | web

New Hampshire Comprehensive Invasive Plant List

NH Department of Agriculture, Markets & Food (NHDAMF)

NH Department of Environmental Services (NHDES)

January 2023

SCIENTIFIC NAME[1]	SYNONYMS	COMMON NAME	TERESTRIAL NHDAMF JURISDICTION		AQUATIC NHDES JURISDICTION		EARLY DETECTION RAPID RESPONSE SPECIES[6] (EDRR)
The following is a comprehensive list of invasive (Prohibited – P) and potentially invasive (Watch – W) plant species that the State of New Hampshire's Invasive Species Committee (ISC) has compiled to help promote education and awareness of these species. This includes plants **Prohibited (P)** and regulated by the NH Department of Agriculture, Markets & Food (NHDAMF) and the NH Department of Environmental Services (NHDES). Those listed as **Watch (W)** are not regulated, however, they exhibit some invasive characteristics that over time could allow them to spread rapidly and become invasive. Lastly, **Early Detection Rapid Response (EDRR)** species have exhibited invasive tendencies in the region and are likely to soon arrive or already occur in NH but not fully established. Where found, they are rapid response targets for eradication before they become more widely established. See more information on Prohibited, Watch, and Early Detection Rapid Response species below the table.			PROHIBITED[2] (P)	WATCH[3] (W)	PROHIBITED[4] (P)	WATCH[5] (W)	
Abutilon theophrasti Medik.		Velvetleaf Indian-mallow		W			
Acer ginnala Maxim.		Amur maple		W			
Acer platanoides L.	*Acer platanoides* var. *schwedleri* Nichols.	Norway maple	P				
Achyranthes japonica (Miq.) Nakai	*Achyranthes japonica* (Miq.) Nakai var. *hachijoensis* Honda	Japanese chaff flower		W			EDRR
Aegopodium podagraria L.	*Aegopodium podagraria* var. *variegata* Bailey	Bishop's goutweed		W			
Agrostemma githago L. var. *githago*	*Lychnis githago* (L.) Scop.	Common corncockle		W			
Ailanthus altissima (P. Mill.) Swingle	*Ailanthus glandulosa* Desv.	Tree of heaven	P				EDRR
Aira caryophyllea L. var. *caryophyllea*	*Aspris caryophyllea* (L.) Nash	Common silver-hairgrass		W			
Aldrovanda vesiculosa L.		Waterwheel plant				W	EDRR
Alliaria petiolata (Bieb.) Cavara & Grande	*Alliaria alliaria* (L.) Britt.; *Alliaria officinalis* Andrz. *ex* Bieb.; *Erysimum alliaria* L.; *Sisymbrium alliaria* (L.) Scop.	Garlic mustard	P				
Allium vineale L.		Crow garlic		W			
Alnus glutinosa (L.) Gaertn.	*Alnus alnus* (L.) Britt.; *Betula alnus* L. var. *glutinosa* L.	European black alder	P				EDRR
Amorpha fruticosa L.	*Amorpha fruticosa* var. *angustifolia* Pursh; *Amorpha fruticosa* var. *oblongifolia* Palmer; *Amorpha fruticosa* var. *tennesseensis* (Shuttlw. *ex* Kunze) Palmer	False indigo-bush		W			
Ampelopsis glandulosa (Wallich) Momiy. var. *brevipedunculata* (Maxim.) Momiy.	*Ampelopsis brevipedunculata* (Maxim.) Trautv.; *Ampelopsis heterophylla* (Thunb.) Sieb. & Zucc. var. *amurensis* Planch.; *Ampelopsis heterophylla* (Thunb.) Sieb. & Zucc. var. *brevipedunculata* C.L. Li; *Cissus brevipedunculata* Maxim.; *Vitis brevipedunculata* (Maxim.) Dippel.	Amur peppervine		W			EDRR

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Anthriscus sylvestris (L.) Hoffmann	*Chaerophyllum sylvestre* L.	Wild chervil		**W**			**EDRR**
Aralia elata (Miq.) Seem.	*Dimorphanthus elatus* Miq.	Japanese angelica-tree		**W**			**EDRR**
Artemisia vulgaris L. var. *vulgaris*	*Artemisia vulgaris* var. *glabra* Ledeb.; *Artemisia vulgaris* var. *latiloba* Ledeb.	Common wormwood		**W**			
Barbarea vulgaris Ait. f.	*Barbarea arcuata* (Opiz *ex* J. & K. Presl) Reichenb.; *Barbarea stricta*, of authors not Andrz.; *Barbarea vulgaris* var. *arcuata* (Opiz *ex* J. & K. Presl) Fries; *Campe barbarea* (L.) W. Wight *ex* Piper; *Campe stricta*, of authors not (Andrz.) W. Wight *ex* Piper; *Erysimum barbarea* L.	Garden yellow-rocket		**W**			
Bassia scoparia (L.) A.J. Schott	*Chenopodium scoparium* L.; *Kochia scoparia* (L.) Schrad.; *Kochia scoparia* var. *pubescens* Fenzl; *Kochia scoparia* var. *subvillosa* Moq.	Firebush smotherweed		**W**			
Berberis thunbergii DC.		Japanese barberry	**P**				
Berberis vulgaris L.		European barberry	**P**				
Brassica juncea (L.) Czern.	*Brassica juncea* (L.) Czern. var. *crispifolia* Bailey; *Sinapis juncea* L.	Chinese mustard		**W**			
Brassica nigra (L.) W.D.J. Koch	*Sinapis nigra* L.	Black mustard		**W**			
Bromus catharticus Vahl	*Bromus unioloides* Kunth; *Bromus willdenowii* Kunth	Rescuegrass		**W**			**EDRR**
Bromus tectorum L.	*Anisantha tectorum* (L.) Nevski	Cheat brome		**W**			
Butomus umbellatus L.		Flowering rush			**P**		**EDRR**
Cabomba caroliniana Gray and all other *Cabomba* species	*Cabomba caroliniana* var. *pulcherrima* Harper; *Cabomba pulcherrima* (Harper) Fassett	Fanwort			**P**		
Callitriche stagnalis Scop.		Pond water-starwort				**W**	**EDRR**
Cardamine impatiens L.		Narrow-leaved bitter-cress		**W**			
Carduus nutans L.	*Carduus nutans* ssp. *leiophyllus* (Petrovic) Stojanov & Stef.; *Carduus nutans* var. *leiophyllus* (Petrovic) Arènes	Nodding plumeless-thistle		**W**			**EDRR**
Celastrus orbiculatus Thunb.		Oriental bittersweet	**P**				
Centaurea diffusa Lam.	*Acosta diffusa* (Lam.) Soják; *Acrolophus diffuses* (Lam.) A. & D. Löve	White knapweed		**W**			**EDRR**
Centaurea jacea L.	*Centaurea debeauxii* Gren. & Godr. ssp. *thuillieri* Dostál; *Centaurea jacea* ssp. *decipiens* (Thuill.) Čelak.; *Centaurea jacea* ssp. *pratensis* Čelak.; *Centaurea pratensis* Thuill.; *Centaurea thuillieri* (Dostál) J. Duvign. & Lambinon; *Cyanus jacea* (L.) P. Gaertn.; *Jacea pratensis* Lam.	Brown knapweed		**W**			
Centaurea nigra L.	*Jacea nigra* (L.) Hill	Black knapweed		**W**			

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Centaurea solstitialis L.		Yellow knapweed		**W**			**EDRR**
Centaurea stoebe L. ssp. *micranthos* (Gugler) Hayek	*Centaurea biebersteinii* DC.; *Centaurea maculosa* Lam., misapplied; *Centaurea maculosa* Lam. ssp. *micranthos* Gugler	Spotted knapweed	**P**				
Chelidonium majus L.	*Chelidonium majus* var. *laciniatum* (P. Mill.) Syme; *Chelidonium majus* var. *plenum* Wehrhaln	Greater celandine		**W**			
Cicerbita muralis (L.) Wallr.	*Lactuca muralis* (L.) Fresen.; *Mycelis muralis* (L.) Dumort.; *Prenanthes muralis* L.	Wall-lettuce		**W**			**EDRR**
Cirsium arvense (L.) Scop.	*Breea arvensis* Less.; *Carduus arvensis* (L.) Robson; *Cirsium arvense* var. *horridum* Wimmer & Grab.; *Cirsium arvense* var. *integrifolium* Wimmer & Grab.; *Cirsium arvense* var. *mite* Wimmer & Grab.; *Serratula arvensis* L.	Canada thistle		**W**			
Cirsium palustre (L.) Scop.	*Carduus palustris* L.	Marsh thistle		**W**			
Cirsium vulgare (Savi) Ten.	*Carduus lanceolatus* L.; *Carduus vulgaris* Savi; *Cirsium lanceolatum* (L.) Scop.	Common thistle		**W**			
Clematis terniflora DC.	*Clematis dioscoreifolia* Levl. & Vaniot; *Clematis dioscoreifolia* Levl. & Vaniot var. *robusta* (Carr.) Rehd.; *Clematis paniculata* Thunb.	Yam-leaved virgin's-bower		**W**			**EDRR**
Convolvulus arvensis L.	*Strophocaulos arvensis* (L.) Small	Field bindweed		**W**			
Crassula helmsii (T. Kirk) Cockayne	*Crassula recurva* (Hook. f.) Ostenf.; *Tillaea recurva* (J.D. Hook.); *Tillaea helmsii* Kirk; *Bulliarda recurva* (Hook. f.)	Swamp stonecrop	**P**				**EDRR**
Cuscuta approximata Bab.	*Cuscuta approximata* var. *urceolata* (Kunze) Yuncker; *Cuscuta epithymum* ssp. *approximata* (Bab.) Rouy; *Cuscuta planiflora* Ten.	Alfalfa dodder		**W**			**EDRR**
Cytisus scoparius (L.) Link var. *scoparius*	*Spartium scoparium* L.	Scotch broom		**W**			**EDRR**
Datura stramonium L.	*Datura inermis* Juss. *ex* Jacq.; *Datura stramonium* var. *inermis* (Juss. *ex* Jacq.) Fern.; *Datura stramonium* var. *tatula* (L.) Torr.; *Datura tatula* L.	Thorn-apple		**W**			
Digitaria sanguinalis (L.) Scop.	*Panicum sanguinale* L.	Hairy crabgrass		**W**			
Dioscorea polystachya Turcz.	*Dioscorea batatas* Dcne.	Chinese yam		**W**			**EDRR**
Echinochloa colona (L.) Link	*Panicum colonum* L.	Awnless barnyard grass		**W**			**EDRR**
Egeria densa Planch.	*Anacharis densa* (Planch.) Victorin	Brazilian elodea	**P**				**EDRR**
Eichhornia crassipes (Mart.) Solms-Laubach	*Eichhornia speciosa* Kunth; *Piaropus crassipes* (Mart.) Raf.	Common water-hyacinth				**W**	**EDRR**
Elaeagnus angustifolia L.		Russian olive		**W**			**EDRR**
Elaeagnus umbellata Thunb. var.	*Elaeagnus parvifolia* Royle	Autumn olive	**P**				

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parvifolia (Royle) Schneid.							
Elymus repens (L.) Gould	*Agropyron repens* (L.) Gould; *Elytrigia repens* (L.) Desv. *ex* B.D. Jackson; *Triticum repens* L.	Creeping wild-rye		W			
Epilobium hirsutum L.		Hairy willow herb			P		
Epipactis helleborine (L.) Crantz	*Epipactis latifolia* (L.) All.; *Serapias helleborine* L.	Broad-leaved helleborine		W			
Euonymus alatus (Thunb.) Sieb.	*Celastrus alatus* Thunb.	Burning bush	P				
Euonymus europaeus L.		European spindle-tree		W			EDRR
Euonymus fortunei (Turcz.) Hand.-Mazz	*Euonymus fortunei* var. *radicans* (Sieb. *ex* Miq.) Rehd.; *Euonymus fortunei* var. *vegetus* (Rehd.) Rehd.; *Euonymus radicans* Sieb. *ex* Miq.; *Euonymus radicans* Sieb. *ex* Miq. var. *vegetus* Rehd.	Climbing spindle-tree		W			EDRR
Euphorbia cyparissias L.	*Galarhoeus cyparissias* (L.) Small *ex* Rydb.; *Tithymalus cyparissias* (L.) Hill	Cypress spurge		W			
Euphorbia esula L.	*Euphorbia intercedens* Podp.; *Galarhoeus esula* (L.) Rydb.; *Tithymalus esula* (L.) Hill	Leafy spurge		W			
Festuca filiformis Pourret	*Festuca capillata* Lam.; *Festuca ovina* var. *capillata* (Lam.) Alef.; *Festuca tenuifolia* Sibthorp	Fine-leaved sheep fescue		W			
Ficaria verna Huds. ssp. *fertilis* (Lawralrée *ex* Laegaard) Stace	*Ficaria verna* Huds. ssp. *bulbifera* A. & D. Löve; *Ranunculus ficaria* L. ssp. *bulbilifer* Lambinon; *Ranunculus ficaria* L. ssp. *bulbifera* (Marsden-Jones) Lawalree, an illegitimate name; *Ranunculus ficaria* var. *bulbifera* Marsden-Jones	Fig-crowfoot		W			EDRR
Frangula alnus P. Mill.	*Rhamnus frangula* L.	Glossy buckthorn	P				
Froelichia gracilis (Hook.) Moq.	*Oplotheca gracilis* Moq.	Slender cotton-weed		W			EDRR
Galium mollugo L.		Whorled bedstraw		W			
Glechoma hederacea L.	*Glechoma hederacea* var. *micrantha* Moric.; *Glechoma hederacea* var. *parviflora* (Benth.) House; *Nepeta hederacea* (L.) Trevisan	Gill-over-the-ground		W			
Glyceria maxima (Hartman) Holmb.	*Glyceria spectabilis* Mert. & Koch; *Molinia maxima* Hartman	Reed sweet grass	P		P		EDRR
Heracleum mantegazzianum Sommier & Levier		Giant hogweed	P				
Hesperis matronalis L.		Dame's rocket		W			
Humulus japonicus Sieb. & Zucc.		Japanese hop		W			
Hydrilla verticillata (L. f.) Royle	*Serpicula verticillata* L. f.	Hydrilla			P		EDRR

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Hydrocharis morsus-ranae L.		European frogbit			**P**		**EDRR**
Hygrophila polysperma (Roxb.) T. Anders.	*Justicia polysperma* (Roxb.); *Hemidelphis polysperma* (Roxb.) Nees in Wall.	East Indian hygrophila			**P**		**EDRR**
Hylotelephium telephium (L.) H. Ohba ssp. *telephium*	*Sedum purpureum* (L.) J.A. Schultes; *Sedum purpurascens* W.D.J. Koch; *Sedum telephium* L.	Purple orpine		**W**			
Impatiens glandulifera Royle	*Impatiens roylei* Walp.	Ornamental jewelweed	**P**				**EDRR**
Ipomoea aquatica Forssk.	*Ipomoea reptans* auct.	Water spinach			**P**		**EDRR**
Kalopanax septemlobus (Thunb.) Koidz.	*Acanthopanax ricinifolius* (Sieb. & Zucc.) Seem.; *Kalopanax pictus* (Thunb.) Nakai	Castor-aralia		**W**			**EDRR**
Lagarosiphon major (Ridl.) Moss	*Elodea crispa* hort. *ex* Henkel; *Lagarosiphon muscoides* Harv. var. *major* Ridl.	African oxygen weed			**P**		**EDRR**
Lamium amplexicaule L. var. *amplexicaule*		Common henbit		**W**			
Lamium purpureum L.	*Lamium dissectum* With.; *Lamium hybridum*, of authors not Vill.	Red henbit		**W**			**EDRR**
Lepidium latifolium L.	*Cardaria latifolia* (L.) Spach	Perennial pepperweed	**P**				**EDRR**
Lespedeza bicolor Turcz.		Two-colored bush-clover		**W**			**EDRR**
Ligustrum obtusifolium Sieb. & Zucc. var. *obtusifolium*	*Ligustrum obtusifolium* var. *leiocalyx* (Nakai) H. Hara	Blunt-leaved privet	**P**				**EDRR**
Ligustrum vulgare L.		Common privet	**P**				
Limniris pseudacorus (L.) Fuss	*Iris pseudacorus* L.	Yellow iris	**P**		**P**		
Limnophila sessiliflora (Vahl) Blume	*Hottonia sessiliflora* (Vahl); *Terebinthina sessiliflora* (Vahl) Kuntze	Ambulia			**P**		**EDRR**
Lonicera fragrantissima Lindl. & Paxton	*Xylosteon fragrantissimum* (Lindl. & Paxton) Small	Sweet breath of spring		**W**			**EDRR**
Lonicera japonica Thunb.	*Nintooa japonica* (Thunb.) Sweet	Japanese honeysuckle	**P**				**EDRR**
Lonicera maackii (Rupr.) Herder[7]		Amur honeysuckle[7]	**P**				**EDRR**
Lonicera morrowii Gray[7]		Morrow's honeysuckle[7]	**P**				
Lonicera tatarica L. [7]		Tartarian honeysuckle[7]	**P**				
Lonicera ×bella Zabel[7]	*Lonicera morrowii* × *L. tatarica*	Bella honeysuckle[7]	**P**				
Lonicera xylosteum L.		Fly honeysuckle		**W**			
Lupinus polyphyllus Lindl. var.	*Lupinus pallidipes* Heller; *Lupinus polyphyllus* var. *albiflorus* L.H. Bailey;	Blue lupine		**W**			

SCIENTIFIC NAME[1]	SYNONYMS	COMMON NAME	TERESTRIAL NHDAMF JURISDICTION		AQUATIC NHDES JURISDICTION		EARLY DETECTION RAPID RESPONSE SPECIES[6] (EDRR)
The following is a comprehensive list of invasive (Prohibited – P) and potentially invasive (Watch – W) plant species that the State of New Hampshire's Invasive Species Committee (ISC) has compiled to help promote education and awareness of these species. This includes plants **Prohibited (P)** and regulated by the NH Department of Agriculture, Markets & Food (NHDAMF) and the NH Department of Environmental Services (NHDES). Those listed as **Watch (W)** are not regulated, however, they exhibit some invasive characteristics that over time could allow them to spread rapidly and become invasive. Lastly, **Early Detection Rapid Response (EDRR)** species have exhibited invasive tendencies in the region and are likely to soon arrive or already occur in NH but not fully established. Where found, they are rapid response targets for eradication before they become more widely established. See more information on Prohibited, Watch, and Early Detection Rapid Response species below the table.			PROHIBITED[2] (P)	WATCH[3] (W)	PROHIBITED[4] (P)	WATCH[5] (W)	
polyphyllus	*Lupinus polyphyllus* var. *pallidipes* (Heller) C.P. Sm.						
Lychnis flos-cuculi L. ssp. *flos-cuculi*	*Coronaria flos-cuculi* (L.) A. Braun; *Silene flos-cuculi* (L.) Clairville	Ragged robin lychnis		W			
Lysimachia arvensis (L.) U. Manns & A. Anderb.	*Anagallis arvensis* L.; *Anagallis arvensis* L. var. *caerulea* (Schreb.) Gren. & Godr.; *Anagallis caerulea* Schreb.	Scarlet pimpernel		W			
Lysimachia nummularia L.		Moneywort	P				
Lysimachia vulgaris L.		Garden yellow-loosestrife		W			
Lythrum salicaria L.	*Lythrum salicaria* var. *gracilior* Turcz.; *Lythrum salicaria* var. *tomentosum* (P. Mill.) DC.	Purple loosestrife			P		
Marsilea quadrifolia L.		Water fern			P		EDRR
Microstegium vimineum (Trin.) A. Camus	*Andropogon vimineum* Trin.; *Eulalia viminea* (Trin.) Kuntze	Japanese stilt grass	P				EDRR
Microthlaspi perfoliatum (L.) F.K. Mey.	*Thlaspi perfoliatum* L.	Thoroughwort pennycress		W			EDRR
Miscanthus sinensis Anderss.	*Miscanthus sinensis* Anderss. var. *gracillimus* A.S. Hitchc.	Chinese silvergrass		W			EDRR
Myosotis scorpioides L.	*Myosotis palustris* (L.) Hill	Water forget-me-not			P		
Myriophyllum aquaticum (Vell.) Verdc.	*Enydria aquatica* Vell.; *Myriophyllum brasiliense* Camb.; *Myriophyllum proserpinacoides* Gillies *ex* Hook. & Arn.	Parrot feather			P		EDRR
Myriophyllum heterophyllum Michx.		Variable milfoil			P		
Myriophyllum spicatum L.		Eurasian water-milfoil			P		
Najas minor All.	*Caulinia minor* (All.) Coss. & Germ.	European naiad			P		EDRR
Nasturtium microphyllum Boenn. *ex* Reichenb.	*Nasturtium officinale* Ait. f. var. *microphyllum* (Boenn. *ex* Reichenb.) Thellung; *Rorippa microphylla* (Boenn. *ex* Reichenb.) Hyl. *ex* A. & D. Löve	One-rowed water-cress		W			
Nasturtium officinale Ait. f.	*Baeumerta nasturtium-aquaticum* (L.) Hayek; *Rorippa nasturtium aquaticum* (L.) Hayek; *Sisymbrium nasturtium-aquaticum* L.	Two-rowed water-cress		W			
Nymphoides peltata (Gmel.) Kuntze	*Limnanthemum peltatum* Gmel.; *Nymphoides nymphaeoides* (L.) Britt.	Yellow floating heart			P		EDRR
Oenanthe javanica (Blume) DC		Java water dropwort		W			EDRR
Pastinaca sativa L.	*Pastinaca sativa* var. *pratensis* Pers.	Wild parsnip		W			
Paulownia tomentosa (Thunb.) Sieb. & Zucc. ex Steud.	*Bignonia tomentosa* Thunb.	Empress-tree		W			EDRR
Persicaria longiseta (Bruijn) Kitagawa	*Persicaria caespitosa* (Blume) Nakai var. *longiseta* (Bruijn) Reed; *Polygonum caespitosum* Blume var. *longisetum* (Bruijn) Steward; *Polygonum longisetum*	Oriental lady's-thumb smartweed		W			EDRR

SCIENTIFIC NAME[1]	SYNONYMS	COMMON NAME	TERESTRIAL NHDAMF JURISDICTION		AQUATIC NHDES JURISDICTION		EARLY DETECTION RAPID RESPONSE SPECIES[6] (EDRR)
The following is a comprehensive list of invasive (Prohibited – P) and potentially invasive (Watch – W) plant species that the State of New Hampshire's Invasive Species Committee (ISC) has compiled to help promote education and awareness of these species. This includes plants **Prohibited (P)** and regulated by the NH Department of Agriculture, Markets & Food (NHDAMF) and the NH Department of Environmental Services (NHDES). Those listed as **Watch (W)** are not regulated, however, they exhibit some invasive characteristics that over time could allow them to spread rapidly and become invasive. Lastly, **Early Detection Rapid Response (EDRR)** species have exhibited invasive tendencies in the region and are likely to soon arrive or already occur in NH but not fully established. Where found, they are rapid response targets for eradication before they become more widely established. See more information on Prohibited, Watch, and Early Detection Rapid Response species below the table.			PROHIBITED[2] (P)	WATCH[3] (W)	PROHIBITED[4] (P)	WATCH[5] (W)	
	Bruijn						
Persicaria perfoliata (L.) H. Gross	*Ampelygonum perfoliatum* (L.) Roberty & Vautier; *Polygonum perfoliatum* L.	Mile-a-minute weed	**P**				**EDRR**
Phalaris arundinacea L.	*Phalaris arundinacea* var. *picta* L.; *Phalaroides arundinacea* (L.) Raeusch.; *Phalaroides arundinacea* var. *picta* (L.) Tzvelev	Reed canary grass		**W**			
Phellodendron amurense Rupr.	*Phellodendron amurense* var. *sachalinense* F. Schmidt; *Phellodendron japonicum* Maxim.; *Phellodendron sachalinense* (F. Schmidt) Sarg.	Amur corktree		**W**			**EDRR**
Phragmites australis (Cav.) Trin. ex Steud.	*Phragmites communis* Trin.	Common reed			**P**		
Pinus sylvestris L.		Scotch pine		**W**			
Pistia stratiodes L.		Water lettuce				**W**	**EDRR**
Poa compressa L.		Flat-stemmed blue grass		**W**			
Poa nemoralis L.		Wood blue grass		**W**			
Populus alba L.	*Populus alba* L. var. *bolleana* Lauche	White poplar		**W**			
Potamogeton crispus L.		Curly-leaf pondweed			**P**		**EDRR**
Pueraria montana (Lour.) Merr. var. *lobata* (Willd.) Maesen & S. Almeida	*Dolichos lobatus* Willd.; *Pueraria lobata* (Willd.) Ohwi; *Pueraria thunbergiana* (Sieb. & Zucc.) Benth.	Kudzu	**P**				**EDRR**
Pyracantha coccinea M. Roem.	*Cotoneaster pyracantha* (L.) Spach; *Mespilus pyracantha* L.	Scarlet firethorn		**W**			**EDRR**
Pyrus calleryana Dcne.		Bradford pear		**W**			**EDRR**
Ranunculus repens L.	*Ranunculus repens* var. *degeneratus* Schur; *Ranunculus repens* var. *erectus* DC.; *Ranunculus repens* var. *glabratus* DC.; *Ranunculus repens* var. *pleniflorus* Fern.; *Ranunculus repens* var. *villosus* Lamotte	Spot-leaved crowfoot		**W**			
Raphanus raphanistrum L. ssp. *raphanistrum*		Wild radish		**W**			
Rapistrum rugosum (L.) All. ssp. *rugosum*	*Myagrum rugosum* L.	Annual bastard-cabbage		**W**			**EDRR**
Reynoutria japonica Houtt. var. *japonica*	*Fallopia japonica* (Houtt.) R. Decr.; *Pleuropterus cuspidatus* (Sieb. & Zucc.) Moldenke; *Polygonum cuspidatum* Sieb. & Zucc.	Japanese knotweed	**P**				

SCIENTIFIC NAME[1]	SYNONYMS	COMMON NAME	TERESTRIAL NHDAMF JURISDICTION		AQUATIC NHDES JURISDICTION		EARLY DETECTION RAPID RESPONSE SPECIES[6] (EDRR)
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Reynoutria sachalinensis (F. Schmidt *ex* Maxim.) Nakai	*Fallopia sachalinensis* (F.S. Petrop. *ex* Maxim.) R. Decr.; *Polygonum sachalinense* F. Schmidt *ex* Maxim.	Giant knotweed	**P**				**EDRR**
Reynoutria ×bohemica Chrtek & Chrtková	*Fallopia japonica* × *F. sachalinensis*; *Fallopia ×bohemica* (Chrtek & Chrtková) J.P. Bailey; *Polygonum ×bohemicum* (Chrtek & Chrtková) P.F. Zika & A.L. Jacobson	Bohemia knotweed	**P**				
Rhamnus cathartica L.		Common buckthorn	**P**				
Rhinanthus minor L. ssp. *minor*	*Rhinanthus crista-galli* L., in part; *Rhinanthus crista-galli* L. var. *fallax* (Wimmer & Grab.) Druce; *Rhinanthus stenophyllus* (Schur) Schinz & Thellung	Little yellow-rattle		**W**			
Robinia pseudoacacia L.		Black locust		**W**			
Rosa multiflora Thunb. *ex* Murr.		Multiflora rose	**P**				
Rosa rugosa Thunb.		Beach rose		**W**			
Rumex acetosella L. ssp. *pyrenaicus* (Pourret *ex* Lapeyr.) Akeroyd	*Acetosella vulgaris* (Koch) Fourr. ssp. *pyrenaica* (Pourret *ex* Lapeyr.) A. Löve; *Rumex acetosella* var. *pyrenaicus* (Pourret *ex* Lapeyr.) Timbal-Lagrave; *Rumex pyrenaicus* Pourret *ex* Lapeyr.	Sheep dock		**W**			
Sagittaria sagittifolia L.	*Sagittaria japonica* (Hort.); *Sagittaria sagittifolia* var. *edulis* Siebold *ex* Miq.; *Sagittaria sagittifolia* var. *leucopetala* Miq.; *Sagittaria sinensis* Sims; *Sagittaria trifolia* L.; *Sagittaria trifolia* var. *edulis* (Siebold *ex* Miq.); *Sagittaria trifolia* var. *sinensis* (Sims) Makino	Giant sagittaria			**P**		**EDRR**
Salvinia molesta Mitchell		Giant salvinia			**P**		**EDRR**
Securigera varia (L.) Lassen	*Coronilla varia* L.	Purple crown-vetch		**W**			
Silphium perfoliatum L. var. *perfoliatum*		Cup-plant rosinweed		**W**			**EDRR**
Sinapis arvensis L.	*Brassica arvensis* Rabenh.; *Brassica kaber* (DC.) L.C. Wheeler; *Brassica kaber* (DC.) L.C. Wheeler var. *pinnatifida* (Stokes) L.C. Wheeler	Corn charlock		**W**			
Solanum carolinense L. var. *carolinense*		Carolina nightshade		**W**			
Solanum dulcamara L. var. *dulcamara*		Climbing nightshade		**W**			
Sonchus arvensis L.	*Sonchus arvensis* ssp. *uliginosus* (Bieb.) Nyman; *Sonchus uliginosus* Bieb.	Field sow-thistle		**W**			
Sorbaria sorbifolia (L.) A. Braun	*Schizonotus sorbifolius* (L.) Lindl.; *Spiraea sorbifolia* L.	False spiraea		**W**			

SCIENTIFIC NAME[1]	SYNONYMS	COMMON NAME	TERESTRIAL NHDAMF JURISDICTION		AQUATIC NHDES JURISDICTION		EARLY DETECTION RAPID RESPONSE SPECIES[6] (EDRR)
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Tanacetum vulgare L.	*Chrysanthemum uliginosum* Pers.; *Chrysanthemum vulgare* (L.) Bernh.	Common tansy		**W**			
Trapa natans L. and all other *Trapa* species		Water chestnut			**P**		**EDRR**
Tribulus terrestris L.		Puncture-vine		**W**			**EDRR**
Tussilago farfara L.		Coltsfoot		**W**			
Typha gracilis Jord.	*Typha lugdunensis* P. Chabert	Slender cattail			**P**		**EDRR**
Typha laxmanii Lepech.		Dwarf cattail			**P**		**EDRR**
Typha minima Funck *ex* Hoppe	*Rohrbachia minima* [Funck *ex* Hoppe] Mavrodiev	Miniature cattail			**P**		**EDRR**
Typha ×*glauca* Godr.		Hybrid cattail		**W**			
Ulmus pumila L.		Siberian elm		**W**			**EDRR**
Utricularia inflata Walt.	*Plectoma inflata* (Walt.) Raf.; *Utricularia ceratophylla* Michx.	Swollen bladderwort		**W**			**EDRR**
Valeriana officinalis L.		Common valerian		**W**			
Vinca major L.	*Vinca major* var. *variegata* Loud.	Greater periwinkle		**W**			**EDRR**
Vinca minor L.		Lesser periwinkle		**W**			
Vincetoxicum nigrum (L.) Pers.	*Cynanchum louiseae* Kartesz & Gandhi; *Cynanchum nigrum* (L.) Pers.	Black swallowwort	**P**				
Vincetoxicum rossicum (Kleopow) Barbarich	*Cynanchum medium*, of authors not R. Br.; *Cynanchum rosscum* Kleopow in Hill; *Vincetoxicum medium*, of authors not (R. Br.) Dcne.	Pale swallowwort	**P**				

[1]**Scientific Name:** Haines, A. 2019 (February 4). Tracheophyte Checklist of New England. Website: http://www.arthurhaines.com/tracheophyte-checklist.

[2]**Prohibited NHDAMF:** In accordance with the Invasive Species Act, HB 1258-FN, the NH Department of Agriculture, Markets & Food, Division of Plant Industry is the lead state agency responsible for the evaluation, publication, and development of rules on invasive plant species for the purpose of protecting the health of native species, the environment, commercial agriculture, forest crop production, or human health. The rule, Agr 3800, states "No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1, New Hampshire prohibited invasive species list."

For additional information contact:

Douglas Cygan, Invasive Species Coordinator

New Hampshire Department of Agriculture

Division of Plant Industry
State Lab Building, Lab D
29 Hazen Drive
Concord, NH 03301
(603) 271-3488
douglas.cygan@agr.nh.gov
http://www.agriculture.nh.gov/divisions/plant-industry/invasive-plants.htm

[3]**Watch NHDAMF:** The NH Invasive Plant Species Watch List is a non-regulatory reference tool that serves to:

a. identify potentially invasive non-native plant species based on degree of invasive qualities (e.g., aggressive growth, rapid reproduction, and/or lack of natural herbivores) and presence (but not necessarily abundance) in NH and/or nearby elsewhere in New England;
b. inform prevention (e.g., early detection/rapid response), monitoring, and management decision-making for species that may impact NH's ecosystems or economy; and
c. increase awareness of invasive plant species.

For additional information contact:

Douglas Cygan, Invasive Species Coordinator
New Hampshire Department of Agriculture
Division of Plant Industry
State Lab Building, Lab D
29 Hazen Drive
Concord, NH 03301

[4]**Prohibited NHDES:** Since January 1, 1998, the sale, distribution, importation, propagation, transportation, and introduction of key invasive aquatic plants has been prohibited (RSA 487:16-a). This law was designed as a tool for lake managers to help prevent the further spread of nuisance aquatic plants. Shortly after that, RSA 487:16-b was added, establishing penalties for violations of this act. It is hoped that by preventing their transport over land, their spread between waterbodies will be stopped. The list of prohibited aquatic plants can be found in Env-Wq 1303.02.

[5]**Watch NHDES:** The NH Aquatic Invasive Plant Species Watch List is a non-regulatory reference tool that serves to:

a. identify potentially invasive non-native aquatic plant species based on degree of invasive qualities (e.g., aggressive growth, rapid reproduction, and/or lack of natural herbivores) and presence (but not necessarily abundance) in NH waterbodies and/or nearby elsewhere in New England waters;
b. inform prevention (e.g., early detection/rapid response), monitoring, and management decision-making for species that may impact NH's ecosystems or economy; and
c. increase awareness of invasive aquatic plant species.

To learn more about invasive aquatic plants, or to report a sighting of one of these plants, please contact the Exotic Species Coordinator at:

NH Department of Environmental Services, Biology Section
29 Hazen Drive, Concord, NH 03301
(603) 271-2248
www.des.nh.gov

EASEMENT DEED

KNOW ALL PERSONS BY THESE PRESENTS, that **H.J. Stabile and Son, Inc.,** a New Hampshire corporation having an address of 20 Cotton Road, Suite 200, Nashua, New Hampshire 03063 (the "Grantor"), for consideration paid, grants to the **City of Dover**, a municipal corporation with an address of 288 Central Ave, Dover, New Hampshire 03820, its successors and assigns (the "Grantee"), with **WARRANTY COVENANTS**, the perpetual and exclusive right and easement more particularly described below, over, under and across a certain tract of land in the City of Dover, County of Strafford, State of New Hampshire, more particularly described as follows (the "Land").

> A Proposed 20-Ft Wide Water Main Easement that is located 10 feet to either side of the 6" water main together with whatever 20' wide area may be necessary to install a hydrant within the private way identified as Lenox Drive, all as shown on a certain tract or parcel of land in said Dover, NH, as shown on a plan of land entitled "Utility Plan, Fisher Street Townhouses, Residential Site Plan, Fisher Street, Dover, NH", Prepared for: H.J. Stabile and Son, Inc," dated 10-26-23, last revised 2-8-24, prepared by Civilworks New England., and on file with City of Dover Planning Department as Plan _____ (the "Plan").

The perpetual and exclusive right to lay, construct, install, operate, maintain, repair, replace and remove underground pipes, ducts, conduits, and such pumping equipment, pumphouses, storage facilities and foundations and enclosures for the same, and such meters, meter horns, readout devices, hydrants and other appurtenances as the Grantee may from time to time desire water distribution purposes, extending to and installed within the buildings or structures on the Land in order to provide water service thereto.

This conveyance shall include the right of access from, to and across said Land for all purposes in connection with the exercise of the within granted rights and easement; the right to excavate, trench, and backfill by men or machines and temporarily to place excavated earth and other material on said Land, provided that the said Land shall be restored by the Grantee to substantially the condition in which it was immediately prior to such access, excavation, trenching, and backfilling; the right to trim, cut down and remove bushes, trees and other plant growth on the Land as and to such extent as in the judgment of the Grantee is necessary for any of the above purposes; the right to go upon the Land when working on side lines and associated equipment; and the right, to be exercised only for temporary periods when continuity of service

requires, to install temporary above-ground lines over and across said Land to provide service to buildings thereon.

The Grantor, for itself and its successors and assigns, covenants and agrees (i) that they will not erect or maintain, or permit to be erected or maintained, any permanent building or structure of any kind or nature upon the Land, or plant or permit to be planted any trees, over said underground pipes and other equipment and (ii) that they shall not alter the grade of the Land as such grade exists at the time of the installation of the pipes and other equipment referred to above.

The Grantor further covenants and agrees, for itself and its successors and assigns, that in the event of excavation or grading by Grantor which in the good faith opinion of the Grantee might materially disturb, dislocate, damage or endanger said pipes or other equipment, the Grantor will install reasonable shoring or bear the expense of its installation at reasonable locations specified by the Grantee or its representatives, and in the event of any damage to said pipes or other equipment as a result of such excavation or grading, the Grantor will pay the cost of repair to, or replacing of, said pipes or other equipment as the case may be.

Grantee will not unreasonably withhold its consent to Grantor's request from time to time for changes in the location of said pipes or other equipment, provided that Grantor shall pay for the costs of such changes, and provided also that such changes shall not materially interfere with the use and operation of the water systems which are the subject hereof.

Executed this _____ day of _____, 2024.

H.J. STABILE AND SON, INC.

By: _____
John P. Stabile, II, President

STATE OF NEW HAMPSHIRE
COUNTY OF HILLSBOROUGH

This instrument was acknowledged before me this _____ day of _____, 2024, by John P. Stabile, II, President of H.J. Stabile and Son, Inc. a New Hampshire corporation, on behalf of the corporation.

_____
Notary Public
My commission expires:

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FLOWAGE RIGHTS EASEMENT

H.J. Stabile and Son, Inc., a New Hampshire corporation having an address of 20 Cotton Road, Suite 200, Nashua, New Hampshire 03063 (the "Grantor"), for consideration paid, grants to the **City of Dover**, a municipal corporation with an address of 288 Central Ave, Dover, New Hampshire 03820 (the "Grantee"), its successors and assigns, with warranty covenants, the right and easement to flow stormwater over land of Grantor in the City of Dover, Strafford County, New Hampshire, for the drainage of storm and run-off water, and for all other purposes incidental thereto, which may flow over, across, and through Tax Map 15, lot 40A-1 in the area shown as "DITCH" (the "Ditch") as shown on a plan of land entitled, "Site Plan, Fisher Street Townhouses, Residential Site Plan, Fisher Street, Dover, NH", Prepared for: H.J. Stabile and Son, Inc," dated 10-26-23, last revised 2-8-24, prepared by Civilworks New England., and on file with City of Dover Planning Department as Plan _____ (the "Plan").

This easement right is granted for the sole purpose of allowing the drainage of stormwater from Locust Street in a natural flow onto and over the Ditch and thereafter through any stormwater drainage facilities which may be constructed to accept the stormwater drainage from the Ditch, without the Grantor restricting, impeding, or interfering with the natural sheet drainage flow of said water across said Ditch.

The parties intend that this easement right shall be binding on the Grantor, its successors and assigns and that this right shall run with the land.

EXECUTED this _____ day of _____, 2024.

H.J. STABILE AND SON, INC.

By: _____
John P. Stabile, II, President

STATE OF NEW HAMPSHIRE
COUNTY OF HILLSBOROUGH

The foregoing instrument was acknowledged before this _____ day of _____, 2024, by John P. Stabile, II, President of H.J. Stabile and Son, Inc.

_____
Justice of the Peace/Notary Public

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DECLARATION OF CONDOMINIUM
UPTOWN CROSSING, A CONDOMINIUM

This Declaration of Condominium for Uptown Crossing Condominium (hereinafter, the "Declaration") is made as of this _____ day of _____, 20___, by Stabile Townhomes at Uptown Crossing, LLC, a New Hampshire limited liability company, having a mailing address at 20 Cotton Road, Suite 200, Nashua, New Hampshire 03063 (hereinafter, the "Declarant"), and in accordance with the provisions of this Declaration and the New Hampshire Condominium Act, NH RSA Ch. 356-B, as amended, hereby declares:

1. **Submission of Property**. The Declarant hereby submits to the provisions of the Condominium Act a certain parcel of real property situated in the City of Dover, Strafford County, State of New Hampshire, off of Fisher Street and referred to as Map 15, Lot 40A-1, being 3.37 acres, more or less, and more particularly described in **Appendix A-1** attached hereto and made a part hereof (the "Property").

2. **Definitions**. As provided in Section 12 I of the Condominium Act, capitalized terms not otherwise defined herein or in the Bylaws shall have the meanings specified in Section 3 of the Condominium Act. The following terms are expressly defined herein.

2.1. "Appendix A-1" means the description of the Submitted Land, together with any easement rights or other rights appurtenant to or benefiting the Submitted Land, attached to this Declaration as Appendix A-1, as may be amended from time to time. Up to twenty-one (21) Units will be built on the Submitted Land described in Appendix A-1.

2.2. "Appendix B" means the Bylaws of the Uptown Crossing Condominium Association attached to this Declaration as Appendix B, as may be amended from time to time.

2.3. "Appendix C" means the List of Unit Numbers and Percentage Interest attached to this Declaration as Appendix C, as may be amended from time to time.

2.4. "Assessment" means that portion of the cost of maintaining, repairing, and managing the Property, which is to be paid by the Unit Owner.

2.5. "Association" means the Uptown Crossing Condominium Unit Owners' Association, as established by the Declaration and Bylaws, as may be amended from time to time.

2.6. "Board of Directors" or "Board" means the Board of Directors of the Unit Owners' Association.

2.7. "Bylaws" means the bylaws of the Association providing for the self-government of the Condominium attached hereto as **Appendix B**, as may be amended from time to time.

2.8. "Common Area" means all parts of the Property other than the Units, as more fully set forth in Article 3.5 of this Declaration, and includes Limited Common Area.

2.9. "Condominium" means Uptown Crossing Condominium, the condominium established by this Declaration, situated off of Fisher Street, Dover, Strafford County, State of New Hampshire, including the Property, all improvements thereon, easement rights, and appurtenances, as may be amended from time to time.

2.10. "Condominium Act" or "Act" means Chapter 356-B of the New Hampshire Revised Statutes as amended.

2.11. "Declaration" means the Condominium Declaration for Uptown Crossing Condominium, this document, as may be amended from time to time.

2.12. Each Unit shall be part of a building as a single-family dwelling and shall include related appurtenances, which may include an attached garage, porches, decks, and patios ("Dwelling")

2.13. "Floor Plan" or "Floor Plans" means those plans recorded in the Strafford County Registry of Deeds defining, depicting, or describing any Unit or Units of the Condominium, in accordance with the Declaration or the Condominium Act as may be amended from time to time.

2.14. "Limited Common Area" means a portion of the Common Area reserved for the exclusive use of those entitled to the use of one of the Units, including but not limited to any common walls or entryways between the Units as shown on the Plan.

2.15. "Manager" means the professional manager or managing agent employed by the Board to manage the Condominium.

2.16. "Mortgage" means a real estate mortgage, mortgage deed, or mortgage interest in real property (see e.g. RSA Ch. 479 as amended).

2.17. "Mortgagee" means a holder of a mortgage interest in real property.

2.18. "Owner" or "Unit Owner" means any person or persons, natural or any entity, holding a fee simple title to a Condominium Unit, regardless of whether or not the Unit is built. No Mortgagee shall be deemed to be an owner until such Mortgagee has acquired title pursuant to foreclosure or any procedure in lieu of foreclosure.

2.19. "Percentage Interest" or "Undivided Interest" means the interest of each Unit in the Common Area as set forth in **Appendix C**.

2.20. "Plan" or "Plans" means the Condominium Site Plan, and/or the Floor Plan(s), entitled, "Fisher Street Townhouses, Residential Site Plan, Fisher Street, Dover, NH", Prepared by: Civil Works New England, dated October 26, 2023, being Plan #_____ in the Strafford County Registry of Deeds, as may be amended from time to time.

2.21. "Resolution" means any resolution adopted by the Board relative to the use of the Condominium, provided that any such resolution does not conflict with the Condominium Act, the Declaration, the Bylaws, the Rules, or the ordinances or regulations of the City of Dover.

2.22. "Rules" means those rules and regulations adopted from time to time by the Board regarding the use of the Condominium, provided that any such rule does not conflict with the Condominium Act, the Declaration, or the Bylaws.

2.23. "Site Plan" or "Site Plans" means the plat of the entire Property described in the Declaration, and any floor plans attached thereto, which have been or will be recorded in the Strafford County Registry of Deeds in accordance with the Declaration and the Condominium Act as may be amended from time to time.

2.24. "Total Number of Units" means twenty-one (21) Units, the total number of Units that may become part of the Condominium. There are intended to be up to twenty-one (21) Units in this condominium, as shown on any recorded plan, regardless of whether or not such Units have been or will be built.

2.25. "City" means the City of Dover, Strafford County, State of New Hampshire, or any of its political subdivisions, commissions, boards, or the like as the context may require.

2.26. "Transition period" means that period of time beginning when the first Unit is sold by the Declarant until the earlier of either three-fourths (3/4) of the total number of Units are sold, or two years from the day this Declaration is recorded whichever occurs first.

2.27. "Unit" means a unit as defined by the Condominium Act, used as a residence, which is bounded and described as shown on the Plans and as provided in Article 3.4 et seq. herein.

2.28. "Unit Owners' Association" or "Association" means the Uptown Crossing Condominium Unit Owners' Association, which is comprised of all of the Owners acting as a group in accordance with the Declaration, and/or Bylaws.

3. Statutory Requirements. The following information is provided in accordance with Article 16.1 of the Condominium Act:

3.1. Name. The name of the Condominium is Uptown Crossing Condominium.

3.2. Location. The Condominium is located off of Fisher Street, Dover, Strafford County, State of New Hampshire. The land where the Condominium is situated is also referred to as Tax Map 15, Lot 40A-1.

3.3. Description of Submitted Land. A certain parcel of real property situated in the City of Dover, Strafford County, State of New Hampshire, and referred to as Tax Map 15, Lot 40A-1, being 3.91 acres, more or less, and more particularly described in **Appendix A-1** attached hereto and made a part hereof (the "Property").

3.4. Description of Units.

3.4.1 Number of Units and Phases. If fully developed, there will be a total of twenty-one (21) residential Units in the Condominium which will be built in phases. There will be up to two (2) buildings with six (6) Units per building, one (1) building with five (5) Units and one building with four (4) Units, (each Unit will be an attached single-family residence), with 3 stories per Unit, and with 2 bedrooms and 2 or more bathrooms per Unit.

All Units prior to sale shall be Registered with the New Hampshire Consumer Protection and Antitrust Bureau of the Attorney General's Office, Department of Justice pursuant to NH RSA-B:51. The Declarant intends to construct the Condominium in multiple phases. The first phase of Units shall total up to six (6) Units. The anticipated completion date for all of the phases consisting of twenty-one (21) Units is June 1, 2025 provided, however, which buildings will constitute which phase is in the sole discretion of the Declarant and the alphabetical order of the lettering of individual Units should not be construed as binding on the Declarant as to which Units will be constructed first or as to which phase of construction will succeed another. The Declarant intends to build a total of four (4) buildings, with two (2) buildings with six (6) Units per building, one (1) building with five (5) (5) Units and one (1) building with four (4) Units, thus, a total of twenty-one (21) Units, to be constructed within a reasonable time

period, the construction of each phase shall include the necessary infrastructure for the Units within the phase. The timetable and ultimate success of the Declarant's development plans are dependent on future sales and there is some possibility that the 21 Units in the Condominium may not ultimately be constructed in the manner and configuration currently planned. There is no firm guaranty that all Units will be built. No expansion nor merger of the Condominium is planned.

3.4.2 Buildings. The Condominium will have four (4) buildings, with a total of twenty-one (21) attached Units of 3 stories each, two (2) buildings with six (6) Units per building, one (1) building with five (5) Units and one (1) building with four (4) Units. These buildings will be built on the Property approximately as shown on the Site Plan, and the Unit letters and dimensions of each building will be as shown on the Plans. The buildings will be of wood frame construction with shingle roofs, and vinyl siding.

3.4.3 Unit Boundaries. The boundaries of each Unit will be as follows:

(a) Horizontal Boundaries:

(i) Upper horizontal boundary: The unfinished interior surface of the ceiling of the Upper Floor level of the Dwelling.

(ii) Lower horizontal boundary: The unfinished interior surface of the lower most floor of the Dwelling.

(b) Vertical Boundaries:

(i) The vertical boundaries of each Unit shall be the finished surfaces of the interior walls (including foundation walls) and the finished, exterior surfaces of the doors and windows; provided, with respect to each attached vertical boundary of a Unit to another Unit, the vertical boundaries of those portions of each such Unit along a common wall (including foundation walls) shall be the unfinished, interior surfaces of such common wall (including foundation walls). As a result, such common wall shall be Limited Common Area appurtenant to the two (2) Units so joined by a common wall.

(c) Each Unit shall include any improvements which extend below the surface of the ground within the vertical boundaries which are not otherwise defined as Common Area and all improvements located within its boundaries as described herein

and the space enclosed by said boundaries, except any Common Area which may be located therein.

3.4.4. Units. The Unit Letters, dimensions, and location of each Unit are as shown on the Site Plan and Floor Plans.

Each Unit has: water from a municipal water source; municipal sewerage system; regulated utility electricity; heat and hot water from natural gas or propane (each Unit to have its own natural gas line or propane tank, heating system, and hot water heater); each Unit to have its own central air conditioning system; and cable, internet, and telephone service availability to depend on those services are offered from third-party providers of such services in the area.

Each Unit Owner to bear the costs of the Unit's use of: water; sewerage; electricity; heating fuel; and cable/internet/voice for his or her own Unit; in addition to his or her share of any assessments or Common Area maintenance charges.

The location and dimensions of the Units are as shown on the Plans. Each of the Units is hereby declared to be held in fee simple and may be retained, occupied, conveyed, transferred, encumbered, inherited, or devised in the same manner as any other parcel of real property independent of the other individual Units, but subject to the restrictions contained herein. **Appendix C** lists the Units, their respective identifying numbers or unit designations, and the percentage interest of the Common Area appurtenant to each Unit.

Each Unit shall include the Unit, as described herein including the exterior surfaces thereof and the space enclosed by said boundaries, as described above, except any Common Area described in Articles 3.4.3 and 3.5 herein.

The Owner of the Unit shall be deemed to own the finished interior (including all paint and wallpaper) and shall also be deemed to own the window glass and glass vents of his Unit, the entrance doors, window frames, and the doors, and the sinks and other plumbing facilities, and any appliances that may be located in his Unit and serving solely his Unit. Each Unit Owner will own the entire Unit and equipment, facilities and accessories to the Unit and appurtenant improvements thereto, including without limitation: hot water heater, boiler, burner, heating and air-conditioning unit (including outside compressor unit), The Unit Owner shall be responsible for the maintenance, repair, and replacement of such items.

The Owner of a Unit shall not be deemed to own the pipes, wires, cables, chutes, flues, conduits, public utility lines, ventilation, or other ducts, water and sewer lines not solely connected to or servicing the Unit. Additionally, the Owner of a Unit shall not be deemed to own any particular portion of the Common Area or Limited Common Area (notwithstanding, every Unit Owner has an undivided percentage interest in the Common Area, and the exclusive use of the Limited Common Area appurtenant to his or her Unit), including exterior surfaces of the Unit, driveway, walkway, deck, patio, porch, steps, sprinkler system, front lamp post, mailbox (if any).

3.5. Description of Common Area and Limited Common Area.

3.5.1. Common Area. Common Area consists of the entire Property other than the Units as shown on the Plans (and the equipment, facilities and accessories appurtenant thereto). Common Area also consists of the water supply and sewerage delivery system which is in the Condominium. Common Area also consists of any electrical system, telephone system, fire alarm and security systems, irrigation system, and those pipes, lines, wires, cables, structural elements, etc., connected to or used by any Common Area element. Additionally, the Common Area includes any parking spaces not in Limited Common Area, sidewalks, lawns, gardens, trees, shrubbery and other plantings not in Limited Common Area, walkways, amenities, and other area and land and interests in land in the description in **Appendix A-1** not designated as a Unit or assigned as Limited Common Area.

3.5.2. Limited Common Area. Any portion of the Common Area which is identified or depicted on the Plans as Limited Common Area appurtenant to a Unit, and any improvements therein, is Limited Common Area appurtenant to that Unit. Additionally, with respect to each attached vertical boundary of a Unit to another Unit, the vertical boundaries of those portions of each such Unit along a common wall (including foundation walls) shall be the unfinished, interior surfaces of such common wall (including foundation walls) shall be Limited Common Area appurtenant to the two (2) Units so joined by a common wall.

3.5.3. General Use. The use of the Common Area shall be limited to the Declarant, Unit Owners, and their guests, invitees, and licensees. The use of each Limited Common Area shall be further restricted to the Owner(s) of the Unit to which the Limited Common Area is appurtenant, and the Owner(s)'s guests, invitees, and licensees. The use, including responsibility for the maintenance and repair of the Common Area and the Limited Common Area shall be governed by the Declaration, as amended, the Bylaws, and Rules. The Owner(s) of a Unit shall be responsible for any damage to any Unit, Common Area, or Limited Common Area caused by the Unit Owner(s), their guests, invitees, or licensees.

3.5.4. Manager. The Unit Owners Association may hire a property manager, in accordance with the provisions of the Bylaws. The property manager shall manage, maintain the Common Area and Limited Common Area (e.g. landscaping, mow the grass, remove snow, etc.), and repair and replace the Common Area. The Association shall be responsible for the repair and replacement of the Limited Common Area appurtenant to the Units, including any improvements (e.g. deck, patio, steps, etc.). The Association will be responsible for maintaining, repairing or replacement of the following in the Limited Common Area: lawn care, snow removal (excepting porches and patios which shall be the responsibility of the Unit Owner), tree and shrub pruning, driveways, walkways, trees, shrubs, decks, patios, lampposts, mailboxes (if any), sewer, and water lines from the Common Area private way to Units.

3.5.5. Subsequent Assignment of Limited Common Area. Except as provided for in this Declaration, as amended, or the Condominium Act, no Common Area may be subsequently assigned as Limited Common Area.

3.5.6. Allocation of Percentage Interest. An equal undivided interest in the Common Area shall be allocated to each Unit, as set forth in **Appendix C**.

3.5.7. Easements for Maintenance, Repair, Utilities, Etc.. Each Unit Owner shall have an easement in common with the Owners of all Units to use all pipes, wires, ducts, cables, conduits, utility lines and other utilities located in the Condominium and serving his Unit. Each Unit shall be subject to an easement in favor of the Owners of all other Units to use the pipes, ducts, cables, wires, conduits, utility lines and other utilities serving Common Area, other Units, or Limited Common Area. The Board of Directors shall have a right of access to each Unit only as necessary for emergency repairs for any emergency which affect or threaten another Unit or Units, Common Area or the Limited Common Area.

3.5.8. Easement for Ingress, Egress, and Use. Each Unit Owner shall have an easement in common with the Owners of all other Units for ingress and egress through, and use and enjoyment of, all Common Areas by persons lawfully using or entitled to same. The Common Area shall be subject to an easement for ingress and egress and use by the Unit Owners and their guests, invitees, and licensees. The Board of Directors or the Association shall have the right to grant permits, licenses, and easements over the Common Area for the installation, construction, maintenance, repair and replacement of utilities, and for other purposes reasonably necessary or useful for the proper maintenance, repair, or operation of the Common Areas.

3.5.9. Easement to Facilitate Sales. The Declarant shall be deemed to be the Owner of any Units shown on any Plan, whether or not such Unit is built, until such Unit is sold or conveyed. Declarant and its duly authorized agents, representatives (including independent contractors), successors and assigns, may make such reasonable use of the Condominium as may facilitate the completion of construction of Common Area, Limited Common Area, and Units, and the sale of unsold Units, including but not limited to the right to enter all Units and Common Area for construction purposes, and to store materials, maintain a sales office and model Units, to show the property, and to display signs. In addition, the Declarant and its agents, representatives (including independent contractors) and assigns shall have the right to use any and all unsold Units as sales offices and model Units.

3.5.10. Easement of Record. The Property submitted herein is subject to all covenants, conditions, and easements of record.

3.5.11. Leasing Units. A Unit Owner may lease his or her Unit, provided that the term of any lease is for at least one (1) year.

3.5.12. Residential Use. The Condominium and each of the Units are intended for residential use only. Unit Owners may use their Units for home businesses, only in accordance with the zoning ordinances of the City of Dover.

3.5.13 Units Subject to Declaration, Bylaws, Rules, and Resolutions.

(a) The Declaration, Bylaws, Rules, and Resolutions, as amended, all contain or will contain certain restrictions as to the use of the Units or other parts of the Condominium. The Association is empowered to adopt and amend rules concerning the use of the Condominium.

(b) By accepting a deed to a Unit of this Condominium, or by occupying a Unit of the Condominium, the Unit Owner or resident covenants to comply with this Declaration, the Bylaws, Rules, and Resolutions, as amended. The provisions of the Declaration, Bylaws, Rules, and Resolutions, as amended, are enforceable servitudes and covenants running with the land and shall bind any person having at any time any interest in a Unit, or residing in any Unit. The provisions of this Declaration, Bylaws, Rules, and Resolutions, as amended, shall bind all Unit Owners and residents, regardless of whether or not this provision is stated in the deed to a Unit.

(c) Failure to comply with the Declaration, Bylaws, Rules, or Resolutions, as amended, shall be grounds for an action to recover sums due for damages or for injunctive relief or for any other remedy available at law or in equity, maintainable by the Unit Owners Association, or by the Board of Directors of the Unit Owners Association, or by the aggrieved Unit Owners on their own behalf or as a class action. All such actions in law or equity shall be authorized by Resolution of the Unit Owners Association, or the Board of the Unit Owners Association. Whosoever maintains such an action shall be entitled to recover all reasonable costs and expenses of such actions, including reasonable attorneys' fees.

4. Insurance.

4.1. General Insurance Provisions. To the extent reasonably available, the Board of Directors shall obtain and maintain insurance coverage as set forth in this article. If such insurance is not reasonably available, and the Board of Directors determines that any insurance described herein will not be maintained, the Board shall cause notice of that fact to be hand-delivered, sent to an electronic mail address provided by the Unit Owner, or sent postage pre-paid by United States Postal Service to all Unit Owners and eligible mortgagees at their respective last known addresses.

4.2. Specific Insurance Provisions. To the extent reasonably possible, insurance policies required and obtained and maintained under this article shall provide the following:

(a) Insurer waives the right to subrogation under the policy against a Unit Owner or a member of the household of a Unit Owner;

(b) An act or omission by a Unit Owner, unless acting within the scope of the Unit Owner's authority on behalf of the Association, will not void the policy or be a condition to recovery under the policy;

(c) If, at the time of a loss under the policy, there is other insurance in the name of a Unit Owner covering the same risk covered by the policy, the Association's policy shall provide primary insurance;

(d) Loss must be adjusted with the Association;

(e) Each Unit Owner shall be an insured person under the policy with respect to liability arising out of the Unit Owner's interest in the Common Area or percent interest in the Condominium;

(f) The insurer issuing the policy may not cancel or refuse to renew it until thirty days after notice of the proposed cancellation or non-renewal has been mailed to the insured and/or the Association at its last known address. Provided, however, only ten days of notice is required for any cancellation due to failure to pay insurance premium when due.

4.3. Annual Review. The Board shall review with the insurer or insurance agent at least annually the types and amounts of coverage under any insurance policies obtained pursuant to this article. The Board is further authorized to obtain appraisals periodically for the purposes of establishing full replacement value and actual cash value of any of the properties insured under this article. The Board shall send written notice of the obtaining of any insurance under this article, or of any subsequent change or termination of that insurance to each Unit Owner and to each eligible mortgagee.

4.4. Insurance Payable to the Board. Insurance proceeds payable under any policy of casualty insurance obtained under this article shall be payable to the Board of Directors as insurance trustee to be held in trust for each Unit Owner and such Unit Owner's mortgagee.

4.5. Deductible. The maximum deductible for insurance policies obtained under this article shall be Ten Thousand Dollars ($10,000) or One Percent (1%) of the policy face amount, whichever is less. Of the deductible portion, One Thousand Dollars ($1,000) per Unit Owner affected shall be paid by each of the Unit Owners suffering the loss. The difference between the policy deductible and the said One Thousand Dollar ($1,000) per Unit Owner affected shall be paid by the Association as a Common Expense.

4.6. Premiums. Premiums for insurance obtained under this article shall be a Common Expense.

4.7. Obligation to Repair. In the event of damage to any portion of the Condominium by fire or other casualty, the proceeds of the Master Casualty Policy shall, pursuant to section 43 of the Condominium Act, be used to repair, replace, or restore the

structure of Common Area damaged, unless the Unit Owners vote to terminate the Condominium pursuant to section 34 of the Condominium Act.

4.8. Unit Owner's Insurance.

(a) Each Unit Owner, at that Owner's own expense, shall obtain additional property insurance with Special Broad Form Coverage covering any of the property, whether real or personal (and including betterments or improvements to their individual Units), of the Unit Owner that is not covered by the insurance obtained by the Board. Each Unit Owner shall also obtain and maintain a policy of general liability insurance for that Owner's benefit.

(b) No Unit Owner shall be entitled to exercise its right to maintain insurance coverage in such a way as to decrease the amount of insurance that the Board of Directors may have in force covering the Condominium or any part thereof at any time. In the event there is any such decrease in the amount of the Association's insurance coverage due to such coverage obtained by an individual Owner, any proceeds from the insurance obtained by that individual Owner shall be assigned to the Board as insurance trustee to the extent that any such policy does, in fact, result in a decrease in such Association coverage.

4.9. Insurance to be Obtained. The Board of Directors shall obtain and maintain at all times insurance of the types and kinds provided for herein, and including insurance for such other risks as are customarily covered with respect to other property similar to the Condominium in construction, design, and use.

4.10. Property Insurance. The Board of Directors shall obtain and maintain property insurance with Broad Form Special Coverage insuring the Common Area of the Condominium, and any improvements thereon made to the Condominium and/or Common Areas, including but not limited to the fixtures, installations, or additions. Such insurance shall be in an amount at least equal to the full replacement value of the real property insured or the actual cash value of any personal property insured hereunder.

4.11. Public Liability Insurance. The Board of Directors shall obtain and maintain public liability insurance in such amounts as the Board may from time to time determine, but in no event shall the limits of liability be less than One Million Dollars ($1,000,000) per occurrence and Two Million Dollars ($2,000,000) aggregate for bodily injury and property damage. Any insurance obtained hereunder shall name as the insured the Association, any officer or member of the Board of Directors while acting within the scope of their duties, and manager of the Association, and each Unit Owner, but only with respect to that Unit Owner's liability arising out of the ownership, maintenance, or repair of the Common Area. Such policy shall contain cross liability coverage with respect to liability claims of anyone insured thereunder against any other insured.

4.12. Fidelity Insurance. The Board of Directors shall obtain and maintain comprehensive commercial crime coverage or a blanket fidelity bond for anyone who either

handles or is responsible for funds held or administered by the Association, whether or not they receive compensation for their services. The insurance or bond obtained hereunder shall name the Association as insured or oblige and shall cover the maximum funds that will be in the custody of the Association or any manager at any time while the insurance or the bond is in force, and in no event shall be less than the sum of three months of assessments plus reserve funds. The policy or bond shall include a provision that calls for at least thirty days written notice to the Association and to each eligible mortgagee before the same can be cancelled or substantially modified for any reason, except that coverage under said insurance or bond may be deemed terminated as to any employee as soon as the insured shall learn of any dishonest or fraudulent act on the part of such employee, provided such termination is without prejudice to the loss of any property then in transit in the custody of such employee. The Declarant need not obtain fidelity insurance, and the Association need not obtain fidelity insurance until Declarant turns over control of the Association to the Unit Owners.

4.13. Workers' Compensation Insurance. The Board shall, as needed, obtain workers' compensation insurance to meet the requirements of the laws of the State of New Hampshire.

4.14. Directors' and Officers' Liability Insurance. The Board shall, to the extent the same is available, obtain and maintain directors' and officers' liability insurance covering all of the directors and officers of the Association in such limits as the Board may, from time to time, determine. The Declarant need not obtain directors' and officers' liability insurance, and the Association need not obtain directors' and officers' liability insurance until Declarant turns over control of the Association to the Unit Owners.

4.15. Other Insurance. The Association may obtain and maintain other insurance, which the Board considers appropriate to protect the Association, the Unit Owners, or the Condominium.

4.16. Procedures in the Event of Damage or Destruction

4.16.1. Duty to Restore. A portion of the Condominium for which insurance is required under the Condominium Act, or for which insurance carried by the Association is in effect, whichever is more extensive, if damaged or destroyed, must be repaired or replaced promptly by the Association unless:

(a) The Condominium is terminated;

(b) Repair or replacement would violate federal, state, or local law governing health or safety; or

(c) Eighty percent (80%) of the Unit Owners, including each Owner of a Unit or assigned Limited Common Area that was not built, vote not to rebuild.

4.16.2. Cost. The cost of repair or replacement in excess of insurance proceeds and reserves shall be a common expense except for repairs or replacement of improvements to individual Units, notice of which was not given to the Board of Directors.

4.16.3. Plans. The Condominium must be repaired and restored in accordance with either the original plans and specifications, or other plans and specifications which have been approved by the Board of Directors, a majority of Unit Owners, and a majority of eligible mortgagees.

4.16.4. Replacement of Less than the Entire Property. The insurance proceeds attributable to the damaged Common Area shall be used to restore the damaged area to a condition compatible with the remainder of the Condominium. Insurance proceeds attributable to a Unit and Limited Common Area that are not rebuilt must be distributed to the Unit Owner, or to lien holders of the Unit, as their interests may appear, and the remainder of the proceeds must be distributed to each Unit Owner or lien holder as their interests may appear, in proportion to the Common Area interests of all the Units. If the Unit Owners vote not to rebuild a Unit, the undivided interest in the Common Area appertaining to such Unit shall be reallocated in the same manner as if the Unit had been taken by eminent domain and the Association shall promptly prepare, execute, and record an amendment to the Declaration reflecting the reallocations.

4.16.5. Insurance Proceeds. The trustee or the Board of Directors shall hold any insurance proceeds in trust for the Association, Unit Owners, and lien holders of such Unit as their interests may appear. Subject to the provisions of § 4.16.1, the proceeds shall be disbursed first for the repair or restoration of the damaged property, and the Association, Unit Owners, and lien holders are not entitled to receive payment of any portion of the proceeds unless there is a surplus of proceeds after the property has been completely repaired or restored, or the Condominium is terminated.

5. No Partition, Revocation, Subdivision, or Relocation of Unit Boundaries. The Common Area shall remain undivided and no Unit Owner or any other Person shall bring any action for partition or division thereof, nor shall the Common Area be abandoned by act or omission, unless the Condominium is terminated pursuant to section 34 of the Condominium Act, nor shall there be any subdivision of any Unit, nor shall any Unit Boundary be relocated.

6. Consent of First Mortgagees. Except as provided in the Condominium Act, in cases of condemnation or substantial loss to the Units and/or Common Area, and notwithstanding any other provision of the Declaration, Bylaws, Rules, or Resolutions, unless at least 75% of the first Mortgagees (based upon one vote for each first mortgage owned) have given their prior written approval, the Owners and the Association shall not be entitled to:

a. By act or omission seek to abandon or terminate the Condominium;

b. Except as provided in the Condominium Act, change the prorated interest or obligations of any Unit (i) for the purpose of levying assessments or charges or allocating

distributions of hazard insurance proceeds or condemnation awards or (ii) for determining the pro rata share of each Unit in the Common Area;

c. Partition or subdivide any Unit;

d. Except as provided herein, amend, modify or otherwise change any rights or obligations under this Declaration or the Bylaws.

e. By act or omission seek to abandon, partition, subdivide, encumber sell or transfer the Common Area (however, the granting of easements for public utilities, or for other public purposes consistent with the intended use of the Common Area, the granting of easements as described herein, and the dedication of Common Areas as provided herein, shall not be deemed a transfer within the meaning of this clause; or

f. Use of hazard insurance proceeds for losses to the Condominium (whether to Units or to Common Area) for other than the repair, replacement or reconstruction of such improvements, except as provided by statute in case of substantial loss to the Units and/or Common Area.

7. Priority of First Mortgages. No provision of the Declaration, Bylaws, Rules, or Resolutions shall be construed to grant any Unit Owner or any other person any priority over any rights of the first mortgagees of the Condominium Units pursuant to their first Mortgages in the case of the distribution to Unit Owners of insurance proceeds amounts to be paid upon liquidation of the Condominium or condemnation awards for losses or to, or a taking of, Units, and/or the Common Area or any portions thereof. Nothing in this provision should be construed as contradicting or superseding NH RSA §356-B:46, and in case of any conflict between this provision and NH RSA §356-B:46, NH RSA §356-B:46 shall govern and control.

8. Contracts, Leases.

8.1. Notwithstanding any provision in the Declaration, Bylaws, Rules or Regulations to the contrary, neither the Declarant nor the Board of Directors may bind the Association, prior to passage of control of the Condominium to the Association, to any contracts or leases (including management contracts), unless the Association is provided a right of termination of any such contract or lease, without cause, exercisable without penalty any time after transfer of control, upon not more than ninety (90) days' notice to the other party.

8.2. All leases or rental agreements for any Unit shall be in writing, shall be specifically subject to the Declaration, Bylaws, Rules, Resolutions, and matters of record, and shall be for a period of not less than one (1) year.

9. FNMA/FHLMC Compliance. Notwithstanding anything to the contrary elsewhere in this Declaration, the following provisions shall govern and be applicable insofar and for so long as the same are required in order to qualify mortgages of Units in the Condominium for sale to the Federal Home Loan Mortgage Corporation (FHLMC) or the

Federal National Mortgage Association (FNMA) or the Federal Housing Administration (FHA) under the laws and regulations applicable thereto.

9.1. Any holder, insurer, or guarantor of a first mortgage on a Unit in the Condominium shall, upon written request, be entitled to written notification from the Condominium of any of the following: (a) any default by the mortgagor of such Unit in the performance of such mortgagor's obligations under this Declaration, which is not cured within sixty (60) days; (b) any condemnation or loss which affects a material portion of the Property or such Unit on which such first Mortgagee holds a first mortgage lien; (c) any lapse, cancellation or material modification of any insurance policy or fidelity bond maintained by the Association; or (d) any action for which consent of the first Mortgagees is required.

9.2. First Mortgagees of Units shall have the right to examine the books and records of the Directors upon sixty (60) days written request;

9.3. No provision of any Deed or the Declaration shall be deemed or construed to give a Unit Owner or any other party priority over any rights of first Mortgagees of Units pursuant to their Mortgages in the case of a distribution to Unit Owners of insurance proceeds or condemnation awards for loss to or a taking of Units and/or common elements.

9.4. Any agreement for professional management of the Condominium or any other contract providing for Declarant or Association must provide for termination on ninety (90) days written notice, and a maximum contract term of (2) years.

9.5. Any first Mortgagee of a Unit in the Condominium who obtains title to the Unit pursuant to remedies provided in the mortgage, or foreclosure of the mortgage, or deed (or assignment) in lieu of foreclosure, shall take the property free of any claims for unpaid assessments or charges against the mortgaged Unit which accrue prior to the acquisition of title of such by the Mortgagee, except as provided for in NH RSA §356-B:46.

10. Notice of Proceedings. For the purpose of providing notice to certain individuals of proceedings before the City of Dover Planning Board, Zoning Board of Adjustment and any other commission board, and/or agency of the City or the like, as the context may require, the providing of notice to the Association, the Board of Directors or the presiding officer of the Association shall be deemed notice to each and every Owner and/or resident of the Condominium.

11. Amendment of Declaration and Bylaws.

11.1. Except as provided for Convertible Land and Convertible Space herein, and except as otherwise provided in the Condominium Act and in this Declaration, and except as limited by the Declaration, the following shall apply to the amendment of the Condominium documents. The consent of Owners of Units to which at least eighty percent (80%) of the votes in the Association are allocated and the approval of eligible holders of mortgages on Units which have at least seventy-five percent (75%) of the votes of Units subject to eligible holder

mortgages, shall be required to terminate the legal status of the Condominium, including termination after substantial destruction or condemnation.

11.2. Amendments to this Declaration of a material nature must be agreed to by Owners who represent at least sixty-seven percent (67%) of the total allocated votes in the Condominium and by Eligible Mortgage Holders that represent at least fifty-one percent (51%) of the votes of Units that are subject to mortgages held by eligible holders. A change to any of the provisions governing the following would be considered as material: (a) voting rights; (b) increases in assessments that raise the previously assessed amount by more than twenty-five percent (25%), assessment liens, or the priority of assessment liens; (c) reductions in reserves for maintenance, repair, and replacement of Common Areas; (d) insurance or fidelity bonds; (e) right to use Common Areas or Limited Common Areas; (f) responsibility for maintenance and repairs; (g) expansion or contraction of the Condominium, or the addition, annexation, or withdrawal of property to or from the Condominium; (g) boundaries of any Unit; (h) the interests in the Common Areas or Limited Common Areas; (i) convertibility of Units into Common Area, or of Common Area into Units; (j) leasing of Unit estates; (k) imposition of any right of first refusal or similar restriction on the right of a Unit Owner to sell, transfer, or otherwise convey his or her Unit; (l) any provision that are for the express benefit of mortgage holders, eligible mortgage holders or eligible insurers or guarantors of first mortgages on Units; or (m) a decision by the Association to establish self-management when an eligible mortgage holder had required professional management.

11.3. Any eligible mortgage holder that does not deliver or post to the Association a negative response within sixty (60) days of a written request by the Association for approval of any addition or amendment pursuant to this Declaration shall be deemed to have consented to the addition or change set forth in such a request. An affidavit by an officer of the Association making reference to this Article, when recorded in the Strafford County Registry of Deeds shall be conclusive as to the facts therein set forth as to all parties and may be relied upon pursuant to the applicable provisions hereof.

11.4. Furthermore, notwithstanding the foregoing, so long as the Declarant is the Owner of one or more Units, no amendment to this Declaration, Bylaws or Rules may be adopted which could interfere with the construction, display, sale, lease, or other disposition of such Unit or Units.

11.5. A modification or amendment of the Declaration or Bylaws shall become effective only when it has been duly evidenced in accordance with the provisions of section 356-B:34 IV of the Act.

12. Owner's Obligation to Repair.

12.1. Owner's Obligation. Each Owner shall, at his own expense, keep his Condominium Unit and its alterations, appliances, fixtures, and improvements, including all partitions, windows, and doors, and other items that are not Common Area and are located within the boundaries if his or her Unit and any appurtenant Limited Common Area in good order,

condition, and repair. Each Owner shall immediately notify the Board or its agents of any damage to or malfunction of any facilities for the furnishing of utility services or waste removal, which are Common Area within his Unit.

12.2. Board's Right to Make Repairs. The Association shall have the irrevocable right, to be reasonably exercised by the Board or its agents, to enter any Unit or Limited Common Area for the purpose of making emergency repairs necessary to prevent damage to other parts of the Condominium (be it another Unit, other Units, Common Area, or Limited Common Area). Any damage caused thereby or expenses in connection therewith shall be repaired or satisfied by the Board as Common Expenses, unless such emergency repairs were necessitated by the negligence of the Unit(s) Owner(s), in which case the negligent Unit(s) Owner(s) shall bear the expense of such repairs.

13. Assessments.

13.1. Each Unit Owner shall pay all Common Expenses assessed against him, all expenses for which he is liable, and all other assessments made against him by the Board in accordance with the terms of the Declaration and Bylaws, and all expenses so incurred and sums so assessed but unpaid shall be secured by a lien as provided in NH RSA §356-B:46. No Owner shall convey, mortgage, sell, or lease his Unit unless and until he shall have paid in full to the Board all such expenses theretofore incurred and sums theretofore assessed by the Board against his Unit, which are due and unpaid. Any Unit Owner or purchaser of a Unit, having executed a contract for the disposition of said Unit, or a commitment letter for a loan to be secured by a mortgage on the Unit, shall be entitled upon request to a recordable statement, signed by the Treasurer of the Association, setting for the amount of the unpaid assessments, if any, currently levied against the Unit. Such request shall be in writing and shall be directed to the Board of Directors. The statement shall be binding on the Association, the Board of Directors, and every Unit Owner. A Mortgagee or other purchaser at a foreclosure sale or the grantee in a deed in lieu of foreclosure shall not be liable for the payment of expenses or assessments unpaid and due as of the time of his acquisition, but shall be liable for unpaid expenses and assessments due after such acquisition.

13.2. The Association shall have the right to charge interest at twelve percent (12%) per annum, or at the maximum lawful interest rate if less, for unpaid Common Expenses or other expenses or assessments from the due date. In addition, the Association shall have the right to charge costs, including court costs and reasonable attorneys' fees, in the event the Association brings an action for the collection to obtain satisfaction of such expenses or assessments. The Association shall have a lien on any Unit for unpaid Common Expenses or other expenses or assessments or costs after thirty days from the due date. Such a lien, once perfected, shall have the priority as set forth in NH RSA 356-B:46. The lien, including interest, costs, and reasonable attorneys' fees, may be foreclosed on in the manner provided by the laws of the State of New Hampshire. Additionally, or alternatively, the Board of Directors or the Association may bring an action against the Unit Owner(s) to recover unpaid expenses or assessments.

13.3. If the annual assessment is to be increased by ten percent or more over the previous year, then the annual assessment may be increased by vote of the Unit Owners, as hereinafter provided, for each next succeeding one (1) year, and at the end of each such period of one (1) year for each succeeding period of one (1) year. The Board of Directors may, after consideration of current maintenance costs and future needs of the Association, fix the actual assessment for any year at a lesser amount, or for an amount that is less than ten percent more than the previous year. Subject to the limitations in this Declaration, and the periods herein specified, the Association may change the maximum and basis of the assessments fixed herein prospectively for any such period provided that any such change shall have the assent of two-thirds (2/3) of the votes of all Units at a meeting duly called for this purpose, written notice of which meeting shall be sent to all Unit Owners in accordance with NH RSA 356-B:37.

14. Severability. It is the intention of the Declarant that the provisions of this Declaration are severable so that if any provision, condition, covenant, or restriction herein shall be invalid or void under any applicable federal, state, or local law or ordinance, the remainder shall be unaffected thereby. In the event that any provision, condition, covenant, or restriction herein is, at the time of the recording of this Declaration, void, voidable, or unenforceable as being contrary to any applicable law or ordinance, the Declarant, its successors and assigns and all persons claiming by, through, or under this Declaration, the Association, the Unit Owners, or the Declarant, or their successors or assigns, covenant and agree that any future amendments or supplements to the said laws having the effect of removing said invalidity, voidability, unenforceability, shall be deemed to apply retrospectively to this Declaration thereby operating to validate the provisions of this instrument which otherwise might be invalid and it is covenanted and agreed that any such amendment and supplements to the said laws shall have the effect herein declared as fully as if they had been in effect at the time of this instrument.

15. Waiver. No provision contained in this Declaration shall be deemed to have been abrogated or waived by reason of any failure to enforce the same irrespective of the number of violations or breaches which may occur. The failure of the Board to insist in any instance upon the strict performance of any of the terms, covenants, conditions, or restrictions of this Declaration or of the Bylaws or to exercise any right herein, or to serve any notice or to commence any action shall not be construed as a waiver or a relinquishment in the future of such term, covenant, condition, restriction, or right.

16. Gender and Number. The use of the masculine gender in this Declaration shall be deemed to refer to the feminine, masculine and neuter gender and the use of the singular shall be deemed to refer to the singular and plural whenever the context so requires.

17. Limitation of Liability of Unit Owners. The Unit Owners shall not assume responsibilities or any liability of the Declarant as defined in this Declaration or in NH RSA 356-B as amended. This limitation includes but is not limited to any warranty associated with the construction and sale of Condominium Units, if any.

18. Limitation of Liability of Board. Members of the Board shall not be liable to the Unit Owners for any mistake of judgment, negligence or other cause of action, except for

their own individual willfulness, misconduct or bad faith, and except as provided for below. The Owners shall indemnify and hold harmless each of the members of the Board against all contractual liability to others arising out of contracts made by the Board on behalf of the Condominium or the Association, unless any such contract shall have been made in bad faith or contrary to the provisions of this Declaration or the Bylaws. It is permissible for the members of the Board, who are Directors, Officers, Members, or Managers of the Declarant to contract with the Declarant and affiliated corporations without fear of being charged with self-dealing. It is intended that the members of the Board shall have no personal liability, other than as Unit Owners, with respect to any contract made by them on behalf of the Condominium, except with respect to any such contract made in bad faith or contrary to the provisions of the Declaration or of the Bylaws. It is also intended that the personal liability of each Unit Owner arising out of any contract made by the Board or out of the aforesaid indemnity in favor of the Members of the Board shall be limited to such proportion of the total liability thereunder as his interest in the Common Area bears to the interests of all the Unit Owners in the Common Area (except that this limitation shall not apply as to the personal liability of members of the Board who contract in bad faith or contrary to the provisions of the Declaration or of the Bylaws shall not be so limited). The provisions of this Article do not apply to and shall not preclude claims for property damage and personal injury by Unit Owners against the Board or any other insured under the liability insurance required by this Declaration and the Bylaws.

19. **Enforcement**. Each Owner shall comply strictly with the provisions of this Declaration, the Bylaws, and the rules, regulations, and resolutions of the Association as lawfully amended from time to time, and failure to comply shall be grounds for an action to recover sums due for damages, injunctive relief or both, maintainable by the Board on behalf of the Unit Owners, or aggrieved Unit Owner or Owners.

20. **Site and Floor Plan References**. The Site and Floor Plans are or will be recorded in the Strafford County Registry of Deeds.

21. **Bylaws**. The Bylaws shall be as set forth in **Exhibit B** attached hereto. The Bylaws may be amended as set forth therein, or as provided by the Act, at any meeting of the Association, provided that a copy of the proposed Amendment has been included in the written notice of the meeting as provided for in RSA 356-B:37 as amended. Any amendment shall be effective upon recording in the Strafford County Registry of Deeds. In case of any conflict between the Declaration and Bylaws, the Declaration shall govern.

22. **Rights of Declarant**.

22.1. Control by Declarant. The Declarant shall have the right to appoint the Board of Directors of the Unit Owners' Association, and to exercise the powers and responsibilities assigned by the Condominium Instruments, and by NH RSA 356-B, as amended, to the Unit Owners' Association, the officers, or the Board of Directors, either directly or through its appointed manager. The right to control herein reserved to the Declarant shall continue until the earlier of either three-fourths (3/4) of the total thirty (30) Units are sold, or two (2) years from the day this Declaration is recorded. Declarant shall, during this period, have the

right to appoint the manager and exercise all functions of the Board of the Association as provided in NH RSA 356-B:36. In the event of foreclosure by a Mortgagee holding a mortgage interest in the Property during the period of Declarant's control, all officers and directors appointed by the Declarant shall immediately resign.

22.2. Maintenance and Assessments by the Declarant. Declarant shall be responsible for the pro-rata costs (as allocated for in **Appendix C**, Percentage Interests) of maintenance and expenses of the Common Area, based on each Unit it owns, until three-fourths (3/4) of the total number of Units (30) are sold. After three-fourths of the Units are sold, Declarant shall not be obligated to pay any costs for the maintenance and expense of the Common Area. Declarant shall not be charged or obligated to pay any assessments for reserves or Limited Common Area maintenance.

22.2.1. The foregoing notwithstanding, at no time shall the Declarant be responsible for any portion of Limited Common Area maintenance or expenses.

22.3. Voting Rights. For voting purposes, the Declarant shall be deemed to be the Unit Owner of any Unit not sold by the Declarant.

22.4. Use by Declarant. Notwithstanding any other provision contained in this Declaration, the Declarant expressly reserves for itself, its representatives and assigns, the right to use one or more of the Units and Common Area for the purposes of maintaining sales, rental, and management facility on the premises, including without limitation the showing of property and the displaying of signs.

IN WITNESS WHEREOF, Stabile Townhomes at Uptown Crossing, LLC has caused this Declaration to be executed this _____ day of _____, 20_____.

STABILE TOWNHOMES AT UPTOWN CROSSING, LLC

_____
Witness

By:_____
Name:_____
(Type or Print)
Title: Manager_____

STATE OF NEW HAMPSHIRE
COUNTY OF HILLSBOROUGH

The foregoing Declaration was acknowledged before me this _____ day of _____, 202_____, by _____, as the duly authorized Manager of Stabile Townhomes at Uptown Crossing, LLC, a New Hampshire limited liability company, on behalf of said Company.

_____
Notary Public / Justice of the Peace

My Commission Expires:_____

APPENDIX A-1

SUBMITTED LAND

Tax Map 15, Lot 40A-1, (off) Fisher Street, DOVER, NH

A certain parcel of land situated on Fisher Street and shown as Tax Map 15, Lot 40A-1 on a plan entitled "Subdivision Plan prepared for _____ , Tax Map 15, Lot No. 40-1, Fisher Street, City of Dover, County of Strafford, State of New Hampshire"; scale 1" = 40'; dated: _____, last revised _____; by McEneaney Survey Associates; recorded at Strafford County Registry of Deeds as Plan _____.

Said parcel of land containing 146,623 square feet (3.37 acres), more or less.

Said parcel is subject to the following ____ (___) easements:

APPENDIX B

BYLAWS OF THE

UPTOWN CROSSING, A CONDOMINIUM ASSOCIATION

ARTICLE I

PURPOSE AND OFFICES

1.1 Purpose. The administration of the Uptown Crossing Condominium shall be governed by these Bylaws, which are annexed to the Declaration of Uptown Crossing Condominium and are made a part thereof. All present and future holders of any interests in the Condominium shall be members of the Uptown Crossing Condominium Unit Owners' Association, and shall hold said interest subject to said Declaration and these Bylaws, and the Rules, Regulations, and Resolutions promulgated hereunder. The Uptown Crossing Unit Owners' Association is a "condominium management association" organized and operated for the management and maintenance of "association property" as those terms are defined in Article 528 of the Internal Revenue Code of 1954, as amended. No part of the net earnings of the Association shall inure (other than by acquiring, constructing or providing management, maintenance and care of "association property" and other than by a rebate of excess assessments pursuant to Article V, 1(c) hereof) to the benefit of any Unit Owner.

1.1.2 Definitions. Terms in these Bylaws have the meaning specified for them in the Declaration and the Act.

1.1.3 Applicability. The provisions of these Bylaws are applicable to the Condominium, the Units, the Unit Owners, the Association, and the Board, and the use, occupancy, sale, lease or other transfer thereof. All present and future Owners, tenants, guests, licensees, agents, employees, contractors, and any other Person who shall use the facilities of the Condominium shall be subject to these Bylaws and the Rules promulgated hereunder. By accepting a deed, or by entering into a lease, or by occupying a Unit or any portion of the Condominium, such action or actions shall constitute an acknowledgment that such Owner, tenant, or occupant has accepted and ratified these Bylaws, the Declaration, and any Rules and Regulations, and will comply with them.

1.2 Office. The principal office of the Uptown Crossing Condominium Unit Owners' Association and of the Board of Directors shall be located within the Condominium, in the City of Dover, Strafford County, State of New Hampshire, or at such other place as may be designated from time to time by the Board of Directors.

ARTICLE II

UNIT OWNERS' ASSOCIATION

2.1 Composition. All of the Unit Owners, acting as a group in accordance with the Condominium Act, the Declaration, and these Bylaws, shall constitute the Uptown Crossing Condominium Unit Owners' Association, which shall have the responsibility of administering the Condominium, establishing the means and methods of collecting the assessments for Common Expenses, arranging for the management of the Condominium and performing all of the acts that may be required to be performed by the Unit Owners' Association by the Condominium Act. Except as to those matters which the Condominium Act, the Declaration, or these Bylaws specifically require to be performed by the vote of the Unit Owners, the administration of the Condominium shall be performed by the Board of Directors (as more particularly set forth in Article III herein).

2.2 Voting. Each Unit shall be entitled to one (1) vote. Because a Unit Owner may be more than one person, such person or persons collectively, as the case may be, shall be considered to be a singular Unit Owner (i.e. one Unit Owner per unit). If only one of such person is present at a meeting of the Association, that person shall be entitled to cast the vote appertaining to that Unit. But, if more than one of such persons is present, the vote appertaining to that Unit shall be cast only in accordance with the agreement of a majority of them, and such consent shall be conclusively presumed if anyone of them purports to cast the vote appertaining to that Unit without protest being made forthwith by any of the others to the person presiding over the meeting. As applied to a person which is not a natural person, the word "person" shall be deemed for the purposes of this Section to include, without limitation, any one natural person having authority to execute deeds on behalf of such person which is not a natural person and which is, either alone or in conjunction with another person or persons, an Owner. Except where a greater number is required by the Condominium Act, the Declaration, or these Bylaws, two-thirds (2/3) of the votes of all Units, in good standing and entitled to vote, voting in person or by proxy, is required to adopt decisions at any meeting of the Association, except for elections of Directors of the Board, which may be accomplished by a plurality of such votes. In any vote, the total number of votes shall be equal to the total number of Units. If the Declarant owns or holds title to one or more Units, the Declarant shall have the right at any meeting of the Association to cast the votes to which such Units are entitled.

2.3 Place of Meetings. All meetings of the Unit Owners Association shall be held at the principal office of the Condominium or at such place as may be designated by the Board of Directors and stated in the notice of the meeting. Such place may be either within or outside the State of New Hampshire, as may from time to time be designated by the Board of Directors and in the notice of such meeting. If no designation as to place is made, then the place of meeting shall be the principal office of the Condominium Association.

2.4 Annual Unit Owner Meetings. This Article is subject to the applicable provisions of the Declaration, and in case of any conflict, the applicable provisions of the Declaration shall govern. The annual meeting of the Unit Owners Association shall be held on a date to be

determined by the Declarant, which date shall be within one (1) year after the formation of the Association by the recording of the Declaration. Notice of such meeting shall be given in accordance with the provisions of Section 2.6 of this Article II. Thereafter, the annual meetings of the Association shall be held on the same date of each succeeding year, or on such other date as may be designated by the Board of Directors and in the notice of such meeting, provided that such other date is within 30 days of the date of the previous annual meeting. After the Transition Period, at such annual meetings, the Board of Directors shall be elected by ballot of the Owners in accordance with the requirements of these Bylaws. The foregoing notwithstanding, until the earlier of either three-fourths (3/4) of the total number of Units (30) are sold, or two years from the day the Declaration is recorded, or until such earlier time as the Declarant may choose, the Declarant shall be entitled to elect all of the members of the Board of Directors. The Association may transact such other business as may properly come before it at such meetings.

2.5 Special Meetings. A special meeting of the Unit Owners for any purpose or purposes, unless otherwise prescribed by statute, may be called at any time by the Chairman of the Board, if any, or the President, if so directed by Resolution of the Board of Directors, or upon a petition or request signed and presented to the Secretary by at least one-third (1/3) of the Unit Owners. The notice of any special meeting shall state the time and place of such meeting and the purpose thereof. No business shall be transacted at a special meeting except as stated in the notice. In the event the Association shall fail to notify the Unit Owners of a special meeting within thirty (30) days after the request to the Secretary for such a special meeting, the requesting Unit Owners may directly notify all of the Unit Owners of an informational meeting, the purpose of which shall be to present the issue to fellow residents and Unit Owners.

2.6 Notice of Meeting. It shall be the duty of the Secretary to mail, by United States Postal Service, first class, postage pre-paid or to an electronic mail address provided by the Unit Owner, a notice of each annual meeting or special meeting of the Owners at least twenty-one (21) days in advance of each annual meeting, and at least seven (7) days in advance of each special meeting, stating the purpose thereof as well as the time and place where it is to be held, to each owner at the address of their respective Units, or at such other address as each Owner may have designated by notice in writing to the Secretary. The mailing of a notice of meeting in the manner provided in this Article shall be considered service of notice. The minimum notice requirements may be reduced or waived by a vote of the Directors for any meeting called to deal with an emergency. The Secretary (or other officer duly authorized by the Board), who shall also be a member of the Board of Directors of the Association, shall prepare an affidavit which shall be accompanied by a list of the addresses of all Unit Owners currently on file with the Association and shall attest that notice of the Association meeting was provided to all Unit Owners on that list in a manner conforming to RSA 356-B:37-a. A copy of the affidavit and Unit Owners list shall be available at the noticed meeting for inspection by all Owners then in attendance and shall be retained with the minutes of that meeting, and shall be available for inspection by Unit Owners for at least three (3) years after the date of the subject meeting.

2.7 Voting Requirements. An Owner shall be deemed to be in good standing and entitled to vote at any annual meeting or any special meeting of the Unit Owners' Association if, and only if, he shall have fully paid all assessments made or levied and due against him and his

Unit by the Board of Directors as hereinafter provided, together with interest, costs, attorneys' fees, penalties, and other expenses, if any, properly chargeable to him and against his Unit, at least three (3) days prior to the date fixed for such annual or special meeting.

2.8 Proxies. The vote appertaining to any Unit may be cast pursuant to a proxy or proxies duly executed by or on behalf of the Unit Owner, or, in cases where the Unit Owner is more than one person, by or on behalf of all such persons. No such proxy shall be revocable except by actual notice of such revocation to the person presiding over the meeting by the Unit Owner or by any of such persons. Any proxy shall be void if it is not dated, if it purports to be revocable without notice as aforesaid, or if the signature of any of those executing the same has not been duly acknowledged. The proxy of any person shall be void if not signed by a person having authority at the time of the execution to execute deeds on behalf of the person. Any proxy shall terminate automatically upon the adjournment of the first meeting held on or after the date of that proxy. All proxies must comply with RSA 356-B:37 and shall be handled by the Association in accordance with the Act.

2.9 Quorum. A quorum shall be deemed to be present throughout any meeting of the Unit Owners' Association, until adjourned, if persons entitled to cast two-thirds (2/3) of the votes are present at the beginning of the meeting, in person or by proxy.

2.10 Order of Business. The order of business at all meetings of the Unit Owners Association may be as follows: i) roll call, ii) recitation of proof of notice of meeting, iii) reading of minutes of preceding meeting, iv) reports of officers, v) reports of the Board of Directors, vi) reports of committees, vii) election of Directors, if applicable, viii) unfinished business, and ix) new business, any of which may be waived.

2.11 Conduct of Meeting. The President, or his designate, shall preside over all meetings of the Unit Owners' Association, and the Secretary shall keep the minutes of the meeting, and record all resolutions adopted by the meetings, as well as a record of all transactions. Robert's Rules of Order shall govern the conduct of all meetings of the Unit Owners' Association, when not in conflict with the Declaration, Bylaws, or Condominium Act. Unit Owners shall be given a reasonable opportunity at any meeting to comment regarding any matter affecting the Association.

ARTICLE III

BOARD OF DIRECTORS

3.1 Powers and Duties. The affairs and business of the Condominium Association shall be managed by a Board of Directors (sometimes hereinafter referred to as the "Board"), which shall have all of the powers and duties necessary for the administration of the affairs of the Condominium and may do all such acts and things as necessary for the administration of the affairs of the Condominium, and which may do all such acts and things which are not done by the Unit Owners' Association, as provided for by the Condominium Act, the Declaration, or Bylaws. The Board of Directors shall have the power from time to time to adopt any Rules

deemed necessary for the enjoyment of the Condominium provided that such Rules shall not be in conflict with the Condominium Act, the Declaration, or these Bylaws. The Board of Directors may elect one of its members to serve as Chairman of the Board. The Board of Directors may delegate to one of its members the authority to act on behalf of the Board on all matters which might arise between meetings of the Board of Directors. In addition to the general duties imposed by these Bylaws, the Board of Directors shall have the power to, and be responsible for, the following:

(a) Preparation and adoption of an annual budget, in connection with which there shall be established the assessment of each Unit Owner for the Common Expenses said budget to be provided to all Unit Owners within thirty (30) days of adoption by the Board in the form set forth in RSA 356-B:40-c which shall be ratified by the Association unless rejected by two-thirds (2/3) of all of the Unit Owners, at a meeting of the Association called for such purpose within the time frames required by RSA 356-B:40-c;

(b) Making assessments against Unit Owners to defray the Common Expenses of the Condominium, collecting such assessments from the Unit Owners, depositing the proceeds thereof in a bank depository which it shall approve, and using the proceeds to carry out the administration of the Condominium. Unless otherwise determined by the Board, the annual assessments against each Unit Owner for his proportionate share of the Common Expenses shall be payable in equal monthly installments, each such installment to be due and payable in advance on the first day of each month for said month;

(c) Providing for the operation, management, repair, replacement and maintenance of all of Common Area;

(d) Designating, hiring and dismissing the personnel necessary for the maintenance, operation, repair, and replacement of the Common Area, and providing services for the Condominium, and, where appropriate, providing for the compensation of such personnel and for the purchase or use of equipment, supplies and material to be used by such personnel in the performance of their duties (which equipment, supplies and material shall be the common property of the Owners);

(e) Making and amending Rules regarding the use of the Condominium and enforcing by legal means the provisions of the Declaration, these Bylaws, and such Rules, and bringing any proceeding which may be instituted on behalf of the Owners;

(f) Obtaining and carrying insurance against casualty and liability, as provided in these Bylaws and the Declaration, and paying the premium cost thereof and making, or contracting for the making of, repairs, additions, and improvements to, or alterations of, the Condominium or Common Area after damage or destruction, in accordance with the other provisions of these Bylaws;

(g) Keeping books with detailed accounts of the receipts and expenditures affecting the Condominium, and the administration of the Condominium. All books and records

shall be kept in accordance with generally accepted accounting practices, and the same shall be reviewed at least once a year by an outside qualified professional employed by the Board of Directors who shall not be a resident of the Condominium, or an Owner therein. The cost of such review shall be a Common Expense. The books, records, financial statements and annual audited report of the Condominium as well as copies of the current Declaration, Bylaws and the Rules and Regulations shall be available for examination by prospective purchasers, and the Owners, their duly authorized agents or attorneys, and any holder, insurer or guarantor of a first Mortgage on a Unit, during general business hours on working days at the times and in the manner that shall be set and announced by the Board of Directors for the general knowledge of such persons. A copy of the annual audit report shall be supplied to any holder, insurer, or guarantor of a first Mortgage on any Unit in the Condominium who requests the same in writing to the Secretary;

(h) To do such other things and acts not inconsistent with the Condominium Act, these Bylaws, and with the Declaration.

3.2 Managing Agent. The Board may employ, or contract with, a professional manager or management firm ("Manager") for a fee or compensation established by the Board, to perform such duties and services as the Board shall authorize including, but not limited to, the duties listed in Art III. The Board may delegate to the Manager all of the powers granted to the, Board by these Bylaws; provided that any actions by the Manager with respect to the powers set forth in paragraphs (b) through (f) of Section 3.1 above shall require the written consent of the Board. The term of any employment contract for a Manager may not exceed two (2) years, and any such employment contract shall provide, inter alia, that such agreement may be terminated without cause upon no more than sixty (60) days written notice, and without payment of a termination fee.

3.3 Number of Directors and Initial Selection of Board. This Article is subject to the limitations set forth in the Declaration and RSA 356-B:40, and in case of any conflict between this section and the Declaration, the Declaration is to govern and control and in case of any conflict between this Section, the Declaration and RSA 356-B:40, RSA 356-B:40 shall govern and control. Not later than sixty (60) days after conveyance of one-fourth (1/4) of the units that may be created to Unit Owners other than Declarant, at least one (1) member and not less than twenty-five percent (25%) of the members of the Board shall be elected by Unit Owners other than the Declarant. Not later than sixty (60) days after conveyance of one-half (1/2) of the units that may be created to Unit Owners other than Declarant, not less than one-half (1/2) of the members of the Board shall be elected by Unit Owners other than Declarant. Until the earlier to occur of either (a) seventy-five percent (75%) of the total number of units (whether such units are completed or not) have been conveyed, or (b) two (2) years after all Declarants have ceased to offer units for sale in the ordinary course of business; (c) two (2) years after any right to add new units was last exercised or (d) the date the Declarant, after giving notice in a record to Unit Owners, records an instrument voluntarily surrendering all rights to control activities of the Association, the Declarant shall appoint the members of the Board of Directors not elected by the Association, and the members may be the Declarant and/or other persons who may or may not be Unit Owners. The Declarant may relinquish its rights hereunder at any time, at its choosing.

After the Declarant loses or relinquishes control, the Board of Directors shall be composed of no less than three (3) and no more than five (5) members, and every member of the Board must be a current Unit Owner of record, and each member of the Board shall be elected by a plurality of all Unit Owners of record.

3.4 Term of Office. Once elected, each Director shall hold office for the earlier of: two years, until he or she resigns, until he or she is no longer a Unit Owner of record, or until he or she is voted out by a two-thirds (2/3) majority of the Unit Owners and a replacement Director is elected by a plurality of the Unit Owners of record.

3.5 Organizational Meeting. The first meeting of the members of the Board of Directors shall be at the same time and place as the first annual meeting of the Unit Owners, and no notice shall be necessary to the Directors in order to legally constitute such meeting, providing a majority of the whole Board shall be present.

3.6 Regular Meetings. Regular meetings of the Board of Directors shall be held at such places and at such times as the Board shall determine from time to time by resolution, provided that there is at least one meeting during every three (3) month period.

3.7 Special Meetings. Special meetings of the Board of Directors shall be held whenever called by the Chairman of the Board, if any, or at the request of any two (2) Directors in office at the time. By resolution, the Board shall determine the means and manner of any notice (e.g. mail, facsimile, telephone, or electronic mail). Notice of any special directors' meeting shall be given to each Director at least seven (7) days before the day on which the meeting is to be held. Every such notice shall state the time, place, and purpose of the meeting.

3.8 Notice of Meeting and Waiver of Notice. Unless a meeting is included in a schedule given to Unit Owners in advance or the meeting is called to deal with an emergency, the Secretary or other officer authorized by the Board, shall give notice of each meeting of the Board to each member of the Board and to all Unit Owners at least ten (10) days before the meeting, stating the time, date, place and agenda of the meeting. Any materials distributed to members of the Board in advance of the meeting shall also be made reasonably available to all Unit Owners. Any Director may waive notice of any meeting by giving written notice of his or her waiver of notice within (10) ten days before or after the meeting. Attendance at a meeting shall constitute waiver of notice.

3.9 Quorum and Manner of Acting. A majority of the total number of Directors then holding office shall constitute a quorum for the transaction of business at any meeting except where otherwise provided by statute, the Declaration, or these Bylaws; but less than a quorum may adjourn the meeting.

3.10 Vacancies. Vacancies shall be filled by vote of the plurality of the Unit Owners of record, at a special meeting of the Board of Directors held for that purpose promptly after the occurrence of any such vacancy.

3.11 Compensation. No Director shall receive any compensation for acting as a Director.

3.12 Conduct of Meetings. The President, or, in his absence, a president pro term elected by the Board, shall preside over all meetings of the Board of Directors and the Secretary shall keep the minutes of meetings of the Board of Directors recording therein all resolutions adopted by the Board of Directors and all transactions and proceedings occurring at such meetings, which minutes shall be filed in the Record Book of the Condominium. Unit Owners shall be afforded a reasonable opportunity to comment on any matter affecting the Association. At its discretion, the Board may meet in a meeting not open to Unit Owners provided the meeting is recorded and the recording is made available to Unit Owners for up to thirty (30) days, upon request. Executive sessions, as defined under RSA 366-B:37-d may only be held pursuant to the requirements and for the reasons set forth therein.

3.13 Report of Board of Directors. The Board of Directors shall present at each annual meeting, and when called for by the vote of the Unit Owners' Association at any special meeting of the Association, a full and clear statement of the business and condition of the Condominium.

3.14 Dispensing with Vote. Any action by the Board of Directors required or permitted to be taken at any meeting may be taken without a meeting if all of the members of the Board of Directors shall individually or collectively consent in writing to such action. Such written consent or consents shall be filed with the minutes of the proceedings of the Board of Directors.

3.15 Liability of the Board of Directors. The members of the Board of Directors shall not be liable to the Owners for any mistake of judgment, negligence, or otherwise except for their own individual willful misconduct or bad faith. The Owners shall indemnify and hold harmless each of the Directors from and against all contractual liability to others arising out of contracts made by the Board of Directors on behalf of the Owners unless any such contracts shall have been made in bad faith, due to willful misconduct or contrary to the provisions of the Declaration or of these Bylaws. It is intended that the members of the Board of Directors shall have no personal liability (except as Owners) with respect to any contract made by them on behalf of the Owners, unless made in bad faith, due to willful misconduct or contrary to such provisions. It is also intended that the liability of any Owner arising out of any contract, action or omission made by the Board of Directors shall be limited to such portion of the total liability thereunder as his Percentage Interest bears to the Percentage Interest of all of the Owners. Every written agreement made by the Board of Directors or by the Manager on behalf of the Owner shall, if obtainable, provide that the members of the Board of Directors or the Manager, as the case may be, are acting only as agents of the Owners and shall have no personal liability thereunder (expect as Owners), and that each Owner's liability thereunder shall be limited to such proportion of the total liability thereunder as his Percentage Interest bears to the Percentage Interests of all Owners.

3.16 Removal of Directors. The Unit Owners may remove one or more Directors with or without cause unless the Declaration or Bylaws provide that Directors may be removed only

for cause. A Director may be removed only if 67% of the Unit Owners cast affirmative votes to remove him. No Director appointed by Declarant may be removed by Unit Owners until the Transition Period has concluded. A Director may be removed by the Unit Owners only at a meeting called for the purpose of removing him and the meeting notice must state that the purpose, or one of the purposes, of the meeting is removal of the Director.

3.17 Directors' Participation in Meeting by Telephone. A Director may participate in a meeting of the Board of Directors by any means of tele-communication by which all Directors participating may simultaneously hear each other during the meeting. Participation in a meeting pursuant to this section shall constitute presence in person at such meeting.

3.18 Books and Records. The correct and complete books and records of the Board of Directors and of the Condominium Association shall be maintained at its principal office or at the office of its registered agent, if said office is different from the principal office. Such books and records shall include, but not be limited to, records of all meetings of Unit Owners and of the Board of Directors, a record of all actions taken by the Unit Owners or Board of Directors without meeting, a record of all actions taken by a committee of the Board of Directors in place of the Board of Directors, and all of the records required by law.

3.19 Interested Directors.

(a) No contract or transaction between the Condominium Association and one or more of its directors or officers, or between the Condominium Association and any other Condominium Association, partnership, firm, association or entity in which one or more of its directors or officers are directors or officers, or in which any such person has a financial interest, shall be void or voidable because of such relationship or interest if (i) the material facts of the transaction and the officer's or director's interest were disclosed or known to the Board of Directors or a committee thereof and the Board of Directors or committee authorized, approved or ratified the transaction, or (ii) the material facts of the transaction and the officer's or director's interest therein were disclosed or known to the Unit Owners entitled to vote and they authorized, approved or ratified the transaction, or (iii) the transaction was fair to the Condominium Association.

(b) For purposes of this section, a transaction contemplated by this section is authorized, ratified or approved by the Board of Directors or a committee thereof when a majority of those Directors then holding office or then being members of the committee who have no direct or indirect interest in the transaction vote in favor thereof (regardless whether the interested officer or director is present at the meeting or votes in favor of the transaction), but no such transaction may be authorized, ratified or approved by a single director. A quorum shall be deemed to have been present at any meeting of the Board of Directors or a committee thereof which authorizes, ratifies or approves a transaction contemplated hereby in the manner prescribed herein.

(c) For purposes of this section, a transaction contemplated by this section is authorized, ratified or approved by the Unit Owners if it receives the affirmative vote of a

majority of the Unit Owners entitled to be counted hereunder. Units held by or under the control of a director or officer having an interest in the transaction, and Units held by or under the control of an entity in which the officer or director has a material financial interest or of which he is an officer, director, general partner, managing member or trustee may not be counted in a vote of Unit Owners taken to authorize, ratify or approve a transaction contemplated hereby. A majority of the Units entitled to be counted for the purposes of this section, whether or not present, shall be deemed to constitute a quorum for the purpose of taking action under this section.

(d) No Director shall be paid for his or her services as a Director.

ARTICLE IV

COMMITTEES

4.1 Creation of Committees. Unless the Declaration provide otherwise, the Board of Directors may create one or more committees and appoint members of the Board of Directors to serve on them. Each committee must have two or more members, who serve at the pleasure of the Board of Directors.

4.2 Selection of Members. The creation of a committee and appointment of members to it must be approved by the greater of (a) a majority of all the Directors in office when the action is taken, or (b) the number of Directors required by the Declaration or Bylaws to take such action.

4.3 Required Procedures. The provisions of the law, the Declaration and these Bylaws which govern meetings, action without meetings, notice and wavier of notice, quorum and voting requirements of the Board of Directors, apply to committees and their members.

4.4 Authority. Unless limited by law or the Declaration and By-laws, each committee may exercise those aspects of the authority of the Board of Directors which the Board of Directors confers upon such committee in the resolution creating the committee. Provided, however, a committee may not:

(a) approve or propose to Unit Owners action which by statute requires the approval by Unit Owners;

(b) fill vacancies on the Board of Directors or on any of its committees;

(c) amend the Declaration; or

(d) adopt, amend, or repeal Bylaws.

4.5 Compensation. Members of committees of the Board of Directors shall receive compensation for their services as members of such committees as the Board of Directors shall

from time to time determine as may be approved by a two-thirds (2/3) majority of the voting interests present at a properly called and noticed meeting of the Association.

4.6 Standard of Conduct. Members of committees of the Board of Directors shall adhere to the same standards of conduct required of the Board of Directors by law, the Declaration, and these Bylaws.

ARTICLE V

OFFICERS

5.1 Number. The officers of the Condominium Association shall include a President, a Treasurer and a Secretary, and may include a Chairman of the Board and one or more Vice Presidents, and such other officers as the Board of Directors may from time to time deem appropriate. One person may hold the offices and perform the duties of more than one of said officers.

5.2 Appointment and Term of Office. The officers of the Association shall be appointed by the Board of Directors for a term as determined by the Board of Directors. If no term is specified, then they shall hold office until the first meeting of the directors held after the next annual meeting of Unit Owners. If the appointment of officers shall not be made at such meeting, then such appointment shall be made as soon thereafter as is convenient. Each officer shall hold office until his successor shall have been duly appointed and shall have qualified, until his death, or until he shall resign or shall have been removed in the manner provided in these Bylaws. The designation of a specified term does not grant to the officer any contract rights, and the Board of Directors can remove the officer at any time prior to the termination of such term as hereinafter provided.

5.3 Removal. Any officer may be removed, with or without cause, by the Board of Directors whenever in its judgment the best interests of the Condominium Association will be served by such action.

5.4 Resignations. Any officer may resign at any time by giving written notice to the Condominium Association. Such resignation shall take effect at the time the notice is delivered or at such later date as specified therein. Unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

5.5 Vacancies. A vacancy in any office because of death, resignation, removal or any other cause shall be filled for the unexpired portion of the term in the manner prescribed in these Bylaws for appointment to such office.

5.6 The Chairman of the Board. The Chairman of the Board, if there shall be one, shall be appointed from among the Directors and shall, if present, preside at all meetings of the Unit Owners and of the Board of Directors. Except where by law the signature of the President is required, the Chairman of the Board shall possess the same power as the President to sign all

certificates, contracts and other instruments of the Condominium Association which may be authorized by the Board of Directors. He shall, in general, perform all duties incident to the office of Chairman of the Board, subject, however, to the direction and control of the Board of Directors, and such other duties as from time to time may be assigned to him by the Board of Directors.

5.7 The President. The President shall be the chief executive and administrative officer of the Condominium Association and shall have general and active supervision and direction over the day- to-day business and affairs of the Condominium Association and over its several officers, subject, however, to the direction and control of the Board of Directors. At the request of the Chairman of the Board, or in case of his absence or inability to act, the President may act in his place. Except as otherwise authorized by the Board of Directors, the President shall sign or countersign all certificates, contracts and other instruments of the Condominium Association as authorized by the Board of Directors, and shall deliver to the Unit Owners annual financial statements and such other statements required by law to be delivered to the Unit Owners and shall perform all such other duties as from time to time may be assigned to him by the Board of Directors.

5.8 The Vice Presidents. If appointed, each Vice President shall have such powers and perform such duties as the Board of Directors may from time to time prescribe. At the request of the President, or in case of his absence or inability to act, the Vice President (if more than one, then in order of designation, and if no designation, then in order of appointment) may act in his place, and when so acting shall have all the powers and be subject to all the restrictions of the President.

5.9 The Secretary. The Secretary shall keep or cause to be kept the minutes of the meetings of the Unit Owners and of the Board of Directors in books provided for that purpose; shall see that all notices are duly given in accordance with the provisions of the Declaration, these Bylaws, and as required by law; shall be the custodian of the records, Unit ownership records, and of the seal of the Condominium Association, and see that the seal is affixed to all documents the execution of which on behalf of the Condominium Association under its seal is duly authorized in accordance with the provisions of these Bylaws; and in general, shall perform all duties incident to the office of Secretary and such other duties as may, from time to time, be assigned to him by the Board of Directors or by the President, including, but not limited to, authenticating the records of the Condominium Association when requested or required. In the absence of the Secretary, a secretary pro tempore may be chosen by the directors or Unit Owners, as appropriate, to perform the duties of the Secretary.

5.10 The Treasurer. The Treasurer shall be the financial officer of the Condominium Association; shall have charge and custody of, and be responsible for, all funds and securities of the Condominium Association, and shall deposit all such funds in the name of the Condominium Association in such banks, trust companies or other depositories as shall be selected by the Board of Directors; shall receive, and give receipts for, moneys due and payable to the Condominium Association from any source whatsoever; and in general, shall perform all the duties incident to

the office of Treasurer and such other duties as from time to time may be assigned to him by the Board of Directors or by the President.

5.11 Assistant Secretaries and Assistant Treasurers. The Assistant Treasurers shall, if required by the Board of Directors, give bonds for the faithful discharge of their duties in such sums and with such sureties as the Board of Directors shall determine. The Assistant Secretaries and Assistant Treasurers, in general, shall perform such duties as shall be assigned to them by the Secretary or the Treasurer, respectively or by the President or the Board of Directors.

5.12 Salaries. An officer shall not directly receive any salary or compensation from the Association for the performance of duties as an officer or board member and shall not in any other way benefit financially from service to the association. However, if annually approved by a two-third (2/3) majority of the voting interests present at a properly called meeting of the Association, the Association may waive the restriction on salaries for officers and directors.

ARTICLE VI

OPERATION OF THE PROPERTY

6.1 Determination of Common Expenses and Assessments against Unit Owners.

(a) Fiscal Year. The fiscal year of the Association shall consist of the twelve-month period commencing on January 1 of each year and terminating on December 31 of the same year, except that the first fiscal year shall begin at the date of organization and terminate on the next succeeding December 31. The fiscal year herein established shall be subject to change by the Board of Directors should the Board in its sole discretion deem such change to be in the best interest of the Association.

(b) Preparation and Approval of Budget. Each year the Board shall prepare and adopt a proposed budget for the Condominium Association for consideration by the Unit Owners containing an estimate of the total amount which it considers necessary during the ensuing fiscal year for the cost of maintenance, management, repair and replacement of the Common Area, the Limited Common Areas, as well as the landscaping and snow removal cost in the Limited Common Area, said snow removal cost may include the cost of removing snow from the Property in the event the designated snow storage areas exceed storage capacity. These costs shall include the cost of compensation, materials, insurance premiums, supplies and other expenses that may be declared to be Common Expenses by the Condominium Association Act, the Declaration, these Bylaws or the Association. Such budget shall also include such reasonable reserves as the Board considers necessary to provide a general operating reserve, and reserves for contingencies and replacements. During the Transition Period reserves will be funded through monthly maintenance fees of occupied Units, and, in addition, two months of fees collected at the close of escrow for each sale of a Unit. The Declarant will be responsible for its pro rata share of the Common Area expenses based on the number of Units owned by the Declarant, in accordance with Section 22.2 of the Declaration. Not later than thirty (30) days after adoption of a proposed budget, the Board shall provide to each Unit Owner a summary of the budget in a

reasonably itemized form including any reserves, and a statement of the basis on which any reserves are calculated and funded, which sets forth the amount of the Common Expenses payable by each Unit Owner. The said budget shall constitute the basis for determining each Unit Owner's assessment for the Common Expenses of the Condominium Association. Simultaneously, the Board shall set a date not less than ten (10) days or more than sixty (60) days after providing the summary for a meeting of the Association to consider ratification of the budget. Unless at that meeting two-thirds (2/3) of all Unit Owners reject the budget, the budget is ratified, whether or not a quorum is present. If a proposed budget is rejected, the budget last ratified by the Association continues until the Association ratifies a subsequent budget.

(c) Assessment and Payment of Common Expenses. The total amount of the estimated funds set forth in the budget for the fiscal year adopted by the Board shall be assessed against each Unit Owner, in proportion to his Percentage Interest, and shall be a lien against each Unit in accordance with the Condominium Act. On or before the first day of each fiscal year, and the first day of each of the succeeding eleven (11) months in such fiscal year, each Unit Owner shall be obligated to pay to the Association one-twelfth (1/12th) of the assessment for such fiscal year made pursuant to the foregoing provisions. Within sixty (60) days after the end of each fiscal year, the Board shall supply to all Unit Owners an accounting consisting of an itemized income and expense statement for the fiscal year just ended. Any amount accumulated in excess of actual expenses and budgeted reserves shall, in the discretion of the Board, either be rebated to the Unit Owners in accordance with each Unit Owner's Percentage Interest by crediting same to the next successive monthly installments, due from Unit Owners under the then current fiscal year's budget, until exhausted, or shall be added to reserves. Any net shortage shall, if the Board deems it advisable, be added to the installments due in the succeeding six (6) months after the rendering of the accounting, according to each Unit Owner's Percentage Interest.

(d) Reserves. The Board shall establish and maintain both an adequate operating reserve and an adequate reserve for contingencies and replacements of the Common Area, which shall be funded by regular monthly payments, as provided hereinabove. At the end of each fiscal year, all funds accumulated during such year for reserves for contingencies and replacement of Common Area shall be placed in a separate bank account, segregated from the general operating funds, and used only for such purposes. If, for any reason, including nonpayment of any Unit Owner's assessment, the reserves are inadequate, the Board may at any time levy a further assessment, which shall be assessed against the Unit Owners according to their respective Percentage Interests, and which may be payable in a lump sum or in installments as the Board may determine. The Board shall serve notice of any such further assessment on all Unit Owners by a statement in writing giving the amount and reasons therefore, and such further assessment shall, unless otherwise specified in the notice, become effective with the next monthly payment which is due more than ten (10) days after the date of such notice of further assessment. All Unit Owners shall be obligated to pay the adjusted monthly amount or, if the additional assessment is not payable in installments, the amount of such assessments.

(e) Initial Assessment. When the members of the first Board take office, they shall determine the budget, as defined in this Section, for the period commencing upon the recordation of the Declaration at the Registry and ending on the last day of the fiscal year in

which their election occurs. Assessments shall be levied against the Unit Owners during said period as provided in Subsection (c) of this Section.

(f) Effect of Failure to Prepare or Adopt Budget. The failure or delay of the Board to prepare or adopt the annual budget for any fiscal year shall not constitute a waiver or release of a Unit Owner's obligation to pay his allocable share of the Common Expenses as herein provided, whenever the same shall be determined. In the absence of any annual budget or adjusted budget, each Unit Owner shall continue to pay the monthly charge at the then existing monthly rate established for the previous fiscal period until ten (10) days after a statement has been mailed or delivered showing the monthly payment which is due under the new annual or adjusted budget.

6.2 Payment of Common Expenses. All Owners of completed Units shall be obligated to pay the Common Expenses assessed by the Board pursuant to the provisions of Section 6.1. No Unit Owner may exempt himself from liability for his contribution toward Common Expenses by waiver of the use or enjoyment of any of the Common Area or by abandonment of his Unit. No Unit Owner shall be liable for the payment of any part of the Common Expenses assessed against his Unit after a sale, transfer or other conveyance by him of such Unit. A person acquiring a Unit shall be jointly and severally liable with the transferring Unit Owner for all unpaid assessments against the latter for Common Expenses up to the time of the conveyance, without prejudice to the acquiring Unit Owner's right to recover from the transferring Unit Owner the amounts paid by the acquirer therefor; subject, however, to the provisions of Section 6.3 relative to recordable statements of unpaid assessments and subject to the provisions of the Declaration relative to first mortgagees. This section does not apply to the Declarant, which is to pay Common Expenses in accordance with Section 22.2 of the Declaration.

6.3 Recordable Statement of Unpaid Assessment. Any such acquiring Unit Owner or transferring Unit Owner shall be entitled to a recordable statement of the Board or the Manager setting forth the amount of the unpaid assessments against the transferring Unit Owner and such acquiring Unit Owner shall not be liable for, nor shall the Unit conveyed by subject to a lien for, any unpaid assessments in excess of the amount therein set forth. Failure to furnish such a statement, in the manner in which notices are provided pursuant to Section 11.1, within seven (7) days from receipt of such a request by the Board or Manager, shall extinguish the lien for unpaid assessments. Payment of a fee not exceeding the maximum allowable under the Condominium Act may be required as a prerequisite for issuance of such a statement.

6.4 Collection of Assessments. The Board of Directors shall take prompt action to collect any assessments for Common Expenses due from any Unit Owner which remain unpaid for more than sixty (60) days from the due date for payment thereof. The Unit Owners' Association and Board shall have all powers conferred by NH RSA 356-B:46, and all Units are subject to the provisions of NH RSA 356-B:46. The powers conferred to the Board of Directors by NH RSA 356-B:46 include without limitation:

- A lien on any Unit for unpaid Common Area assessments or dues;

- Termination of use of the Common Area or services;
- Termination of voting; and/or
- Ability to collect rent directly from tenants.

6.5 Uncollectible Assessments. Any assessments which are not collectible due to a waiver or limitation imposed by the provisions of Section 6.3 above or due to the provisions of Section 7 of the Declaration relative to first mortgagees shall be collectible from all Unit Owners, including the purchaser or first mortgagee, in proportion to their respective Percentage Interests.

6.6 Maintenance and Repair.

(a) By the Condominium Association. Except as otherwise provided in Section 6.6(b) below, the Condominium Association shall be responsible for the maintenance of the Common Area and Limited Common Area, and repair and replacement (unless necessitated by the negligence, misuse or neglect of a Unit Owner, or of a person gaining access with said Unit Owner's actual or implied consent, in which case such expense shall be charged to such Unit Owner) of all of the Common Area roadways and water and sewer systems, whether presently existing or hereafter constructed, the cost of which shall be charged to all Unit Owners as a Common Expense. Additionally, the Condominium Association shall be responsible for the maintenance of the Limited Common Area, including, landscaping (lawn mowing and shrub and tree trimming), and snow removal (including but not limited to the removal of snow from the Property in the event the collected snow exceeds the designed on-site snow storage capacity), driveways, walkways, trees, shrubs, decks, patios, lampposts, mailboxes (if any), sewer, and water lines from the Common Area private way to the Unit.

(b) By the Unit Owner. Each Unit Owner is obligated to repair and replace all things within his Unit (excluding the exterior of the exterior walls and the roof).

(i) Except for the Common Area and Limited Common Area required to be maintained, repaired and replaced by the Condominium Association, and except as provided in Article VII hereof relating to the repair and reconstruction of a Unit after fire or other casualty, each Unit Owner shall be responsible for the maintenance, repair and replacement, at his own expense, of his Unit and any part thereof, within his Unit. Notwithstanding the Association's maintenance responsibilities, each Unit Owner shall also be responsible for all snow removal from the Unit's deck/patio. Each Unit Owner shall be responsible for keeping his Unit and the Limited Common Area which is appurtenant to his Unit in a clean and sanitary condition.

(ii) Each Unit Owner shall keep his Unit and its equipment and appurtenances in good order and condition. Each Unit Owner shall also maintain sufficient heat within said Unit at all times to prevent

damage from freezing to all pipes or plumbing within his Unit. In addition, each Unit Owner shall be responsible for all damage to any and all other Units or to the Common Area and Limited Common Area resulting from his failure to make any of the repairs required to be made by him by this Section and from his failure to provide sufficient heat as required by this Section. Each Unit Owner shall perform his responsibility in such manner as shall not unreasonably disturb or interfere with the other Unit Owners. Each Unit Owner shall promptly report to the Board, or the Manager, any defects or need for repairs for which the Condominium Association is responsible.

(c) Manner of Repair and Replacement. All maintenance, repairs and replacements shall be substantially similar to the original construction and installation, and shall be of first-class quality.

6.7 Additions, Alterations or Improvements by the Board. Whenever in the judgment of the Board the Common Area shall require additions, alterations or improvements costing in excess of Ten Thousand Dollars ($10,000) during any period of twelve (12) consecutive months, and the making of such additions, alterations or improvements shall have been approved by a 2/3rds Majority of the Unit Owners, the Board shall proceed with such additions, alterations, or improvements and shall assess all Unit Owners for the cost thereof as a Common Expense. Any additions, alterations or improvements costing Ten Thousand Dollars ($10,000) or less during any period of twelve (12) consecutive months-may be made by the Board without approval of the Unit Owners and the cost thereof shall constitute part of the Common Expenses. The Board may, if it deems it appropriate, borrow funds for these purposes and encumber the Common Area to secure such borrowing. Notwithstanding the foregoing, if, in the opinion of not less than two-thirds of the members of the Board such additions, alterations or improvements are exclusively or substantially exclusively for the benefit of a limited number of Unit Owners requesting the same, such requesting Unit Owners shall be assessed therefore in such proportion as they jointly approve or, if they are unable to agree thereon, in such proportions as may be determined by the Board.

6.8 Additions, Alterations, or Improvements by Unit Owners. No Unit Owner shall make any structural addition, alteration or improvement in or to his Unit or Limited Common Area appurtenant to his Unit without the prior written consent thereto of the Board. No Unit Owner shall decorate or otherwise change the external appearance of his Unit or Limited Common Area, without the prior written consent thereto of the Board. The Board shall be obligated to answer any written request by a Unit Owner for approval of such proposed structural addition, alteration or improvement or such external change within thirty (30) days after such request, and its failure to do so within the stipulated time shall constitute a consent by the Board to the proposed addition, alteration, improvement or change. If any application to any governmental authority for a permit to make any such structural addition, alteration or improvement in or to any Unit or Limited Common Area requires execution by the Association, and provided consent has been given by the Board, then the application shall be executed on

behalf of the Association by the Board only, without, however, incurring any liability on the part of the Board, or any of them to anyone on account of such addition, alteration or improvement. Until all Units owned by the Declarant shall have been completed and initial deeds of conveyance of such Units shall have been recorded, the Declarant shall have the right to make alterations or subdivisions to such Units without the consent of the Board, and the Board shall execute any such application required.

6.9 Restrictions on Use of Units. To assist the Association in providing for congenial occupancy and the protection of the value of the Units, it is necessary that the Board have the right and authority to exercise reasonable controls over the use of the Units. Violation of the following enumerated prohibitions shall not be permitted, and the Board is hereby authorized to take all steps necessary to prevent or discontinue any violations thereof, all at the expense of the violator:

(a) No decorations, awnings, screens, sun shades or covers, fans, advertisements, signs (including no real estate for sale signs during the transition period, i.e. until all Units are sold) or posters of any kind shall be affixed to the exterior of a building or otherwise placed, posted in or on the Property so as to be visible from the outside of a Unit except as authorized by the Board. Tasteful seasonal decorations are allowed but must be removed in a timely manner after a holiday. The restriction shall not apply to advertisements, signs or posters utilized by the Declarant, or its agents, in selling or renting the Units. No signs or displays, including but not limited to, commercial or political signs, shall be erected or displayed on the Units or structures without approval of the Declarant during the Transition Period and thereafter by the Board, except political signs allowed under Dover ordinances and state law. Real Estate or “For Sale” signs may only be displayed by the developer until all new Units are sold.

(b) No clothing, laundry, rugs, or other unsightly objects shall be hung from any balcony, window or exterior portion of a Unit or otherwise left or place in such a way as to be exposed to public view.

(c) Common household pets may be kept or maintained on the Property and private fencing for such pets may be maintained within the Common Area with the consent of the Board. No other animals shall be kept or maintained on the Property, nor shall common household pets be kept, bred or maintained for commercial purposes on the Property. Pets shall not be permitted outside of Units unless they are on a leash accompanied by an adult person. The person controlling such pet shall be responsible for cleaning all droppings of such pet. The Board of Directors may make further provisions in the Rules for the control and regulation of household pets in the Condominium Association. The Owner of a Unit where a pet is kept or maintained shall be responsible and may be assessed by the Board of Directors for all damages to the Property resulting from the maintenance of said pet, and any costs incurred by the Association in enforcing the Rules prescribed by the Board for the control and regulation of pets in the Condominium Association and each such Unit Owner shall indemnify and hold the Board and the Association harmless against such loss or liability resulting from said pet.

(d) No nuisances shall be allowed on the Property nor shall any use or practice be allowed which is an unreasonable source of annoyance to its residents or which unreasonably interferes with the peaceful possession or proper use of the Condominium Association by others. No noise or disturbance shall be done, suffered or permitted on any Unit so as to constitute a nuisance to other residents of the Condominium. Without limiting the foregoing, no Owner, tenant, occupant or their guests shall play music or otherwise create noise in the Common Areas or Limited Common Area, which disturbs any other Unit Owner, tenant or occupant.

(e) No Owner, tenant or guest shall allow the installation of wiring for electrical or telephone use, air conditioning unit or other machinery or equipment, which protrudes through the perimeter walls or the roof of any building or is otherwise visible on the exterior of a building except as presently installed or as authorized by the Board.

(f) Nothing shall be done in any Unit or in, on, or to the Common Area which may impair the structural integrity of the Property, or which would structurally change a building or improvements thereon except as provided in the Declaration or these Bylaws. Nothing shall be altered or constructed in or removed from the Common Area except upon the written consent of the Board.

(g) Unless authorized by the Board, no Owner, tenant or guest shall direct or engage any employee of the Condominium Association on any private business, nor shall he direct, supervise or in any manner attempt to assert control over any such employee.

(h) No activity shall be done or maintained in any Unit or upon any Common Area which will increase the rate of insurance on any Unit or the Common Area or result in the cancellation of insurance thereon, unless such activity is first approved in writing by the Board of Directors. No waste shall be committed in the Common Area.

(i) In the use of the Units and the Common Area of the Condominium Association, Unit Owners (including their tenants and guests) shall obey and abide by all valid laws, ordinances and zoning and other governmental regulations affecting the same and all applicable Rules adopted by the Board. The Common Area shall be used only for the furnishing of the services and facilities for which they are reasonably suited and which are incidental to the use and occupancy of the Units.

(j) Commercial trucks must be garaged at all times while on the Property except in instances of service calls. No visible service, repairs or other maintenance shall be performed upon any such automobile or truck within the Common Area or Limited Common Area. No motorcycles, motorbikes, minibikes or snowmobiles shall be operated within the Condominium, except that a motorcycle may be driven directly from exterior of the Condominium on Common Area roads to a Unit. No motorbikes, minibikes, snowmobiles, motorized boats, trailers, campers or all-terrain vehicles shall be parked or allowed to remain within the Condominium except in a Unit or garage not visible to other residents. No more than three registered vehicles per Unit will be allowed at all times. No unregistered vehicles will be

allowed in the Condominium, Common Area, or Limited Common Area. The Declarant during the Transition Period, and thereafter by the Board may adopt and post rules and regulations regarding snow plowing and removal and parking of vehicles on roadways within the Condominium. All Owners shall be strictly bound by the rules and regulations. Owners will be charged for return visits if vehicles are inhibiting the plowing of driveways.

(k) Unit Owners shall be entitled to rent or lease their Unit, provided, however, that the minimum term of any such lease or rental is one (1) year. The leasing and occupancy of the Units are governed by the provisions of the Declaration.

(l) All authorizations required of the Board by this Section 6.9 shall be in writing signed by the Board and shall be upon such terms, conditions and limitations as the Board deems advisable.

(m) All storage of liquid or gas fuel shall be in compliance with local and state ordinances and fire codes.

(n) In the event any Unit is serviced directly from utility lines or transformers located within the limits of the Condominium, the utility lines running from and to such transformers to the dwelling on any such Unit shall be installed underground. The Unit Owner will own and be responsible for all water lines from the street to the Unit.

(o) No wall, screen, or fence erected at a boundary of a Limited Common Area of a Unit shall be constructed without the approval of the Declarant during the Transition Period, and the Board thereafter, in its sole discretion, and in any event, and shall not be more than six (6) feet above the ground level of the adjoining Unit.

(p) No trash, waste, tools or garden or winter equipment shall be allowed to accumulate in such a manner to give an unsightly appearance. All garbage and trash shall be in containers approved by the Declarant during the Transition Period and thereafter by the Board. No incinerators shall be allowed or maintained on any Unit. All garbage and trash containers must be placed in the garage of the Unit, or elsewhere inside the Unit. To the extent trash is picked up by the Town, each Owner must comply with applicable municipal rules relating thereto. Otherwise, private contractor, hired by the Association (or if not, by each Owner), will collect the trash. Trash must not be visible from adjoining properties. It shall be placed at the pick-up location no earlier than 6:00 pm the evening before trash collection.

(q) No mobile home, trailer or similar temporary or movable structure shall be utilized on Common Area or Limited Common Area.

(r) Any exterior lighting installed on any Unit shall be directed or controlled with respect to direction, focus and intensity in such a manner as not to disturb the residents of adjacent Units.

(s) Private swimming pools or similar areas for outdoor recreation, physical activities or games, if any, shall not be erected or constructed. No areas for outdoor physical activities or games shall be allowed to become offensive to other residents of the Condominium or to become a nuisance by reason of noise; and shall not be constructed in the front of a Unit.

(t) No mortgage made in good faith and for value upon a Unit in the Condominium shall be defeated or rendered invalid by any breach of rules and regulations as to said Unit. In the event of any mortgage foreclosure, said restriction shall be binding upon the mortgagee as well as any new Owner of said Unit acquired through foreclosure, trustee's sale or otherwise.

(u) The failure to enforce any rules and regulations herein, however long continued, shall not be deemed as a waiver of the right to enforce thereafter these rules and regulations as to similar or other violations, or as to the same continuing breach or violation.

(v) The Declarant prior to the conveyance of seventy-five percent (75%) of all Units which may be created, and thereafter (the "Transition Period"), and thereafter the Board, and its business successors, reserves the right, to itself, its agents, employees, contractors and subcontractors, to enter upon the Real Property covered by these rules and regulations for the purpose of carrying out and completing the development of the Condominium, as well as to abate, remove, or correct any violation of these Rules and Regulations, and such entry, abatement, or removal shall not be deemed a trespass, conversion, or other actionable wrong. The right to enter is only under emergency conditions.

(w) No hibachi, charcoal cooking stove or grill, fire pit, gas grill or similar device used for cooking, heating or other such purposes may be used in or about any of the Units, any overhanging portion of any structure of the Condominium, or within ten (10) feet of any structure of the Condominium (collectively, the "Excluded Area"). The Board of Directors may permit the use of such devices in portions of the Common Area of the Condominium other than the Excluded Area, in accordance with rules and regulations that the Board of Directors may establish.

6.10 Right of Access. A right of access shall exist to each Unit in favor of the Board or the Manager, for the purpose of correcting any condition originating in his Unit and threatening another Unit or Common Area, or for the purpose of performing installation, alterations or repairs to the mechanical or utility services of other Common Area, provided that requests for entry are made in advance and that any such entry is at a time reasonably convenient to the Unit Owner. In case of any emergency, such right of entry shall be immediate whether the Unit Owner is present at the time or not.

6.11 Rules. Rules concerning the operation and use of the Common Area and security of the Condominium Association and Unit Owners may be promulgated and amended by the Board, provided that such Rules are not contrary to or inconsistent with the Condominium Association Act, the Declaration or these Bylaws. Copies of the Rules shall be furnished by the Board to each Unit Owner before the same shall become effective. A vote of the 2/3rds majority

of Unit Owners present in person or by proxy at a meeting of the Association may overrule and declare void any Rule adopted by the Board: provided that notice of the proposal to overrule shall be included in the notice of such meeting and a petition is signed by at least 10% of the Unit Owners calling for a vote.

6.12 Financial Statements. Upon receipt of a written request for an audited financial statement from fifty-one percent (51%) of the holders of first mortgages, the Board shall authorize preparation of an audited financial statement at the expense of the requesting mortgagees.

ARTICLE VII

INSURANCE

7.1 Insurance Required. The Board shall obtain (i) a master casualty policy affording fire and extended coverage in an amount equal to the full replacement value of the structures within the Condominium Association intended for common use by the Unit Owners , but specifically excluding the Units; (ii) a master liability policy covering the Association, the Board, the Manager and agents or employees of the foregoing with respect to the Condominium Association, and all Unit Owners and other persons entitled to occupy any portion of the Condominium Association (nothing herein shall be deemed to require that the Board obtain what is commonly known as "officers' and directors' liability" insurance coverage), and (iii) such other policies as specified herein below, which insurance shall be governed by the following provisions to the extent obtainable or possible.

(a) Fire insurance with standard extended coverage endorsement, vandalism and malicious mischief endorsements insuring all the buildings in the Condominium Association including, without limitation, all buildings which are owned by the Condominium Association, such insurance to be in an amount at least equal to the replacement value of the buildings and to be payable to the Condominium Association.

(b) Public liability insurance in such amounts as the Board may from time to time determine, but in no event shall the limits of liability be less than One Million Dollars ($1,000,000) for bodily injury and property damage per occurrence, insuring the Association and all individuals referred to in Section 7.1 above, against any liability to anyone, and with cross liability coverage with respect to liability claims of anyone insured thereunder against any other insured thereunder. This insurance, however, shall not insure against individual liability for negligence occurring within a Unit.

(c) Workmen's compensation insurance as required by law.

(d) Such other insurance as the Board may determine.

7.2 General Insurance Provisions.

(a) The Board shall deal with the insurer or insurance agent to adjust all claims covered by insurance policies provided for under Section 7.1 above and shall review with the insurer or insurance agent, at least annually, the coverage under said policies, said review to include an appraisal of improvements within the Condominium Association, and shall make any necessary changes in the policy provided for under Section 7.l(a) above (prior to the expiration date set forth in any agreed amount endorsements contained in said policy) in order to meet the coverage requirements of such Section.

(b) The Board shall make every effort to see that all policies of physical damage insurance provided for under Section 7.1 above (i) shall contain waivers of subrogation by the insurer as to claims against the Association, its employees and agents, members of the Board, Unit Owners and guests, tenants, licensees and employees and members of the family of any Unit Owner who reside with said Unit Owner, except in cases of arson and fraud, (ii) shall contain a waiver of defense of invalidity or prejudice on account of the conduct of any of the Unit Owners over which the Association has "no control", (iii) shall contain a waiver of defense of invalidity or prejudice by failure of the insured, or Unit Owners collectively, to comply with any warranty or condition with regard to any portion of the Condominium Association over which the insured, or Unit Owners collectively, have no control, (iv) shall provide that such policies may not be canceled, jeopardized or substantially modified without at least thirty (30) days written notice to all of the insureds thereunder and all mortgagees of Units located in Uptown Crossing Condominium, (v) shall provide that in no event shall the insurance under said policies be brought into contribution with insurance purchased individually by Unit Owners or their mortgagees and (vi) shall exclude policies obtained by individual Unit Owners from consideration under any "no other insurance" clause.

7.3 Individual Policies. Any Unit Owner and any mortgagee may obtain at his own expense additional insurance for any Unit made or acquired at the expense of the Unit Owner which is not covered under the master casualty policy referred to in Section 7.1(a). Such insurance should contain the same waiver of subrogation provision as that set forth in Section 7.2(b). No such policy shall be written so as to decrease the coverage under any of the policies obtained by the Board pursuant to Section 7.1(i), and each Unit Owner hereby assigns to the Board, as trustee for the Unit Owners and their mortgagees, the proceeds of any such policy to the extent that any such policy does in fact result in a decrease in such coverage, said proceeds to be applied pursuant to the terms hereof as if produced by such coverage.

ARTICLE VIII

REPAIR AND RECONSTRUCTION AFTER FIRE OR OTHER CASUALTY

8.1 When Repair and Reconstruction are Required. In the event of damage to or destruction of all or part of the buildings owned by the Condominium Association as a result of fire or other casualty, the Board shall arrange for and supervise the prompt repair and restoration of the damaged or destroyed portion of the buildings.

8.2 Procedure for Reconstruction and Repair.

(a) Immediately after a fire or other casualty causing damage or destruction to any part of the Condominium Association, the Board shall obtain reliable and detailed estimates of the cost of repairing and restoring the damage to a condition as good as that existing before such casualty. Such costs may also include professional fees and premiums for such bonds as the Board determines to be necessary. The Board shall contract for such repair and restoration and in doing so shall exercise its sole discretion in selecting from among said estimates.

(b) Any such reconstruction or repair shall be substantially in accordance with the original plans and specifications under which the building was originally constructed.

(c) When the damage is to both Common Area and Units, the insurance proceeds shall, to the extent practical, be applied first to the cost of repairing the Common Area and the balance to the cost of repairing the Units.

ARTICLE IX

SALES, LEASES, AND ALIENATION OF UNITS

9.1 Payment of Assessments. No Owner shall be permitted to convey, mortgage, sell, lease, give, or devise his Unit unless and until he (or his personal representative) shall have paid in full to the Board of Directors all unpaid Common Expenses theretofore assessed by the Board with respect to his Unit, and shall have satisfied all unpaid liens with respect to his Unit, except liens of mortgage. Where this provision is satisfied at the time of execution of a mortgage, there shall be no requirement that it again be satisfied at the time of a subsequent foreclosure of such mortgage, or deed in lieu of such foreclosure. In the event that the Unit is subject to outstanding assessment previously levied against such Unit, and the acquiring Owner or the transferring Owner requests a recordable statement, the statement shall expressly state any waiver of, or failure or refusal to exercise, the right of the Association to prevent the disposition of such Unit, in any case where such waiver, failure or refusal may exist.

9.2 Resale. Upon a written request to any officer of the Condominium Association from any prospective purchaser of a Unit, such officer shall furnish within ten (10) days of the receipt of the request the following:

(a) Appropriate statements pursuant to RSA 356-B:46, VIII and, if applicable, RSA 356-B:47 (regarding unpaid assessments);

(b) A statement of any capital expenditures and major maintenance expenditures anticipated by the Condominium Association within the current or succeeding two (2) fiscal years;

(c) A statement of the status and amount of any reserve for the major maintenance or replacement fund and any portion of such fund earmarked for any specified project by the Board of Directors;

(d) A statement of the status and amount of any reserve for the major maintenance or replacement fund and any portion of such fund earmarked for any specified project by the board of directors;

(e) A copy of the income statement and balance sheet of the Unit Owners Association for the last fiscal year for which such statement is available;

(f) A statement of the status of any pending suits or judgments in which the Association is a party defendant;

(g) A statement setting forth what insurance coverage is provided for all Unit Owners by the Association and what additional insurance coverage would normally be secured by each individual Unit Owner;

(h) A statement that any improvements or alterations made to the Unit, or the Limited Common Areas assigned thereto, by the prior Unit Owner are not known to be in violation of the Condominium Instruments;

(i) A copy of the Condominium Declaration, Bylaws, and any formal rules of the Association; and

(j) A statement of the amount of monthly and annual fees, and any special assessments made within the last three (3) years.

The principal officer of the Unit Owners' Association, or such other officer or officers as the Condominium instruments may specify, shall furnish the statements prescribed above upon the written request of any prospective Unit Owner within ten (10) days of the receipt of such request.

9.3 No Severance of Ownership. No Owner shall execute any deed, lease, mortgage or instrument conveying or mortgaging the title to his Unit without including therein the Percentage Interest of such Unit in the Common Area, it being the intention hereof to prevent any severance of such combined ownership. Any such deed, lease, mortgage, or other instrument purporting to affect such title or one or more of such interests, without including all such title or interests, shall be deemed and taken to include the title or interests so omitted, even though the latter shall not be expressly mentioned or described therein. Except to the extent otherwise expressly provided by the Declaration, these Bylaws or the Condominium Act, the Percentage Interest in the Common Area allocated to any Unit shall not be altered and any purported transfer, encumbrance, or other disposition of that interest without the Unit to which it appertains shall be void.

The granting of easements for public utilities or for other public purposes consistent with the intended use of the Common Area by the Condominium, and the granting of easements and dedication of certain Common Area as described in the Declaration or these Bylaws shall not be deemed a transfer within the meaning of this section.

All leases or rental agreements for any Unit shall be in writing and shall specify that such agreement and the parties' use of the Unit thereunder shall be subject to the Condominium Instruments.

ARTICLE X

AMENDMENT TO BY-LAWS

10.1 Amendments. Except as otherwise provided in the Condominium Act, the Declaration and herein, these Bylaws may be modified or amended by the procedures set forth herein, provided, however, that (a) Section 2.4 and Section 3.3 hereof, insofar as they relate to the selection of members of the Board of Directors by the Declarant, (b) Section 2.2, insofar as it provides that the Declarant, so long as it is the Owner of a Unit in the Condominium, may vote the votes appurtenant thereto, and (c) this Section 10.1, may not be amended without the consent in writing of the Declarant, so long as the Declarant shall be an Owner of a Unit. Furthermore, notwithstanding the foregoing, so long as the Declarant is the Owner of a Unit, no amendment to the Bylaws or Rules may be adopted which could interfere with the construction, display, sale, lease or other disposition of such Unit or Units.

ARTICLE XI

MORTGAGES

11.1 Notice of Default. The Board shall give written notice to a Unit Owner of any default by the Unit Owner in the performance of any obligations under the Act, Declaration or Bylaws. No suit or other proceeding may be brought to foreclose the lien for any assessment levied pursuant to the Declaration or these Bylaws except after ten (10) days written notice to the holder of the first mortgage on the Unit which is the subject matter of such suit or proceeding, provided that the Board has been given notice of such mortgage in the manner set forth in the Declaration.

ARTICLE XII

NOTICE

12.1 Manner of Notice. Except as otherwise provided in the Declaration and these Bylaws, all notices, demands, bills, statements or other communications provided for or required

under these Bylaws shall be in writing and shall be deemed to have been duly given if delivered personally or if sent by united States mail, first-class postage prepaid or via electronic mail to an address provided by the Unit Owner, (a) if to a Unit Owner, at the address of his Unit and at such other address as the Unit Owner may have designated by notice in writing to the Secretary, or (b) if to the Association or the Board, at the Condominium Association or at such other address as shall be designated by notice in writing to the Unit Owners pursuant to this Section.

12.2 Waiver of Notice. Whenever any notice is required to be given under the provisions of the statutes, the Declaration or of these Bylaws, a waiver thereof, in writing, signed by the person or persons entitled to such notice, whether signed before or after the time stated therein, shall be deemed equivalent thereto, unless such waiver is ineffective under the provisions of the Condominium Association Act.

ARTICLE XIII

COMPLIANCE AND DEFAULT

13.1 Relief. Each Unit Owner shall be governed by, and shall comply with, all of the terms of the Declaration, these Bylaws, and the Rules, and any amendments of the same. A default by a Unit Owner shall entitle the Association acting through the Board, to the following relief:

(a) Legal Proceedings. Failure to comply with any of the terms of the Declaration, these Bylaws, and the Rules shall be grounds for relief which may include without limiting the same, an action to recover any sums due for money damages, injunctive relief, foreclosure of the lien for payment of all assessments, and other relief provided for in these Bylaws, or any combination thereof, and any other relief afforded by a court of competent jurisdiction, all of which relief maybe sought by the Association, by the Board, or, if appropriate, by any aggrieved Unit Owner.

(b) Additional Liability. Each Unit Owner shall be liable for the expenses of all maintenance, repair or replacement rendered necessary by his acts, neglect or carelessness or the act, neglect or carelessness of any of his tenants, guests, employees, agents or invitees, but only to the extent that such expense is not covered by the proceeds of insurance carried by the Association. Such liability shall include any increase in fire insurance rates occasioned by use, misuse, occupancy or abandonment of any Unit or its appurtenances. Nothing contained herein, however, shall be construed as modifying any waiver by an insurance company of its rights of subrogation.

(c) Costs and Attorneys' Fees. In any proceeding arising out of any alleged default by a Unit Owner, the prevailing party shall be entitled to recover the costs of the proceeding, and such reasonable attorneys' fees as may be determined by the court.

(d) No Waiver of Rights. The failure of the Association, the Board, or of a Unit Owner to enforce any right, provision, covenant, or condition which may be granted by the Declaration, these Bylaws or the Rules shall not constitute a waiver of the right of the

Association, the Board, or any Unit Owner to enforce such right, provision, covenant or condition in the future. All rights, remedies and privileges granted to the Association, the Board, or any Unit Owner pursuant to any term, provision, covenant or condition of the Declaration or the Rules shall be deemed to be cumulative and the exercise of anyone or more thereof shall not be deemed to constitute an election of remedies, nor shall it preclude the party exercising the same from exercising such privileges as may be granted to such party by the Declaration, these Bylaws or the Rules, or at law or in equity.

(e) Interest. In the event of a default by any Unit Owner which continues for a period in excess of thirty (30) days, such Unit Owner shall be obligated to pay interest in the amounts due at the highest rate permitted by law, or at twelve percent (12%), whichever is less, per annum from the due date thereof. In addition, the Board of Directors shall have the authority to impose a late payment charge on such defaulting Unit Owners of Twenty Dollars ($20), or six cents per dollar ($.06 per $1.00) on any amount so overdue, whichever is greater.

(f) Abatement and Enjoinment of Violations by Board. The violation of any rule or regulation adopted by the Board, or the breach of any Bylaw contained herein, or the breach of any provision of the Declaration, shall give the Board or the Manager the right, in addition to any other rights set forth in these Bylaws: to enjoin, abate or remedy by appropriate legal proceedings, either at law or in equity, the continuance of any such breach; (iii) to suspend or limit the right of the Unit Owner committing the violation to use any part of the Common Area during the continuance of such violation.

13.2 Lien for Assessments.

(a) The Condominium Association has all powers provided to Condominium Associations under law, including but not limited to those powers provided for under NH RSA 356-B:46 (regarding the placing of liens by a condominium association). The total annual assessment of each Unit Owner for the Common Expenses or any special assessment levied pursuant to these Bylaws is hereby declared to be a lien levied against the Unit of such Unit Owner as provided in the Declaration, which lien shall be effective when perfected when recorded at the Stafford County Registry of Deeds.

(b) In any case where an assessment against a Unit Owner is payable in installments, upon a default by such Unit Owner in the payment of any single installment, which continues for ten (10) days after written notice of such default has been sent or delivered to the Unit Owner, the maturity of the remaining total of the unpaid installments of such assessments may be accelerated, at the option of the Board, and the then balance owing may be declared due and payable in full by the service of notice to such effect upon the defaulting Unit Owner by the Board or Manager. The Condominium Association, in order to perfect such lien shall file before the expiration of six (6) months from the time that the delinquent assessment (or installment, where such assessment is payable in installments) became due and payable, a memorandum in the Strafford Registry of Deeds.

(c) The lien for assessments shall include interest, late charge, costs and attorney's fees as provided in Section 13.1 and may be foreclosed in the manner provided by the laws of the state of New Hampshire for the foreclosure of power of sale mortgages or by suit brought in the name of the Board, acting on behalf of the Association. During the pendency of such proceedings or suit the Unit Owner shall be required to pay a reasonable rental for the Unit for any period prior to sale pursuant to any judgment or order of any court having jurisdiction over such sale.

(d) Suit to recover a money judgment for unpaid assessments shall be maintainable without foreclosing or waiving the lien securing the same, and foreclosure shall be available without bringing suit to recover a money judgment.

ARTICLE XIV

CONTRACTS, CHECKS, NOTES, ETC.

14.1 Execution of Contracts. All contracts and agreements authorized by the Board of Directors, and all checks, drafts, notes, bonds, bills of exchange and orders for the payment of money shall, unless otherwise directed by the Board of Directors, or unless otherwise required by law, be signed by any one of the following officers: The Chairman of the Board, President, Vice President, Treasurer, or Secretary. The Board of Directors may, however, authorize any two of said officers to sign checks, drafts and orders for the payment of money, and may designate officers and employees of the Condominium Association other than those named above, or different combinations of such officers and employees, who may, in the name of the Condominium Association, execute checks, drafts, and orders for the payment of money on its behalf.

14.2 Loans. No loans shall be contracted on behalf of the Condominium Association and no negotiable paper shall be signed in its name unless authorized by resolution of the Board of Directors. When authorized by the Board of Directors so to do, any officer or agent of the Condominium Association thereunto authorized may effect loans and advances at any time for the Condominium Association from any bank, trust company or other institution, or from any firm, Condominium Association or individual, and for such loans and advances may make, execute and deliver promissory notes, bonds or other certificates or evidences of indebtedness of the Condominium Association and, when authorized so to do, may pledge, hypothecate or transfer any securities or other property of the Condominium Association as security for any such loans or advances. Such authority may be general or confined to specific instances.

ARTICLE XV

FNMA/FHLMC COMPLIANCE

Notwithstanding anything to the contrary elsewhere in these Bylaws, the following provisions shall govern and be applicable insofar and for so long as the same are required in

order to qualify mortgages ("Unit Owner Loan(s)") of Units in the Condominium for sale to the Federal Home Loan Mortgage Corporation ("FHLMC") or the Federal National Mortgage Association ("Fannie Mae") or the Federal Housing Administration ("FHA") under the laws and regulations applicable thereto and shall not be amended or deleted.

15.1 Alienation of Interests in Units.

(a) These Bylaws or any other document relating to the Condominium shall not impose unreasonable limitations on a Unit Owner's ability to sell, transfer, convey, encumber, devise, or lease his or her Unit.

15.2 Association's Responsibilities to a Unit Owner and/or Lender.

(a) The Association shall maintain insurance policies that meet the requirements of Fannie Mae minimum insurance requirements for condominiums.

(b) The Condominium Association shall notify the lender of any of the following changes or occurrences:

(i) Any threatened or actual condemnation, eminent domain proceeding or acquisition, or any actual loss, whether or not covered by insurance, that affects any portion of the Condominium or Unit;

(ii) In each taxable year, at least 80% of the gross income of the Condominium Association shall be from amounts paid by the Unit Owners to the Condominium Association, in accordance with the applicable provisions of the Internal Revenue Code;

(iii) Any 30-day delinquency by the Condominium Association in payments due under any blanket mortgage, real estate taxes, assessments, and charges imposed by a government entity or public utility, or under any Unit Lease;

(iv) Any lapse, cancellation, or material modification of any insurance or fidelity insurance coverages maintained by the Association;

(v) Any proposed action that requires the consent of a specified percentage of eligible Unit Owner loan holders; and

(vi) Any 60-day delinquency by the Unit Owner that is related to the payment of his or her monthly assessments or carrying charges.

15.4 Lender's Rights. Any lender financing a Unit Owner Loan shall have the right to cure the Unit Owner's defaults in his or her assessment payments or carrying charges and the

right to review and approve the following actions before the Condominium Association can consent to them (limited to the Unit Owner to which the lender has an outstanding loan for items (a), (b) (c) below):

(a) any surrender, cancellation, modification, or assignment of any documents evidencing ownership, possession, and use of a Unit;

(b) any sublease of a Unit Lease;

(c) any further or additional pledge or mortgage of any documents evidencing ownership, possession, and use of a Unit;

(d) the addition of any blanket financing that is superior to the Unit Owner Loan if it would result in an annual increase of more than 10% in a Unit's monthly assessments or carrying charges;

(e) any action to change the form of ownership of the project;

(f) any provisions that expressly benefit the blanket mortgage holder; or

(g) the contraction, expansion, or termination of the Condominium project.

15.5 Changes to Condominium Documents. In addition, the Condominium Association shall notify the holder of a Condominium Unit Owner Loan about any proposed material changes to the Condominium project with respect to allocation of ownership interests; voting rights; assessments (including increases that raise the previous assessment amount by more than 25%, and the method of calculating liens or lien subordination); Unit boundaries; insurance or fidelity coverages; restrictions on leasing or selling Units; professional management (if Fannie Mae requires it); reduction in replacement or operating reserves and changes in maintenance policies; and any other provisions that are for the express benefit of the lender.

15.6 Condominium Records. The Condominium Association shall have current copies of the condominium project documentation as well as its own books, records, and financial statements available for inspection by Owners or by holders, insurers, and guarantors of loans made to the Unit Owners of the Condominium Units which are secured by a mortgage on the Owner's Unit and other collateral (the "Unit Owner's Loan(s)"). Generally, these documents will be available during normal business hours.

15.7 Availability of Audited Financial Statements. The Condominium Association shall make an audited statement for the preceding fiscal year (if the project has been established for a full fiscal year) available to the Owner, insurer, or guarantor of any Unit Owner Loan for a Unit in the project on submission of a written request for it. The audited financial statement shall be available within one hundred twenty (120) days of the Condominium Association's fiscal year-end. Declarant or Association shall have no responsibility to prepare or obtain said audited financial statements, the sole cost and expense for which shall be borne by the Owner, excepting,

however, that the Declarant or Association shall be affirmatively obligated to cooperate with the Condominium Association in regard to compiling said information and delivering same to the Condominium Association's accountants on a timely basis, consistent with the terms and provisions hereof.

15.8 Amendments to Documents. The Unit Owners shall have the right to amend the Condominium Association documents, except as otherwise provided herein. In addition, the Condominium Association shall be legally bound to notify the Unit Owners about any proposed material changes to the Condominium Association with respect to allocation of ownership interests; voting rights; assessments (including increases that raise the previous assessment amount by more than 25%, and the method of calculating liens or lien subordination); Unit boundaries, or Limited Common Area Boundaries; insurance or fidelity coverages; restrictions on leasing or selling Units; professional management (if Fannie Mae requires it); reduction in replacement or operating reserves and changes in maintenance policies; and any other provisions that are for the express benefit of the lender.

15.9 Limitation on Restrictions of Lender to Assign, Sell, Convey, Lease, etc..

(a) Notwithstanding any provision herein to the contrary, the Condominium Association shall not restrict the sale, conveyance, or transfer of a Unit owned by a lender, its successors, or assigns, except for certain age restrictions which comply with applicable state and federal laws. If the lender assumes the Unit Owner's Loan as the result of the Owner's default, the lender may attempt to sell its interest in the Unit. However, if the lender is unable to effect a satisfactory sale within sixty (60) days - either through its own efforts or with assistance from the Condominium Association - the lender may sublet the Unit then, or for a period of up to three (3) years after it acquired the Unit.

(b) The Condominium Association shall have the right to approve a lender's sublessee or to offer an alternate sublessee that is satisfactory to the lender. However, the Condominium Association's approval standards and procedures may not be unreasonably restrictive or in violation of applicable law, and the action must be completed with a reasonable time - no more than thirty (30) days - after the lender requests approval of a proposed sublessee.

15.10 Condominium Association's Recognition Agreement. If requested by a lender which holds a Unit Owner's Loan, the Condominium Association shall execute a separate agreement - such as a recognition agreement which shall include provisions to recognize specific rights of the lender that finances the Unit Owner Loan (or those of its successors or assigns) and the Condominium Association's responsibilities to that lender. The recognition agreement (or the project's legal documents) must include, among other things, the following responsibilities for the Condominium Association: (a) the Condominium Association must evict a Unit Owner who has defaulted on his or her Unit Owner Loan (b) the Condominium Association must maintain insurance policies that meet Fannie Mae's minimum insurance requirements for Condominiums; (c) the Condominium Association must maintain reasonable replacement and operating reserves; (d) the Condominium Association must be legally bound to notify the lender of any of the following changes or occurrences; (e) any threatened or actual condemnation,

eminent domain proceeding or acquisition, or any actual loss, whether or not covered by insurance, that affects any portion of the Condominium project or Unit; (f) the Condominium Association's generation - during any taxable year - of 80% or less of its gross income from "Unit Owners" income, as that term is defined in Section 216 of the Internal Revenue Code; (g) any thirty (30) day delinquency by the Condominium Association in payments due under any blanket mortgage for real estate taxes, assessments, and charges imposed by a government entity or public utility, or under any ground lease; (h) any lapse, cancellation, or material modification of any insurance or fidelity insurance coverages maintained by the Association; (i) any proposed action that requires the consent of a specified percentage of eligible Unit Owner Loan holders; and (j) any sixty (60) day delinquency by that Unit Owner that is related to the payment of his or her monthly assessments or carrying charges.

15.11 Loss or Condemnation.

(a) If any portion of the Condominium Property is taken by eminent domain, the award therefor shall be allocated to the Unit Owners in proportion to their respective percentage interests in the Condominium; provided, however, that the portion of the award attributable to the taking of any permanently assigned limited property shall be allocated to the Owner of the Unit to which that limited property was so assigned at the time of the taking. If that limited property was permanently assigned to more than one Owner at the time of the taking, then the portion of the award attributable to the taking thereof shall be allocated in equal shares to the Owners of the Units to which it was so assigned or in such other shares as the Condominium Documents may specify for this express purpose. The Association shall represent the Owners in any condemnation proceedings or in negotiations, settlements and agreements with the condemning authorities for acquisition of the Common Areas or any part thereof and the Association shall act as attorney-in-fact for each Owner for the purposes of this section.

(b) If one or more Units are taken by eminent domain, the percentage interest in the Condominium appertaining to any such Unit shall be redeemed by the Association. The court may enter a decree reflecting the reallocation of percentage interests produced thereby, and the award shall include, without limitation, just compensation to the Owner of any Unit taken for his percentage interest in the Condominium as well as for his Unit.

(c) If any portion of the Condominium's Property is lost as a result of a casualty, the insurance or other proceeds therefor shall be allocated to the Unit Owners in proportion to their respective percentage interest in the Condominium; provided, however, that the portion of any insurance or other proceeds attributable to the loss of any specific Unit shall be allocated to the Owner of such Unit to which such insurance or other proceeds were so assigned at the time of the determination of loss. The Condominium shall represent the Owners in any insurance proceedings or in negotiations, settlements and agreements with the insurance companies or parties responsible for any such loss and the Condominium shall act as attorney-in-fact for each Owner for purposes of this Section.

(d) If one or more Units are damaged in such a way that the loss causes the entire Unit to no longer be usable to support a Unit, then the percentage interest in the

Condominium appertaining to any such Unit shall be redeemed by the Condominium. The court may enter a decree reflecting the reallocation of percentage interest produced thereby and the insurance or other proceeds or other award of damages shall include, without limitation, just compensation to the Owner of any Unit taken for his undivided interest in the Condominium as well as for his Unit.

(e) Votes in the Condominium, rights to future profits, and liabilities for future expenses not specially assessed, appertaining to any Unit taken by eminent domain or damaged by casualty, shall thenceforth appertain to the remaining Unit Owners being allocated to them in proportion to their relative percent interests in the Condominium.

ARTICLE XVI

MISCELLANEOUS

16.1 Seal. The Board of Directors may provide a corporate seal, which shall be in the form of a circle and shall bear the name of the Condominium Association and words and figures indicating the year and state in which the Condominium Association was incorporated.

16.2 Fiscal Year. The fiscal year of the Condominium Association shall be fixed by the Board of Directors.

16.3 Waiver of Notice. Whenever any notice is required to be given to any Unit Owner or Director by these Bylaws, the Declaration or by law, a waiver of the notice in writing delivered to the Condominium Association for inclusion in the records of the Condominium Association, signed by the person or persons entitled to the notice, whether before or after the time stated therein, shall be deemed equivalent to giving the notice.

16.4 Indemnification. To the fullest extent now or hereafter permitted by law, the Condominium Association shall indemnify any individual made a party to a proceeding because he is or was a director or officer of the Condominium Association, against liability incurred in the proceeding.

16.5 Personal Liability of Officer and Directors. To the fullest extent now or hereafter permitted by law, no director or officer of the Condominium Association shall be personally liable to the Condominium Association or its Unit Owners for any action or failure to take any action as a director or officer. This Section 16.5 shall not eliminate or limit the liability of a director or officer for any act or omission occurring prior to the effective date of its adoption.

16.6 Amendments.

(a) The Condominium Association’s Board of Directors may amend or repeal the Condominium Association’s Bylaws as provided herein

(b) The Unit Owners may amend or repeal the Association's Bylaws by two-thirds (2/3) majority vote of all Unit Owners.

16.7 Pronouns and Gender. All pronouns and any variations thereof used herein shall be deemed to refer to the masculine, feminine, neuter, singular or plural as the identity of the person or persons may require.

[signature page to follow]

IN WITNESS WHEREOF, Stabile Townhomes at Uptown Crossing, LLC has caused these Bylaws to be executed this ___ day of _____, 202____.

STABILE TOWNHOMES AT THE UPTOWN CROSSING, LLC

_____ Witness

By:_____
Name: _____
(Type or Print)
Title: Manager_____

STATE OF NEW HAMPSHIRE
COUNTY OF HILLSBOROUGH

The foregoing instrument was acknowledged before me this ___ day of _____, 202___, by _____, as the duly authorized Manager of Stabile Townhomes at Uptown Crossing, LLC, a New Hampshire limited liability company, on behalf of said Company.

_____
Notary Public / Justice of the Peace
My Commission Expires:_____

APPENDIX C

List of Unit Numbers and Percentage Interest

Undivided percent interests in the Common Area appurtenant to each Unit:

Unit No.	Percentage Interest
A1	1/21
A2	1/21
A3	1/21
A4	1/21
A5	1/21
A6	1/21
B1	1/21
B2	1/21
B3	1/21
B4	1/21
B5	1/21
C1	1/21
C2	1/21
C3	1/21
C4	1/21
C5	1/21
C6	1/21
D1	1/21
D2	1/21
D3	1/21
D4	1/21

2025 BUDGET
UPTOWN CROSSING CONDO
OPERATING BUDGET
FOR THE YEAR ENDING 12/31/25

DESCRIPTION	- 1 - JAN	- 2 - FEB	- 3 - MAR	- 4 - APR	- 5 - MAY	- 6 - JUN	- 7 - JUL	- 8 - AUG	- 9 - SEP	- 10 - OCT	- 11 - NOV	- 12 - DEC	TOTAL
TOTAL UNITS	21	21	21	21	21	21	21	21	21	21	21	21	
CONDO FEE PER UNIT/MONTH	430	430	430	430	430	430	430	430	430	430	430	430	
REVENUE:	9,030	9,030	9,030	9,030	9,030	9,030	9,030	9,030	9,030	9,030	9,030	9,030	108,360
TOTAL FEE REVENUE	9,030	9,030	9,030	9,030	9,030	9,030	9,030	9,030	9,030	9,030	9,030	9,030	108,360
OPERATING EXPENSE:													
MANAGEMENT FEE	525	525	525	525	525	525	525	525	525	525	525	525	6,300
SNOW REMOVAL - CONTRACT	3,000	3,000	3,000	-	-	-	-	-	-	-	3,000	3,000	15,000
SNOW REMOVAL - EXTRA	500	500	-	-	-	-	-	-	-	-	-	-	1,000
ELECTRIC	100	100	100	100	100	100	100	100	100	100	100	100	1,200
ADMINISTRATIVE SUPPLIES	-	-	-	40	-	-	40	-	-	40	-	-	120
TRASH REMOVAL - CONTRACT	525	525	525	525	525	525	525	525	525	525	525	525	6,300
GROUNDS - LANDSCAPING - CONTRACT	-	-	-	-	3,000	3,000	3,000	3,000	3,000	3,000	-	-	18,000
GROUNDS - LOT/DRIVES SWEEPING	-	-	-	-	-	-	-	-	-	-	-	-	-
GROUNDS - IRRIGATION	-	-	-	-	200	200	200	200	200				1,000
WATER	-	-	-	-	200	250	300	250	200	-	-	-	1,200
SEWER	-	-	-	-	-	-	-	-	-	-	-	-	-
INSURANCE	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	15,000
PROFESSIONAL SERVICES	-	-	-	1,000	-	-	-	-	-	-	-	-	1,000
LEGAL	50	50	50	50	50	50	50	50	50	50	50	50	600
REPAIRS AND MAINTENANCE	550	550	550	800	6,550	550	550	550	550	3,800	5,800	550	21,350
REPAIRS AND MAINTENANCE - BASIC	50	50	50	50	50	50	50	50	50	50	50	50	600
POWER WASHING	-	-	-	-	3,000	-	-	-	-	-	-	-	3,000
GUTTER CLEANING	-	-	-	-	-	-	-	-	-	-	3,000	-	3,000
ROAD REPAIRS	50	50	50	50	50	50	50	50	50	50	50	50	600
SEWER LINE R&M	100	100	100	100	100	100	100	100	100	100	100	100	1,200
SEWER PUMP R&M	-	-	-	-	-	-	-	-	-	3,000	-	-	3,000
SEWER PUMP INSPECTIONS	125	125	125	125	125	125	125	125	125	125	125	125	1,500
WATER LINE R&M	100	100	100	100	100	100	100	100	100	100	100	100	1,200
HYDRANTS (2) - INSPECTIONS	-	-	-	250	-	-	-	-	-	250	-	-	500
CATCH BASIN CLEANING	50	50	50	50	50	50	50	50	50	50	50	50	600
STORMWATER SYSTEM	75	75	75	75	1,075	75	75	75	75	75	1,075	75	2,900
POROUS PARKING LOT	-	-	-	-	1,000	-	-	-	-	-	1,250	-	2,250
LANDSCAPE - EXTRA	-	-	-	-	1,000	-	-	-	-	-	-	-	1,000
MISC. EXTERIOR	-	-	-	-	-	-	-	-	-	-	-	-	-
SPRINKLER SYSTEM/FIRE ALARM	-	-	-	-	-	-	-	-	-	-	-	-	-
SPRINKLER SYSTEM/FIRE ALARM - INSPECTIONS	-	-	-	-	-	-	-	-	-	-	-	-	-
SPRINKLER SYSTEM/FIRE ALARM - REPAIRS	-	-	-	-	-	-	-	-	-	-	-	-	-
RESERVE CONTRIBUTION	1,686	1,686	1,686	1,686	1,686	1,686	1,686	1,686	1,686	1,686	1,686	1,686	20,236
TOTAL OPERATING EXPENSE	8,186	8,186	7,686	5,976	14,086	8,136	8,226	8,136	8,086	10,976	12,936	7,686	108,306
NET OPERATING INCOME /(LOSS)	844	844	1,344	3,054	(5,056)	894	804	894	944	(1,946)	(3,906)	1,344	54

Capital Reserve Schedule

Uptown Crossing Condo Total units: 21

5 Unit Building (1 building total)

Item	Cost for 1 Bldg	Total for 1 Bldg	Useful Life	Reserve/Year
Walks & Drives	$ 15,000	$ 15,000	25	$ 600
Landscaping & Irrigation	$ 7,500	$ 7,500	25	$ 300
Roof	$ 18,000	$ 18,000	30	$ 600
Siding	$ 55,000	$ 55,000	40	$ 1,375
Decks & Rails	$ 15,000	$ 15,000	30	$ 500
	$ 110,500	**$ 110,500**		**$ 3,375.00**

6 Unit Building (2 buildings total)

Item	Cost for 1 Bldg	Total for 2 Bldgs	Useful Life	Reserve/Year
Walks & Drives	$ 18,000	$ 36,000	25	$ 1,440
Landscaping & Irrigation	$ 9,000	$ 18,000	25	$ 720
Roof	$ 23,460	$ 46,920	30	$ 1,564
Siding	$ 66,000	$ 132,000	40	$ 3,300
Decks & Rails	$ 18,000	$ 36,000	30	$ 1,200
	$ 134,460	**$ 268,920**		**$ 8,224.00**

4 Unit Building (1 building total)

Item	Cost for 1 Bldg	Total for 2 Bldgs	Useful Life	Reserve/Year
Walks & Drives	$ 12,000	$ 12,000	25	$ 480
Landscaping & Irrigation	$ 6,000	$ 6,000	25	$ 240
Roof	$ 15,000	$ 15,000	30	$ 500
Siding	$ 44,000	$ 44,000	40	$ 1,100
Decks & Rails	$ 12,000	$ 12,000	30	$ 400
	$ 89,000	**$ 89,000**		**$ 2,720.00**

Other Common Items

Item	Cost for 1 Bldg	Total All Bldgs	Useful Life	Reserve/Year
Parking lot (porous pavement)	$ 50,000	$ 50,000	25	$ 2,000
Stormwater system	$ 25,000	$ 25,000	50	$ 500
Catch basins	$ -	$ -	-	$ -
Hydrants (2)	$ -	$ -	-	$ -
Water line	$ -	$ -	-	$ -
Sewer line	$ -	$ -	-	$ -
Sewer Pumps	$ 80,000	$ 80,000	30	$ 2,667
Lighting (bulb replacements)	$ 2,500	$ 2,500	10	$ 250
Bike Rack	$ 2,500	$ 2,500	25	$ 100
Mail Kiosk	$ 10,000	$ 10,000	25	$ 400
Other	$ -	$ -	1	$ -
	$ 170,000	**$ 170,000**		**$ 5,916.67**

TOTAL	**$ 503,960.00**	**$ 638,420.00**	**$ 20,235.67**

JAD DESIGN GROUP INC.

custom home designers
jaddesigngroup.com
603.554.1199

The Stabile Companies

The Stabile Companies

Builders and Developers

FISHER STREET TOWNHOUSES

DOVER, NH

EXTERIOR COLOR OPTIONS

5/20/24

A 1.0

JAD DESIGN GROUP INC.

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The Stabile Companies

Builders and Developers

FISHER STREET TOWNHOUSES

DOVER, NH

EXTERIOR COLOR OPTIONS

5/20/24

A 1.0

The TOWNHOUSES
at Fisher Street

The Stabile Companies

engineer

Date: 12/12/23

BUILDING – B

JAD DESIGN GROUP INC.
CUSTOM RESIDENTIAL DESIGN
www.jaddesigngroup.com 603.554.1199

Stabile Homes
Quality Homes for Today's Lifestyles

Corporate Office
20 Cotton Road, Nashua,
NH 03063
(603) 889-0318

MARKETING PLANS

REVISIONS RELEASE DATE:

	MM/DD/YY	REMARKS
1		
2		
3		

1.1

A

JAD STRUCTURAL NOTES 2023

GENERAL STRUCTURAL NOTES:

1. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING.
2. EXISTING CONDITIONS SHOWN HAVE BEEN BASED ON THE REFERENCED PLANS AND IS NOT A RESULT OF AN IN-DEPTH INVESTIGATION INTO THE STRUCTURE ITSELF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING IN-DEPTH INVESTIGATIONS AND / OR TESTING WHEN UNKNOWN CONDITIONS ARISE. ALL DIMENSIONS RELATED TO THE EXISTING CONSTRUCTION ARE APPROXIMATE UNLESS OTHERWISE NOTED. BEFORE CONSTRUCTION, CONTRACTOR SHALL VERIFY THAT ALL PROPOSED DIMENSIONS AND DETAILS ARE COMPATIBLE WITH THE EXISTING CONDITIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND ARCHITECTURAL DESIGNER OF ANY DISCREPANCIES WITH, OR CONDITIONS THAT ARE NOT SHOWN ON THE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
3. UNLESS OTHERWISE NOTED, DETAILS SHOWN ON ANY DRAWING ARE TO BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.
4. IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS AND DETAILS, THE ARCHITECTURAL DESIGNER & STRUCTURAL ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CONSULTATION. IF CONDITIONS AT THE SIRE ARE DIFFERENT THAN SHOWN, THE ARCHITECTURAL DESIGNER & STRUCTURAL ENGINEER SHALL BE NOTIFIED BEFORE ANY WORK IS PROCEEDED WITH.
5. JAD DESIGN GROUP INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ARCHITECTURAL DESIGNER AND ENGINEER OF RECORD.
6. JAD DESIGN GROUP INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-CONFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE DESIGNER AND / OR ENGINEER OF RECORD.
7. REPRODUCTION OF ARCHITECTURAL PLANS AND / OR DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED.
8. SECTIONS, DETAILS, NOTES, METHODS, OR MATERIALS SHOWN AND / OR NOTED ON ANY PLAN, SECTION OR ELEVATION SHALL APPLY TO ALL OTHER SIMILAR LOCATIONS UNLESS NOTED OTHERWISE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND BRACING REQUIRED DURING CONSTRUCTION. TEMPORARY SUPPORTS REQUIRED FOR STABILITY DURING ALL INTERMEDIATE STAGES OF CONSTRUCTION SHALL BE REMOVED AFTER CONSTRUCTION AND ARE THE RESPONSIBILITY OF THE CONTRACTOR.

CODE:

1. ALL CONSTRUCTION SHALL FOLLOW LOCAL STATE BUILDING CODE, MANUFACTURER'S SPECIFICATIONS, AND WELL-KNOWN INDUSTRY STANDARDS. IF ANY QUESTIONS SHALL ARISE, THE ARCHITECTURAL DESIGNER OR ENGINEER ON RECORD SHALL BE CONTACTED.
2. INTERNATIONAL RESIDENTIAL CODE 2018 (IRC 2018) AND THE REFERENCED STANDARDS INCLUDED THEREIN. AHJ – AUTHORITY HAVING JURISDICTION.

REFERENCES:

1. JAD DESIGN GROUP INC.
   PLAN NO: 2650
   DATE: 11/28/ 2023

DESIGN LOADS:

1. UNIFORM LIVE LOAD (IRC 2018):
   A. NON-BEDROOM: 40 PSF
   B. BEDROOM 30 PSF
   C. ATTIC: 20 PSF
2. UNIFORM FLOOR DEAD LOAD: 15 PSF
3. UNIFORM ROOF DEAD LOAD: 15 PSF
4. SNOW DESIGN:
   GROUND SNOW LOAD, Pg = 60 PSF
   SNOW EXPOSURE FACTOR, Ce = 1.00
   SNOW LOAD IMPORTANCE FACTOR, I = 1.00
   SNOW THERMAL FACTOR, Ct = 1.10

FOUNDATIONS:

1. FOUNDATIONS CONSIST OF CONTINUOUS FOOTING ASSUMED TO BEAR ON COMPACTED STRUCTURAL FILL PLACED ON UNDISTURBED NATURAL SOIL HAVING AN ASSUMED ALLOWABLE BEARING PRESSURE OF 2,000 PSF (TO BE VERIFIED BY CONTRACTOR). IF THE SOIL AT BEARING DEPTH IS DISTURBED OR THE ACTUAL ALLOWABLE BEARING PRESSURE IS LESS THAN 2,000 PSF, THEN A QUALIFIED GEO-TECHNICAL ENGINEER SHALL BE CONSULTED.
2. UNLESS OTHERWISE NOTED, FOUNDATIONS SHALL BE CENTERED UNDER SUPPORTED MEMBERS.
3. THE BOTTOM PERIMETER FOUNDATIONS SHALL BE DESIGN FROST DEPTH BELOW FINISHED GRADE.
4. THE BOTTOM 3" OF FOOTING EXCAVATIONS SHALL BE FINISHED BY HAND SHOVEL.
5. FINISH EXTERIOR GRADE SHALL BE AT LEAST 8" BELOW TOP OF FOUNDATION WALL.
6. PLACE BACK FILL SIMULTANEOUSLY ON BOTH SIDES OF WALLS TO THE GRADES INDICATED.
7. FOR UN-BRACED FOUNDATION WALLS, THE MAXIMUM UNBALANCED FILL SHALL BE 12" WITHOUT ENGINEER INPUT / APPROVAL.
8. WALKOUT AND KNEEWALL STYLE BASEMENTS ALWAYS REQUIRE ENGINEER REVIEW (I.E. WHENEVER ALL PERIMETER FOUNDATION WALLS ARE NOT FULL HEIGHT).
9. PROVIDE FORMWORK FOR ALL FOOTINGS, WALLS, AND PIERS. EARTH FORMED FOUNDATIONS ARE NOT ALLOWED.
10. ANCHOR BOLTS: 1/2"x12" (MINIMUM 7" EMBEDMENT) @ 6'-0" O.C. (4'-0" FOR BUILDING > 2- STORY) AND BETWEEN 6"-12" OF EACH END. (R403.1.6)
11. DAMP PROOFING- ALWAYS REQUIRED BELOW GRADE WHEN INTERIOR SPACE IS CREATED. (PER R406)
12. WATERPROOFING- REQUIRED WHEN INTERIOR SPACE CREATED AND HIGH-WATER TABLE OR OTHER CONDITIONS. (PER R406)

REINFORCING STEEL:

1. REINFORCING STEEL SHALL BE NEW STEEL BAR, FREE FROM LOOSE RUST AND SCALE AND CONFORMING TO ASTM A615, GR60.
2. CLEAR CONCRETE COVER OVER BARS SHALL BE IN ACCORDANCE WITH ACI 318.
3. ACCESSORIES SHALL HAVE UPTURNED LEGS AND BE PLASTIC DIPPED AFTER FABRICATION. ACCESSORIES FOR REINFORCING SHALL BE IN ACCORDANCE WITH THE MOST CURRENT ACI EDITION.
4. LAP REINFORCING TO DEVELOP THE FULL TENSION CAPACITY OF THE (SMALLER) BAR.
5. NO BARS SHALL BE CUT OR OMITTED IN THE FIELD BECAUSE OF SLEEVES, DUCT OPENINGS, OR RECESSES. BARS MAY BE MOVED ASIDE WITHOUT CHANGE IN LEVEL WITH THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
6. ANCHOR BOLT MATERIAL SHALL CONFORM TO ASTM A36, A307, OR BETTER AND MEET IRC 2018.

CONCRETE:

1. CONCRETE SHALL BE A MIX DESIGNED FOR ULTIMATE STRENGTH IN ACCORDANCE WITH THE ACI 211.1 TO ACHIEVE THE DESIRED COMPRESSIVE STRENGTH. STANDARD MINIMUM 3,000 PSI FOR FOOTINGS, INTERIOR FLOOR, WALLS, AND GARAGE SLAB. (R402.2)
2. CONCRETE SHALL NOT BE CAST IN WATER OR ON FROZEN GROUND. CONCRETE SHALL NOT BE EXPOSED TO WATER (I.E. RAIN) DURING SETTING PERIOD.
3. CONCRETE FLOORS SHALL BE PLACED OVER MINIMUM 4" THICK POROUS LAYER (SUCH AS CRUSHED STONE) WITH DRAINAGE AND APPROVED VAPOR BARRIER. (R405.2.2)
4. TOP OF FOUNDATION WALLS AND SLABS SHALL BE SMOOTH AND LEVEL.
5. NO PIPE GREATER THAN 4' DIAMETER SHALL PASS THROUGH CONCRETE WITHOUT PERMISSION OF THE STRUCTURAL ENGINEER. PIPE SLEEVES SHALL BE PROVIDED AND SPACED A MINIMUM THREE DIAMETERS APART.
6. EXPOSED CONCRETE SHALL BE RUBBED IMMEDIATELY AFTER REMOVAL OF FORMS AND SNAP TIES REMOVED TO FLUSH.
7. OPENINGS IN CONCRETE WALLS SHALL BE LOCATED, SIZED, AND REINFORCED (WITH THE EXCEPTION OF SMALL OPENINGS AND / OR SLEEVES OF A SIZE THAT WILL NOT DISPLACE OR INTERRUPT THE CONTINUITY OF THE REINFORCING) AS SHOWN ON THE RESPECTIVE DETAILS. ANY ALTERATIONS REQUIRE APPROVAL OF THE STRUCTURAL ENGINEER.
8. DO NOT BACKFILL FOUNDATION WALLS UNTIL THE CONCRETE HAS BEEN IN PLACE FOR SEVEN (7) DAYS AND ATTAINED 75% OF ITS DESIGN COMPRESSIVE STRENGTH, AND FLOOR DIAPHRAGMS ARE IN PLACE.

BUILDING - B

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The Stabile Companies
CUSTOM BUILDERS

JOB: 2650
REF:
DATE: 11/28/2023
REV:

THE STABILE COMPANIES
NASHUA, NH

FISHER STREET TOWNHOUSES - B
FISHER STREET
DOVER, NH

STANDAR SPECIFICATIONS
SCALE: 1/4" = 1'-0"

SHEET
A-1.2

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Unit - B5 | Unit - B4 | Unit - B3 | Unit - B2 | Unit - B1

Front Elevation

BUILDING - B

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DOVER, NH

FRONT ELEVATION
SCALE: 1/4" = 1'-0"

SHEET
A-2.1

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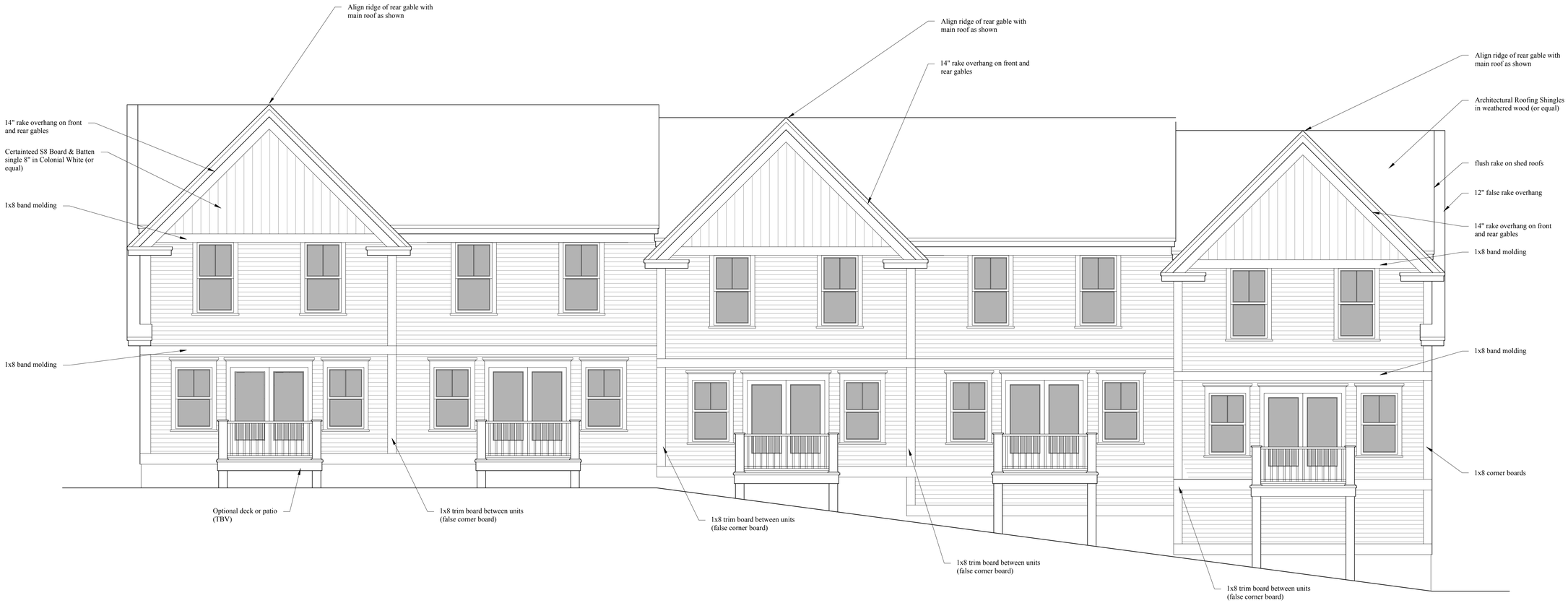

Unit - B1 | Unit - B2 | Unit - B3 | Unit - B4 | Unit - B5

Rear Elevation

BUILDING - B

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NASHUA, NH

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FISHER STREET
DOVER, NH

REAR ELEVATION
SCALE: 1/4" = 1'-0"

SHEET
A-2.2

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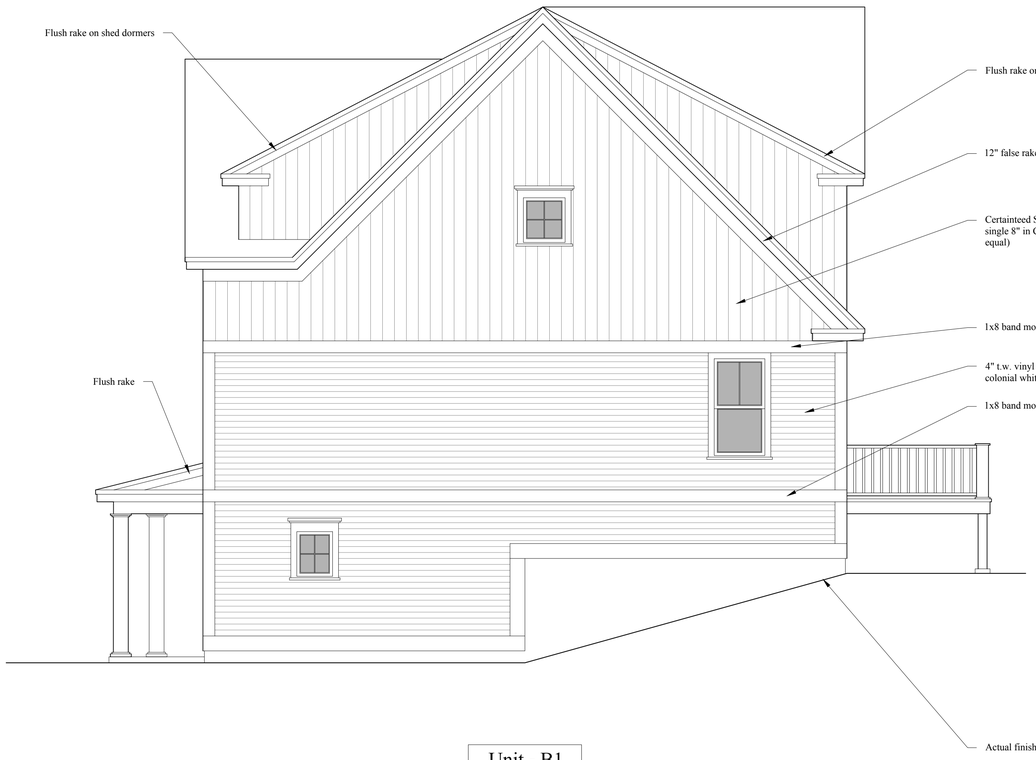
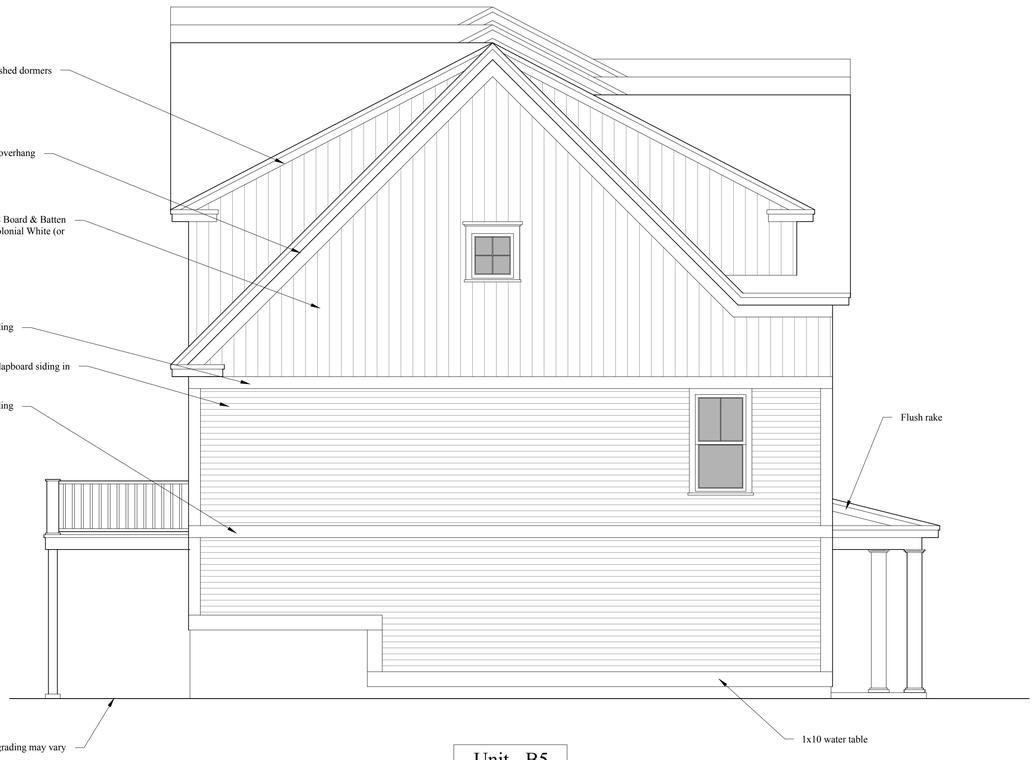


Unit - B1

Right Side Elevation



Unit - B5

Left Side Elevation

BUILDING - B

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FISHER STREET
DOVER, NH

SIDE ELEVATIONS
SCALE: 1/4" = 1'-0"

SHEET
A-2.3

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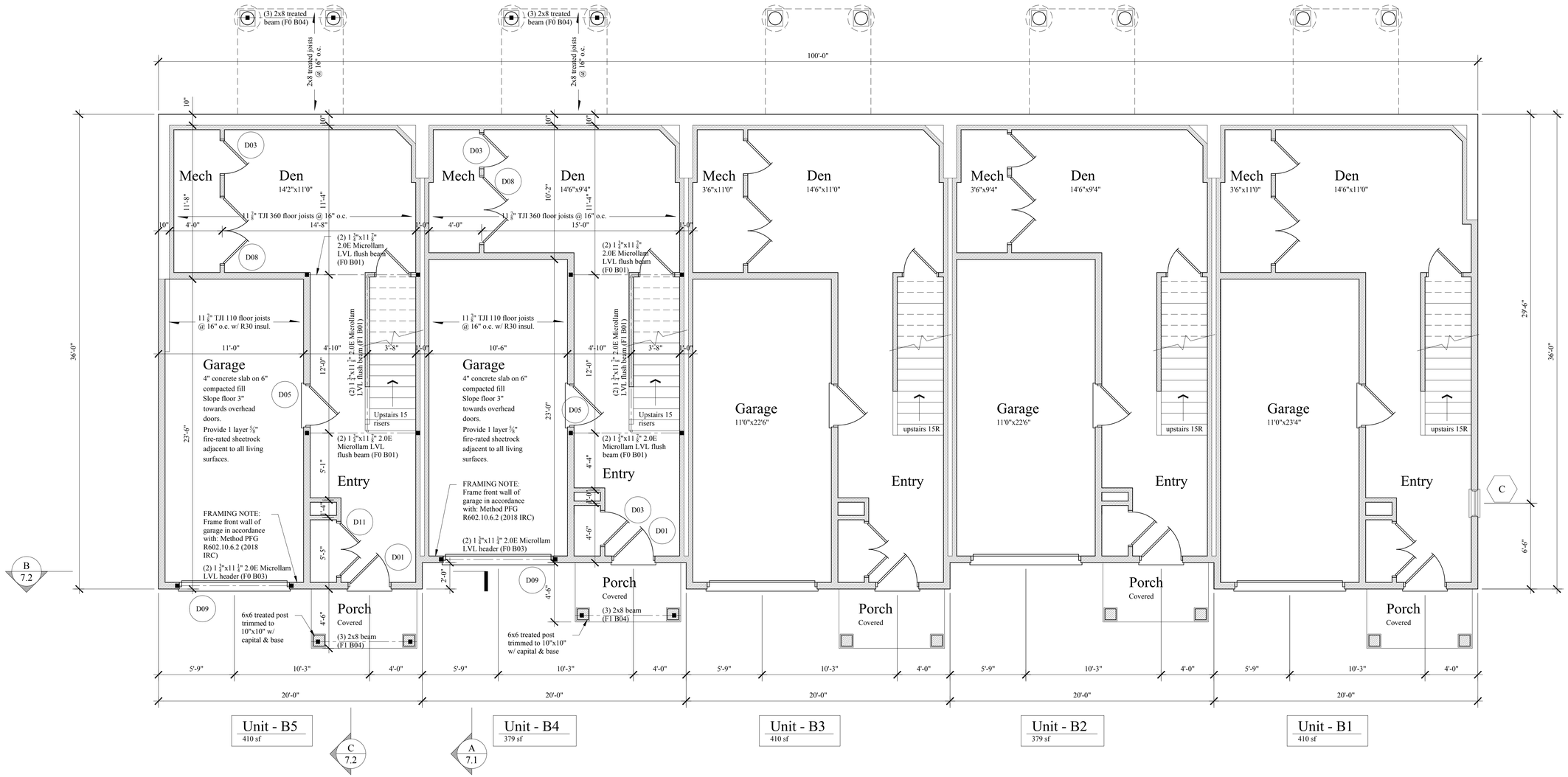

Floor Plan - Level 1

Notes : .

1. 7-9 1/2"± ceiling height.
2. All interior door headers to be 2-2x8 unless otherwise noted.
3. All exterior window & door headers to be 3-2x8 unless otherwise noted.
4. Refer to Engineering Beam Cales for beam posting and connection requirements.

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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FISHER STREET
DOVER, NH

FLOOR PLAN - LEVEL 1
SCALE: 1/4" = 1'-0"

SHEET
A-3.1

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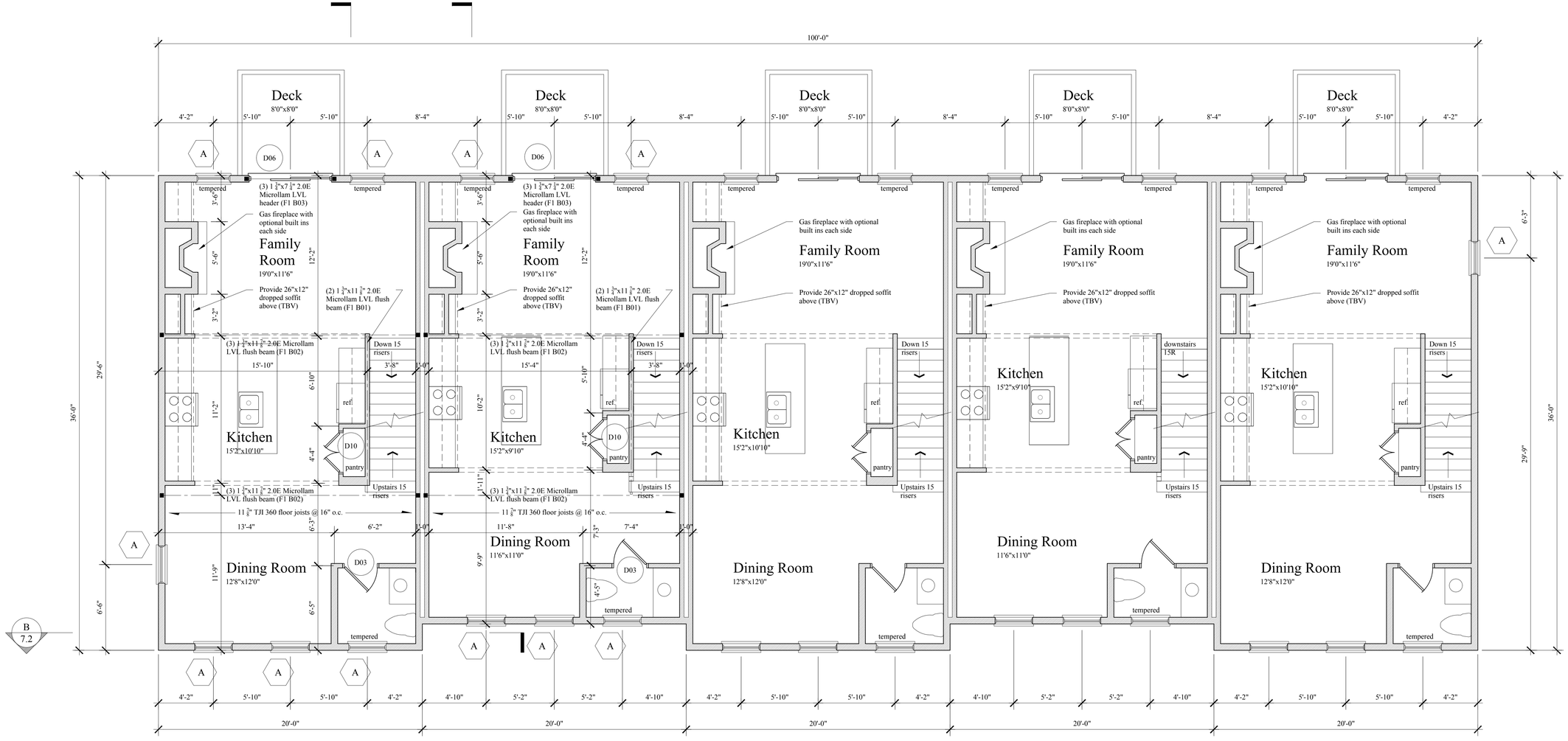

Unit - B5
720 sf

Unit - B4
680 sf

Unit - B3
720 sf

Unit - B2
680 sf

Unit - B1
720 sf

Floor Plan - Level 2

Notes : .

1. 8'-4" Ceiling Height.
2. All interior door headers to be 2-2x8 unless otherwise noted.
3. All exterior window & door headers to be 3-2x8 unless otherwise noted.
4. Window head heights to be @ 7'-4" a.f.f.; window sills to be 24" (minimum) above finish floor as per code requirement.
5. Refer to Engineering Beam Cales for beam posting and connection requirements.

BUILDING - B

Design Loads (PSF)

	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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FISHER STREET
DOVER, NH

FLOOR PLAN - LEVEL 2
SCALE: 1/4" = 1'-0"

SHEET
A-4.1

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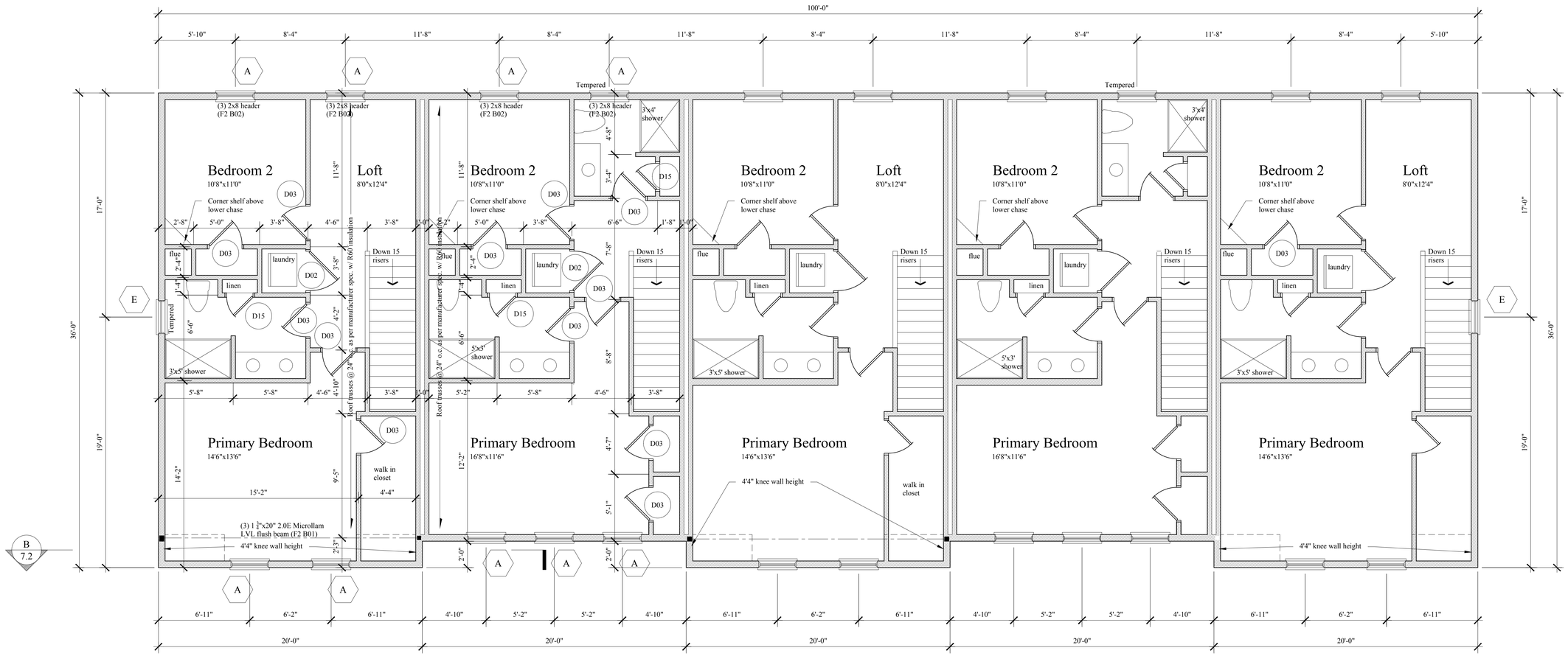

Floor Plan - Level 3

Notes:

1. 8'-4" Ceiling height.
2. All interior door headers to be 2-2x8 unless otherwise noted.
3. All exterior window headers to be 3-2x8 unless otherwise noted.
4. Window head heights to be @ 7'-4" A.F.F., window sills to be 24" (minimum) above finish floor as per code requirement.
5. Provide 22"x30" (minimum) scuttle hole access to attic as per code requirement.
6. Refer to Engineering Beam Calcs for beam posting and connection requirements.

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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DOVER, NH

FLOOR PLAN - LEVEL 3
SCALE: 1/4" = 1'-0"

SHEET
A-5.1

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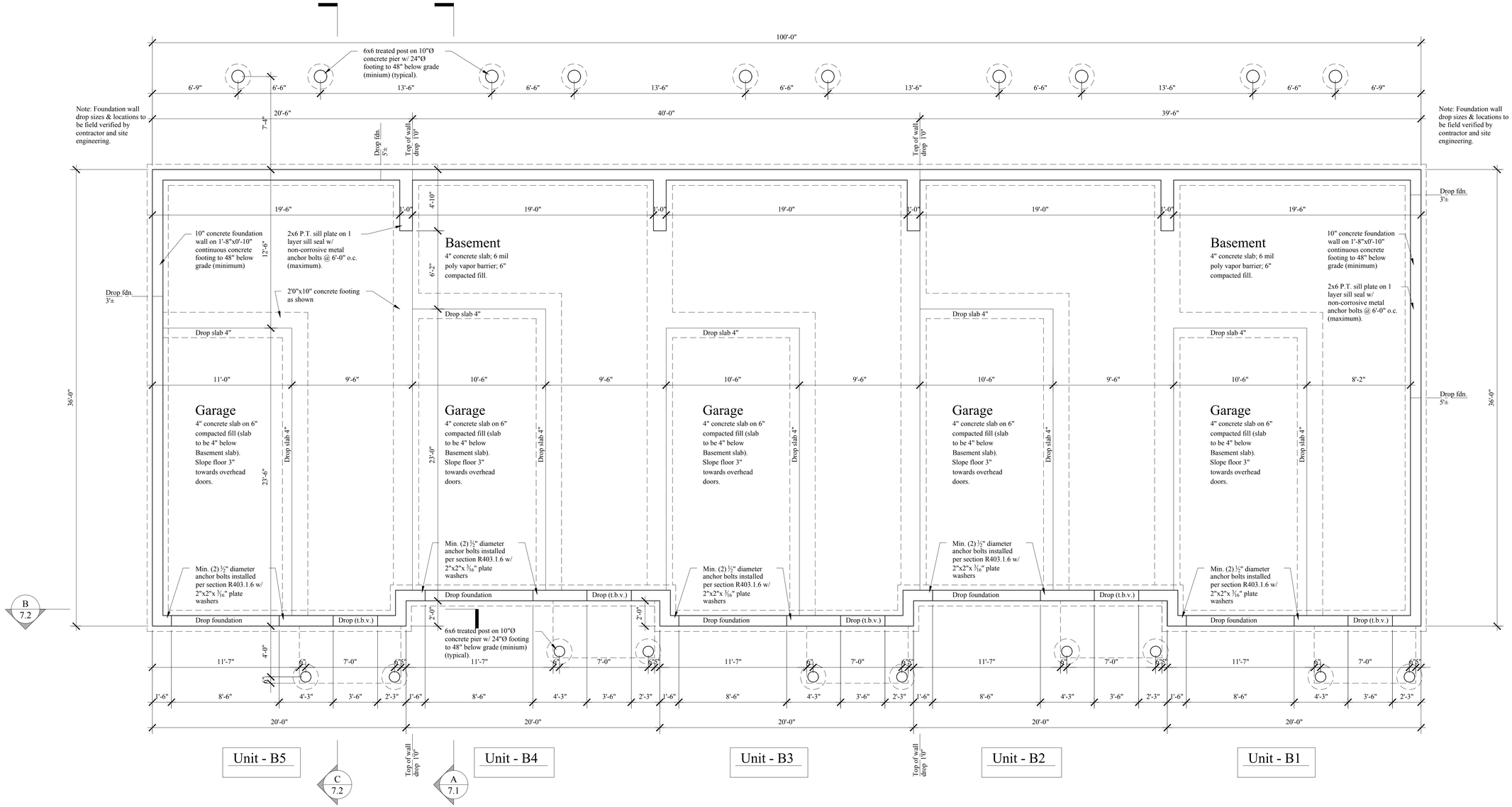

Foundation Plan

Notes : .

1. 8'-0"± foundation wall pour height.
2. Foundation wall drop sizes & locations to be field verified by contractor.

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

SHEET
A-6.1

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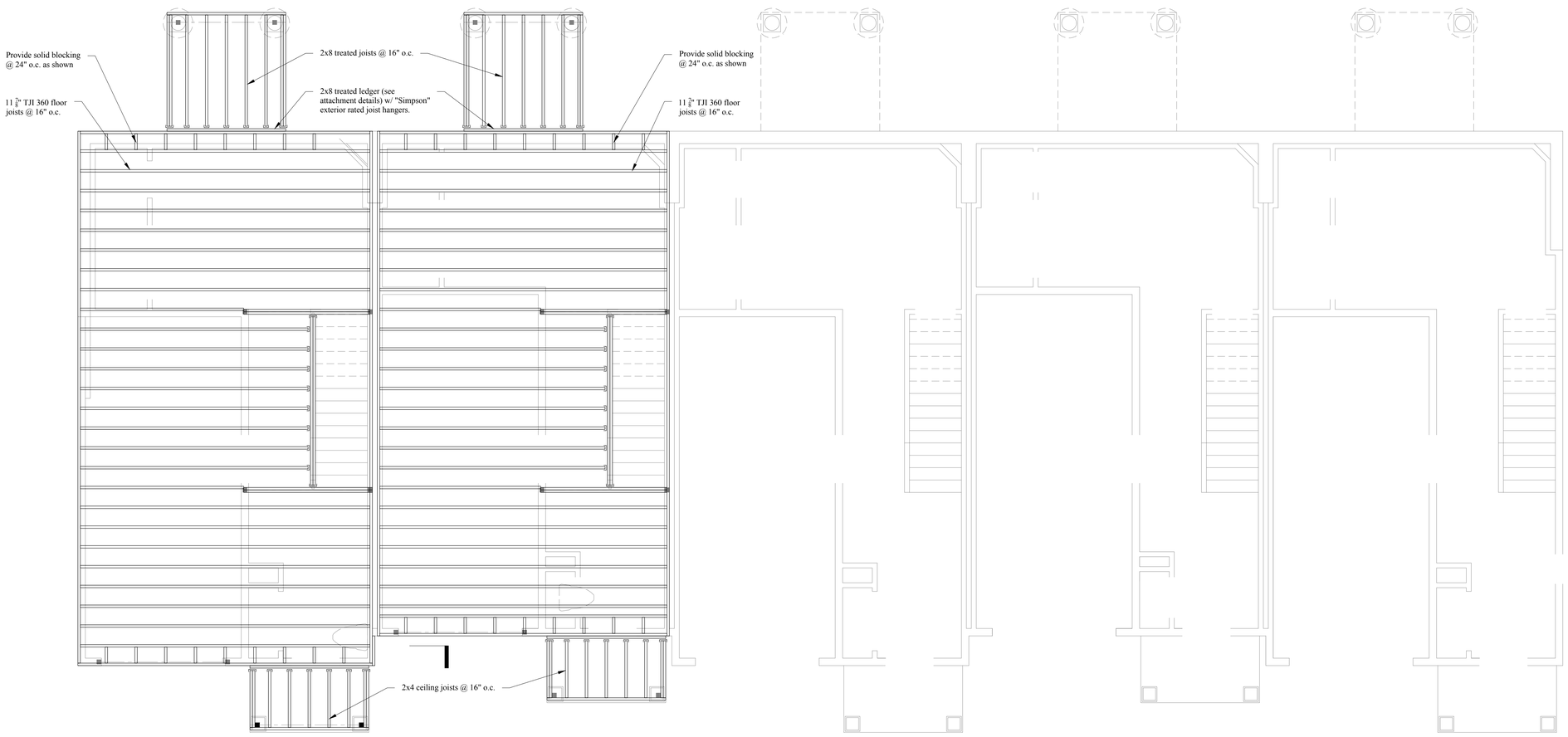

Floor Framing - Level 2

Notes : .

1. Engineered floor joist specifications and installation to be verified by manufacturer.
2. Refer to Engineering Beam Calcs for beam posting and connection requirements.

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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FLOOR FRAMING PLAN - LEVEL 2
SCALE: 1/4" = 1'-0"

SHEET
A-7.1

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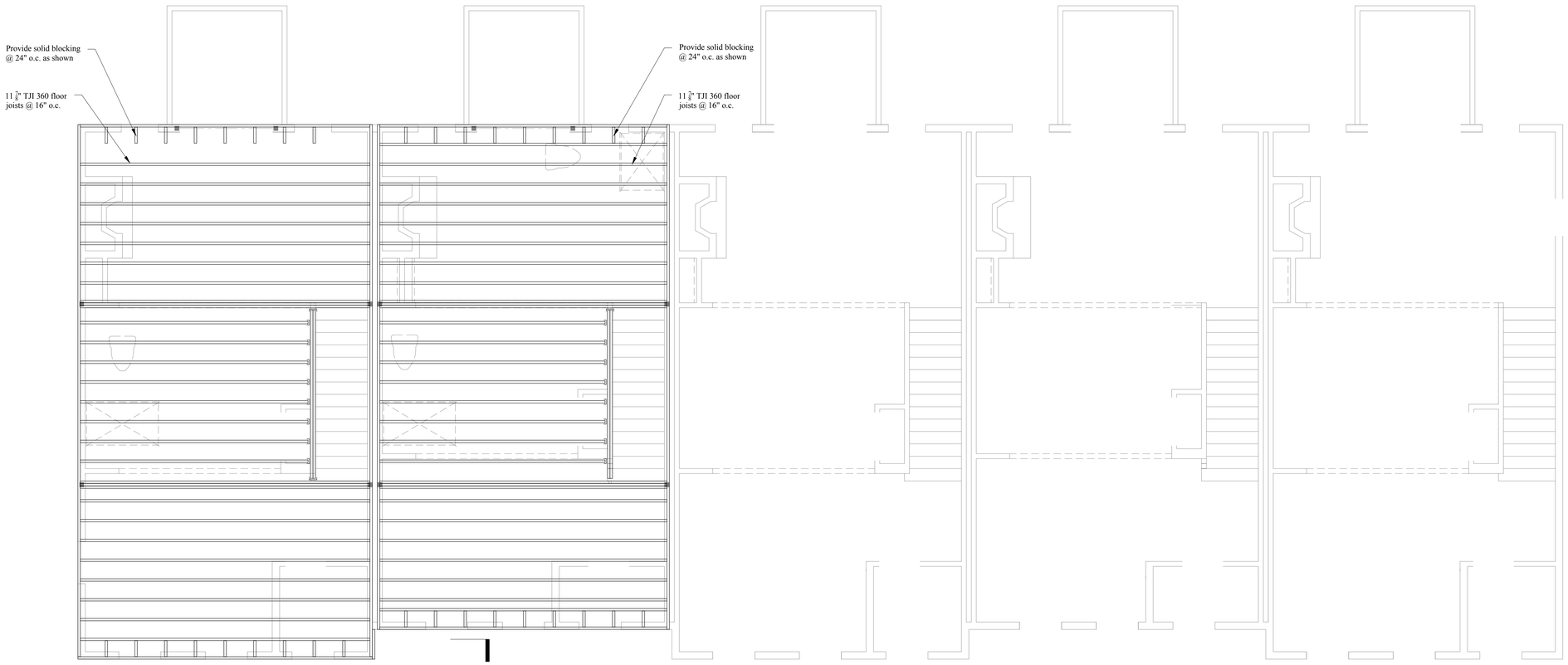

Unit - B5

C
7.2

A
7.1

Unit - B4

Unit - B3

Unit - B2

Unit - B1

Floor Framing - Level 3

Notes : .

1. Engineered floor joist specifications and installation to be verified by manufacturer.
2. Refer to Engineering Beam Calcs for beam posting and connection requirements.

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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FLOOR FRAMING PLAN - LEVEL 3
SCALE: 1/4" = 1'-0"

SHEET
A-7.2

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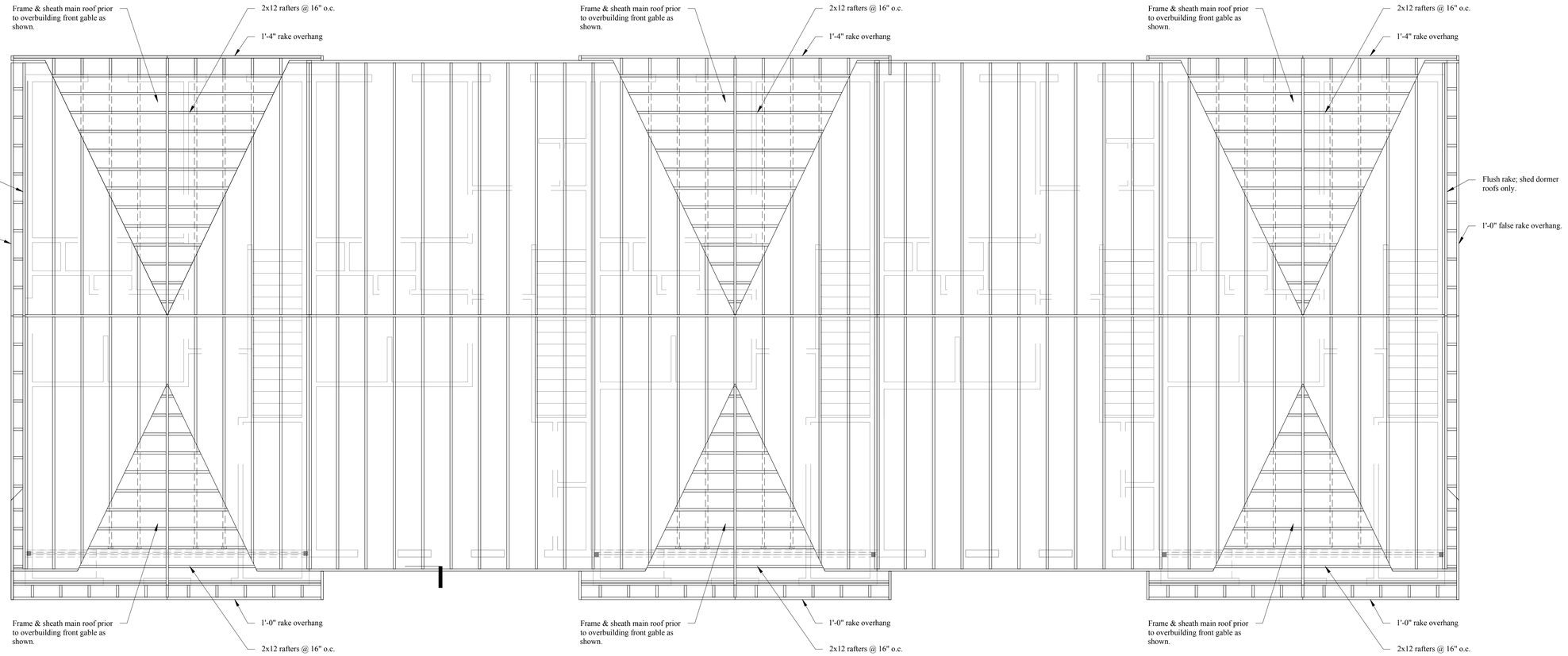

Unit - B5

C
7.2

A
7.1

Unit - B4

Unit - B3

Unit - B2

Unit - B1

Roof Framing Plan

Notes : .

1.Roof truss specifications and installation to be verified by manufacturer.
2. Refer to Engineering Beam Calcs for beam posting and connection requirements.

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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DOVER, NH

ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"

SHEET
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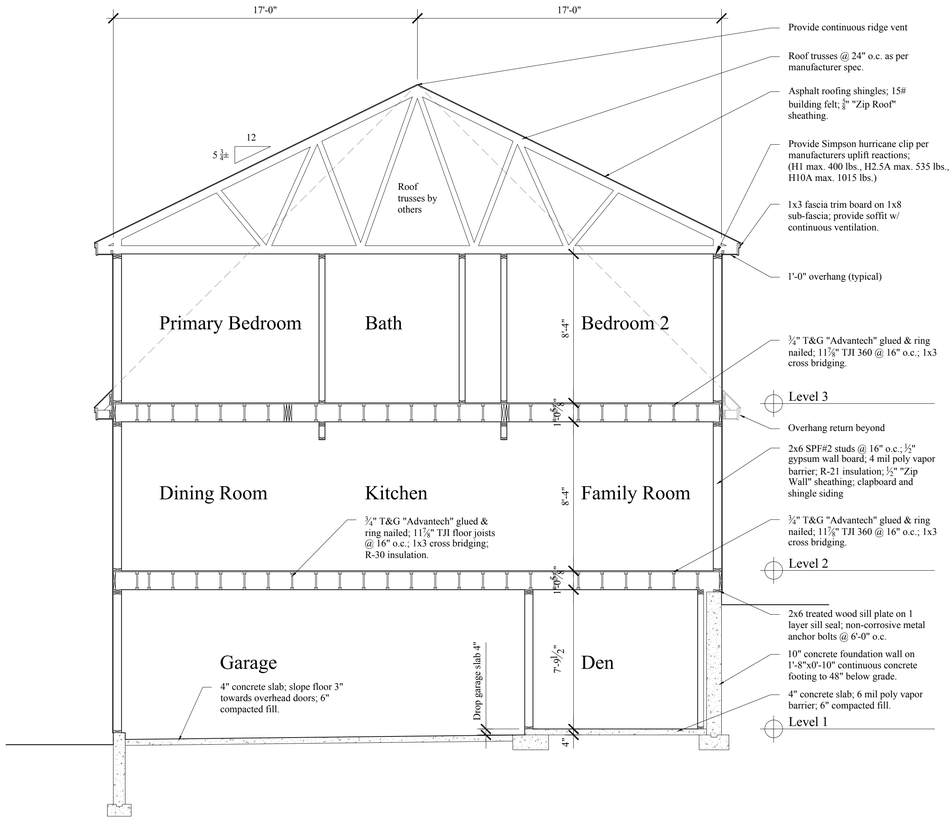


Section - A

Roof Construction

215# composition shingles; 5/8" "Zip Roof" sheathing on trusses as noted on floor plans.

Typical Soffit

1x8 sub-fascia w/ 1x3 fascia trim board w/ continuous metal drip edge. Provide continuous ventilation strip.

Wall Construction

4" t.w. clapboard siding; 1/2" "Zip Wall" sheathing; 2x6 SPF#2 studs @ 16" o.c. R-21 insulation. Provide 4 mil poly vapor barrier on interior w/ 1/2" gypsum wall board.

Typical Floor

3/4" T&G "Advantech" sub-floor glued and ring nailed to floor joists as noted on floor plans.

Typical Sill

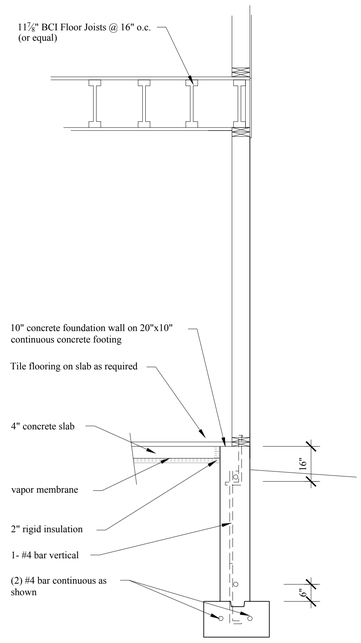
2x6 treated sill plate on 1 layer sill seal w/ non-corrosive metal anchor bolts @ 6'-0" o.c. (maximum). Sill to be 8" above finish grade (minimum).

Typical Stair

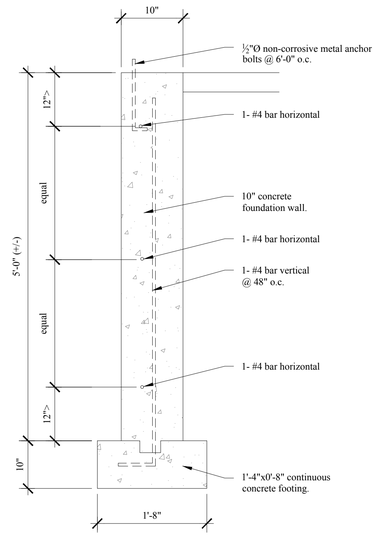
4-2x12 stringers w/ 10" rough treads & 1" nosing at finish (hardwood or 3/4" Advantech).3/4" risers equally spaced & not to exceed 7 3/4" in rise.

Door Schedule			
Mark	Qty.	Number	Type / Notes
1		3'0"x6'8"	Front entry; 4 light half glass panel entry door
2		2'8"x6'8"	2 panel interior
3		2'6"x6'8"	2 panel interior
4		3'0"x6'8'	2 panel interior
5		3'0"x6'8"	Exterior steel insulated 2 panel
6		6'0"x6'8"	Exterior Glass Sliding Glass Door
7			
8		5'0"x6'8"	(2) 2'6" 2 panel
9		8'0"x7'0"	Overhead Garage Door
10		3'0"x6'8"	(2) 1'6" 2 panel
11		4'0"x6'8"	(2) 2'0" 2 panel
12			
13			
14			
15		2'0"x6'8"	2 panel interior

Window Schedule			Mathews Brothers Specs (black sash, simulated divided light)		
Mark	Qty.	Number	Rough opening	Lights	Notes
A		DE3660	36.75"x60.75"	2/1	Double Hung - EGRESS
B					
C		24.5x29.5 awning	24.25"x30.25"	4	Awning
D					
E		29.5x29.5 awning	30.25"x30.25"	4	Awning
F					

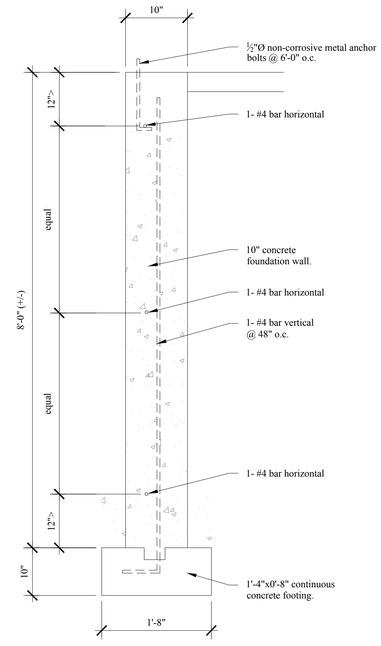


Foundation Section - A



Foundation Wall Section - 5'0" wall

SCALE : 1/4" = 1'0"



Foundation Wall Section - 8'0" wall

SCALE : 1/4" = 1'0"

Design Loads (PSF)			
	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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REF:
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NASHUA, NH

FISHER STREET TOWNHOUSES - B
FISHER STREET
DOVER, NH

CROSS SECTION / DETAILS
SCALE: 1/4" = 1'-0"

SHEET
A-8.1

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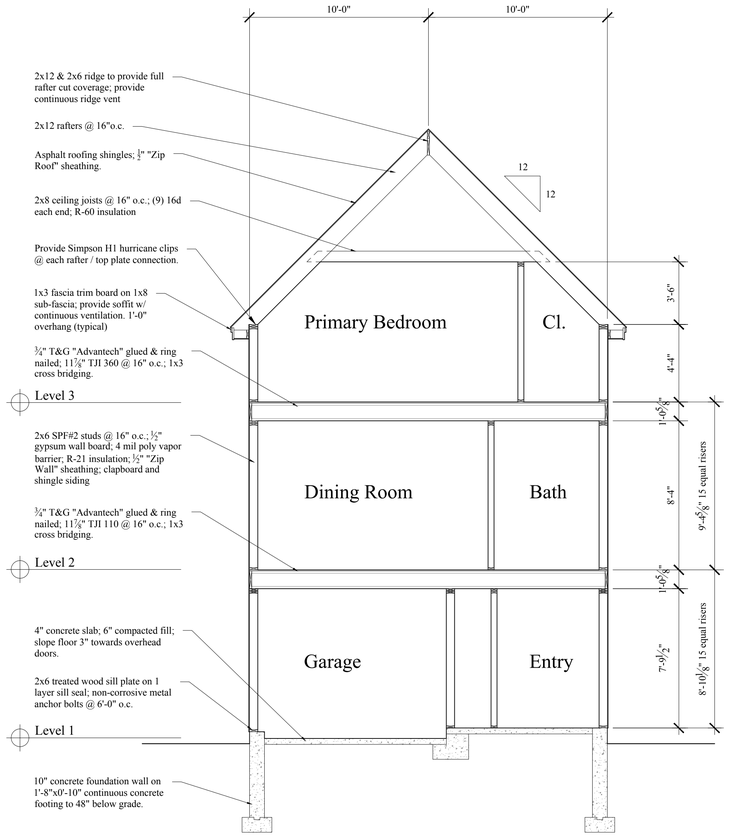
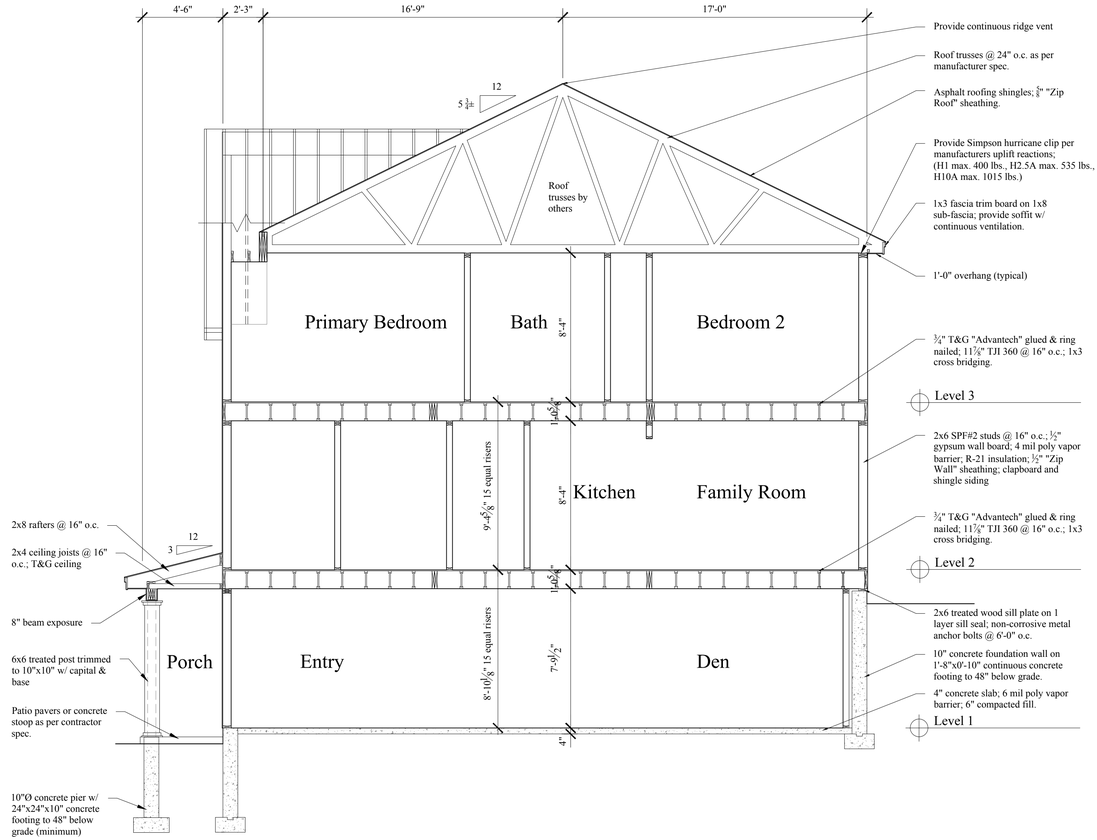


Section - B



Section - C

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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CROSS SECTIONS
SCALE: 1/4" = 1'-0"

SHEET
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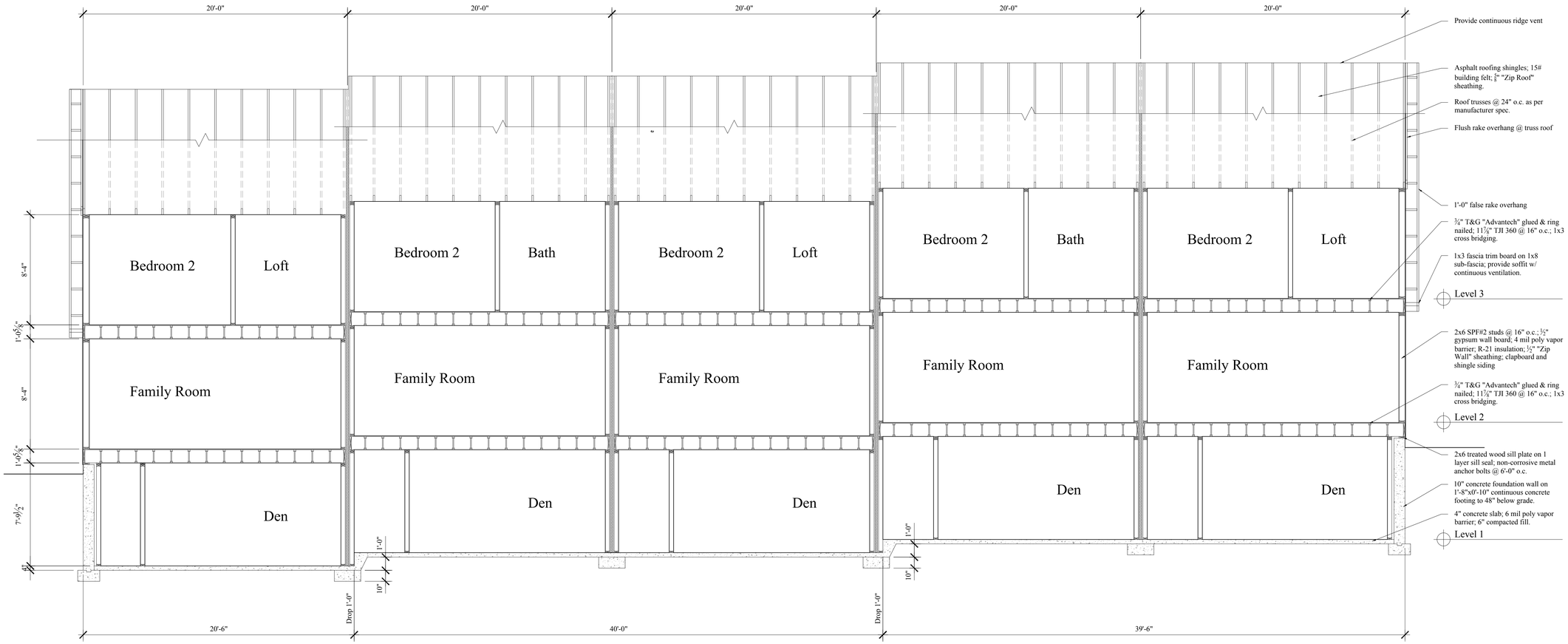

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

CONTRACTOR TO VERIFY ALL DIMENSIONS AND STRUCTURAL MEMBERS PRIOR TO STARTING CONSTRUCTION, BUILDING IS TO MEET OR EXCEED ALL STATE AND LOCAL BUILDING CODES.

JAD DESIGN GROUP INC.
jaddesigngroup.com phone 603.554.1199

The Stabile Companies
CUSTOM BUILDERS

JOB: 2650
REF:
DATE: 11/28/2023
REV:

THE STABILE COMPANIES
NASHUA, NH

FISHER STREET TOWNHOUSES - B
FISHER STREET
DOVER, NH

CROSS SECTIONS
SCALE: 1/4" = 1'-0"

SHEET
A-8.3

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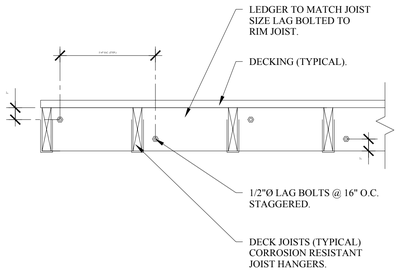
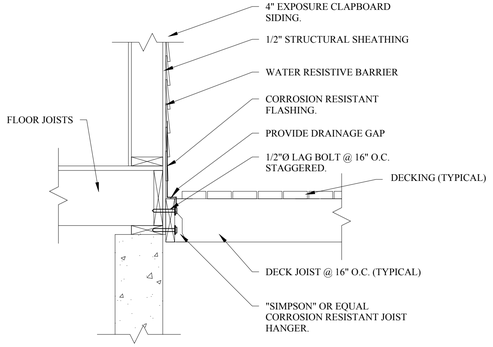
JAD DESIGN GROUP INC.



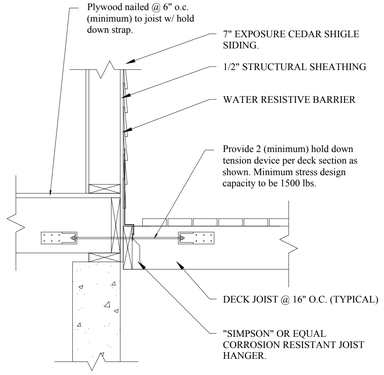
Deck Connection - Detail - A

Scale : 1" = 1'-0"



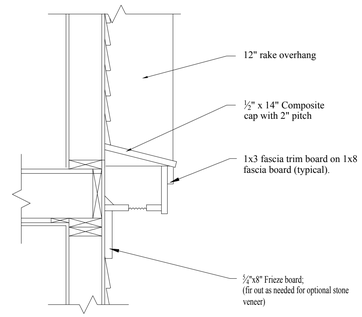
Deck Connection - Detail - B

Scale : 1" = 1'-0"

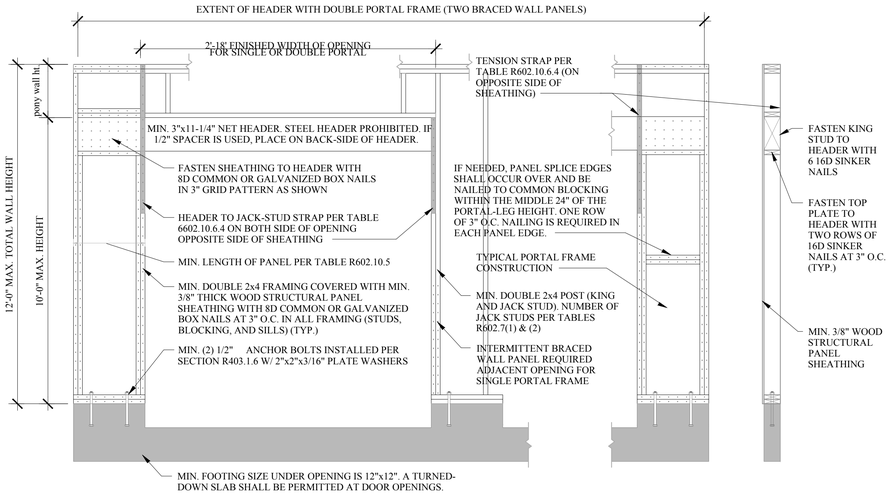


Deck Connection - Detail - C

Scale : 1" = 1'-0"

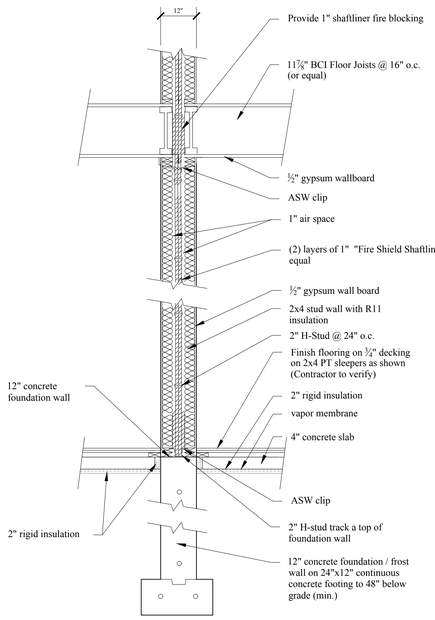


Rake Detail



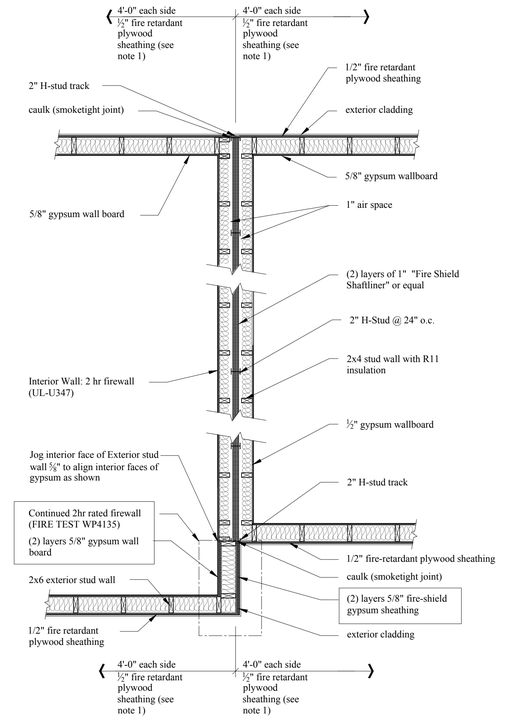
Portal Framing Detail

NOTE:
THIS DETAIL REPRESENTS BRACING METHOD PFG: PORTAL FRAME AT GARAGE OPENINGS PER 2018 IRC SECTION 602.10.6.2.



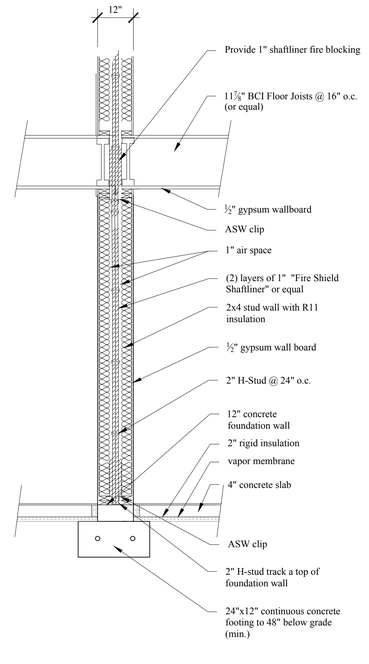
Firewall - Typical Wall Cross Section

vertical



Firewall - Typical Wall Cross Section

horizontal



Firewall Section - F1

CONTRACTOR TO VERIFY ALL DIMENSIONS AND STRUCTURAL MEMBERS PRIOR TO STARTING CONSTRUCTION. BUILDING IS TO MEET OR EXCEED ALL STATE AND LOCAL BUILDING CODES.

JAD DESIGN GROUP INC.
jaddesigngroup.com phone 603.554.1199

The Stabile Companies
CUSTOM BUILDERS

JOB: 2650
REF:
DATE: 11/28/2023
REV:

THE STABILE COMPANIES
NASHUA, NH

FISHER STREET TOWNHOUSES - B
FISHER STREET
DOVER, NH

DETAILS
SCALE: AS NOTED

SHEET
A-8.4

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Front Elevation

BUILDING - B

CONTRACTOR TO VERIFY ALL DIMENSIONS AND STRUCTURAL MEMBERS PRIOR TO STARTING CONSTRUCTION, BUILDING IS TO MEET OR EXCEED ALL STATE AND LOCAL BUILDING CODES.

JAD DESIGN GROUP, INC.
jaddesigngroup.com phone 603.554.1199

The Stabile Companies
CUSTOM BUILDERS

JOB: 2650
REF:
DATE: 11/28/2023
REV:

THE STABILE COMPANIES
NASHUA, NH

FISHER STREET TOWNHOUSES - B
FISHER STREET
DOVER, NH

SHEATHING PLAN
SCALE: 1/4" = 1'-0"

SHEET
A-9.1

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Rear Elevation

BUILDING - B

CONTRACTOR TO VERIFY ALL DIMENSIONS AND STRUCTURAL MEMBERS PRIOR TO STARTING CONSTRUCTION, BUILDING IS TO MEET OR EXCEED ALL STATE AND LOCAL BUILDING CODES.

JAD DESIGN GROUP INC.
jaddesigngroup.com phone 603.554.1199

The Stabile Companies
CUSTOM BUILDERS

JOB: 2650
REF:
DATE: 11/28/2023
REV:

THE STABILE COMPANIES
NASHUA, NH

FISHER STREET TOWNHOUSES - B
FISHER STREET
DOVER, NH

SHEATING PLAN
SCALE: 1/4" = 1'-0"

SHEET
A-9.2

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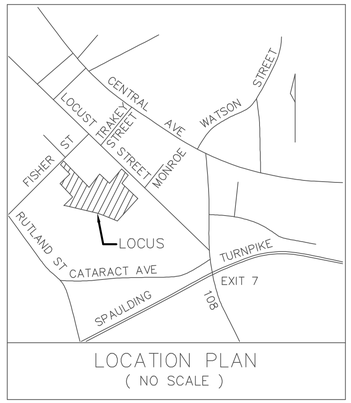

LOCATION PLAN
(NO SCALE)

UPTOWN CROSSING RESIDENTIAL SITE PLAN

TAX MAP 15, LOT 40A-1

FISHER STREET

DOVER, NH

OCTOBER 26, 2023

REV: FEBRUARY 8, 2024

REV: MAY 6,2024

OWNER

DOUBLE DIAMOND HOLDINGS NORTH, LLC.
340 CENTRAL AVENUE, #202
DOVER, NEW HAMPSHIRE 03820

_____ DATE

APPLICANT

H.J. STABILE AND SON, INC.
20 COTTON AVE, #200
NASHUA, NEW HAMPSHIRE 03863

_____ DATE

SITE CIVIL ENGINEER

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

LAND SURVEYOR

MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND
P.O. BOX 1166
DOVER, NH 03820
(603) 742-0911

ARCHITECT

JAD DESIGN GROUP INC.
P.O. BOX 728
AMHERST, NH 03031
(603) 554-1199

LANDSCAPE ARCHITECT

JEFFREY R. HYLAND, LANDSCAPE ARCHITECT #00026
IRONWOOD DESIGN GROUP, LLC
PO BOX 873
EXETER, NH 03822
(603) 772-0590

WETLAND SCIENTIST

BRUCE A. GILDAY, CWS #88
BAG LAND CONSULTANTS
43 ROCKINGHAM STREET
CONCORD, NH 03301
(603) 228-5775

SHEET INDEX

	SHEET
COVER SHEET	1
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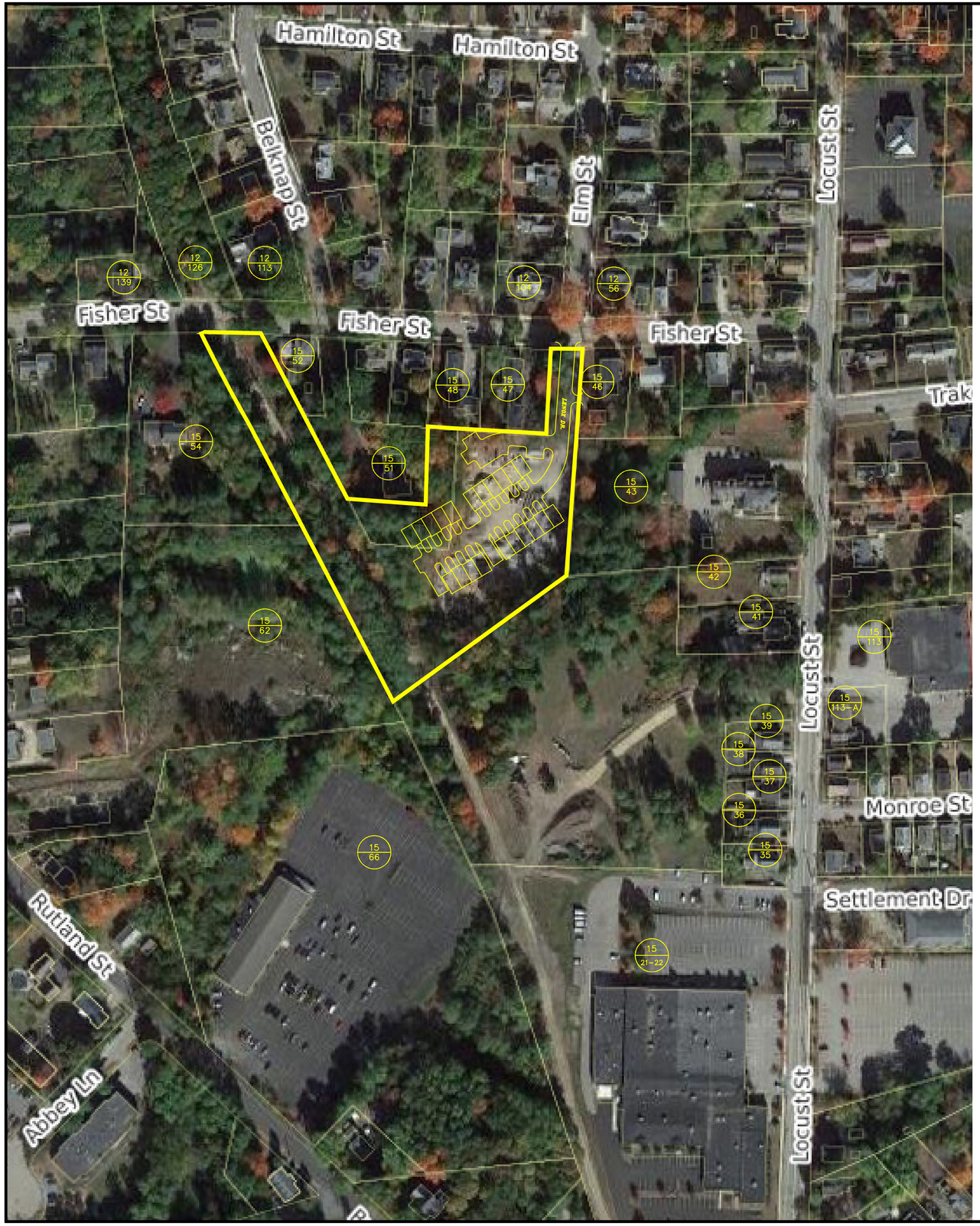
LANDSCAPE PLAN	L1.0
LANDSCAPE DETAILS	L2.0
STREETSCAPE PLANS	1-4

PLANNING FILE NO.: SITE-2023-0015



ABUTTERS LIST (WITHIN 200 FT)

TAX MAP	LOT NO.	NAME & ADDRESS
15 21-22	15 21-22	DOUBLE DIAMOND HOLDINGS SOUTH, LLC. 340 CENTRAL AVE. #202 DOVER, NH 03820
15 66	15 66	RESTORATION CHURCH ASSEMBLY OF GOD PO BOX 1664 DOVER, NH 03821
15 62	15 62	SOUTH DOVER STORAGE SOLUTIONS LLC C/O ROBERT FOSTER 11 MOSES CARR ROAD ROLLINSFORD, NH 03869
15 54	15 54	MUNIZ LOUIS A & JOSEPHINE A CO-TRUSTEES MUNIZ REVOCABLE TRUST OF 2017 40 FISHER STREET DOVER, NH 03820
12 139	12 139	GRIFFIN ELISABETH 49 FISHER STREET DOVER, NH 03820
12 126	12 126	CITY OF DOVER 288 CENTRAL AVE DOVER, NH 03820
12 113	12 113	HAWKINS MATTHEW & ASHLEY TRUSTEES HAWKINS FAMILY REVOCABLE TRUST P.O. BOX 308 DOVER, NH 03821
15 52	15 52	SMART DONALD W & ACKLER SAUNDRA R 38 FISHER STREET DOVER, NH 03820
15 51	15 51	CASEY CARMEL A 36A FISHER STREET DOVER, NH 03820-2526
15 48	15 48	DEMOUPOULOS STAVROS REV TRUST 1/2 & DEMOUPOULOS ELEFTHERIA REV TRUST 1/2 7851 DUET COURT NEW PORT RICHEY, FL 34654
15 47	15 47	HENERBERRY JAMES CHARLES & HENERBERRY MELISSA FORD 26 FISHER STREET DOVER, NH 03820
12 104	12 104	COOPER DARYLE D & MARY ANN CO-TRUSTEES COOPER FAMILY REVOCABLE TRUST OF 2019 45 ELM STREET DOVER, NH 03820

ABUTTERS LIST (WITHIN 200 FT)

TAX MAP	LOT NO.	NAME & ADDRESS
12 56	12 56	MOYNIHAN THOMAS J & MOYNIHAN KAREN E 44 ELM STREET DOVER, NH 03820
15 46	15 46	MACMILLAN BRYAN & MACMILLAN ELIZABETH 18-20FISHER STREET DOVER, NH 03820
15 43	15 43	CHILDREN'S HOME 207 LOCUST STREET DOVER, NH 03820
15 42	15 42	BRUNSON DANA & COOLEY MOLLY 213 LOCUST STREET DOVER, NH 03820
15 41	15 41	HUGHES KEVIN R & HUGHES MAXINE M 223 LOCUST STREET DOVER, NH 03820
15 113	15 113	CENTRAL AVENUE MANAGEMENT LLC 601 CENTRAL AVE DOVER, NH 03820
15 113-A	15 113-A	PETERSON STEPHAN L 246 DOVER POINT ROAD DOVER, NH 03820
15 39	15 39	NOYES RYAN F P.O. BOX 1152 DOVER, NH 03821-1152
15 38	15 38	WHITE GARRETT B COAKLEY ROAD PORTSMOUTH, NH 03801-4134
15 37	15 37	DION JEREMY P & DION AIMEE L 3 EARLE STREET DOVER, NH 03820-2118
15 36	15 36	NOYES RYAN F P.O. BOX 1152 DOVER, NH 03821-1152
15 35	15 35	GARSTKA JEFFERY M & GARSTKA STACI P.O. BOX 154 PORTSMOUTH, NH 03802-0154

D / 11 TAX MAP / LOT NUMBER

MAGNETIC

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-2023-0015

2	REV. PER TRC COMMENTS #2	SJH	5-6-24
1	REV. PER TRC COMMENTS #1	SJH	2-8-24
	REVISION	APP'D	DATE

DATE: 10-26-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY:SJH
PROJECT NO:22017
FILE NAME:SITE.DWG

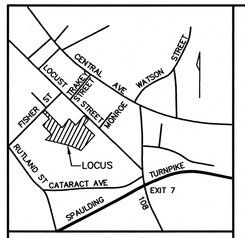
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NEIGHBORHOOD PLAN

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

2



LOCATION PLAN
(NO SCALE)

NH STATE PLANE
NAD 83 - GPS OBS.

REFERENCE PLANS:

1.) BOUNDARY LINE ADJUSTMENT PLAN, DOUBLE DIAMOND HOLDINGS SOUTH, LLC AND DOUBLE DIAMOND HOLDINGS NORTH, LLC, CENTRAL AVENUE, LOCUST STREET AND FISHER STREET, DOVER, NEW HAMPSHIRE; SCALE: 1" = 60'; DATED: FEBRUARY 12, 2008, REVISED THROUGH 4/9/08; BY: TRITECH EGINEERING CORPORATION; RECORDED SC.R.D. PLANS 94-16 & 94-17.

2.) PLAN OF LAND PREPARED FOR MOORE BUSINESS FORMS, INC. TAX MAP 15, LOT No. 21 & 22, 23, 40A & 68, LOCUST AND FISHER STREETS, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE; SCALE: 1" = 50'; DATED: DECEMBER 9, 1999, REVISED THROUGH 1/20/05; BY: McENEANEY SURVEY ASSOCIATES, INC.; RECORDED S.C.R.D. PLANS 78-96 & 78-97.

3.) COMMUNITY TRAIL PHASE III, TAX MAP 15, LOTS 21-22 & 40A; SCALE: 1" = 20'; DATED: NOV. 2017, REVISED THROUGH 9/9/2019; BY: FUSS & O'NEILL; RECORDED S.C.R.D. PLANS 11976 & 11977.

4.) SUBDIVISION PLAN PREPARED FOR DOUBLE DIAMOND HOLDINGS NORTH, LLC AND CARMEL A. CASEY, TAX MAP 15, LOT No. 40A, FISHER STREET, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE; SCALE: 1" = 40'; DATED: JULY 12, 2022; BY: THIS OFFICE.

5.) LOT LINE ADJUSTMENT PLAN PREPARED FOR DOUBLE DIAMOND HOLDINGS NORTH, LLC AND CARMEL A. CASEY, TAX MAP 15, LOT Nos. 40A-1 & 51, FISHER STREET, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE; SCALE: 1" = 40'; DATED: OCTOBER 25, 2023; BY: THIS OFFICE.

No.	Central Angle	Radius	Arc Length	Chord Length	Chord Bearing
C1	4°14'33"	1864.00'	138.02'	137.99'	S28°01'47"E
C2	5°35'27"	1957.00'	190.97'	190.89'	N27°20'49"W
C3	2°41'09"	2803.00'	131.40'	131.39'	N28°47'57"W

No.	Bearing	Distance
L1	S85°28'46"E	50.00'
L2	N88°23'57"E	50.25'
L3	N30°24'53"W	28.22'
L4	N12°41'05"W	50.00'
L5	S86°03'39"E	41.38'
L6	S86°14'18"E	44.05'

LEGEND

- I.R.(fnd) – IRON ROD FOUND
- I.P.(fnd) – IRON PIPE FOUND
- S.S.(fnd) – STEEL STAKE FOUND
- G.B.(fnd) – GRANITE BOUND FOUND
- -o- UP – UTILITY POLE
- ELEV. – ELEVATION
- 56 – CONTOUR LINE – 2' INTERVAL
- EOP – EDGE OF PAVEMENT
- S.F. – SQUARE FEET
- Ac. – ACRE
- (TYP.) – TYPICAL
- ± – MORE OR LESS
- S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
- WETLAND LINE

NO.	DATE	DESCRIPTION	BY	CHK
CNE #22017		REVISIONS		

23-2511	EXIST.COND.	21-10	64-72
PROJECT NO	TYPE	FIELDBOOK & PAGES	

12 / 56 — THOMAS J. MOYNIHAN, KAREN E. MOYNIHAN, 44 ELM STREET, DOVER, NH 03820, 4528 / 4

15 / 46 — BRYAN MCMILLAN, ELIZABETH MCMILLAN, 18-20 FISHER STREET, DOVER, NH 03820, 4807 / 723, SEE NOTE #11

15 / 43 — DOVER CHILDREN'S HOME, 207 LOCUST STREET, DOVER, NH 03820, 312 / 440

15 / 40A — DOUBLE DIAMOND HOLDINGS NORTH, LLC, 340 CENTRAL AVENUE #202, DOVER, NH 03820, 3166 / 780

12 / 104 — COOPER FAMILY REVOCABLE TRUST OF 2019, 45 ELM STREET, DOVER, NH 03820, 4733 / 767

15 / 47 — JAMES CHARLES HENERBERRY, MELISSA FORD HENERBERRY, 26 FISHER STREET, DOVER, NH 03820, 4752 / 593

15 / 48 — STAVROS DEMOPOULOS REVOCABLE TRUST, ELEFTHERIA DEMOPOULOS REVOCABLE TRUST, 7851 DUET COURT, PORT RICHEY, FL 34654, 2668 / 620

15 / 49 — JACOB COHEN-HOLMES, 52 HAMPTON FALLS ROAD, EXETER, NH 03833, 4630 / 864

15 / 50 — LAURIE A. SMITH, GREGORY T. SMITH, 36 FISHER STREET, DOVER, NH 03820, 1073 / 386

15 / 51

15 / 52 — DONALD W. SMART, SAUNDRA R. ACKLER, 38 FISHER STREET, DOVER, NH 03820, 1659 / 556

15 / 62 — SOUTH DOVER STORAGE SOLUTIONS, LLC, 11 MOSES CARR ROAD, ROLLINSFORD, NH 03869, 4055 / 77

15 / 54 — MUNIZ REVOCABLE TRUST OF 2017, 40 FISHER STREET, DOVER, NH 03820, 4463 / 193

12 / 113 — HAWKINS FAMILY REVOCABLE TRUST, P.O. BOX 308, DOVER, NH 03821, 4307 / 762

12 / 126 — CITY OF DOVER, 288 CENTRAL AVE, DOVER, NH 03820, 3311 / 694

12 / 139 — ELISABETH GRIFFON, 49 FISHER STREET, DOVER, NH 03820, 44858 / 218

ELM STREET

FISHER STREET {PUBLIC R.O.W.}

BELKNAP STREET

HOUSE

GARAGE

ASPHALT DRIVE

GRAVEL DRIVE

TBM NAIL IN POLE ELEV. = 100.72

UP 32/12

UP 37/5

18"ø MAPLE

30"ø MAPLE

TREELINE (TYP)

STREAM

50' WETLAND BUFFER

CITY OF DOVER CONSERVATION DISTRICT

DRAINAGE EASEMENT (SEE NOTE 12)

GRAVEL/CRUSHED STONE

PARCEL AREA
170,468 S.F.
3.91 Ac.

SHED

EXISTING DECK

EXISTING HOUSE

RETAINING WALL

3'X4' STONE BOX CULVERT

12"ø SLEEVE FOR PROPOSED SEWER

ASPHALT WALK

EASEMENT

EXISTING DRIVE

BUILDING ZONE HR

BUILDING ZONE G

DOVER COMMUNITY TRAIL (SEE NOTE 10)

BOLT(fnd)

S04°05'50"W 147.00'

S04°05'50"W 245.00'

S04°05'50"W 141.68'

S85°28'46"E 147.31'

S85°37'16"E 119.46'

S86°14'18"E 125.23'

S10°16'03"E 144.48'

N06°50'52"W 142.74'

S30°24'53"E 170.00'

N30°08'32"W 75.89'

N30°08'32"W 276.41'

S89°25'22"E 105.18'

S54°03'49"W 362.44'

S54°03'49"W 397.45'

N05°33'32"E 142.00'

C1 C2 C3 L1 L2 L3 L4 L5 L6

NOTES:

1.) OWNER OF RECORD:
DOUBLE DIAMOND HOLDINGS NORTH, LLC
340 CENTRAL AVENUE #202
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOLUME 3166, PAGE 780

2.) 15 / 40A – DENOTES TAX MAP AND PARCEL NUMBER.

3.) THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF THE SUBJECT PARCEL AS OF THE DATE OF THIS PLAN. THE BOUNDARY LINES SHOWN AS SHOWN ON REFERENCE PLAN #4.

4.) LOT AREA = 170,468 S.F. / 3.91 Ac.

5.) ZONING DISTRICT:
GATEWAY (G)
DIMENSIONAL REQUIREMENTS:

MINIMUM LOT SIZE	= N/A
MINIMUM LOT COVERAGE	= 50 PERCENT
MINIMUM FRONTAGE BUILD-OUT	= 60%
MAXIMUM BUILDING COVERAGE	= 50 PERCENT
BUILDING SETBACK REQUIREMENTS:	
FRONT SETBACK	= 5-20 FEET
SIDE SETBACK	= 10 FEET
REAR SETBACK	= 15 FEET
MAXIMUM BUILDING HEIGHT	= 4 STORY

6.) THE SUBJECT PARCEL IS NOT LOCATED WITHIN THE SPECIAL FLOOD HAZARD AREA (SFHA) AS SHOWN ON FLOOD INSURANCE RATE MAP 33017C0320E, EFFECTIVE DATE 9/30/2015.

7.) BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED 12/10/2021.
VERTICAL DATUM IS NH STATE PLANE (NAVD88) BASED ON GPS OBSERVATION DATED 12/10/2021.

8.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND DURING AUGUST 2022 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

9.) WETLAND FLAGGED LINES SHOWN WERE DELINEATED BY BAG LAND CONSULTANTS, BRUCE A. GILDAY CWS #88, IN APRIL 2024. IN ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION MANUAL AND LOCATED BY THIS OFFICE.

10.) THE PARCEL 15/40A-1 IS ENCUMBERED BY DRAINAGE AND COMMUNITY TRAIL EASEMENTS BENEFITING THE CITY OF DOVER, SEE REFERENCE PLAN 3.

11.) THE SUBJECT PARCEL IS ENCUMBERED BY A RIGHT OF WAY BENEFITING LOT 15/46, S.C.R.D. BOOK 4807, PAGE 723.

12.) A 50' WIDE DRAINAGE EASEMENT ON PARCEL 15/40A-1 TO BENEFIT PARCEL 15/40A.

"I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL GROUND SURVEY PERFORMED WITH A TOTAL STATION, BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, SAID SURVEY MEETS OR EXCEEDS THE MINIMUM PRECISION REQUIREMENTS FOR SURVEY CLASSIFICATION "U" AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS."

EXISTING CONDITIONS PLAN
FOR
UPTOWN CROSSING
TAX MAP 15, LOT No. 40A-1
FISHER STREET
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DOVER PLANNING FILE No. SITE-2023-0015

DRAWN BY: KJF	FILE: MSA\2511\DWG\23-2511
SCALE: 1" = 40'	DATE: MAY 6, 2024

40 20 0 20 40 80 120 160

STATE OF NEW HAMPSHIRE — No. 661 KEVIN M. McENEANEY — LICENSED LAND SURVEYOR — SIGNATURE

McEneaney Survey Associates of NEW ENGLAND
P.O. Box 1166 – 181 WATSON ROAD
DOVER, NH 03820 (603) 742-0911

SURVEYING – PLANNING – CONSULTING

5/6/2024 12:04:52 File: M:\2511\Drawings\23-2511 EC.dwg Layout: STABILE EC

DOVER NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT IMPROVEMENTS ASSOCIATED WITH THE CONSTRUCTION OF 4 MULTI-FAMILY TOWNHOUSE BUILDINGS WITH 21 UNITS TOTAL AND ASSOCIATED SITE IMPROVEMENTS.
2. OWNER(S) OF RECORD:
   DOUBLE DIAMOND HOLDINGS NORTH, LLC.
   340 CENTRAL AVENUE, SUITE 202
   DOVER, NEW HAMPSHIRE 03820
3. D/11-8 – DENOTES TAX MAP AND PARCEL NUMBER.
4. PARCEL AREA: 145,408 S.F. / 3.54 Ac.
5. TITLE REFERENCE: SEE SCRD 4807/723
6. REFERENCE PLANS:
   A. BOUNDARY LINE ADJUSTMENT PLAN, DOUBLE DIAMOND HOLDINGS SOUTH, LLC. AND DOUBLE DIAMOND HOLDINGS NORTH, LLC, CENTRAL AVENUE, LOCUST STREET AND FISHER STREET, DOVER NEW HAMPSHIRE; SCALE 1"=60'; DATED: FEBRUARY 12, 2008, REVISED THROUGH 4/9/08; BY TRITECH ENGINEERING CORPORATION; RECORDED S.C.R.D. PLANS 94-16 & 94-17.
   B. PLAN OF LAND PREPARED FOR MOORE BUSINESS FORMS, INC. TAX MAP 15, LOT No. 21 & 22, 23, 40A & 68, LOCUST AND FISHER STREETS, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE; SCALE: 1" = 50'; DATED: DECEMBER 9, 1999, REVISED THROUGH 1/20/05; BY: McENEANEY SURVEY ASSOCIATES, INC.; RECORDED S.C.R.D PLANS 78-96 & 78-97.
   C. COMMUNITY TRAIL PHASE III, TAX MAP 15, LOTS 21-22 & 40A; SCALE: 1"=20'; DATED NOV. 2017, REVISED THROUGH 9/9/2019; BY: FUSS & O'NEILL; RECORDED S.C.R.D. PLANS 11976 & 11977
   D. SUBDIVISION PLAN PREPARED FOR DOUBLE DIAMOND HOLDINGS NORTH, LLC AND CARMEL A. CASEY, TAX MAP 15, No. 40A, FISHER STREET, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE; SCALE 1"=40'; DATED JULY 12, 2022; BY THIS OFFICE.
   E. LOT LINE ADJUSTMENT PLAN PREPARED FOR DOUBLE DIAMOND HOLDINGS NORTH, LLC AND CARMEL A. CASEY, TAX MAP 15, LOT Nos. 40A-1 & 51, FISHER STREET, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE; SCALE 1"=40'; DATED: OCTOBER 25, 2023; BY: THIS OFFICE.
5. PROJECT DOES NOT PROPOSE ANY RIGHT-OF-WAY, CONSERVATION, SLOPE, CONSTRUCTION, POWER LINE, CROSS TRAVEL, OR OTHER EASEMENTS.
6. ZONING DISTRICT: GATEWAY DISTRICT (G)
   DIMENSIONAL REQUIREMENTS:

	REQUIRED	PROPOSED
MINIMUM LOT SIZE:	NA	3.54 AC
MAXIMUM LOT COVERAGE (BUILDING):	50%	15.2%
MINIMUM FRONTAGE:	200'	226.5'
MINIMUM OPEN SPACE:	33%	55.3%
BUILDING SETBACK REQUIREMENTS:		
FRONT SETBACK:	5'-20'	230' (CUP)
SIDE SETBACK:	10'	11'
REAR SETBACK:	15'	>135'
MAXIMUM BUILDING HEIGHT:	55' MAX	<55'

7. LIST ANY VARIANCE OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT OR CONDITIONAL USE PERMITS GRANTED BY THE PLANNING BOARD FOR THE PROPOSED USE OR STRUCTURE, INCLUDING THE CASE NUMBER AND DATE OF DECISION AND ANY CONDITIONS. (SEE PROJECT VARIANCE/PERMIT SECTION)
8. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES, OCTOBER 2023, WITH AN ERROR NOT GREATER THAN 1 IN 10,000. (SEE EXISTING CONDITIONS PLAN IN THIS PLAN SET)
9. THE SUBJECT PARCEL IS NOT LOCATED WITHIN THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0310; SUFFIX E; MAP NUMBER 33017C0310E; EFFECTIVE DATE SEPTEMBER 30, 2015.
10. WETLANDS WERE DELINEATED BY BAG LAND CONSULTANTS, BRUCE A GILDAY, CERTIFIED WETLANDS SCIENTIST, CERTIFICATION NUMBER 88, IN ACCORDANCE WITH CHAPTER 170-27.1 OF THE ZONING ORDINANCE, ON SEPTEMBER 2, 2022.
11. AS-BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON PAPER AND IN DIGITAL FORMAT AUTOCAD DWG, AUTOCAD DXF OR ESRI FORMAT TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT IF A STREET IS PROPOSED FOR CITY ACCEPTANCE. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO-REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.
12. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED.
13. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
14. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATIONS AND STANDARD SPECIFICATION FOR CONSTRUCTION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
15. EROSION CONTROL NOTES INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, AND PERMANENT STANDARDS SUCH AS LOAM SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION.
16. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
17. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
18. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED, AND THE APPROVED CONSTRUCTION SIGN INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
19. A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE CITY ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.
20. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM-6 PM, SATURDAY 9 AM 4 PM. HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR PLANNING DIRECTOR. WORK ON SUNDAY AND FEDERAL HOLIDAY'S IS PROHIBITED.
21. BUILDING ADDRESSES (INCLUDING APT/UNIT NUMBERS, IF APPLICABLE) SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
22. THE PROPOSED USE FOR THE SITE IS LIGHT MANUFACTURING.
23. THE FOLLOWING FEDERAL AND STATE PERMINTS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY: (SEE PROJECT VARIANCE/PERMIT SECTION)

DOVER NOTES CONTINUED:

24. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
25. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
26. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
27. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL.
    HTTPS://PTAPP.UNH.EDU/
28. IF APPLICABLE, THE OWNER OF RECORD SHALL RECORD AT THE REGISTRY OF DEEDS DOCUMENTATION SUFFICIENT TO PROVIDE NOTICE TO ALL PERSONS/ENTITIES THAT MAY ACQUIRE ANY PROPERTY SUBJECT TO THE REQUIREMENTS AND RESPONSIBILITIES DESCRIBED IN THE APPROVED STORMWATER MANAGEMENT PLAN. THE NOTICE SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS FOR RECORDING CONTAINED IN RSA 477 AND 478. THE NOTICE NEED NOT SET FORTH THE REQUIREMENTS AT LENGTH, SO LONG AS IT IS SUFFICIENT TO PROVIDE NOTICE TO PROSPECTIVE PURCHASERS TO THE REQUIREMENTS FOR MAINTENANCE AND REPORTING.
29. FIRE DEPARTMENT ACCESS ROAD(S) SHALL BE INSTALLED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS IN ALL WEATHER CONDITIONS AT ALL TIMES.
30. THE MAXIMUM PARKING SPACE CALCULATION IS 42, INCLUDING 1 ACCESSIBLE SPACES, AND 44, INCLUDING 1 ACCESSIBLE SPACES, ARE PROVIDED.
31. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
32. TOPOGRAPHIC SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATE, AUGUST 2022.
33. ELEVATIONS DEPICTED ARE BASED OFF VERTICAL DATUM NH STATE PLANE NAVD83.
34. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 45, ARTICLE I, SECTION 45-2 OF THE CODE OF THE CITY OF DOVER. (IF APPLICABLE)
35. APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
36. THE PROPOSED STRUCTURES SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED BY CHAPTER 81- 30 OF THE CODE OF THE CITY OF DOVER AND THE ADOPTED STATE OF NH BUILDING AND FIRE CODES.
37. SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED AND APPROVED BY INSPECTION SERVICES PRIOR TO CONNECTION OF THE BACKFLOW DEVICE.
38. FIRE DEPARTMENT CONNECTION(S) SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13. ACCESS TO THE FDC SHALL MAINTAIN A CLEAR AND UNOBSTRUCTED PATH AT ALL TIMES.
39. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE WILL ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. (I.E. IBC, ANSI-117.1) AND NH RSA 155-A: 5.
40. DESIGN ENGINEER SHALL PROVIDE SIGNED LETTER TO CITY ENGINEER CERTIFYING THAT THE STORMWATER MANAGEMENT SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS.
41. ALL MANHOLE COVERS SHALL BE LIFTMATE R-1743-LM OR APPROVED EQUAL WITH 90 DEGREE HINGE.
42. REQUIRED BLASTING AND EXCAVATION – DOVER FIRE DEPARTMENT SHALL BE NOTIFIED PRIOR TO ANY BLASTING ACTIVITIES AND A BLASTING PERMIT FROM THE DOVER FIRE DEPARTMENT MUST BE OBTAINED.
43. THE WATER MAIN SHALL BE POLY WRAPPED IN ACCORDANCE WITH THE CITY OF DOVER STANDARDS.
44. ALL SEWER MAINS AND MANHOLES SHALL BE TESTED IN ACCORDANCE WITH NHDES ENV-WQ 700 REQUIREMENTS. COPIES OF TEST RESULTS SHALL BE PROVIDED TO THECITY OF DOVER ENGINEERING DEPARTMENT.
45. WETLAND PLACARDS SHOULD IDENTIFY THE NO CUT WETLAND BUFFER AND SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION AND AFTER.
46. ALL FITTINGS MUST BE CLASS 140 WATER FITTINGS.
47. ALL GATE VALVES MUST BE MANUFACTURED BY MUELLER OR CLOW.

DEMOLITION NOTES:

1. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
2. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL NOTIFY "DIG SAFE" PRIOR TO ANY DEMOLITION/ CONSTRUCTION ACTIVITIES. (811).
4. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, UTILITIES AND PAVEMENT ON THE SITE TO THE LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN.
5. IT IS THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
6. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS NOT ALREADY OBTAINED BY THE OWNER AND ARRANGE AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
8. STONES FROM REMOVED STONEWALLS SHALL REMAIN ON-SITE. STONES SHALL BE REPURPOSED ON-SITE AND SHALL NOT BE USED AS FILL.
9. THE LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATION IS NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
10. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES, AND CODES.

SITE NOTES

1. REVIEW DOVER NOTES FOR ALL APPLICABLE NOTES.
2. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.
3. ALL CONSTRUCTION LAYOUT SHALL BE DONE BY A LICENSED SURVEYOR UNDER CONTRACT WITH THE CONTRACTOR.
4. SEE DETAILS FOR SIGN LEGENDS.
5. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICAN WITH DISABILITIES ACT, LATEST EDITIONS.
6. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE CONSTRUCTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE FACILITIES AND THEIR COMPONENTS DURING DEMOLITION AND CONSTRUCTION UNLESS OTHERWISE DIRECTED BY THE OWNERS REPRESENTATIVE. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE-DOWNS. SUCH MATERIALS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AT THE COMPLETION OF THE PROJECT.
7. METHODS OF DEMOLITION, CONSTRUCTION AND ERECTION ARE THE CONTRACTOR'S RESPONSIBILITY UNLESS OTHERWISE SPECIFIED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND MAINTAIN ENVIRONMENTAL CONTROLS AS REQUIRED BY FEDERAL, STATE AND MUNICIPAL REGULATIONS AND PERMITS. ENVIRONMENTAL CONTROLS SHALL INCLUDE BUT SHALL NOT BE LIMITED TO DUST CONTROL AND SILT BARRIERS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO STRUCTURES OR UTILITIES OR INJURIES TO THE PUBLIC DURING THE CONSTRUCTION PHASE CAUSED BY HIMSELF, HIS EMPLOYEES, HIS SUBCONTRACTORS OR EMPLOYEES OF SAME. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY FACILITIES FOR THE PROTECTION OF THE WORK, WORKERS AND PUBLIC SAFETY.
9. THE SITE SHALL BE MAINTAINED TO PROVIDE ACCESSIBILITY IN ALL WEATHER CONDITIONS.
10. REFUSE PICKUP WILL BE BY PRIVATE CONTRACTOR AT ENDS OF DRIVEWAYS.
11. SNOW STORAGE WILL BE ACCORDING TO THE OPERATION AND MAINTENANCE PLAN AND WITHIN AREAS AS INDICATED. ON-SITE SNOW STORAGE SHALL OCCUR ALONG THE EDGES OF PROPOSED PAVEMENT. IF SNOW VOLUME BECOMES TO GREAT THE SNOW WILL BE HALED OFF SITE.
12. ALL EXTERIOR DOORS SHALL COMPLY WITH ADA AND ALL LOCAL BUILDING CODE REQUIREMENTS.
13. PRIOR TO CONVEYING THE OWNERSHIP AND MAINTENANCE OBLIGATIONS FROM THE DEVELOPER TO THE ASSOCIATION, THE ENGINEER OF RECORD SHALL MEET WITH THE ASSOCIATION AND REVIEW MAINTENANCE OBLIGATIONS, INCLUDING STORMWATER, AND ROADWAY MAINTENANCE.
14. THIS IS A PRIVATE ROAD AND WILL REMAIN A PRIVATE ROAD, ROAD IS NOT BUILT TO CITY STANDARDS.

GRADING NOTES:

1. REVIEW DOVER NOTES FOR ALL APPLICABLE NOTES.
2. CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEERING CONSULTANT APPROVED BY THE OWNER, TO CONDUCT COMPACTION TESTING AND FILL GRADATION MONITORING.
3. SEE EROSION CONTROL NOTES & DETAIL SHEET FOR TEMPORARY AND PERMANENT EROSION CONTROL MEASURES.
4. ALL DRAINAGE PIPES SHALL BE HDPE OR APPROVED EQUAL UNLESS OTHERWISE NOTED.
5. ALL DISTURBED AREAS NOT OTHERWISE CALLED FOR SURFACE TREATMENT SHALL RECEIVE 6" OF HIGH QUALITY LOAM AND SHALL BE SEEDED WITH GRASS.
6. ALL SITEWORK CONSTRUCTION SHALL BE ADVANCED USING "BEST MANAGEMENT PRACTICES" SANCTIONED BY THE USDA, SCS AND NHDES.
7. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED, UTILIZED AND MAINTAINED UNTIL BASE MATERIALS ARE CONSTRUCTED.
8. CONTRACTOR SHALL PROVIDE A FINISH GRADED SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE AND UNDER RAISED STRUCTURES.
9. PROVIDE INLET PROTECTION BARRIERS AROUND ALL EXISTING AND PROPOSED STORM DRAINAGE INLETS WITHIN THE WORK LIMITS AND AS SHOWN ON PLAN. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED AND UPSTREAM AREAS HAVE BEEN STABILIZED.
10. INSPECT SILT BARRIERS AFTER EACH RAIN STORM OF 1/4 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF THE FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE STRUCTURE HEIGHT.
11. A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED FOR THIS PROJECT. THE SWPPP MUST INCLUDE THE APPROPRIATE BEST MANAGEMENT PRACTICES (BMP'S) TO MINIMIZE THE DISCHARGE OF POLLUTANTS FROM THE SITE. PARTIES RESPONSIBLE FOR DEVELOPING THE SWPPP SHOULD REFER TO THE EPA NPDES CONSTRUCTION GENERAL PERMITS NOTICE OF INTENT FOR A COMPLETE OUTLINE OF REQUIRED ELEMENTS. THESE PLANS AND THE STORMWATER MANAGEMENT SYSTEM INSPECTION & MAINTENANCE PLAN PREPARED FOR THIS PROJECT MAY BE UTILIZED IN FULFILLING THE REQUIREMENTS.
12. LIMIT TREE CLEARING TO ONLY THE EXTENT NECESSARY FOR CONSTRUCTION.
13. CONTRACTOR SHALL NOTIFY THE CITY OF DOVER AND THE DESIGN ENGINEER 48 HOURS PRIOR TO THE INSTALLATION OF PERMANENT STORMWATER BMP'S TO PROVIDE THE CITY AND THE ENGINEER THE OPPORTUNITY TO WITNESS THE CONSTRUCTION AND MATERIALS. THE DESIGN ENGINEER MUST CERTIFY THAT THE STORMWATER MANAGEMENT SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS.
14. DENSITY REQUIREMENTS:

LOCATION	MINIMUM DENSITY
BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREA	90%

   * ALL PERCENTAGES SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH AASHTO STANDARD 180, METHOD C. FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH AASHTO STANDARD T-191, T-204, OR T-238 AND T-239.

PROJECT VARIANCE / PERMIT SUMMARY:

1. THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY:

   NONE REQUIRED

2. LIST ANY VARIANCES OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT OR CONDITIONAL USE PERMITS GRANTED BY THE PLANNING BOARD FOR THE PROPOSED USE OR STRUCTURE, INCLUDING THE CASE NUMBER AND DATE OF DECISION AND ANY CONDITIONS.

   SITE PLAN: SITE-2023-0015 – PENDING

   CONDITIONAL USE PERMIT: WETLAND BUFFER IMPACT – PENDING
   FRONT SETBACK – PENDING

   WAVERS REQUESTED: INTERIOR PARKING LOT LANDSCAPING – PENDING

UTILITY NOTES

1. REVIEW DOVER NOTES FOR ALL APPLICABLE NOTES.
2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
3. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
4. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
5. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
6. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, DOUBLE CEMENT LINED DUCTILE IRON PIPE OR TYPE "K" COPPER, OR CITY APPROVED MATERIAL.
7. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF DOVER WATER DEPARTMENT.
8. ALL GRAVITY SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE NOTED AND CONFORM TO THE REQUIREMENTS OF THE CITY OF DOVER SEWER DEPARTMENT STANDARDS.
9. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE CITY OF DOVER COMMUNITY SERVICES DEPARTMENT STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
10. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
11. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE UTILITY COMPANIES.
12. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
13. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
14. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
15. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES. COORDINATE WITH GAS COMPANY.
16. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
17. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
18. SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
19. GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF DOVER.
20. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF DOVER.
21. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
22. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
23. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PREPARED BY THE PROJECT ELECTRICAL ENGINEER.
24. THE PROPOSED STRUCTURE SHALL COMPLY WITH CHAPTER 81, ARTICLE IV, SECTION 81-27 AND THE STATE BUILDING CODES OF THE CODE OF THE CITY OF DOVER.
25. FIRE SUPPRESSION PLANS SHALL BE PROVIDED TO THE FIRE/INSPECTION DEPARTMENT PRIOR TO INSTALLATION.
26. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
27. SEWAGE LOADING (PER NHDES ENV-WQ 1008.03 TABLE 1008-1) APARTMENTS – 2 OR MORE: 150 GPD/ BEDROOM = 21 UNITS X 2BEDS X 150: 6,300 GPD.
28. AN EASEMENT WILL BE GRANTED TO THE CITY ALONG THE WATER LINES TO ALLOW ACCESS FOR OPERATION OF THE WATER INFRASTRUCTURE TO MAINTAIN WATER QUALITY
29. SHOP DRAWINGS OF THE GENERATOR AND PAD CAN BE PROVIDED TO DOVER ENGINEERING IF REQUESTED.

UTILITY CONTACTS

NATURAL GAS: –
CONTACT: UNITIL CORPORATION
DAVID MACLEAN
325 WEST ROAD
PORTSMOUTH, NH 03801
TEL: (603)-294-5261
EMAIL: MACLEAND@UNITIL.COM

WATER & SEWER: – CITY OF DOVER COMMUNITY SERVICES DEPARTMENT
PUBLIC WORKS & UTILITIES
CONTACT: KEN MAVROGEORGE, PE
271 MAST ROAD
DOVER, NH 03820
TEL: (603)-516-6450
EMAIL: K.MAVROGEORGE@DOVER.NH.GOV

ELECTRIC: – EVERSOURCE
CONTACT: TREVER EMMONS
4 OLD DOVER ROAD
ROCHESTER, NH 03867
TEL: (603)-332-7515
EMAIL: TREVER.EMMONS@EVERSOURCE.COM

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-2023-0015

NO.	REVISION	APP'D	DATE
1	REV. PER TRC COMMENTS #1	SJH	2-8-24
2	REV. PER TRC COMMENTS #2	SJH	5-6-24

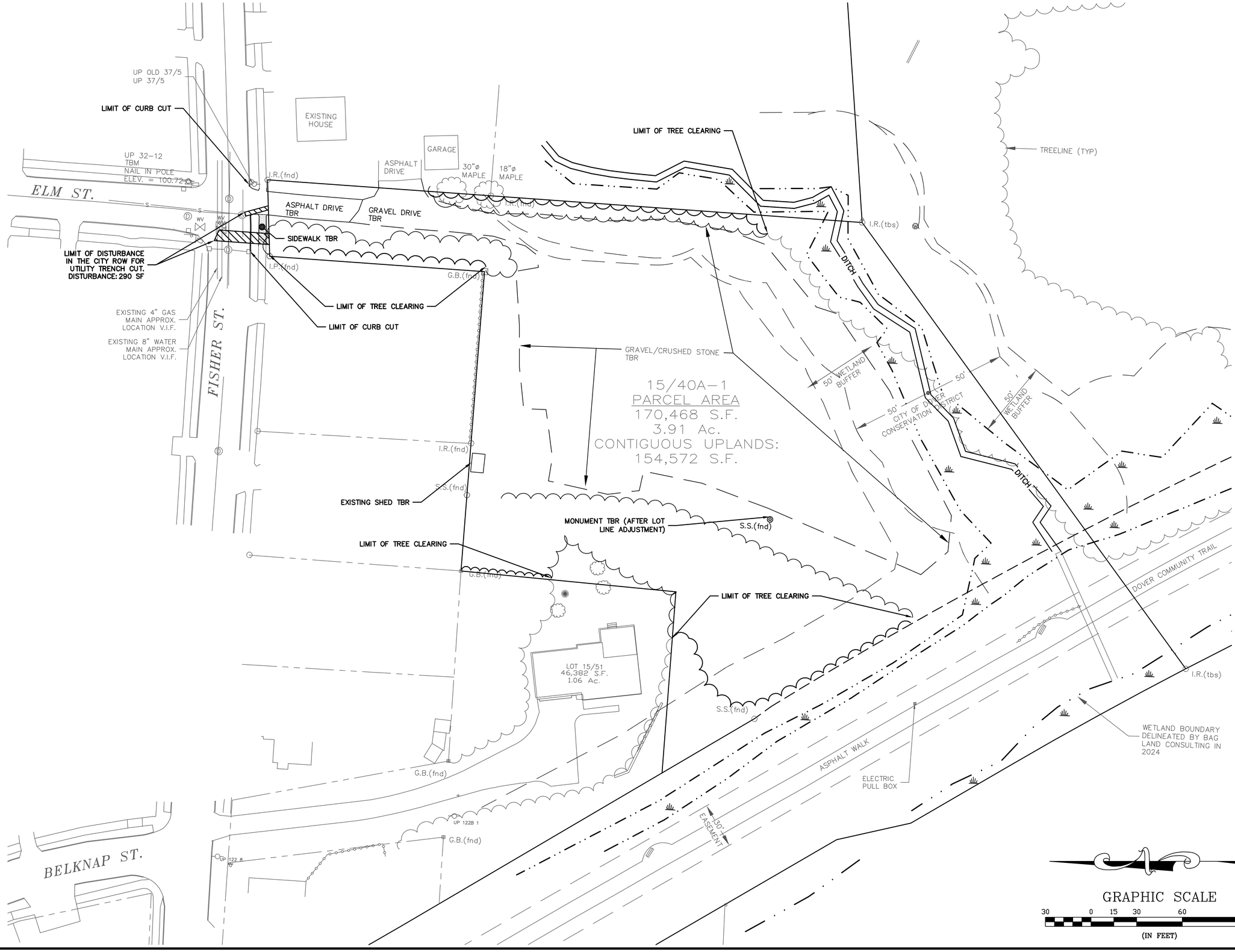
DATE: 10-26-23
SCALE: NOTES
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY: SJH
PROJECT NO: 22017
FILE NAME: SITE.DWG

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

NOTE SHEET



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PLANNING FILE NO.: SITE-2023-0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
2	REV. PER TRC COMMENTS #2	SJH	5-6-24
1	REV. PER TRC COMMENTS #1	SJH	2-8-24

DATE: 10-26-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY:SJH
PROJECT NO:22017
FILE NAME:SITE.DWG

DEMOLITION PLAN

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

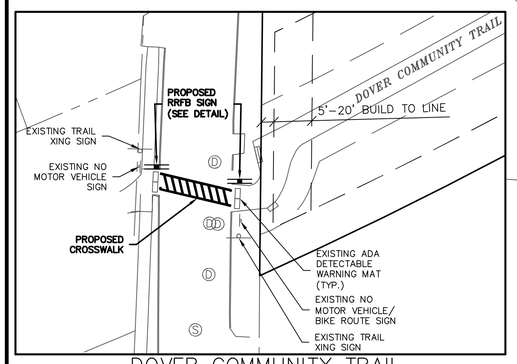
UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

5

PARKING CALCULATION:
21 UNITS PROPOSED
MAX ALLOWED: 1.4 SPACES PER UNIT + 0.5 VISITOR SPACES PER UNIT: **40 SPACES**
PROVIDED: 21 GARAGE SPACES + 11 PARKING LOT SPACES: **32 SPACES PROVIDED**

NOTE:
REFUSE PICKUP WILL BE BY PRIVATE CONTRACTOR AT ENDS OF DRIVEWAYS.

ELM ST.
FISHER ST.
LENOX DR.
BELKNAP ST.
UP OLD 37/5
UP 37/5
UP 32-12
TBM
NAIL IN POLE
ELEV. = 100.72
EXISTING HOUSE
GARAGE
ASPHALT DRIVE
30"ø MAPLE
18"ø MAPLE
TREELINE (TYP)
MEET/MATCH EXISTING PAVEMENT
PROPOSED GUARDRAIL
PROPOSED 5' VINYL FENCE (SEE DETAIL)
RETAINING WALL 3
SEE GUARDRAIL TERMINAL SECTION DETAIL
10' SIDE SETBACK
EXTEND EXISTING SIDEWALK
CONCRETE CURB RAMP W/ ADA DETECTABLE WARNING MAT
PROPOSED UTILITY POLE
BEGIN SGC
EXISTING ADA DETECTABLE WARNING MAT
PROPOSED STOP SIGN AND STOP BAR
END SGC
TIP DOWN
I.R.(fnd)
I.R.(tbs)
5'-20' BUILD TO LINE
BIO-RETENTION BASIN 2 (BP2)
END SGC/ TIP DOWN
MAIL KIOSK
BEGIN SGC/ TIP DOWN
END SGC/TIP DOWN
BIKE RACK
DRIP EDGE 3
DITCH
TEMPORARY SNOW STORAGE AREA TO BE HAULED OFF SITE. (TYP)
RETAINING WALL 2
PROPOSED GUARDRAIL IN FRONT OF WALL
PROPOSED CROSSWALK TYP.
END SGC/ TIP DOWN
BEGIN SGC
PROPOSED 5' WIDE ASPHALT SIDEWALK
PROPOSED NO OUTLET SIGN
CONCRETE CURB RAMP W/ (2) ADA DETECTABLE WARNING MATS
PROPOSED 5' VINYL FENCE (SEE DETAIL)
G.B.(fnd)
BEGIN SGC/ TIP DOWN
PROPOSED NO PARKING FIRE LANE SIGN (1)
PROPOSED LIGHT POLE
22'
24'
WETLAND BUFFER
50'
CITY OF DOVER CONSERVATION DISTRICT
50' WETLAND BUFFER
10' SIDE SETBACK
END OF 5' VINYL FENCE
DRIP EDGE 1
FRONT PORCH TYP.
PROPOSED NO PARKING FIRE LANE SIGN
TRANSFORMER PAD TYP.
DRIP EDGE 4
DITCH
PROPOSED GUARDRAIL IN FRONT OF WALL
PROPOSED POROUS PAVEMENT SIGN (5) TYP.
S.S.(fnd)
BACK PORCH TYP.
PROPOSED POROUS PAVEMENT
GENERATOR PAD
PROPOSED SNOW STORAGE, SEE SHEET 4, SITE NOTE 11
BEGIN VGC
END VGC
DOVER COMMUNITY TRAIL
10' SIDE SETBACK
DRIP EDGE 2
BIO-RETENTION BASIN 1 (BP1)
WETLAND BUFFER PLACARD (TYP.)
PROPOSED SNOW STORAGE (TYP) PER UNIT. SEE SHEET 4, SITE NOTE 11
S.S.(fnd)
RETAINING WALL 1
10' SIDE SETBACK
ASPHALT WALK
ELECTRIC PULL BOX
WETLAND BOUNDARY DELINEATED BY BAG LAND CONSULTING IN 2024
I.R.(tbs)
G.B.(fnd)
10' SIDE SETBACK
UP 122B 1
UP 122 8
G.B.(fnd)
50' EASEMENT
15' REAR SETBACK
C1 C2 C3 C4 C5 C6
A1 A2 A3 A4 A5 A6
B1 B2 B3 B4 B5
D1 D2 D3 D4
1 2 3 4 5 6



DOVER COMMUNITY TRAIL
FISHER STREET CROSSING
SCALE: 1"=30'

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-2023-0015

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SITE PLAN

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

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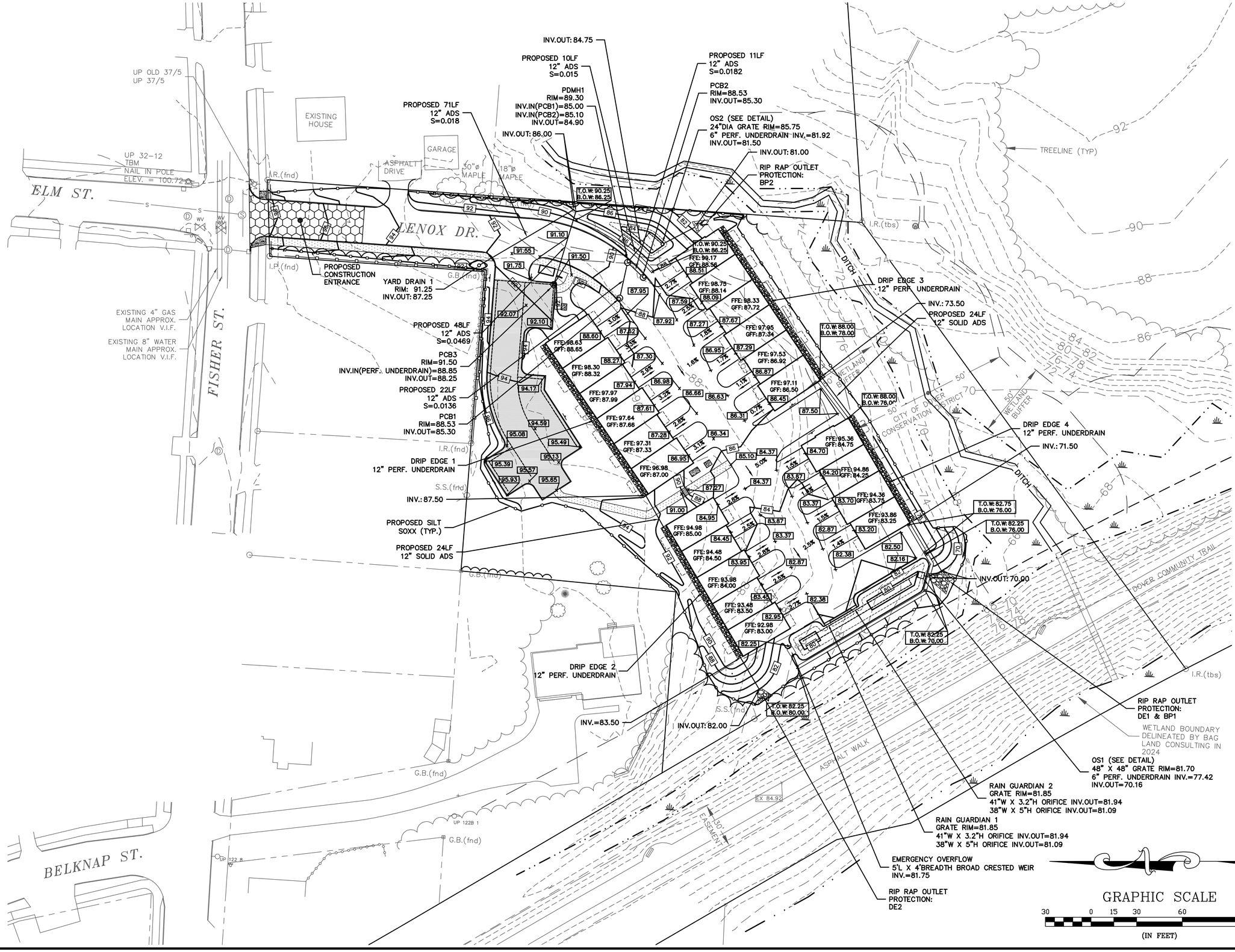

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-20231-0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
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PROJECT NO: 22017
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GRADING, DRAINAGE & EROSION CONTROL PLAN

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

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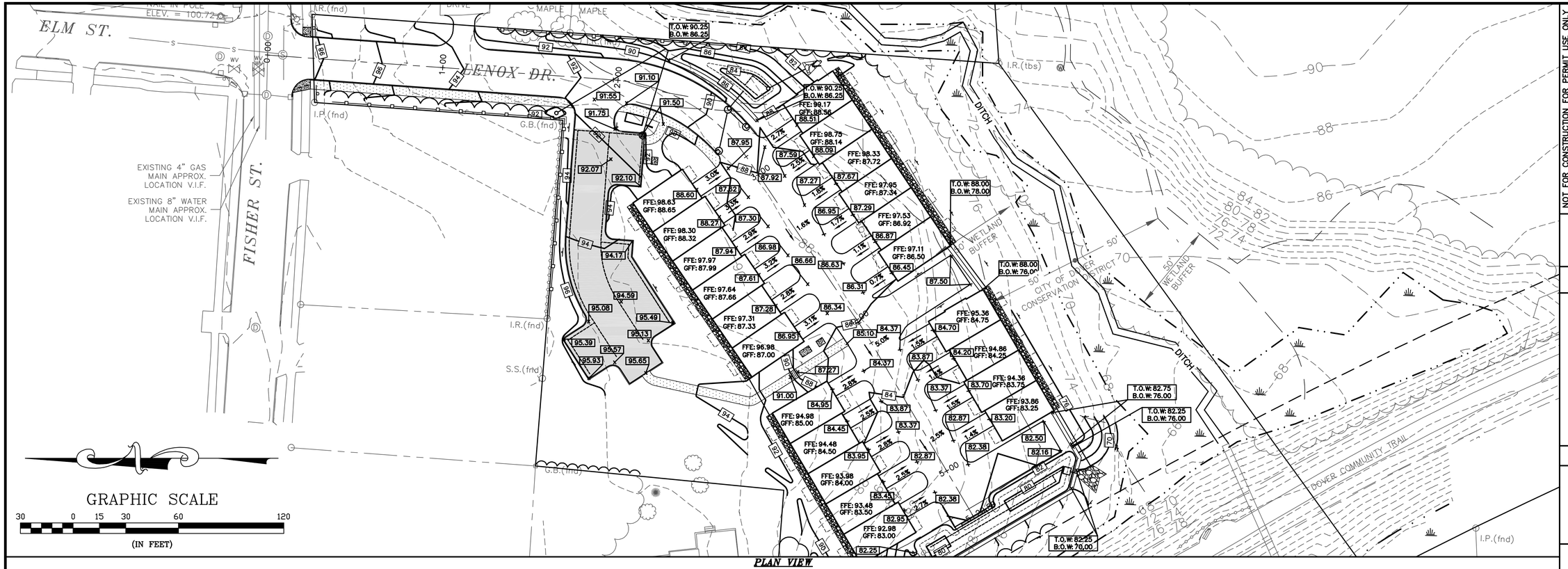
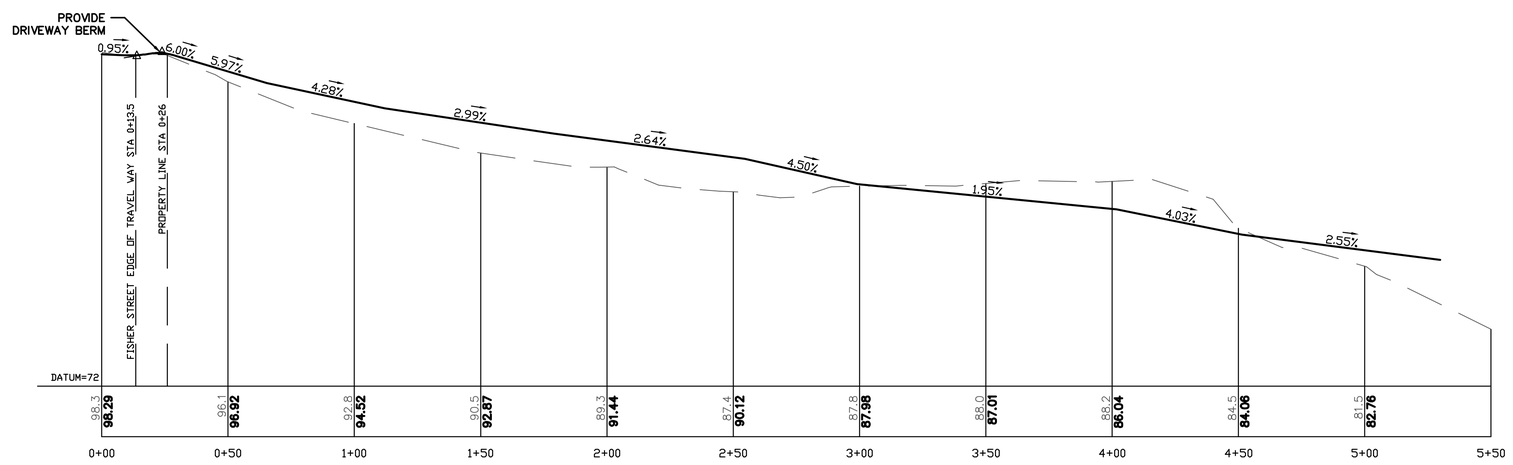


PLAN VIEW
SCALE: 1"=30'



LENOX DRIVE
PROFILE VIEW
SCALE: HORIZONTAL: 1"=30'
VERTICAL: 1"=6'

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-20231-0015

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LENOX DRIVE PLAN & PROFILE

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

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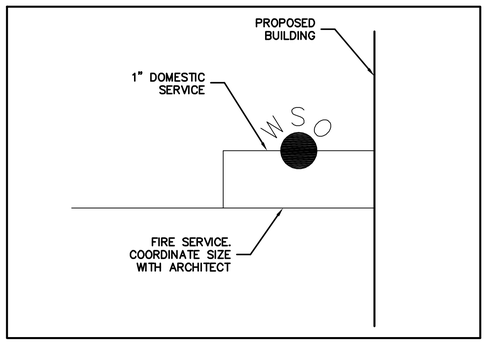
SEWER PIPE CHART	SIZE	LENGTH	SLOPE
PS1	6" PVC	124'	2.7%
PS2	6" PVC	94'	1.0%
PS3	6" PVC	26'	2.0%
PS4	6" PVC	19'	1.6%

ELM ST.
FISHER ST.
LENOX DR.
BELKNAP ST.
EXISTING HOUSE
GARAGE
ASPHALT DRIVE
UP OLD 37/5
UP 37/5
ESMH 2327
RIM=98.16
EX. 8"AC INV=90.26
EX. 8"AC INV=90.26
EX. 8"AC INV=90.16
PROPOSED CORE AND BOOT 6" INV.IN=91.00
EDMH 2264
RIM=98.08
UP 32-12
TBM
NAIL IN POLE
ELEV. = 100.72
ECB 5410
RIM=98.10
EDMH 4268
RIM=98.23
ECB 5389
RIM=97.76
ECB 716
RIM=97.93
ECB 7311
RIM=98.18
EDMH 8112
RIM=98.50
EDMH
RIM=100.08
RISER POLE FOR LOOPING ON UP 37/5
SECOND RISER POLE ON PROPOSED UPOLE
PROPOSED 8"X8" STAINLESS STEEL TAPPING SLEEVE
PROPOSED GAS GATE VALVE
EXISTING 4" GAS MAIN APPROX. LOCATION V.I.F.
EXISTING 8" WATER MAIN APPROX. LOCATION V.I.F.
PS4
PROPOSED 8" GATE VALVE
PROPOSED 8" D.I. WATERLINE
PROPOSED 2" GAS MAIN
PROPOSED TRANSFORMER PAD
PROPOSED EV READINESS 2" SCHEDULE 40 PVC CONDUIT
PROPOSED 6" D.I. WATERLINE TO HYDRANT (TYP.)
LIGHT POLE BASE (TYP.)
PROPOSED TRANSFORMER PAD
PROPOSED GENERATOR PAD
PUMP STATION CONTROLLER
E-ONE PUMP
INV.IN (8"PVC)=74.00
INV.OUT (2" FM)=74.90
SEE TYPICAL FIRE AND DOMESTIC WATER SERVICE CONNECTION DETAIL
PROPOSED 4" PVC SEWER SERVICE (TYP)
HYDRANT ASSEMBLY W/ GATE VALVE (TYP.)
PROPOSED THRUST BLOCK (TYP)
PSMH1
RIM=98.00
INV.IN (PSMH2)=91.80
INV.OUT (ESMH)=91.30
2" SDR11 FORCE MAIN
PROVIDE TIE FOR ELECTRICAL LOOPING. PROVIDE LOOPING IN SAME TRENCH (COORDINATE W/ EVERSOURCE)
PROPOSED 8"X6" STAINLESS STEEL TAPPING SLEEVE TO HYDRANT (TYP.)
30"ø MAPLE
18"ø MAPLE
BIO-RETENTION BASIN 2 (BP2)
BIO-RETENTION BASIN 1 (BP1)
12" RCP CULVERT OUTLET
INV: 89.46
TREELINE (TYP)
INV 12D CAST IRON
72.81
PSMH2
RIM=88.70
INV.IN (C1)=84.00
INV.IN (A1)=84.00
INV.OUT (PSMH3)=82.00
PS1
PROPOSED UNDERGROUND ELECTRIC, CABLE, AND TELEPHONE
DITCH
50' WETLAND BUFFER
50' CITY OF DOVER CONSERVATION DISTRICT
PSMH3
RIM=85.30
INV.IN (PSMH2)=78.60
INV.IN (PSMH4)=74.60
INV.OUT (E-ONE)=74.50
PS3
PS2
PSMH4
RIM=82.30
INV.IN (B5)=77.60
INV.OUT (PSMH3)=75.60
INVERT IN = 65.0
DOVER COMMUNITY TRAIL
3'X4' STONE BOX CULVERT
I.R.(tbs)
INVERT OUT = 62.2
WETLAND BOUNDARY DELINEATED BY BAG LAND CONSULTING IN 2024
ASPHALT WALK
ELECTRIC PULL BOX
50' EASEMENT
I.R.(fnd)
I.P.(fnd)
G.B.(fnd)
S.S.(fnd)
UP 122B 1
UP 122 B
A1 A2 A3 A4 A5 A6
B1 B2 B3 B4 B5
C1 C2 C3 C4 C5 C6
D1 D2 D3 D4



TYPICAL FIRE AND DOMESTIC WATER SERVICE CONNECTION DETAIL

SCALE: NOT TO SCALE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

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20 COTTON ROAD, SUITE 200
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UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

UTILITY PLAN

9

DESCRIPTION

1. THE PURPOSE OF THIS PLAN IS TO DEPICT IMPROVEMENTS ASSOCIATED WITH THE CONSTRUCTION OF 4 MULTI-FAMILY RESIDENTIAL TOWNHOUSE BUILDINGS WITH 21 UNITS AND ASSOCIATED SITE IMPROVEMENTS.

PROJECT NAME AND LOCATION

UPTOWN CROSSING
TAX MAP 15, LOT 40A-1 — *LATITUDE N43° 11' 13"*
FISHER STREET — *LONGITUDE W70° 52' 41"*
DOVER, NH

DISTURBED AREA

±70,265 S.F.

NOTES:
1. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION.
2. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

SEQUENCE OF MAJOR ACTIVITIES

1. CONTRACTOR SHALL PREPARE THE SWPPP, FILE FOR AND OBTAIN THE NOI A MINIMUM OF 2 WEEKS PRIOR TO COMMENCEMENT OF SITE WORK.
2. PLACE TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S PRIOR TO EARTH MOVING ACTIVITIES.
3. ALL EROSION CONTROL AND PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO COMMENCING EARTH MOVING OPERATIONS.
4. SELECTIVE DEMOLITION.
5. REGRADE SITE TO SUBGRADE.
6. TEMPORARY WATER DIVERSION (SWALES, BASINS) MUST BE USED AS NECCESSARY UNTIL AREAS ARE STABILIZED.
7. SWALES AND PONDS (AS APPLICABLE) SHALL BE CONSTRUCTED EARLY ON IN THE CONSTRUCTION SEQUENCE AND BEFORE ROUGH GRADING OF THE SITE AND ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
8. INSTALL DRAINAGE STRUCTURES AND CONTROLS.
9. INSTALL FOUNDATION FOOTINGS AND WALLS.
10. INSTALL UTILITIES.
11. PLACE GRAVELS AND FINE GRADE.
12. STABILIZE ROADWAYS AND PARKING AREAS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
13. ALL CUT AND FILL SLOPES SHALL BE LOAMED AND SEEDED (AS APPLICABLE) WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
14. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY 1/2" OF RAINFALL.
15. IN ALL CASES THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION AND IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
16. WHEN ALL SITE WORK IS COMPLETE AND ALL DISTURBED AREAS ARE STABILIZED REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND FILE THE EPA – N.O.T.

DEFINITIONS

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWNG HAS OCCURRED.
1. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED
2. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
3. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED; OR
4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED

INSTALLATION, MAINTENANCE, AND INSPECTION PROCEDURES OF EROSION AND SEDIMENT CONTROLS

A. SILT BARRIER

1. INSTALLATION
- *a. USE SILT BARRIER AS PERIMETER CONTROLS, PARTICULARLY AT THE LOWER OR DOWN SLOPE EDGE OF A DISTURBED AREA.*
- *b. LEAVE SPACE FOR MAINTENANCE BETWEEN TOE AND SLOPE OF SILT BARRIER.*
- *c. TRENCH IN THE SILT BARRIER ON THE UPHILL SIDE (6 INCHES DEEP BY 6 INCHES WIDE).*
- *d. INSTALL STAKES ON THE DOWNHILL SIDE OF THE SILT BARRIER.*
- *e. CURVE THE END OF THE SILT BARRIER UP-GRADIENT TO HELP IT CONTAIN RUNOFF.*

2. SEQUENCE OF INSTALLATION
- *a. SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.*

3. MAINTENANCE
- *a. SILT BARRIERS SHOULD BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.*
- *b. SILT BARRIERS HAVE A USEFUL LIFE OF ONE SEASON. ON LONGER CONSTRUCTION PROJECTS, SILT BARRIERS SHOULD BE REPLACED PERIODICALLY TO MAINTAIN EFFECTIVENESS.*
- *c. REMOVE SEDIMENT WHEN IT REACHES ONE-THIRD (1/3) THE HEIGHT OF THE SILT BARRIER.*
- *d. REPLACE THE SILT BARRIERS WHERE THEY ARE TORN, WORN, OR OTHERWISED DAMAGED AND MONITOR PERFORMANCE TO ENSURE EFFECTIVE PERFORMANCE.*
- *e. RETRENCH OR REPLACE ANY SILT BARRIER THAT IS NOT PROPERLY ANCHORED TO THE GROUND.*
- *f. IF THERE IS EVIDENCE OF END FLOW ON PROPERLY INSTALLED BARRIERS, EXTEND BARRIERS UPHILL OR CONSIDER REPLACING THEM WITH OTHER MEASURES, SUCH AS TEMPORARY DIVERSIONS AND SEDIMENT TRAPS.*
- *g. SILT BARRIERS SHOULD BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERMINING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SILT BARRIERS SHOULD BE REPLACED WITH A TEMPORARY CHECK DAM.*

B. MULCHING

1. TIMING
- *a. APPLY MULCH PRIOR TO ANY STORM EVENT. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.*
- *b. IN OTHER AREAS, THE TIME PERIOD CAN RANGE FROM 14 TO 30 DAYS OF INACTIVITY ON A AREA. THE LENGTH OF TIME VARYING WITH SITE CONDITIONS. PROFESSIONAL JUDGEMENT SHALL BE USED TO EVALUATE THE INTERACTION OF SITE CONDITIONS (SOIL ERODIBILITY, SEASON OF YEAR, EXTENT OF DISTURBANCE, PROXIMITY TO SENSITIVE RESOURCES, ETC.) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS TO CHOOSE AN APPROPRIATE TIME RESTRICTION.*
- *c. WITHIN 100 FEET OF RIVERS, STREAMS, WETLANDS, AND IN LAKE AND POND WATERSHEDS, THE TIME PERIOD OF WHICH MULCHING SHOULD TAKE OCCUR SHOULD BE NO GREATER THAN SEVEN (7) DAYS. THIS SEVEN DAY LIMIT SHOULD BE REDUCED FURTHER DURING WET WEATHER PERIODS.*

2. APPLICATION RATE
- *a. MULCH SHALL BE APPLIED AT A RATE OF BETWEEN 1.5 TO 2 TONS PER ACRE, OR 70 TO 90 POUNDS PER 1000 SQUARE FEET.*
- *b. GUIDELINES FOR WINTER MULCH APPLICATION. WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON) IT SHALL BE AT A RATE OF 150-200 POUNDS OF HAY OR STRAW PER ACRE WITH ABOUT 4 INCHES IN DEPTH. A TACKIFIER MAY BE ADDED TO THE MULCH.*

3. MAINTENANCE
- *a. ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS. CHECK FOR SIGNS OF EROSION OR DISPLACEMENT OF THE MULCH. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED.*
- *b. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE AND SHOULD BE REPAIRED AS NECCESSARY.*
- *c. INSPECTIONS SHOULD TAKE PLACE UNTIL THE SITE IS ESTABLISHED.*
- *d. EROSION CONTROL MULCH USED FOR TEMPORARY STABILIZATION SHOULD BE LEFT IN PLACE. VEGETATION ADDS STABILITY AND SHOULD BE PROMOTED.*

C. TEMPORARY SEEDING

1. SEEDBED PREPARATION
- *a. STONES AND TRASH SHOULD BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.*
- *b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.*
- *c. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS.*
  - *i) APPLY FERTILIZER AT A RATE OF 600 POUNDS PER ACRE OR 13.8 POUNDS PER 1,000 SQUARE FEET OF LOW PHOSPHATE FERTILIZER OR EQUIVALENT.*
  - *ii) APPLY LIMESTONE AT A RATE OF 3 TONS PER ACRE OR 138 POUNDS PER 1,000 SQUARE FEET.*

2. SEEDING
- *a. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SUMMARY INCLUDING SEED AND FERTILIZER) WITH A SEEDING DEPTH FROM A QUARTER (1/4) TO A HALF (1/2) INCH.*
- *b. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.*
- *c. TEMPORARY SEEDING BETWEEN MAY 15TH AND AUGUST 15TH SHOULD BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE.*
- *d. VEGETATED GROWTH COVERING 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15TH.*

3. MAINTENANCE
- *a. TEMPORARY SEEDING SHALL BE INSPECTED PERIODICALLY. AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER FABRICS, CHECK DAMS, ETC.).*

D. PERMANENT SEEDING

1. BEDDING – STONES LARGER THAN 2 INCHES, TRASH, ROOTS, AND OTHER DEBRIS INTERFERRING WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA SHOULD BE REMOVED. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF 4" TO PREPARE A SEEDBED AND MIX FERTILIZER INTO THE SOIL.
2. FERTILIZER
   - a. LIME AND FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 4 INCHES USING A DISC, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT PRIOR TO OR AT THE SAME TIME OF SEEDING.
   - b. FERTILIZER SHOULD BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE NITORGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 FEET AND 250 FEET FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25 FEET OF THE SURFACE WATER.
   - c. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
     AGRICULTURAL LIMESTONE @ 138 LBS. PER 1,000 S.F.
     LOW PHOSPHATE (N-P205-K20) FERTILIZER @ 13.8 LBS. PER 1,000 S.F.
3. SEED MIXTURE (RECOMMENDED)
   RATE:

TYPE	LBS. PER ACRE	LBS. PER 1,000 S.F.
TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDSFOOT TREFOIL	8	0.20
TOTAL	48	1.10

4. SEEDING
   - a. SPRING SEEDING USUALLY GIVES THE BEST RESULTS FOR ALL SEED MIXES OR WITH LEGUMES. PERMANENT SEEDING SHOULD BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST.
   - b. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER) WITH A SEEDING DEPTH FROM A QUARTER (1/4) TO A HALF (1/2) INCH.
   - c. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED SHOULD BE ACHIEVED PRIOR TO OCTOBER 15TH. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.
5. HYDROSEEDING
   - a. LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF STRAW MULCH ON CRITICAL AREAS IS PREFERRED SINCE IT GRANTS BETTER SLOPE PROTECTION BY USING ADHESIVE MATERIALS.
   - b. SLOPES MUST BE NO STEEPER THAN 2 TO 1 (2 FEET HORIZONTALLY TO 1 FOOT VERTICALLY).
   - c. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
6. MAINTENANCE
   - a. PERMANENT SEEDED AREAS SHOULD BE INSPECTED AT LEAST MONTHLY DURING THE COURSE OF CONSTRUCTION. INSPECTIONS, MAINTENANCE, AND CORRECTIVE ACTIONS SHOULD CONTINUE UNTIL THE OWNER ASSUMES PERMANENT OPERATION OF THE SITE.
   - b. SEEDED AREAS SHOULD BE MOWED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION, WITH MOWING HEIGHT AND FREQUENCY DEPENDENT ON TYPE OF GRASS COVER.
   - c. BASED ON INSPECTION, AREAS SHOULD BE RESEEDED TO ACHIEVE FULL STABALIZATION OF EXPOSED SOILS.
   - d. IF EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS RESEEDED. WITH OTHER TEMPORARY MEASURES USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.
   - e. AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION.

E. STORM DRAIN INLET PROTECTION

1. SPECIFICATIONS
- *a. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE BARRIER SHOULD BE LESS THAN ONE ACRE.*
- *b. ANY RESULTANT PONDING OF STORMWATER MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.*

2. INSTALLATION
- *a. INSTALL INLET PROTECTION AS SOON AS STORM DRAIN INLETS ARE INSTALLED AND BEFORE LAND-DISTURBANCE ACTIVITIES BEGIN IN AREAS WITH EXISTING STORM DRAIN SYSTEMS.*
- *b. PROTECT ALL INLETS THAT COULD RECEIVE STORMWATER FROM YOUR CONSTRUCTION PROJECT.*
- *c. USE IN CONJUNCTION WITH OTHER EROSION PREVENTION AND SEDIMENT CONTROL BMPS.*
- *d. DESIGN YOUR INLET PROTECTION TO HANDLE THE VOLUME OF WATER FROM THE AREA BEING DRAINED. ENSURE THAT THE DESIGN IS SIZED APPROPRIATELY.*

3. MAINTENANCE
- *a. INSPECT INLETS BARRIERS FREQUENTLY, BEFORE AND AFTER EACH RAINFALL EVENT AND REPAIR WHEN NECESSARY.*
- *b. SEDIMENT SHOULD BE REMOVED AND THE STORM DRAIN SEDIMENT BARRIER RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE BARRIER.*
- *c. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.*
- *d. SWEEP STREETS, SIDEWALKS, AND OTHER PAVED AREAS REGULARLY.*
- *e. ALL CATCH BASINS AND STORM DRAIN INLETS MUST BE CLEANED AT THE END OF CONSTRUCTION AND AFTER THE SITE HAS BEEN FULLY STABILIZED*

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES THE SILT BARRIERS SHALL BE INSTALLED PRIOR TO COMMENCING ANY CLEARING OR GRADING OF THE SITE. STRUCTURAL CONTROLS SHALL BE INSTALLED CONCURRENTLY WITH THE APPLICABLE ACTIVITY. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN TWENTY ONE (21) DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN FOURTEEN (14) DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, SILT FENCES AND ANY EARTH/DIKES WILL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.

WASTE DISPOSAL
- *a. WASTE MATERIALS*
  ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN A DUMPSTER. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ON SITE. ALL PERSONEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
- *b. HAZARDOUS WASTE*
  ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
- *c. SANITARY WASTE*
  ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

MAINTENACE OF STORMWATER MANAGEMENT FACILITIES
THE PROJECT PROPONENT IS RESPONSIBLE FOR THE MAINTENANCE OF ALL STORMWATER FACILITIES DURING CONSTRUCTION AND THE PROPERTY OWNER IS RESPONSIBLE AFTER CONSTRUCTION IS COMPLETE.

CATCH BASINS & STORMWATER TREATMENT STRUCTURES
1. CATCH BASINS & STORMWATER TREATMENT STRUCTURES SHOULD BE INSPECTED ON A MONTHLY BASIS AND/OR AFTER A MAJOR RAINFALL EVENT TO ASSURE THAT DEBRIS OR SEDIMENTS DO NOT REDUCE THE EFFECTIVENESS OF THE SYSTEM.

SPILL PREVENTION

A. MATERIAL MANAGEMENT PRACTICES
THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL SANITARY EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
GOOD HOUSEKEEPING:
THE FOLLOWING GOOD HOUSEKEEPING PRACTICES THAT WILL BE FOLLOWED ON SITE DURING
1. THE CONSTRUCTION PROJECT:
- *a. AN EFFORT WILL BE MADE TO STORE ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB.*
- *b. ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.*
- *c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.*
- *d. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.*
- *e. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.*
- *f. WHENEVER POSSIBLE ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.*

2. HAZARDOUS PRODUCTS:
- *a. THE FOLLOWING PRACTICES WILL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:*
- *b. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.*
- *c. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION.*
- *d. SURPLUS PRODUCT THAT MUST BE DISPOSED OF WILL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.*

B. PRODUCT SPECIFICATION PRACTICES
THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:
1. PETROLEUM PRODUCTS:
   - a. ALL ON SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENACE TO REDUCE LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
2. FERTILIZERS:
   - a. FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
3. PAINTS:
   - a. ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE DISPOSED OF PROPERLY ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
4. CONCRETE TRUCKS:
   - a. CONCRETE TRUCKS WILL DISCHARGE AND WASH OUT SURPLUS CONCRETE OR DRUM WASH WATER IN A CONTAINED AREA ON SITE.

C. SPILL CONTROL PRACTICES
IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
- *a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.*
- *b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.*
- *c. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.*
- *d. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.*
- *e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OF LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.*
- *f. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RECURRING AND HOW TO CLEANUP THE SPILL IF IT OCCURS. A DESCRIPTION OF THE SPILL, ITS CAUSE, AND THE CLEANUP MEASURES WILL BE INCLUDED.*
- *g. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.*

THE PROJECT PROPONENT IS REQUIRED TO MANAGE CONSTRUCTION TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO CONTROLLING INVASIVE SPECIES AND CONTROLLING FUGITIVE DUST IN ACCORDANCE WITH ENV-A 1002.

AGR 3800 PROHIBITED INVASIVE PLANT SPECIES RULES

THE RULE, AGR 3800, STATES: NO PERSON SHALL COLLECT, TRANSPORT, IMPORT, EXPORT, MOVE, BUY SELL, DISTRIBUTE, PROPAGATE OR TRANSPLANT ANY LIVING AND VIABLE PORTION OF ANY PLANT SPECIES, WHICH INCLUDED ALL OF THEIR CULTIVARS AND VARIETIES, LISTED IN TABLE 3800.1, NEW HAMPSHIRE PROHIBITED INVASIVE SPECIES LIST'. A COMPLETE COPY OF THE RULES CAN BE ACCESSED ON THE INTERNET AT
HTTP://AGRICULTURE.NH.GOV/TOPICS/PLANTS_INSECTS.HTM.

ENV-A 1002 FUGITIVE DUST: PRECAUTIONS TO PREVENT, ABATE, AND CONTROL FUGITIVE DUST.

a. ANY PERSON ENGAGED IN ANY ACTIVITY WITHIN THE STATE EMITS FUGITIVE DUST, OTHER THAT THOSE LISTED IN ENV-A 1002.02 (b), SHALL TAKE PRECAUTIONS THROUGHOUT THE DURATION OF THE ACTIVITY IN ORDER TO PREVENT, ABATE, AND CONTROL THE EMISSION OF FUGITIVE DUST.

b. PRECAUTIONS REQUIRED BY (a) ABOVE, SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
   - i) THE USE OF WATER OR HYDROPHILIC MATERIAL ON OPERATIONS OR SURFACES, OR BOTH;
   - ii) THE APPLICATION OF ASPHALT, WATER, OR HYDROPHILIC MATERIAL, OR TARPS OR OTHER SUCH COVERS TO MATERIAL STOCKPILES;
   - iii) THE USE OF HOODS, FANS, FABRIC FILTERS, OR OTHER DEVICES TO ENCLOSE AND VENT AREAS WHERE MATERIALS PRONE TO PRODUCING FUGITIVE DUST ARE HANDLED;
   - iv) THE USE OF CONTAINMENT METHODS FOR SANDBLASTING OR SIMILAR OPERATIONS; AND
   - v) THE USE OF VACUUMS OR OTHER SUCTION DEVICES TO COLLECT AIRBORNE PARTICULATE MATTER.

PER 153-10 F:
ALL SITE IMPROVEMENTS WHICH REQUIRE BLASTING OF LAND SHALL MEET THE FOLLOWING REQUIRMENTS PRIOR TO ANY BLASTING OCCURING.

1. *THE APPLICANT SHALL PREPARE A PRE-BLAST SURVEY OF ALL STRUCTURES WITHIN FIVE HUNDRED (500) FEET OF THE EXTERNAL BOUNDARIES OF THE PROPOSED LOT TO BE DEVELOPED. THIS SURVEY, ALONG WITH A MONITORING PLAN, SHALL BE ON FILE WITH THE DOVER FIRE AND RESCUE. UPON RECOMMENDATIONS OF THE CHIEF, THE PLANNING BOARD MAY REQUIRE A PRE-BLAST SURVEY OF ALL STRUCTURES WITHIN ONE THOUSAND (1000) FEET.*
2. *THE APPLICANT SHALL HOLD A NEIGHBORHOOD MEETING TO REVIEW THE BLASTING PLAN AND PRE-BLAST SURVEY WITH REPRESENTATIVES OF THE FIRE AND RESCUE AND THE BLASTING COMPANY IN ATTENDANCE, PRIOR TO ANY ON-SITE BLASTING. ABUTTERS WITHIN ONE THOUSAND (1000) FEET OF THE EXTERNAL BOUNDARY OF THE PROJECT PARCEL SHALL BE NOTIFIED BY THE CERTIFIED MAIL (PAID FOR BY THE APPLICANT) OF THE MEETING NO LESS THAN TEN (10) DAYS PRIOR TO THE MEETING AND NO MORE THAN FIFTEEN (15) DAYS PRIOR TO THE MEETING. THE NOTICE SHALL STATE THE TIME AND DATE OF THE BLASTING AND CONTAIN A MAP SHOWING THE BLASTING AREA, THE 1,000-FOOT-RADIUS AREA, AND THE 500-FOOT-RADIUS AREA.*
3. *PERMIT HOLDERS SHALL BE IN COMPLIANCE WITH NFPA 495, EXPLOSIVE MATERIALS CODE, IN ADDITION TO ALL OTHER ORDINANCES AND CODES SET FORTH IN THE CITY OF DOVER CODE, § 153-14A, STORMWATER MANAGEMENT, EROSION CONTROL AND FLOOD HAZARDS, OF THIS CHAPTER AND THE CITY OF DOVER FIRE PREVENTION CODE, WHICH SPECIFICALLY PROHIBITS THE OVERNIGHT STORAGE OF EXPLOSIVES OR BLASTING AGENTS. FURTHER, ALL STORAGE MAGAZINES SHALL BE LOCKED IN THE OPEN POSITION AT THE END OF THE DAY'S OPERATION FOR EASY INSPECTION BY CITY OFFICIALS.*
4. *BLASTING PERMITS MAY BE OBTAINED BY CALLING THE DOVER FIRE AND RESCUE DURING NORMAL BUSINESS HOURS. THE PERMITS ARE ONLY ACTIVE FOR THE DATES AND TIME SPECIFIED ON THE PERMIT.*
5. *PERMIT HOLDERS SHALL HOLD INSURANCE AGAINST CLAIMS FOR DAMAGES FOR PERSONAL INJURY AND PROPERTY WHICH MAY ARISE FROM THE PERFORMANCE OF THE WORK.*
6. *HOURS OF OPERATION FOR THE BLASTING SHALL BE NO EARLIER THAN 8:00AM AND NO LATER THAN 6:00PM, MONDAY THROUGH FRIDAY, EXCLUDING FEDERAL HOLIDAYS.*

WINTER CONSTRUCTION NOTES

1. *ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT.*
2. *ALL DITCHES & SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS.*
3. *AFTER OCTOBER 15TH, INCOMPLETE ROAD AND PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.*

ENV-WQ 1510: BEST MANAGEMENT PRACTICES FOR BLASTING

1) ALL ACTIVITIES ASSOCIATED WITH BLASTING NEED TO BE OPTIMIZED TO PREVENT THE RELEASE OF CHEMICALS ASSOCIATED WITH BLASTING ACTIVITIES TO THE ENVIRONMENT.
2) IF MORE THAN 5,000 CY OF ROCK REMOVAL IS REQUIRED DRINKING WATER WELLS MUST BE IDENTIFIED AND LOCATED WITHIN 2000 FEET OF THE PROPOSED BLASTING ACTIVITIES. DEVELOP A GROUNDWATER QUALITY SAMPLING PROGRAM TO MONITOR FOR NITRATE AND NITRITE EITHER IN THE DRINKING WATER SUPPLY WELLS OR IN OTHER WELLS THAT ARE REPRESENTATIVE OF THE DRINKING WATER SUPPLY WELLS IN THE AREA. THE PLAN MUST INCLUDE PRE AND POST BLAST WATER QUALITY MONITORING AND BE APPROVED BY NHDES PRIOR TO INITIATING BLASTING. THE GROUNDWATER SAMPLING PROGRAM MUST BE IMPLEMENTED ONCE APPROVED BY NHDES.
*3) THE FOLLOWING BEST MANAGEMENT PROCEDURES FOR BLASTING SHALL BE COMPLIED W

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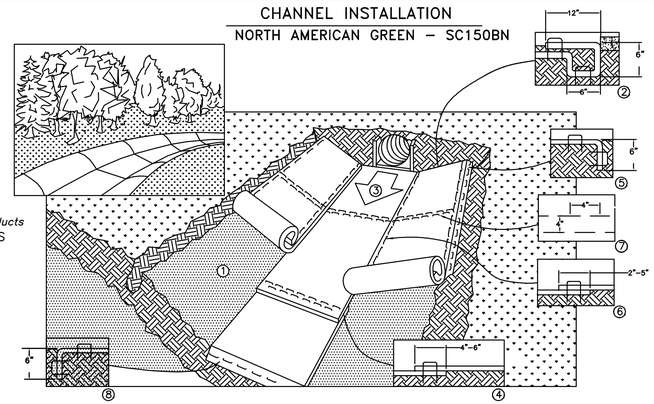
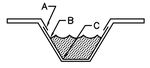


1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4" – 6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. NOTE: * IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.



CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES
BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY

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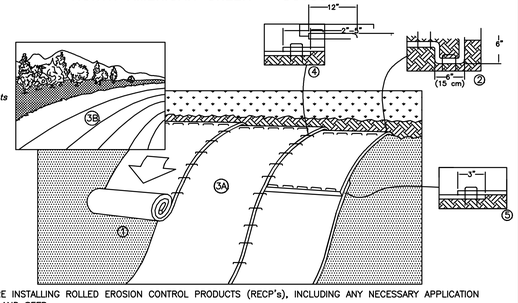
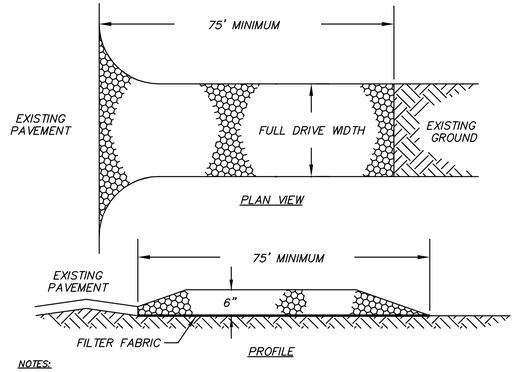


1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM® , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

NOTE: THE USE OF WELDED PLASTIC OR BIODEGRADABLE PLASTIC NETTING OR THREAD IN EROSION CONTROL MATTING IS PROHIBITED. THE USE OF WILDLIFE FRIENDLY ORGANIC MATERIALS IS RECOMMENDED.

NOTES:
1. INSTALLATION ON ANY SLOPES 3:1 OR GREATER



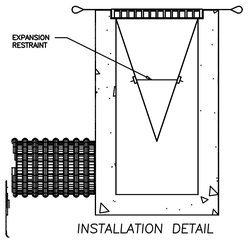
NOTES:
1. SEE EROSION CONTROL NOTES BELOW FOR MATERIAL, INSTALLATION AND MAINTENANCE REQUIREMENTS.
2. TO BE INSTALLED AT EACH POINT OF EGRESS FROM THE WORK AREA.

STABILIZED CONSTRUCTION ENTRANCE

1. SPECIFICATIONS
   A. AGGREGATE SIZE: USE THREE (3) INCHES STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
   B. AGGREGATE THICKNESS: NOT LESS THAN SIX (6) INCHES.
   C. WIDTH TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS.
   D. LENGTH: AS REQUIRED, BUT NOT LESS THAN SEVENTY–FIVE (75) FEET. PIPING OF SURFACE WATER UNDER ENTRANCE SHALL BE PROVIDED AS REQUIRED.
   E. GEOTEXTILE: TO BE PLACED OVER THE ENTIRE AREA TO BE COVERED WITH AGGREGATE.
   F. CRITERIA FOR GEOTEXTILE: THE FABRICS SHALL BE TREVIA SPUNBOND 1135, MIRAFI 600X OR EQUAL.

2. MAINTENANCE
   THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



INSTALLATION DETAIL

SILTSACK®
SPECIFICATIONS

NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS. AS SUPPLIED BY AH HARRIS OF PORTSMOUTH OR APPROVED EQUAL

REGULAR FLOW SILTSACK®
(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN–OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D–4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D–4632	20 %
PUNCTURE	ASTM D–4833	120 LBS
MULLEN BURST	ASTM D–3786	800 PSI
TRAPEZOID TEAR	ASTM D–4533	120 LBS
UV RESISTANCE	ASTM D–4355	80 %
APPARENT OPENING SIZE	ASTM D–4751	40 US SIEVE
FLOW RATE	ASTM D–4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D–4491	0.55 SEC –1

HI–FLOW SILTSACK®
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN–OFF)

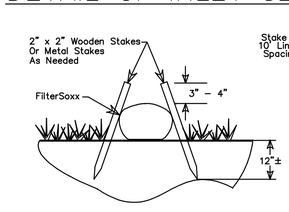
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D–4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D–4632	20 %
PUNCTURE	ASTM D–4833	135 LBS
MULLEN BURST	ASTM D–3786	420 PSI
TRAPEZOID TEAR	ASTM D–4533	45 LBS
UV RESISTANCE	ASTM D–4355	90 %
APPARENT OPENING SIZE	ASTM D–4751	20 US SIEVE
FLOW RATE	ASTM D–4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D–4491	1.5 SEC –1

OIL–ABSORBANT SILTSACK®

(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN–OFF OR SPILLS)

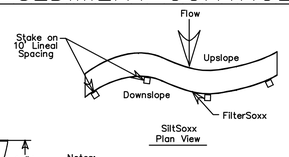
DEPENDING ON YOUR PARTICULAR APPLICATION, THE SILTSACK® CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL–ABSORBANT PILLOW INSERT OR, MADE COMPLETELY FROM AN OIL–ABSORBANT SILTSACK®, WITH A WOVEN PILLOW INSERT.

DETAIL OF INLET SEDIMENT CONTROL DEVICE



FilterSoxx Section

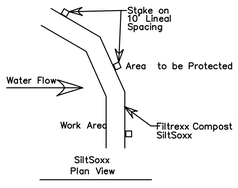
At Ends of Run Cross Stakes



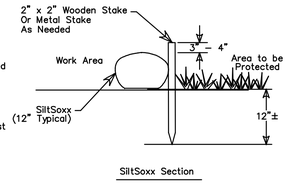
SiltSoxx Plan View

Notes:
1. All material to meet Filtrexx specifications
2. FilterSoxx compost/soil/rock/seed fill to meet application requirements.
3. Compost material to be dispersed on site, as determined by Engineer.

FilterSoxx Staking Details



SiltSoxx Plan View



SiltSoxx Section

Notes:
1. All material to meet Filtrexx specifications
2. SiltSoxx compost/soil/rock/seed fill to meet application requirements.
3. SiltSoxx depicted is for minimum slopes. Greater slopes may require larger socks per the Engineer.
4. Compost material to be dispersed on site, as determined by Engineer.

SILTSOXX DETAILS
NOT TO SCALE

SEEKING REPORTS OF RARE TURTLES

The NH Fish & Game Department is collecting observations of four turtle species:

Blanding's turtle (state endangered)
- Large, dark/black domed shell with lighter speckles
- Distinct yellow throat/chin
- Aquatic but often moves on land

Wood turtle (special concern)
- Sculpted, pyramidal brownish shell
- Orange around neck and limbs
- River/stream turtle spending many months on land

Eastern box turtle (state endangered)
- Small terrestrial turtle with highly domed shell
- Irregular yellow or orange markings over brown/black base

Spotted turtle (state threatened)
- Small, mostly aquatic with black or dark brown with yellow spots.
- Fairly flat shell compared to Blanding's turtle

Report sightings to RAARP@wildlife.nh.gov or 603-271-2461 *Please report promptly, noting specific location and date – Photographs strongly encouraged*

NOTES:
1. ALL OUTSIDE CONSTRUCTION PERSONNEL SHALL RECEIVE TRAINING IN THE IDENTIFICATION OF RARE TURTLE SPECIES AND MADE AWARE OF THEIR PROTECTED STATUS.
2. THE USE OF WELDED PLASTIC OR 'BIODEGRADABLE PLASTIC' NETTING OR THREAD IN EROSION CONTROL MATTING IS PROHIBITED
3. THE USE OF EROSION CONTROL BERM, WHITE FILTREXX DEGRADABLE WOVEN SILT SOCK, OR 'WILDLIFE FRIENDLY' WOVEN ORGANIC MATERIAL (E.G. COCO OR JUTE MATTING SUCH AS NORTH AMERICAN GREEN SC150BN OR EQUIVALENT) ARE ACCEPTABLE FOR USE
4. IF WOOD, SPOTTED, OR BLANDING'S TURTLES ARE FOUND LAYING EGGS IN THE WORK AREA, PLEASE CONTACT MELISSA DOPERALSKI AT 271–1738 or JOSH MEGYESY AT 271–1125 FOR FURTHER INSTRUCTIONS.

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE–20231–0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
2	REV. PER TRC COMMENTS #2	SJH	5–6–24
1	REV. PER TRC COMMENTS #1	SJH	2–8–24

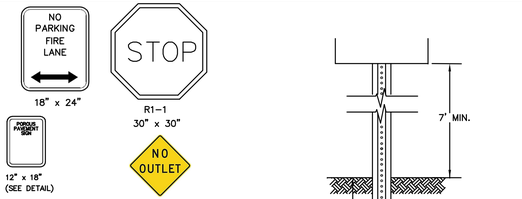
DATE: 10–26–23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY: SJH
PROJECT NO: 22017
FILE NAME: SITE.DWG

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

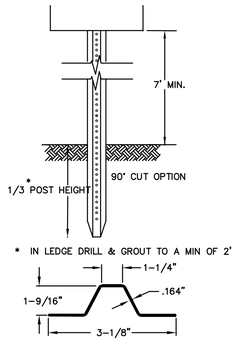
UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

DETAIL SHEET

11



NOTE:
1. ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.



LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 - 1080)
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN
BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY.
ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

SIGN LEGEND & SIGN POST
NOT TO SCALE

POROUS PAVEMENT

THIS AREA IS AN INTEGRAL COMPONENT OF THE DRAINAGE SYSTEM FOR THIS SITE. SEE SITE INSPECTION & MAINTENANCE PLAN FOR ALL APPLICABLE WINTER AND REGULAR MAINTENANCE GUIDELINES.

WINTER MAINTENANCE GUIDELINES
- SAND APPLICATION IS PROHIBITED
- APPLY ANTI ICING TREATMENTS PRIOR TO STORMS
- APPLY DEICING TREATMENTS DURING AND AFTER STORMS ONLY AS NECESSARY TO CONTROL COMPACT SNOW OR ICE NOT REMOVED BY PLOWING

MAINTENANCE REQUIRED
- THIS POROUS PAVEMENT AREA SHALL BE CLEANED OF SAND, SALT & DEBRIS AT LEAST 2 TIMES A YEAR (SPRING & FALL) AND/OR AS NEEDED TO KEEP IT IN GOOD WORKING ORDER
- VACUUM SWEEPING IS THE PREFFERED METHOD OF ACCUMULATION REMOVAL
- AT LEAST 2 TIMES A YEAR, WITHIN 30 MINUTES OF A PRECIPITATION EVENT, ENSURE THE PAVEMENT SURFACE DRAINS EFFECTIVELY
- IF THE PAVEMENT SURFACE IS NOT DRAINING PROMPT VACUUM SWEEPING WILL BE REQUIRED

REF: UNH WEBSITE FOR STORMWATER MANAGEMENT "BMP'S"
"http://WWW.UNH.EDU/UNHSC/

POROUS PAVEMENT SIGN DETAIL
NOT TO SCALE

EQUIPMENT REQUIRED

SOLAR POWERED RRFB CROSSWALK SYSTEM C/O: WITH AUDIBLE ALARM

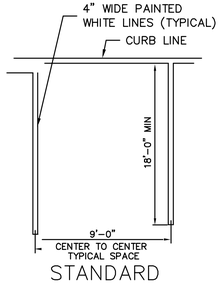
2 EACH	PB-510014-PNC	14' ALUMINUM PEDESTAL - NATURAL FINISH
2 EACH	PB-5334-PNC	SQUARE SIGNAL BASE ALUMINUM - NATURAL FINISH
2 EACH	55WATT DOLOR	55WATT SOLAR CONTROL CABINET ASSEMBLY - NATURAL FINISH
2 EACH	48oHR BATTERY	W/(1) 48oHR SOLAR BATTERY
2 EACH	MODEL BLINKER BEAM	& (1) TAPCO WIRELESS RADIO UNIT
4 EACH	MODEL RRFB-XL2	RRFB LIGHT BAR W/2 SIDE PED INDICATION LIGHT - BLACK
2 EACH	MODEL BULLDOG III	PEDESTRIAN PUSHBUTTON W/9x12 FRAME & R10-25 SIGN - YELLOW
4 EACH	W11-2	30" S1-1. 080DG3 SCHOOL CROSSING SYMBOL
2 EACH	W16-7pl	24"x12" W16-7pl DOWN LEFT ARROW SIGN - FYG
2 EACH	W16-7pR	24"x12" W16-7pR DOWN RIGHT ARROW SIGN - FYG

AS PROVIDED BY: TRAFFIC AND PARKING CONTROL CO.
1-800-236-0112
TAPCONET.COM

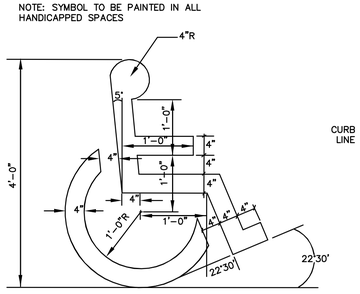
OR APPROVED EQUAL

NOTES:
1. TO BE INSTALLED AT THE EXISTING TRAIL CROSSING ON FISHER STREET. COORDINATE LOCATION WITH CITY ENGINEER.
2. PURCHASING OF RRFB WILL BE COORDINATED WITH THE CITY OF DOVER COMMUNITY SERVICES DEPARTMENT.

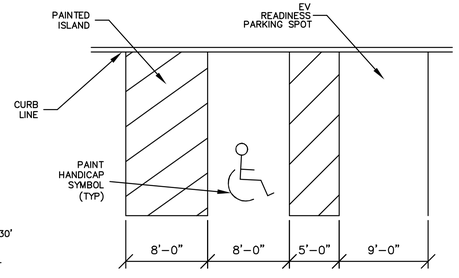
RRFB CROSSWALK SIGN DETAIL
NOT TO SCALE



STANDARD PARKING STALL
NOT TO SCALE



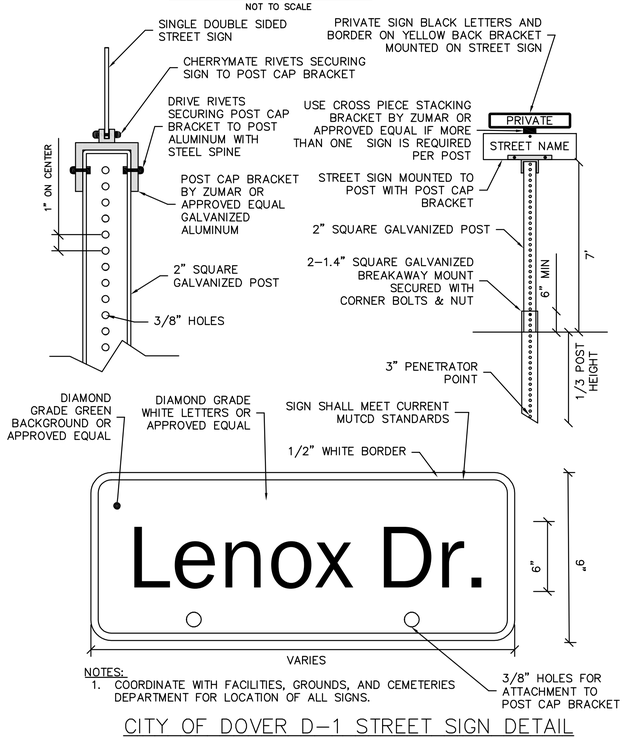
PAINTED HANDICAP SYMBOL
NOT TO SCALE



ACCESSIBLE PARKING LAYOUT
NOT TO SCALE

NOTES:
1. THE CONCRETE PAD SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER SPECIFACLLY TO SUPPORT KIOSK STRUCTURE.
2. SHOP DRAWINGS TO BE PROVIDED TO THE CITY OF DOVER DURING CONSTRUCTION.

MAIL KIOSK DETAIL
NOT TO SCALE



NOTES:
1. COORDINATE WITH FACILITIES, GROUNDS, AND CEMETERIES DEPARTMENT FOR LOCATION OF ALL SIGNS.

CITY OF DOVER D-1 STREET SIGN DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-2023-0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

DATE	REVISION	APP'D
2	REV. PER TRC COMMENTS #2	SJH 5-6-24
1	REV. PER TRC COMMENTS #1	SJH 2-8-24

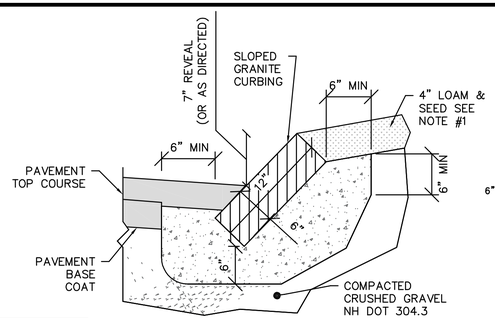
DATE: 10-26-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY:SJH
PROJECT NO:22017
FILE NAME:SITE.DWG

DETAIL SHEET

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

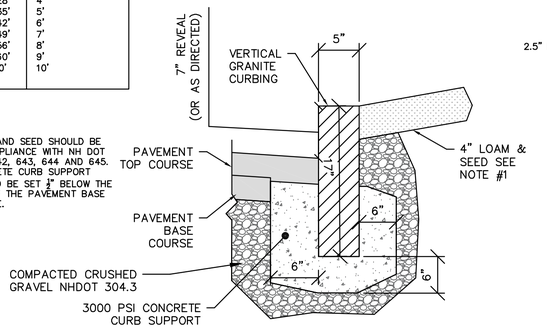
UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

12



SLOPED GRANITE CURB

RADIUS	MAX LENGTH
< 21'	USE CURVED CURB
12'	3'
22' – 28'	4'
29' – 35'	5'
36' – 42'	6'
43' – 49'	7'
50' – 56'	8'
57' – 60'	9'
OVER 60'	10'

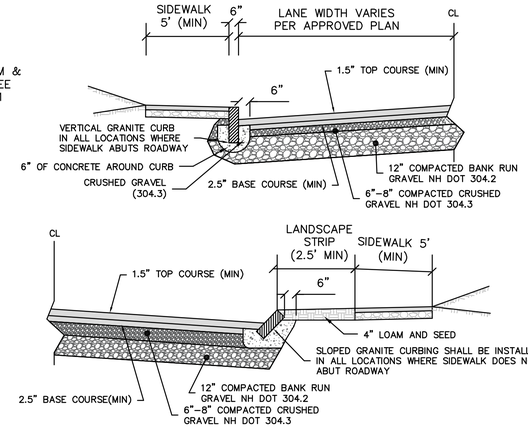


VERTICAL GRANITE CURB

NOTES:
1. LOAM AND SEED SHOULD BE IN COMPLIANCE WITH NH DOT 641, 642, 643, 644 AND 645.
2. CONCRETE CURB SUPPORT SHOULD BE SET ½" BELOW THE TOP OF THE PAVEMENT BASE COURSE.

CITY OF DOVER D–8 GRANITE CURB DETAIL

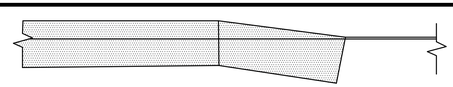
NOT TO SCALE



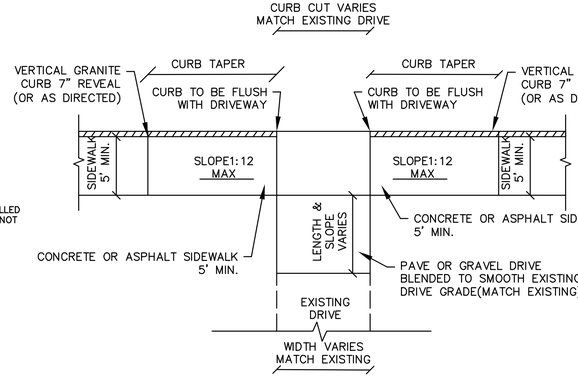
NOTES:
1. THIS DETAIL IS FOR GENERAL REVIEW PURPOSES ONLY, FINAL DESIGN SHALL BE BASED ON SPECIFIC SITE CONDITIONS AND APPROVED PLANS.
2. SIDEWALK LOCATION AND MATERIAL SHALL BE AS APPROVED BY THE CITY OF DOVER.

CITY OF DOVER D–5 ROADWAY CROSS SECTION DETAIL

NOT TO SCALE



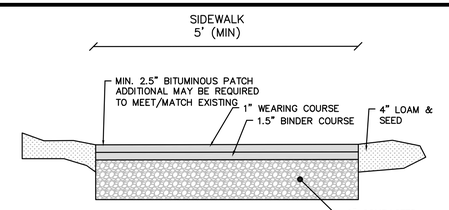
GRANITE CURB TRANSITION AT TIP DOWN



DRIVEWAY PLAN WITH SIDEWALK TIP DOWNS

CITY OF DOVER D–9 SIDEWALK TIP DOWN AT DRIVEWAY DETAIL

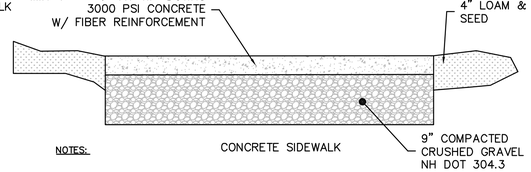
NOT TO SCALE



NOTES:
1. MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF DOVER STANDARDS SPECIFICATIONS.
2. SIDEWALK AND DRIVEWAY WIDTHS SHALL BE EQUAL TO EXISTING WIDTHS OR AS APPROVED AND SHALL SLOPE TO MATCH EXISTING ELEVATIONS.
3. BASE FOR THE SIDEWALKS AND DRIVEWAYS SHALL BE 9–INCHES OF CRUSHED GRAVEL.

CITY OF DOVER D–6 ASPHALT SIDEWALK DETAIL

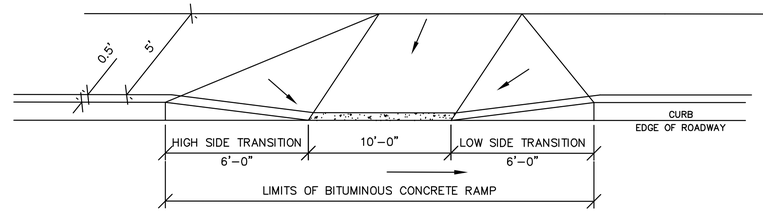
NOT TO SCALE



NOTES:
1. MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF DOVER STANDARDS SPECIFICATIONS.
2. SIDEWALK AND DRIVEWAY WIDTHS SHALL BE EQUAL TO EXISTING WIDTHS OR AS APPROVED AND SHALL SLOPE TO MATCH EXISTING ELEVATIONS.
3. BASE FOR THE SIDEWALKS AND DRIVEWAYS SHALL BE 9–INCHES OF CRUSHED GRAVEL.
4. SIDEWALK IN CITY R.O.W WILL BE CONCRETE SIDEWALK

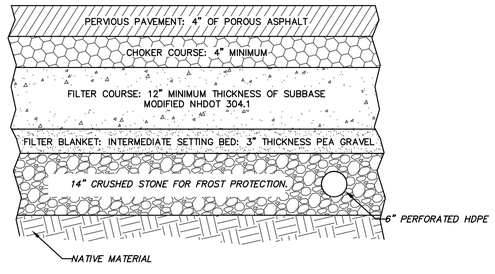
CITY OF DOVER D–6 CONCRETE SIDEWALK DETAIL

NOT TO SCALE



SIDEWALK APRON

NOT TO SCALE



(UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS)

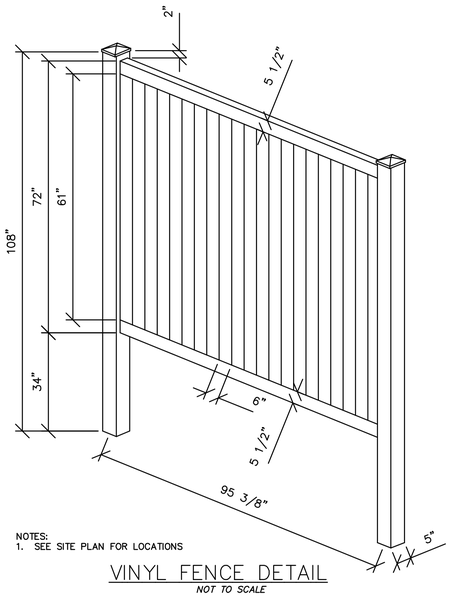
NOTE:
1. SEE SITE PLAN FOR LOCATION OF POROUS PAVEMENT, PAVEMENT WIDTH AND LOCATION.
2. CONSTRUCTION MATERIALS SHALL NOT BE STORED ON THE POROUS PAVEMENT OR BASE MATERIALS.
3. A PROFESSIONAL ENGINEER SHALL PERFORM ON–SITE INSPECTIONS DURING THE CONSTRUCTION AND INSTALLATION OF POROUS PAVEMENT AND PROVIDE A STATEMENT UPON COMPLETION OF WORK IDENTIFYING THAT THE PAVEMENT WAS PRODUCED AND INSTALLED AS PER THE REFERENCED SPECIFICATION. NOTIFY THE CITY ENGINEER OF THE INSTALLATION SCHEDULE AND IN ADVANCED OF INSTALLATION.
4. CRUSHED STONE, BANK RUN GRAVEL & CRUSHED GRAVEL MATERIALS SHALL CONFORM WITH NHDOT STD. SPECIFICATIONS.
5. THE POROUS PAVEMENT AREAS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS IN "UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS, FEBRUARY 2014, REVISED SEPTEMBER 2016" (OR LATEST EDITION), PUBLISHED BY UNIVERSITY OF NEW HAMPSHIRE STORMWATER CENTER.
6. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS–SLOPE.
7. QUALITY CONTROL AND QUALITY ASSURANCE SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.
8. POROUS ASPHALT SHALL BE INSTALLED AS THE LAST CONSTRUCTION ACTIVITY ONCE THE GRADING ACTIVITIES HAVE BEEN COMPLETED AND THE SITE HAS BEEN STABILIZED.

MAINTENANCE REQUIREMENTS:
1. MINIMIZING SANDING
2. MINIMIZE APPLICATION OF SALT FOR ICE CONTROL
3. MONITOR PERIODICALLY, AT LEAST TWICE ANNUALLY, WITHING 30 MINUTES OF A PRECIPITATION EVENT, TO ENSURE THAT THE PAVEMENT SURFACE DRAINS EFFECTIVELY AFTER STORMS.
4. SEE ATTACHED CHECKLIST FOR INSPECTION REQUIREMENTS (SEE STORMWATER MANAGEMENT SYSTEM INSPECTION & MAINTENANCE PLAN)
5. INSPECT FOR SALT ACCUMULATION, SEDIMENT, ORGANIC DEBRIS, ETC. AND PERIODICALLY CLEAN (1–2 TIMES PER YEAR) USING SWEEPER OR VACUUM SWEEPER. VACUUM SWEEPING IS THE PREFERRED METHOD.
6. INSPECT ADJACENT NON–PERMEABLE PAVEMENT SECTIONS (1–2 TIMES PER YEAR) AND ENSURE THEY ARE FREE OF DEBRIS/ SEDIMENT TO PREVENT TRACKING.
7. INSPECT ADJACENT VEGETATION AREAS (1–2 TIMES PER YEAR) TO ENSURE THERE ARE NO SIGNS OF EROSION AND SEDIMENT/ ORGANIC DEBRIS RUN–ON TO THE POROUS PAVEMENT AREAS.
8. INSPECT AREAS (AS NEEDED) TO ENSURE STOCK PILING OF SNOW, SAND/ SALT, MULCH, SOIL, YARD WASTE, ETC. IS NOT OCCURRING.
9. INSPECT PAVEMENT FOR DAMAGED AREAS (AS NEEDED) AND REPAIR AS THEY ARE IDENTIFIED.

(SEE SITE PLAN FOR LOCATION)

POROUS PAVEMENT SECTION

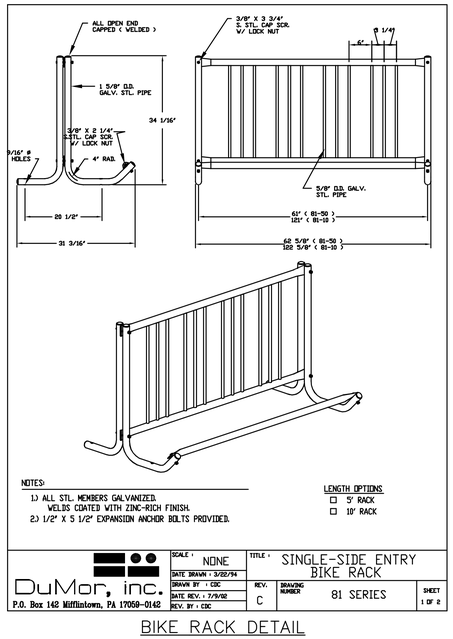
NOT TO SCALE



NOTES:
1. SEE SITE PLAN FOR LOCATIONS

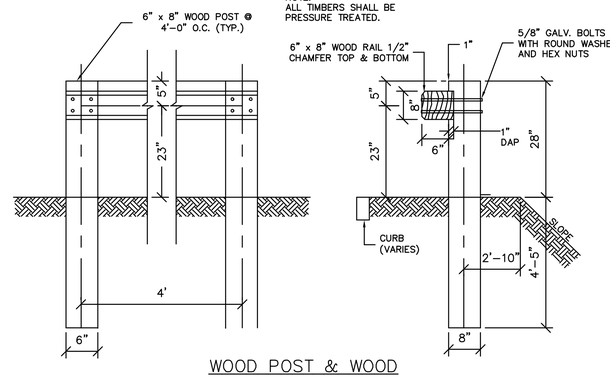
VINYL FENCE DETAIL

NOT TO SCALE



BIKE RACK DETAIL

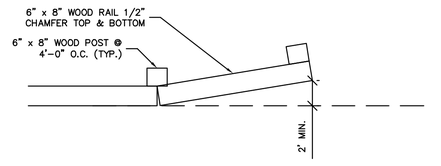
NOT TO SCALE



NOTE:
ALL TIMBERS SHALL BE PRESSURE TREATED.

WOOD POST & WOOD BEAM GUARDRAIL DETAIL

NOT TO SCALE



GUARDRAIL TERMINAL SECTION DETAIL

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE–20231–00015

2	REV. PER TRC COMMENTS #2	SJH	5–6–24
1	REV. PER TRC COMMENTS #1	SJH	2–8–24
NO.	REVISION	APP'D	DATE

DATE: 10–26–23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY: SJH
PROJECT NO: 22017
FILE NAME: SITE.DWG

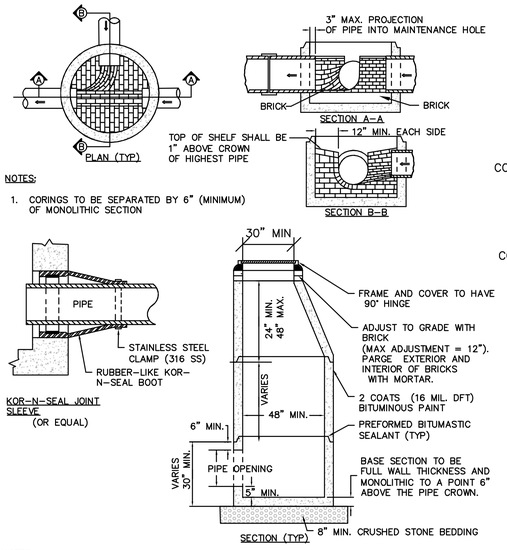
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

DETAIL SHEET

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

13



NOTES:

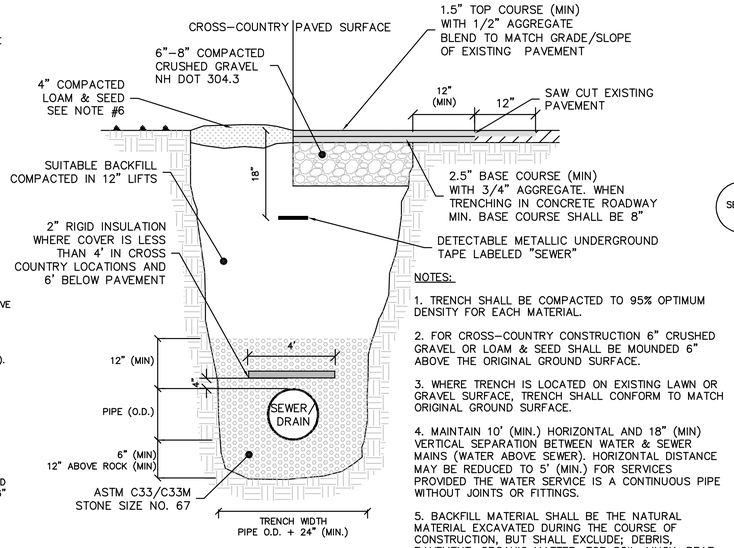
1. CORINGS TO BE SEPARATED BY 6" (MINIMUM) OF MONOLITHIC SECTION

NOTES:

1. ALL SEWER MAINTENANCE HOLES WITHIN CITY EASEMENTS OR RIGHT OF WAY SHALL HAVE LIFTMATE R-1743-LM COVERS OR APPROVED EQUAL.
2. SEWER MAINTENANCE HOLES NOT WITHIN CITY EASEMENTS OR RIGHT OF WAY SHALL BE SEALED TO PREVENT INFILTRATION.

CITY OF DOVER D-16
SEWER MANHOLE DETAIL

NOT TO SCALE

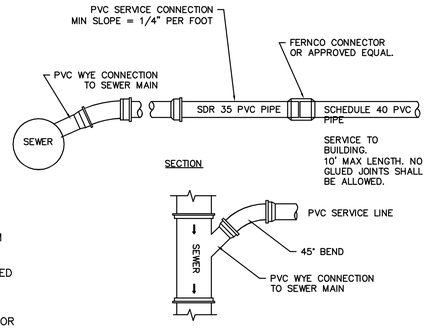


NOTES:

1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY FOR EACH MATERIAL.
2. FOR CROSS-COUNTRY CONSTRUCTION 6" CRUSHED GRAVEL OR LOAM & SEED SHALL BE MOUNDED 6" ABOVE THE ORIGINAL GROUND SURFACE.
3. WHERE TRENCH IS LOCATED ON EXISTING LAWN OR GRAVEL SURFACE, TRENCH SHALL CONFORM TO MATCH ORIGINAL GROUND SURFACE.
4. MAINTAIN 10' (MIN.) HORIZONTAL AND 18" (MIN) VERTICAL SEPARATION BETWEEN WATER & SEWER MAINS (WATER ABOVE SEWER). HORIZONTAL DISTANCE MAY BE REDUCED TO 5' (MIN.) FOR SERVICES PROVIDED THE WATER SERVICE IS A CONTINUOUS PIPE WITHOUT JOINTS OR FITTINGS.
5. BACKFILL MATERIAL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE; DEBRIS, PAVEMENT, ORGANIC MATTER, TOP SOIL, MUCK, PEAT AND ROCKS OVER 6" IN LARGEST DIMENSION
6. LOAM AND SEED SHOULD BE IN COMPLIANCE WITH NH DOT 641, 642, 643, 644 AND 645.

CITY OF DOVER D-3
SEWER TRENCH DETAIL

NOT TO SCALE

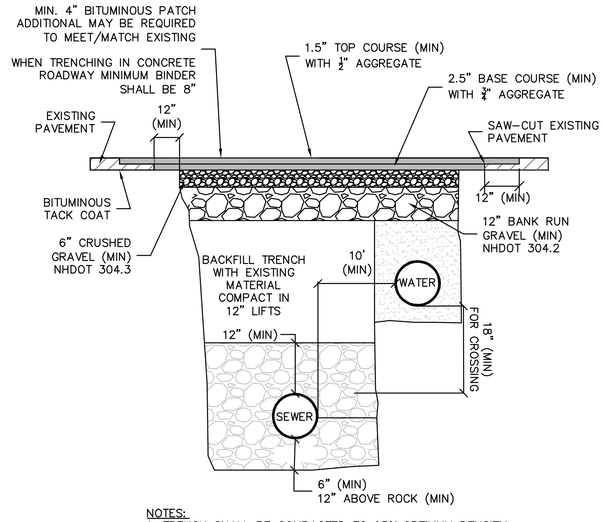


NOTES:

1. TRENCHING AND BEDDING REQUIREMENTS PER CITY SEWER TRENCH DETAIL (D-3).
2. SERVICE LATERAL DIAMETER VARIES PER APPLICATION. REVIEW SIZE WITH CITY ENGINEER PRIOR TO INSTALLATION.
3. SDR 35 SHALL NOT EXTEND INTO THE BUILDING

CITY OF DOVER D-17
SEWER SERVICE DETAIL

NOT TO SCALE

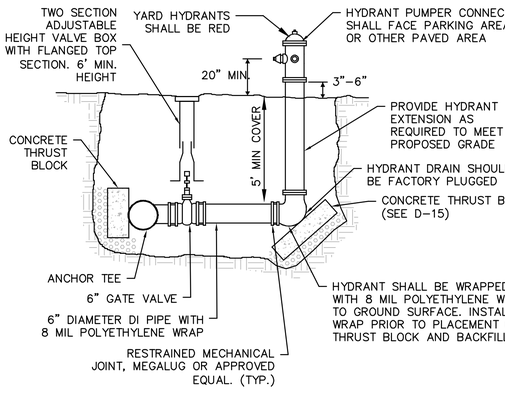


NOTES:

1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY.
2. ALL WORK SHALL COMPLY WITH THE CITY OF DOVER CONSTRUCTION GUIDELINES AND PROCEDURES
3. MAINTAIN 10' (MIN.) HORIZONTAL AND 18" (MIN) VERTICAL SEPARATION BETWEEN WATER & SEWER MAINS (WATER ABOVE SEWER). HORIZONTAL DISTANCE MAY BE REDUCED TO 5' (MIN.) FOR SERVICES PROVIDED THE WATER SERVICE IS A CONTINUOUS PIPE WITHOUT JOINTS OR FITTINGS.

CITY OF DOVER
TYPICAL TRENCH DETAIL

NOT TO SCALE

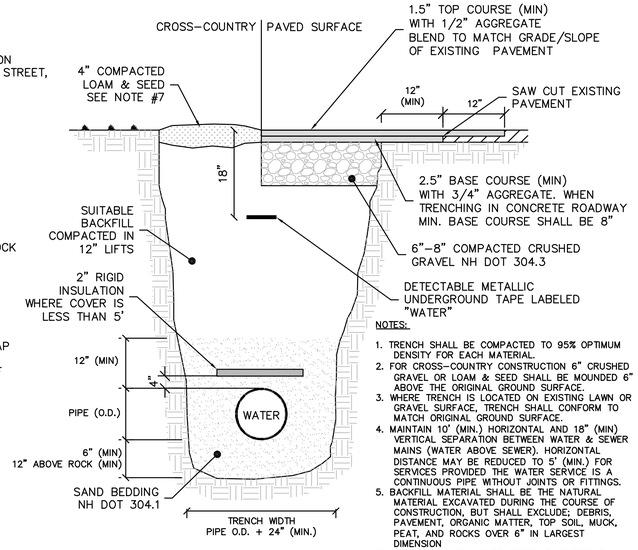


NOTES:

1. FIRE HYDRANTS SHALL BE FACTORY SEALED EDDY STYLE 2641.
2. HYDRANT SHALL BE PAINTED RED WITH EPOXY PAINT AS RECOMMENDED BY THE HYDRANT MANUFACTURER.
3. HYDRANT SHALL OPEN LEFT.

CITY OF DOVER D-14
FIRE HYDRANT DETAIL

NOT TO SCALE

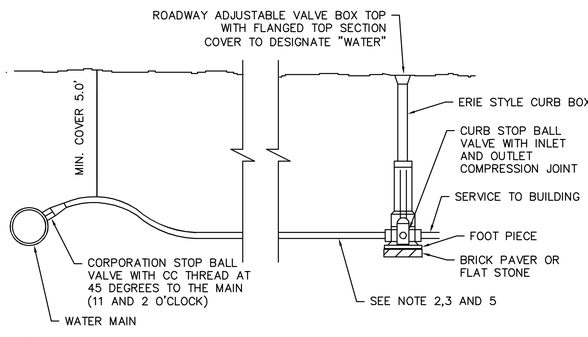


NOTES:

1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY FOR EACH MATERIAL.
2. FOR CROSS-COUNTRY CONSTRUCTION 6" CRUSHED GRAVEL OR LOAM & SEED SHALL BE MOUNDED 6" ABOVE THE ORIGINAL GROUND SURFACE.
3. WHERE TRENCH IS LOCATED ON EXISTING LAWN OR GRAVEL SURFACE, TRENCH SHALL CONFORM TO MATCH ORIGINAL GROUND SURFACE.
4. MAINTAIN 10' (MIN.) HORIZONTAL AND 18" (MIN) VERTICAL SEPARATION BETWEEN WATER & SEWER MAINS (WATER ABOVE SEWER). HORIZONTAL DISTANCE MAY BE REDUCED TO 5' (MIN.) FOR SERVICES PROVIDED THE WATER SERVICE IS A CONTINUOUS PIPE WITHOUT JOINTS OR FITTINGS.
5. BACKFILL MATERIAL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE; DEBRIS, PAVEMENT, ORGANIC MATTER, TOP SOIL, MUCK, PEAT, AND ROCKS OVER 6" IN LARGEST DIMENSION
6. PROVIDE MINIMUM 5' OF COVER. ENGINEERING APPROVAL REQUIRED FOR LESS THAN 5' OF COVER.
7. LOAM AND SEED SHOULD BE IN COMPLIANCE WITH NH DOT 641, 642, 643, 644 AND 645.

CITY OF DOVER D-4
WATER TRENCH DETAIL

NOT TO SCALE

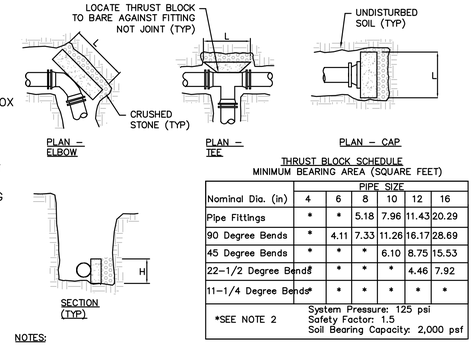


NOTES:

1. ALL WATER LINES 4" OR GREATER SHALL BE DUCTILE IRON WITH AN 8 MIL POLYETHYLENE WRAP, INCLUDING TEE AND OTHER CONNECTIONS.
2. WATER SERVICE LINES SHALL BE COPPER TUBING (TYPE K) BETWEEN MAIN AND CURB STOP.
3. SERVICE BETWEEN CURB STOP AND BUILDING MAY BE (BLUE OR BLACK) CTS SDR 9 PLASTIC POLYETHYLENE RATED FOR 250 psi.
4. CAM-LOCK REQUIRED FOR CTS OR IPS, MJ ADAPTER REQUIRED FOR HDPE
5. 3/4"- COPPER, CTS
   1"- COPPER, CTS
   2"- CTS, HDPE, IPS

CITY OF DOVER D-13
WATER SERVICE CONNECTION DETAIL

NOT TO SCALE



THRUST BLOCK SCHEDULE
MINIMUM BEARING AREA (SQUARE FEET)

	PIPE SIZE				
Nominal Dia. (in)	4	6	8	10	12	16
Pipe Fittings	*	*	5.18	7.96	11.43	20.29
90 Degree Bends	*	4.11	7.33	11.26	16.17	28.69
45 Degree Bends	*	*	*	6.10	8.75	15.53
22-1/2 Degree Bends*	*	*	*	4.46	7.92	
11-1/4 Degree Bends*	*	*	*	*	*	

*SEE NOTE 2

System Pressure: 125 psi
Safety Factor: 1.5
Soil Bearing Capacity: 2,000 psf

NOTES:

1. ALL THRUST BLOCKS SHALL BE PRE-CAST CONCRETE UNLESS APPROVED BY THE CITY ENGINEER.
2. 2'X2'X2' MINIMUM THRUST BLOCK REQUIRED, ANY BEARING AREA OVER 4SF REQUIRES THRUST BLOCKS, RESTRAINED JOINTS AND CALCULATIONS ASSOCIATED WITH THE JOINT.
3. THE MINIMUM BEARING AREAS SHOWN IN THE THRUST BLOCK SCHEDULE ARE BASED ON A SYSTEM PRESSURE OF 125 PSI. IF THE SYSTEM PRESSURE IS ABOVE 125 PSI, INCREASE THE NOTED AREAS PROPORTIONALLY TO THE ACTUAL SYSTEM PRESSURE.
4. FOR MINIMUM BEARING AREAS OVER 4 SF, THE LENGTH (L) OF THE BLOCK IS APPROXIMATELY TWICE AS LONG AS THE HEIGHT (H).
5. PLACE CRUSHED STONE BEHIND THRUST BLOCK AGAINST UNDISTURBED SOIL.
6. PLACE THRUST BLOCK ALONG MAXIMUM LENGTH OF THE FITTING TO MAXIMIZE BEARING AREA.
7. CONCRETE COMPRESSIVE STRENGTH: 2,000 PSI MINIMUM.
8. USE OF THRUST BLOCKS DOES NOT ELIMINATE THE REQUIREMENT OF OTHER RESTRAINTS OR VICE VERSA.

CITY OF DOVER D-15
THRUST BLOCK DETAIL

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-2023-0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
2	REV. PER TRC COMMENTS #2	SJH	5-6-24
1	REV. PER TRC COMMENTS #1	SJH	2-8-24

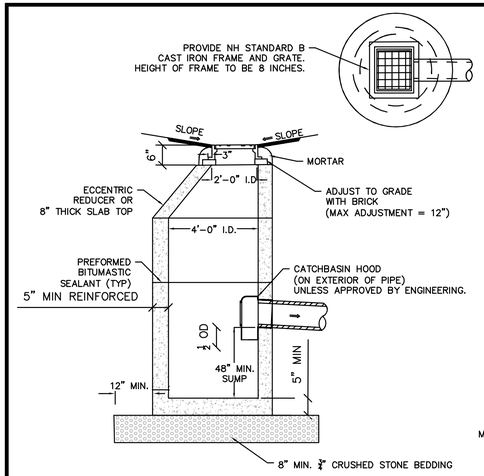
DATE: 10-26-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY:SJH
PROJECT NO:22017
FILE NAME:STE.DWG

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

DETAIL SHEET

14

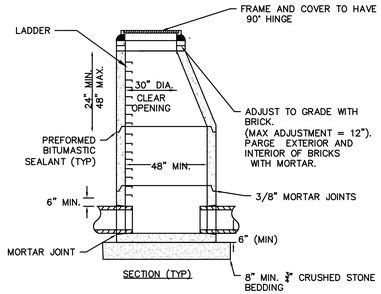


NOTES:

1. ENTIRE STRUCTURE SHALL BE H-20 LOAD RATED. PROVIDE MANUFACTURER REINFORCEMENT DETAILS TO THE CITY ENGINEER UPON REQUEST.

CITY OF DOVER D-19
CATCHBASIN DETAIL

NOT TO SCALE



NOTES:

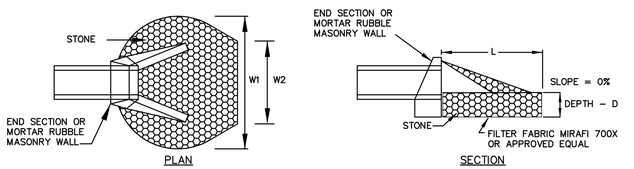
1. CORINGS TO BE SEPARATED BY 6" (MINIMUM) OF MONOLITHIC SECTION

CITY OF DOVER D-20
DRAIN MANHOLE DETAIL

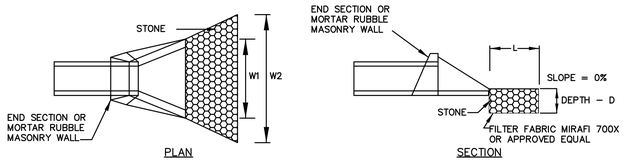
NOT TO SCALE

SPECIFICATIONS

1. All construction shall conform with the State of New Hampshire Department of Transportation (NHDOT), "Standard Specifications for Road and Bridge Construction"; hereinafter referred to as the "Standard Specifications".
2. Storm drains shall be ADS N12 or approved equal, and shall be jointed with neoprene "O" rings.
3. Catch basins and manholes shall be pre-cast reinforced concrete designed by an engineer registered in New Hampshire, and able to withstand loadings of 8 tons (H20 Loading).
4. Manholes shall have cast iron frames and covers with 30" inside diameter openings. A 3-inch (minimum) letter "D" for drain shall be plainly cast into the center of each cover.
5. Catch basins and manholes shall be adjusted to grade with courses of brick. Maximum adjustment to grade shall be 12 inches. Frames shall be set on a full bed of mortar, true to grade and concentric with the masonry. All voids between the top of the structure and the bottom flange of the frame shall be completely filled to make a watertight fit. A ring of mortar at least one inch thick and pitched to shed water away from the frame, shall be placed over and around the outside of the bottom flange. The mortar shall extend to the outer edge of the masonry all around its circumference and shall be finished smooth. No visible leakage will be permitted.
6. Invert channels of sewer manholes shall be formed smoothly to the largest pipe radius. Changes in grade shall be formed smoothly and evenly. The floor of the structure outside the channels shall be sloped towards the channels at approximately 1/2 inch per foot. The floor at the channel shall match the crown of the largest pipe.
7. Trench construction will conform with Section 603.3.1 of the Standard Specifications (1974).
8. Wood sheeting or a suitable trench box shall be used to support the trench as necessary. If wood sheeting is used, it shall be driven at a distance of 1 foot from the outside diameter of the pipe to a depth 6 inches below the invert of the pipe. Wood sheeting shall be cut off and left in place to an elevation not less than 1 foot above the top of the pipe, but not greater than 3 feet below the finished grade.
9. Bedding shall conform with Section 603.3.2 of the Standard Specifications (1974).
10. Backfill material will conform with Section 603.3.5 of the Standard Specifications (1974) and, in addition, shall exclude debris, pieces of pavement, organic matter, top soil, all wet or soft muck, peat or clay, all excavated ledge material, frozen material, all rocks over 6 inches in largest dimension, or any material which, as determined by the Engineer, will not provide sufficient support or maintain the completed construction in a stable condition. Backfill shall not be placed on frozen or previously frozen material.
11. All backfill and bedding compaction shall meet the requirements of AASHO T 99 Method C. Density shall be 95 percent. Compaction shall be 6 inch lifts for bedding and backfill to a plane 1 foot above the pipe and in 12 inch lifts thereafter by an approved mechanical compactor.
12. Should frozen material be encountered, it shall not be placed in the backfill nor shall backfill be placed upon frozen material. Previously frozen material shall be removed as required before new backfill is placed.
13. The Contractor shall be responsible for any damage to frames and grates during and from the time of removal from the existing structure to and during the time of resetting, and shall replace in kind any damaged frames or grates at no additional compensation.
14. All trenches will be covered and debris, including any rejected materials, shall be removed daily. Strict safety precautions shall be maintained at all times.
15. Location of utilities shown on the plans are approximate.
    a) The Contractor shall, 48 hours prior to construction, notify the utility companies and have all utilities in the vicinity of the construction marked in the field.
    b) After the utilities have been located and prior to construction, the Contractor with the Engineer, shall layout the proposed drainage system in the field and rectify any utility conflicts which may be found.
    c) Any conflicts with utilities found during construction by the Contractor shall be immediately brought to the attention of the Engineer and the Utility Company and properly rectified.
    d) The Contractor is responsible for the cost of repair for any utilities damaged during construction. The Contractor shall contact the Utility Company to repair any damages, however, the Contractor may make appropriate repairs with the Utility Company's permission.
16. Complete shop drawings for pipe, manholes, catch basins, frames, grates and covers shall be submitted in triplicate for approval by the Engineer prior to the start of construction. Each shop drawing shall be checked and initialized by the Contractor to indicate approval before it is submitted to the Engineer.
17. Shop drawings for flat concrete covers shall be stamped prior to submission for approval by a New Hampshire Registered Professional Engineer.
18. Brick masonry for setting frames and brick and mortar plugs shall conform to the Standard Specification Section 604.2.4.



STONE APRON OUTLET PROTECTION DETAIL
OUTLET TO DEFINED CHANNEL



STONE APRON OUTLET PROTECTION DETAIL
OUTLET TO FLAT AREA, NON DEFINED CHANNEL

MAINTENANCE

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

STONE GRADATION

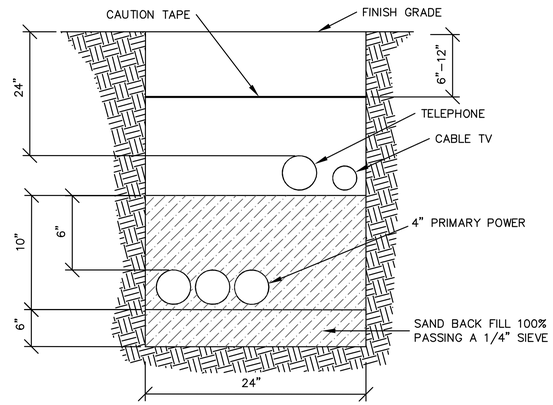
% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100	1.5 TO 2.0 D50
85	1.3 TO 1.8 D50
50	1.0 TO 1.5 D50
15	0.3 TO 0.5 D50

CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIPRAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIPRAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

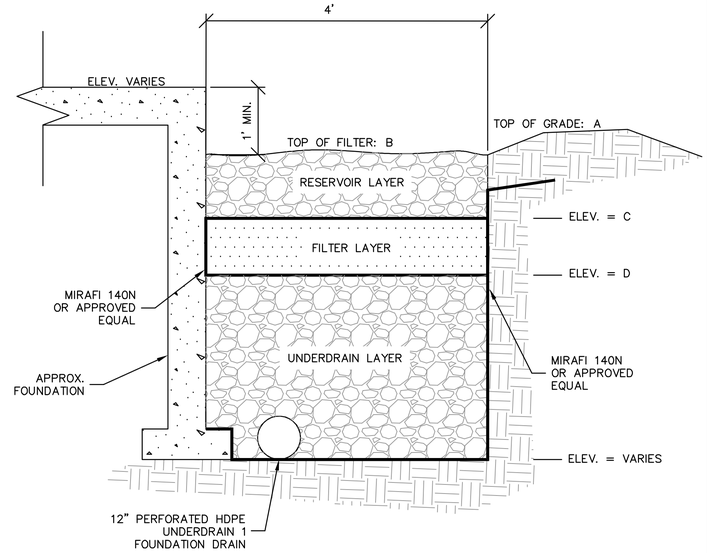
OUTLET FROM	W1(ft)	W2(ft)	L(ft)	D (ft)	D50(IN)	CHANNEL TYPE
DE1	3	11	8	1	6	UNDEFINED
DE2	3	11	8	1	6	UNDEFINED
BP1	3	16	13	1	6	UNDEFINED
BP2	8	2	10	1	6	DEFINED

RIP RAP OUTLET PROTECTION
NOT TO SCALE



1. TELEPHONE CONDUIT SHALL BE 3" SCHEDULE 40 PVC, WITH STEEL SWEEPS AT RISER POLE, 90° BENDS AND AT BUILDING.
2. LEAVE PULL ROPE IN ALL CONDUITS FOR CABLE INSTALLATION.
3. FOR COMPLETE SPECIFICATIONS SEE "PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE CONSTRUCTION SPECIFICATIONS FOR UNDERGROUND CONDUIT SYSTEMS".
4. CONTRACTOR TO VERIFY THE NUMBER & SIZE OF CONDUIT WITH THE APPROPRIATE UTILITY.

UTILITY TRENCH
NOT TO SCALE



NOTES:

1. RESERVOIR LAYER SHALL CONSIST OF WASHED 3/4" CRUSHED STONE.
2. FILTER LAYER SHALL BE ASTM C-33 SAND.
3. UNDERDRAIN LAYER SHALL CONSIST OF WASHED 3/4" CRUSHED STONE. MINIMUM DEPTH IS 2 FEET.

BUILDING	DRIP EDGE #	A	B	C	D
A	DE1	93.25	93.00	91.00	89.00
B	DE2	90.25	90.00	88.00	86.00
C	DE3	78.25	78.00	76.00	75.00
D	DE4	76.25	76.00	74.00	73.00

DRIP EDGE DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-20231-0015

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CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
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603.749.0443

NO.	REVISION	APP'D	DATE
2	REV. PER TRC COMMENTS #2	SJH	5-6-24
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DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY:SJH
PROJECT NO:22017
FILE NAME:SITE.DWG

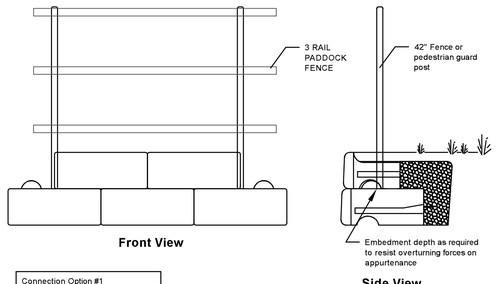
DETAIL SHEET

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

15

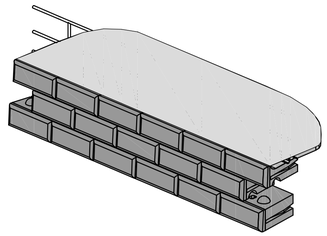
Fence or Pedestrian Guard Connection Locations



This drawing is for reference only. Determination of the suitability and/or manner of use of any details contained in this document is the sole responsibility of the design engineer of record. Final project designs, including all construction details, shall be prepared by a licensed professional engineer using the actual conditions of the proposed site.

DRAWN BY:	JRJ
APPROVED BY:	JRJ
DATE:	06-22-2015
SHEET:	1 of 1
TITLE:	Fence or Pedestrian Guard Connection Locations
FILE:	6 Fence or Pedestrian Guard Connection Locations 062215.dwg

Fence or Pedestrian Guard Connection Options



These generic pedestrian guard and fence details show a few potential options for their installation on the top of a Redi-Rock retaining wall. It is the design engineer's responsibility to fully design and detail the connection of the guard posts to the retaining wall blocks and assure acceptable resistance to the applied forces. Redi-Rock blocks are plain concrete, without steel reinforcement.

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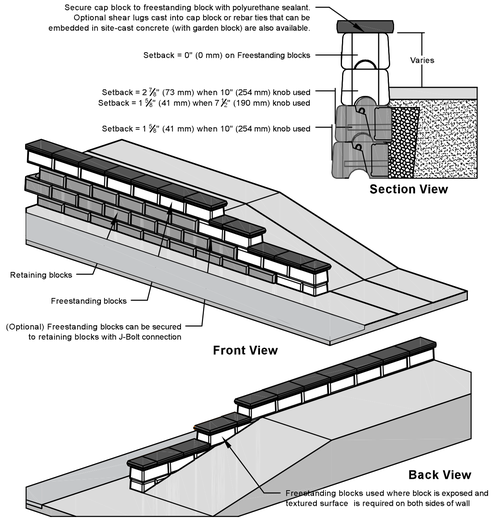
DRAWN BY:	JRJ
APPROVED BY:	JRJ
DATE:	06-22-2015
SHEET:	1 of 1
TITLE:	Fence or Pedestrian Guard Connection Options
FILE:	5 Fence or Pedestrian Guard Connection Options 062215.dwg

Freestanding Blocks with Cap at Top of Wall



One-component, highly flexible, non-priming, gun grade, high performance elastomeric polyurethane sealant shall have movement of plus or minus 25% per ASTM C719, tensile strength greater than 200 psi (1.4 MPa) per ASTM D412, and adhesion to peel on concrete greater than 20 PLI per ASTM C794. Apply sealant in one and one half-inch (1.5") (38 mm) diameter round "hersey kiss" shaped dollops located in two rows at the top of the Freestanding blocks at 8" (203 mm) on center.

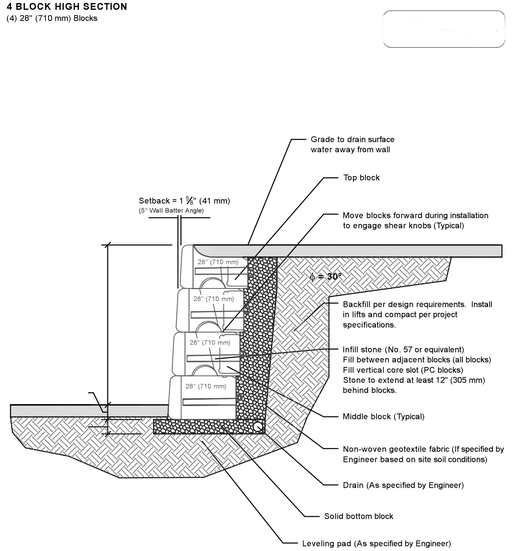
This drawing is for reference only. Determination of the suitability and/or manner of use of any details contained in this document is the sole responsibility of the design engineer of record. Final project designs, including all construction details, shall be prepared by a licensed professional engineer using the actual conditions of the proposed site.

DRAWN BY:	JRJ
APPROVED BY:	JRJ
DATE:	06-22-2015
SHEET:	1 of 1
TITLE:	Freestanding Blocks with Cap at Top of Wall
FILE:	3 Freestanding Blocks with Cap at Top of Wall 062215.dwg

ϕ = 30° | FINE TO MEDIUM SAND or SILTY SAND

LOAD CONDITION A | NO LIVE LOAD SURCHARGE, NO BACK SLOPE, NO TOE SLOPE

4 BLOCK HIGH SECTION
(4) 28" (710 mm) Blocks



This drawing is for reference only. Determination of the suitability and/or manner of use of any details contained in this document is the sole responsibility of the design engineer of record. Final project designs, including all construction details, shall be prepared by a licensed professional engineer using the actual conditions of the proposed site. Final wall design must address both internal and external drainage and all modes of wall stability.

DRAWN BY:	C. Kruger
APPROVED BY:	J. Johnson
DATE:	June 8, 2015
SHEET:	1 of 1
TITLE:	**Preliminary Wall Section** Fine to Medium Sand or Silty Sand, ϕ = 30° No Live Load Surcharge, No Back Slope, No Toe Slope
FILE:	A_30_B_28_72_cad.dwg

CONTRACTOR TO COORDINATE WITH OWNER FOR FENCE STYLE

GENERAL NOTES
1. SEGMENTAL CONCRETE UNIT RETAINING WALL SHALL BE PROVIDED BY redi-rock ™ OR SHEA WALL SYSTEMS OR APPROVED EQUAL.
2. RETAINING WALL DESIGN AND INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S STANDARDS.
3. STRIP VEGETATION AND ORGANIC SOIL FROM WALL AND GEOSYNTHETIC ALIGNMENT.
4. BENCH CUT ALL EXCAVATED SLOPES.
5. DO NOT OVER EXCAVATE UNLESS DIRECTED BY SITE SOIL ENGINEER TO REMOVE UNSUITABLE SOIL.
6. SITE SOILS ENGINEER SHALL VERIFY FOUNDATION SOILS AS BEING COMPETENT PER THE DESIGN STANDARDS AND PARAMETERS.
7. LEVELING PAD SHALL CONSIST OF COMPACTED COARSE SAND OR CRUSHED GRAVEL, 6" THICK MIN. AS STIPULATED BY THE MANUFACTURER.
8. CONTRACTOR MAY OPT FOR A LEAN CONCRETE PAD. CONCRETE PAD SHALL BE UNREINFORCED, 3" THICK MAXIMUM.
9. MINIMUM EMBEDMENT OF WALL BELOW FINISH GRADE SHALL BE 6" FOR WALL HEIGHTS UNDER 4 FT. AND 12" FOR WALLS OVER 4 FT. UNLESS SHOWN DIFFERENTLY.
10. FOR UNITS TO BE EMBEDDED, COMPACT FILL IN FRONT OF UNITS AT THE SAME TIME FILL BEHIND UNITS IS COMPACTED.
11. DRAINAGE AGGREGATE SHALL BE INSTALLED DIRECTLY BEHIND THE WALL WITHIN 12" OF THE TOP OF THE WALL. DRAINAGE AGGREGATE SHALL NOT EXTEND BELOW FINAL GRADE IN FRONT OF WALL.
12. COMPACTION SHALL BE TO 95% OF MAXIMUM STANDARD PROCTOR DENSITY.(ASTM D-698)
13. COMPACTION TESTS SHALL BE TAKEN AS THE WALL IS INSTALLED. THE MINIMUM NUMBER OF 3 TESTS PER WALL AND/OR AS DETERMINED BY THE SITE SOILS ENGINEER.
14. COMPACTION WITHIN 3 FT. OF WALL SHALL BE LIMITED TO HAND OPERATED EQUIPMENT.
15. IF REQUIRED SEE ELEVATION DRAWINGS FOR GEOSYNTHETIC TYPE, LENGTH AND LOCATION.
16. IF REQUIRED GEOSYNTHETIC SHALL BE PLACED WITH STRONGEST DIRECTION PERPENDICULAR TO WALL. FOLLOW GEOSYNTHETIC MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS.
17. CONTRACTOR SHALL DIRECT SURFACE RUNOFF TO AVOID DAMAGING WALL WHILE UNDER CONSTRUCTION.
18. ANY SURFACE DRAINAGE FEATURES, FINISH GRADING, PAVEMENT, OR TURF SHALL BE INSTALLED IMMEDIATELY AFTER WALL IS COMPLETED.
19. FOLLOW APPLICABLE PROVISIONS AS DICTATED BY THE MANUFACTURER.

1.4 REQUIREMENTS FOR CONTRACTOR PREPARED DESIGN AND PLANS
A. THE FINAL DESIGN TO BE SUBMITTED PRIOR TO AWARD OF CONTRACT AND SHALL INCLUDE DETAILED DESIGN COMPUTATIONS AND ALL DETAILS, DIMENSIONS, QUANTITIES AND CROSS SECTIONS NECESSARY TO CONSTRUCT THE WALL. THE DESIGN SHALL CONFORM TO ALL OF THE REQUIREMENTS OUTLINED IN SECTION 1.3 ABOVE. THE FULLY DETAILED PLANS SHALL BE ON PERMANENT, ARCHIVAL QUALITY, 24" X 36" DOUBLE MATTE MYLAR WITH PROJECT NAME, NUMBER AND DESIGN FIRM. THE PLANS TO BE SUBMITTED SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING ITEMS:

1. A PLAN AND ELEVATION SHEET OR SHEETS FOR EACH WALL, CONTAINING THE FOLLOWNG:
   A. AN ELEVATION VIEW OF THE WALL WHICH SHALL INDICATE THE ELEVATION AT THE TOP OF THE WALL, AT ALL HORIZONTAL AND VERTICAL BREAK POINTS AND AT LEAST EVERY FIFTY (50) FEET ALONG THE WALL, ELEVATIONS AT THE TOP OF LEVELING PADS, THE DESIGNATION AS TO THE TYPE OF UNIT, AND THE LOCATION OF THE ORIGINAL AND FINAL GROUND LINE.
   B. A PLAN VIEW OF THE WALL WHICH SHALL INDICATE THE OFFSET FROM THE CONSTRUCTION CENTERLINE OR BASELINE TO THE FACE OF THE WALL AT ALL CHANGES IN HORIZONTAL ALIGNMENT AND THE LIMIT OF THE WIDEST UNIT.
   C. ANY GENERAL NOTES REQUIRED FOR DESIGN AND CONSTRUCTION OF THE WALL.
   D. ALL HORIZONTAL AND VERTICAL CURVE DATA AFFECTING WALL CONSTRUCTION.
2. ALL DETAILS FOR LEVELING PADS, AS WELL AS ALLOWABLE AND CALCULATED MAXIMUM BEARING PRESSURES.
3. DETAILED DESIGN COMPUTATIONS.
4. THE PLANS SHALL BE PREPARED, STAMPED AND SIGNED BY A NEW HAMPSHIRE LICENSED PROFESSIONAL ENGINEER.
5. FENCE HEIGHT TO BE 42".

RETAINING WALL SYSTEM
PART 1.0 – GENERAL
1.1 THIS WORK SHALL CONSIST OF FURNISHING ALL COMPONENTS AND ERECTING A RETAINING WALL SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN AND DIMENSIONS SHOWN ON THE PLANS OR AS ORDERED.

1.2 THIS FOLLOWING TYPE OF RETAINING WALL SYSTEMS ARE ACCEPTABLE TO BE USED ON THIS PROJECT:
REDI-ROCK (603) 428-3218
SHEA WALL SYSTEMS (800) 696-7432

1.3 STRUCTURAL AND GEOTECHNICAL DESIGN REQUIREMENTS
A. THE DESIGN OF THE WALL SYSTEM SHALL BE BY THE MANUFACTURER.
B. MINIMUM SAFETY FACTORS SHALL BE AS FOLLOWS:
   1. OVERTURNING: 2.0
   2. BASE SLIDING: 1.5
   3. GLOBAL STABILITY: 1.3
   4. GRID PULLOUT:
C. ALLOWABLE NET BEARING PRESSURE = 6 KIPS PER SQUARE FOOT MOIST SOIL UNIT WEIGHT = 125 POUNDS PER CUBIC FOOT FRICTION ANGLE = 32 DEGREES
D. DESIGN LOADING SHALL CONSIDER SEISMIC LOADS IN ACCORDANCE WITH THE NEW HAMPSHIRE STATE BUILDING CODE.

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-20231-0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
2	REV. PER TRC COMMENTS #2	SJH	5-6-24
1	REV. PER TRC COMMENTS #1	SJH	2-8-24

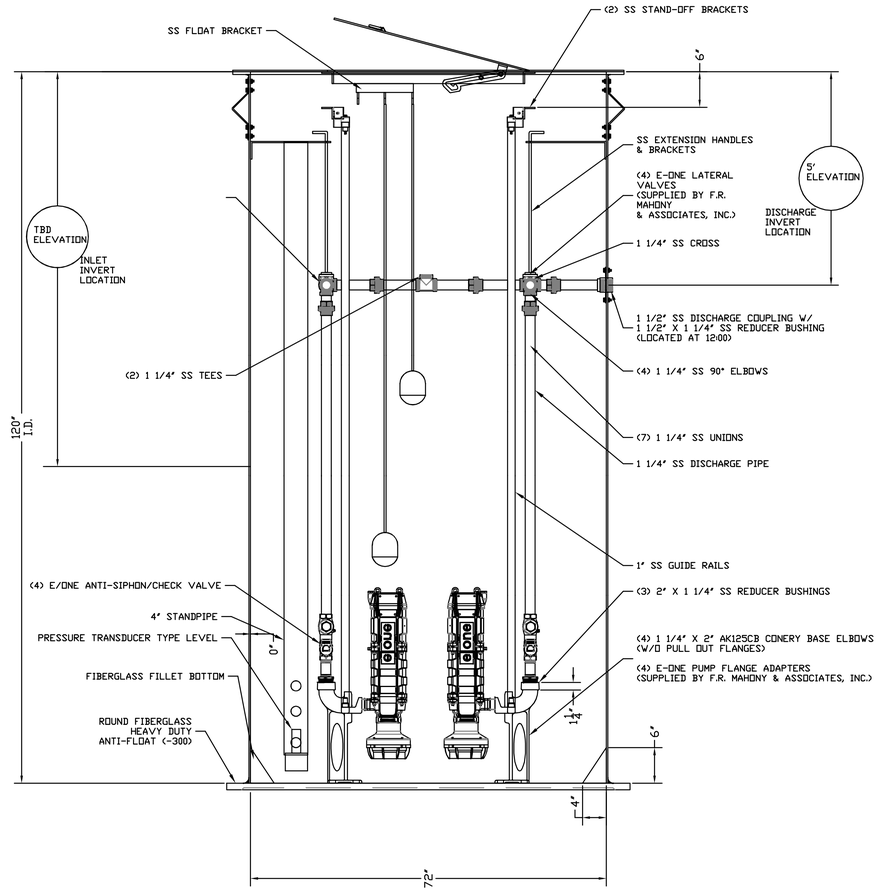
DATE: 10-26-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY: SJH
PROJECT NO: 22017
FILE NAME: SITE.DWG

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

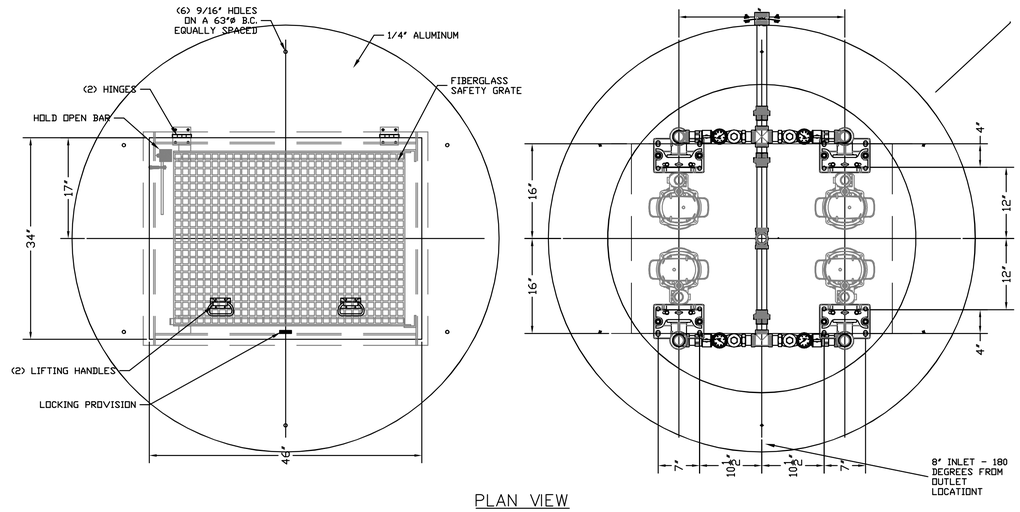
UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

DETAIL SHEET

16



ELEVATION VIEW



PLAN VIEW

E/ONE-QUAD RAILS 72" DIAMETER PUMP CHAMBER

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-2023-0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

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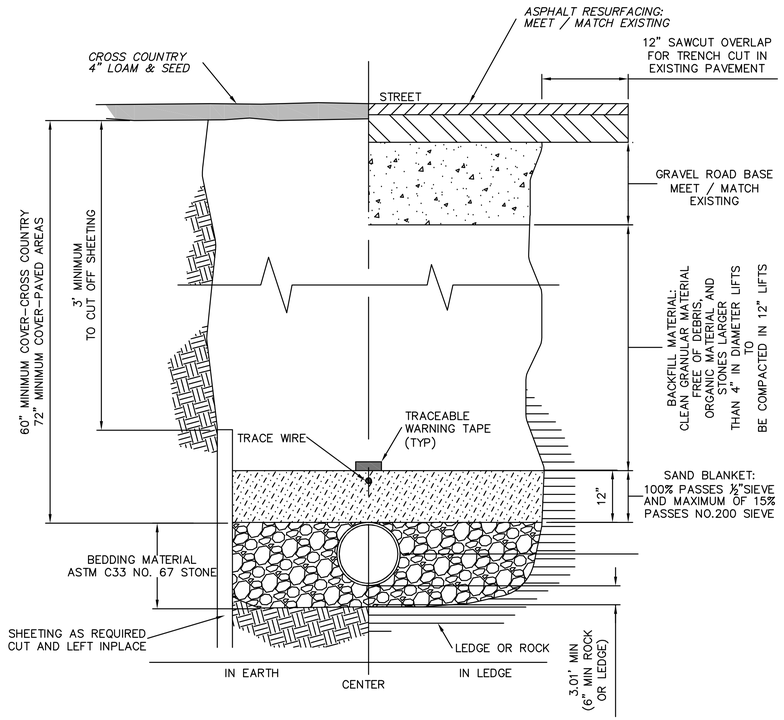
DESIGN BY: SJH
APPROVED BY:SJH
PROJECT NO:22017
FILE NAME:SITE.DWG

DETAIL SHEET

H.J. STABILE AND SON, INC.
200 COTTON ROAD
NASHUA, NH 03063

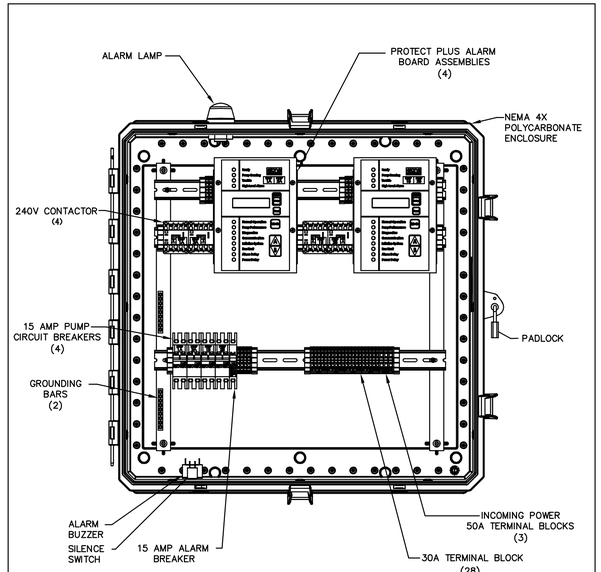
UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

17



SEWER FORCEMAIN TRENCH

NOT TO SCALE



MODEL QUAD PROTECT PLUS
PART NUMBER NC0412G04

PIN	FUNCTION	2000S	EXTREME
1	MANUAL RUN	RED	BROWN
2	L1	BLACK	RED
3	L2	WHITE	BLACK
4	GND	GREEN	GRN/YEL
5	ALARM FEED	ORANGE	YELLOW
6	ALARM RETURN	BLUE	BLUE

LR28268

LISTED 506D

NKS	SGS	10-19-17	–	N/A
DR BY	CHK'D	DATE	ISSUE	SCALE

e one
SEWER SYSTEMS

QUAD PROTECT PLUS PANEL
240V 60Hz DOUBLE POLE POWER
WIRED LEVEL CONTROL

NA0632P06

CONTROL PANEL DETAIL

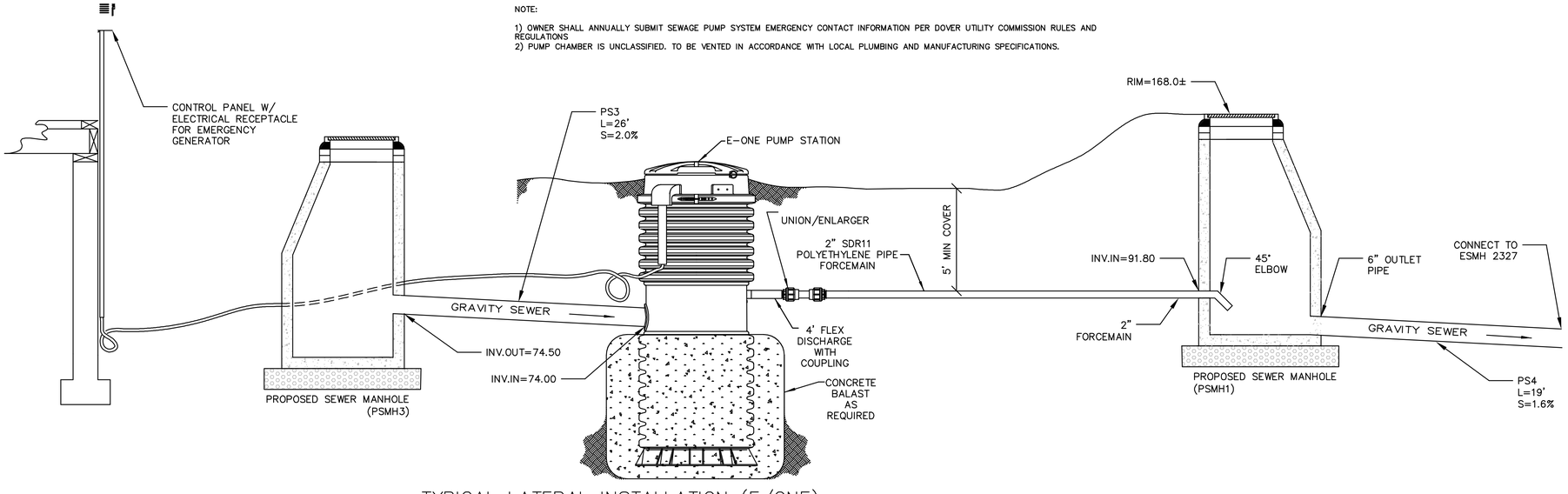
NOT TO SCALE

BURIED NON-METALLIC UTILITIES SHALL RECEIVE A TRACER WIRE.

1. THE TRACER WIRE SHALL BE INSTALLED ON TOP OF THE BURIED UTILITY CROWN.
2. THE TRACER WIRE SHALL BE POSITIVELY ATTACHED TO THE NON-METALLIC BURIED UTILITIES BY PLASTIC WIRE TIES OF SIMILAR TYPE OF ATTACHMENT EVERY 6 FEET FOR STRAIGHT RUN OF UTILITY AND AT ALL CHANGES OF DIRECTION. TAPE SHALL BE POLYKEN "930-35," PROTECTO-WRAP "310", OR EQUAL.
3. THE ENDS OF THE TRACER WIRE SHALL BE EXPOSED ABOVE THE FINISHED GRADE.
4. INSTALL APPROVED CAST IRON VALVE BOXES AT ALL LOCATIONS WHERE THE ENDS OF THE TRACER WIRE ARE EXPOSED ABOVE THE FINISHED GRADE. THE BOXES SHALL NOT BE MORE THAN 200 FEET APART AND SHALL CONTAIN A 24" COIL OF WIRE FROM EACH END OF THE TRACER WIRE.
5. TRACER WIRE SHALL BE CONTINUOUS BETWEEN BOXES AND SHALL BE TESTED FOR CONTINUITY IN THE PRESENCE OF THE INSPECTOR.
6. TRACER WIRE SHALL BE NO. 10 AWG, COPPER WIRE WITH TW INSULATION (BLUE IN COLOR FOR USE WITH POTABLE WATER, GREEN FOR USE WITH SEWER). CONNECTORS SHALL BE DRY-CON TYPE CONNECTORS FOR SPECIFIED WIRE GAGE AND SUITABLE FOR USE WITH BURIED TRACER WIRE.
7. TRACER WIRE SHALL BE EXPOSED ABOVE FINISHED GRADE IN THE CAST IRON BOXES AT THE TRANSITION WHERE THE NON-METALLIC BURIED UTILITY CONNECTS TO THE EXISTING METALLIC UTILITY.
8. EXTEND WIRE INTO VALVE BOXES AND TERMINATE WITH A WIRE CONNECTOR. TERMINATE WIRE FROM LINES EXTENDING FROM MAINS TO FIRE RISERS OR BUILDING SERVICES 12" (300MM) ABOVE GRADE AND CAP WITH A WIRE CONNECTOR.

NOTE:

1) OWNER SHALL ANNUALLY SUBMIT SEWAGE PUMP SYSTEM EMERGENCY CONTACT INFORMATION PER DOVER UTILITY COMMISSION RULES AND REGULATIONS
2) PUMP CHAMBER IS UNCLASSIFIED. TO BE VENTED IN ACCORDANCE WITH LOCAL PLUMBING AND MANUFACTURING SPECIFICATIONS.



TYPICAL LATERAL INSTALLATION (E/ONE)

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-20231-0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

REVISION	APP'D	DATE
REV. PER TRC COMMENTS #2	SJH	5-6-24
REV. PER TRC COMMENTS #1	SJH	2-8-24

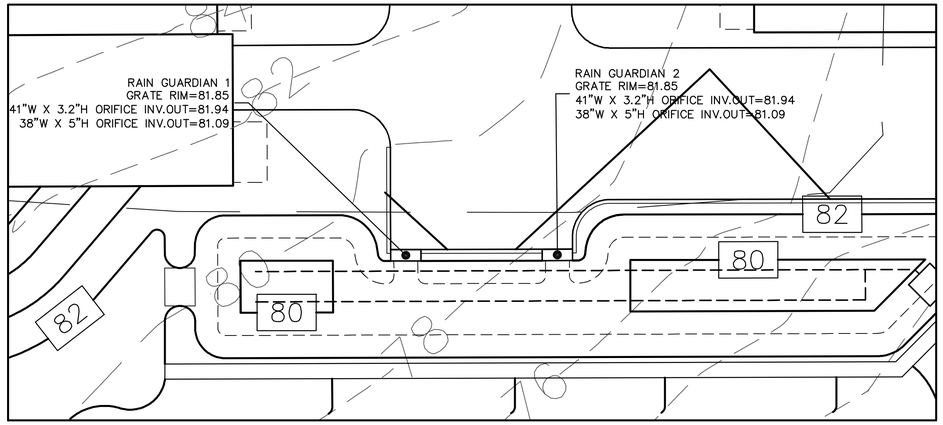
DATE: 10-24-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY: SJH 2
PROJECT NO: 22017 1
FILE NAME: SITE.DWG NO.

DETAIL SHEET

H.J. STABILE AND SON, INC.
200 COTTON ROAD
NASHUA, NH 03063

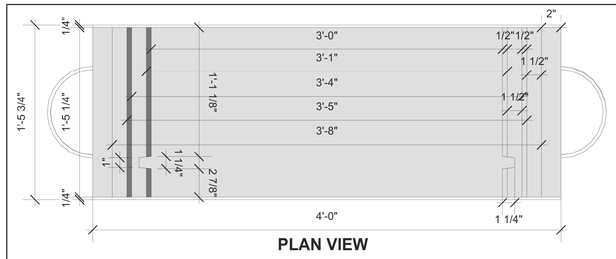
UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

18

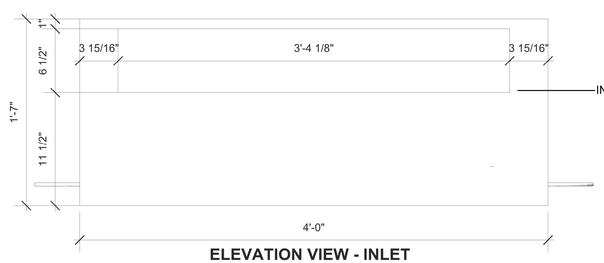


PLAN VIEW

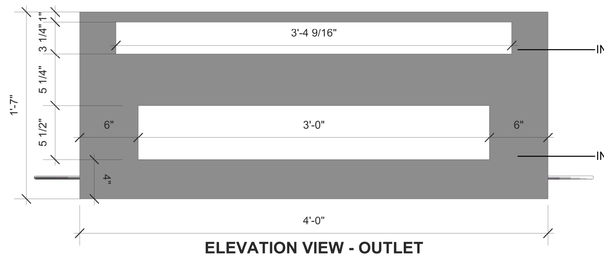
SCALE: 1"=10'



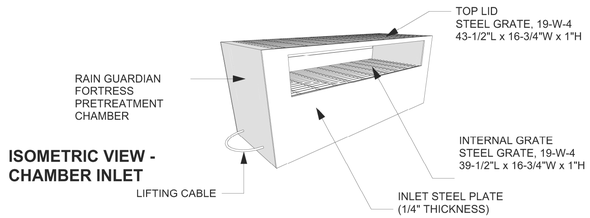
PLAN VIEW



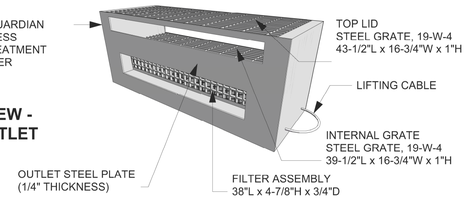
ELEVATION VIEW - INLET



ELEVATION VIEW - OUTLET



ISOMETRIC VIEW - CHAMBER INLET



ISOMETRIC VIEW - CHAMBER OUTLET

HANDLING INSTRUCTIONS

DO NOT LIFT FORTRESS BY METAL FACE PLATES

LIFT ONLY BY CABLES WITH SPREADER BAR

SPECIFICATIONS

1. STEEL REINFORCED, COLD JOINT SECURED MONOLITHIC CONCRETE STRUCTURE (3.26 CF CONCRETE, 499 LBS, 1.36 CF STORAGE VOLUME), CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI AT 28 DAYS. CONCRETE AIR ENTRAINED (5% TO 8.5% BY VOLUME). MANUFACTURED AND DESIGNED TO ASTM C858.
2. TWO-POINT PICK (EMBEDDED LIFTING CABLES)
3. INTERNAL GRATE - STEEL GRATE (25 LBS/PIECE, 1" THICK), 361 LB CONCENTRATED LOAD OR 206 LB/SQ-FT UNIFORM LOAD
4. TOP LID - STEEL GRATE (27 LBS/PIECE, 1" THICK), 361 LB CONCENTRATED LOAD OR 206 LB/SQ-FT UNIFORM LOAD
5. STEEL FACE PLATE (INLET AND OUTLET) - A36 1/4" THICKNESS
6. REMOVABLE FILTER ASSEMBLY (FIBERGLASS GRATE WITH FILTER AND ALUMINUM CHANNEL)

INSTALLATION NOTES

1. EXCAVATE AN AREA WITH DIMENSIONS OF AT LEAST 4'-6"L X 2'-0"W FOR THE RAIN GUARDIAN. THE DISTANCE FROM THE BACK OF THE CURB MAY VARY BASED ON SITE CONDITIONS, BUT CONSIDERATIONS SHOULD INCLUDE SLOPE OF THE INLET AND BASIN SIDE SLOPES ADJACENT TO THE RAIN GUARDIAN. POSITION RAIN GUARDIAN SO PRIMARY OUTLET ALIGNS WITH TOE OF BASIN SIDE SLOPE TO AVOID SOIL INTERFERENCE WITH REMOVABLE FILTER WALL. THE EXCAVATION DEPTH SHOULD BE 1'-7" BELOW THE GUTTERLINE ELEVATION AT THE RAIN GARDEN INLET TO ACCOMMODATE THE 6" AGGREGATE BASE, 4" RAIN GUARDIAN BASE, AND 9" PONDING DEPTH.
2. INSTALL AN AGGREGATE BASE, COMPACTED TO 95% STANDARD PROCTOR, WITH DIMENSIONS OF AT LEAST 4'-6"L X 2'-0"W X 6"D. FINISHED TOP ELEVATION OF AGGREGATE TO BE PRECISELY 1'-1" BELOW THE GUTTER LINE ELEVATION AT THE RAIN GARDEN INLET.
3. SET RAIN GUARDIAN ON THE PREPARED AGGREGATE BASE. THE RAIN GUARDIAN INLET WILL BE 1-1/2" BELOW THE GUTTERLINE ELEVATION TO ACCOMMODATE A SLOPED INLET FROM THE GUTTER TO THE RAIN GUARDIAN.
4. INSTALL FRAMING FOR INLET BETWEEN RAIN GUARDIAN AND BACK OF CURB. TOP ELEVATIONS OF THE FRAMING SHOULD MATCH THE TOP OF THE CURB ON THE STREET SIDE AND THE TOP OF THE RAIN GUARDIAN ON THE BIORETENTION SIDE.
5. INSTALL EXPANSION/CONTRACTION JOINT MATERIAL OR A SHEET OF POLY TO SERVE AS A BOND BREAK BETWEEN RAIN GUARDIAN AND CONCRETE INLET BEFORE POURING INLET.
6. SIDE CURBS OF THE POURED INLET MUST HAVE AN INSURMOUNTABLE PROFILE TO PREVENT WATER FLOW FROM OVERTOPPING THE DOWNSTREAM SIDE OF THE INLET.
7. INSTALL REMOVABLE FILTER. THE FILTER SHOULD BE INSTALLED IN THE CHANNEL AT THE RAIN GUARDIAN OUTLET WITH THE FILTER FABRIC FACING THE RAIN GUARDIAN INLET.
8. INSTALL INTERNAL GRATE AND THEN TOP LID.

RAIN GUARDIAN
U.S. PATENT NOS. 8,501,016 AND 8,858,804
PRETREATMENT FOR BIORETENTION
Rain Gardens • Swales • Filtration Basins • Infiltration Basins
www.RainGuardian.biz

RAIN GUARDIAN FORTRESS PRETREATMENT CHAMBER BIORETENTION PONDING DEPTH: 9" TYPICAL DETAIL

REVISION HISTORY

REV	BY	DATE	DESCRIPTION
A	MDH	11/16/22	FORTRESS
SCALE		VARIABLE	
U.S. PATENT NOS.		8,501,016 AND 8,858,804	

DEVELOPED BY: ANOKA CONSERVATION DISTRICT

MANUFACTURED BY: Stoneworks ARCHITECTURAL PRECAST / CAST STONE
NATIONAL PRECAST CONCRETE ASSOCIATION CERTIFIED PLANT

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-20231-0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

REVISION	DATE	APP'D
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REV. PER TRC COMMENTS #1	2-8-24	SJH
1		
2		

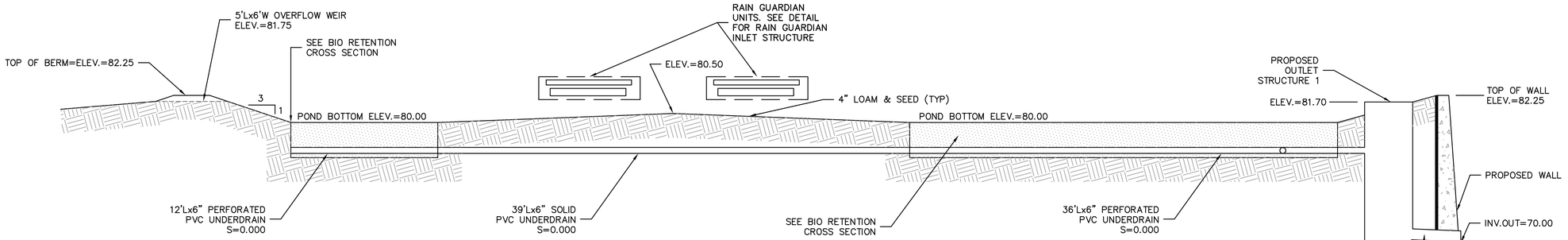
DATE: 10-26-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY: SJH
PROJECT NO: 22017
FILE NAME: STE.DWG

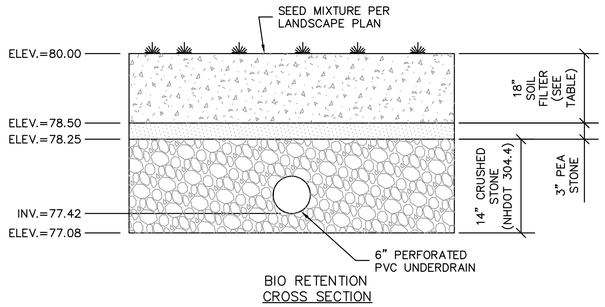
DETAIL SHEET

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

19





BIO RETENTION
CROSS SECTION

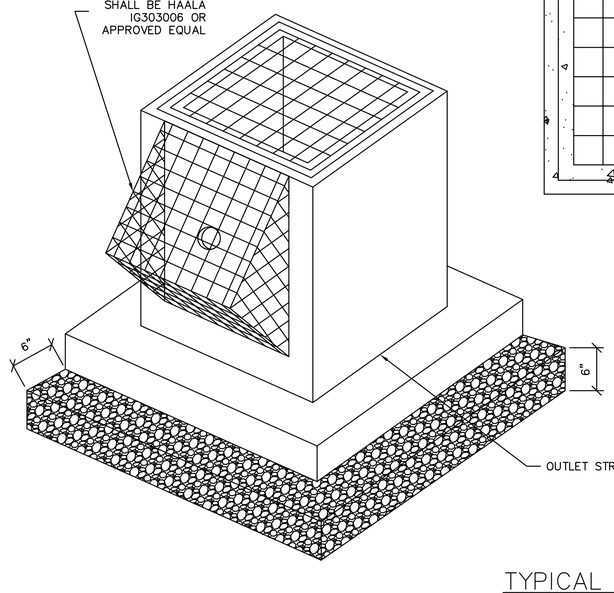
NOTES:
1. CONSTRUCT GRASSED OVERFLOW SPREADER EARLY DURING INITIAL CONSTRUCTION TO ESTABLISH TURF PRIOR TO CONSTRUCTION OF BIORETENTION SYSTEM.
2. DO NOT BEGIN CONSTRUCTION OF THE BIORETENTION AREA UNTIL LAWN AREA ON THE ENTIRE SITE AREA ESTABLISHED WITH AT LEAST 80 PERCENT TURF. FILTER ALL DRAIN INLETS IN THE SEDIMENT FOREBAYS TO PREVENT SILTATION INTO THE BIORETENTION AREA.
3. DO NOT DRIVE CONSTRUCTION EQUIPMENT THE FILTER MATERIAL. INSTALL FILTER MATERIAL BY MEANS OF AN EXCAVATOR LOCATED ADJACENT TO THE FILTER AREA.
4. MATERIALS: CRUSHED STONE LAYER SHALL MEET NHDOT 304.4. STONE SHALL CONTAIN NO MORE THAN 5% FINES PASSING THE #200 SIEVE. TOPSOIL SHALL CONTAIN 15 TO 25% FINES PASSING THE #200 SIEVE.
5. REFER TO LANDSCAPING DRAWINGS FOR GRASS SEED MIXES. FERTILIZATION OF THE FILTER AREA SHALL BE AVOIDED UNLESS ABSOLUTELY NECESSARY TO ESTABLISH VEGETATION.
6. INITIAL ESTABLISHMENT: DURING THE FIRST 2–3 MONTHS OF ESTABLISHMENT WATER THE GARDEN ON A WEEKLY BASIS (TO SUPPLEMENT RAINFALL FOR TOTAL OF 1 INCH PER WEEK).
7. ANNUAL MAINTENANCE: IN THE SPRING OF EACH YEAR, ANY DEAD VEGETATION SHALL BE REMOVED TO ALLOW FOR NEW GROWTH, AND ANY ACCUMULATED SEDIMENT (NORMALLY AT THE ENTRANCE TO THE GARDEN) SHALL ALSO BE REMOVED. TURF AT FILTER SHALL BE MOWED NO MORE THAN 3 TIMES PER GROWING SEASON. IF WATER PONDS ON THE SURFACE FOR MORE THAN 24 HOURS DURING THE FIRST YEAR OR 72 HOURS THEREAFTER, THE FILTER SURFACE SHALL BE AERATED WITH DEEP TINES OR THE SURFACE REPLACED.

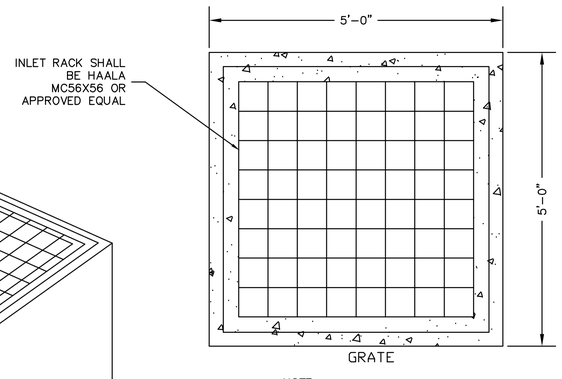
BIO POND 1 (BP1) DETAIL

NOT TO SCALE

BIORETENTION FILTER MEDIA SPECIFICATIONS

COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL	
		SIEVE NO.	PERCENT BY WEIGHT PASSING STANDARD SIEVE
FILTER MEDIA OPTION A			
ASTM C-33 CONCRETE SAND	50 TO 55		
LOAMY SAND TOPSOIL, WITH FINES AS INDICATED	20 TO 30	200	15 TO 25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	< 5
FILTER MEDIA OPTION B			
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	< 5
LOAMY COARSE SAND	70 TO 80	10	85 TO 100
		20	70 TO 100
		60	15 TO 40
		200	8 TO 15



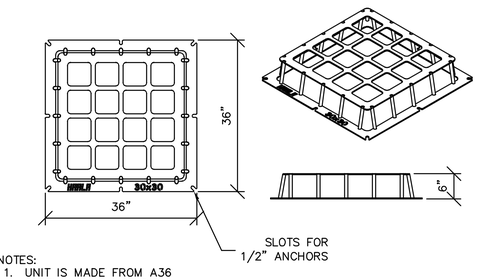


GRATE

NOTE:
1. OUTLET STRUCTURES SHALL BE PRE CAST WITH A MINIMUM CONCRETE STRENGTH OF 4,000 PSI @ 28 DAYS.
2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EACH STRUCTURE FOR REVIEW BY THE TOWN.
3. INLET GRATES AND TRASH RACKS SHALL BE HAALA PRODUCTS OR APPROVED EQUAL.

TYPICAL INLET TRASH RACKS

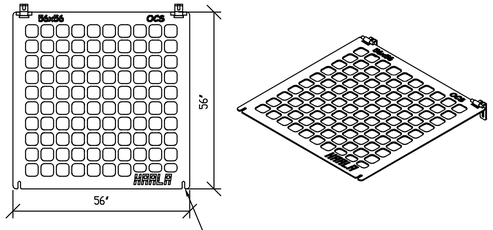
NOT TO SCALE



NOTES:
1. UNIT IS MADE FROM A36 STEEL AND IS HOT DIP GALVANIZED AFTER FABRICATION PER ASTM A123.

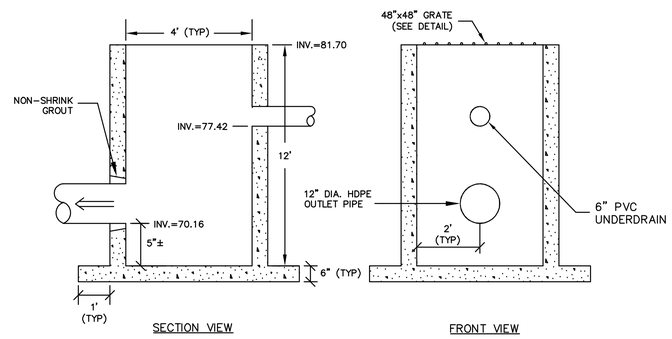
HAALA IG303006

NOT TO SCALE



NOTES:
1. UNIT IS MADE FROM A36 STEEL AND IS HOT DIP GALVANIZED AFTER FABRICATION PER ASTM A123.

HAALA MC56X56



NOTE:
1) ALL OUTLET STRUCTURES SHALL BE PRE CAST WITH A MINIMUM CONCRETE STRENGTH OF 4,000 PSI @ 28 DAYS.
2) THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EACH STRUCTURE FOR REVIEW BY THE TOWN.
3) SUMPS SHALL NOT BE GREATER THAN 8 INCHES.

OUTLET STRUCTURE 1 (OS-1) DETAIL

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-20231-0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

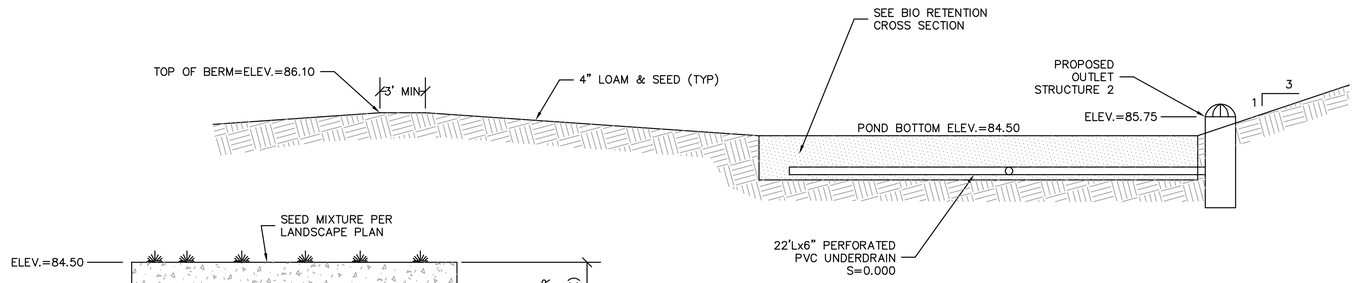
NO.	REVISION	APP'D	DATE
2	REV. PER TRC COMMENTS #2	SJH	5-6-24
1	REV. PER TRC COMMENTS #1	SJH	2-8-24

DATE: 10-26-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY:SJH
PROJECT NO:22017
FILE NAME:SITE.DWG

DETAIL SHEET

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH



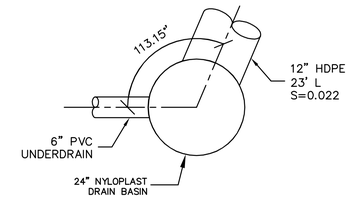
BIO RETENTION
CROSS SECTION

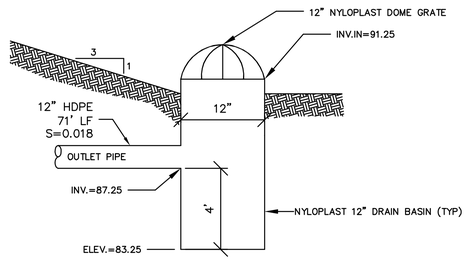
BIORETENTION FILTER MEDIA SPECIFICATIONS			
COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL	
		SIEVE NO.	PERCENT BY WEIGHT PASSING STANDARD SIEVE
FILTER MEDIA OPTION A			
ASTM C-33 CONCRETE SAND	50 TO 55		
LOAMY SAND TOPSOIL, WITH FINES AS INDICATED	20 TO 30	200	15 TO 25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	< 5
FILTER MEDIA OPTION B			
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	< 5
LOAMY COARSE SAND	70 TO 80	10	85 TO 100
		20	70 TO 100
		60	15 TO 40
		200	8 TO 15

NOTES:
1. CONSTRUCT GRASSED OVERFLOW SPREADER EARLY DURING INITIAL CONSTRUCTION TO ESTABLISH TURF PRIOR TO CONSTRUCTION OF BIORETENTION SYSTEM.
2. DO NOT BEGIN CONSTRUCTION OF THE BIORETENTION AREA UNTIL LAWN AREA ON THE ENTIRE SITE AREA ESTABLISHED WITH AT LEAST 80 PERCENT TURF. FILTER ALL DRAIN INLETS IN THE SEDIMENT FOREBAYS TO PREVENT SILTATION INTO THE BIORETENTION AREA.
3. DO NOT DRIVE CONSTRUCTION EQUIPMENT THE FILTER MATERIAL. INSTALL FILTER MATERIAL BY MEANS OF AN EXCAVATOR LOCATED ADJACENT TO THE FILTER AREA.
4. MATERIALS: CRUSHED STONE LAYER SHALL MEET NHDOT 304.4. STONE SHALL CONTAIN NO MORE THAN 5% FINES PASSING THE #200 SIEVE. TOPSOIL SHALL CONTAIN 15 TO 25% FINES PASSING THE #200 SIEVE.
5. REFER TO LANDSCAPING DRAWINGS FOR GRASS SEED MIXES. FERTILIZATION OF THE FILTER AREA SHALL BE AVOIDED UNLESS ABSOLUTELY NECESSARY TO ESTABLISH VEGETATION.
6. INITIAL ESTABLISHMENT: DURING THE FIRST 2-3 MONTHS OF ESTABLISHMENT WATER THE GARDEN ON A WEEKLY BASIS (TO SUPPLEMENT RAINFALL FOR TOTAL OF 1 INCH PER WEEK).
7. ANNUAL MAINTENANCE: IN THE SPRING OF EACH YEAR, ANY DEAD VEGETATION SHALL BE REMOVED TO ALLOW FOR NEW GROWTH, AND ANY ACCUMULATED SEDIMENT (NORMALLY AT THE ENTRANCE TO THE GARDEN) SHALL ALSO BE REMOVED. TURF AT FILTER SHALL BE MOWED NO MORE THAN 3 TIMES PER GROWING SEASON. IF WATER PONDS ON THE SURFACE FOR MORE THAN 24 HOURS DURING THE FIRST YEAR OR 72 HOURS THEREAFTER, THE FILTER SURFACE SHALL BE AERATED WITH DEEP TINES OR THE SURFACE REPLACED.

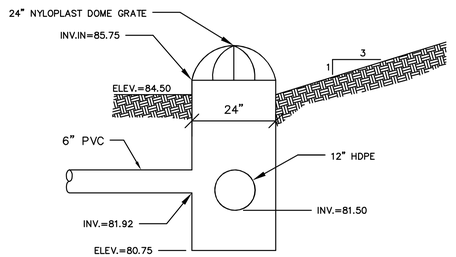
BIO POND 2 (BP2) DETAIL

NOT TO SCALE



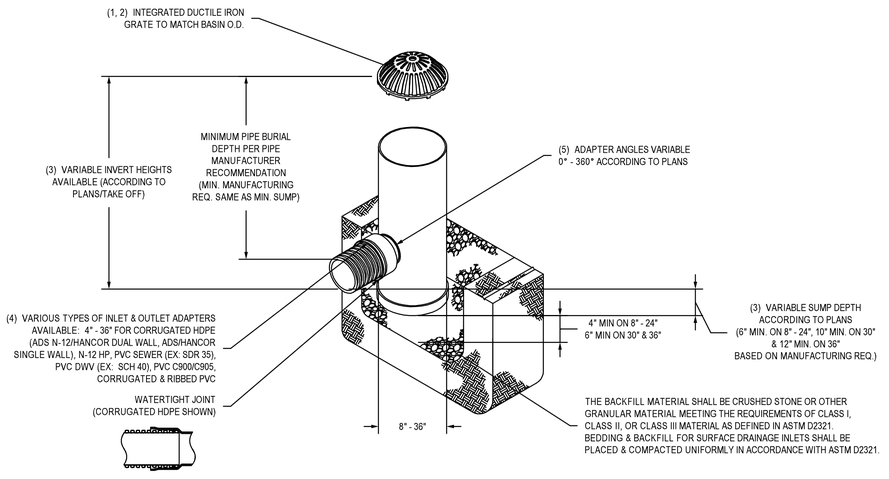


YARD DRAIN (YD1) DETAIL
NOT TO SCALE



OUTLET STRUCTURE 2 (OS2) DETAIL
NOT TO SCALE

NYLOPLAST DRAIN BASIN WITH DOME GRATE



1 - 8" - 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 8" & 10" DOME GRATES FIT ONTO THE DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 8" - 30" DOME GRATES HAVE NO LOAD RATING.

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DRAWN BY	EBC	MATERIAL	
DATE	03-25-10		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	06-12-18		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

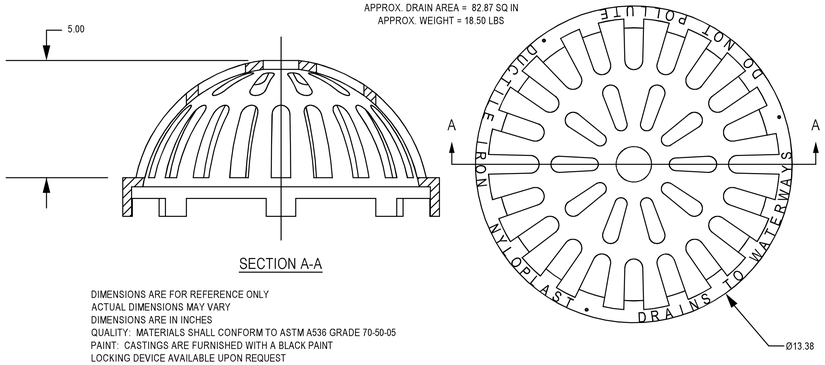
ADS Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN WITH DOME GRATE
QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-397 REV E

1299CGD

APPROX. DRAIN AREA = 82.87 SQ IN
APPROX. WEIGHT = 18.50 LBS



SECTION A-A

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST

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DRAWN BY	EBC	MATERIAL	DUCTILE IRON
DATE	3-8-06		
REVISED BY	EBC	PROJECT NO./NAME	
DATE	3-10-11		
DWG SIZE	A	SCALE NTS	SHEET 1 OF 1

Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: 12 IN DOME GRATE

DWG NO. 7001-110-206 REV D

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-20231-0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

2	REV. PER TRC COMMENTS #2	SJH	5-6-24
1	REV. PER TRC COMMENTS #1	SJH	2-8-24
REVISION NO.	REVISION	APP'D	DATE

DATE: 10-26-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY: SJH
PROJECT NO: 22017
FILE NAME: SITE.DWG

DETAIL SHEET

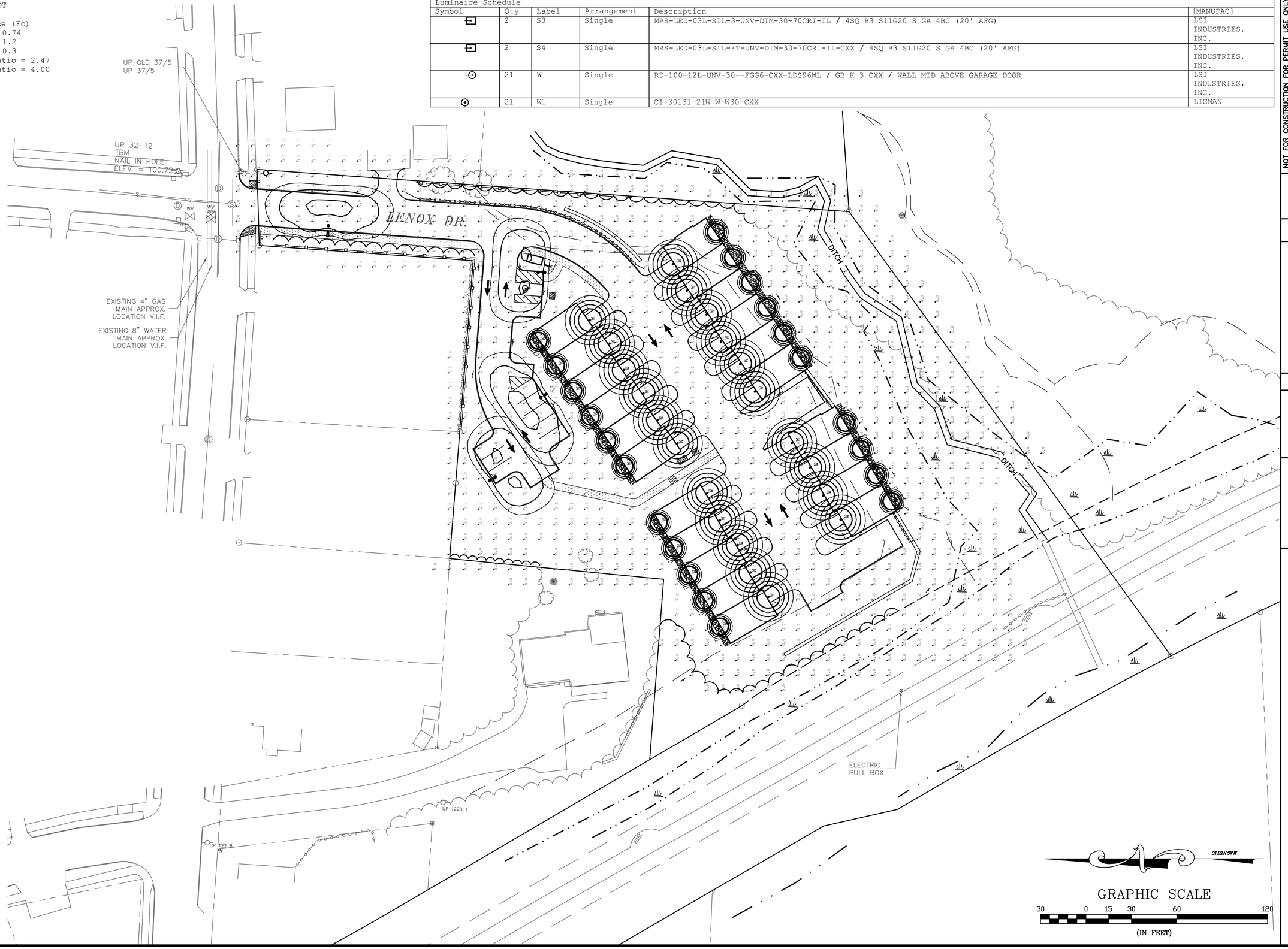
H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

PARKING LOT

Illuminance (Fc)
Average = 0.74
Maximum = 1.2
Minimum = 0.3
Avg/Min Ratio = 2.47
Max/Min Ratio = 4.00

Luminaire Schedule					
Symbol	Qty	Label	Arrangement	Description	[MANUFAC]
	2	S3	Single	MRS-LED-03L-SIL-3-UNV-DIM-30-70CRI-IL / 4SQ B3 S11G20 S GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	2	S4	Single	MRS-LED-03L-SIL-FT-UNV-DIM-30-70CRI-IL-CXX / 4SQ B3 S11G20 S GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	21	W	Single	RD-100-12L-UNV-30--FGG6-CXX-LDS96WL / GB K 3 CXX / WALL MTD ABOVE GARAGE DOOR	LSI INDUSTRIES, INC.
	21	W1	Single	CI-30131-21W-W-W30-CXX	LIGMAN



NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-2023-0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

DATE	REVISION	APP'D
2-8-24	REV. PER TRC COMMENTS #1	SJH
5-6-24	REV. PER TRC COMMENTS #2	SJH

DATE: 10-26-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY:SJH 2
PROJECT NO:22017 1
FILE NAME:SITE.DWG NO.

LIGHTING PLAN

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

22

Catalog # _____ Project: _____

Prepared By: _____ Date: _____

Mirada Small Area (MRS)

Outdoor LED Area Light

IP66 IK08

OVERVIEW	
Lumen Package	6,000 - 30,000
Wattage Range	39 - 209
Efficacy Range (LPW)	112 - 163
Weight lbs(kg)	20 (9.1)
Control Options	IMSBT, ALB, ALS, 7-Pin, PC1

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Cast aluminum wiring access door located underneath.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: 27 lbs in carton.

Optical System
- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated seal.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in distribution types 2, 3, 4, 5W, FT, and LC/RC.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 92-95%.
- Zero uplight.
- Available in 5000K, 4000K, and 3000K color temperatures per ANSI C78.377
- Minimum CRI of 70.
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical
- High-performance driver features over-voltage, under-voltage, short-circuit and over temperature protection.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L70 Calculated Life: >60k Hours
- Total harmonic distortion: <20%
- Operating temperature: -40°C to +50°C (-40°F to +122°F). 30L lumen packages rated to +40°C.
- Power factor: > 90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Driver is fully encased in potting material for moisture resistance and complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls
- Optional integral passive infrared Bluetooth™ motion and photocell sensor. Fixtures operate independently and can be commissioned via IOS or Android configuration app.
- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7.

Installation
- Designed to mount to square or round poles.
- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.
- Included terminal block accepts up to 12 ga. wire.
- Utilizes LSI's traditional B3 drill pattern.

Warranty
- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings
- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- IDA compliant; with 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP66 rated Luminaire per IEC 60598-1.
- 3G rated for ANSI C136.31 high vibration applications are qualified.
- IK08 rated luminaire per IEC 62262 mechanical impact code
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Catalog # _____ Project: _____

Prepared By: _____ Date: _____ Type: _____

RD

LSI Abolite® LED Standard Dome

OVERVIEW	
Lumen Range	1,250 - 1,700
CCT	27/30/35/40/50K
Wattage Range	9.3 - 12.8

QUICK LINKS

Ordering Guide | Performance | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Heavy gauge spun steel with a thermally cured high quality polyester powder coat finish.
- Integrated power supply built into the fixture allowing the RLM to be connected directly to line voltage.
- Manufactured in the USA

Optical System
- Available in 5000K, 4000K, 3500K, 3000K, and 2700K color temperatures
- Glass Globe required for outdoor applications
- Minimum CRI of 80

Electrical
- Standard Universal Voltage (120-277 Vac) Input 50/60Hz
- 0-10V dimming, 5% standard.
- Operating Temperature -30°C to +50°C (-22°F to +122°F)

Installation
- Pre-wired with 96" leads standard.
- Optional 10' prewired cord set and canopy available in black and white
- Optional 10' prewired cord set, aircraft wire, and canopy available in black and white
- Fixed hub tapped for 3/4" NPT conduit.
- Not designed for uplight applications.

Warranty
- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings
- UL Listed
- Suitable for wet locations

Catalog # _____ Project: _____

Prepared By: _____ Date: _____

Steel Poles

Square Straight

QUICK LINKS

Ordering Guide | Configurations | Dimensions | EPA

FEATURES & SPECIFICATIONS

Pole Shaft
- Straight poles are 4", 5", or 6" square.
- Pole shaft is electro-welded ASTM-A500 Grade C steel tubing with a minimum yield strength of 50,000 psi.
- On Tenon Mount steel poles, tenon is 2-3/8" O.D. high-strength pipe. Tenon is 4-3/4" in length.

Hand-Hole
- Standard hand-hole location is 12" above pole base.
- Poles 22' and above have a 3" x 6" reinforced hand-hole. Shorter poles have a 2" x 4" non-reinforced hand-hole.

Base
- Pole base is ASTM-A36 hot-rolled steel plate with a minimum yield strength of 36,000 psi.
- Two-piece square base cover is optional.

Anchor Bolts
- Poles are furnished with anchor bolts featuring zinc-plated double nuts and washers. Galvanized anchor bolts are optional.
- Anchor Bolts conform to ASTM F 1554-07a Grade 55 with a minimum yield strength of 55,000 PSI.

Ground Lug
- Ground lug is standard.

Duplex Receptacle
- Weatherproof duplex receptacle is optional.

Ground Fault Circuit Interrupter
- Self-testing Ground fault circuit interrupter is optional.

Finishes
- Every pole is provided with the DuraGrip Protection System and a 5-year limited warranty.
- When the top-of-the line DuraGrip Plus Protection System is selected, in addition to the DuraGrip Protection System, a non-porous, automotive-grade corrosion coating is applied to the lower portion of the pole interior sealing and further protecting it from corrosion. This option extends the limited warranty to 7 years.

Determining The Luminaire/Pole Combination For Your Application:
- Select luminaire from luminaire ordering information.
- Select bracket configuration if required.
- Determine EPA value from luminaire/bracket EPA chart.
- Select Pole Height.
- Select MPH to match wind speed in the application area (See windspeed maps).
- Confirm pole EPA equal to or exceeding value of luminaire/bracket EPA.
- Consult factory for special wind load requirements and banner brackets.

Pole Vibration Damper
- A pole vibration damper is recommended in open terrain areas of the country where low steady state winds are common.
- Non-tapered poles and lightly loaded poles are more susceptible to destructive vibration if a damper is not installed.

Listings
- UL Listed
- BAA/TAA Compliant

Catalog #: _____ Project: _____

Prepared By: _____ Date: _____ Type: _____

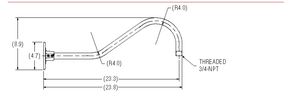
LSI Abolite Gooseneck and Wall Brackets

3/4" Single Reflector Gooseneck Wall Bracket. Features rigid conduit and cast wall plate which fits 4" octagonal box (by other). Brackets are finished in gloss white powder, additional colors are available.

NOTE: Brackets feature 3/4" stems which slip fit into wall plate (wall end is unthreaded). Conduit may be cut down (in the field by other) to shorten bracket length. CAS wall plate included with all goosenecks.

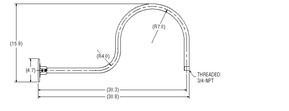
All dimensions displayed in inches.

GB A 3 GWT



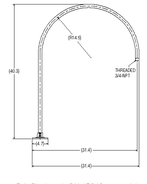
GB B 3 GWT

GB C 3 GWT

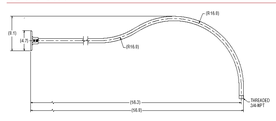


GB E 3 GWT

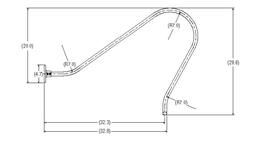
3/4" Single Reflector Gooseneck Wall Bracket. Features rigid conduit and cast wall plate which fits 4" octagonal box (by other). The bracket is designed to be mounted to a horizontal surface, but could also be mounted to a wall. The bracket features a gloss white powder finish, additional colors available.



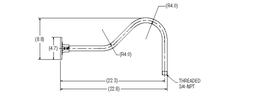
GB F 3 GWT

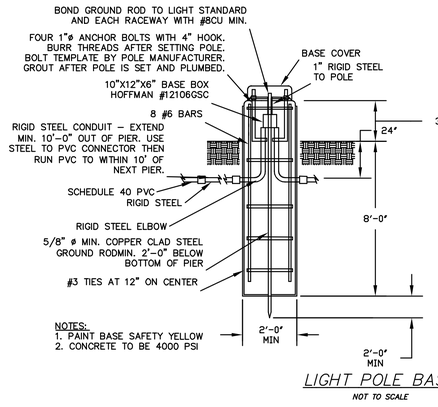


GB G 3 GWT



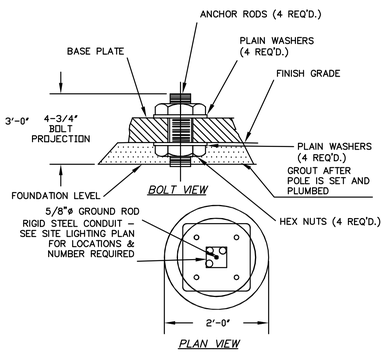
GB H 3 GWT





LIGHT POLE BASE

NOT TO SCALE

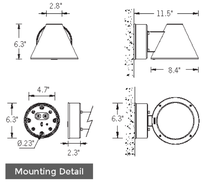


PLAN VIEW

UCI-30131

Cinati Type I, II, III & IV Surface

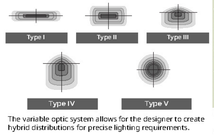
18w LED 2309 Lumens | 30w LED 3848 Lumens
21w COB 1884 Lumens
IP65 • Suitable For Wet Locations
IK08 • Impact Resistant (Vandal Resistant)
Weight 8 lbs



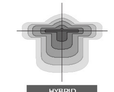
Mounting Detail

microVos TECHNOLOGY

Ligman's micro Variable Optical System provides the ability to interchange, mix & rotate optics to provide specific light distributions for optimized spacing and uniformity.



The variable optic system allows for the designer to create hybrid distributions for precise lighting requirements.



HYBRID
TYPE I & TYPE IV

Construction

Aluminum
Less than 0.1% copper content – Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent mechanical strength , clean detailed product lines and excellent heat dissipation.

Pre-paint
8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Mercury Retentive - Silicon Gasket
Provided with special injection molded "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal managment
LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman used in conjunction with the driver, controls thermals below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life maintaining less than 10% lumen depreciation at 50,000 hours.

Surge Suppression
Standard 10kv surge suppressor provided with all fixtures.

IK10 Rating
IK7 - 10J - 40

Finishing
All Ligman products go through an extensive finishing process that includes prettling to improve paint adherence.

Paint
UV Stabilized 4 Mil thick powder coat paint and baked at 200 Deg C. This process ensures that Ligman products can withstand harsh environments. Rated for use in natatoriums.

Inspired by Nature Finishes
The Inspired by Nature Finishing is a unique system of decorative powder coating. Our metal decoration process can easily transform the appearance of metal or aluminum product into a wood grain finish.

This patented technology enables the simulation of wood grain, and even marble or granite finish through the use of decorative powder coating.

The wood grain finish is so realistic that it's almost undistinguishable from real wood, even though it's close visual inspection. The dynamic wood grain permeates the entire thickness of the coat and as a result, the coating cannot be removed by normal rubbing, chipping, or scratching.

Pre-Coating Process
After pre-treatment the prepared parts are powder coated with a specially formulated polyurethane powder. This powder coating provides protection against wear, abrasion, impact and corrosion and acts as the relief base color for the finalized metal decoration.

The component is then wrapped with a sheet of non-porous film with the selected decoration patterns printed on it using special high temperature inks.

This printed film transfer is vacuum-sealed to the surface for a complete thermo print and then transferred into a customized oven. The oven transforms the ink into different forms within the paint layer before it becomes solid. Finally, the film is removed, and a wood timber look on aluminum remains.

Wood grain coating can create beautiful wood-looking products of any sort. There are over 300 combinations of designs currently in use . Wood grains can be made with different colors, designs, etc.

Our powder coatings are certified for indoor and outdoor applications and are backed by a comprehensive warranty. These coatings rise to the highest conceivable standard of performance excellence and design innovation.

Added Benefits:
- Resistance to salt, acid room, accelerated aging
- Anti-Microbial, Anti-Fungal, Chemical Water resistant
- Anti-Graffiti, Anti-Slip, Anti-Microbial, Anti-Scratch
- Super durable (UV) retainly
- TGIC free (non-toxic)

Hardware
Provided Hardware is Marine grade 316 Stainless steel.

Anti Seize Screw Holes
Tapped holes are infused with a special anti seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

Crystal Clear Low Iron Glass Lens
Provided with tempered, impact resistant crystal clear low iron glass ensuring no green glass tinge.

Optics & LED
Precise optic design provides exceptional light control and precise distribution of light.
LED CRI > 80

Lumen - Maintenance Life
L80 (B10) at 50,000 hours (This means that at least 90% of the LED will achieve 80% of their original flux)

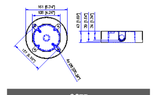
Cone-shaped wall-mounted downlight fixtures. Simple clean form hiding multiple high-performance glare free optic choices.

A cone shaped wall wash luminaire. Suitable for outdoor up, or down light applications. This luminaire is provided with precision optics and high powered LEDs, to provide narrow, medium, wide and very wide distributions. The vandal resistant tempered glass is available in clear or lightly frosted versions.

This product is suitable for commercial, as well as residential applications and with the selection of optics available can provide an excellent lighting solution. Integral electronic driver. Fixture is mounted over a 3" octagonal junction box.

To meet International Dark Sky criteria, 3000k or warmer LEDs must be selected and luminaire fix mounted (+/- 15° allowable to permit leveling).

Additional Options (Consult Factory For Pricing)



SCBT
Surface Conduit Box Trim

NOTE: This trim covers a shallow single-gang surface mount junction box (Provided by contractor).
Example: Hubbell – SI-2-0-1-Gang Weatherproof Box, Five 1/2" in. Threaded Outlet's on - SI-1-0-1-Gang Weatherproof Box, Five 1/4 in. Threaded Outlet's

Ligman Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information. Due to the continual improvement in LED technology data and component may change without notice.

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-20231-0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

REVISION	APP'D	DATE
REV. PER TRC COMMENTS #2	SJH	5-6-24
REV. PER TRC COMMENTS #1	SJH	2-8-24

DATE: 10-26-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY:SJH 2
PROJECT NO:22017 1
FILE NAME:SITE.DWG NO.

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

LIGHTING DETAILS

23

UP OLD 37/5
UP 37/5

UP 32-12
TBM
NAIL IN POLE
ELEV. = 100.72

ELM ST.

EXISTING HOUSE

ASPHALT DRIVE

GARAGE

30"ø MAPLE

18"ø MAPLE

I.R.(fnd)

I.R.(fnd)

LENOX DR.

I.P.(fnd)

G.B.(fnd)

FISHER ST.

45.50

8.50 20.00

Dover ladder feet

Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 44.0

I.R.(fnd)

S.S.(fnd)

G.B.(fnd)

G.B.(fnd)

UP 122B 1

UP 122 B

BELKNAP ST.

I.R.(tbs)

DITCH

50' WETLAND BUFFER

50'

50' CITY OF DOVER CONSERVATION DISTRICT

50' WETLAND BUFFER

DITCH

TREELINE (TYP)

I.R.(tbs)

DOVER COMMUNITY TRAIL

S.S.(fnd)

WETLAND BOUNDARY DELINEATED BY BAG LAND CONSULTING IN 2024

ASPHALT WALK

ELECTRIC PULL BOX

50' EASEMENT

MAGNETIC

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-2023-0015

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
2	REV. PER TRC COMMENTS #2	SJH	5-6-24
1	REV. PER TRC COMMENTS #1	SJH	2-8-24

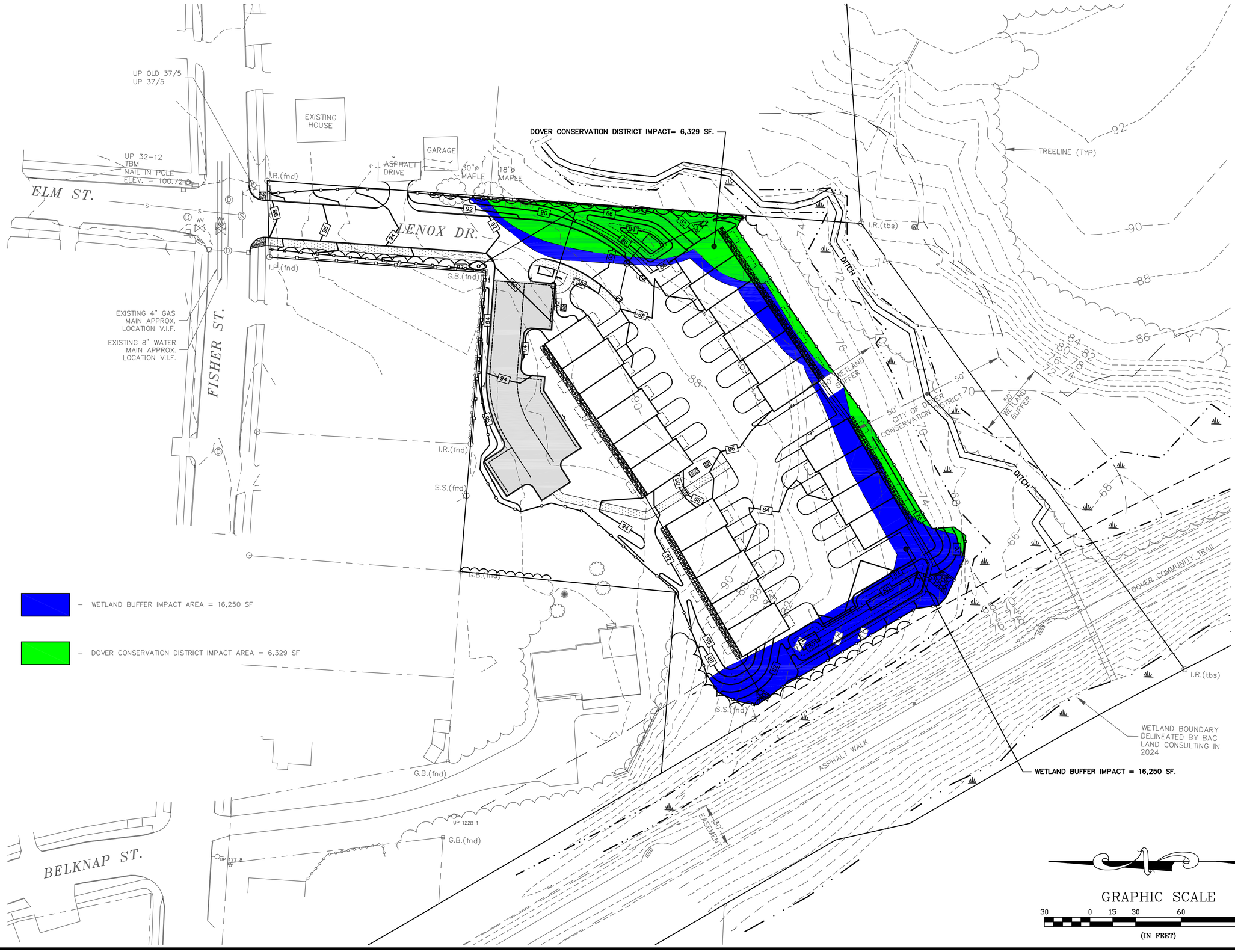
DESIGN BY: SJH
DRAWN BY: MJM
SCALE: 1"=30'
DATE: 10-24-23
PROJECT NO: 22017
FILE NAME: SITE.DWG

DOVER LADDER TRUCK MOVEMENT PLAN

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

24



NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: SITE-2023-0015

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CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

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DATE: 10-26-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: SJH
APPROVED BY: SJH
PROJECT NO: 22017
FILE NAME: SITE.DWG

CONDITIONAL USE PERMIT IMPACT PLAN

UPTOWN CROSSING
RESIDENTIAL SITE PLAN
FISHER STREET
DOVER, NH

H.J. STABILE AND SON, INC.
20 COTTON ROAD, SUITE 200
NASHUA, NH 03063

25

JAD DESIGN GROUP INC.

custom home designers
jaddesigngroup.com
603.554.1199

The Stabile Companies

The Stabile Companies

Builders and Developers

FISHER STREET TOWNHOUSES

DOVER, NH

EXTERIOR COLOR OPTIONS

5/20/24

A 1.0

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The Stabile Companies

Builders and Developers

FISHER STREET TOWNHOUSES

DOVER, NH

EXTERIOR COLOR OPTIONS

5/20/24

A 1.0

The TOWNHOUSES
at Fisher Street

The Stabile Companies

engineer

Date: 12/12/23

BUILDING – B

JAD DESIGN GROUP INC.
CUSTOM RESIDENTIAL DESIGN
www.jaddesigngroup.com 603.554.1199

Stabile Homes
Quality Homes for Today's Lifestyles

Corporate Office
20 Cotton Road, Nashua,
NH 03063
(603) 889-0318

MARKETING PLANS

REVISIONS RELEASE DATE:

	MM/DD/YY	REMARKS
1		
2		
3		

1.1

A

JAD STRUCTURAL NOTES 2023

GENERAL STRUCTURAL NOTES:

1. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING.
2. EXISTING CONDITIONS SHOWN HAVE BEEN BASED ON THE REFERENCED PLANS AND IS NOT A RESULT OF AN IN-DEPTH INVESTIGATION INTO THE STRUCTURE ITSELF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING IN-DEPTH INVESTIGATIONS AND / OR TESTING WHEN UNKNOWN CONDITIONS ARISE. ALL DIMENSIONS RELATED TO THE EXISTING CONSTRUCTION ARE APPROXIMATE UNLESS OTHERWISE NOTED. BEFORE CONSTRUCTION, CONTRACTOR SHALL VERIFY THAT ALL PROPOSED DIMENSIONS AND DETAILS ARE COMPATIBLE WITH THE EXISTING CONDITIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND ARCHITECTURAL DESIGNER OF ANY DISCREPANCIES WITH, OR CONDITIONS THAT ARE NOT SHOWN ON THE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
3. UNLESS OTHERWISE NOTED, DETAILS SHOWN ON ANY DRAWING ARE TO BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.
4. IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS AND DETAILS, THE ARCHITECTURAL DESIGNER & STRUCTURAL ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CONSULTATION. IF CONDITIONS AT THE SIRE ARE DIFFERENT THAN SHOWN, THE ARCHITECTURAL DESIGNER & STRUCTURAL ENGINEER SHALL BE NOTIFIED BEFORE ANY WORK IS PROCEEDED WITH.
5. JAD DESIGN GROUP INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ARCHITECTURAL DESIGNER AND ENGINEER OF RECORD.
6. JAD DESIGN GROUP INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-CONFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE DESIGNER AND / OR ENGINEER OF RECORD.
7. REPRODUCTION OF ARCHITECTURAL PLANS AND / OR DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED.
8. SECTIONS, DETAILS, NOTES, METHODS, OR MATERIALS SHOWN AND / OR NOTED ON ANY PLAN, SECTION OR ELEVATION SHALL APPLY TO ALL OTHER SIMILAR LOCATIONS UNLESS NOTED OTHERWISE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND BRACING REQUIRED DURING CONSTRUCTION. TEMPORARY SUPPORTS REQUIRED FOR STABILITY DURING ALL INTERMEDIATE STAGES OF CONSTRUCTION SHALL BE REMOVED AFTER CONSTRUCTION AND ARE THE RESPONSIBILITY OF THE CONTRACTOR.

CODE:

1. ALL CONSTRUCTION SHALL FOLLOW LOCAL STATE BUILDING CODE, MANUFACTURER'S SPECIFICATIONS, AND WELL-KNOWN INDUSTRY STANDARDS. IF ANY QUESTIONS SHALL ARISE, THE ARCHITECTURAL DESIGNER OR ENGINEER ON RECORD SHALL BE CONTACTED.
2. INTERNATIONAL RESIDENTIAL CODE 2018 (IRC 2018) AND THE REFERENCED STANDARDS INCLUDED THEREIN. AHJ – AUTHORITY HAVING JURISDICTION.

REFERENCES:

1. JAD DESIGN GROUP INC.
   PLAN NO: 2650
   DATE: 11/28/ 2023

DESIGN LOADS:

1. UNIFORM LIVE LOAD (IRC 2018):
   A. NON-BEDROOM: 40 PSF
   B. BEDROOM 30 PSF
   C. ATTIC: 20 PSF
2. UNIFORM FLOOR DEAD LOAD: 15 PSF
3. UNIFORM ROOF DEAD LOAD: 15 PSF
4. SNOW DESIGN:
   GROUND SNOW LOAD, Pg = 60 PSF
   SNOW EXPOSURE FACTOR, Ce = 1.00
   SNOW LOAD IMPORTANCE FACTOR, I = 1.00
   SNOW THERMAL FACTOR, Ct = 1.10

FOUNDATIONS:

1. FOUNDATIONS CONSIST OF CONTINUOUS FOOTING ASSUMED TO BEAR ON COMPACTED STRUCTURAL FILL PLACED ON UNDISTURBED NATURAL SOIL HAVING AN ASSUMED ALLOWABLE BEARING PRESSURE OF 2,000 PSF (TO BE VERIFIED BY CONTRACTOR). IF THE SOIL AT BEARING DEPTH IS DISTURBED OR THE ACTUAL ALLOWABLE BEARING PRESSURE IS LESS THAN 2,000 PSF, THEN A QUALIFIED GEO-TECHNICAL ENGINEER SHALL BE CONSULTED.
2. UNLESS OTHERWISE NOTED, FOUNDATIONS SHALL BE CENTERED UNDER SUPPORTED MEMBERS.
3. THE BOTTOM PERIMETER FOUNDATIONS SHALL BE DESIGN FROST DEPTH BELOW FINISHED GRADE.
4. THE BOTTOM 3" OF FOOTING EXCAVATIONS SHALL BE FINISHED BY HAND SHOVEL.
5. FINISH EXTERIOR GRADE SHALL BE AT LEAST 8" BELOW TOP OF FOUNDATION WALL.
6. PLACE BACK FILL SIMULTANEOUSLY ON BOTH SIDES OF WALLS TO THE GRADES INDICATED.
7. FOR UN-BRACED FOUNDATION WALLS, THE MAXIMUM UNBALANCED FILL SHALL BE 12" WITHOUT ENGINEER INPUT / APPROVAL.
8. WALKOUT AND KNEEWALL STYLE BASEMENTS ALWAYS REQUIRE ENGINEER REVIEW (I.E. WHENEVER ALL PERIMETER FOUNDATION WALLS ARE NOT FULL HEIGHT).
9. PROVIDE FORMWORK FOR ALL FOOTINGS, WALLS, AND PIERS. EARTH FORMED FOUNDATIONS ARE NOT ALLOWED.
10. ANCHOR BOLTS: 1/2"x12" (MINIMUM 7" EMBEDMENT) @ 6'-0" O.C. (4'-0" FOR BUILDING > 2- STORY) AND BETWEEN 6"-12" OF EACH END. (R403.1.6)
11. DAMP PROOFING- ALWAYS REQUIRED BELOW GRADE WHEN INTERIOR SPACE IS CREATED. (PER R406)
12. WATERPROOFING- REQUIRED WHEN INTERIOR SPACE CREATED AND HIGH-WATER TABLE OR OTHER CONDITIONS. (PER R406)

REINFORCING STEEL:

1. REINFORCING STEEL SHALL BE NEW STEEL BAR, FREE FROM LOOSE RUST AND SCALE AND CONFORMING TO ASTM A615, GR60.
2. CLEAR CONCRETE COVER OVER BARS SHALL BE IN ACCORDANCE WITH ACI 318.
3. ACCESSORIES SHALL HAVE UPTURNED LEGS AND BE PLASTIC DIPPED AFTER FABRICATION. ACCESSORIES FOR REINFORCING SHALL BE IN ACCORDANCE WITH THE MOST CURRENT ACI EDITION.
4. LAP REINFORCING TO DEVELOP THE FULL TENSION CAPACITY OF THE (SMALLER) BAR.
5. NO BARS SHALL BE CUT OR OMITTED IN THE FIELD BECAUSE OF SLEEVES, DUCT OPENINGS, OR RECESSES. BARS MAY BE MOVED ASIDE WITHOUT CHANGE IN LEVEL WITH THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
6. ANCHOR BOLT MATERIAL SHALL CONFORM TO ASTM A36, A307, OR BETTER AND MEET IRC 2018.

CONCRETE:

1. CONCRETE SHALL BE A MIX DESIGNED FOR ULTIMATE STRENGTH IN ACCORDANCE WITH THE ACI 211.1 TO ACHIEVE THE DESIRED COMPRESSIVE STRENGTH. STANDARD MINIMUM 3,000 PSI FOR FOOTINGS, INTERIOR FLOOR, WALLS, AND GARAGE SLAB. (R402.2)
2. CONCRETE SHALL NOT BE CAST IN WATER OR ON FROZEN GROUND. CONCRETE SHALL NOT BE EXPOSED TO WATER (I.E. RAIN) DURING SETTING PERIOD.
3. CONCRETE FLOORS SHALL BE PLACED OVER MINIMUM 4" THICK POROUS LAYER (SUCH AS CRUSHED STONE) WITH DRAINAGE AND APPROVED VAPOR BARRIER. (R405.2.2)
4. TOP OF FOUNDATION WALLS AND SLABS SHALL BE SMOOTH AND LEVEL.
5. NO PIPE GREATER THAN 4' DIAMETER SHALL PASS THROUGH CONCRETE WITHOUT PERMISSION OF THE STRUCTURAL ENGINEER. PIPE SLEEVES SHALL BE PROVIDED AND SPACED A MINIMUM THREE DIAMETERS APART.
6. EXPOSED CONCRETE SHALL BE RUBBED IMMEDIATELY AFTER REMOVAL OF FORMS AND SNAP TIES REMOVED TO FLUSH.
7. OPENINGS IN CONCRETE WALLS SHALL BE LOCATED, SIZED, AND REINFORCED (WITH THE EXCEPTION OF SMALL OPENINGS AND / OR SLEEVES OF A SIZE THAT WILL NOT DISPLACE OR INTERRUPT THE CONTINUITY OF THE REINFORCING) AS SHOWN ON THE RESPECTIVE DETAILS. ANY ALTERATIONS REQUIRE APPROVAL OF THE STRUCTURAL ENGINEER.
8. DO NOT BACKFILL FOUNDATION WALLS UNTIL THE CONCRETE HAS BEEN IN PLACE FOR SEVEN (7) DAYS AND ATTAINED 75% OF ITS DESIGN COMPRESSIVE STRENGTH, AND FLOOR DIAPHRAGMS ARE IN PLACE.

BUILDING - B

CONTRACTOR TO VERIFY ALL DIMENSIONS AND STRUCTURAL MEMBERS PRIOR TO STARTING CONSTRUCTION, BUILDING IS TO MEET OR EXCEED ALL STATE AND LOCAL BUILDING CODES.

JAD DESIGN GROUP INC.
jaddesigngroup.com phone 603.554.1199

The Stabile Companies
CUSTOM BUILDERS

JOB: 2650
REF:
DATE: 11/28/2023
REV:

THE STABILE COMPANIES
NASHUA, NH

FISHER STREET TOWNHOUSES - B
FISHER STREET
DOVER, NH

STANDAR SPECIFICATIONS
SCALE: 1/4" = 1'-0"

SHEET
A-1.2

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JAD DESIGN GROUP INC.

Unit - B5 | Unit - B4 | Unit - B3 | Unit - B2 | Unit - B1

Front Elevation

BUILDING - B

CONTRACTOR TO VERIFY ALL DIMENSIONS AND STRUCTURAL MEMBERS PRIOR TO STARTING CONSTRUCTION. BUILDING IS TO MEET OR EXCEED ALL STATE AND LOCAL BUILDING CODES.

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jaddesigngroup.com phone 603.554.1199

The Stabile Companies
CUSTOM BUILDERS

JOB: 2650
REF:
DATE: 11/28/2023
REV:

THE STABILE COMPANIES
NASHUA, NH

FISHER STREET TOWNHOUSES - B
FISHER STREET
DOVER, NH

FRONT ELEVATION
SCALE: 1/4" = 1'-0"

SHEET
A-2.1

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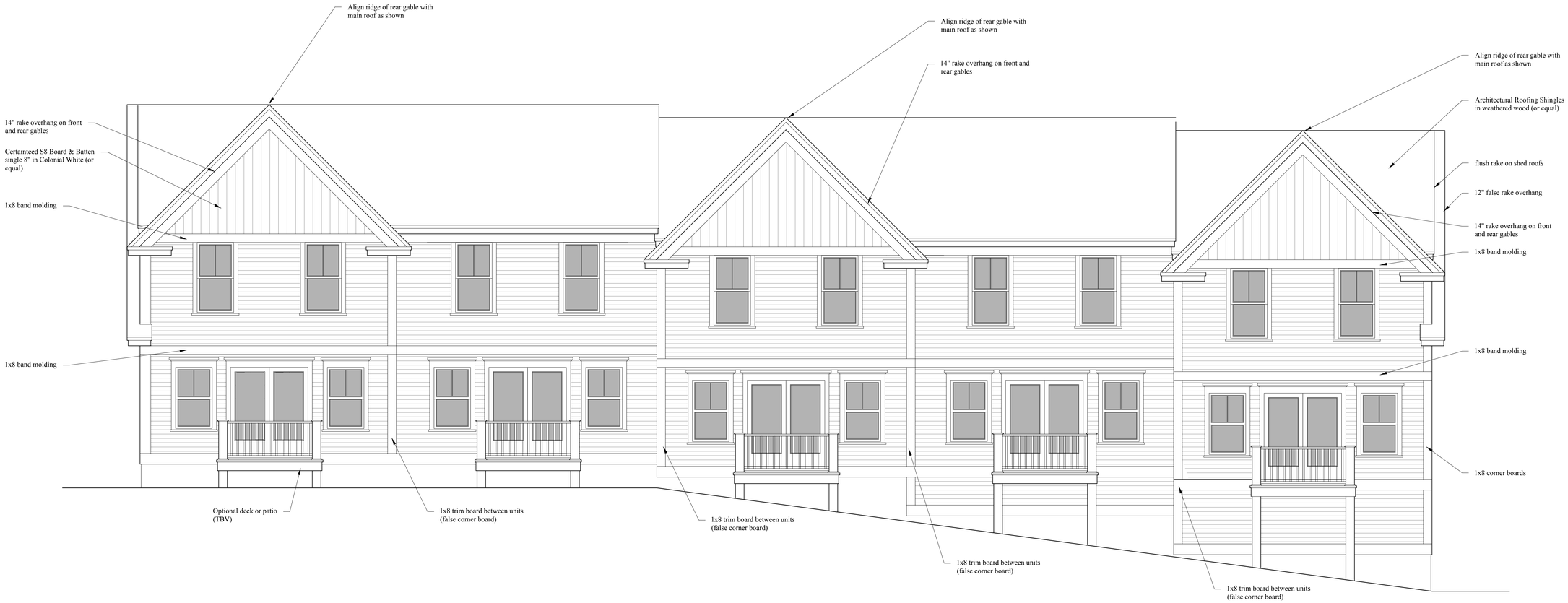

Unit - B1 | Unit - B2 | Unit - B3 | Unit - B4 | Unit - B5

Rear Elevation

BUILDING - B

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CUSTOM BUILDERS

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REF:
DATE: 11/28/2023
REV:

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NASHUA, NH

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FISHER STREET
DOVER, NH

REAR ELEVATION
SCALE: 1/4" = 1'-0"

SHEET
A-2.2

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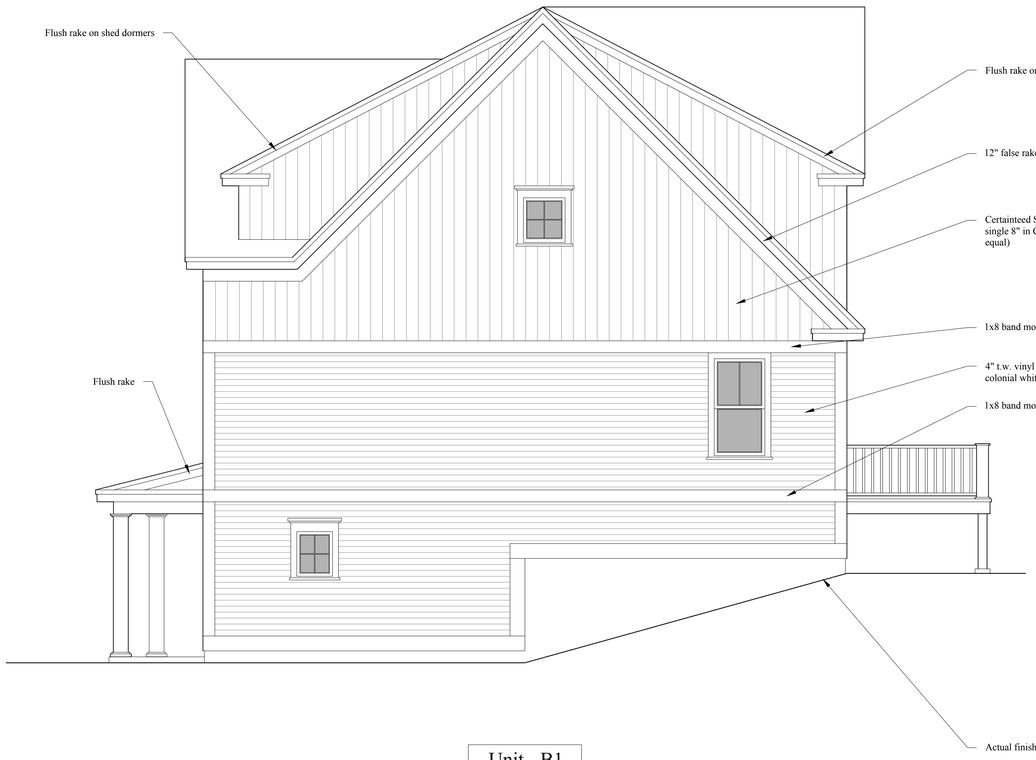
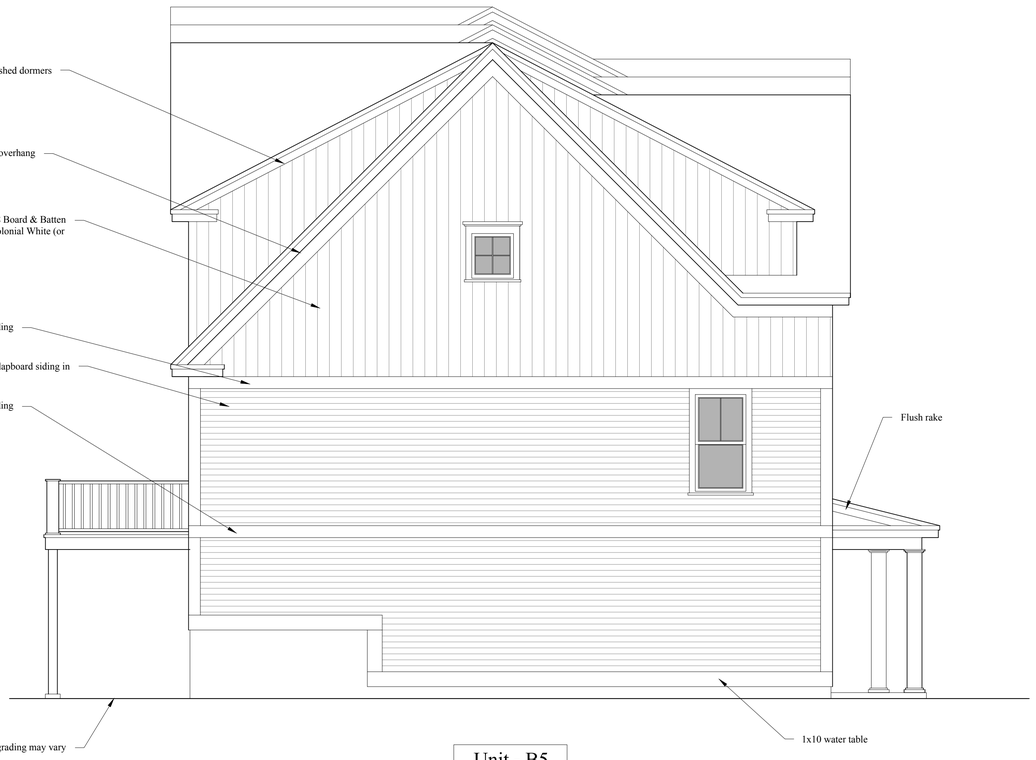


Unit - B1

Right Side Elevation



Unit - B5

Left Side Elevation

BUILDING - B

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SIDE ELEVATIONS
SCALE: 1/4" = 1'-0"

SHEET
A-2.3

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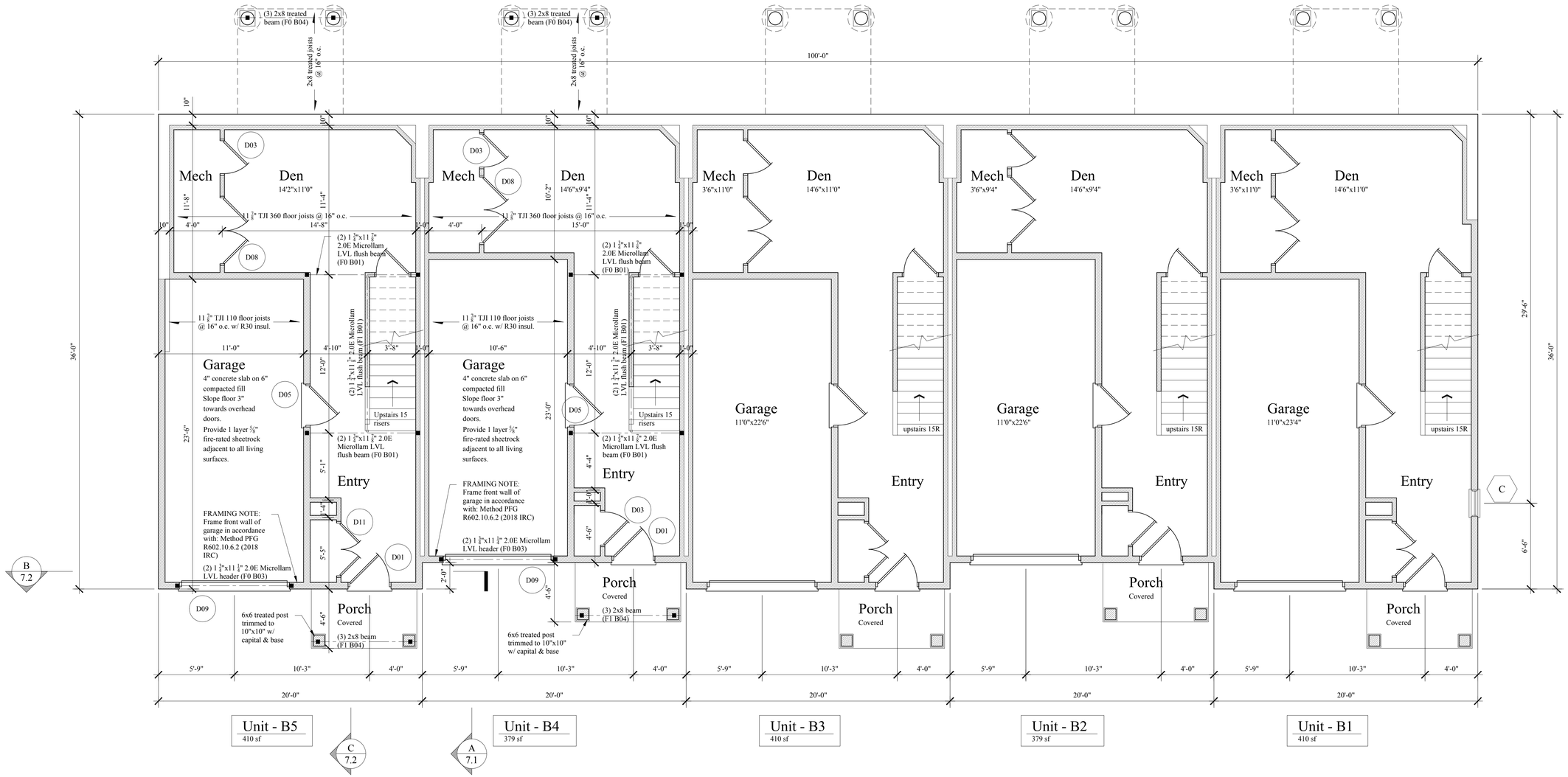

Floor Plan - Level 1

Notes : .

1. 7-9 1/2"± ceiling height.
2. All interior door headers to be 2-2x8 unless otherwise noted.
3. All exterior window & door headers to be 3-2x8 unless otherwise noted.
4. Refer to Engineering Beam Cales for beam posting and connection requirements.

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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FLOOR PLAN - LEVEL 1
SCALE: 1/4" = 1'-0"

SHEET
A-3.1

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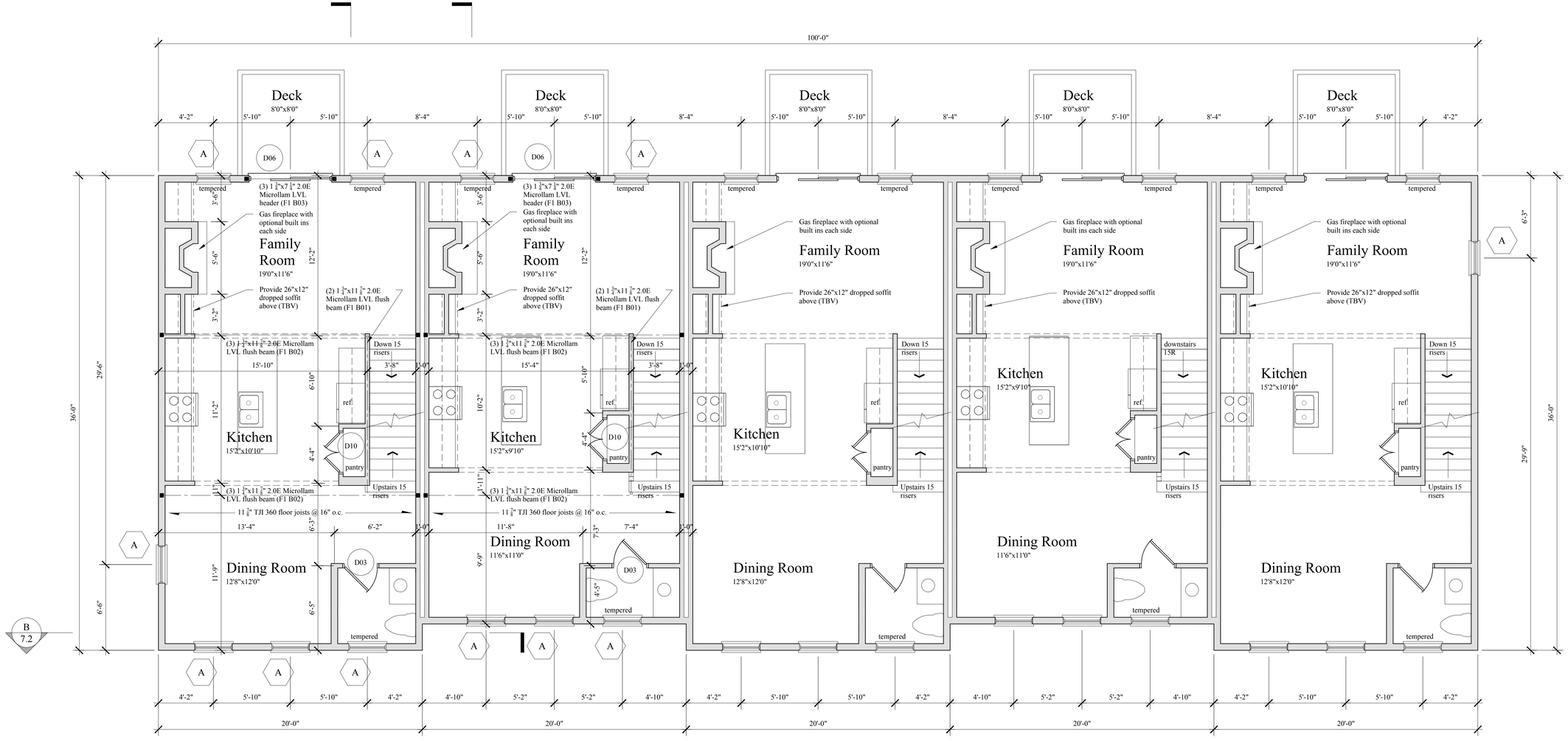

Unit - B5
720 sf

Unit - B4
680 sf

Unit - B3
720 sf

Unit - B2
680 sf

Unit - B1
720 sf

Floor Plan - Level 2

Notes : .

1. 8'-4" Ceiling Height.
2. All interior door headers to be 2-2x8 unless otherwise noted.
3. All exterior window & door headers to be 3-2x8 unless otherwise noted.
4. Window head heights to be @ 7'-4" a.f.f.; window sills to be 24" (minimum) above finish floor as per code requirement.
5. Refer to Engineering Beam Cales for beam posting and connection requirements.

BUILDING - B

Design Loads (PSF)

	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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DOVER, NH

FLOOR PLAN - LEVEL 2
SCALE: 1/4" = 1'-0"

SHEET
A-4.1

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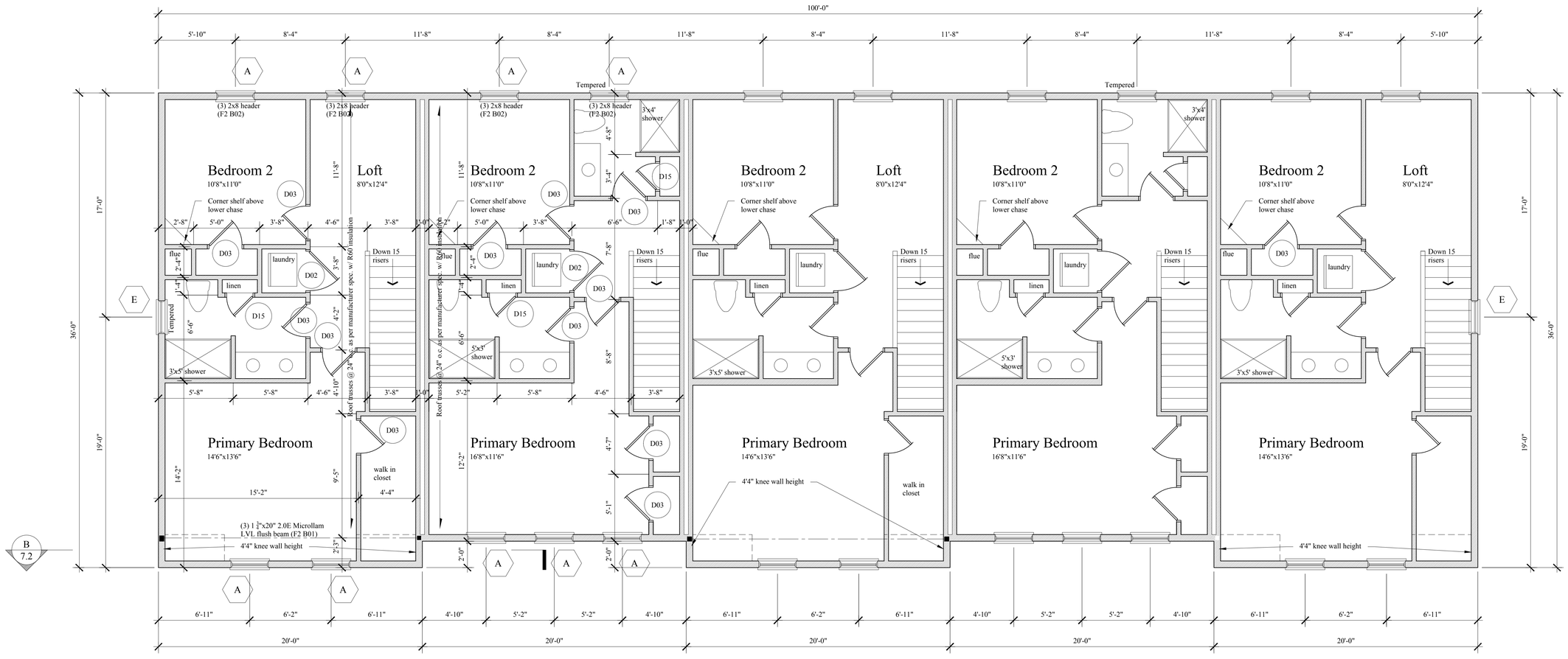

Floor Plan - Level 3

Notes:

1. 8'-4" Ceiling height.
2. All interior door headers to be 2-2x8 unless otherwise noted.
3. All exterior window headers to be 3-2x8 unless otherwise noted.
4. Window head heights to be @ 7'-4" A.F.F., window sills to be 24" (minimum) above finish floor as per code requirement.
5. Provide 22"x30" (minimum) scuttle hole access to attic as per code requirement.
6. Refer to Engineering Beam Calcs for beam posting and connection requirements.

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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DOVER, NH

FLOOR PLAN - LEVEL 3
SCALE: 1/4" = 1'-0"

SHEET
A-5.1

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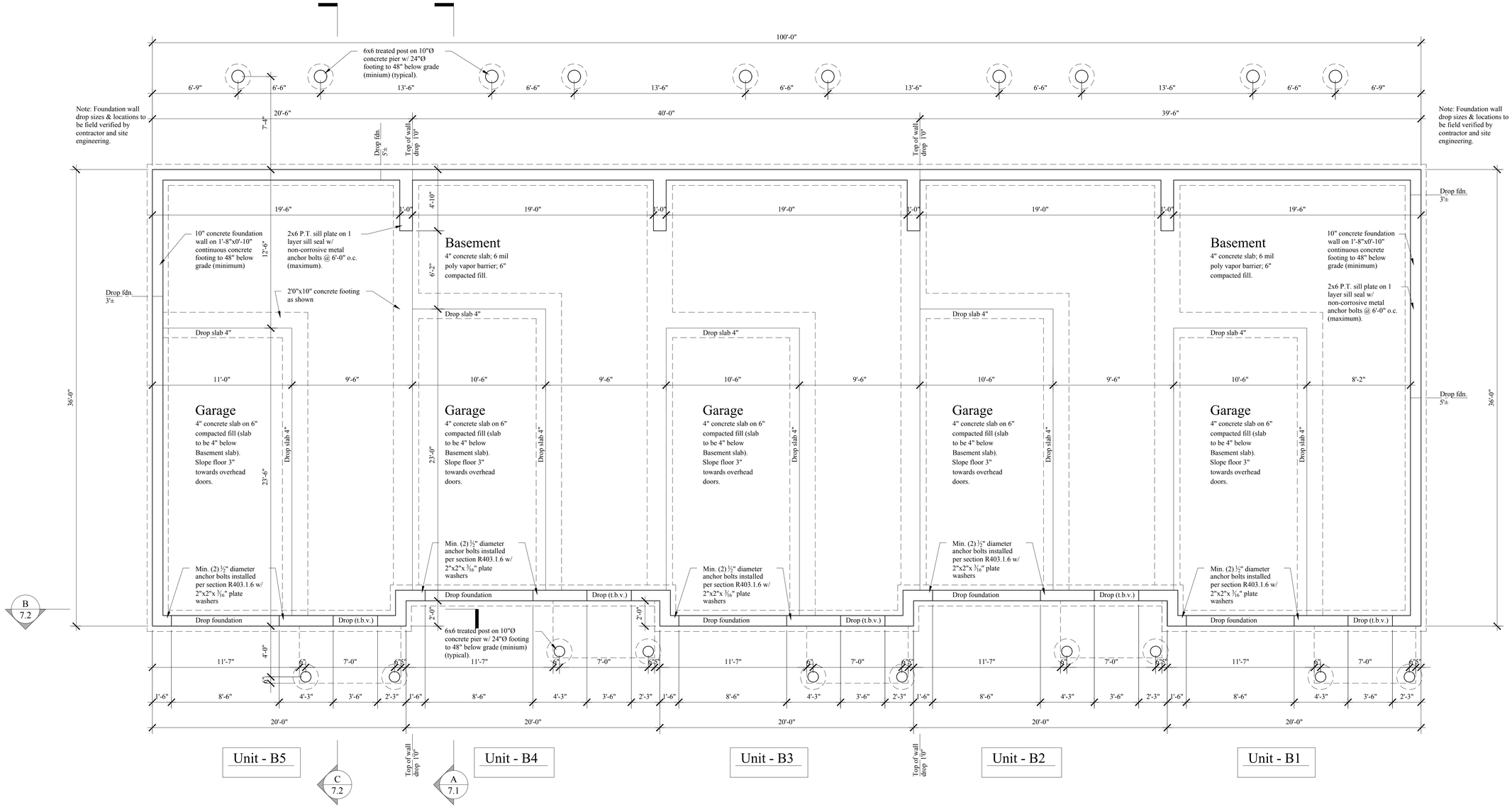

Foundation Plan

Notes : .

1. 8'-0"± foundation wall pour height.
2. Foundation wall drop sizes & locations to be field verified by contractor.

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

SHEET
A-6.1

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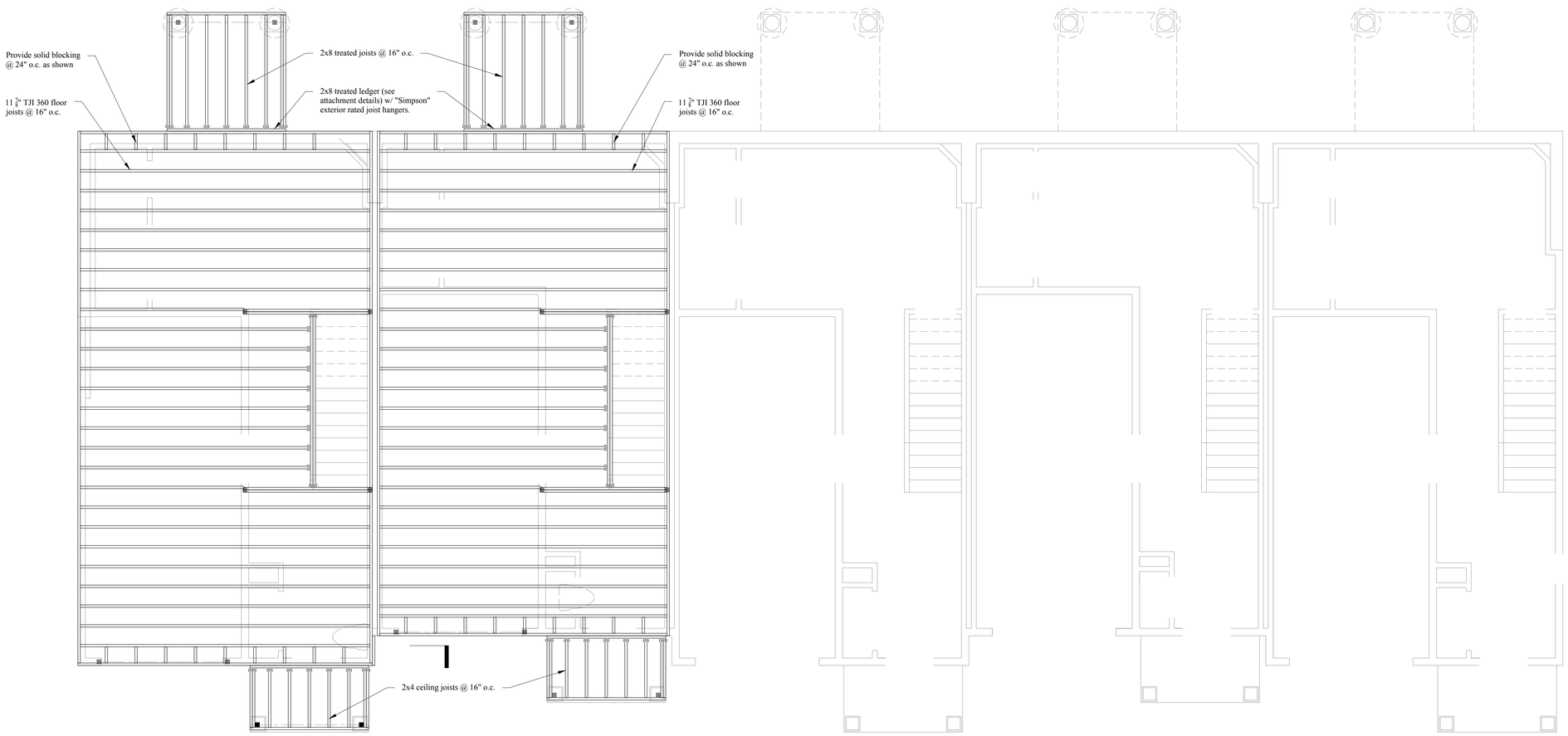

Floor Framing - Level 2

Notes : .

1. Engineered floor joist specifications and installation to be verified by manufacturer.
2. Refer to Engineering Beam Calcs for beam posting and connection requirements.

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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FLOOR FRAMING PLAN - LEVEL 2
SCALE: 1/4" = 1'-0"

SHEET
A-7.1

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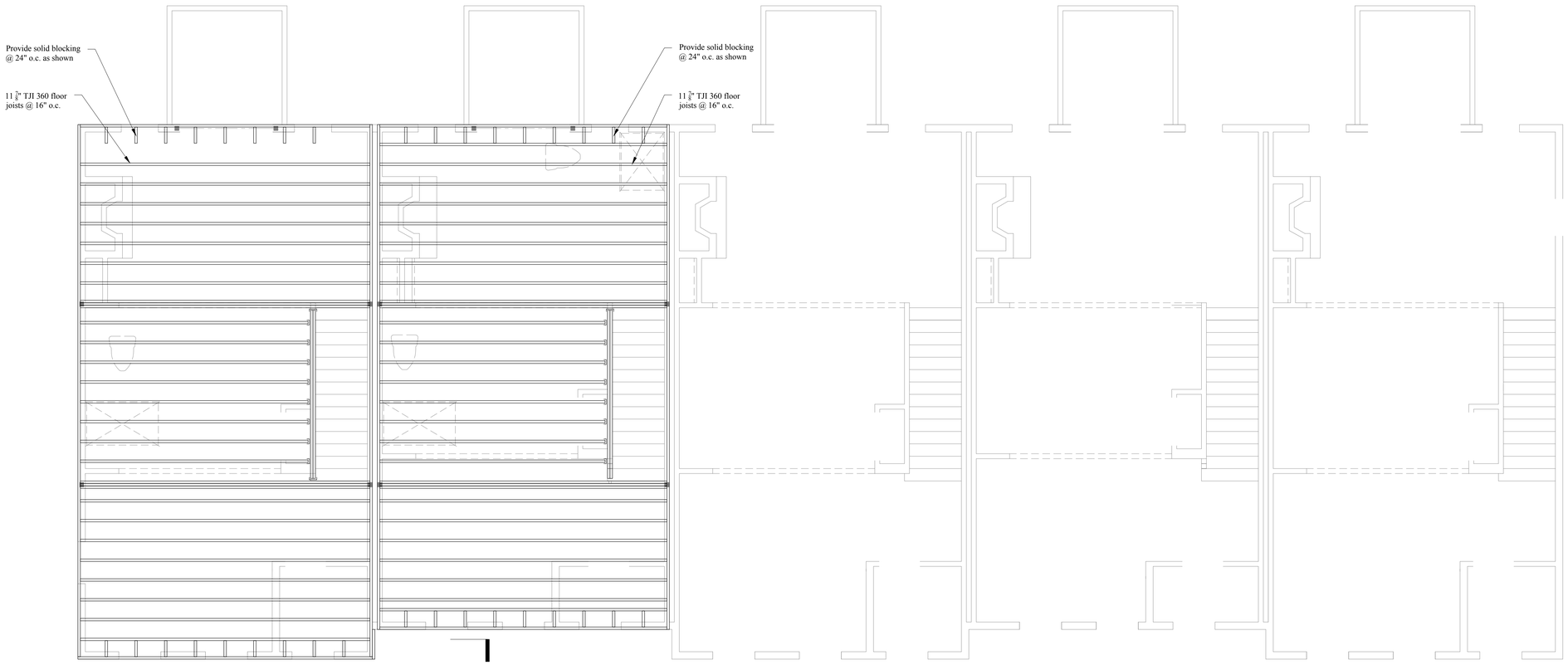

Unit - B5

C
7.2

A
7.1

Unit - B4

Unit - B3

Unit - B2

Unit - B1

Floor Framing - Level 3

Notes : .

1. Engineered floor joist specifications and installation to be verified by manufacturer.
2. Refer to Engineering Beam Calcs for beam posting and connection requirements.

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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FLOOR FRAMING PLAN - LEVEL 3
SCALE: 1/4" = 1'-0"

SHEET
A-7.2

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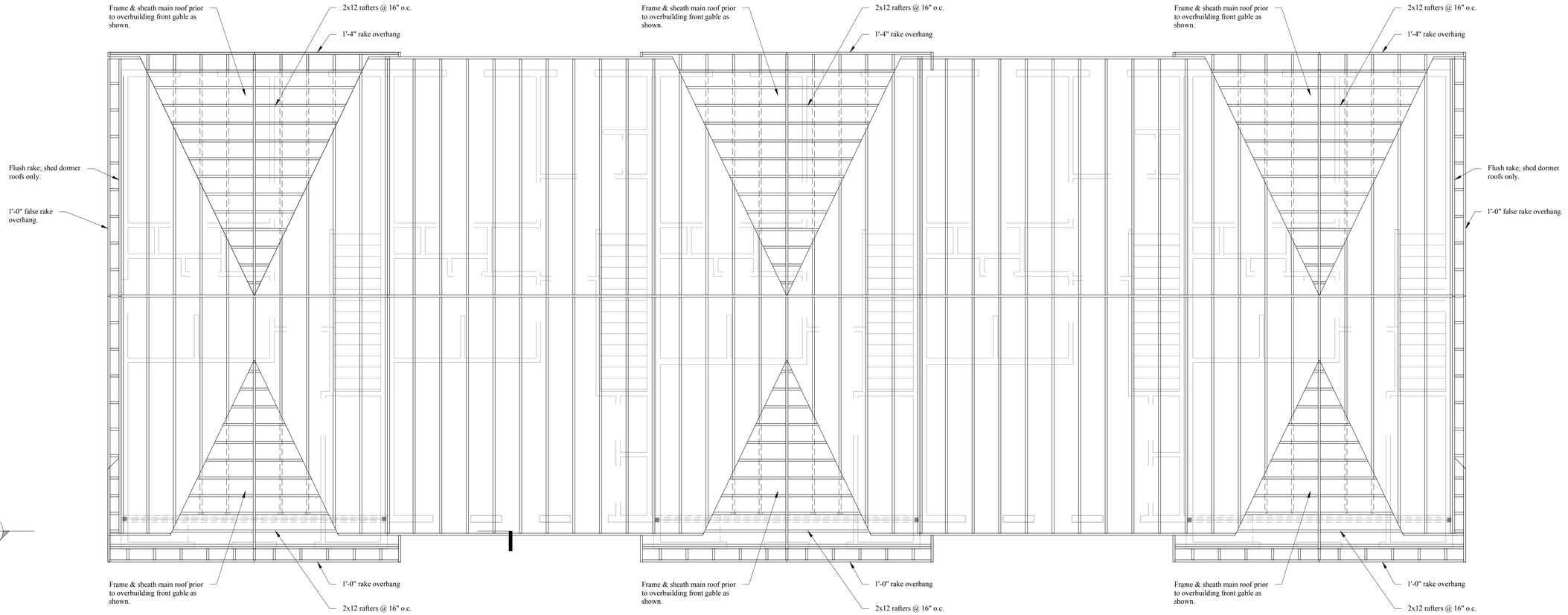

Roof Framing Plan

Notes : .

1.Roof truss specifications and installation to be verified by manufacturer.
2. Refer to Engineering Beam Cales for beam posting and connection requirements.

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"

SHEET
A-7.3

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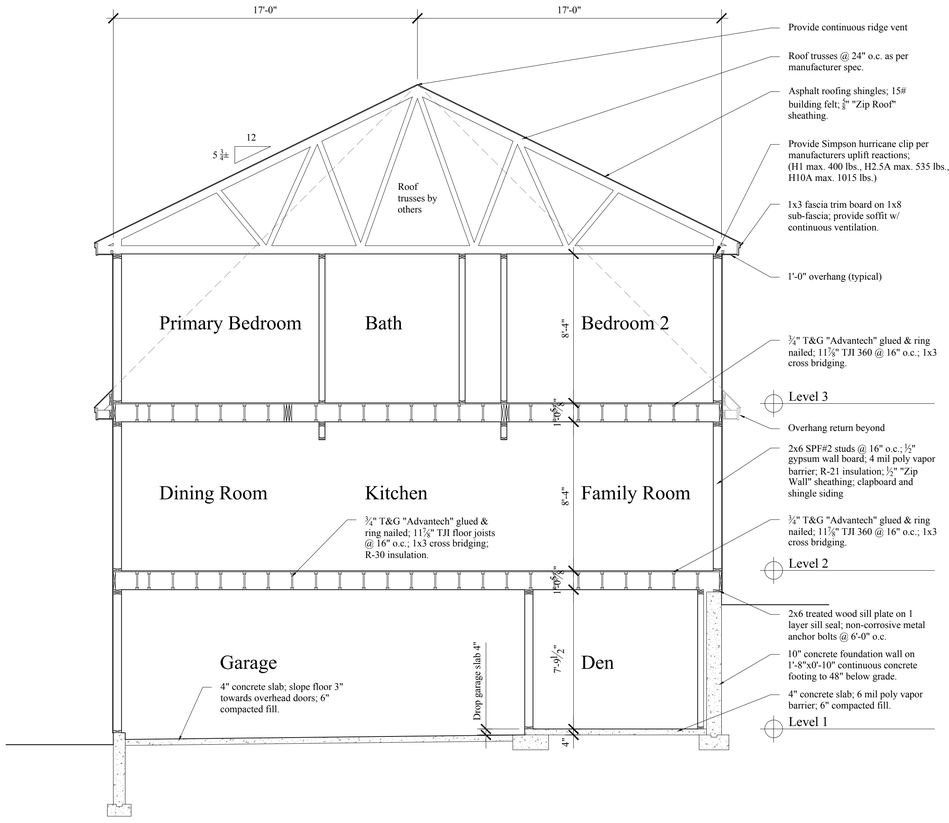


Section - A

Roof Construction

215# composition shingles; 5/8" "Zip Roof" sheathing on trusses as noted on floor plans.

Typical Soffit

1x8 sub-fascia w/ 1x3 fascia trim board w/ continuous metal drip edge. Provide continuous ventilation strip.

Wall Construction

4" t.w. clapboard siding; 1/2" "Zip Wall" sheathing; 2x6 SPF#2 studs @ 16" o.c. R-21 insulation. Provide 4 mil poly vapor barrier on interior w/ 1/2" gypsum wall board.

Typical Floor

3/4" T&G "Advantech" sub-floor glued and ring nailed to floor joists as noted on floor plans.

Typical Sill

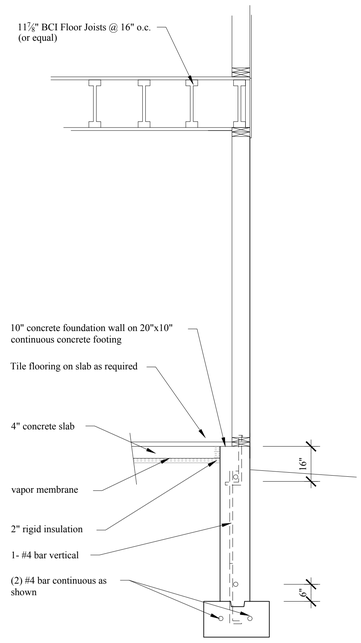
2x6 treated sill plate on 1 layer sill seal w/ non-corrosive metal anchor bolts @ 6'-0" o.c. (maximum). Sill to be 8" above finish grade (minimum).

Typical Stair

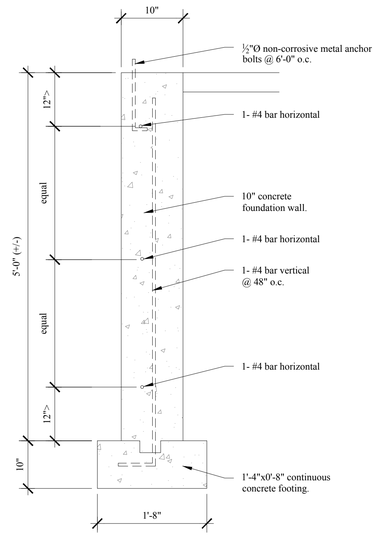
4-2x12 stringers w/ 10" rough treads & 1" nosing at finish (hardwood or 3/4" Advantech).3/4" risers equally spaced & not to exceed 7 3/4" in rise.

Door Schedule			
Mark	Qty.	Number	Type / Notes
1		3'0"x6'8"	Front entry; 4 light half glass panel entry door
2		2'8"x6'8"	2 panel interior
3		2'6"x6'8"	2 panel interior
4		3'0"x6'8'	2 panel interior
5		3'0"x6'8"	Exterior steel insulated 2 panel
6		6'0"x6'8"	Exterior Glass Sliding Glass Door
7			
8		5'0"x6'8"	(2) 2'6" 2 panel
9		8'0"x7'0"	Overhead Garage Door
10		3'0"x6'8"	(2) 1'6" 2 panel
11		4'0"x6'8"	(2) 2'0" 2 panel
12			
13			
14			
15		2'0"x6'8"	2 panel interior

Window Schedule			Mathews Brothers Specs (black sash, simulated divided light)		
Mark	Qty.	Number	Rough opening	Lights	Notes
A		DE3660	36.75"x60.75"	2/1	Double Hung - EGRESS
B					
C		24.5x29.5 awning	24.25"x30.25"	4	Awning
D					
E		29.5x29.5 awning	30.25"x30.25"	4	Awning
F					

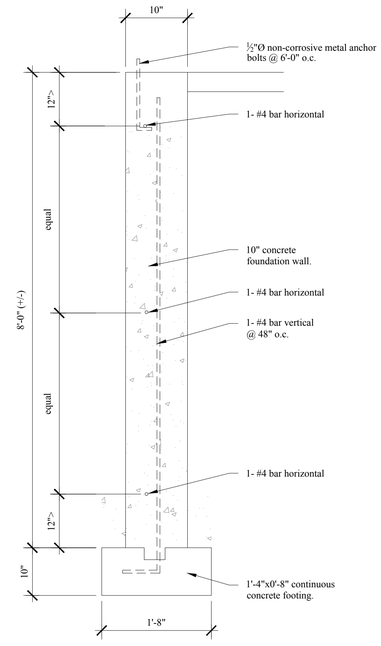


Foundation Section - A



Foundation Wall Section - 5'0" wall

SCALE : 1/4" = 1'0"



Foundation Wall Section - 8'0" wall

SCALE : 1/4" = 1'0"

Design Loads (PSF)			
	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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NASHUA, NH

FISHER STREET TOWNHOUSES - B
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DOVER, NH

CROSS SECTION / DETAILS
SCALE: 1/4" = 1'-0"

SHEET
A-8.1

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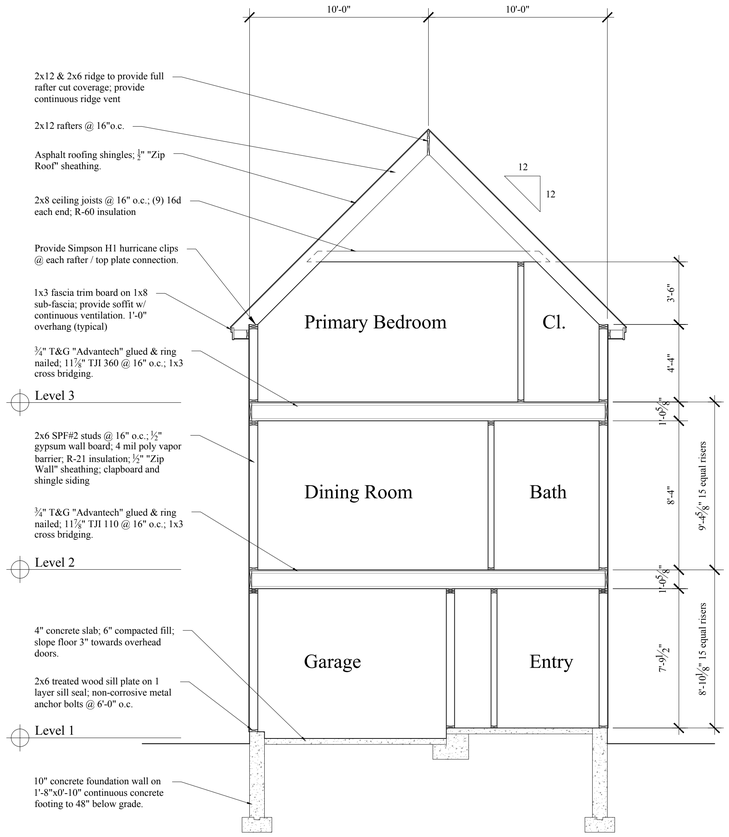
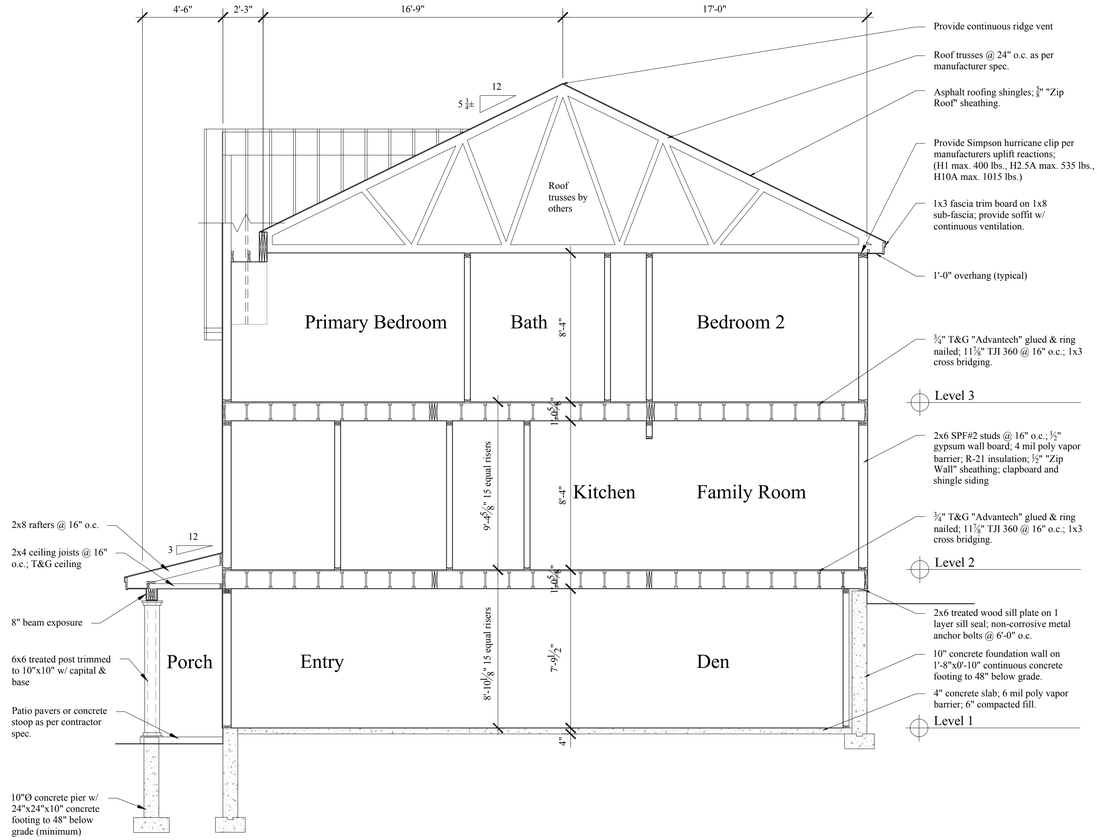


Section - B



Section - C

BUILDING - B

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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CROSS SECTIONS
SCALE: 1/4" = 1'-0"

SHEET
A-8.2

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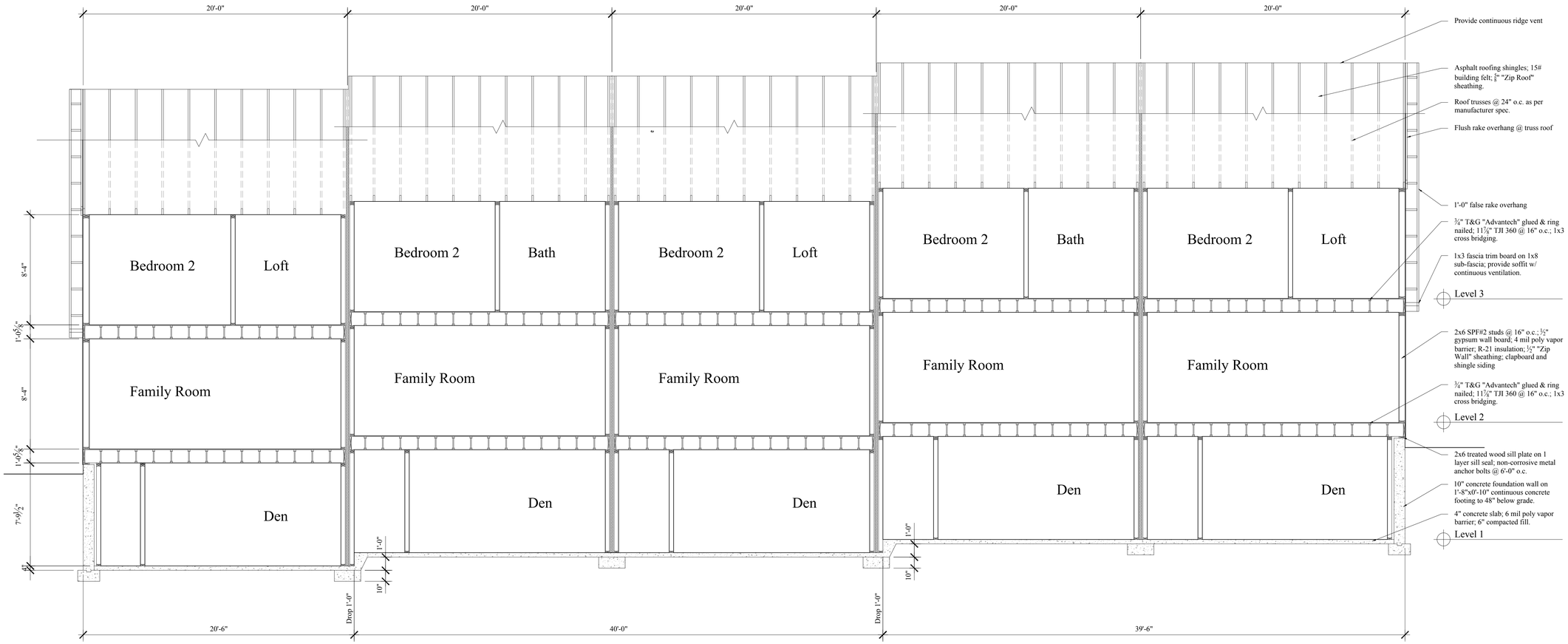

Design Loads (PSF)	Live	Dead	Total
Main Floor:	40	15	55 psf
Upper Floor:	40	15	55 psf
Ceiling:	20	15	35 psf
Roof:	60	15	75 psf
Basic Wind Speed:			100 mph
Assumed soil bearing pressure			2500 psf

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CROSS SECTIONS
SCALE: 1/4" = 1'-0"

SHEET
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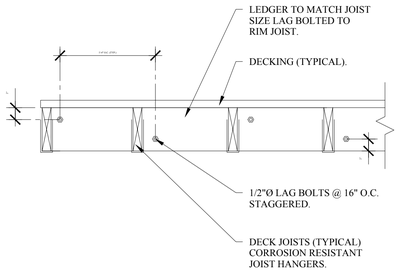
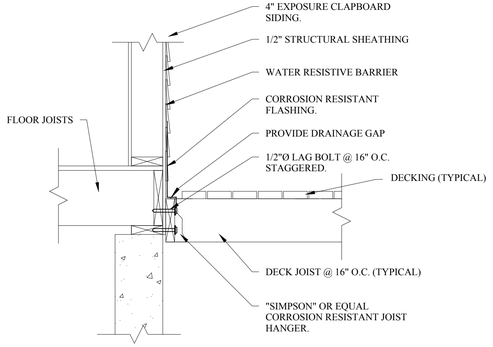


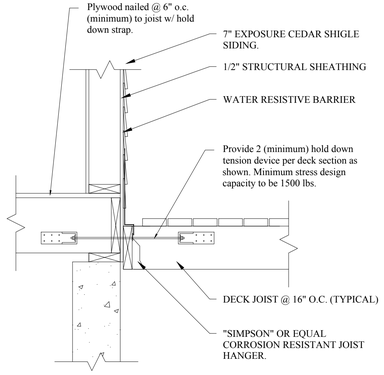
Deck Connection - Detail - A

Scale : 1" = 1'-0"



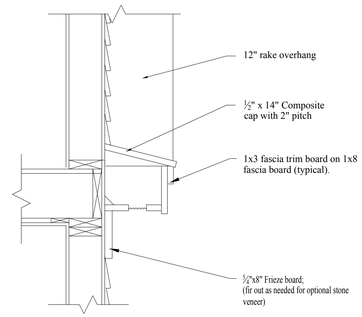
Deck Connection - Detail - B

Scale : 1" = 1'-0"

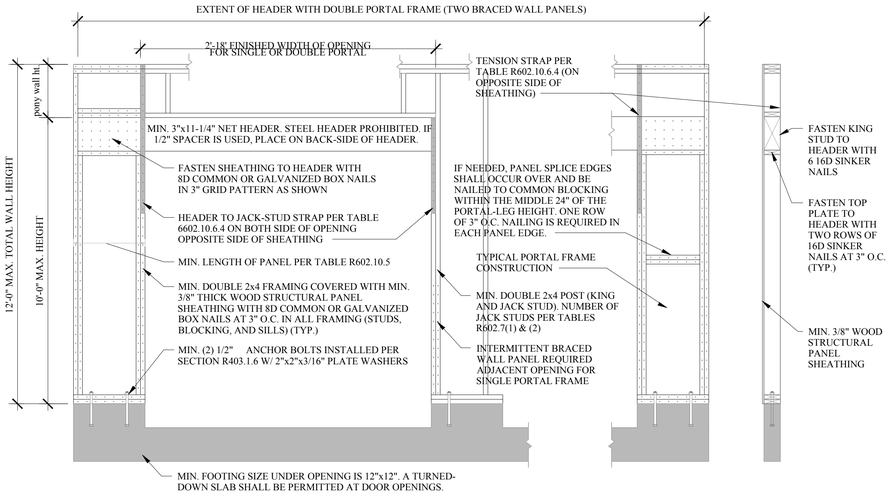


Deck Connection - Detail - C

Scale : 1" = 1'-0"

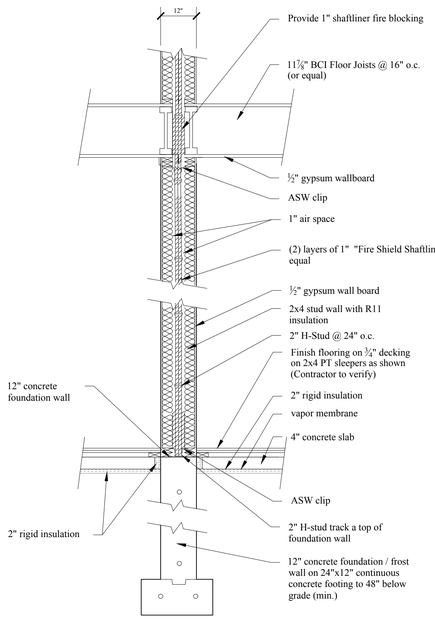


Rake Detail



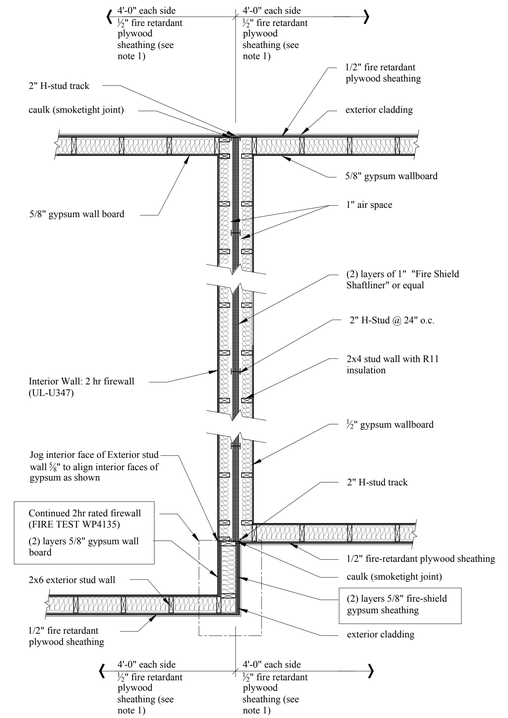
Portal Framing Detail

NOTE:
THIS DETAIL REPRESENTS BRACING METHOD PFG: PORTAL FRAME AT GARAGE OPENINGS PER 2018 IRC SECTION 602.10.6.2.



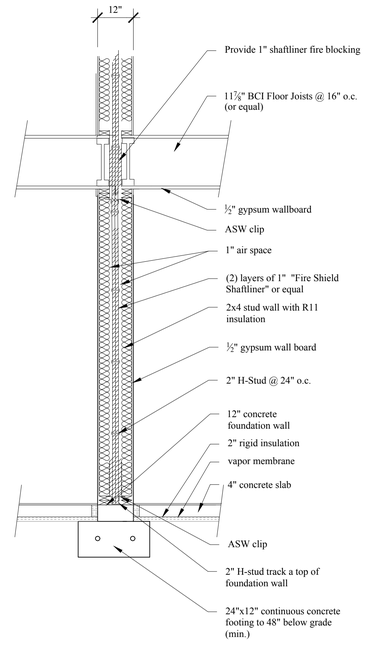
Firewall - Typical Wall Cross Section

vertical



Firewall - Typical Wall Cross Section

horizontal



Firewall Section - F1

CONTRACTOR TO VERIFY ALL DIMENSIONS AND STRUCTURAL MEMBERS PRIOR TO STARTING CONSTRUCTION. BUILDING IS TO MEET OR EXCEED ALL STATE AND LOCAL BUILDING CODES.

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jaddesigngroup.com phone 603.554.1199

The Stabile Companies
CUSTOM BUILDERS

JOB: 2650
REF:
DATE: 11/28/2023
REV:

THE STABILE COMPANIES
NASHUA, NH

FISHER STREET TOWNHOUSES - B
FISHER STREET
DOVER, NH

DETAILS
SCALE: AS NOTED

SHEET
A-8.4

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Front Elevation

BUILDING - B

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REV:

THE STABILE COMPANIES
NASHUA, NH

FISHER STREET TOWNHOUSES - B
FISHER STREET
DOVER, NH

SHEATHING PLAN
SCALE: 1/4" = 1'-0"

SHEET
A-9.1

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Rear Elevation

BUILDING - B

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The Stabile Companies
CUSTOM BUILDERS

JOB: 2650
REF:
DATE: 11/28/2023
REV:

THE STABILE COMPANIES
NASHUA, NH

FISHER STREET TOWNHOUSES - B
FISHER STREET
DOVER, NH

SHEATING PLAN
SCALE: 1/4" = 1'-0"

SHEET
A-9.2

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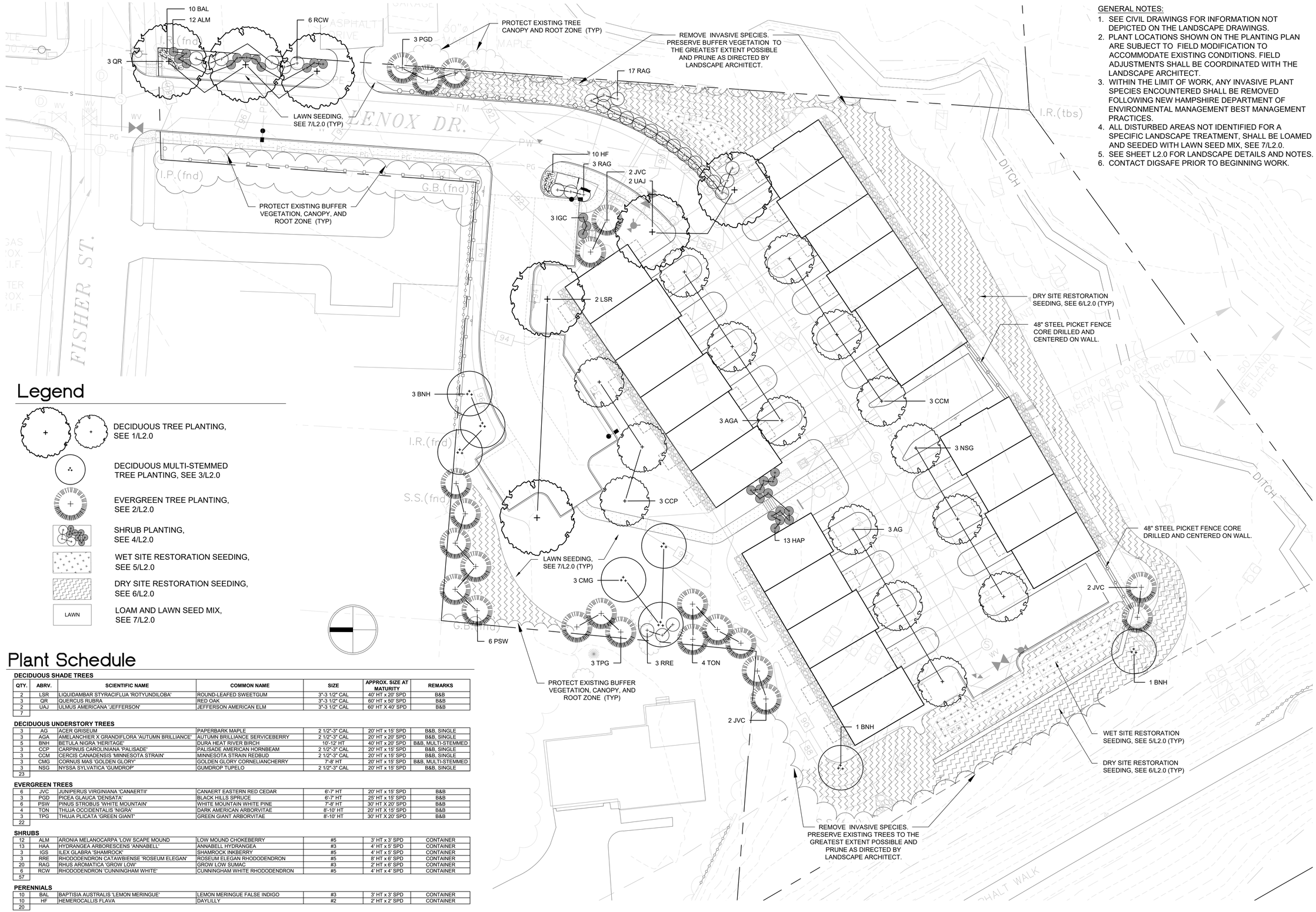

Legend

- DECIDUOUS TREE PLANTING, SEE 1/L2.0
- DECIDUOUS MULTI-STEMMED TREE PLANTING, SEE 3/L2.0
- EVERGREEN TREE PLANTING, SEE 2/L2.0
- SHRUB PLANTING, SEE 4/L2.0
- WET SITE RESTORATION SEEDING, SEE 5/L2.0
- DRY SITE RESTORATION SEEDING, SEE 6/L2.0
- LAWN — LOAM AND LAWN SEED MIX, SEE 7/L2.0

Plant Schedule

DECIDUOUS SHADE TREES

QTY.	ABRV.	SCIENTIFIC NAME	COMMON NAME	SIZE	APPROX. SIZE AT MATURITY	REMARKS
2	LSR	LIQUIDAMBAR STYRACIFLUA 'ROTYUNDILOBA'	ROUND-LEAFED SWEETGUM	3"-3 1/2" CAL	40' HT x 20' SPD	B&B
3	QR	QUERCUS RUBRA	RED OAK	3"-3 1/2" CAL	60' HT x 50' SPD	B&B
2	UAJ	ULMUS AMERICANA 'JEFFERSON'	JEFFERSON AMERICAN ELM	3"-3 1/2" CAL	60' HT X 40' SPD	B&B
7						

DECIDUOUS UNDERSTORY TREES

3	AG	ACER GRISEUM	PAPERBARK MAPLE	2 1/2"-3" CAL	20' HT x 15' SPD	B&B, SINGLE
3	AGA	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	2 1/2"-3" CAL	20' HT x 20' SPD	B&B, SINGLE
5	BNH	BETULA NIGRA 'HERITAGE'	DURA HEAT RIVER BIRCH	10'-12' HT	40' HT x 20' SPD	B&B, MULTI-STEMMED
3	CCP	CARPINUS CAROLINIANA 'PALISADE'	PALISADE AMERICAN HORNBEAM	2 1/2"-3" CAL	20' HT x 15' SPD	B&B, SINGLE
3	CCM	CERCIS CANADENSIS 'MINNESOTA STRAIN'	MINNESOTA STRAIN REDBUD	2 1/2"-3" CAL	20' HT x 15' SPD	B&B, SINGLE
3	CMG	CORNUS MAS 'GOLDEN GLORY'	GOLDEN GLORY CORNELIANCHERRY	7'-8' HT	20' HT x 15' SPD	B&B, MULTI-STEMMED
3	NSG	NYSSA SYLVATICA 'GUMDROP'	GUMDROP TUPELO	2 1/2"-3" CAL	20' HT x 15' SPD	B&B, SINGLE
23						

EVERGREEN TREES

6	JVC	JUNIPERUS VIRGINIANA 'CANAERTII'	CANAERT EASTERN RED CEDAR	6'-7' HT	20' HT x 15' SPD	B&B
3	PGD	PICEA GLAUCA 'DENSATA'	BLACK HILLS SPRUCE	6'-7' HT	25' HT x 15' SPD	B&B
6	PSW	PINUS STROBUS 'WHITE MOUNTAIN'	WHITE MOUNTAIN WHITE PINE	7'-8' HT	30' HT X 20' SPD	B&B
4	TON	THUJA OCCIDENTALIS 'NIGRA'	DARK AMERICAN ARBORVITAE	8'-10' HT	20' HT X 15' SPD	B&B
3	TPG	THUJA PLICATA 'GREEN GIANT'	GREEN GIANT ARBORVITAE	8'-10' HT	30' HT X 20' SPD	B&B
22						

SHRUBS

12	ALM	ARONIA MELANOCARPA 'LOW SCAPE MOUND	LOW MOUND CHOKEBERRY	#5	3' HT x 3' SPD	CONTAINER
13	HAA	HYDRANGEA ARBORESCENS 'ANNABELL'	ANNABELL HYDRANGEA	#3	4' HT x 5' SPD	CONTAINER
3	IGS	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	#5	4' HT x 5' SPD	CONTAINER
3	RRE	RHODODENDRON CATAWBIENSE 'ROSEUM ELEGAN'	ROSEUM ELEGAN RHODODENDRON	#5	8' HT x 6' SPD	CONTAINER
20	RAG	RHUS AROMATICA 'GROW LOW'	GROW LOW SUMAC	#3	2' HT x 6' SPD	CONTAINER
6	RCW	RHODODENDRON 'CUNNINGHAM WHITE'	CUNNINGHAM WHITE RHODODENDRON	#5	4' HT x 4' SPD	CONTAINER
57						

PERENNIALS

10	BAL	BAPTISIA AUSTRALIS 'LEMON MERINGUE'	LEMON MERINGUE FALSE INDIGO	#3	3' HT x 3' SPD	CONTAINER
10	HF	HEMEROCALLIS FLAVA	DAYLILLY	#2	2' HT x 2' SPD	CONTAINER
20						

GENERAL NOTES:

1. SEE CIVIL DRAWINGS FOR INFORMATION NOT DEPICTED ON THE LANDSCAPE DRAWINGS.
2. PLANT LOCATIONS SHOWN ON THE PLANTING PLAN ARE SUBJECT TO FIELD MODIFICATION TO ACCOMMODATE EXISTING CONDITIONS. FIELD ADJUSTMENTS SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT.
3. WITHIN THE LIMIT OF WORK, ANY INVASIVE PLANT SPECIES ENCOUNTERED SHALL BE REMOVED FOLLOWING NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT BEST MANAGEMENT PRACTICES.
4. ALL DISTURBED AREAS NOT IDENTIFIED FOR A SPECIFIC LANDSCAPE TREATMENT, SHALL BE LOAMED AND SEEDED WITH LAWN SEED MIX, SEE 7/L2.0.
5. SEE SHEET L2.0 FOR LANDSCAPE DETAILS AND NOTES.
6. CONTACT DIGSAFE PRIOR TO BEGINNING WORK.

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FISHER STREET TOWNHOUSES

FISHER STREET, DOVER, NH 03820

Planning Board File No.: SITE-2023-0015

SHEET TITLE

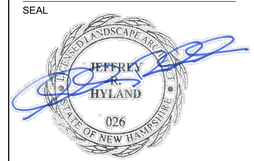
LANDSCAPE PLAN

REVISION LOG

REV#	DATE	DESCRIPTION
1	2/8/24	REVISIONS PER CITY COMMENTS AND UPDATED CIVIL PLAN
2	5/8/24	REVISIONS PER CITY COMMENTS AND UPDATED CIVIL PLAN
3	5/21/24	REVISIONS PER CITY COMMENTS

PROJECT NO.	23012.0
DESIGN BY	J. HYLAND
DRAWN BY	S. WRIGHT
CHECKED BY	D.JENSEN / J. HYLAND
DATE	NOVEMBER 8, 2023
SCALE	0' 20' 40' SCALE: 1" = 20'-0"

SEAL



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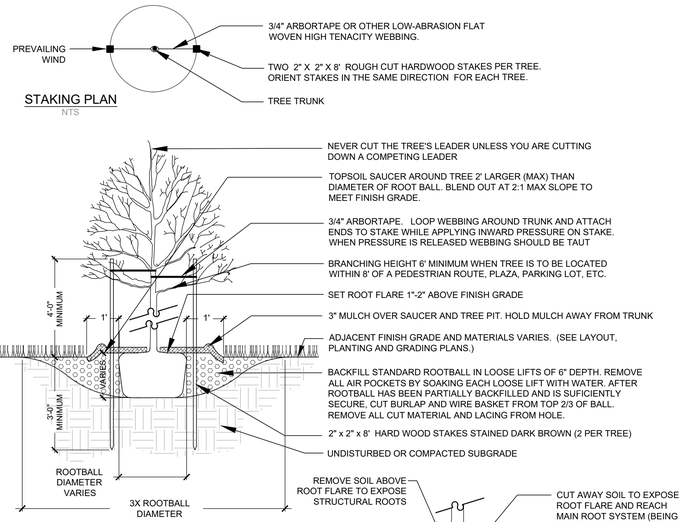

Deciduous Tree Planting

Not to Scale

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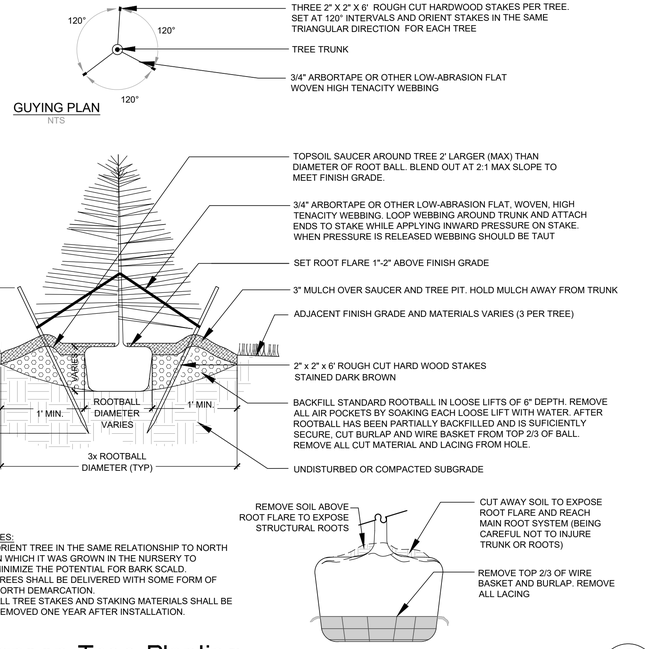
1 L2.0



Evergreen Tree Planting

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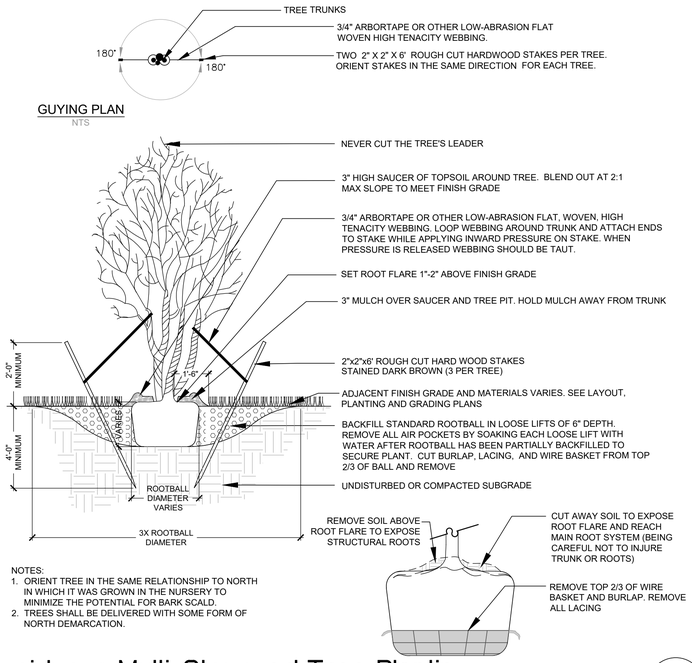

Deciduous Multi-Stemmed Tree Planting

Not to Scale

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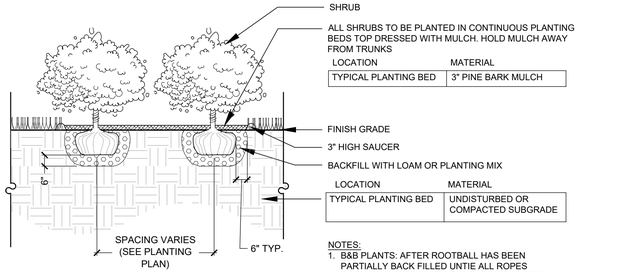
3 L2.0

PLANTING NOTES:

1. REVIEW AND BECOME FULLY ACQUAINTED WITH THESE NOTES, CONSTRUCTION DETAILS, AND THE PLANTING PLAN.
2. LOCATE AND VERIFY ALL EXISTING AND NEW UTILITY LINE LOCATIONS PRIOR TO PLANTING. REPORT ANY CONFLICT TO THE LANDSCAPE ARCHITECT.
3. ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE "AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY THE AMERICAN SOCIETY OF NURSERY MEN, INC. LATEST EDITION.
4. THE LOCATION OF ALL THE PROPOSED PLANT MATERIAL SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING. NO PLANTS SHALL BE PLANTED BEFORE THE ACCEPTANCE OF ROUGH GRADING.
5. THE BASE OF THE FLARE OF ALL TREE TRUNKS SHALL BE EXPOSED, AND SET 1"-2" ABOVE FINISH GRADE.
6. ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES WILL BE PLANTS WITH EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER COLOR, LEAF COLOR, FRUIT COLOR, AND TIME OF BLOOM, AS APPROVED BY THE LANDSCAPE ARCHITECT.
7. EXISTING LOAM: STOCKPILING OF EXISTING LOAM IS SPECIFIED ELSEWHERE. REMOVE CLAY LUMPS, BRUSH, LITTER, ROOTS, STONES 1" AND LARGER, AND ANY DEBRIS AND FOREIGN MATERIALS.
8. ADDITIONAL LOAM: IF STOCKPILED LOAM QUANTITY IS INSUFFICIENT, PROVIDE LOAM, THAT IS A "FINE SANDY LOAM", OR A "SANDY LOAM" DETERMINED BY MECHANICAL ANALYSIS AND BASED ON THE "U.S.D.A. CLASSIFICATION SYSTEM." IT SHALL BE OF UNIFORM COMPOSITION, WITHOUT ADMIXTURE OF SUBSOIL. LOAM SHALL HAVE A PH 5.8 TO PH 7.0 AND SHALL CONTAIN NOT LESS THAN 4% NOR MORE THAN 10% ORGANIC MATTER AS DETERMINED BY THE LOSS OF IGNITION OF OVEN-DRIED SAMPLES. PROVIDE LOAM THAT IS FERTILE, FRIABLE, NATURAL LOAM, FREE FROM SUBSOIL, CLAY LUMPS, BRUSH, LITTER, ROOTS, STONES 1/2" AND LARGER, AND ANY DEBRIS AND FOREIGN MATERIAL.
9. BARK MULCH: ALL PLANT MATERIAL SHALL BE MULCHED AFTER PLANTING. PROVIDE PARTIALLY DECOMPOSED MINIMUM SIX MONTH AGED FINELY SHREDDED BARK MULCH OF A DARK BROWN COLOR AND FREE OF WEEDS, EXCESSIVE FINE PARTICLES, STRINGY MATERIAL, AND CHUNKS OF WOOD THICKER THAN ¼". BARK MULCH SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT
10. ALL PLANTS SHALL BE PLUM VERTICALLY AFTER SETTLING.
11. LESS OTHERWISE INDICATED, DICTATED BY CONDITIONS AT THE SITE, AND DIRECTED BY LANDSCAPE ARCHITECT, BACKFILL SHALL CONSIST OF UNAMENDED SOIL EXCAVATED FROM THE PLANTING PIT. BACKFILL IN 6" LIFTS AND CONSOLIDATE EACH LAYER WITH WATER TO ELIMINATE VOIDS AND ARE POCKETS BEFORE PLACING SUBSEQUENT LAYERS. CONTINUE UNTIL BACKFILL HAS REACHED FINISHED GRADE. WATER THOROUGHLY WHEN EXCAVATION IS BACK FILLED AND CONTINUE WATERING UNTIL SATURATED.
12. IF EXISTING UNAMENDED TOP SOIL IS POOR AND NOT ACCEPTED, PROVIDE PLANTING SOIL MIXTURE CONSISTING OF 7 PARTS LOAM AND 1 PART COMPOST. MIX QUANTITY OF FERTILIZER AND SOIL AMENDMENTS AS RECOMMENDED BY SOIL ANALYSIS AND APPROVED BY THE LANDSCAPE ARCHITECT.
13. WATERING: FLOOD ALL PLANTS WITH WATER TWICE WITHIN THE FIRST 24 HOURS AFTER PLANTING.
14. LOAMING: LOOSEN SUBGRADE AND EXISTING LOAM AREAS BY DISCING OR ROTOTILLING TO MINIMUM DEPTH OF 6". REMOVE STONES GREATER THAN 1" AND ALL RUBBISH AND DEBRIS. PLACE LOAM IN TWO EQUAL LIFTS MIXING FIRST APPLICATION INTO LOOSENED SUBGRADE THEN PLACE SECOND LIFT TO BRING LOAM AFTER SETTLING AND COMPACTING TO THE LINES AND GRADES SHOWN ON THE PLANS. DO NOT HANDLE LOAM OR SUBSOIL IF IT IS WET OR FROZEN.
15. AFTER LOAM HAS BEEN SPREAD, IT SHALL BE CAREFULLY PREPARED BY SCARIFYING AND HAND RAKING. ALL LARGE STIFF CLODS, LUMPS, BRUSH, ROOTS, STUMPS, LITTER AND FOREIGN MATTER, AND STONES OVER 1/2" IN DIAMETER SHALL BE REMOVED FROM THE LOAM. LOAM SHALL ALSO BE FREE OF SMALLER STONES IN EXCESSIVE QUANTITIES AS DETERMINED BY THE LANDSCAPE ARCHITECT.
16. FINE GRADING: SET SUFFICIENT GRADE STAKES FOR CHECKING THE FINISHED GRADES. STAKES MUST BE SET AT THE BOTTOM AND TOP OF SLOPES. GRADES SHALL BE ESTABLISHED THAT ARE ACCURATE TO +/- 1/10TH OF A FOOT. CONNECT CONTOURS AND SPOT ELEVATIONS WITH AN EVEN SLOPE. ALL GRADING WILL INSURE DRAINAGE AWAY FROM STRUCTURES.
17. FINE GRADE LAWN AREAS TO SMOOTH, FREE DRAINING, EVEN SURFACES WITH FINE TEXTURE. ROLL, RAKE AND DRAW LAWN AREAS TO FLATTEN RIDGES AND FILL DEPRESSIONS, EXCEPT AT SELECT AREAS SHOW ON THE DRAWINGS. CONTROL MOISTURE CONTENT TO MAINTAIN OPTIMUM CONDITIONS, BUT DO NOT CREATE A MUDDY CONDITION. APPLY TACKIFIED MULCH TO ALL SEEDED AREAS.
18. ROLLING - TYPICAL: ROLL THE ENTIRE AREA WITH A HAND ROLLER WEIGHTING NOT MORE THAN 100 POUNDS. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT OF ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM AND THE SURFACE SHALL BE RE-GRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE OR TO THE SHAPES AND CONFIGURATIONS AS SHOWN ON THE DETAILS.
19. THE SILT FENCE SHALL BE LIMIT OF SEEDING UNLESS OTHERWISE INDICATED ON THE DRAWINGS. ALL AREAS DISTURBED OUTSIDE THE LIMIT OF WORK SHALL BE SEEDED AS INDICATED ON THE DRAWINGS.
20. IN CASE OF DISCREPANCIES BETWEEN THE QUANTITIES SHOWN ON THE PLANT SCHEDULE AND THE QUANTITIES SHOWN ON THE PLANTING PLAN, THE QUANTITIES ON THE PLANTING PLAN SHALL BE PROVIDED BY THE CONTRACTOR.



Shrub Planting

Not to Scale

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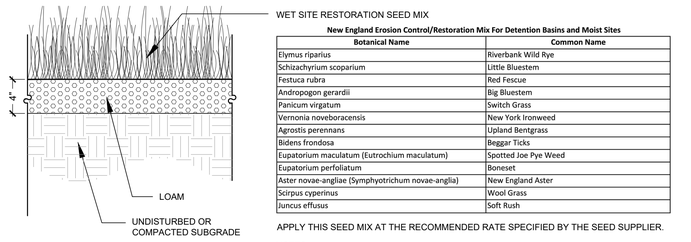

Wet Site Restoration Seeding

Not to Scale

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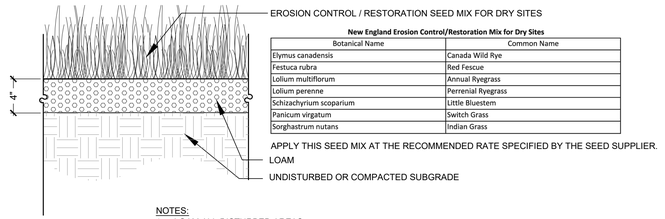

Dry Site Restoration Seeding

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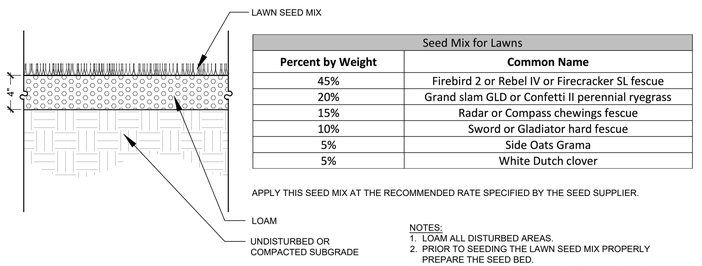

Loam and Lawn Seeding

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FISHER STREET TOWNHOUSES
FISHER STREET, DOVER, NH 03820

Planning Board File No.: SITE-2023-0015

SHEET TITLE

LANDSCAPE DETAILS & NOTES

REVISION LOG

REV#	DATE	DESCRIPTION
1	2/8/24	REVISIONS PER CITY COMMENTS AND UPDATED CIVIL PLAN
2	5/8/24	REVISIONS PER CITY COMMENTS AND UPDATED CIVIL PLAN
3	5/21/24	REVISIONS PER CITY COMMENTS

PROJECT NO.	23012.0
DESIGN BY	J. HYLAND
DRAWN BY	S. WRIGHT
CHECKED BY	D.JENSEN / J. HYLAND
DATE	NOVEMBER 8, 2023
SCALE	AS NOTED

SEAL

L2.0

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Item 4.H

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #TRAN-2024-0007

Application Type:	Transfer of Development Rights
Applicant(s):	Stephen R. & Deborah A. Scotton
Owner(s):	Stephen R. & Deborah A. Scotton
Location:	131 Littleworth Road (Assessor's Map F, Lot 21)
Meeting Date:	June 11, 2024

INTENT: To request the purchase of additional units through the Transfer of Development Rights ordinance for nine (9) non-restricted TDR units to allow a total of ten (10) units on the site. A full site plan review would still be required by the Planning Board and Technical Review Committee.

AGENDA ITEM #: 4-H

APPLICANT/OWNER: Stephen R. & Deborah A. Scotton

LOCATION: 131 Littleworth Road (Assessor's Map F, Lot 21)

UNITS PROPOSED: Ten (10) units total (including nine (9) non-restricted TDR units)

ACREAGE: 2.59± acres

ZONING DISTRICT: R-40, Secondary Groundwater Protection District

EXISTING USE: Residential

PROPOSED USE: Residential

SURROUNDING USE: Residential

ZBA ACTION: N/A

PERMITS: N/A

WAIVERS REQUESTED: N/A

APPLICATION IS COMPLETE: Yes

REGIONAL IMPACT: No

NOTICES SENT: Abutter notices were sent by certified mail.

TRC: Required, as construction disturbance will occur within 50' of Wetland Protection District and will impact more than 1,000 sf.

ATTACHMENTS: Application materials including site plan

Summary of Request and Background
The applicant is proposing the demolition of all existing structures on the property and to create five (5) separate duplexes, totaling ten (10) units, nine (9) of which will be non-restricted, purchased through the Transfer of Development Rights ordinance.

Staff provided the applicant with a memo (attached) regarding their TDR on June 6, 2024 with information related to the environment, transportation, zoning, neighborhood context, etc. Staff does not think 10 units is feasible on this site and therefore would recommend two options:

1) Allow up to 3 single family homes
2) Convert exiting home to a duplex as allowed in the R-40 District.

Consistency with Land Use Regulations - TDR
§170-27.2 provides for additional density to be purchased through Transfer of Development Rights. Staff does not believe this meets the intent of the TDR ordinance.

STAFF RECOMMENDATION - TDR:
The Planning Department recommends the Planning Board accept the application, open the public hearing, make findings, and vote to allow no more than a total of 3 residential units with the following subsequent conditions:

Subsequent Conditions to Be Met Prior to Granting of the TDR:

1. Add note to the plan that no additional dwelling units may added to the property without Planning Board approval and note number of TDR units approved;
2. The project must be reviewed by the Technical Review Committee; and
3. Payment of TDR fees for each TDR unit approved.

TRAN-2024-0007 131 LITTLEWORTH ROAD

Property Information

Location	131 LITTLEWORTH RD
Owner	SCOTTON STEPHEN F &
Land Use	
Zoning Code	R-40
Property Id	F0021-000000

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 10/30/2023
Data updated Daily

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

To: JJ McBride
From: Donna Benton, AICP
Cc: Steven and Deborah Scotton
Tony Fusco
Staff
Date: June 6, 2024
Re: TDR 131 Littleworth Rd

ISSUE:
In February 2020, the Board recommended amendments to the Transfer of Development Rights (TDR) Ordinance. In June 2020, the Planning Board approved the amendments and on July 22, 2020, the City Council ratified them. One element is the requirement for staff to draft a review statement on the need for a sketch plan. Since then the criteria for TDR has also been amended.

INTENT:
This memo will serve as part of the staff report.

GOALS:
Provide background on balancing development vs. conservation needs and current housing shortage, and describe the TDR applications in Dover.

Background

On behalf of your client, you submitted a plan and application materials including a narrative for a project for 10 residential units (via 5 duplexes) by purchasing 9 through TDR. The project is located at 131 Littleworth Road.

Staff performed this review based upon the information below, and is now providing the required staff report (Chapter 170-27.2 E.(4)a).

Project Information

Project:	131 Littleworth TDR project
Where:	131 Littleworth
What:	9 units. Nine of which are requested to be purchased through TDR using the unrestricted option. The density calculation per Chapter 170-27.2.G(3)(a) was used to determine base calculation of 1 unit.
Acres:	2.588
Zone:	R-40
Public Water:	On site
Public Sewer:	Would be extended ~525 ft. (no cost estimate was provided)
Units:	10 total units are proposed, via 5 duplexes. New duplexes are only allowed by right if part of an open space subdivision with commercial component or if converting an existing unit. There are no other duplex units in the surrounding area.
CUP:	Not required per the submitted information

Staff Comment

When reviewing projects, review the context, discuss options with the applicant, and advise on the feasibility of requesting the purchase or exchange before or after designing a fully laid out plan. From our initial conversations, staff indicated 10 units seemed too high for this site.

In reviewing this project, we note:

- Traffic
  - Littleworth Road is a public arterial road connecting Dover and Barrington. Sight distance and traffic study should be discussed with the Technical Review Committee and Planning Board during site plan review if Planning Board votes favorably on TDR.
  - Traffic seems to travel faster than the posted speed limit and the 85th percentile of actual traffic data should be utilized when reviewing sight distance for the roadway.
  - This section of Littleworth Road is controlled by NHDOT, who would need to review and issue a driveway permit.
- Existing layout/topography
  - You are proposing an approximate 425' cul-de-sac which would require a waiver from Chapter 153 for block length.
  - The lot is currently using city water and you are proposing to extend sewer to the lot (approximately 525') to tie into. Has the applicant reviewed the feasibility of tying into the sewer line with Community Services?
- Environmental
  - The site is semi-wooded, has wetlands towards the rear which abuts conservation land owned by the Indian Ridge Homeowners Association.

- The duplex furthest from Littleworth Road is placed in a way that would make it difficult for future residents to use their backyards without impacting the wetland buffer.
- No real open space is shown for this lot outside of the required no-cut, no-disturb buffers.
- The R-40 District is intended to be the most rural in nature with 40,000 s.f. minimum lot sizes, longer frontage requirements, and open space subdivisions required for any major subdivision. This plan does not seem to meet the intent of the R-40 district or the TDR ordinance.

Staff Recommendation

Currently, the TDR unit cost is $15,000 per unit, which is reduced if the units are restricted by size or the HUD rental rates. To staff's knowledge, the applicant is not proposing to restrict the units in either size or rental rates. The application is proposing 9 units to unrestricted TDR units plus one unit by right.

Staff understands the need for additional housing units, but also understands the importance of the rural nature of the R-40 district as laid out in the Vision Chapter of the Master Plan:

> "*Dover maintains distinct areas that have defining land uses and characteristics, such as an urban, historic downtown center, residential neighborhoods, business districts, and rural residential, agricultural, and open lands.*"

Staff would want to see open space as part of this plan if 10 units are being proposed. This would allow for the wetlands to be protected from any buffer encroachment and for open space to be able to be conserved adjacent to other conservation land.

Staff recommends these potential alternative options, that would increase housing on the subject parcel while being in line with the surrounding neighborhood and the R-40 district as a whole:

- Reducing the TDR request to include three single-family homes and include open space towards the rear of the lot.
- Converting the existing home, by right, to a two-family dwelling.

You are using your opportunity to bring this to Planning Board for TDR only, and then would need to come back for a full TRC site plan review and Planning Board review of the site plan again. The site plan application would require additional information such as a landscape plan, lighting plan, turning template, draft HOA documents, traffic study, stormwater management plan, etc.

Staff has concerns if the Planning Board allows for this TDR project, then several other Littleworth Road lots may have similar designs come forward which would greatly impact Littleworth Road and Dover's R-40 District.

PLAN SNAPSHOT REPORT TRAN-2024-0007
FOR CITY OF DOVER, N.H.

Plan Type:	Transfer	**Project:**		**App Date:**	05/22/2024
Work Class:	Transfer of Development Rights	**District:**	None	**Exp Date:**	07/26/2024
Status:	In Review	**Square Feet:**	0.00	**Completed:**	NOT COMPLETED
Valuation:	$0.00	**Assigned To:**	Blonigen, Rachel	**Approval Expire Date:**	

Description: It is the intent to demolish the existing 2-bedroom single-family home and associated items, and replace them with five (5) separate duplexes. To service the duplexes, a +/- 425-foot-long driveway is proposed in addition to required parking. It is also the intent to extend public sewer along Littleworth Road to service the proposed duplexes. Public water is currently used by the existing lot.

Parcel:	F0021-000000 Main	**Address:**	131 Littleworth Rd Dover, NH Main	**Zone:**	R-40(Residential - Rural)

Engineer
Jonathan J MacBride
118 Portsmouth Avenue
Stratham, NH 03885
Business: (603) 772-4400

Owner
Stephen F. & Deborah A. Scotton
Home: (603) 817-4723

Wetlands Scientist
Joseph Noel
Home: (207) 384-5587

Surveyor
Ryan M Fowler
101 Shattuck Way Suite 8
Suite 8
Newington, NH 03801
Business: (603) 436-3557
Mobile: (603) 833-3159

Applicant
Jonathan J MacBride
118 Portsmouth Avenue
Stratham, NH 03885
Business: (603) 772-4400

Applicant
Tony Fusco
Home: (603) 828-5746

Plan Custom Fields

Parcel Map/Lot	F/21	Parcel Zoning Overlay	Secondary Groundwater Protection District	Parcel Zoning	R-40
trandevdetail	Through calculations, only one (1) unit is traditionally allowed on the property, but with the proposed five (5) duplexes, relief for an increase of 9 units is being sought through the TDR.	Deed Book	3492	Deed Page	0438
Property Address	131 Littleworth Road	Deed Date	February 9, 2007	Owner Name	Stephen F. & Deborah A. Scotton
Existing Parcel Size (Ac)	2.588	Owner Address	131 Littleworth Road, Dover, NH 03820	Owner Phone	(603) 817-4723
Existing Parcel Size (sqft)	112733	Owner EMail		Parcel Feedback	
Reference Plan ID Number:		Request Type	Residential	trandevpermits	N/A
Project Zone	Residential	New Change in Impervious/Paved Area (sq ft)	23950	Quantity of Non-Restricted Units	9
Relief Sought	Unit increase				

Attachment File Name	Added On	Added By	Attachment Group	Notes
APN F21-00 BK 3492 PG 438.pdf	05/22/2024 14:26	MacBride, Jonathan		Uploaded via Civic Access
Fox Construction Dover Plans 05-07-24.pdf	05/22/2024 14:26	MacBride, Jonathan		Uploaded via Civic Access
Fox Construction Project Explanation 05-07-24.pdf	05/22/2024 14:26	MacBride, Jonathan		Uploaded via Civic Access
Fox Construction TDR Application 05-07-24.pdf	05/22/2024 14:26	MacBride, Jonathan		Uploaded via Civic Access

PLAN SNAPSHOT REPORT (TRAN-2024-0007)

Plan and Profile of Proposed Federal Aid Project No 109 12-16-37.pdf	05/22/2024 14:26	MacBride, Jonathan	Uploaded via Civic Access
SCRD 47-52 Subdivision of Land, Littleworth Road 10-21-80.pdf	05/22/2024 14:26	MacBride, Jonathan	Uploaded via Civic Access
SCRD 81-6 Survey and Plat of a Subdivision Situated in the City of Dover 12-27-04.pdf	05/22/2024 14:26	MacBride, Jonathan	Uploaded via Civic Access
Transmittal to City 05-07-24.pdf	05/22/2024 14:26	MacBride, Jonathan	Uploaded via Civic Access
Signature_Jonathan_MacBride_5/22/2024.jpg	05/22/2024 14:26	MacBride, Jonathan	Uploaded via CSS

Invoice No.	Fee		Fee Amount	Amount Paid
INV-00008029	Planning Transfer of Dev Rights Application Fee		$200.00	$200.00
		Total for Invoice INV-00008029	**$200.00**	**$200.00**
NOT INVOICED	Transfer of Dev Rights Fee - Non-Restricted		$135,000.00	$0.00
	Planning Impervious Paved Area Fee		$1,676.50	$0.00
		Total for Invoice NOT INVOICED	**$136,676.50**	**$0.00**
		Grand Total for Plan	**$136,876.50**	**$200.00**

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1		05/29/2024 11:02	05/29/2024 11:03
Confirm application complete v.1	Generic Action		05/29/2024 11:03
Technical Review Committee Meeting Agenda v.1	Task		05/29/2024 11:02
Land Use Plan Technical Review v.1	Receive Submittal		05/29/2024 11:03
Technical Review Committee Meeting v.1	Hold Meeting		05/29/2024 11:03
Planning Board v.1		05/29/2024 11:03	
Planning Board Agenda v.1	Task	05/29/2024 11:03	05/29/2024 11:03
Invoice for Notices v.1	Task	05/29/2024 11:03	
Send Notices v.1	Task		
Planner Creates Staff Recommendations v.1	Plan Activity		
Distribute Planning Board Materials v.1	Task		
Planning Board Hearing v.1	Hold Hearing		
Planning Board Decision v.1	Plan Activity		
NOD Sent to Applicant v.1	Create Report		
Final Plan v.1			
Land Use Plan Stamped and Signed v.1	Generic Action		
Recording v.1	Task		
Document Archival v.1	Generic Action		
Internal Notification of Plan Completion v.1	Generic Action		
Building Official Notifies Address v.1	Generic Action		
Pre-Con Meeting v.1	Hold Meeting		
Create/Link to Records v.1			
Create / Link to Permit - Building Major v.1	Create Sub Permit		
Create / Link to Permit - Site Work, Construction v.1	Create Sub Permit		

DocuSign Envelope ID: 492A348D-85DE-4125-B134-44F7F91E3F46

City of Dover, New Hampshire
TRANSFER OF DEVELOPMENT RIGHTS APPLICATION

[Revision Date: October 1, 2020]

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT AND OWNER INFORMATION

Name of Applicant: Fox Construction (Anthony Fusco) Telephone # 603-828-5746

Address of Applicant: 196 Nottingham Road, Deerfield, NH 03037

E-Mail Address: anthonyfusco@foxconstructionllc.com

Name of Property Owner (if different from applicant): Stephen F. & Deborah A. Scotton Telephone #

Address of Property Owner: 131 Littleworth Road, Dover, NH 03820

PROPERTY INFORMATION

Assessor's Map # F Lot(s) # 21

Address of Property: 131 Littleworth Road, Dover, NH 03820

Zoning District(s) R-40 Overlay District(s) Secondary Groundwater Protection District

Existing Use of Property: Residential (2-Bedroom Single-Family)

New impervious area (in s.f.): +/-31,600

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

Type of TRANSFER OF DEVELOPMENT RIGHT REQUEST (Check All That Apply):

☑ Residential ☐ Residential (reduced size) ☐ Industrial | ☐ Purchase ☐ Land Preservation

Relief sought (Check All That Apply):

☐ Lot Size ☐ Frontage ☐ Setback ☑ Increase by 9 units

Describe Proposed Use or Activity that requires TDR; describe any impacts and document mitigation:

It is the intent to demolish the existing 2-bedroom single-family home and associated items, and replace them with five (5) separate duplexes. To service the duplexes, a +/- 425-foot-long driveway is proposed in addition to required parking. It is also the intent to extend public sewer along Littleworth Road to service the proposed duplexes. Public water is currently used by the existing lot.

DocuSign Envelope ID: 492A348D-85DE-4125-B134-44F7F91E3F46

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: N/A

Name of Professional That Prepared TDR Plans: Emanuel Engineering, Inc. (JJ MacBride, P.E.)

Address 118 Portsmouth Avenue, Stratham NH 03885 Telephone #: 603-772-4400

Professional License #: 15395 E-mail address: jmacbride@emanuelengineering.com

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: DocuSigned by: Stephen Scott DB2D4DE7C7894CC... Date: 5/7/2024

Signature of Applicant (if different from owner): DocuSigned by: 3A7F1362AA1243D... Date: 5/7/2024

Signature of Agent: Date: 5/7/2024

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: DocuSigned by: Stephen Scott DB2D4DE7C7894CC... Date: 5/7/2024

DocuSign Envelope ID: 492A348D-85DE-4125-B134-44F7F91E3F46

CITY OF DOVER TRANSFER OF DEVELOPMENT RIGHTS
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
F	21	Stephen F. & Deborah A. Scotton	131 Littleworth Road, Dover, NH 03820

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Anthony Fusco	Fox Construction	196 Nottingham Road, Deerfield, NH 03037

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
JJ MacBride, PE	Emanuel Engineering, Inc.	118 Portsmouth Avenue, Stratham NH 03885
Ryan Fowler	James Verra & Associates, Inc.	101 Shattuck Way, Suite 8, Newington, NH 03801
Joseph W. Noel	Joseph W. Noel (Wetland Scientist)	P.O. Box 174, South Berwick, ME 03908

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS
		N/A	

TRAN-2024-0007 **131 LITTLEWORTH ROAD**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
F0015-000000	LITTLEWORTH RD	INDIAN RIDGE HOMEOWNERS' ASSOCIATION		PO BOX 1981	DOVER	NH	03820
F0021-A00000	129 LITTLEWORTH RD	FLYNN RICHARD & JEAN TRUSTEES	FLYNN RICHARD AND JEAN REV TRUST	129 LITTLEWORTH RD	DOVER	NH	03820
F0021-B00000	133 LITTLEWORTH RD	SHAHEEN PETER E TRUSTEE	PES REVOCABLE TRUST	133 LITTLEWORTH RD	DOVER	NH	03820-4327
F0021-C00000	131 1/2 LITTLEWORTH RD	WALSH ERIC T TRUSTEE	THE ERIC T WALSH REVOCABLE LIVING TRUST	131 1/2 LITTLEWORTH RD	DOVER	NH	03820
F0022-000000	127 LITTLEWORTH RD	BURCKE JOHN B III & JENNIFER L TRUSTEES	BURCKE FAMILY REVOCABLE TRUST OF 2021	127 LITTLEWORTH RD	DOVER	NH	03820
F0022-001000	127 A LITTLEWORTH RD	O BRYAN MARY Y &	CHAMBERS-O BRYAN VERONICA M G	127 A LITTLEWORTH RD	DOVER	NH	03820
F0022-A00002	28 EMERALD LN	MOKLER SAMUEL J		28 EMERALD LN	DOVER	NH	03820
F0037-000000	92 LITTLEWORTH RD	CLEMENT ROBERT GEORGE		92 LITTLEWORTH ROAD	DOVER	NH	03820
F0038-000000	96 LITTLEWORTH RD	AL-DARRAJI KENAAN		96 LITTLEWORTH RD	DOVER	NH	03820
F0038-A00000	94 LITTLEWORTH RD	AUTIO KEITH R &	AUTIO DIANNE E	94 LITTLEWORTH RD	DOVER	NH	03820
F0039-000000	98 LITTLEWORTH RD	BALLARD JOHN E &	HOYLE-BALLARD CAROL J	98 LITTLEWORTH RD	DOVER	NH	03820
F0021-000000	131 LITTLEWORTH RD	SCOTTON STEPHEN F &	SCOTTON DEBORAH A	131 LITTLEWORTH RD	DOVER	NH	03820
		FOX CONSTRUCTION	ANTHONY FUSCO	196 NOTTINGHAM ROAD	DEERFI	NH	03037
		EMANUEL ENGINEERING, INC	JJ MACBRIDE, PE	118 PORTSMOUTH AVENU	STRATH	NH	03885
		JAMES VERRA & ASSOCIATES	RYAN FOWLER	101 SHATTUCK WAY, SUIT	NEWINC	NH	03801
		JOSEPH W. NOEL		PO BOX 174	SOUTH	ME	03908

EMANUEL
ENGINEERING

May 7, 2024

Dover Planning Board
City of Dover
288 Central Avenue
Dover, NH 03820

RE: Letter of Explanation – Fox Construction
131 Littleworth Road (Site)
Dover, NH 03820
Tax Map F, Lot 21

Dear Members of the Dover Planning Board,

On behalf of Fox Construction, with regards to the property located at 131 Littleworth Road, Dover, NH 03820, Tax Map F, Lot 21, which is currently owned by Stephen F. and Deborah A. Scotton, we offer the following narrative overview to help the board familiarize themselves with the project.

The subject parcel is located on a 2.588-acre site, which is within the Rural Residential (R-40) Zone, where there is a 2-bedroom, single-family house. There is an existing detached garage, an aboveground pool, shed, tarped carport, several landscaped/garden areas, propane tank, a paved driveway (providing access to the existing house), and a gravel/grass driveway that leads to the woods in the rear of the property. The house is serviced by an onsite septic system and public water. Wetlands were found along the rear property line, and were delineated by Joseph W. Noel CWS #086 on May 4, 2023. Soils were delineated by Emanuel Engineering, Inc. online via the USDA-NRCA Web Soil Survey on October 6, 2023. The majority of the site is grassed with approximately 20% of the property being woodlands. Steep slopes were not found on the site as surveyed by James Verra and Associates, Inc. in May 2023. There are no other known significant environmental features.

It is proposed that the existing structures and associated utilities are to be taken down. Five (5) separate duplex buildings are proposed on the lot along with a proposed 24-foot-wide private drive and associated parking. The private drive is to be approximately 425-feet-long with a hammerhead design at the end that allows for an easier turnaround. The buildings are

to be serviced by public water and sewer. As stated, public water already is provided to the lot, however, public sewer will need to be extended to the lot from Emerald Lane, which is approximate 525 feet away along Littleworth Road. Furthermore, because the number of units are limited on the lot, and being located within the R-40 Zone, an application through the Transfer of Development Rights (TDR) is required. Through calculations, only one (1) unit is traditionally allowed on the property, but with the proposed five (5) duplexes, relief for an increase of 9 units is being sought through the TDR.

If you have any other questions concerning this project, please reach out to us.

Sincerely,

JJ MacBride, PE
Civil Engineer

Doc # 0002722 Feb 12, 2007 11:42 AM
Bk 3492 Pg 0438 Page 1 of 2 Pages
Register of Deeds, Strafford County

STATE OF NEW HAMPSHIRE
DEPARTMENT OF REVENUE ADMINISTRATION
REAL ESTATE TRANSFER TAX
****3 Thousand 5 Hundred 63 Dollars
DATE 02/12/2007 ST808589 $ ****3563.00 AMOUNT
VOID IF ALTERED

Warranty Deed

KNOW ALL MEN BY THESE PRESENTS, that **Thomas F. Walsh and Carol A. Walsh, husband and wife**, of **164 South Shore Road, New Durham, New Hampshire 03855** for consideration paid, grant to **Stephen F. Scotton and Deborah A. Scotton, husband and wife** of **17 Northview Circle, Dover, New Hampshire 03820** with WARRANTY COVENANTS, as joint tenants with rights of survivorship, the following described premises:

SEE ATTACHED EXHIBIT FOR COMPLETE LEGAL DESCRIPTION MADE A PART HEREOF.

Meaning and intending to convey the same premises conveyed to Thomas F. Walsh and Carol A. Walsh from Rowena F. Walsh by Warranty Deed dated September 7, 2005 and recorded with the Strafford County Registry of Deeds on September 15, 2005 at Book 3259, Page 0272.

We, **Thomas F. Walsh and Carol A. Walsh**, of **164 South Shore Road, New Durham, New Hampshire 03855** do hereby release to said grantee(s) all right of homestead and other interest therein, signed by the grantor(s) this **Ninth day of February, 2007.**

Thomas F. Walsh

Carol A. Walsh

State of Florida
County of Lee,

Date: **02/09/07**

Personally appeared, **Thomas F. Walsh and Carol A. Walsh** satisfactorily proven to be the person who acknowledged the foregoing instrument to be his/her/their free act and deed, before me.

DENISE TALT-STUCKEY
MY COMMISSION # DD 267359
EXPIRES: January 10, 2008
1-800-3-NOTARY FL Notary Discount Assoc. Co.

Notary Public:
My commission expires:

~~XXXX

Exhibit A - Property Description

Closing date: **February 9, 2007**

Property Address: **131 Littleworth Road, Dover, New Hampshire 03820**

A certain tract or parcel of land, with the buildings thereon, known as 131 Littleworth Road, Dover, Strafford County, New Hampshire, identified as Lot F/21 as shown on "Subdivision of Land for Thomas & Rowena Walsh, Littleworth Rd., Dover, N.H., Scale 1" = 50', Date 10-21-80, recorded as Plan 47-52 in the Strafford County Registry of Deeds, bounded and described as follows:

Beginning at a point in the sideline of Littleworth Road and running N 33° 54' 16" E a distance of 545.60 feet to a 1" x 6" iron pipe found; thence turning and running S 61° 12' 22" E a distance of 89.09 feet to a 1/2" x 30" iron pipe found; thence turning and running N 10° 51' 00 E a distance of 185.44 feet to an iron pipe found; thence turning and running N 47° 15' 58" W a distance of 150.49 feet to a point; thence continuing 80.54 feet to a 5/8" x 6" rebar to be set; thence turning and running S 29° 57' 06" W a distance of 525.28 feet to a 5/8" x 6" rebar to be set; thence turning and running S 49° 40' 52" E a distance of 180.00 feet to the point of beginning.

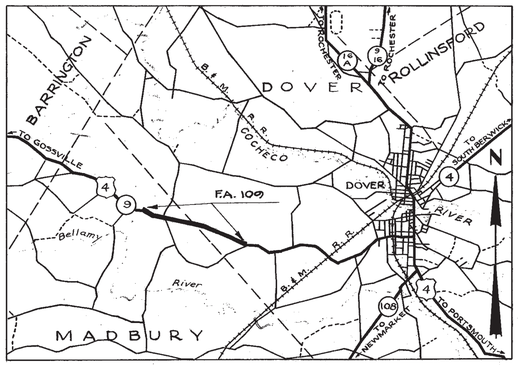
Said parcel containing 2.59 acres, more or less or 112,751.59 square feet.

CAW
TFW

FED. ROAD DIST. No.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	N. H.	109	1937	1	26

INDEX OF SHEETS

SHEET NO 1 TITLE PAGE
" " 2 TYPICAL SECTION OF IMPROVEMENT
" " 5-11 PLAN AND PROFILE
" " 12-25 CROSS SECTIONS
" " 26 STANDARDS
" " 3 SUMMARY
" " 4 DETAILS



STATE OF NEW HAMPSHIRE

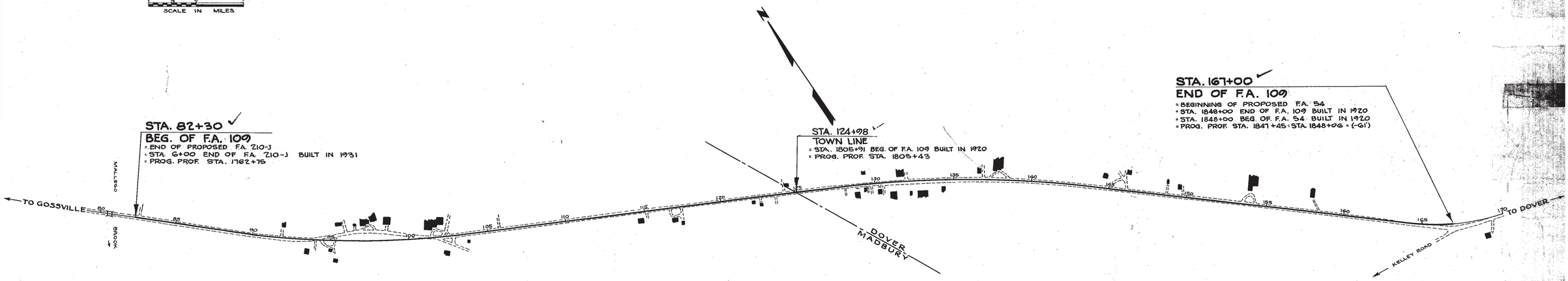
STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED
FEDERAL AID PROJECT
NO. -109

CENTRAL ROAD

SCALES { PLAN, 1"=50'-0"
PROFILE, VERT: 1"=10'-0" HOR: 1"=50'-0"
CROSS SECTION, VERT: 1"=5'-0" HOR: 1"=5'-0"

NOTE. This project to be constructed in accordance with the May 1st 1935 standard specifications on file with the Bureau of Public Roads and the special provisions attached to the proposal.



CONVENTIONAL SIGNS

TOWN LINE		SURVEY LINE	30 0+00 +70
FENCE LINE		CULVERTS	
STONE WALL		POWER POLE	
UNFENCED PROPERTY		TELEPHONE POLE	
TRAVELED WAY		GROUND ELEVATION	DATUM LINE
RAILROADS		GRADE ELEVATION	DATUM LINE
RETAINING WALL			

Traced by R.S.Nelson Date 9-25-37
Checked by W.Jordan Date 12-16-37

AS-BUILT PLANS

LAYOUT

SCALE 1"= 300 FEET

TOWN OF MADBURY AND CITY OF DOVER

COUNTY OF STRAFFORD

MADBURY-ROVER
FAP 210J, FAP109
FAP 54

RECOMMENDED FOR APPROVAL: DATE: 11-4-37

W.H. Dickinson
CHIEF ENGINEER

APPROVED: F.E. Everett
HIGHWAY COMMISSIONER

RECOMMENDED FOR APPROVAL:

[redacted]
DISTRICT ENGINEER, BUREAU OF PUBLIC ROAD

RECOMMENDED FOR APPROVAL:

[redacted]
CHIEF ENGINEER, BUREAU OF PUBLIC ROADS.

APPROVED:

[redacted]
DIRECTOR, BUREAU OF PUBLIC ROADS.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	N.H.	109	1937	1	26

© HARRISFACE, INC.

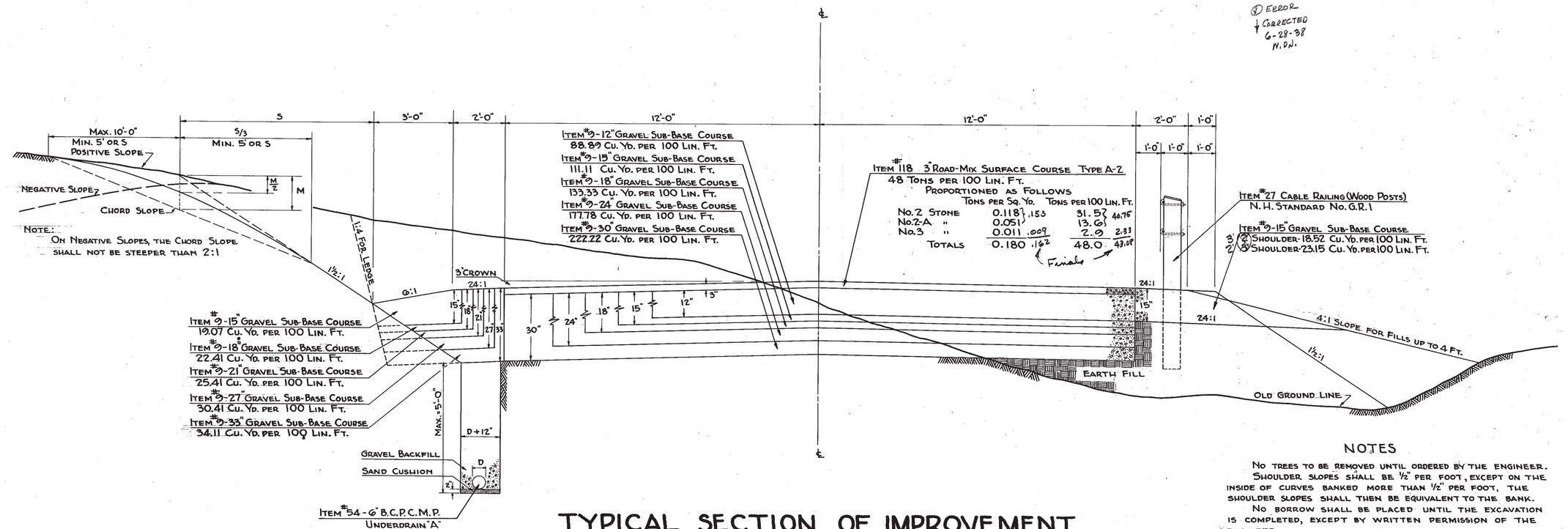
FED. ROAD DIST. NO.	STATE	F.A. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	N. H.	210-J	1937	2	8
		109	1937	2	26
		54	1937	2	14

NOTE BOOKS — BOOK NO. — PAGE NO

DESCRIPTION — DATE — STA. TO STA.

REVISIONS AFTER PROPOSAL

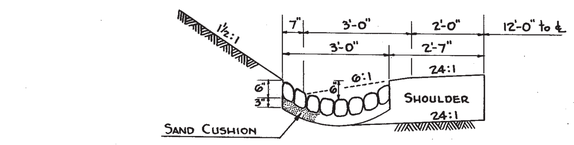
PLAN TRACED BY — DATE
" CHECKED " "
PROFILE TRACED BY " "
" CHECKED " "
TRACED BY WM. JORDAN " 12-13-37
CHECKED " E. GAUDREAU " 12-15-37



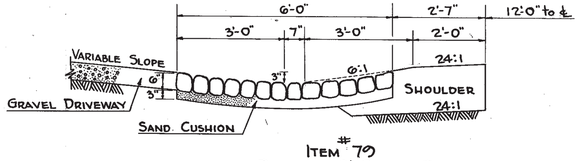
TYPICAL SECTION OF IMPROVEMENT
CRUSHED STONE ROAD-MIX SURFACE

Scale 1"=2'-0"

F.A. 210-J STA. 76+30 - 82+30
F.A. 109 STA. 82+30 - 167+00
F.A. 54 STA. 167+00 - 191+19.4



Item #79
Detail of 3' Cobble Gutter



Item #79
Detail of 6' Cobble Gutter

NOTES

No trees to be removed until ordered by the Engineer.

Shoulder slopes shall be ½" per foot, except on the inside of curves banked more than ½" per foot, the shoulder slopes shall then be equivalent to the bank.

No borrow shall be placed until the excavation is completed, except by written permission of the Engineer.

Sufficient binder shall be incorporated to bond thoroughly the gravel shoulders, if ordered by the Engineer.

All objectional growth between the slope limits and the right-of-way lines shall be removed under the direction of the Resident Engineer. This work and all other clearing and grubbing shall be subsidiary to the several items of excavation or of borrow and no additional allowance shall be made therefor.

Item #18 Bituminous surface treatment, type A-1 0.7 gal. per sq. yd. to be applied in two applications of 0.5 gal. and 0.2 gal. per sq. yd. respectively. Bituminous material to be S.T.-2 Grade A.

Item #18 Bituminous material for prime coat on sub-base course to be S.T.-2, Grade A, applied at the rate of ½ gal. per sq. yd.

Item #119 Furnishing and applying bituminous material for road-mix surface course type A-2, 1.6 gal. per sq. yd. applied in four applications of ¾ gal.; ½ gal.; ¼ gal.; and 1/10 gal. per sq. yd. respectively. Bituminous material to be R.C.-3 Grade B.

① Error
† Corrected 6-28-38 M.D.N.

MADBURY - DOVER
FAP 210-J, FAP 109
FAP 54

CLASS B GRAVEL

PROJ. NO.	SHEET NO.	TOTAL SHEETS
F.A. 210-J	2	8
F.A. 109	2	26
F.A. 54	2	14

FED.ROAD DIST. NO.	STATE	F.A. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	N. H.	210-J	1937	3	8
		109	1937	3	26
		54	1937	3	14

SUMMARY OF QUANTITIES

THIS INFORMATION IS FOR BIDDING PURPOSES ONLY

PROJECT F.A. 210-J = STA. 76+30 - 82+30
PROJECT F.A. 109 = STA. 82+30 - 167+00
PROJECT F.A. 54 = STA. 167+00 - 191+19.4

FOR FINAL QUANTITIES SEE BLACK BOOK #224 & FINAL ESTIMATE.

- EARTHWORK SUMMARY -

ITEM (ALL UNITS ARE C.Y.)	F.A. 210-J	F.A. 109	F.A. 54	CONTRACT
SECTIONS EXCAVATION	398	7903	1323	9684
DRIVE & ROAD APP. EXCAV. (EARTH)		54	14	68
LOAM AREA EXCAV. (EARTH)		770	10	780
TOTAL EXCAVATION FOR EARTH FILL	398	8787	1347	10532
ROADWAY EARTH EXCAVATION	398	8787	1347	10532
TRENCH EXCAV. EARTH (EXPANDED)	63	573	214	850
EARTH EXCAV. FOR ESTIMATE - ITEM #4 -	461	9360	1501	11382
SECTIONS FILL	168	7517	3441	11126
DRIVE & ROAD APP. FILL		107	11	118
LOAM AREA FILL		90	70	160
TOTAL EARTH FILL	168	7714	3522	11404
SHRINKAGE FACTOR 25%				
EXPANDED FILL	224	10285	4696	15205
EARTH FOR FILL	398	8787	1347	10532
GROSS BORROW		1498	3349	4847
SURPLUS (USED TO REDUCE BORROW IN F.A. 109)	174			
NET BORROW - ITEM #6		1324	3349	4673

- DRIVES -

ITEM NUMBERS →		4			9	3	ITEM NUMBERS →		4			9	3
ITEM →		EXC.	FILL	S-BASE	F-GRAD.		ITEM →		EXC.	FILL	S-BASE	F-GRAD.	
UNIT →		C.Y.	C.Y.	C.Y.	S.Y.		UNIT →		C.Y.	C.Y.	C.Y.	S.Y.	
STATION	LOC.	VOL.	VOL.	VOL.	AREA		STATION	LOC.	VOL.	VOL.	VOL.	AREA	
76+30	R			5	10		132+20	L			5	10	
78+35	R			5	10		132+95	R			3	20	
F.A. 210-J TOTAL				10	20		137+00	L	8		5	20	
82+60	L			3	10		137+35	L	4		3	10	
92+00	L			5	10		138+70	L			3	15	
94+15	R	10		4	30		144+95	L			5	20	
94+60	R	10		5	25		146+20	L			3	15	
95+38	R		5	4	10		148+72	L			3	10	
96+20	L			12	50		149+80	L			5	10	
96+75	L			15	60		153+55	L	4		3	10	
98+10	L			15	60		154+33	L	4		3	10	
98+55	L			13	40		156+40	R			4	10	
101+50	L			3	10		158+50	L			3	15	
103+65	R			4	10		F.A. 109 TOTAL		50	32	194	755	
105+85	L		4	4	15		160+45	R		3	4	15	
115+15	R			4	30		171+85	L			3	10	
116+68	R		5	6	30		175+57	R	5		4	15	
117+40	R		5	6	25		176+75	R			3	10	
120+55	R			5	15		178+30	L			4	10	
122+15	R			5	10		178+40	R			3	10	
122+67	R		4	4	15		179+15	L			4	15	
123+65	R		5	4	15		179+45	L			3	10	
124+30	L		4	4	10		180+65	R	4		5	10	
128+25	R			4	10		181+65	L		5	4	10	
129+00	R			5	50		187+50	L			3	10	
129+65	L			3	10		189+70	R		3	4	10	
129+70	R	4		3	10		189+98	L	5		4	10	
129+85	R	3		3	10		F.A. 54 TOTAL		14	11	48	145	
130+67	R	3		3	10		CONTRACT TOTAL		64	43	252	920	

- LANDSCAPING -

ITEM NUMBERS →		31-A	31-B	228	229	4		3
ITEM →		4" LOAM	G'LOAM	FERTILIZ.	GRASS-SEED	EXC.	FILL	FINE-GR.
UNIT →		SQ.YD.	SQ.YD.	LB.	LB.	CU.YD.	CU.YD.	SQ.YD.
STA. - STA.	LOC.	AREA	AREA	WT.	WT.	VOL.	VOL.	AREA
NON-PARTICIPATING ON RD. APP.								
75+80 - 76+20	R		85	25	5			85
77+00 - 80+00	R		500	135	22			500
F.A. 210-J TOTAL			585	160	27			585
94+00 - 101+00	L	2292		619	103	755		2292
94+65 - 95+25	R		125	34	6			125
114+30 - 115+10	R		155	41	7			153
116+75 - 117+35	R		194	52	9		50	194
124+35 - 124+85	L		125	34	6		20	125
127+70 - 128+20	R		168	45	8			168
131+20 - 132+15	L		194	52	9			194
145+05 - 146+10	L		250	68	11			250
149+25 - 149+75	L		130	38	6		20	130
153+60 - 154+25	L		97	26	4	15		97
156+75 - 157+75	R		181	49	8			181
157+60 - 158+45	L		181	49	8			181
F.A. 109 TOTAL		2292	1807	1107	185	770	90	4099
167+30 - 168+60	R		100	27	5			100
168+60 - 169+40	R		181	49	8		30	181
174+90 - 175+52	R		111	30	5	10		111
178+35 - 179+10	L		139	38	6			139
188+70 - 189+65	R		222	60	10		40	222
F.A. 54 TOTAL			753	204	34	10	70	753
CONTRACT TOTAL		2292	3145	1471	246	780	160	5437

- GUARD RAILING SUMMARY -

ITEM NUMBERS →		27	29	30-A	25
ITEM →		CABLE RAIL (WOOD POSTS)	ANCHORAGES	WOOD G. RAIL. (SINGLE RAIL)	WOOD POST MARKERS
UNIT →		LIN. FT.	EACH	LIN. FT.	EACH
STA. - STA.	LOC.	LENGTH	NO.	LENGTH	EST. NO.
79+25 - 80+46	L			109 445	
79+98 - 80+46	L			54 95	
80+78 - 81+88	L			40 80	
80+78 - 81+88	R			40 80	
F.A. 210-J TOTAL				400	10
F.A. 109 TOTAL					50
167+80 - 167+45	L			42 40	
183+20 - 186+70	L	350	2		
184+25 - 186+40	R	215	2		
ESTIMATED				40	
F.A. 54 TOTAL		565	4	80	20
CONTRACT TOTAL		565	4	480	80

- NON-PARTICIPATING ITEMS -

NO FEDERAL FUNDS REQUESTED

ITEM NO	ITEM	UNIT	QUANT.
3	FINE GRADING (ROADWAY & LOAM AREA)	S.Y.	400
9	GRAVEL SUB-BASE COURSE	C.Y.	75
18	FUR. & APP. BIT. SURF. TREAT. TYPE A-1	GAL.	210
31-B	LOAM 6" DEEP	S.Y.	85
33	REINFORCING STEEL	LB.	9
37	CONCRETE CLASS "D"	C.Y.	1
44	FUR. & LAY. 12" B.C.C.M. PIPE	L.F.	15
228	FUR. & APP. FERTILIZER FOR GRASSES	LB.	25
229	FUR. & SOWING GRASS-SEED	LB.	5

THESE ITEMS INCLUDED IN INDIVIDUAL TABULATIONS

- DRAINAGE SUMMARY -

ITEM NUMBERS →		42-A	42-B	42-C	39-A	39-B	44	54	34	36	37	33	21	22-A	22-B			
ITEM →		R.C. PIPE			HEAVY C.I.C.P.		B.C.C.M.P.	C.B. CR.IN.	CONCRETE			REINF.	C.B.	D.I.	D.I.	TRENCH	EARTH	REMARKS
		12"	15"	24"	16"	24"	12"	P.UNDER	A	C	D	STEEL	"C"	"A"	"B"	0-5	5-10	
UNIT →		FT.	FT.	FT.	FT.	FT.	FT.	FT.	C.Y.	C.Y.	C.Y.	LB.	EACH	EACH	EACH	C.Y.	C.Y.	
STATION	LOC.																	
NON-PARTICIPATING ON ROAD APPROACH																		
76+15 - 76+30	R						54											
76+30 - 76+63	R						33 63				0.61	9				10		48"x8" C.I.P. - REMOVE-
81+50 - 82+14	R															30		CONST. OUTLET DITCH
82+14 - 82+30	R							16			0.17					2		CONST. HDR. N.H. STD. U.H.-I
ESTIMATED							4	4			0.61	2				21		(TRENCH EARTH IS EXPANDED)
F.A. 210-J PARTICIPATING TOTAL							37	20			1.39	11				63		
F.A. 210-J TOTAL							52	20			2.00	20				83		
82+30 - 85+25	R							296										
82+90	℄																	55"x12" R.C.P. - RETAIN-
92+00	L										2.64							18"x14" C.M.P. - RETAIN -
95+40	L															2		16"x 8" C.M.P. - REMOVE-
112+95	℄				40						3.50	30				21		22"x 8"x12" O.S.B. - REMOVE -
116+60 - 117+55	R						95 148				1.22	17				13		
122+67	R															3		42"x 8" C.M.P. - REMOVE-
123+65	R						202				1.22	17				5		1'x 1' PLANK CULV. - REMOVE-
124+36	L						60 60				1.22	17				9		24"x 8" V.C.P. - REMOVE-
125+00 - 126+00	L															4		CONST. SIDE DITCH
126+45	℄		8 48								2.64	31				22		PRESENT CULVERT BLOCKED
127+74 - 132+30	L	456									1.11	11	1			160	9	CONST. "L" HDR. LT.
127+66 - 128+30	R						64				0.61	9		1		26		
132+30	℄	40													1	27		
142+80 - 145+10	R															11		CONST. SIDE DITCH
145+90 - 146+50	R															5		CONST. SIDE DITCH
149+25 - 149+85	L						60 68									8		
151+50	℄				30						1.88	24				22		CONST. OUTLET DITCH
166+07	℄															17		40"x 12" C.M.P. - REMOVE -
166+60 - 167+00	R		34								1.32	16				15		
SUB-TOTAL		496	82	-	36	40	298	296			16.00	198	1	1	1	17	9	
ESTIMATED		8	8		4	4	20	54				2	1	1	1	185	9	(TRENCH EARTH IS EXPANDED)
F.A. 109 TOTAL		504	90		40	44	318	350			16.00	200	2	2	2	555	18	
167+00 - 167+25	R		38													15		
167+15	℄			76							6.01	58				51	8	47"x24" C.M.P. - REMOVE-
170+00	L															5		CONST. SIDE DITCH
174+40	℄		52								2.64	31				28		28"x 12" C.M.P. - REMOVE-
186+20.5	L								5.9	15.1		618				17		8'5"x6' EXTENSION ON O.S.B.
188+70 - 189+80	R						110				1.22	17				16		
SUB-TOTAL			90	76			110		5.9	15.1	9.87	724				132	8	
ESTIMATED			4	4			4	150	0.1	0.9	0.13	26				66	8	(TRENCH EARTH IS EXPANDED)
F.A. 54 TOTAL			94	80			114	150	6.0	16.0	10.00	750				198	16	
CONTRACT TOTAL		504	184	80	40	44	484	520	6.0	16.0	28.00	970	2	2	2	816	34	

ROADWAY GRAVEL SUB-BASE COURSE SCHEDULE

STA. - STA.	LENGTH	DEPTH	CU. YD.
76+30 - 80+46	416	12"	370
80+78 - 82+30	152	12"	135
F.A. 210-J TOTAL			505
82+30 - 93+25	1095	12"	973
93+25 - 102+75	950	15"	1056
102+75 - 109+25	650	12"	578
109+25 - 129+25	2000	24"	3556
129+25 - 134+25	500	12"	444
134+25 - 135+75	150	30"	333
135+75 - 159+25	2350	12"	2089
159+25 - 167+00	775	18"	1033
F.A. 109 TOTAL			10,062
167+00 - 180+75	1375	18"	1833
180+75 - 189+25	850	12"	756
189+25 - 191+19.4	1944	24"	346
F.A. 54 TOTAL			2935
CONTRACT TOTAL			13,502

GRAVEL SUB-BASE COURSE TO BE TAPERED FROM ONE DEPTH TO OTHER IN 50'.

ITEM #9 GRAVEL SUB-BASE COURSE

UNIT →	CU. YD.
LOCATION	VOL.
NON-PART. APPROACH	75
DRIVES	10
SHOULDERS	253
BACKFILL (EST.)	32
ROADWAY	505
F.A. 210-J PARTIC. TOTAL	800 749
F.A. 210-J TOTAL	875 780
APPROACHES	70
DRIVES	194 533
SHOULDERS	4356 3038
BACKFILL & SUB-BASE OUTLETS	116 207
ROADWAY	10062 14770
F.A. 109 TOTAL incl NON PART	14800 15248
DRIVES	48
SHOULDERS	1221
BACKFILL (EST.)	46
ROADWAY	2935
F.A. 54 TOTAL	4250 4249
CONTRACT TOTAL	19,925

SUMMARY OF SURFACING MATERIALS

ITEM NUMBERS →			118	119	18
ITEM →			3" RD. MIX SURF. COURSE	F.&A. BIT. MAT. FOR SURF. CRS.	F.&A. BIT. SURF. TREAT.- A-1
UNIT →			TON.	GAL.	GAL.
PROJECT	STA. - STA.	LENGTH	VOL.	VOL.	VOL.
NON-PART. ROAD APP.					210
	76+30 - 80+46	416			555
	80+78 - 82+30	152			203
F.A. 210-J	PARTIC. TOTAL		273	2423	758
F.A. 210-J	TOTAL		273	2423	968
	82+30 - 167+00	8470	4066	36130	11 293
	ROAD APPS.				300
F.A. 109	TOTAL		4066	36,130	11,593
F.A. 54	167+00 - 191+19.4	2419.4	1161	10,323	3,226
CONTRACT TOTAL			5500	48,885	15,787

EXPANDED TRENCH (EARTH)

PROJ. →	210-J	109	54
DEPTH	C.Y.	C.Y.	C.Y.
0-5	63	555	198
5-10	-	18	16
TOTALS	63	573	214
CONT. TOTAL		850	

ITEM #62 REMOVING SURF. TREAT.

UNIT →			SQ. YD.
PROJECT	STA. - STA.	LOC.	AREA
F.A. 210-J	77+00 - 80+00	R	500
F.A. 109	94+00 - 101+00	L	1400
F.A. 54	167+30 - 168+60	R	100
CONTRACT TOTAL			2000

ITEM #128 PROJECT MARKERS

UNIT →			EACH
PROJECT	STATION	LOC.	NUMBER
F.A. 210-J	76+30	L	1
F.A. 109	82+30	R	1
	167+00	L	1
	191+19.4	L	1
F.A. 54 TOTAL			2
CONTRACT TOTAL			4

ITEM #32 MAINTENANCE OF TRAFFIC

UNIT →			LIN. FT.
PROJECT	STA. - STA.		LENGTH
F.A. 210-J	76+30 - 82+30		600
F.A. 109	82+30 - 167+00		8470
F.A. 54	167+00 - 191+19.4		2419
CONTRACT TOTAL			11,489

ITEM #3 FINE GRADING

UNIT →	SQ. YD.
LOCATION	AREA
NON-PART. RD. APP. (LOAM AREA INC.)	400
ROADWAY	3047
DRIVES	20
LOAM AREAS	500
ESTIMATED	33
F.A. 210-J PARTIC. TOTAL	3,600
F.A. 210-J TOTAL	4,000
ROADWAY	43451
DRIVES	755
APPROACHES	475
LOAM AREAS	4099
ESTIMATED	220
F.A. 109 TOTAL	49,000
ROADWAY	12 155
DRIVES	145
LOAM AREAS	753
ESTIMATED	147
F.A. 54 TOTAL	13,200
CONTRACT TOTAL	66,200

- ROAD APPROACHES -

ITEM NUMBERS →		4			9	18	3
ITEM →		EXC.	FILL	S-BASE	S-TREAT.	F-GRAD.	
UNIT →		C.Y.	C.Y.	C.Y.	GAL.	S.Y.	
STATION	LOC.	VOL.	VOL.	VOL.	VOL.	AREA	
NON-PARTICIPATING RD. APP.							
75+50 - 76+30	℄			75	210	315	
F.A. 210-J NON-PART. TOTAL				75	210	315	
102+00	R	4		3	21	40	
102+20	L			5	13	20	
102+60	L			5	10	20	
102+90	R			5	18	45	
166+80	R		75	52	224	350	
EST.					14		
F.A. 109 TOTAL		4	75	70	300	475	
CONTRACT TOTAL		4	75	145	510	790	

ITEM #79 COBBLE GUTTER

UNIT →				SQ. YD.
STA. - STA.	LOC.	WIDTH	LENGTH	AREA
92+00 - 94+10	R	3	210	70
132+30 - 132+70	R	3	40	13
132+30 - 136+88	L	3	458	153
132+70 - 133+05	R	6	35	23
133+05 - 135+50	R	3	245	82
F.A. 109 TOTAL				341
CONTRACT TOTAL				341

PROTECTION BOARD & 8" H.C.B.C.C.M. SLUICE

ITEM NO. →		129	126
ITEM →		PROTECTION BOARD	8" H.C.B.C.C. M. SLUICE
UNIT →		LIN. FT.	LIN. FT.
STATION	LOC.	LENGTH	LENGTH
183+25 - 186+75	L	350	
86+00	L		12
ESTIMATED		100	18
F.A. 54 TOTAL		450	30
CONTRACT TOTAL		450	30

ITEM #226 FUR. & LAY. 3" STEEL PIPE SLEEVE

UNIT →		LIN. FT.
PROJECT	STA. - STA.	LENGTH
	99+75 L. - 100+30 R.	60
	ESTIMATED	90
F.A. 109 TOTAL		150
F.A. 54 (EST.)		50
CONTRACT TOTAL		200

- FENCING AND WALL SUMMARY -

ITEM NO. →		60	124
ITEM →		STONE WALL	REM. & REBUILD FENCING
UNIT →		LIN. FT.	LIN. FT.
PROJECT	LOCATION	LENGTH	LENGTH
F.A. 210-J	ESTIMATED		85
F.A. 109	"	100	150
F.A. 54	"	100	800
CONTRACT TOTAL		200	1035

MADBURY - DOVER F.A. 210-J, F.A. 109 F.A. 54

PROJ. NO.	SHEET NO.	TOTAL SHEETS
F.A. 210-J	3	8
F.A. 109	3	26
F.A. 54	3	14

NOTE BOOKS — BOOK NO. — PAGE NO

REVISIONS AFTER PROPOSAL — DATE — STA. — TO — STA. — DESCRIPTION

PLAN TRACED BY — DATE
" CHECKED "
PROFILE TRACED BY "
" CHECKED "
" TRACED BY W. JORDAN 12-16-37
" CHECKED " E. GAUDREAU 12-17-37

1000—4-37

FED.ROAD DIST. NO.	STATE	F.A. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	N. H.	210J	1937	4	8
		109	1937	4	26
		54	1937	4	14

NOTE BOOKS

BOOK NO.	PAGE NO
" "	" "
" "	" "
" "	" "
" "	" "

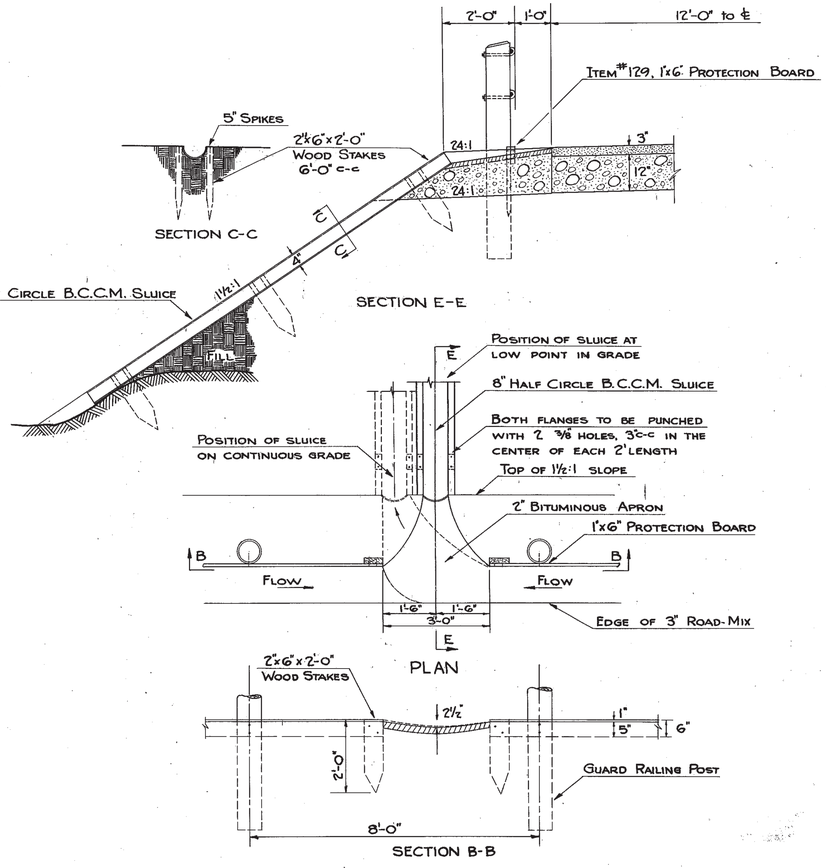
REVISIONS AFTER PROPOSAL

DATE	STA. TO STA.	DESCRIPTION

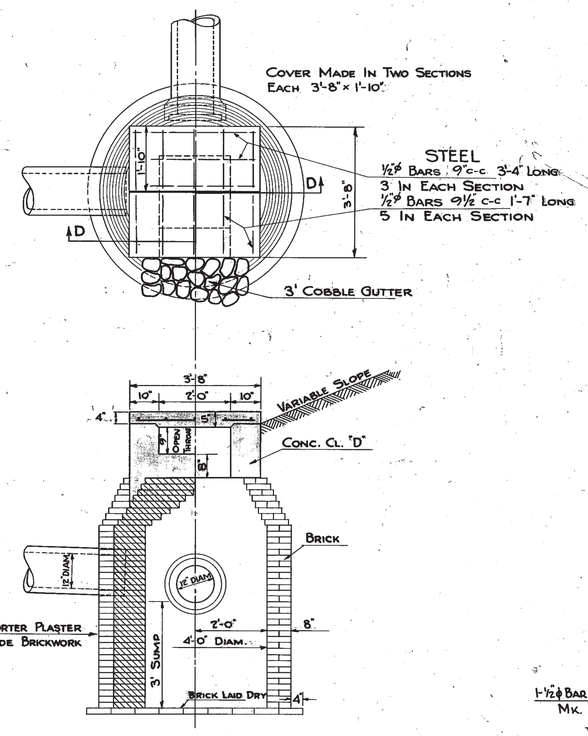
TRACED BY	P. BRUSQUINI & W.V.J.	DATE 12-15-37
CHECKED "	W. JORDAN & P.F.B.	" "
PROFILE TRACED BY		" "
" CHECKED "		" "
SECTIONS TRACED BY		" "
" CHECKED "		" "

DETAILS

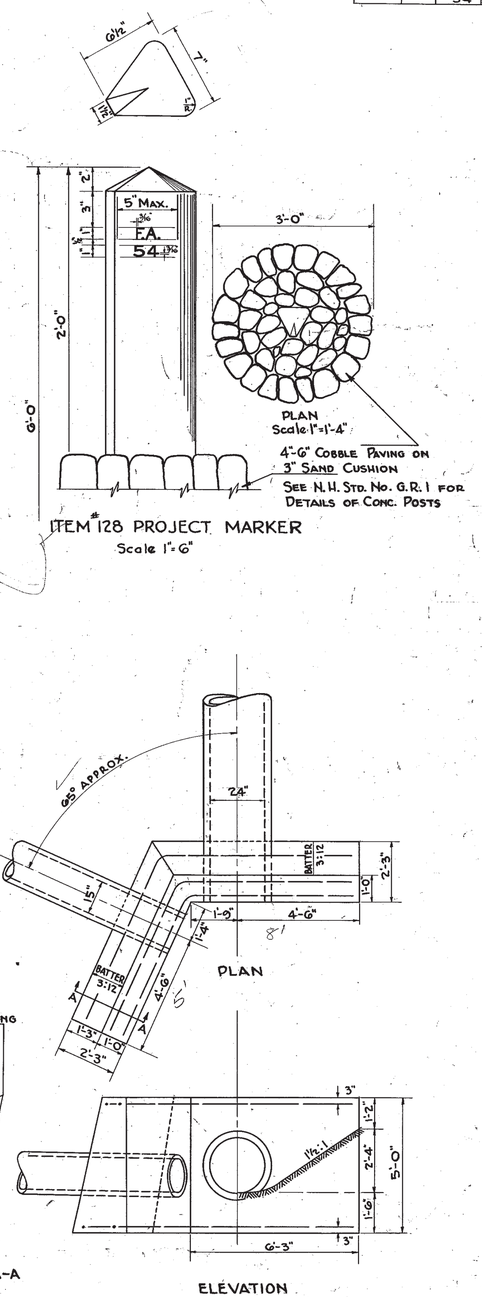
FOR LOCATION OF ALL DETAILS
SEE SHEET NO. 3



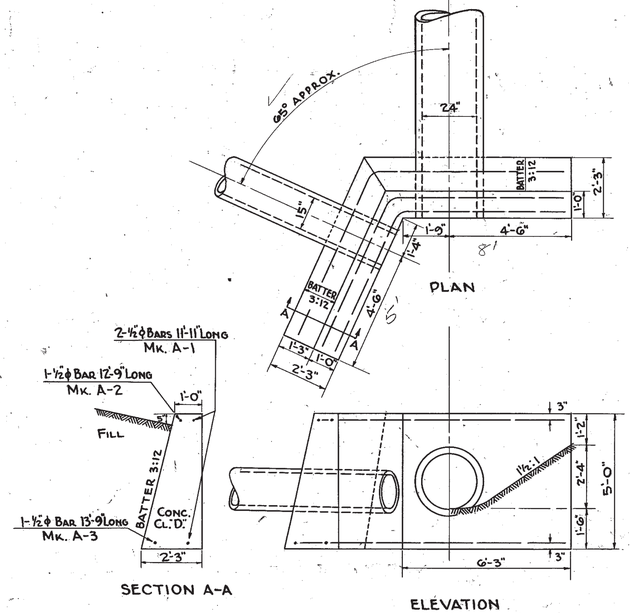
ITEM #126, DETAILS OF 8" HALF CIRCLE B.C.C.M. SLUICE
ITEM #129, PROTECTION BOARD
Scale 1"=2'



ITEM #21 DETAIL OF CATCH BASIN TYPE "C"
STA. 132+30 LT.
Scale 1"=2'



ITEM #128 PROJECT MARKER
Scale 1"=6"



SPECIAL "L" HEADWALL
STA. 167+32 RT.
Scale 1"=2'-8"

MADBURY — DOVER
FAP 210J, FAP 109
F.A.P. 54

PROJ. NO.	SHEET NO.	TOTAL SHEETS
F.A. 210J	4	8
F.A. 109	4	26
F.A. 54	4	14

1000—4-37

FED.ROAD DIST. NO.	STATE	F.A. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		210-J		5	8
9	N. H.	109	1937	5	26

NOTE BOOKS

BOOK NO.	PAGE NO
" "	" "
" "	" "
" "	" "
" " 1937	" " 37-39

DESCRIPTION

R.O.W. Verified E.B. Astles 9-18-37

REVISIONS AFTER PROPOSAL

DATE	STA. TO STA.
FURNISH ERICKSON 44-42	

		DATE
PLAN TRACED BY	P. BRUSQUINI	9-21-37
" CHECKED "	W. JORDAN	" 12-15-37
PROFILE TRACED BY	P. BRUSQUINI	" 9-21-37
" CHECKED "	W. JORDAN	" 12-15-37
SECTIONS TRACED BY		"
" CHECKED "		"

P.C. 68+76.4

P.I.: 72+55.4
Δ: 22°-27' Lt.
D: 3°-00'
T: 379.0
L: 748.3
R: 1910.0

F.A. 123 F.A. 210-J

CONST. PROJECT MARKER VIEW FROM ℄ HIGHWAY

P.T. 76+24.7

69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85

42" Oak
40" Oak
14" Elm
18" Oak
16" Elm
14" Oak
36" Ash
10" Elm
12" Hickory
15" Hickory
TO GOSSVILLE
S 26° 34' E
Surface Treated Gravel
S 49° 01' E
TO DOVER
MALLEGO
BROOK
SCHOOL
TOWN ROAD
R.O.W. LINE
SLOPE LINE
B.M. #8
BRIDGE E OF PROJECT STATEMENT

STA. 75+50-76+30 ℄
✓ CONST. ROAD APP. TO PROJECT
NON PARTICIPATING

15"x12" C.M.P. RETAIN

STA. 75+56
48"x12" C.M.P. RETAIN

STA. 75+80±
54"x12" C.M.P. -RETAIN-

STA 75+54 - 76+00 Rt
CONST'D 54" BCCMP (12") P
D.I. TY "B" (SPECIAL)
"

STA. 75+80-76+20 Rt.
6" LOAM-FERTILIZE & SEED
NON PARTICIPATING

STA. 76+45-76+30 Rt.
CONST. (5)12" B.C.C.M.P.
NON PARTICIPATING.

10"x10" C.I.P.

STA. 76+30 Rt.
CONST. DRIVE.

STA 76+08.5 Rt
RELAYED 53'x8" C.I.P.

STA. 76+15-76+63 Rt.
48"x8" C.I.P. - REMOVE

STA. 76+30-76+63 Rt.
CONST. 33"x12" B.C.C.M.P.

STA. 76+30
BEGINNING OF F.A. 210-J
- STA. 0+00 BEG. OF F.A. 210-J
  24' SURF. TREAT. GRAVEL BUILT 1931
- STA. 1750+75 END OF F.A. 132
  21' GRAVEL BUILT 1920
- PROG. PROF. STA. 1756+75

STA. 78+35 Rt.
CONST. DRIVE

STA. 80+46-80+78
REINFORCED CONCRETE BRIDGE - BUILT 1931
24'-0" ROADWAY - 25-6" RAIL TO RAIL
CLEAR SPAN 28'-0"
CONDITION - GOOD - RETAIN -

STA. 71+00-80+00± Rt.
REMOVE SURFACE TREATMENT
6" LOAM + FERTILIZE & SEED

Old Roadway 79+80

STA. 81+00-81+50 Rt.
SIDE DITCH - RETAIN

STA. 81+50-82+14 Rt.
CONST. OUTLET DITCH

STA. 82+14-82+30 Rt.
CONST. 16"x6" B.C.P.C.M.P. UND A
CONST. HDR. N.H. STD U.H.1

STA. 82+30
END OF F.A. 210-J
- STA. 0+00 END OF F.A. 210-J
  24' SURF. TREAT. GRAVEL BUILT 1931
- PROG. PROF. STA. 1762+75

STA. 82+30
BEGINNING OF F.A. 109

8' C.I.P. RETAIN

STA. 82+60 Lt.
CONST. DRIVE

STA. 82+90
55"x12" R.C.P. -RETAIN-

STA. 87+80-85+25 Rt.
CONST. 206"x6" B.C.P.C.M.P.
UNDERDRAIN A
CONST. OUTLETS FROM SUB-BASE UNDER OLD ROAD TO UNDERDRAIN EVERY 100' OR LESS AS ORDERED BY THE ENGINEER.

CONST. PROJECT MARKER VIEW FROM ℄ HIGHWAY
F.A. 109 F.A. 203

B.M.#8 STA. 80+45 Lt. U.S.C.&G.S.
Standard Disk In Wing Wall ELEV. = 130.25

EL. = 149.34
+4.40%
300' V.C.
EL. = 136.14
-1.19%
GRADE LINE ℄ FINISHED ROADWAY
100' V.C.
130.19
BRIDGE
-0.321%
EL. = 129.39
300' V.C.
+2.23%
HDR.
UNDERDRAIN FLOW LINE

DATUM ELEV. = 100.00

160 150 140 130 120 110

162.9 160.4 157.8 155.3 153.0 150.4 149.0 147.1 144.4 144.2 142.4 140.5 138.5 136.9 135.7 135.1 135.1 134.3 134.1 (134.8) on Approach 134.5 133.3 134.36 134.2 132.4 133.76 133.6 131.8 133.16 133.0 131.4 132.57 132.5 131.1 132.27 131.0 131.98 131.9 130.9 131.68 130.7 131.38 131.3 130.3 130.78 130.8 130.0 130.30 130.4 129.9 130.08 130.1 130.03 130.1 129.94 130.0 129.6 129.87 130.0 129.5 129.82 130.1 129.3 129.91 130.1 129.4 130.35 130.4 130.0 130.02 131.0 130.5 131.13 131.9 131.2 132.74 132.8 133.4 133.85 133.9 133.7 134.20 134.1

12" GRAVEL SUB-BASE COURSE
BRIDGE
12" GRAVEL SUB-BASE COURSE
12" GRAVEL SUB-BASE COURSE

MADBURY - DOVER
NP 210-J FAP 109
FAP 59

PROJ. NO.	SHEET NO.	TOTAL SHEETS
F.A. 210-J	5	8
F.A. 109	5	26

1000-4-37

FED.ROAD DIST. NO.	STATE	F.A. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	N. H.	109	1937	6	26

NOTE BOOKS

BOOK NO.	PAGE NO
" "	" "
" "	" "
" "	" "
" "	1937 " " 38-45

R.O.W. Verified E.B. Astles 9-19-37

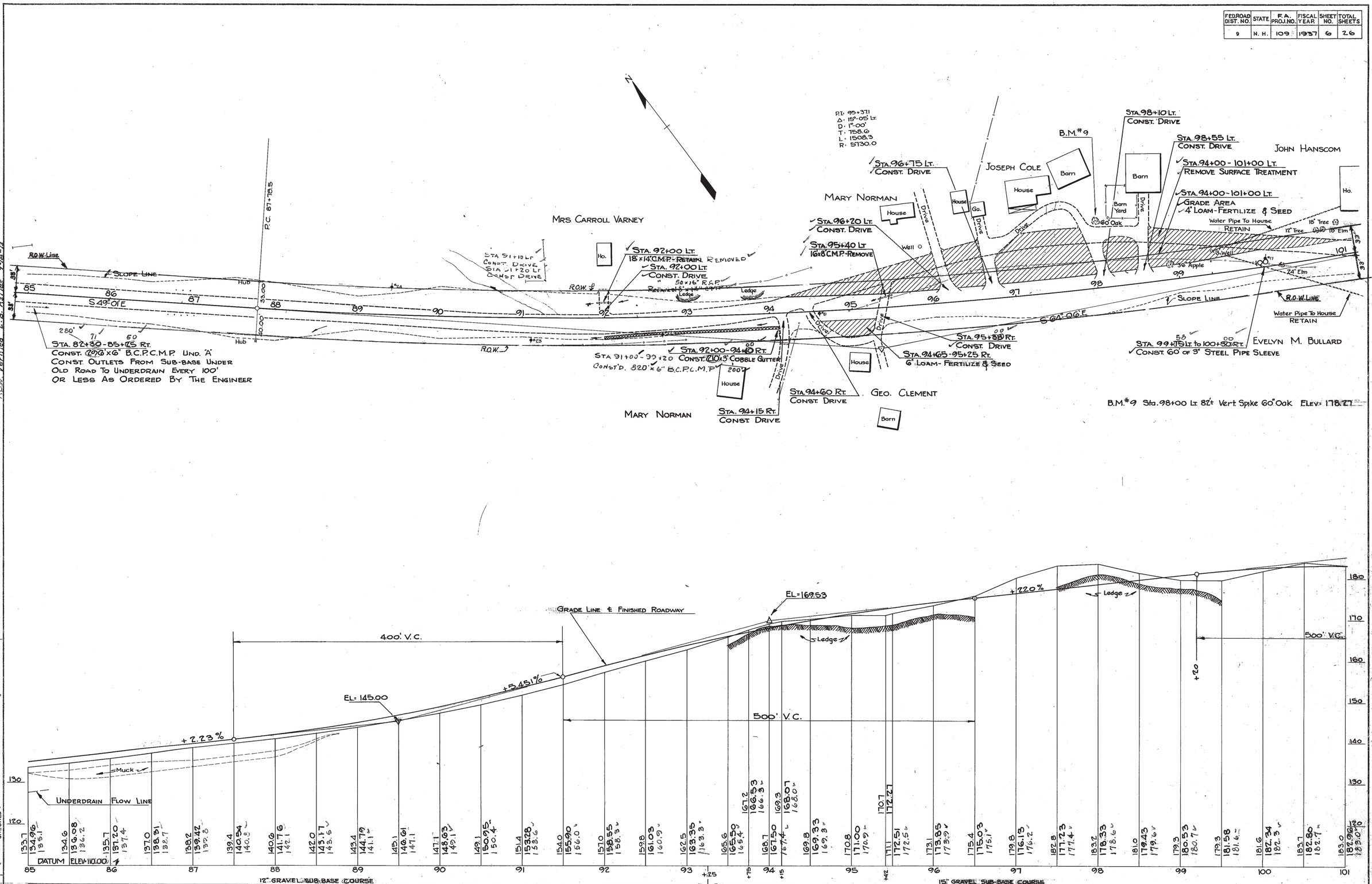
DESCRIPTION

REVISIONS AFTER PROPOSAL

DATE	STA.	TO	STA.	DESCRIPTION

FINALS by ERICKSON 4.1.42

PLAN TRACED BY	P. BRUSQUINI	DATE 9-21-37
" CHECKED "	W. JORDAN	" 12-15-37
PROFILE TRACED BY	P. BRUSQUINI	" 12-1-37
" CHECKED "	W. JORDAN	" 12-15-37
SECTIONS TRACED BY		"
" CHECKED "		"



MADBURY-DOVER
FAP 216-J FAP 109
FAP 54

PROJ. NO.	SHEET NO.	TOTAL SHEETS
F.A. 109	6	26

FED.ROAD DIST. NO.	STATE	F.A. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	N. H.	109	1937	7	26

NOTE BOOKS

BOOK NO.	PAGE NO
" "	" "
" "	" "
" "	" "
" "	" "
" "	43-45

REVISIONS AFTER PROPOSAL

DESCRIPTION	STA.	TO	STA.	DATE
GRADE, DRAIN	101+50	-	121+80	4-21-38

FINALS BY " ERICKSON 9-1-42

B.O.W. Verified E.B. Astles 9-18-23

		DATE
PLAN TRACED BY	P. BRUSQUINI	9-20-37
" CHECKED "	W. JORDAN	12-15-37
PROFILE TRACED BY	P. BRUSQUINI	9-20-37
" CHECKED "	W. JORDAN	12-15-37
SECTIONS TRACED BY		"
" CHECKED "		"

Jordan & Brusquini

P.I. 95+37.1
Δ = 15°-05' Lt
D = 1°-00
T = 758.6
L = 1508.3
R = 5730.0

STA. 101+50 LT.
CONST. DRIVE

STA. 102+20 LT.
CONST. ROAD APPROACH

JOHN HANSCOM

House

Barn

ROAD

P.T. = 102+88.6

STA. 102+60 LT.
CONST. ROAD APPROACH

18" Tree
18" Elm
36" Elm
20" Hickory
18" Ash

Hub

SLOPE LINE

Pasture

Field Drive

STA. 105+85 LT.
CONST. DRIVE

STA. 109+80 LT.
CONST'D DRIVE

Field

R.O.W. ℄

EXTEND DRAIN AS EXTRA WORK

R.O.W. Line

Outlet Cellar Drain

101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117

S 64°-06' E

33'

25.00

38'

38'

STA. 102+00 RT.
CONST. ROAD APPROACH

R.O.W. Line

Water Pipe to House

STA. 102+90 RT.
CONST ROAD APPROACH

House

Hub

Ho

STA. 103+65 RT.
CONST. DRIVE

STA 104+30
CONST. DRIVE

ROAD

Field

30" Elm

R.O.W.

STA. 112+95
22"x18"x12" O.S.B. REMOVE
CONST. 40'x24' C.I.C.P. HEAVY
N.H. ST'D P.C. #1
44'

B.M.* 10

House

16" Maple

C.P.

Well

STA. 115+15 RT.
CONST. DRIVE

STA 116+68 RT.
CONST. DRIVE

House

Well

SLOPE LINE

CHESTER BEGLEY
STA. 114+30 - 115+10 RT.
6" LOAM - FERTILIZE & SEED

STA. 116+75 - 117+35 RT.
6" LOAM - FERTILIZE & SEED

B.M.* 10 Sta. 114+63 Rt. 40'± Vert. Spike 18" Maple Elev = 146.64

EVELYN M. BULLARD

EL.= 186.47

+2.20 %

Ledge

+70

500' V.C.

+20

Ledge

-3.90 %

GRADE LINE ℄ FINISHED ROADWAY

500' V.C. (NEW)

200' N/C

EL= 146.25

EL= 146.30 (NEW)

+0.18 %

-0.33 % (NEW)

200' N/C

	101	102	+30	+75	103	104	105	106	107	108	109	+25	110	111	112	113	114	+80	115	+15	116	+68	117
180																							
170																							
160																							
150																							
140																							
130																							
	183.0 / 182.96	182.5 / 182.81		182.35	181.5	180.6 / 181.93		180.2	181.59 / 181.5	178.4	180.52 / 180.4		176.7	179.15 / 179.1	175.2	177.48 / 177.6	173.4	175.55 / 175.7	171.4	173.60 / 173.7	169.5	171.65 / 171.7	167.5	169.70 / 169.7	165.6	161.15 / 161.8	164.0	165.80 / 165.9	162.4	163.85 / 164.0	160.8	161.90 / 162.1	158.6	159.95 / 160.1	156.0	158.00 / 158.2	153.6	156.05 / 156.3	151.5	154.19 / 154.4	149.8	152.51 / 152.6	148.3	150.30 / 151.1	147.1	149.67 / 149.8	146.0	148.53 / 148.6	145.2	147.37 / 147.55 / 147.5	144.7	146.93 / 146.85 / 146.8	144.6	146.93 / 146.8	144.0	146.97 / 146.16 / 146.3	144.0	145.73 / 145.9	143.8	145.47 / 145.6	144.0	145.36 / 145.31	144.1	145.04 / 145.20	141.2	145.04 / 145.20	144.1	145.13 / 145.14 / 145.2	143.2	144.98 / 145.1	142.5	144.88 / 144.81 / 144.9	142.4	145.78 / 144.75	142.1	144.64 / 144.5	130

DATUM ELEV = 120.00

15" GRAVEL SUB-BASE COURSE

12" GRAVEL SUB-BASE COURSE

24" GRAVEL SUB-BASE COURSE

MADBURY - DOVER
FAP-210, FAP 109
FAP 54

PROJ. NO.	SHEET NO.	TOTAL SHEETS
EA. 109	7	26

1000-4-37

FED.ROAD DIST. NO.	STATE	F.A. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	N. H.	109	1937	8	26

NOTE BOOKS

BOOK NO.	PAGE NO
" "	" "
" "	" "
" "	" "
" "	" "
" "	#45-46; 67-68

R.O.W. Verified F.B. 46 pgs. 9-18-37

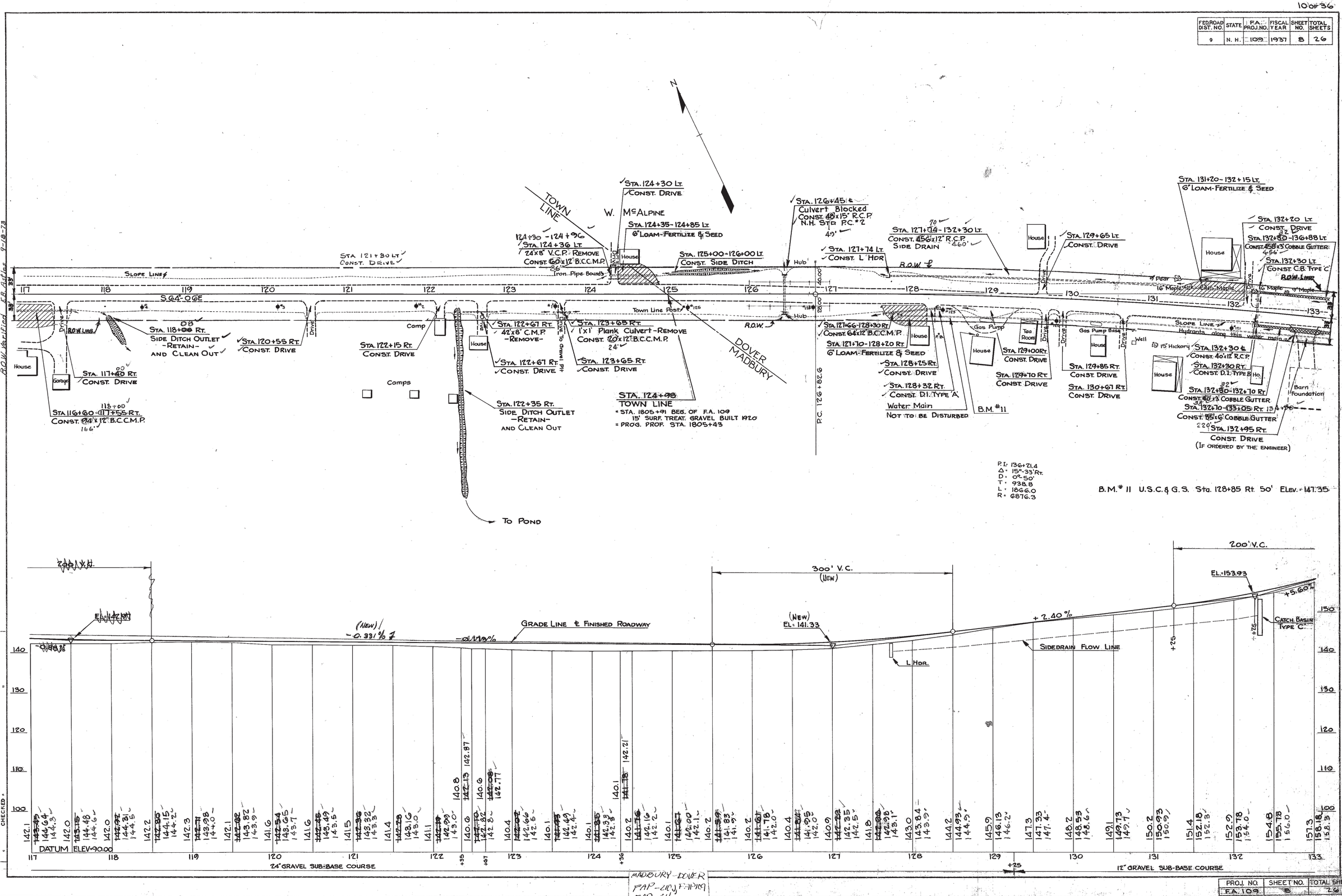
DESCRIPTION — Grade — Jordan & Brusquini

DATE	STA.	TO	STA.
4-21-38	10100	1	127+30

FINALS BY ERICKSON 4-21-38

PLAN TRACED BY	P. BRUSQUINI	DATE	9-20-37
" CHECKED "	W. JORDAN	"	12-15-37
PROFILE TRACED BY	P. BRUSQUINI	"	9-20-37
" CHECKED "	W. JORDAN	"	12-15-37
SECTIONS TRACED BY		"	"
" CHECKED "		"	"

REVISIONS AFTER PROPOSAL



PROJ. NO.	SHEET NO.	TOTAL SHEETS
F.A. 109	8	26

1060—4-37

FED.ROAD DIST. NO.	STATE	F.A. PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	N. H.	109	1937	9	26

NOTE BOOKS

BOOK NO.	PAGE NO
" "	" "
" "	" "
" "	" "
" "	" "

68-70

DESCRIPTION

R.O.W. Verified E.B. Butler 9-18-73

REVISIONS AFTER PROPOSAL

DATE	STA.	TO	STA.	DESCRIPTION
				Lines by Easement 4-1-41

PLAN TRACED BY	P. BRUSQUINI	DATE 9-17-37
" CHECKED "	W. JORDAN	" 12-15-37
PROFILE TRACED BY	P. BRUSQUINI	" 9-17-37
" CHECKED "	W. JORDAN	" 12-15-37
SECTIONS TRACED BY		" "
" CHECKED "		" "

N

GEO. A. BROWN

BYRON GEO. A. BROWN GRANT

Sta. 132+30-136+88 Lt.
Const. 458'x3' Cobble Gutter

Tie = 14.50'
6" Pine
Tie = 12.38
10" Pine

Sta. 137+00 Lt.
Const. Drive

Sta. 137+35 Lt.
Const. Drive

House

Drive

12" Pine

Sta. 138+70 Lt.
Const. Drive

6" Pop
6" Pop
Slope Line

15" Pine

Line of 8" Apple Trees

R.O.W.

Orchard

Sta. 144+95 Lt.
Const. Drive

Sta 144+40 Lt.
Const. Drive

Barn

Sta. 145+05-146+10 Lt.
6" Loam Fertilize & Seed

House

Sta. 146+70 Lt.
Const. Drive

Sta. 148+72 Lt.
Const. Drive

Beginning small trees

ROW Line

15" Pine
15" Pine

10" Maple
16" Maple
16" Maple
12" Maple
10" Maple
16" Maple

Hub

S 64°-66' E

S 48° 33' E

133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149

Hydrants along this water main

℄ of present side ditch
— Retain —

B.M.# 12
12" Pine

R.O.W.

Woods

Lothrop

Sta. 142+80-145+10 Rt.
Const. Side Ditch
Sta 144+70
Const. Drive

Sta. 145+90-146+50 Rt.
Const. Side Ditch

Slope Line

ROW Line

Sta. 133+05-135+50 Rt.
Const. 245'x3' Cobble Gutter

Barn Foundation

Sta. 133+00-135+11 Rt.
6" Loam Fert & Seed

P.I. 136+21.4
D: 15°-35' Rt
D: 0°-50'
T: 938.8
L: 1866.0
R: 6876.3

Hub

P.T. 145+48.6

B.M.# 12 Sta. 139+20 30' Rt. Vert. Spike in Root 12" Pine Elev. 177.84

EL.= 183.33

Grade Line & Finished Roadway

-1.74%

+5.60%

V.C.

+25

500' V.C.

150' V.C.

EL.= 163.32

| | | | |

FED.ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	N. H.	109	1937	10	26

NOTE BOOKS

BOOK NO.	PAGE NO
" "	" "
" "	" "
" "	" "
" "	" "
" "	" "

70-72

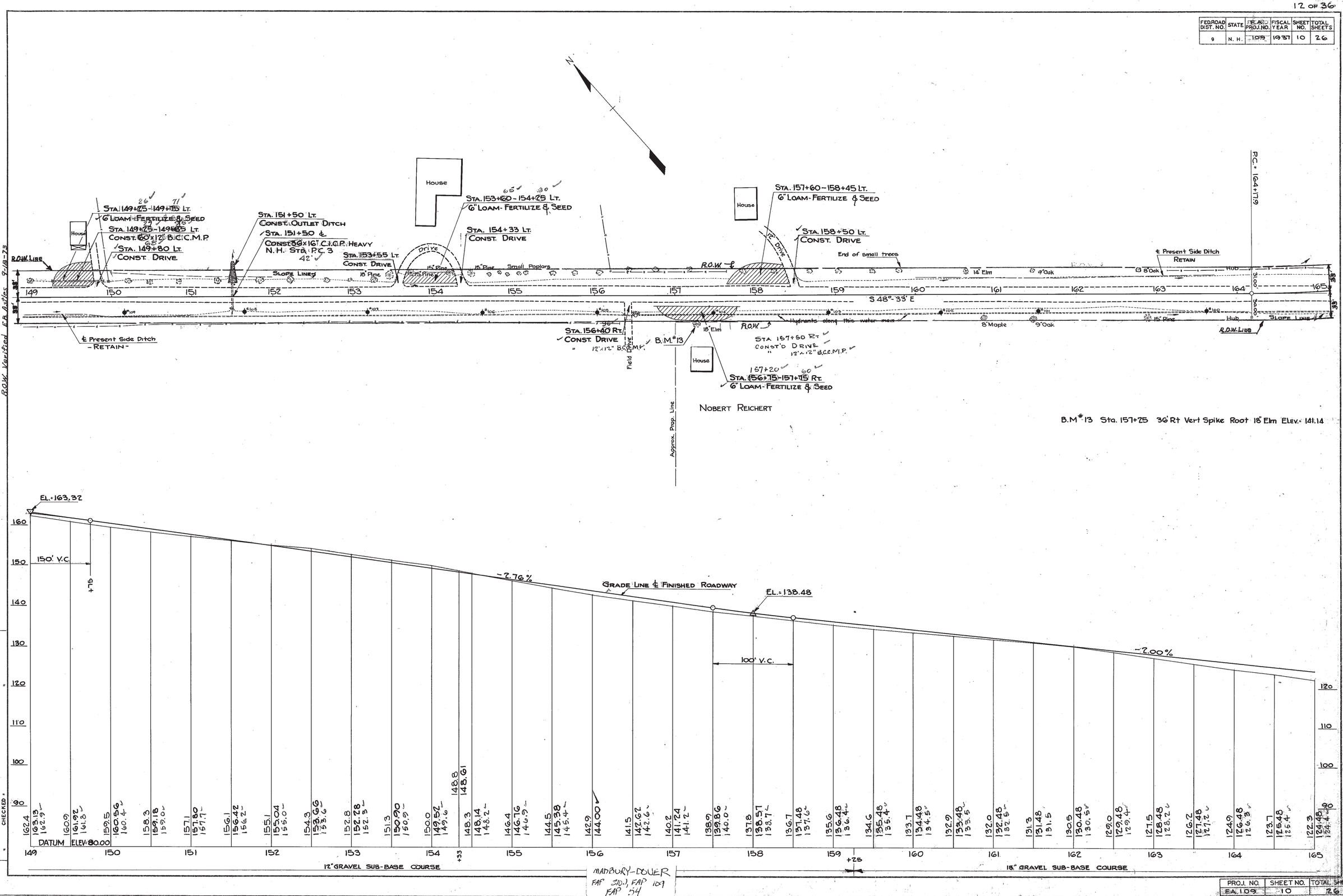
R.O.W. Verified EA Atlas 9-18-73

DESCRIPTION

REVISIONS AFTER PROPOSAL

DATE	STA. TO STA.	DESCRIPTION
		Revised by EDICSON 4-1-42

PLAN TRACED BY	P. BRUSQUINI	DATE 8-16-37
" CHECKED "	W. JORDAN	" 12-15-37
PROFILE TRACED BY	P. BRUSQUINI	" 8-16-37
" CHECKED "	W. JORDAN	" 12-15-37
SECTIONS TRACED BY		" "
" CHECKED "		" "



Madbury-Dover
FAP 310-1, FAP 109
FAP 54

PROJ. NO.	SHEET NO.	TOTAL SHEETS
EA 109	10	26

1000—4-37

FED.ROAD DIST. NO.	STATE	F. A. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		109		11	26
9	N. H.	54	1937	5	14

NOTE BOOKS

BOOK NO.	PAGE NO
" "	" "
" "	" "
" "	" "
" "	" "
" "	73-75
" "	" "
" "	1997

REVISIONS AFTER PROPOSAL

DATE	STA. TO STA.	DESCRIPTION
9-19-73		R.O.W. Verified E.B. Astles
4-1-42		Lines by Ericson

PLAN TRACED BY	P. BRUSQUINI	DATE 9-15-37
" CHECKED "	W. JORDAN	" 12-15-37
PROFILE TRACED BY	P. BRUSQUINI	" 9-16-37
" CHECKED "	W. JORDAN	" 12-15-37
SECTIONS TRACED BY		" "
" CHECKED "		" "

P.I. 167+25.0
Δ. 24°-12' Lt.
D. 4°-00'
T. 307.1
L. 605.0
R. 1432.5

F.A. 109 F.A. 54

Const. Project Marker
View from E Highway

P.T. 170+22.9

Robert Crosby

Sta. 166+67
40x12" C.M.P.-Remove-

R.O.W. Line
Slope Line
15' Pine
2-12' Pines
16' Elm
To Gossville
Water Main
15' Elm
B.M.# 14
Kelly Road

Sta. 166+80 Rt.
Const. Road App.
Water Main
Not to be Disturbed

Sta. 166+60-167+25 Rt.
Const. 12x15' R.C.P.

Harry Kelly

Sta. 167+15 ℄
41x24" C.M.P.-Remove-
Const. 16x24" R.C.P. 73'x30"
Const. Sp. L. Hdr. Rt.
See Sheet #4

House

Sta. 167+50-168+60 Rt.
Remove Surf. Treat.
6" Loam-Fertilize & Seed

Sta. 168+60-169+40 Rt.
6" Loam-Fertilize & Seed

Sta. 169+45 Rt.
Const. Drive

Sta. 170+00 Lt.
Const. Side Ditch

To Dover

Robert Crosby

Sta. 171+85 Lt.
Const. Drive

Sta. 174+40 ℄
28x12" C.M.P.-Remove
Const. 82x15" R.C.P.
N.H. Std. P.C.# 2

Twin Elms
8" Elm
R.O.W.

Sta. 174+90-175+52 Rt.
6" Loam-Fertilize & Seed

Howe

Sta. 175+57 Rt.
Const. Drive

P.C. 173+09.8

P.I. 175+18.3
Δ. 28°-36' Rt.
D. 7°-00'
T. 208.6
L. 408.6
R. 818.6

Appr. Prop. Line
Howe
Robert Crosby

Sta. 176+75 Rt.
Const. Drive

Hub
Sta. 77-81 6-18" Trees
Along Fence

P.T. 177+18.2

Crosby

Sta. 178+30 Lt.
Const. Drive

Sta. 178+35-179+10 Lt.
6" Loam-Fertilize & Seed

Sta. 179+15 Lt.
Const. Drive

Sta. 179+45 Lt.
Const. Drive

B.M.# 15
18" Maple

S 44°-09' E

Sta. 178+40 Rt.
Const. Drive

Slope Line
R.O.W. Line
Water Main
Not to be Disturbed

Sta. 180+65 Rt.
Const. Drive

Robert Crosby

B.M.# 14 Sta. 166+15 Rt 40' Vert Spike 15" Elm Elev.= 120.01
B.M.# 15 Sta. 178+15 Lt 28' Vert Spike 18" Maple Elev.= 129.78

Sta. 167+00
END OF F.A. 109
= Sta. 1848+00 End of F.A. 109
15' Surf. Treat. Gravel Built 1920
Prog. Prof. Sta. 1847+45 - Sta. 1848+06
= Eq. (-61')

Sta. 167+00
BEGINNING OF F.A. 54 AND NEW WORK
= Sta. 1848+00 Beg. of F.A. 54
21' Surf. Treat. Gravel Built 1920

300' V.C.
400' V.C.
El.= 119.48
El.= 132.58
-2.00%
+1.248%
-3.14%
Grade Line & Finished Roadway
Ledge
Ledge

	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181
Datum Elev.=70.00																	
	122.3	121.5	122.5	119.2	117.3	117.0	117.9	118.7	119.6	120.6	121.3	122.2	123.0	123.6	124.2	125.1	126.3	127.2	127.3	127.4	127.7	127.7	128.9	129.6	130.5	129.5	129.4	129.2	128.8	128.0	127.7	126.6	125.1	122.4	119.9
	124.48	123.48	122.49	121.62	121.02	120.70	120.64	120.87	121.35	121.98	122.60	123.22	123.85	124.47	125.10	125.72	126.34	126.97	127.59	128.09	128.84	129.46	130.09	130.57	130.79	131.1	130.8	130.39	130.18	128.89	128.58	127.73	126.30	124.73	123.16
	124.4	123.9	122.7	121.9	121.2	121.1	120.9	120.9	121.4	121.9	122.0	123.3	123.8	124.5	125.1	125.8	126.4	127.2	127.8	128.5	129.1	129.8	130.4	130.9	131.1	130.8	130.4	130.4	129.9	129.1	128.8	127.9	126.3	124.7	123.1
			+67			+75														+40										+18				+35		

18" Gravel Sub-Base Course
18" Gravel Sub-Base Course
12"

Madbury-Dover
FAP 210-J, FAP 109
FAP 54

PROJ. NO.	SHEET NO.	TOTAL SHEETS
F.A. 109	11	26
F.A. 54	5	14

1000-4-37

002394

96 FEB 29 AM 8:35

REGISTER OF DEEDS
STRAFFORD COUNTY

Plan 47 - 52

F/17A
THOMAS F. & CAROL A. WALSH
1042/310 10/22/79

27" OAK
HUB SET @ F/L INTX.

S54°-58'-23"E 150.00'

5/8" X 6" REBAR TO BE SET

S58°-18'-51"E 149.32'

5/8" X 6" REBAR TO BE SET

BLDG. 15' SETBACK

BLDG. 25' SETBACK

N39°-57'-09"E 409.45' PROP. COR. BLDG. 25' SETBACK

1/2" X 24" I.P. FND VERY LOOSE

80.54'

N47°-15'-39"W 150.49'

I.P. FND. IN F/L 1/2" X 6"

WOODS

F/22A
SAMUEL F. JR & CAROLYN R. ROPER
12 MAPLEWOOD DR.
BARRINGTON, N.H.
991/734 12/9/76

F/20
CARROLL WIGGIN ESTATE
C/O PAUL R. COPP
BURNS, BRYANT & HINCHEY
BURNS BLDG., DOVER, N.H.

F/21B
RICHARD A. MESSA
1039/150 8/25/79

F/21C
2.00A±
86,743.64 ☐

TREE LINE

OPEN FIELD

F/21
2.59A±
112,751.59 ☐

F/21A
RICHARD M. & JEAN M. FLYNN
645/093 9/11/55

F/22
ARTHUR J. & CONSTANCE M DUGAL
1042/324 11/16/79

N10°-21'-00"E 185.44'

1" X 6" I.P. FND.

S89°-54'-12"E 361.22'

I.P. FND. 1/2" X 30"

N33°-34'-16"E 345.60'

1/2" X 12" I.P. FND.

S39°-40'-52"E 149.41'

CLUMP OF TREES & STUMPS

MESSA

APPLE TREES

5/8" X 6" REBAR SET IN SAME HOLE AS 1/2" X 12" I.P. FND. BENT FLAT ON GROUND

50' BLDG. SETBACK

S49°-40'-52"E 172.05'

5/8" X 6" REBAR TO BE SET

WALSH

GAR.

36" PINES

180.00'

12' PAVED DR.

10' WIDE @ BTMORE

FLYNN

4.12' I.P. TO RD. INTX.

1/2" I.P. FND 5" BELOW GROUND

129.33'

3.89' I.P. TO RD. INTX. 1" X 12" I.P. FND.

LITTLEWORTH 30' PAVEMENT ROAD

F/40A
LYNDA M. DOUGLAS

F/40
ADAM & RUTH JAKUBOWSKI

F/39
ORRIN C. & YVONNE BROWN

F/38
CHARLES H. & GERTRUDE E. LOUGHLIN

F/38A
ALCIDE & THERESA M. COUTURE

F/37
JOHN E. & ESTELLE CLEMENT

DETAIL
NO SCALE

DETAIL
NO SCALE

MAG.
OCT. 1980

1. OWNER OF RECORD OF PARCEL BEING S/D IS THOMAS & ROWENA WALSH, LITTLEWORTH RD., DOVER, N.H. DEED REF. 855/461 4/2/69 TAX MAP "F" LOT 21.

OWNER DATE

2. SEE "PLAN OF LAND IN DOVER, N.H." FOR SAMUEL F. ROPER JR. & CAROLYN R. ROPER LITTLEWORTH RD. & RTE. 9 & 4", 1"=50' 10/24/79 BY CIVIL CONSULTANTS P.O. BOX 101 SO. BERWICK, ME. PLAN # 20-116 S.C.R.D.

I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY AND HAS A MAXIMUM ERROR OF CLOSURE OF 1/10,000 ON ALL PROPERTY LINES WITHIN AND BORDERING THE SUBJECT PROPERTY.

William T. Wormell 10/22/80
R.L.S. # 589 DATE

APPROVED
11/25/80
City of Dover
PLANNING BOARD
CHAIRMAN

APPROVED BY THE CITY OF DOVER PLANNING BOARD

CHAIRMAN DATE

SECRETARY DATE

THE STATE OF NEW HAMPSHIRE
WILLIAM T. WORMELL No. 589
REGISTERED LAND SURVEYOR

WILLIAM T. WORMELL
LAND SURVEYOR
GREEN ST.
NORTHWOOD, N.H.

SUBDIVISION OF LAND FOR THOMAS & ROWENA WALSH LITTLEWORTH RD., DOVER, N.H.

SCALE: 1"=50' DATE: 10-21-80

018669

2005 JUL 28 PM 2:16

REGISTER OF DEEDS
STRAFFORD COUNTY

LEGEND

- DENOTES SET DRILL HOLE IN STONE WALL.
- DENOTES 1/2"ø STEEL REINFORCING ROD WITH YELLOW PLASTIC I.D. CAP SET.
- DENOTES GRANITE BOUND SET.
- DENOTES EXISTING UTILITY POLE.

PLAN REFERENCES:

1. S.C.R.D. #20-116 "PLAN OF LAND IN DOVER, NEW HAMPSHIRE FOR SAMUEL F. ROPER JR. CAROLYN R. ROPER LITTLEWORTH ROAD" PREPARED BY CIVIL CONSULTANTS DATED OCTOBER 24, 1979.
2. S.C.R.D. # 78-7 " SUBDIVISION PLAN EMERALD WOODS LITTLEWORTH ROAD DOVER, NH" PREPARED BY TRITECH ENGINEERING CORPORATION DATED JANUARY 25, 2002. REVISIONS THRU SEPTEMBER 22, 2004.

MAGNETIC AS PER PLAN # 1

DOVER TAX MAP F
LOT NO. 17A
N/F THOMAS F. & CAROL A. WALSH
131 1/2 LITTLEWORTH ROAD
DOVER, NH 03820
S.C.R.D. BK. 1051 PG. 0511

N 254,791.54
E 697,928.90
NE CRNR LOT 22A-10
SEE NOTE#13

FOR REGISTRY USE ONLY

DOVER TAX MAP F
LOT NO. 22A-2
N/F DARLENE K. WHITE
32 PISCATAQUA ROAD
DOVER, NH 03820
S.C.R.D. BK. 2175 PG. 0278

N 88°46'13" E 114.90'

N 88°46'13" E 203.10'

N 253,105.48
E 698,035.99
SEE NOTE#13

481.41'

DOVER TAX MAP F
LOT NO. 21
N/F ROWENA & THOMAS J. WALSH
131 LITTLEWORTH ROAD
DOVER, NH 03820
S.C.R.D. BK. 0855 PG. 0461

N 08°14'31" E 185.43'

3' WIDE BROOK

DOVER TAX MAP F
22A-1
N/F DARLENE K. WHITE
32 PISCATAQUA ROAD
DOVER, NH 03820
S.C.R.D. BK. 2175 PG. 0278

N 08°14'31" E 366.68'

DOVER TAX MAP F
LOT NO. 21A
N/F RICHARD & JEAN FLYNN, TRUSTEES
RICHARD & JEAN FLYNN REVOCABLE TRUST
129 LITTLEWORTH ROAD
S.C.R.D. BK. 1898 PG. 0793

EDGE WETLANDS (TYP.)

DOVER TAX MAP F
PROPOSED LOT NO. 22-1
AREA = 75,469 SF
1.7325 AC.

DOVER TAX MAP F
LOT NO. 22
ORIGINAL AREA = 215,341 SF
4.9435 AC.
REMAINING AREA = 139,872 SF
3.2110 AC.

N 24°09'50" E 373.87'

215.00'
107.95'

EMERALD DRIVE

S 11°43'27" W

N 35°48'38" E 107.95'

EXISTING BARN

EXISTING SHED

EXISTING DWELLING

IRON PIPE FND.(TYP.)

WIRE FENCE

N 08°14'25" W 81.61'

GARDEN

S 24°37'42" W 300.11'

DOVER TAX MAP F
LOT NO. 37
N/F ESTELLE & JOHN E. CLEMENT
92 LITTLEWORTH ROAD
DOVER, NH 03820

GRAVEL DRIVEWAY

STATE OF NEW HAMPSHIRE ROUTE 9 (A.K.A. LITTLEWORTH ROAD)

EXISTING CULVERT (TYP.)

N 52°15'20" W 196.87'

DOVER TAX MAP F
LOT NO. 36
N/F GAIL LEARNARD
820 LAFAYETTE ROAD, APT. 1A
HAMPTON, NH 03842-6205

IRON REBAR FND.(TYP.)

UTILITY PEDESTAL

DOVER TAX MAP F
LOT NO. 35
N/F ANJA & ARIE LEGERSTEE
88 LITTLEWORTH ROAD
DOVER, NH 03820

FOR REGISTRY USE ONLY

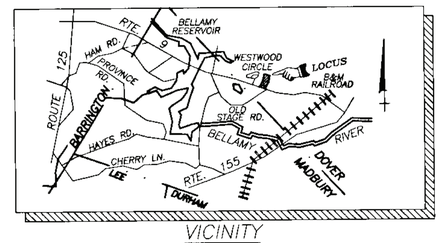
GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

NOTES:

1. LAND IS DESCRIBED BY DEED OF BLAYNE WILSON REAL ESTATE, LLC OF 7 HOLLAND WAY EXETER, NH 03833 AND IS RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS (S.C.R.D.), DOVER, N.H. IN BOOK 3110, PAGE 0252 ON DECEMBER 03, 2004.
2. I HEREBY CERTIFY THAT THIS SURVEY AND PLAT WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND IS THE RESULT OF AN ACTUAL FIELD SURVEY CONDUCTED IN NOVEMBER, 2004 USING A TOPCON 800 SERIES TOTAL STATION AND HAS A TRAVERSE ERROR OF CLOSURE EXCEEDING 1':13,452' ON ALL PROPERTY LINES BORDERING ON THE SUBJECT PROPERTY.

RICHARD S. LADD-L.L.S.#490

3. INDIVIDUALS INVOLVED WITH SURVEY: STEPHEN T. BIBEAU-S.I.T., CRAIG WALSH, AND RICHARD S. LADD-L.L.S.
4. THIS SURVEY AND PLAT DEPICTS A CATEGORY 1, CONDITION 1: STANDARD PROPERTY SURVEY OF SUBURBAN PROPERTY AS DEFINED BY THE N.H.L.S.A.- ETHICS & STANDARDS; DATED OCTOBER, 1989.
5. LAND IS NOT LOCATED IN THE FLOOD HAZARD ZONE PER FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 330145-0005B EFFECTIVE APRIL 15, 1980.
6. R-40 ZONING DISTRICT ~ BUILDING SETBACKS: 50' ~ FRONT, 25' ~ SIDE, 15' ~ REAR, 50' ~ WETLANDS
7. PLAN INTENT: TO SUBDIVIDE EXISTING LOT F-22 INTO TWO BUILDABLE LOTS.
8. WETLAND DELINEATION SURVEY WAS DONE BY JAMES H. LONG, C.P.S.S., C.S.S. NO. 15, C.W.S. NO. 7 OF NH SOIL CONSULTANTS, INC., 202 KENT PLACE, NEWMARKET, NH 03857 ~ 603-659-3559 ~ USING THE STANDARDS AND CRITERIA IN ACCORDANCE WITH THE 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL.
9. ALL UTILITIES WILL BE SUPPLIED TO NEW LOT.
10. THIS PROPERTY IS IN THE SECONDARY GROUNDWATER PROTECTION DISTRICT.
11. STREET ADDRESS WILL BE ASSIGNED BY THE BUILDING INSPECTOR AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
12. N.H.D.O.T. DRIVEWAY PERMIT # 06-125-338.
13. COORDINATE SYSTEM BASED ON DOVER GIS SYSTEM PER REFERENCE PLAN # 2.
14. ELEVATIONS BASED ON ASSUMED DATUM.
15. N.H.D.E.S. SUBDIVISION APPROVAL # SA 2005005752.



VICINITY
N.T.S.

JAMES H. LONG
No. 15
REGISTERED SOIL SCIENTIST

JAMES H. LONG
No. 00
CERTIFIED SOIL SCIENTIST

A SURVEY AND PLAT OF A

SUBDIVISION

PREPARED FOR

BLAYNE WILSON REAL ESTATE, LLC

AND SITUATED IN THE CITY OF

DOVER, N.H.

OWNERS SIGNATURE:
BLAYNE WILSON REAL ESTATE, LLC
7 HOLLAND WAY, EXETER, NH 03833

REVISIONS

NO.	DATE	DESCRIPTION	BY
2	2-11-05	ADDED DRIVEWAY PERMIT NO.	STB
1	12-30-04	ADDED SCS SOILS	STB

APPROVED BY THE DOVER PLANNING BOARD
ON _____ CERTIFIED BY
_____, CHAIRMAN, AND/OR
_____, SECRETARY, AND/OR
OTHER MEMBERS _____

APPROVED
DATE 9/14/15
City of Dover, N.H.
PLANNING BOARD
CHAIRMAN/DIRECTOR

NEW HAMPSHIRE LAND SURVEYOR
No. 490
RICHARD S. LADD
SIGNATURE

PREPARED BY:

RSL LAYOUT & DESIGN, INC.
ESTABLISHED 1974
32 Harriman Hill Road ~ Raymond, NH 03077
PH: 603-895-3986 ~ www.rsisurvey.com

DATE: 12-27-04
DWG. NAME: 4490SUB
DRAWN BY: STB
FB NO. 462
JOB NO. 4490

PLAN 81 - 6

THIS PLAN REPRESENTS CONDITIONS PRESENT AS OF PLAN DATE AS SHOWN AND DOES NOT INCLUDE ANY CHANGES TO THE SITE AFTER THAT DATE. THIS PLAN SHALL NOT BE USED FOR REPRESENTATION, PRESENTATION OR SUBMITTAL TO ANY TOWN, STATE OR FEDERAL BOARD, OFFICE OR AGENCY WITHOUT THE WRITTEN CONSENT OF THE ORIGINAL PREPARER UNLESS IT IS BEING PRESENTED BY R.S.L. LAYOUT & DESIGN, INC. OR IT'S AGENT. FOR ADDITIONAL INFORMATION OR REVISIONS TO THIS PLAN, PLEASE CONTACT R.S.L. LAYOUT & DESIGN, INC.

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OWNER
STEPHEN F. & DEBORAH A. SCOTTON
131 LITTLEWORTH ROAD
DOVER, NH 03820

APPLICANT
FOX CONSTRUCTION
196 NOTTINGHAM ROAD
DEERFIELD, NH 03037

CIVIL ENGINEER
EMANUEL ENGINEERING, INC.
118 PORTSMOUTH AVENUE, SUITE A202
STRATHAM, NH 03885

LAND SURVEYOR
JAMES VERRA & ASSOCIATES, INC.
101 SHATTUCK WAY, SUITE 8
NEWINGTON, NH 03801

WETLAND CONSULTANT
JOSEPH W. NOEL
P.O. BOX 174
SOUTH BERWICK, ME 03908

SITE PLAN FOR FOX CONSTRUCTION

DOVER TAX MAP F LOT 21
131 LITTLEWORTH ROAD (SITE)
DOVER, NH 03820

PROJECT LOCUS PLAN
1" = 1,000 '

PROJECT DRAWING SET:

	COVER SHEET
C1	EXISTING CONDITIONS
C2	CONDO PLAN
C3	CLUSTER OVERLAY

ISS.	DATE:	DESCRIPTION OF ISSUE:	CHK.
1	MAY 7, 2024	FOR APPROVAL	

DRAWN: JJM	DESIGN: JJM
CHECKED: BDS	CHECKED: BDS

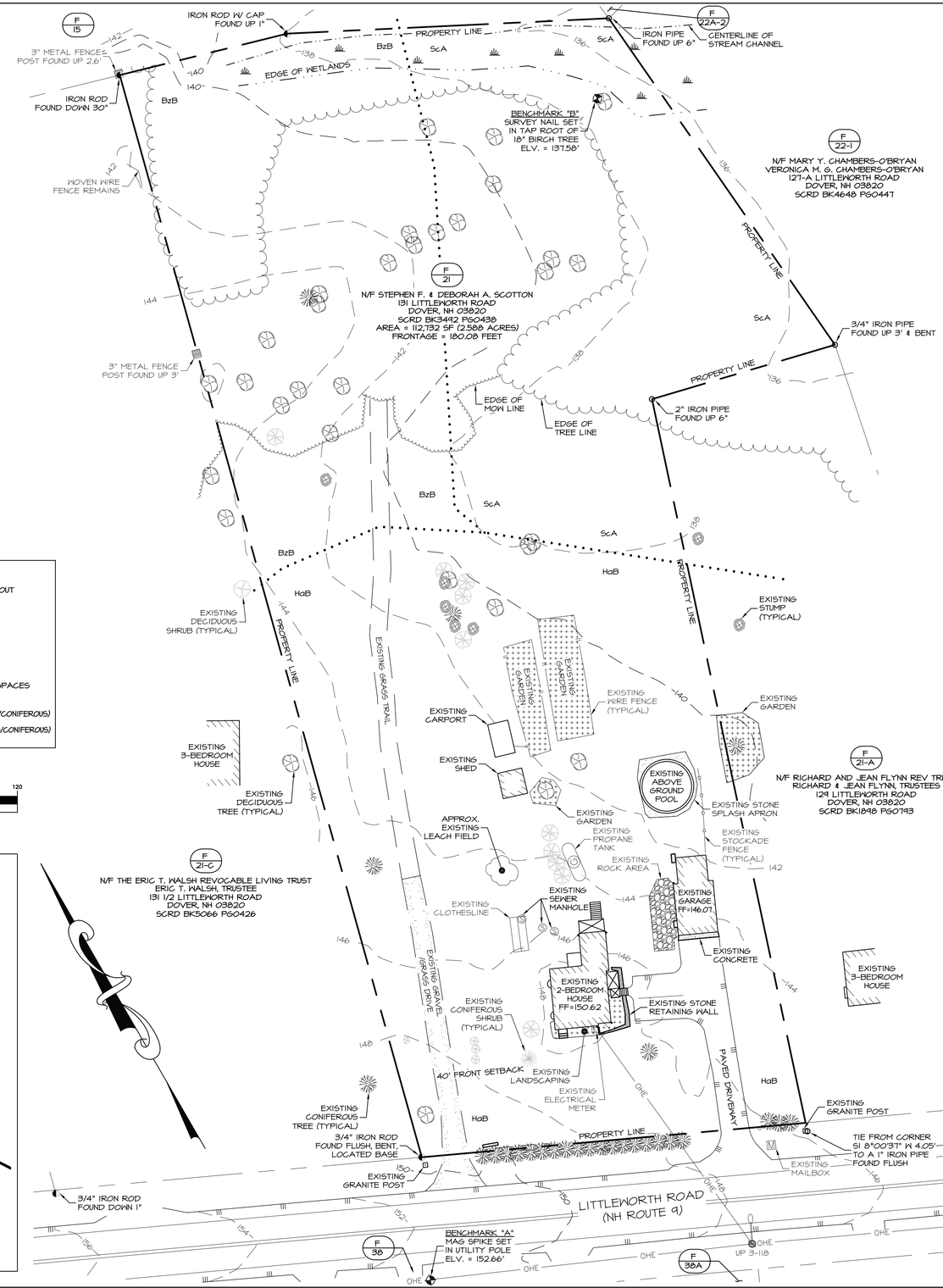
EMANUEL ENGINEERING
118 Portsmouth Avenue, A202
Stratham, NH 03885
P: 603-772-4400 F: 603-772-4487
www.emanuelengineering.com

CLIENT:
FOX CONSTRUCTION
196 NOTTINGHAM ROAD
DEERFIELD, NH 03037

SEAL:

TITLE:
COVER SHEET
FOR
STEPHEN F. &
DEBORAH A. SCOTTON
131 LITTLEWORTH ROAD (SITE)
DOVER, NH 03820

PROJECT:	SCALE:	SHEET:
24-1067	AS SHOWN	COVER



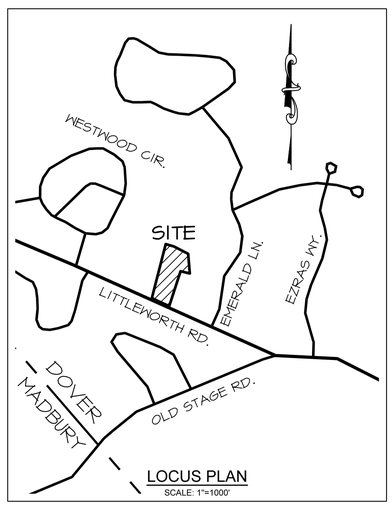
LEGEND

- GRANITE POST
- IRON PIPE FOUND
- IRON ROD FOUND (TYP)
- TYPICAL
- PROPERTY LINE
- WETLAND DELINEATION
- WETLAND SYMBOL
- SOIL DELINEATION
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE
- EDGE OF PAVEMENT (EOP)
- UNDERGROUND UTILITIES
- OVERHEAD UTILITIES
- UTILITY POLE
- ELECTRICAL METER
- DRAIN MANHOLE
- SERVICE CLEANOUT
- SEWER LINE
- DRAIN LINE
- PROPANE TANK
- WATER LINE
- WELL
- WATER VALVE
- GAS LINE
- GAS VALVE
- SIGN
- # OF PARKING SPACES
- TREE LINE
- TREE (DECIDUOUS/CONIFEROUS)
- SHRUB (DECIDUOUS/CONIFEROUS)

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.



LOCUS PLAN
SCALE: 1"=1000'

ADDITIONAL ABUTTERS:

F 15
N/F INDIAN RIDGE HOMEOWNERS' ASSOCIATION
42 J DOVER POINT ROAD
DOVER, NH 03820
SCRD BK4832 P62300
SCRD BK4648 P60447

F 22A-2
N/F SAMUEL J. MOKLER
28 EMERALD LANE
DOVER, NH 03820
SCRD BK4308 P60796

F 37
N/F ROBERT GEORGE CLEMENT
92 LITTLEWORTH ROAD
DOVER, NH 03820
SCRD BK4016 P60123

F 37
N/F KENAAN AL-DARRAJI
96 LITTLEWORTH ROAD
DOVER, NH 03820
SCRD BK4984 P60853

F 38-A
N/F KEITH R. AUTIO
DIANNE E. AUTIO
94 LITTLEWORTH ROAD
DOVER, NH 03820
SCRD BK4852 P60590

NOTES:

1. OWNER OF RECORD:
   TAX MAP F, LOT 21
   STEPHEN F. & DEBORAH A. SCOTTON
   131 LITTLEWORTH ROAD
   DOVER, NH 03820
   SCRD BOOK 3442 PAGE 438
2. THE INTENT OF THIS PLAN IS TO SHOW EXISTING FEATURES AND TOPOGRAPHY OF DOVER, NH TAX MAP F, LOT 21.
3. PARCEL IS ZONED "RURAL RESIDENTIAL (R-40)" PER THE CITY OF DOVER, NH ZONING DERIVED ONLINE VIA MAPGEO CURRENT TO JULY 10, 2023. PARCEL IS WITHIN THE "SECONDARY GROUNDWATER PROTECTION DISTRICT" PER THE "GROUNDWATER PROTECTION ZONES MAP" DATED APRIL 15, 2015.
4. PARCEL IS NOT IN A FLOOD HAZARD ZONE; REFERENCE FLOOD INSURANCE RATE MAP 33017C0310E, DATED SEPTEMBER 30, 2015.
5. THE PLAN IS BASED UPON A FIELD SURVEY COMPLETED BY JAMES VERRA & ASSOCIATES, INC. IN MAY OF 2023 WITH TRIMBLE S5 ROBOTIC TOTAL STATION, CARLSON BRX7 RTK GPS UNITS, PANASONIC FZ-M1/TRIMBLE TSC7 DATA COLLECTORS. HORIZONTAL DATUM: NAD83, VERTICAL DATUM: NAVD88. UNITS = SURVEY FOOT. ESTABLISHED BY SURVEY GRADE GPS OBSERVATION AND PROCESSED BY OPUS.
6. WETLANDS WERE DELINEATED BY JOSEPH NOEL CWS #86 ON MAY 4, 2023.
7. SOILS WERE DELINEATED VIA THE USDA-NRCS ONLINE WEB SOIL SURVEY RESEARCHED BY EMANUEL ENGINEERING, INC. ON OCTOBER 6, 2023.
8. PROPERTY TO BE SERVICED BY PUBLIC SEWER AND WATER.
9. ALL CONSTRUCTION SHOULD COMPLY WITH FEDERAL, STATE, AND LOCAL STANDARDS AND REGULATIONS.
10. THIS PLAN WAS PREPARED WITH ON-SITE FIELD SURVEY AND EXISTING PLANS. THE CONTRACTOR SHOULD NOTIFY EMANUEL ENGINEERING, INC. DURING CONSTRUCTION IF ANY DISCREPANCY TO THE PLAN IS FOUND ON SITE.
11. BEFORE ANY EXCAVATION, DIG SAFE AND ALL UTILITY COMPANIES SHOULD BE CONTACTED 72 HOURS BEFORE COMMENCING BY THE CONTRACTOR. CALL DIG SAFE @ 811 OR 1-888-DIG-SAFE.
12. ALL UTILITIES SHALL BE LOCATED UNDERGROUND EXCEPT AS NOTED ON PLAN APPROVED BY THE PLANNING BOARD.

REFERENCE PLANS:

1. "SUBDIVISION OF LAND, LITTLEWORTH ROAD, DOVER, NH." DATED 10/21/80. PREPARED FOR THOMAS & ROWENA WALSH AND PREPARED BY WILLIAM T. NORMELL. SCRD PLAN #41-52.
2. "A SURVEY AND PLAT OF A SUBDIVISION, SITUATED IN THE CITY OF DOVER, NH." DATED 12/21/2004. PREPARED FOR BLAYNE WILSON REAL ESTATE, LLC AND PREPARED BY RSL LAYOUT AND DESIGN, INC. SCRD PLAN #81-6.
3. "PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT NO. 109, CENTRAL ROAD / AS-BUILT PLANS, TOWN OF MADBURY AND CITY OF DOVER." DATED 12/16/1937. PREPARED BY W. JORDAN.

ISS.	DATE:	DESCRIPTION OF ISSUE:	CHK.
1	MAY 7, 2024	FOR APPROVAL	

DRAWN:	JJM	DESIGN:	-
CHECKED:	BDS	CHECKED:	-

EMANUEL ENGINEERING
118 PORTSMOUTH AVENUE, A202
STRATHAM, NH 03885
P: 603-772-4400 F: 603-772-4487
WWW.EMANUELENGINEERING.COM

CLIENT:

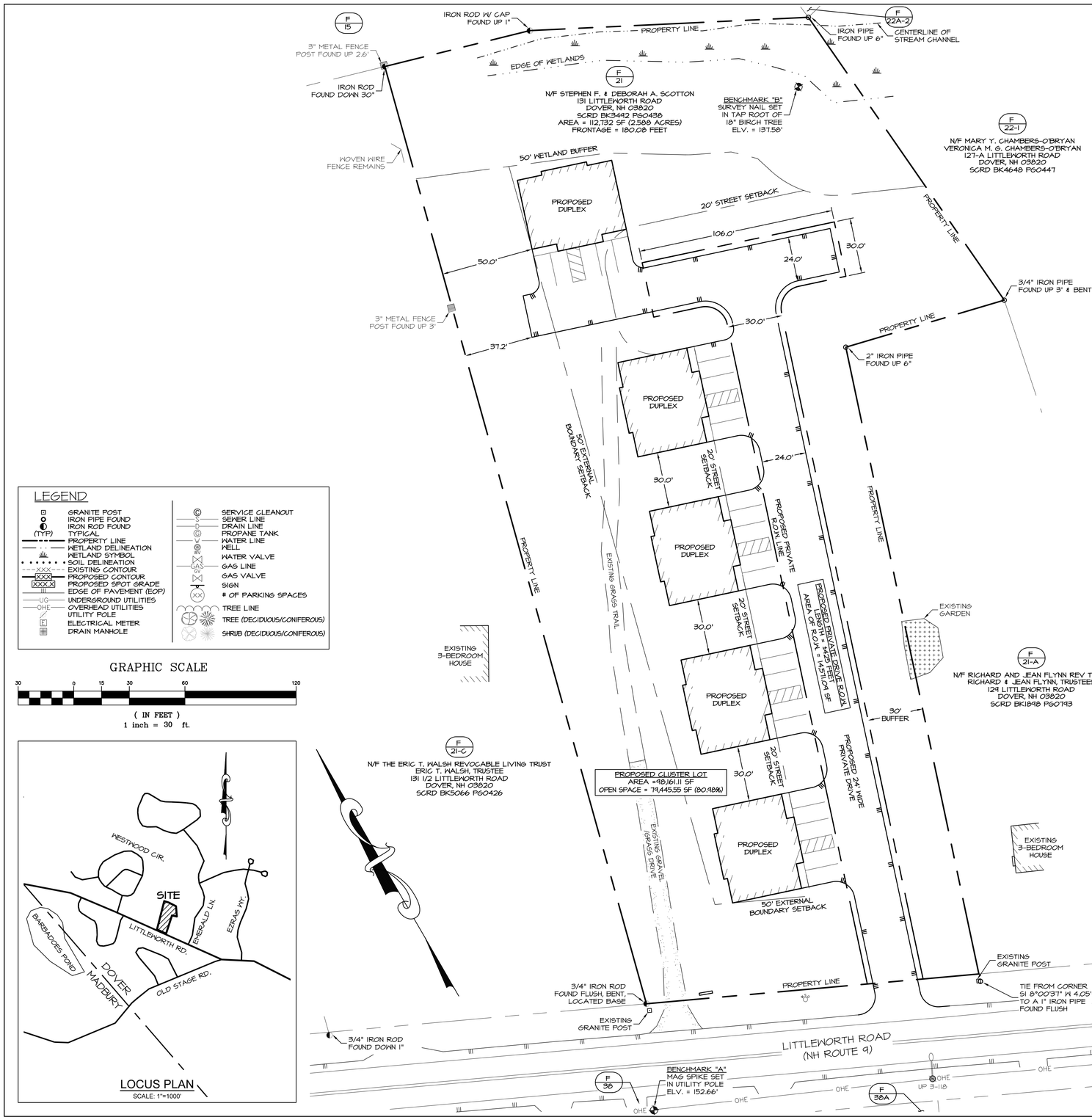
FOX CONSTRUCTION
196 NOTTINGHAM ROAD
DEERFIELD, NH 03037

SEAL:

TITLE:

EXISTING CONDITIONS
FOR
STEPHEN F. &
DEBORAH A. SCOTTON
131 LITTLEWORTH ROAD (SITE)
DOVER, NH 03820

PROJECT:	SCALE:	SHEET:
24-1067	1"=30'	C1



LEGEND

- GRANITE POST
- IRON PIPE FOUND
- IRON ROD FOUND (TYP.)
- PROPERTY LINE
- WETLAND DELINEATION
- WETLAND SYMBOL
- SOIL DELINEATION
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE
- EDGE OF PAVEMENT (EOP)
- UNDERGROUND UTILITIES
- OVERHEAD UTILITIES
- UTILITY POLE
- ELECTRICAL METER
- DRAIN MANHOLE
- SERVICE CLEANOUT
- SEWER LINE
- DRAIN LINE
- PROPANE TANK
- WATER LINE
- WELL
- WATER VALVE
- GAS LINE
- GAS VALVE
- SIGN
- # OF PARKING SPACES
- TREE LINE
- TREE (DECIDUOUS/CONIFEROUS)
- SHRUB (DECIDUOUS/CONIFEROUS)

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

LOCUS PLAN
SCALE: 1"=1000'

ADDITIONAL ABUTTERS:

F 15
N/F INDIAN RIDGE HOMEOWNERS' ASSOCIATION
42 J DOVER POINT ROAD
DOVER, NH 03820
SCRD BK4832 PG0300
SCRD BK4648 PG0447

F 22A-2
N/F SAMUEL J. MOKLER
28 EMERALD LANE
DOVER, NH 03820
SCRD BK4308 PG0746

F 37
N/F ROBERT GEORGE CLEMENT
92 LITTLEWORTH ROAD
DOVER, NH 03820
SCRD BK4016 PG0123

F 38
N/F KENAAN AL-DARRAJI
96 LITTLEWORTH ROAD
DOVER, NH 03820
SCRD BK4984 PG0853

F 38-A
N/F KEITH R. AUTIO
DIANNE E. AUTIO
94 LITTLEWORTH ROAD
DOVER, NH 03820
SCRD BK4852 PG0590

REFERENCE PLANS:

1. "SUBDIVISION OF LAND, LITTLEWORTH ROAD, DOVER, NH." DATED 10/21/80. PREPARED FOR THOMAS & ROWENA WALSH AND PREPARED BY WILLIAM T. WORMELL. SCRD PLAN #47-52.
2. "A SURVEY AND PLAT OF A SUBDIVISION, SITUATED IN THE CITY OF DOVER, NH." DATED 12/27/2004. PREPARED FOR BLAYNE WILSON REAL ESTATE, LLC AND PREPARED BY RSL LAYOUT AND DESIGN, INC. SCRD PLAN #81-6.
3. "PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT NO. 104, CENTRAL ROAD / AS-BUILT PLANS, TOWN OF MADBURY AND CITY OF DOVER." DATED 12/16/1937. PREPARED BY W. JORDAN.

TRANSFER OF DEVELOPMENT RIGHTS (TDR) CALCULATION:

- LOT AREA = 112,732 SF
- WETLAND AREA = 3,673 SF
- WETLAND PERCENTAGE = 3,673 SF / 112,732 SF = 3.3%
- BASE LOT SIZE = LOT AREA - ENVIRONMENTAL CONSTRAINTS = 112,732 SF - 3,673 SF = 109,059 SF
- NET AREA = BASE LOT SIZE X 0.85 = 109,059 SF X 0.85 = 92,700 SF
- DEVELOPABLE AREA = NET AREA X 0.85 = 78,795 SF
- MINIMUM LOT SIZE = 40,000 SF
- ALLOWABLE UNITS = 78,795 SF / 40,000 SF = 1.97 UNITS (YIELDS 1 UNIT)
- UNITS PROPOSED = 10 UNITS (REQUIRES TDR RELIEF FOR 9 ADDITIONAL UNITS)

NOTES:

1. OWNER OF RECORD:
   TAX MAP F, LOT 21
   STEPHEN F. & DEBORAH A. SCOTTON
   131 LITTLEWORTH ROAD
   DOVER, NH 03820
   SCRD BOOK 3442 PAGE 438
2. THE INTENT OF THIS PLAN IS TO SHOW A PROPOSED CONDOMINIUM/CLUSTER SUBDIVISION DEPICTING FIVE (5) SEPARATE DUPLEXES ON DOVER, NH TAX MAP F, LOT 21. ADDITIONALLY, A +/-425-FOOT-LONG PAVED DRIVEWAY IS PROPOSED ALONG ASSOCIATED PARKING TO SERVICE THE DUPLEXES.
3. PARCEL IS ZONED "RURAL RESIDENTIAL (R-40)" PER THE CITY OF DOVER, NH ZONING DERIVED ONLINE VIA MAPGEO CURRENT TO JULY 10, 2023. PARCEL IS WITHIN THE "SECONDARY GROUNDWATER PROTECTION DISTRICT" PER THE "GROUNDWATER PROTECTION ZONES MAP" DATED APRIL 15, 2015.
4. PARCEL IS NOT IN A FLOOD HAZARD ZONE; REFERENCE FLOOD INSURANCE RATE MAP 33017C0310E, DATED SEPTEMBER 30, 2015.
5. THE PLAN IS BASED UPON A FIELD SURVEY COMPLETED BY JAMES VERRA & ASSOCIATES, INC. IN MAY OF 2023 WITH TRIMBLE S5 ROBOTIC TOTAL STATION, CARLSON BRX7 RTK GPS UNITS, PANASONIC FZ-M1/TRIMBLE TSC7 DATA COLLECTORS. HORIZONTAL DATUM: NAD83, VERTICAL DATUM: NAVD88. UNITS = SURVEY FOOT. ESTABLISHED BY SURVEY GRADE GPS OBSERVATION AND PROCESSED BY OPUS.
6. WETLANDS WERE DELINEATED BY JOSEPH NOEL CWS #86 ON MAY 4, 2023.
7. SOILS WERE DELINEATED VIA THE USDA-NRCS ONLINE WEB SOIL SURVEY RESEARCHED BY EMANUEL ENGINEERING, INC. ON OCTOBER 6, 2023.
8. PROPERTY TO BE SERVICED BY PUBLIC SEWER AND WATER. PUBLIC SEWER WILL NEED TO BE EXTENDED FROM EMERALD LANE.
9. ALL CONSTRUCTION SHOULD COMPLY WITH FEDERAL, STATE, AND LOCAL STANDARDS AND REGULATIONS.
10. THIS PLAN WAS PREPARED WITH ON-SITE FIELD SURVEY AND EXISTING PLANS. THE CONTRACTOR SHOULD NOTIFY EMANUEL ENGINEERING, INC. DURING CONSTRUCTION IF ANY DISCREPANCY TO THE PLAN IS FOUND ON SITE.
11. BEFORE ANY EXCAVATION, DIG SAFE AND ALL UTILITY COMPANIES SHOULD BE CONTACTED 72 HOURS BEFORE COMMENCING BY THE CONTRACTOR. CALL DIG SAFE @ 811 OR 1-888-DIG-SAFE.
12. ALL UTILITIES SHALL BE LOCATED UNDERGROUND EXCEPT AS NOTED ON PLAN APPROVED BY THE PLANNING BOARD.
13. CITY OF DOVER CLUSTER SUBDIVISION DIMENSIONAL REQUIREMENTS PER DOVER CODE SUBDIVISION OF LAND CHAPTER 155 (RURAL RESIDENTIAL/R-40 ZONE):
    - MIN DISTANCE AROUND INDIVIDUAL UNITS IN CLUSTERS (STREET SIDE OF UNIT) = 20'
    - MIN DISTANCE AROUND INDIVIDUAL UNITS IN CLUSTERS (BETWEEN UNITS) = 30'
    - MINIMUM DISTANCE FROM EXISTING STRUCTURES OF SWELLING UNITS = 100'
    - MINIMUM DISTANCE FROM EXTERNAL BOUNDARIES = 50'
14. CITY OF DOVER SITE REVIEW REGULATIONS CHAPTER 149 - PRIVATE DRIVEWAY AND INTERNAL ROAD REQUIREMENTS FOR RESIDENTIAL UNITS (5-24):
    - RIGHT-OF-WAY = 30'
    - ROAD WIDTH = 24'
    - BASE COURSE = 18" BANK RUN GRAVEL
      4" CRUSHED GRAVEL
      2" ASPHALT TIGHT BINDER
      3' GRAVEL SHOULDER
    - PARKING REQUIREMENT = 2 SPACES PER UNIT (RESIDENTIAL (1 OR 2 UNITS))
    - PARKING PROVIDED = 2.5 SPACES PER UNIT
    - PARKING SPACE DIMENSIONS = 9'x18'

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118 PORTSMOUTH AVENUE, A202
STRATHAM, NH 03885
P: 603-772-4400 F: 603-772-4487
WWW.EMANUELENGINEERING.COM

CLIENT:
FOX CONSTRUCTION
196 NOTTINGHAM ROAD
DEERFIELD, NH 03037

SEAL:

TITLE:
CONDO PLAN
FOR
STEPHEN F. &
DEBORAH A. SCOTTON
131 LITTLEWORTH ROAD (SITE)
DOVER, NH 03820

PROJECT:	SCALE:	SHEET:
24-1067	1"=30'	C2

LEGEND

- GRANITE POST
- IRON PIPE FOUND
- IRON ROD FOUND
- (TYP) TYPICAL
- PROPERTY LINE
- WETLAND DELINEATION
- WETLAND SYMBOL
- SOIL DELINEATION
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE
- EDGE OF PAVEMENT (EOP)
- UNDERGROUND UTILITIES
- OVERHEAD UTILITIES
- UTILITY POLE
- ELECTRICAL METER
- DRAIN MANHOLE
- SERVICE CLEANOUT
- SEWER LINE
- DRAIN LINE
- PROPANE TANK
- WATER LINE
- WELL
- WATER VALVE
- GAS LINE
- GAS VALVE
- SIGN
- # OF PARKING SPACES
- TREE LINE
- TREE (DECIDUOUS/CONIFEROUS)
- SHRUB (DECIDUOUS/CONIFEROUS)

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

LOCUS PLAN
SCALE: 1"=1000'

ADDITIONAL ABUTTERS:

F 15
N/F INDIAN RIDGE HOMEOWNERS' ASSOCIATION
42 J DOVER POINT ROAD
DOVER, NH 03820
SCRD BK4832 PG0300
SCRD BK4648 PG0447

F 22A-2
N/F SAMUEL J. MOKLER
28 EMERALD LANE
DOVER, NH 03820
SCRD BK4308 PG0746

F 37
N/F ROBERT GEORGE CLEMENT
92 LITTLEWORTH ROAD
DOVER, NH 03820
SCRD BK4016 PG0123

F 38
N/F KENAAN AL-DARRAJI
96 LITTLEWORTH ROAD
DOVER, NH 03820
SCRD BK4884 PG0853

F 38-A
N/F KEITH R. AUTIO
DIANNE E. AUTIO
94 LITTLEWORTH ROAD
DOVER, NH 03820
SCRD BK4852 PG0590

REFERENCE PLANS:

1. "SUBDIVISION OF LAND, LITTLEWORTH ROAD, DOVER, NH." DATED 10/21/80. PREPARED FOR THOMAS & RONENA WALSH AND PREPARED BY WILLIAM T. WORMELL. SCRD PLAN #47-52.
2. "A SURVEY AND PLAT OF A SUBDIVISION, SITUATED IN THE CITY OF DOVER, NH." DATED 12/27/2004. PREPARED FOR BLAYNE WILSON REAL ESTATE, LLC AND PREPARED BY RSL LAYOUT AND DESIGN, INC. SCRD PLAN #81-6.
3. "PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT NO. 104, CENTRAL ROAD / AS-BUILT PLANS, TOWN OF MADBURY AND CITY OF DOVER." DATED 12/16/1937. PREPARED BY W. JORDAN.

TRANSFER OF DEVELOPMENT RIGHTS (TDR) CALCULATION:

- LOT AREA = 112,732 SF
- WETLAND AREA = 3,673 SF
- WETLAND PERCENTAGE = 3,673 SF / 112,732 SF = 3.3%
- BASE LOT SIZE = LOT AREA - ENVIRONMENTAL CONSTRAINTS = 112,732 SF - 3,673 SF = 109,059 SF
- NET AREA = BASE LOT SIZE X 0.85 = 109,059 SF X 0.85 = 92,700 SF
- DEVELOPABLE AREA = NET AREA X 0.85 = 78,795 SF
- MINIMUM LOT SIZE = 40,000 SF
- ALLOWABLE UNITS = 78,795 SF / 40,000 SF = 1.97 UNITS (YIELDS 1 UNIT)
- UNITS PROPOSED = 10 UNITS (REQUIRES TDR RELIEF FOR 9 ADDITIONAL UNITS)

NOTES:

1. OWNER OF RECORD:
   TAX MAP F, LOT 21
   STEPHEN F. & DEBORAH A. SCOTTON
   131 LITTLEWORTH ROAD
   DOVER, NH 03820
   SCRD BOOK 3442 PAGE 438
2. THE INTENT OF THIS PLAN IS TO SHOW A PROPOSED CONDOMINIUM/CLUSTER SUBDIVISION DEPICTING FIVE (5) SEPARATE DUPLEXES OVERLAID OVER EXISTING CONDITIONS AND TOPOGRAPHY FOR DOVER, NH TAX MAP F, LOT 21.
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TITLE:
CLUSTER OVERLAY
FOR
STEPHEN F. &
DEBORAH A. SCOTTON
131 LITTLEWORTH ROAD (SITE)
DOVER, NH 03820

PROJECT:	SCALE:	SHEET:
24-1067	1"=30'	C3

From:	Judy VonFeldt
To:	City of Dover - Planning
Subject:	131 Littleworth Road, Dover
Sent:	6/7/2024 6:22:23 AM

Security Notice: External sender. Use caution with hyperlinks or attachments.

To: Dover Planning Board

Re: June 11 Meeting, Item G under New Business, 131 Littleworth Road

- Has the Planning Board visited this site to truly understand how 5 Duplex buildings with parking for 25 cars would fit and look on this narrow piece of land?
- What does it mean when it says "Proposal is to purchase nine non-restricted TDR units to allow for a total of ten on site"?
- How will the traffic increase from two cars to 25 entering and leaving Littleworth be handled?
- Will there be buffer plantings between the proposed development and the residences on both sides?
- What utilities will be extended from Emerald Woods in order to do this project?
- If utilities such as sewer and natural gas are extended, who is paying for it?
- What is the square footage of each Duplex?
- Will the Duplexes be owned or will they be rentals?
- Is there an anticipated sales price or monthly rental fee?
- Will proposed development have an impact on the surrounding residential property values?
- Will this proposed development have any impact on surrounding tax assessments?

My husband and I have lived at 127 Littleworth Road for 18 years, and this proposal brings up a lot of questions.

Judith Von Feldt