CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

REVISED

Meeting Type: Regular Meeting
Meeting Location: Council Conference Room – City Hall, Dover NH
Meeting Date: **Thursday, October 29, 2020**
Meeting Time: **10:30 AM**

1. 10:30 AM – 11:15 AM: Site Review for Jewett Construction Co., LLC, Assessor's Map 31, Lot 4, zoned CBD – Transit Oriented Development, located at 35 & 37 Chestnut Street. (Proposal is to raze the two existing buildings and construct one 3-5 story building with 89 residential units, with 69 on-site parking spaces and 20 off-site. A related CUP and Subdivision application will also appear before the Planning Board. [*This item was previously heard on September 17, 2020*]. (P20-56)

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE NOTES – P20-56

Application Type:	Site Plan Review
Applicant(s):	Jewett Construction Co., LLC
Owner(s):	Boston & Maine RR
Location:	35 & 37 Chestnut Street (Tax Map 31, Lot 4)
Date:	September 17, 2020

INTENT: To raze two existing buildings and construct two, 4-story buildings. The first building will contain 69 units with 48 covered garage spaces and the second building will contain 39 units with 26 covered garage spaces. A related CUP application and major subdivision application will appear before the Planning Board. This property is exempt from the shoreland regulations.

LOTS/UNITS PROPOSED: 108 units

AGENDA ITEM #: 1

ACREAGE: 2.66 acres

ZONING DISTRICT: CBD-Transit Oriented Development

EXISTING LAND USE: Railroad dispatch and maintenance facility

SURROUNDING LAND USE: Residential Commercial, Railroad, Cochecho River

ZBA ACTION: None

PERMITS REQUIRED: Conditional Use Permits (wetland buffer, lot coverage, and lot 3)

WAIVERS REQUESTED: N/A

ATTENDANCE:
Members: Christopher Parker, Planning
Jim Maxfield, Inspection Services
Sgt. Marn Speidel, Police
Alan Dews, Engineering
Elena Piekut, Zoning
Frank Torr, Planning Board
Others: Donna Benton
Ellen Ianello
Brian Jones
Dan Ray
Greg Mikolaities
Craig Jewett

Approval of the 9/10/2020 Minutes:
F.Torr made a motion to approve the September 10, 2020 minutes. Seconded by Sgt. Speidel. Vote: U/A

Planning Comments:

- Phasing doesn't match proposed lot lines
- Provide:
  - Subdivision application and plan
  - Landscape O&M plan
  - Letters to serve
  - Narrative for CUP application
  - Separate CUP application
- Impact fees will be assessed: $496,908
- W/S investment fees are applicable
- Stamp and signature of PE, LLS, and architect needed on each plan submission
- Provide narrative and revise plan to indicate how project meets solar/green roof requirements
- Contribution to roundabout will be required
- What is lot 3? Public ROW/Easement?
- Indicate parking spaces in public ROW as visitor
- Discuss with Postmaster about mail kiosk/delivery options
- Easement for building maintenance?
- Screen rooftop mechanicals
- Revise plans:
  - Add project file number to title block (P20-56) on all sheets
  - Revise spelling to "Cochecho"
  - Add building materials
  - Add common site notes 3, 4, 5, 7, 9, 10, 11, 12, and 35
  - Add provided column to zoning table on Sheet C-102
  - Update unit count in each building
  - Show sketch/layout of parking lot on lot 31/10
  - Add benches (no need for trash bins)
  - Pole lights to be consistent with City standard
  - Gate can't be vinyl in the downtown
  - Revise the landscape plan so all trees are min 3.5 – 4" caliper and meets requirements of site regs.
  - Add security lighting to be on all sides of the building
  - Brick/masonry to be first 20 vertical feet
  - Sidewalk shall be brick or waiver needed
  - Expand triangular area up to rest of building height
  - No vinyl in CBD

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE NOTES – P20-56

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- Confirm addressing on Grove Street with Building Official
- Screen rooftop mechanicals

Fire/Inspections Comments:

- The subject project is not permitted to maintain the Chestnut Street address due to 911 standards. This new private road section may require a street name.
- Sheet C-100 does not appear indicate accessible public parking.
- Is one-way traffic intended at the roundabout? Clarify the 17' measurement at roundabout on sheet C-102
- Provide FDC connection locations.
- Indicate building entrances/exits on the site plan.
- Clarify if the elevation plans are actual or conceptual.
- Indicate the building location relative to property boundaries at the closest points. Include the rear deck and stairways. Discuss openings from property lines.
- Indicate if there is access control to parking garages, if so indicate type and include detail within plan set.
- Clarify gas meter locations at the building and include on elevation plans. Provide elevation plans specific to the site.
- Will the buildings be intended to be occupied in a normal power outage?

Police Department Comments:

- Work with Building Official for assignment/assumption of a new street address for this property.
- Provide contribution toward Chestnut/Third intersection reconfiguration, or to pedestrian crossing enhancements for Chestnut Street in the area of the Transportation Center
- Dover Code has already been revised to make Third/Grove intersection an all-way stop. Ensure that signs/placard are installed at all four legs, enhance with marked STOP lines at all four legs.
- Discuss security measures for ground floor parking and overhead garage doors.
- Sheet C-102 indicates 6' high steel fence. Detail sheet C-502 indicates 5' height. Clarify. A 8' fence is preferred.
- Discuss purpose of walkway along south side of property connecting the two buildings. They only provide access to "Lot 3 common area" which seems to serve only as a vehicle turnaround.
- Pedestrian connection to exterior of property (to off-site parking and transit locations) appears to be through driveway only. Can you enhance this in any way?

Engineering Comments:

- Sewer main may not extend past the last smh so sewer may need to be extended to the project.
- Add a gate on the watermain extension on Grove Street
- What sizes are the fire and services?
- Provide a copy of Phase I report. What kind of stormwater infiltration can be done?
- The drainage outlet over the banking is unacceptable and will cause erosion.

Economic Development Comments:

- Are colors and materials accurate? Look dark

Planning Board Comments:

- Note 13 – no Sunday hours
- Concern with sidewalk near tracks
- Type of fence on top of wall?
- Landscaping on back sides?
- Snow storage?
- Colors of building?

Next steps:

Submit revised plans and narrative for 2nd TRC. Conservation Commission on 10/13. Planning Board 11/10.

400 Harvey Road, Manchester, NH 03103 | T (603) 627-5500 | F (603) 627-5501
allenmajor.com

ALLEN & MAJOR
ASSOCIATES, INC.

October 14, 2020

To: City of Dover Planning Department
Technical Review Committee
288 Central Ave.
Dover, NH 03820

A&M Project #: 2464-03

Re: Site Plan Review
The Station
35/37 Chestnut Street
(Tax Map 31, Lot 04)
Dover, NH

Copy:

Dear Mr. Parker,

Allen & Major Associates, Inc. (A&M), on behalf of our client, Jewett Construction Co., LLC, is providing the following responses to the Technical Review Committee comments dated September 17, 2020. A&M's responses are indicated in bold italic below the Committee's comments.

Given the number of changes to the project design, in addition to the responses below, we're also providing a revised Site Plan Review Application, revised Conditional Use Permit application, a Subdivision Application, and associated plans and reports.

The original submission, dated August 13, 2020, included two checks. One for the Plan Review fee ($13,479.27) and one for the Abutter Notification fee ($316.00), totaling $13,795.27. Due to the project design changes, you will see on the attached Subdivision Application fee schedule, the revised Plan Review fees come to $11,108.87 and the Abutter Notification fee comes to $416.00. This brings the revised total to $11,524.87, which is $2,270.40 less than was already provided to the City. Therefore, additional funds for review/notification fees are not being provided with this submission.

PLANNING COMMENTS

1) Phasing doesn't match proposed lot lines.

   A&M Response: The project has been revised and no longer requires phasing. The Phasing Plan has been removed from the plan set.

2) Provide:

   a) Subdivision application and plan
   A&M Response: A Subdivision application and plan set have been prepared and provided with this response letter.

   b) Landscape O&M plan
   A&M Response: A Landscape O&M Plan has been provided in the Operation and Maintenance section of the Stormwater Management Plan.

   c) Letters to serve
   A&M Response: The letters to serve will be submitted under separate cover by the applicant.

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d) Narrative for CUP application
A&M Response: A narrative for the Conditional Use Permit Application has been provided as requested.

e) Separate CUP application
A&M Response: A single Conditional Use Permit application has been provided for the CBD dimensional regulations. Per Chapter 170, Section 20.H.(2), the project is exempt from the Wetlands Regulations because it is a redevelopment within the CBD.

3) Impact fees will be assessed: $496,908

A&M Response: The applicant will coordinate with the City with regards to the impact fees.

4) W/S investment fees are applicable

A&M Response: The applicant will coordinate with the City with regards to the impact fees.

5) Stamp and signature of PE, LLS, and architect needed on each plan submission

A&M Response: Each plan has been provided with the applicable professional stamp and signature.

6) Provide narrative and revise plan to indicate how project meets solar/green roof requirements

A&M Response: The architectural drawings have been revised to designate rooftop area for future solar install. The applicant will provide a narrative under separate cover describing how the project meets the solar/green roof requirements.

7) Contribution to roundabout will be required

A&M Response: The applicant will coordinate with the City with regards to the offsite improvements.

8) What is lot 3? Public ROW/Easement?

A&M Response: The plan has been revised and this lot is now proposed as a public right-of-way. As mentioned above, a Subdivision plan and application have been submitted.

9) Indicate parking spaces in public ROW as visitor

A&M Response: The revised plan does not propose any parking spaces within the right-of-way. We have designated some of the exterior parking as "visitor" parking on the site plan including one van accessible stall.

10) Discuss with Postmaster about mail kiosk/delivery options

A&M Response: Exterior access for mail delivery will be provided which is in accordance with Postmaster noncontact requirements.

11) Easement for building maintenance?

A&M Response: The plan has been revised to eliminate Building B and an easement for maintenance is not required for Building A.

12) Screen rooftop mechanicals

A&M Response: There is a recessed flat roof and the mechanicals will be screened by the gable roof forms.

13) Revise plans:

f) Add project file number to title block (P20-56) on all sheets
A&M Response: The project file number has been added to the title block as requested on all sheets.

g) Revise spelling to "Cochecho"
A&M Response: The spelling has been revised as requested.

h) Add building materials
A&M Response: The architect has provided nomenclature with respect to building materials.

i) Add common site notes 3, 4, 5, 7, 9, 10, 11, 12, and 35
A&M Response: Common site notes 3, 4, 5, 7, 9… have been added to sheet C-100. The requirement of common site note #10 is satisfied by the note in the upper right hand corner of sheets V-101 and V-102. The requirements of common site notes #11 and #12 are provided on sheet C-100 under "Resource Notes". The requirement of common site note #35 is satisfied by note #3 on sheet V-101 and V-102 as well as Grading & Drainage Note #3 on sheet C-103.

j) Add provided column to zoning table on Sheet C-102
A&M Response: This column has been added to the zoning table as requested.

k) Update unit count in each building
A&M Response: The plan has been revised and indicates 87 proposed units.

l) Show sketch/layout of parking lot on lot 31/10
A&M Response: The parking lot layout on lot 31/10 has been added as requested. A letter from the applicant explaining the current and future parking on lot 31/10 is enclosed for your consideration.

m) Add benches (no need for trash bins)
A&M Response: Benches have been added to the plans as requested.

n) Pole lights to be consistent with City standard
A&M Response: The project proposes to provide lighting for the site and right-of-way from within the site parcel which will eliminate the City's long term costs for power and maintenance of street lighting.

o) Gate can't be vinyl in the downtown
A&M Response: Dumpster enclosure gate will be cedar slats painted to match the building. See detail 9 on sheet C-502.

p) Revise the landscape plan so all trees are min 3.5 – 4" caliper and meets requirements of site regs.
A&M Response: The landscape plan has been updated to call for minimum 3.5" caliper as requested.

q) Add security lighting to be on all sides of the building
A&M Response: The building parking garage will have overnight lighting. Each building entrance will have a wall mounted sconce. The Site Lighting Plan has been revised per the new design.

r) Brick/masonry to be first 20 vertical feet
A&M Response: The building elevations have been revised to show brick veneer within the first 20 vertical feet.

s) Sidewalk shall be brick or waiver needed
A&M Response: Sidewalks within the R-O-W will be brick, sidewalks within the site will be concrete.

t) Expand triangular area up to rest of building height
A&M Response: The minimum building height at the entrance has been increased to three stories, as allowed.

u) No vinyl in CBD
A&M Response: See building architectural elevations for building materials. Vinyl is not proposed.

v) Confirm addressing on Grove Street with Building Official
A&M Response: It is being requested that the proposed project have an address of 2 Jewett Circle.

w) Screen rooftop mechanicals
A&M Response: There is a recessed flat roof and the mechanicals will be screened by the gable roof forms.

FIRE/INSPECTION COMMENTS

14) The subject project is not permitted to maintain the Chestnut Street address due to 911 standards. This new private road section may require a street name.

A&M Response: As mentioned above, the project proposes to create a new public right-of-way, to be named Jewett Circle.

15) Sheet C-100 does not appear indicate accessible public parking.

A&M Response: Accessible parking has been added to the plan, outside of the proposed building. The majority of the project's parking is still provided inside of the building.

16) Is one-way traffic intended at the roundabout? Clarify the 17' measurement at roundabout on sheet C-102

A&M Response: The cul-de-sac is intended to be one-way travel and has been indicated as such on the plans, see sheet C-102. The outside curb radius for the cul-de-sac is 50 feet and the inside curb radius is 28 feet.

17) Provide FDC connection locations.

A&M Response: The fire department connection has been added to the Utilities Plan as requested, see sheet C-104.

18) Indicate building entrances/exits on the site plan.

A&M Response: Building doors are indicated on the plan, as requested.

19) Clarify if the elevation plans are actual or conceptual.

A&M Response: The elevations are schematic in nature and reflect the design intent.

20) Indicate the building location relative to property boundaries at the closest points. Include the rear deck and stairways. Discuss openings from property lines.

A&M Response: The requested dimensions have been added to the plan, see sheet C-102. There are not proposed building penetrations within 10 feet of the property line.

21) Indicate if there is access control to parking garages, if so indicate type and include detail within plan set.

A&M Response: A Knox Box with garage access control has been added at the exterior of the garage door for Fire Department access to the garage.

22) Clarify gas meter locations at the building and include on elevation plans. Provide elevation plans specific to the site.

A&M Response: Gas meters are proposed on the north face of the building and are indicated on the Utilities Plan, sheet C-104. The applicant is also considering using air source heat pumps in lieu of gas fired appliances.

23) Will the buildings be intended to be occupied in a normal power outage?

A&M Response: The building will be occupied during a power outage. An emergency generator has been added to the site plans to power critical items and some common areas.

POLICE DEPARTMENT COMMENTS

24) Work with Building Official for assignment/assumption of a new street address for this property.

A&M Response: As mentioned above, the project proposes to create a new public right-of-way, to be named Jewett Circle.

25) Provide contribution toward Chestnut/Third intersection reconfiguration, or to pedestrian crossing enhancements for Chestnut Street in the area of the Transportation Center

A&M Response: The applicant will coordinate with the City regarding offsite mitigation.

26) Dover Code has already been revised to make Third/Grove intersection an all-way stop. Ensure that signs/placard are installed at all four legs, enhance with marked STOP lines at all four legs.

A&M Response: The applicant will coordinate with the City regarding offsite mitigation.

27) Discuss security measures for ground floor parking and overhead garage doors.

A&M Response: Residents will have individual access and control of the overhead garage doors with a key fob or similar device. Garage will not be accessible to the general public.

28) Sheet C-102 indicates 6' high steel fence. Detail sheet C-502 indicates 5' height. Clarify. A 8' fence is preferred.

A&M Response: The plans and details have been revised to indicate an 8' high fence surrounding the site. The fence on top of the retaining wall shall be 6' high.

29) Discuss purpose of walkway along south side of property connecting the two buildings. They only provide access to "Lot 3 common area" which seems to serve only as a vehicle turnaround.

A&M Response: The plan has been revised and this walkway had been eliminated.

30) Pedestrian connection to exterior of property (to off-site parking and transit locations) appears to be through driveway only. Can you enhance this in any way?

A&M Response: The project will connect to the existing sidewalk at the end of Grove Street.

ENGINEERING COMMENTS

31) Sewer main may not extend past the last smh so sewer may need to be extended to the project.

A&M Response: The project will extend the sewer main into the new right-of-way and terminate it with a new sewer manhole.

32) Add a gate on the watermain extension on Grove Street

A&M Response: The gate has been added to the plan as requested.

33) What sizes are the fire and services?

A&M Response: The proposed fire service is 6" diameter and the domestic water service is 4".

34) Provide a copy of Phase I report. What kind of stormwater infiltration can be done?

A&M Response: A copy of the Phase 1 report has been provided. Since the project reduces the impervious cover on site, infiltration of stormwater is not necessary in order to meet the City's stormwater standards. Therefore, infiltration of stormwater is not proposed.

35) The drainage outlet over the banking is unacceptable and will cause erosion.

A&M Response: A gabion style level spreader has been provided for the drainage outlet.

Economic Development Comments:

36) Are colors and materials accurate? Look dark

A&M Response: Please see the revised building elevations. If necessary, the architect will provide samples of the materials.

Planning Board Comments:

37) Note 13 – no Sunday hours

A&M Response: The note has been revised as requested.

38) Concern with sidewalk near tracks

A&M Response: An 8' high fence separates the site from the railroad tracks.

39) Type of fence on top of wall?

A&M Response: A decorative steel fence is proposed on top of the wall, consistent with that shown on the detail sheet C-502.

40) Landscaping on back sides?

A&M Response: The area behind the building is proposed to be lawn.

41) Snow storage?

A&M Response: The site plan has indicated areas of snow storage.

42) Colors of building?

A&M Response: Please see the revised building elevations.

ALLEN & MAJOR ASSOCIATES, INC.

Brian D. Jones, PE
Senior Project Manager

Enclosures:

1. Phase 1 Environmental Site Assessment, dated September 8, 2020
2. Stormwater Management Plan, dated October 14, 2020
3. Site Development Plans for "The Station", dated October 14, 2020
4. Architectural Elevations and Floorplans for "The Station", dated October 14, 2020
5. Streetscape for "The Station", dated October 14, 2020
6. Subdivision Plans for "Jewett Circle", dated October 14, 2020
7. Site Plan Application
8. Subdivision Application
9. Conditional Use Permit Application
10. 5 Grove Street Lot – Reserved Parking Memorandum, dated October 1, 2020

City of Dover, New Hampshire
SITE REVIEW APPLICATION

[Revision Date: June 4, 2019]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: Jewett Construction Co., LLC Telephone # 603-895-2412

Address of Applicant: 68A Route 27, Raymond, NH 03077

E-Mail Address: craig@jewettconstruction.com

Name of Property Owner (*if different from applicant*): Boston & Maine RR Telephone #

Address of Property Owner: Iron Horse Park, High Street, North Billerica, MA 01862

PROPERTY INFORMATION

Address of Property: 35 & 37 Chestnut Street

Assessor's Map # 31 Lot(s) # 4

Zoning District(s) CBD Overlay District(s) Transit Oriented Development

Size of Parcel: 116,062 sq. ft. 2.66 ac. Property Deed: Book 1322 Page: 189

Existing Use of Property: Railroad dispatch and maintenance facility

SITE PLAN INFORMATION

Describe Proposed Use: Multi-family residential

Area of Parcel to be Developed: 60,000 +/- sq. ft.

If Multi-family Residential, Specify Number of Units & Buildings Proposed: 87 units, 1 building

Number of Parking Spaces: Existing None Proposed 69 on site, (20 off site, 5 Grove Street)

Highway Access (check where applicable): X City Street ____ State Highway

Number of Employees Total: none In Maximum Shift:

Disposition of Parcel:

Building Footprint 16,965 sq. ft.

Total Building Area 83,424 sq. ft.

Paved Area 15,841 sq. ft.

Building Setbacks:

Front Yard 0 ft.

Rear Yard 7.3 ft.

Side Yard: Right 10.5 ft. Left N/A ft.

City Water? _X_ Yes ___ No How far is city water from the property? Site already served by city water

City Sewer? _X_ Yes ___ No How far is city sewer from the property? Site already served by city sewer

BUILDING INFORMATION

Type of Building to be Built: 3 to 5 story, podium, multi-family building

Height of Building: 65'-5" Finished Floor Elevation: EL 73 +/-

Number of Seats (where applicable) N/A

Estimated value of construction: TBD Refuse removal: Public (Private) (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: None

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

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) James P. Smith (Allen & Major Associates, Inc.)

Address 400 Harvey Road, Manchester, NH 03103 Telephone #: 603.627.5500

Professional License #: 00908 E-mail address: jsmith@allenmajor.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Brian Jones (Allen & Major Associates, Inc.)

Address 400 Harvey Road, Manchester, NH 03103 Telephone #: 603.627.5500

Professional License #: 13809 E-mail address: bjones@allenmajor.com

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) Thomas House (THA Architects, LLC)

Address P.O. Box 88, Stratham, NH 03885 Telephone #: 603.770.2491

Professional License #: 2380 E-mail address: thouse@thaarc.com

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) Bethany C. Dermody (Allen & Major Associates, Inc.

Address 400 Harvey Road, Manchester, NH 03103 Telephone #: 603.627.5500

Professional License #: 00006 E-mail address: bdermody@allenmajor.com

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) N/A

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

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: 8/25/20

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: _____ Date: 8/25/20

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 Property Owner: _____ Date: 8/25/20

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

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 Property Owner: _____ Date: 8/25/20

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

PLANNING BOARD FEE SCHEDULE

(Revised February 10, 2020)

Below are the fees associated with plan review. Please complete the information below and provide payment with your application submittal. **Plan review fees shall be paid prior to technical review committee (TRC) being scheduled.** For plans not requiring TRC review, **fees are due 21 days prior** to the Planning Board meeting. Staff will coordinate abutter/notice fees, which will be invoiced and must be paid 28 hours before the Planning Board meeting for an application to be heard. Fees shall be paid by cash or check made payable to "City of Dover."

A. Plan Review Fees

1. Application fee for the following (SELECT ALL THAT APPLY):

- ☐ SUBDIVISION $150.00 x # _____ new lots created= $_____
- ☐ LOT LINE ADJUSTMENT $100.00 X # of lots involved= $_____
- ☐ TRANSFER OF DEVELOPMENT RIGHTS Application fee $150.00= $_____
- ☐ SITE REVIEW – RESIDENTIAL $100.00 x # ____ per dwelling unit= $_____
- ☐ SITE REVIEW – NON-RESIDENTIAL (not to exceed $10,000)
  - New construction $.15 sq. ft. x # _____ sq. ft.= $_____
  - Additions (new floor space) $.10 per sq. ft. x # _____sq. ft.= $_____
- ☐ MOTEL/HOTEL $35.00 x # ___ per lodging unit= $_____
- ☐ CHANGE OF USE (not to exceed $5,000)
  - Existing floor spaces $.10 per sq. ft. x # _____ sq. ft.= $_____
- ☐ CONDITIONAL USE PERMIT $150.00 x # ___ per application= $_____
- ☐ GRAVEL PIT/ EXCAVATIONS
  - Application fee $50.00= $_____
  - Permit fee $75.00= $_____
- ☐ EXTENSIONS OF/AMENDMENTS TO/WAIVERS FOR AN APPROVED PLAN $50.00 x # ___ per hour of review (3 hour minimum)= $_____
- ☐ REQUEST FOR REZONING Application fee $150.00= $_____
- ☐ DRIVEWAY WAIVER Application fee $100.00= $_____

SUB TOTAL= $_____

AND

2. IMPERVIOUS PAVED AREA (for new development or additions to existing parking lots (not to exceed $10,000) $.07 sq. ft. x # _____= $_____

TOTAL PLAN REVIEW FEE= $_____

B. Abutter Notification/Mailing Labels - this office will create and print the abutter list and provide labels in triplicate for each abutter. The applicant/owner will need to review the list and provide to this office the engineer, architect, licensed land surveyor (LLS), licensed landscape architect (LLA) and/or soil scientist whose professional seal appears on the plan with names and addresses for notices.

- ☐ Applicant & Owner, engineer, architect, LLS, LLA and/or soil scientist
  - Certified letters fee # _____ of x $8.00= $_____
- ☐ Certified letters fee: # of abutters _____ X $8.00= $_____
- ☐ First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X $1.00= $_____
- ☐ Creating/Printing Abutter Labels in triplicate per sheet _____ x $10.00= $_____

SUB TOTAL= $_____

C. Foster's newspaper public notice fee **$ 100.00**

TOTAL NOTICE FEE= $_____

The above amount must be paid 28 hours prior to the Planning Board meeting, to be heard.

See Subdivision Permit Application for Fees (updated September 17, 2020)

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) 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: Jewett Construction Co., LLC File Number: TBD

PROJECT TITLE: Multi-Family Development

PROPERTY LOCATION: 35/37 Chestnut Street Tax Map: 31 Lot: 4

	Where/How Provided	Reviewed
1. Completed and signed Application form	herewith	
2. Plan Review Fees are provided	herewith by check	
3. Electronic copy of the engineered/surveyed plan layout	herewith, flash drive	
4. Electronic copy of supplementary materials and application	herewith, flash drive	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)	herewith	
6. Waiver requests to the Site Plan Review Regulations, with written justification	N/A	
7. Conditional Use Permit applications	herewith	
8. A colored rendering of the streetscape that will be created along the existing public right-of-way	herewith	
9. A colored architectural plan showing all sides of buildings	herewith	
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:	herewith	
Location map at appropriate scale	site plans, cover sheet	
Proposed Project name and title and Planning File #	site plans, all sheets	
Date, north arrow and scale	site plans, all relevant sheets	
Names of all abutting property owners	Existing Conditions Plan (V-101) & Neighborhood Plan (sheet C-105)	
Name and address of owners and/or applicants	site plans, all sheet	
Signature & stamp of NH licensed land surveyor and/or engineer	site plans, all relevant sheets	
Zoning District boundaries, including any special or overlay districts	Neighborhood Plan (sheet C-105)	
Location of Conservation District areas	N/A, per Section 170.27.F	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	site plans, all relevant sheets	
Location and widths of existing & proposed easements & right of ways	N/A	
Location and width of existing and proposed access/egress ways	site plans, all plan sheets	

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access	site plans, all plan sheets	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	site plans, V-101, C-102	
Existing and proposed topographic information at two foot intervals	site plans, V-101 & C-103	
Existing and proposed buildings and structure locations	site plans, all plan sheets	
Minimum building setbacks or build to lines on all lots	site plans, C-102	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	site plans, V-101 & C-104	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	site plans, V-101 & C-104	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	site plans, V-101 & C-104	
Existing and proposed stormwater lines and facilities	site plans, V-101 & C-103	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	site plans, E-101	
Location of Flood Hazard Zone	site plans, all plan sheets	
Location of all bodies of water and watercourses	N/A	
Location of wetlands and buffers	site plans, all plan sheets	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	site plans, C-105	
Existing natural features and/or significant vegetation on property	site plans, V-101	
Depict existing contours up to 100 ft. beyond project limits	site plans, V-101	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	site plans, L-101	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	site plans, C-102	
Location, material and size of existing and proposed pavement area	site plans, V-101 & C-102	
Location of proposed fire lanes	N/A	
Specify finished floor elevations of buildings	site plans, C-103	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	site plans, C-102	
Depict all service, storage, loading bays and utility areas	site plans, C-102	
All applicable Dover Common Site Plan notes	site plans, C-101,	
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	herewith	
Stormwater Management System Operation and Maintenance Plan	herewith	
Letter to Serve from Public and Private Utilities	forthcoming, building loads must be determined by M.E.P engineer	
Erosion and Sedimentation Control Plan	herewith	
Landscape Operation and Maintenance Plan	herewith	
Proposed restrictive covenants or homeowners association documents	N/A	
Dates and permit numbers of all required state and federal permits	site plans, cover sheet	
If wetland buffer, indicate placards locations, as applicable	site plans, all plan sheets	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	N/A	
Location of proposed drive-in facilities	N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	to be determined	

REVIEWED BY: _____ DATE_____ TRC DATE_____

CITY OF DOVER PLANNING DEPARTMENT
Revised March 20, 2020

APPLICANT: _____ FILE NUMBER: _____

List of Common Site Plan Notes

The following list of commonly required notes is intended to be used as a guide to applicants and should not be construed as a comprehensive note requirement list for all projects. A preapplication conference with the Planning Department is suggested to help determine the actual notes that may be required.

1. The intent of this plan is to *(describe the purpose of the plan).*

2. Owners of Record are: Name
   Street address
   Municipality, State, Zip Code
   _____
   Authorized Signature

3. The parcel(*s*) is (*are*) shown as Lot No. _____, Map ____ of the City of Dover Tax Assessor's Maps.

4. The subject parcel(s) contains ____ acres or _____ sq. ft. area of land.

5. Title reference for the project parcel(*s*) is the Strafford County Registry of Deeds, Book No. ___, Page No. ___.

6. Reference Plans: (*List all reference plans and their SCRD #)*

7. All applicable right-of-way, conservation, slope, construction, power line, cross travel, or other easements shall be referenced in a note.

8. Zoning dimensional and density requirements are as follows:

   Required: Provided:

   a. Zoning district _____ sub-district _____
   b. Minimum lot size: _____ acres (sq. ft.)
   c. Minimum lot frontage: _____ ft.
   d. Minimum yard setbacks/build-to-lines:
      Front _____ft.
      Side _____ft.
      Rear _____ft.
      Abut-a-street _____ ft.
   e. Maximum/minimum lot coverage _____ %
   f. Minimum/maximum bldg. height _____ ft./stories

   This property falls within the following zoning overlay districts: *(List districts)*

9. 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.

10. Property line information has been obtained from a survey performed by *(surveyor)* on (*date*) with an error not greater than 1 in 10,000 (*or has been obtained from _____ Plan, prepared by (surveyor)*).

11. Subject parcel is (*is not*) located within a Federally designated flood hazard area (Community panel number 33017C0xxxD, Effective Date: September 30, 2015).

12. Wetlands were delineated by _____, Certified Wetlands Scientist, Certification Number ____, in accordance with Chapter 170-27.1 of the Zoning Ordinance, on _____, 20___.

13. As-built plans of the subdivision 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.

14. The installation of electric power, cable television and telephone lines shall be underground throughout the site for which development is proposed.

15. The subject parcel(s) is (are) served by municipal water and sewer (*or is served by on-site well and septic system*).

16. 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.

17. All erosion control notes shall 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.

18. The limits of construction disturbance that are located in or within the 50 ft. of Conservation and Wetland Districts shall be staked, flagged and clearly identified prior any earth disturbing activity occurs.

19. All treatment swales to be constructed shall have sod bottoms.

20. 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.

21. 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.

22. Site Construction hours shall be limited to Monday-Friday 7 AM-6 PM, Saturday and Sunday 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 Assistant City Manager.

23. Building addresses (including apt/unit numbers if applicable) shall be assigned by the Building Official at the time of issuance of a building permit.

24. The proposed use for the site (structure) is _____. (More specific uses are encouraged, such as single family, duplex, multi-family, restaurant, hotel, doctor's office, etc. Should more than one use be proposed, an indication of the percentage of each use is suggested.)

25. The following federal and state permits have been issued for the subject property: (*List permit type, number and date of issuance.)*

26. Commercial vehicle route during construction shall conform to Dover City Code or be coordinated with the Community Services Director.

27. Any retaining wall taller than four feet (4') requires issuance of a building permit from Inspection Services.

28. Any fence taller than seven feet (7') requires the issuance of a building permit from Inspection Services.

29. Applicant shall complete Land Use Development Tracking Form, most recently revised version, utilizing the online Pollution Tracking and Accounting Pilot Project (PTAPP) portal. https://www.unh.edu/unhsc/ptapp

30. 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.

31. 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.

32. The maximum parking space calculation is _____ (broken down) and ____ spaces are provided.

33. Exterior lighting shall be cut-off type fixtures per Chapter 153-14-E and shall provide lighting directed on-site only.

34. Topographic survey performed by _____ on *(dates)*.

35. Elevations are based on U.S.G.S. datum. (**or** Elevations depicted are based on information obtained from the City Engineer's Office and was derived from coordinates for control stations _____ and _____. These coordinates have not been adjusted to 1983 datum).

36. 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 a business establishment or multi-family dwelling contained in a new, altered or repaired structure*)

37. Approved backflow preventers shall be provided for both fire and domestic water lines.

38. The (*existing or proposed*) structure 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.

39. 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.

40. 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.

41. The site layout is designed in compliance with applicable accessibility regulations. The proposed structure will be also be designed in accordance with applicable accessibility regulations. (i.e. IBC, ANSI-117.1) and NH RSA 155-A:5.

REMARKS:

City of Dover, New Hampshire
CONDITIONAL USE PERMIT APPLICATION

[Revision Date: May 18, 2017]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: Jewett Construction Co., LLC Telephone # 603-895-2412

Address of Applicant: 68A Route 27, Raymond, NH 03077

E-Mail Address: craig@jewettconstruction.com

Name of Property Owner (if different from applicant): Boston & Maine RR Telephone #

Address of Property Owner: Iron Horse Park, High Street, North Billerica, MA 01862

PROPERTY INFORMATION

Assessor's Map # 31 Lot(s) # 4

Address of Property: 35 & 37 Chestnut Street

Zoning District(s) CBD Overlay District(s) Transit Oriented Development

Existing Use of Property: Railroad dispatch and maintenance facility

CONDITIONAL USE PERMIT INFORMATION

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

☐ Conservation District	☐ RCM Use Overlay District	☐ I-1 District Uses
☐ 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:

Section 170-20 D. CBD Transit Oriented Development Sub-District Dimensional Regulations

Lot Coverage & Frontage Build-out

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: USEPA - NPDES (prior to construction)

Name of Professional That Prepared Plans: Brian Jones, PE (Allen & Major Associates, Inc.)

Address 400 Harvey Road, Manchester, NH 03103 Telephone #: 603-627-5500

Professional License #: 13809 E-mail address: bjones@allenmajor.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: 8/25/20

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: _____ Date: 8/25/20

bjones@allenmajor.com

13809

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
31	4	Boston & Maine RR	Iron Horse Park, High Street

North Billerica, MA 01862

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Craig Jewett	Jewett Construction Co., LLC	68A Route 27, Raymond, NH 03077

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
James P. Smith, LLS	Allen & Major Associates, Inc.	400 Harvey Road, Manchester, NH 03103
Brian D. Jones, PE	Allen & Major Associates, Inc.	400 Harvey Road, Manchester, NH 03103

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

PLANNING BOARD FEE SCHEDULE

(Revised July 1, 2020)

Below are the fees associated with plan review and are subject to a nonrefundable application fee to cover administrative expenses. Please complete the information below and provide payment with your application submittal. **Plan review fees shall be paid prior to technical review committee (TRC) being scheduled.** For plans not requiring TRC review, **fees are due 21 days prior** to the Planning Board meeting. Staff will coordinate abutter/notice fees, which will be invoiced and must be paid 28 hours before the Planning Board meeting for an application to be heard. Fees shall be paid by cash or check made payable to "City of Dover."

A. Plan Review Fees

1. Application fee for the following **(SELECT ALL THAT APPLY):**

- ☐ SUBDIVISION Application fee $200.00 + $150.00 x # _____ new lots created = $_____
- ☐ LOT LINE ADJUSTMENT Application fee $200.00 + $100.00 X # ___ of lots involved = $_____
- ☐ TRANSFER OF DEVELOPMENT RIGHTS Application fee $200.00 = $_____
- ☐ SITE REVIEW – RESIDENTIAL Application fee $200.00+ $100.00 x 110 per dwelling unit =$_____
- ☐ SITE REVIEW – NON-RESIDENTIAL Application fee $200.00 + (not to exceed $10,000)
  - New construction $.15 sq. ft. x # _____ sq. ft.= $_____
  - Additions (new floor space) $.10 per sq. ft. x # _____sq. ft.= $_____
- ☐ MOTEL/HOTEL $35.00 x # ___ per lodging unit= $_____
- ☐ CHANGE OF USE Application fee $200.00 + (not to exceed $5,000)
  - Existing floor spaces $.10 per sq. ft. x # _____ sq. ft.= $_____
- ☐ CONDITIONAL USE PERMIT Application fee $200.00 x # _____ per Application = $_____
- ☐ GRAVEL PIT/ EXCAVATIONS
  - Application fee $50.00= $_____
  - Permit fee $75.00= $_____
- ☐ EXTENSIONS/AMENDMENTS/WAIVERS FOR AN APPROVED PLAN Application fee $200.00 =$_____
- ☐ REQUEST FOR REZONING Application fee $200.00 = $_____
- ☐ DRIVEWAY WAIVER Application fee $200.00 = $_____

SUB TOTAL= $_____

AND

2. IMPERVIOUS PAVED AREA (for new development or additions to existing parking lots (not to exceed $10,000) Application fee $200.00 + $.07 sq. ft. x # _____ = $_____

TOTAL PLAN REVIEW FEE= $_____

B. Abutter Notification/Mailing Labels - this office will create and print the abutter list and provide labels in triplicate for each abutter. The applicant/owner will need to review the list and provide to this office the engineer, architect, licensed land surveyor (LLS), licensed landscape architect (LLA) and/or soil scientist whose professional seal appears on the plan with names and addresses for notices.

- ☐ Applicant & Owner, engineer, architect, LLS, LLA and/or soil scientist
  - Certified letters fee # _____ of x $8.00= $_____
- ☐ Certified letters fee: # of abutters _____ X $8.00= $_____
- ☐ First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X $1.00= $_____
- ☐ Creating/Printing Abutter Labels in triplicate per sheet _____ x $10.00= $_____

SUB TOTAL= $_____

C. Foster's newspaper public notice fee $100.00 x # _____ applications = $_____

TOTAL NOTICE FEE= $_____

The above amount must be paid 28 hours prior to the Planning Board meeting, to be heard.

See Subdivision Permit Application for Fees (updated September 17, 2020)

400 Harvey Road, Manchester, NH 03103 | T (603) 627-5500 | F (603) 627-5501
allenmajor.com

ALLEN & MAJOR ASSOCIATES, INC.

Narrative for Conditional Use Permit Application

Jewett Circle
35/37 Chestnut Street
(Map 31 Lot 4)
Dover, NH

The following has been provided to demonstrate that the project meets the requirements of the City of Dover Zoning Ordinance, Chapter 170, Section 20.B.1.

a) That both public and private BUILDINGs and landscaping shall contribute to the physical definition of RIGHTs OF WAY as CIVIC SPACEs.

The project will provide a number of amenities and features which contribute to the public's use and enjoyment of the space. These features include sidewalks, benches, interior and exterior bicycle racks, landscaping, and site lighting. The project will also construct a new public right-of-way with cul-de-sac, which will dramatically improve the traffic circulation for the adjacent portion of Grove Street.

b) That development shall adequately accommodate automobiles, while respecting the pedestrian and the spatial form of public areas.

The project site plans demonstrate that the new right-of-way and cul-de-sac can safely accommodate the City of Dover fire truck. Surface parking and as garage parking is provided for visitors and residents with automobiles. Bicycle parking is also provided inside and outside of the building. Safe pedestrian access is provided, crosswalks are shown, and the project proposes a pedestrian connection to the existing sidewalk on Grove Street. The site will be adequately lit to ensure safe pedestrian travel throughout the site.

c) That the design of STREETs and BUILDINGs shall reinforce safe environments, but not at the expense of accessibility.

The project proposes the use of security cameras. The parking garage will be lit 24 hours per day and the building entrances are appropriately lit for pedestrian access.

d) That architecture and landscape design shall grow from local climate, topography, history, and BUILDING practice.

A landscape design has been prepared and proposes local plants that will thrive in the Dover climate. The project embraces its proximity to the railroad tracks by adopting the name "The Station" and the team is working with City officials to incorporate building signage/art which will welcome those arriving on the tracks to the south of the project. The design team sees the project's proximity to the Cochecho River as a prominent feature and expects residents to enjoy views from elevated deck, which overlooks the River below.

e) That BUILDINGs shall provide their inhabitants with a clear sense of geography and climate through energy efficient methods.

The building will be constructed to be solar ready and will be designed with the most recent energy efficient building methods in mind.

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f) That CIVIC BUILDINGs and public gathering places shall be provided as locations that reinforce community identity and activity.

While the building design is still being finalized, the team has incorporated common spaces and community rooms for the residents to gather and spend quality time together. These include the elevated deck on the rear of the building as well as interior common spaces.

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.

The project does not propose the construction of a Civic Building.

h) That the preservation and renewal of historic BUILDINGs shall be facilitated.

No historic buildings exist on the site. The proposed building has been designed to promote the traditional character seen in the surrounding areas of historic Dover.

i) That the harmonious and orderly evolution of urban areas shall be advanced by the proposed BUILDING and/or use.

The site is currently unavailable to the public. The project will convert this area to a public right-of-way and multi-family development which will improve the quality of life for Dover's residents by providing quality housing, public walkways, and beautiful landscaping.

City of Dover, New Hampshire
SUBDIVISION APPLICATION

[Revision Date: September 17, 2020]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: Jewett Construction Co., LLC Telephone # 603-895-2412

Address of Applicant: 68A Route 27, Raymond, NH 03077

Name of Property Owner (*if different from applicant*): Boston & Maine RR Telephone #

Address of Property Owner: Iron Horse Park, High Street, North Billerica, MA 01862

E-Mail Address: craig@jewettconstruction.com (Applicant)

PROPERTY INFORMATION

Address of Property: 35 & 37 Chestnut Street

Assessor's Map # 31 Lot(s) # 4

Zoning District(s) CBD Overlay District(s) Transit Oriented Development

Size of Parcel: 116,062 s.f. or 66 ac. Property Deed: Book 1322 Page: 189

Existing Use of Property: Railroad dispatch and maintenance facility

SUBDIVISION INFORMATION

Subdivision Type: Major (4 + net new lots): X Open Space: _____ TDR: _____

Existing Number of Lots: 1 Proposed Number of Lots: 3

City Water? X Yes ___ No How far is city water from the property? onsite

City Sewer? X Yes ___ No How far is city sewer from the property? onsite

Highway Access (check where applicable): X City Street ____ State Highway

Estimated Length of Proposed Roads: 296 feet Public or Private Road? public

Estimated value of construction: TBD Refuse removal: Public/Private (circle one)

New impervious area (in s.f.): Net Decrease

WAIVER REQUESTS

Subdivision Regulations section(s) to be waived: See attached request

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

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) James P. Smith (Allen & Major Associates, Inc.)

Address 400 Harvey Road, Manchester, NH 03103 Telephone #: 603.627.5500

Professional License #: 00908 E-mail address: jsmith@allenmajor.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Brian Jones (Allen & Major Associates, Inc.)

Address 400 Harvey Road, Manchester, NH 03103 Telephone #: 603.627.5500

Professional License #: 13809 E-mail address: bjones@allenmajor.com

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) Bethany C. Dermody (Allen & Major Associates, Inc.

Address 400 Harvey Road, Manchester, NH 03103 Telephone #: 603.627.5500

Professional License #: 00006 E-mail address: bdermody@allenmajor.com

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) N/A

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

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: 10/13/20

Signature of Applicant (*if different from owner*): _____ Date: 10/14

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: _____ Date: 10/13/20

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

I, and my successors, hereby authorize the City of Dover and 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 Property Owner: _____ Date: 10/13/20

Signature of Applicant (*if different from owner*): _____ Date: 10/14

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 Property Owner: _____ Date: 10/13/20

Signature of Applicant (*if different from owner*): _____ Date: 10/14

CERTIFICATION OF PUBLIC ROADWAY ACCEPTANCE

I, and my successors, hereby certify that I understand that the acceptance of a roadway as a public road is an action of the City Council in its sole and complete discretion. In order for the City Council to consider accepting a road as public, it must be free of encumbrances. No roadway with private utility easements shall be accepted as a public road by the City unless the easements are expunged prior to the transfer of land to the City. License agreements for any and all private utilities within the right of way may be granted by the City upon acceptance of the unencumbered roadway consistent with applicable state law.

Signature of Property Owner: _____ Date: 10/13/20

Signature of Applicant (*if different from owner*): _____ Date: 10/14

City of Dover, New Hampshire
SUBDIVISION SUBMISSION CHECKLIST

[Revision Date: May 18, 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.

The first step would be to appear before the Technical Review Committee, 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 requirements. Please refer to the Subdivision Regulations for full details.

APPLICANT: Jewett Construction Co., LLC File Number: P20-56

PROJECT TITLE: The Station

PROPERTY LOCATION: 35/37 Chestnut Street Tax Map: 31 Lot: 4

	herewith	Where/How Provided	Reviewed
1.	**Completed and signed Application form**		
2.	**Plan Review Fees are provided**	herewith by check	
3.	**Electronic copy of the surveyed plat layout**	Sheet SD-101 & 102	
4.	**Electronic copy of supplementary materials and application**	USB Provided with Application	
5.	**Traffic Impact Assessment and Analysis (Standard or Advanced)**	Analysis by VAI with Application	
6.	**Waiver requests to the Subdivision Regulations, with written justification**	See attached request	
7.	**Conditional Use Permit applications**	Herewith Application	
8.	**Narrative describing yield plan and cost analysis**	N.A.	
9.	**Folded copies of subdivision plan w/scale of not less than 1"=50' or 1"=100' for larger subdivisions. Plans shall contain the following items as appropriate:**	Herewith Application	
	Location map at appropriate scale	Cover Sheet Locus Map	
	Proposed subdivision name and title and Planning File #	Cover Sheet	
	Date, north arrow and scale	All sheets	
	Names of all abutting property owners	Existing Conditions (V-101 & 102)	
	Name and address of owners and/or applicants	Cover Sheet & Titleblock	
	Signature & stamp of NH licensed land surveyor and/or engineer	Tittleblock	
	Zoning District boundaries, including any special or overlay districts	Neighborhood Plan (Sheet C-105)	
	Location of Conservation District areas	N/A	
	Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	Subdivision Layout & Materials Plan C-102	
	Location and widths of existing & proposed easements & right of ways	Existing Conditions V-101 & 102	
	Location and widths of existing and proposed sidewalks	Subdivision Layout & Materials	
	Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	Subdivision Plan of Land SD-101	
	Existing and proposed lot areas in square feet	Subdivision Plan of Land SD-101	
	Existing and proposed topographic information at two foot intervals	Subdivision Grading & Drainage Plan	
	Minimum building setbacks or build to lines on all lots	Subdivision Plan of Land SD-101	

	Explain How Provided	Reviewed
Existing and proposed buildings and structure locations	Existing Conditions V-101, V-102 and Layout & Materials Plan C-101	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	Utilities Plan C-104	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	Existing Conditions V-101, V-102, Utilities Plan C-104	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	Existing Conditions V-101 & Utilities Plan C-104	
Existing and proposed septic system, including test pit locations and results and NHDES subdivision permit number	N/A Public Sewer	
Existing and proposed stormwater lines and facilities	Grading & Drainage Plan C-103	
Existing and proposed streetlights	Site Plans, Lighting Plan E-101	
Location of Flood Hazard Zone	Subdivision Plans, all plan sheets	
Location of all bodies of water and watercourses	N/A	
Location of wetlands and buffers	Subdivision Plans, all plan sheets	
Neighborhood plan with aerial underlay showing how project relates to abutting uses	Neighborhood Plan, C-105	
Existing natural features and/or significant vegetation on property	Existing Conditions V-101	
Depict existing contours up to 100 ft. beyond project limits	Existing Conditions V-101	
Soil types	N/A	
Map and lot numbers for existing and proposed lots as assigned by Tax Assessor	Subdivision Plan of Land SD-101 & 102	
Location of all land offered for dedication for public use or land to be held in common by property owners of the subdivision	Subdivision Plan of Land SD-101 & 102	
Location of all land offered for dedication for public use or land to be held in common by property owners of the subdivision	Subdivision Plan of Land SD-101 & 102	
Location, material and size of existing and proposed permanent monuments	Subdivision Plan of Land SD-101 & 102	
Existing railroad lines	Subdivision Plans, all plan sheets	
Note regarding solid waste disposal	Subdivision Layout & Materials C-102	
All applicable Dover Common Subdivision notes	Subdivision Layout & Materials C-102	
10. Construction Detail Sheets shall contain the following:		
Profiles showing existing & proposed elevations along the center lines of proposed streets & within 100' of intersections with existing streets	Centerline Profile, C-107	
Profiles showing the locations & a typical cross-section detail of streets	C-501 - 504 Details	
Location of street trees, street lighting poles and street signs	Subdivision Layout & Materials C-102	
Location, size and invert elevations of existing and proposed sanitary sewers, stormwater drains and fire hydrants	Grading & Drainage Plan C-103 Utilities Plan C-104	
Location and size of all water, gas and other underground utilities	Utilities Plan C-104	
11. Additional Information if appropriate	forthcoming, building loads must be determined by M.E.P engineer	
Stormwater Management Plan depicting the existing and proposed storm drainage system and engineered drainage analysis	Grading & Drainage Plan C-103	
Stormwater Management System Operation and Maintenance Plan	herewith Stormwater Management Plan	
Letter to Serve from Public and Private Utilities		
Erosion and Sedimentation Control Plan	Site Preparation Plan C-101	
Perimeter Landscaping Plan	Landscaping Plan L-101	
Proposed restrictive covenants or homeowners association documents	N/A	
Dates and permit numbers of all required state and federal permits	Subdivision Plans, all plan sheets	
If wetland buffer, indicate placards locations, as applicable	Subdivision Plans, all plan sheets	
Hydrogeologic study if located in Groundwater Protection Zone	N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	TBD	

REVIEWED BY: _____ DATE_____ TRC DATE_____

CITY OF DOVER PLANNING DEPARTMENT
Revised August 10, 2020

APPLICANT: _____ FILE NUMBER: _____

List of Common Subdivision Plan Notes

The following list of commonly required notes is intended to be used as a guide to applicants and should not be construed as a comprehensive note requirement list for all projects. A pre-application conference with the Planning Department is suggested to help determine the actual notes that may be required.

1. The intent of this plan is to *(describe the purpose of the plan).*

2. Owners of Record are: Name
   Street address
   Municipality, State, Zip Code
   _____
   Authorized Signature

3. The parcel(*s*) is (*are*) shown as Lot No. _____, Map ____ of the City of Dover Tax Assessor's Maps.

4. The subject parcel(s) contains ____ acres or _____ sq. ft. area of land.

5. Title reference for the project parcel(*s*) is the Strafford County Registry of Deeds, Book No. ___, Page No. ___.

6. Reference Plans: (*List all reference plans and their SCRD #)*

7. All applicable right-of-way, conservation, slope, construction, power line, cross travel, or other easements shall be referenced in a note.

8. Zoning dimensional and density requirements are as follows:

   Required: Provided:

   a. Zoning district _____ sub-district _____
   b. Minimum lot size: _____ acres (sq. ft.)
   c. Minimum lot frontage: _____ ft.
   d. Minimum yard setbacks/build-to-lines:
      Front _____ft.
      Side _____ft.
      Rear _____ft.
      Abut-a-street _____ ft.
   e. Maximum/minimum lot coverage _____ %
   f. Minimum/maximum bldg. height _____ ft./stories

   This property falls within the following zoning overlay districts: *(List districts)*

9. 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.

10. Property line information has been obtained from a survey performed by *(surveyor)* on (*date*) with an error not greater than 1 in 10,000 (*or has been obtained from* _____ *Plan, prepared by (surveyor)*).

11. Subject parcel is (*is not*) located within a Federally designated flood hazard area (Community panel number 33017C0xxxD, Effective Date: September 30, 2015).

12. Wetlands were delineated by _____, Certified Wetlands Scientist, Certification Number ____, in accordance with Chapter 170-27.1 of the Zoning Ordinance, on _____, 20___.

13. As-built plans of the subdivision 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.

14. The installation of electric power, cable television and telephone lines shall be underground throughout the site for which development is proposed. Subdivision plans shall show any easements for these services.

15. The subject parcel(s) is (are) served by municipal water and sewer (*or is served by on-site well and septic system*).

16. 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.

17. All erosion control notes shall 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.

18. The limits of construction disturbance that are located in or within the 50 ft. of Conservation and Wetland Districts shall be staked, flagged and clearly identified prior any earth disturbing activity occurs.

19. All treatment swales to be constructed shall have sod bottoms.

20. 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.

21. 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.

22. Site Construction hours shall be limited to Monday-Friday 7 AM-6 PM, Saturday and Sunday 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 Assistant City Manager.

23. Building addresses (including apt/unit numbers if applicable) shall be assigned by the Building Official at the time of issuance of a building permit.

24. The proposed use for the site (structure) is _____. (More specific uses are encouraged, such as single family, duplex, multi-family, restaurant, hotel, doctor's office, etc. Should more than one use be proposed, an indication of the percentage of each use is suggested.)

25. The following federal and state permits have been issued for the subject property: (*List permit type, number and date of issuance.)*

26. Commercial vehicle route during construction shall conform to Dover City Code or be coordinated with the Community Services Director.

27. Any retaining wall taller than four feet (4') requires issuance of a building permit from Inspection Services.

28. Any fence taller than seven feet (7') requires the issuance of a building permit from Inspection Services.

29. Applicant shall complete Land Use Development Tracking Form, most recently revised version, utilizing the online Pollution Tracking and Accounting Pilot Project (PTAPP) portal. https://www.unh.edu/unhsc/ptapp

30. 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.

31. 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.

32. No roadway with private utility easements shall be accepted as a public road by the City unless the easements are expunged prior to the transfer of land to the City. License agreements for any and all private utilities within the right of way may be granted by the City upon acceptance of the unencumbered roadway consistent with applicable state law.

33. Topography depicted is based on U.S.G.S. NVD 1988. (**or** Topography depicted is based on information obtained from the City Engineer's Office and was derived from coordinates for control stations _____ and _____. These coordinates have not been adjusted to 1983 datum).

34. Basis of bearing is the City of Dover GIS system stations _____ and _____ which were used to determine location, orientation and vertical datum.

PLANNING BOARD FEE SCHEDULE

(Revised September 17, 2020)

Below are the fees associated with plan review and are subject to a nonrefundable application fee to cover administrative expenses. Please complete the information below and provide payment with your application submittal. **Plan review fees shall be paid prior to technical review committee (TRC) being scheduled.** For plans not requiring TRC review, **fees are due 21 days prior** to the Planning Board meeting. Staff will coordinate abutter/notice fees, which will be invoiced and must be paid 28 hours before the Planning Board meeting for an application to be heard. Fees shall be paid by cash or check made payable to "City of Dover".

A. Plan Review Fees

1. Application fee for the following (SELECT ALL THAT APPLY):

- [X] SUBDIVISION Application fee $200.00 + $150.00 x # 2 new lots created = $500.00
- [ ] LOT LINE ADJUSTMENT Application fee $200.00 + $100.00 X # ___ of lots involved = $_____
- [ ] TRANSFER OF DEVELOPMENT RIGHTS Application fee $200.00 = $_____
- [X] SITE REVIEW – RESIDENTIAL Application fee $200.00+ $100.00 x # 87 per dwelling unit = $8,900.00
- [ ] SITE REVIEW – NON-RESIDENTIAL Application fee $200.00 + (not to exceed $10,000)
  - New construction $.15 sq. ft. x # _____ sq. ft.= $_____
  - Additions (new floor space) $.10 per sq. ft. x # _____sq. ft.= $_____
- [ ] MOTEL/HOTEL $35.00 x # ___ per lodging unit= $_____
- [ ] CHANGE OF USE Application fee $200.00 + (not to exceed $5,000)
  - Existing floor spaces $.10 per sq. ft. x # _____ sq. ft. = $_____
- [X] CONDITIONAL USE PERMIT Application fee $200.00 x # 2 per Application = $400.00
- [ ] GRAVEL PIT/ EXCAVATIONS
  - Application fee $50.00= $_____
  - Permit fee $75.00= $_____
- [ ] EXTENSIONS/AMENDMENTS/WAIVERS FOR AN APPROVED PLAN Application fee $200.00 = $_____
- [ ] REQUEST FOR REZONING Application fee $200.00 = $_____
- [ ] DRIVEWAY WAIVER Application fee $200.00 = $_____

SUB TOTAL= $9,800.00

AND

2. TOTAL IMPERVIOUS PAVED AREA (for new development, roadways or additions to existing parking lots, (not to exceed $10,000)) Application fee $200.00 + $.07 sq. ft. x # 15,841 = **$1,308.87**

TOTAL PLAN REVIEW FEE= $11,108.87

B. Abutter Notification/Mailing Labels - this office will create and print the abutter list and provide labels in triplicate for each abutter. The applicant/owner will need to review the list and provide to this office the engineer, architect, licensed land surveyor (LLS), licensed landscape architect (LLA) and/or soil scientist whose professional seal appears on the plan with names and addresses for notices.

- [ ] Applicant & Owner, engineer, architect, LLS, LLA and/or soil scientist
  - Certified letters fee # 4 of x $8.00= $32.00
- [ ] Certified letters fee: # of abutters 8 X $8.00= $64.00
- [ ] First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X $1.00= $_____
- [ ] Creating/Printing Abutter Labels in triplicate per sheet 2 x $10.00= $20.00

SUB TOTAL= $116.00

C. Foster's newspaper public notice fee $100.00 x # 3 applications = $300.00

TOTAL NOTICE FEE= $416.00

The above amount must be paid 28 hours prior to the Planning Board meeting, to be heard.

400 Harvey Road, Manchester, NH 03103 | T (603) 627-5500 | F (603) 627-5501
allenmajor.com

ALLEN & MAJOR ASSOCIATES, INC.

List of Waivers for Subdivision Application

Jewett Circle
35/37 Chestnut Street
(Map 31 Lot 4)
Dover, NH

1. Section 155-33 A. Street Design – Minimum Right-of-Way width
    a. Required: 50 feet for local streets of up to 5 lots
    b. Provided: 45 feet

2. Section 155-48 C. Cul-De-Sac
    a. Required: Outer pavement radius of 60 feet
    b. Provided: Outer pavement radius of 50 feet

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JEWETT
CONSTRUCTION CO.
DESIGN BUILDERS
CONSTRUCTION MANAGERS
68A Route 27 • P.O. Box 405 • Raymond, NH 03077
(603) 895-2412 • www.jewettconstruction.com

October 1, 2020

Alison Jewett, General Manager
Jewett Construction Co., LLC
PO Box 405
Raymond, NH 03077

Re: 35-37 Chestnut Street – Off-site Parking
5 Grove Street Lot – Reserved Parking Memorandum

To Whom it May Concern,

The parking lot at 5 Grove Street is proposed as "off-site parking" for the proposed development at 35-37 Chestnut Street. It is my understanding that there are currently 20 spaces striped at the lot. Nine (9) parking spaces are currently leased. All leases are month-to month.

Pending the approval of the 35-37 Chestnut Street project, it is our intent that all the current lease holders will be given respectful notices that their parking leases will not be renewed. No further leases will be signed, and all leases are expected to expire on or before January 1, 2021. At that time, the entirety of the 5 Grove Street lot will be reserved for use by the future residents of 35-37 Chestnut Street. There are currently no future intentions to lease any of the spaces at 5 Grove Street for any use other than the above stated.

Please do not hesitate to reach out with any questions. My number is (603)-479-3007.

Sincerely,

Alison Jewett, General Manager
Jewett Construction

The Station

35/37 Chestnut Street

Dover, New Hampshire

October 14, 2020

Jewett Construction

Raymond, New Hampshire

THA ARCHITECTS, LLC
ARCHITECTURE ▪ PLANNING ▪ CONSULTING ▪ INTERIOR DESIGN
89 WILLOWBROOK AVENUE ▪ STRATHAM, NH 03885
Tel: (603) 770-2491 ▪ Fax: (603) ▪ WWW.THAARC.COM

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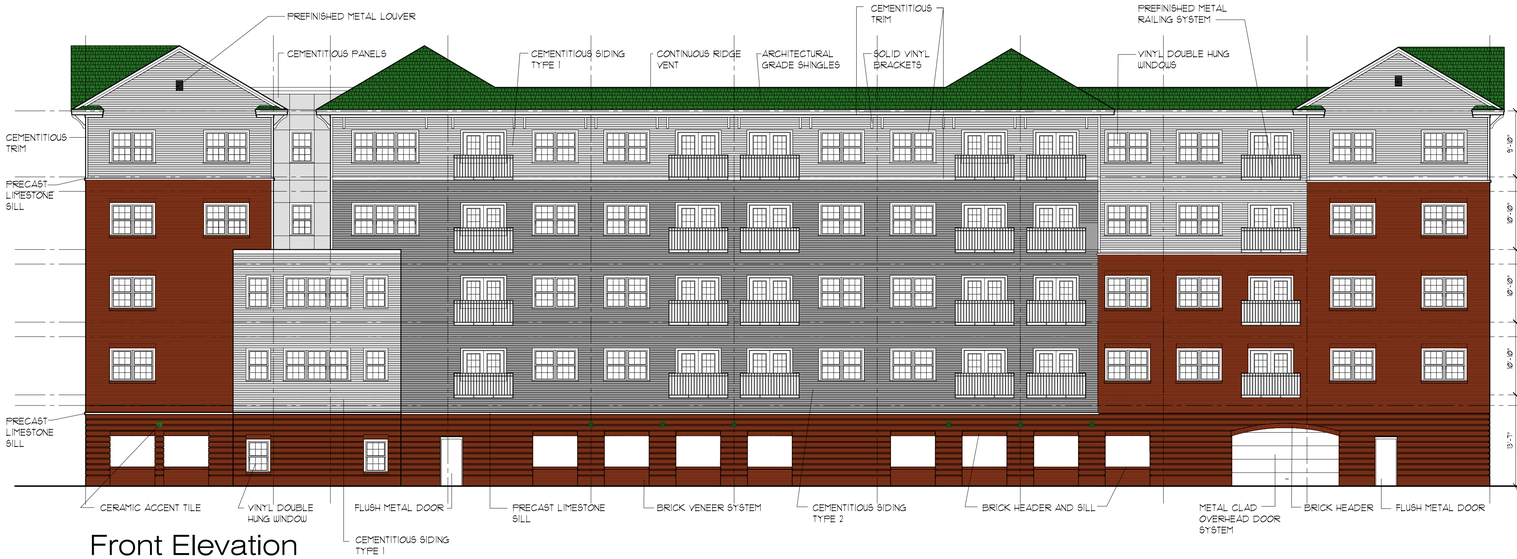
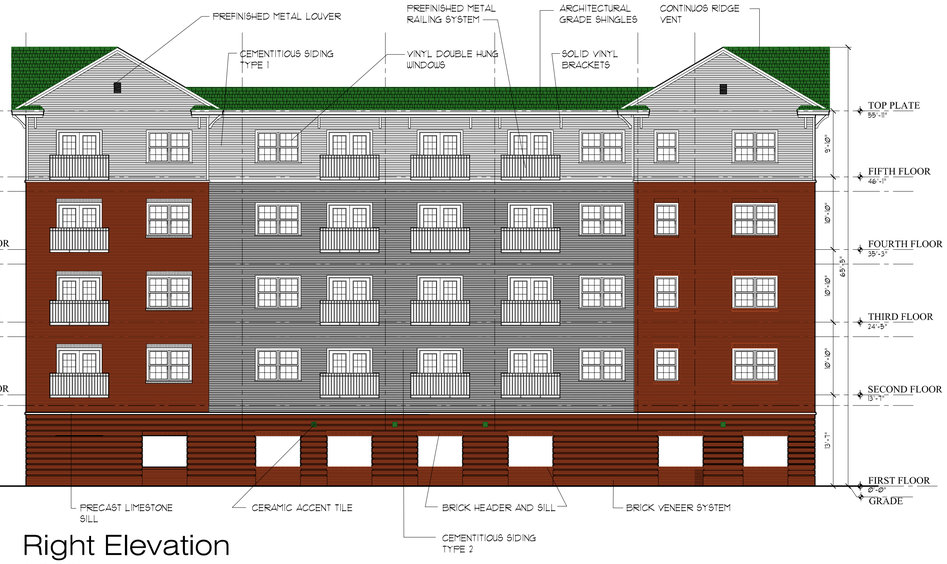


Front Elevation

1/16"=1'-0"



Right Elevation

1/16"=1'-0"

Rear Elevation

1/16"=1'-0"

Left Elevation

1/16"=1'-0"

The Station

35/37 Chestnut Street

Dover, New Hampshire

October 14, 2020

Jewett Construction

Raymond, New Hampshire

A LICENSED ARCHITECT THOMAS HOUSE No. 2380 THE STATE OF NEW HAMPSHIRE

THA ARCHITECTS, LLC

ARCHITECTURE ▪ PLANNING ▪ CONSULTING ▪ INTERIOR DESIGN

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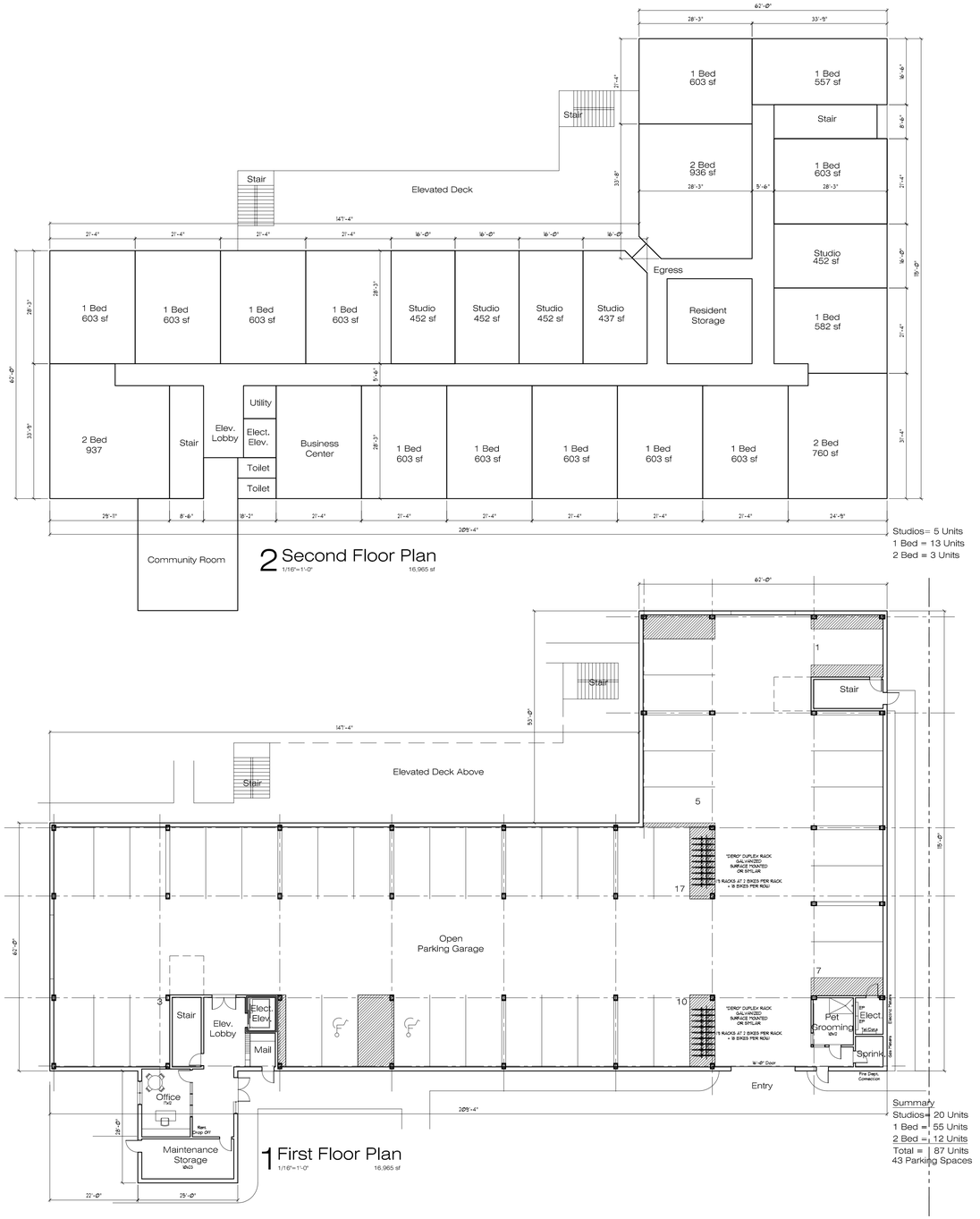

The Station

35/37 Chestnut Street

Dover, New Hampshire

October 14,, 2020

Jewett Construction

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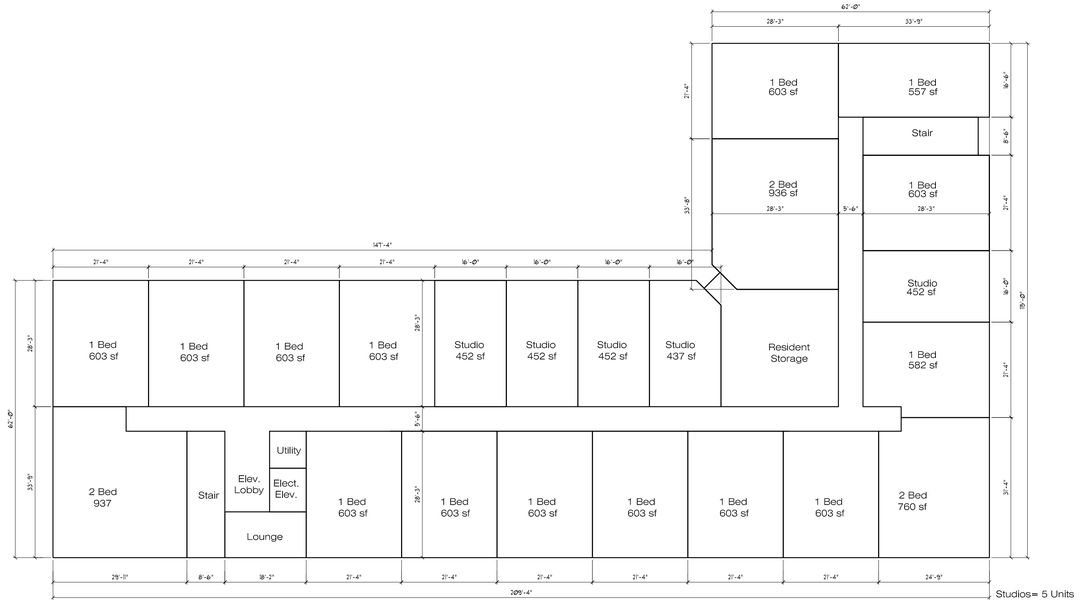
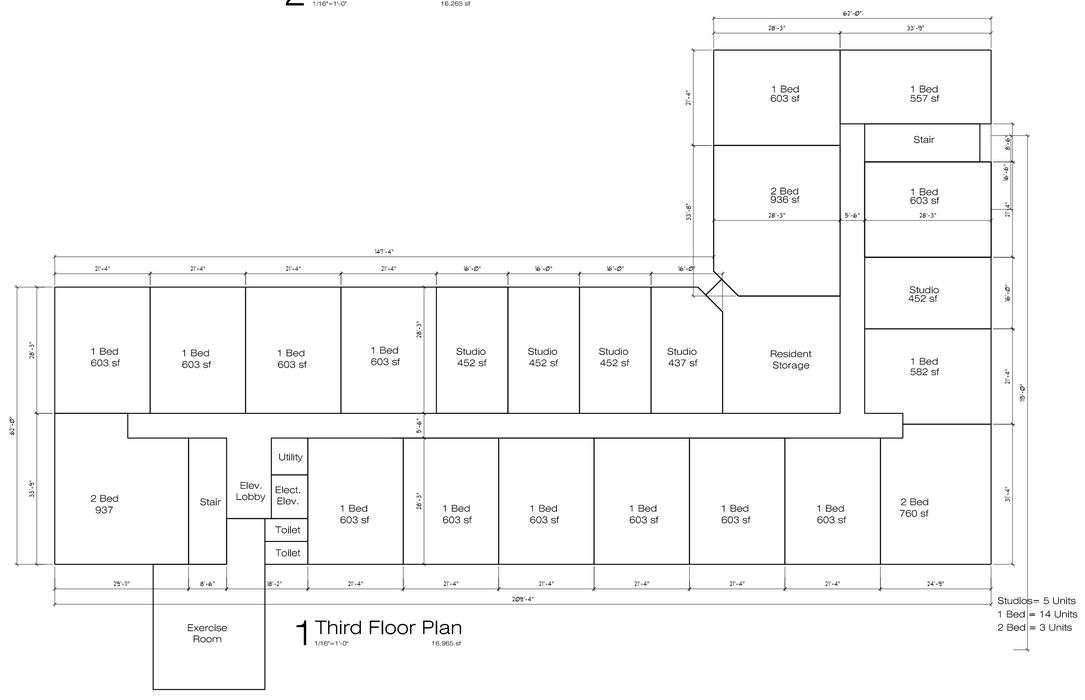


2 Fourth Floor Plan
1/16"=1'-0"
16,265 sf

Studios= 5 Units
1 Bed = 14 Units
2 Bed = 3 Units



1 Third Floor Plan
1/16"=1'-0"
16,965 sf

Studios= 5 Units
1 Bed = 14 Units
2 Bed = 3 Units

The Station

35/37 Chestnut Street

Dover, New Hampshire
October 14,, 2020

Jewett Construction

Raymond, New Hampshire

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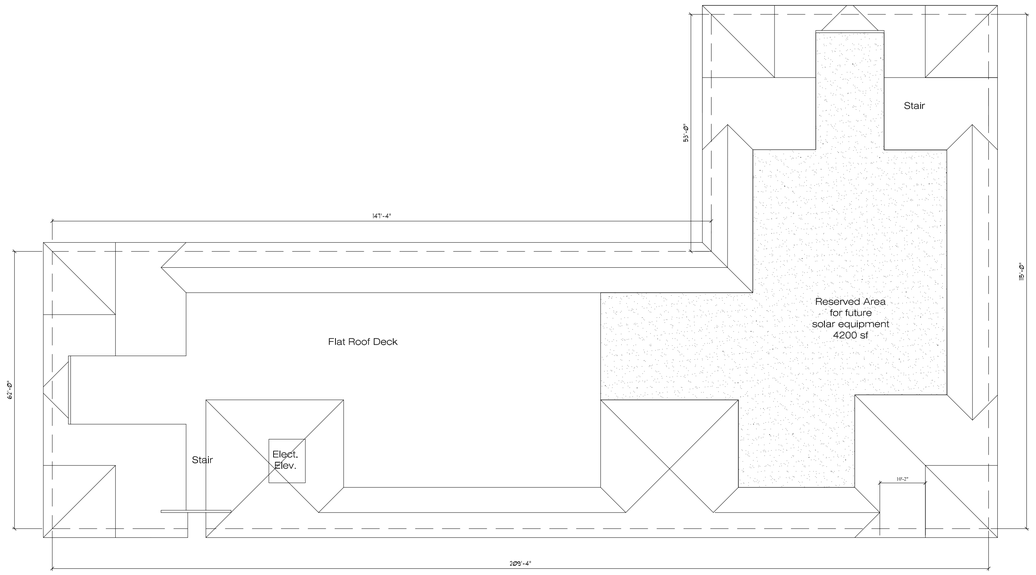
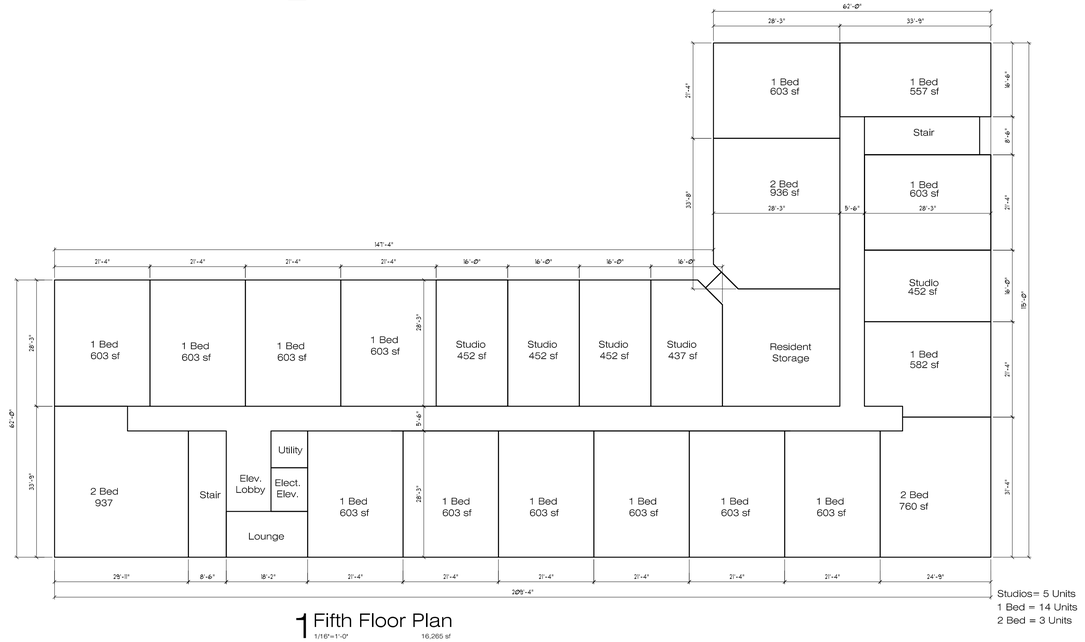


2 Roof Plan



Studios= 5 Units
1 Bed = 14 Units
2 Bed = 3 Units

1 Fifth Floor Plan
1/16"=1'-0" 16,265 sf

The Station

35/37 Chestnut Street

Dover, New Hampshire
October 14,, 2020

Jewett Construction

Raymond, New Hampshire

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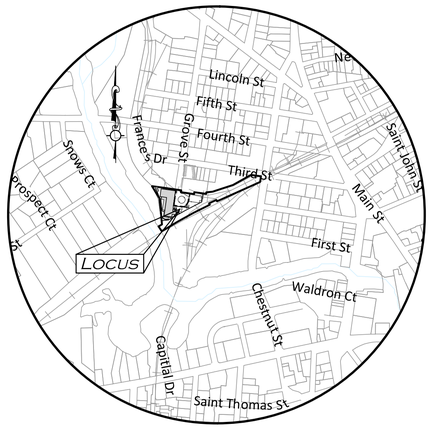
SITE DEVELOPMENT PLANS FOR

THE STATION

35/37 CHESTNUT STREET (MAP 31, LOT 4)

DOVER, NEW HAMPSHIRE



LOCUS MAP
SCALE: 1" = 600'

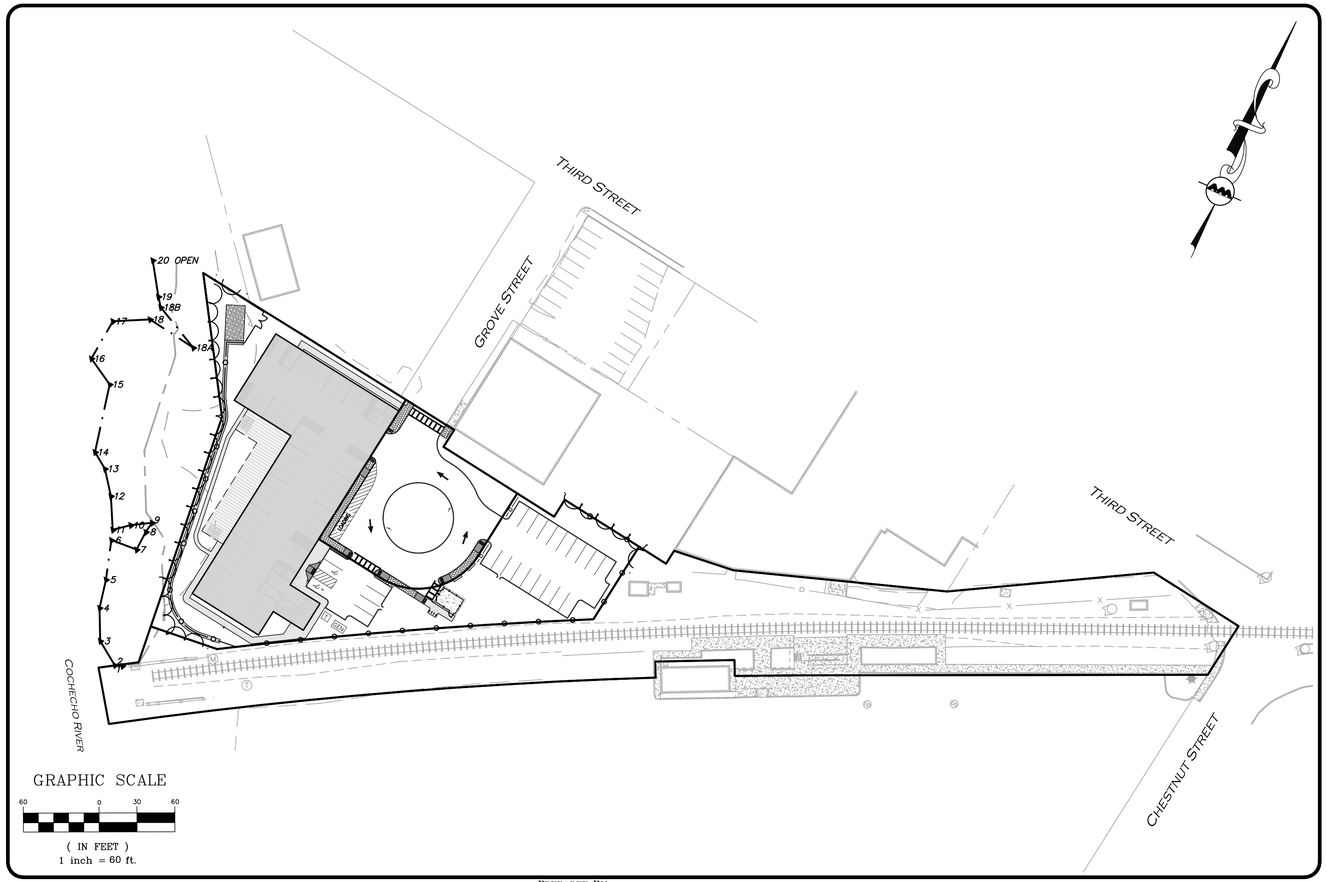
OWNER:
BOSTON & MAINE RAILROAD
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO., LLC
68A ROUTE 27
RAYMOND, NH 03077
603.895.2412

CIVIL ENGINEER / SURVEYOR / LANDSCAPE ARCHITECT:
ALLEN & MAJOR ASSOCIATES, INC.
400 HARVEY ROAD
MANCHESTER, NH 03103
PHONE: 603.627.5500

ARCHITECT:
THA ARCHITECTS, LLC
89 WILLOWBROOK AVENUE
STRATHAM, NH 03885
603.770.2491

WETLAND SCIENTIST:
TES ENVIRONMENTAL CONSULTANTS, LLC
1494 ROUTE 3A, UNIT 1
BOW, NH 03304
603.856.8925



LIST OF DRAWINGS			
DRAWING TITLE	SHEET NO.	ISSUED	REVISED
EXISTING CONDITIONS	V-101	07-30-20	-
EXISTING CONDITIONS	V-102	07-30-20	-
OVERALL SITE PLAN	C-100	08-13-20	10-14-20
SITE PREPARATION PLAN	C-101	08-13-20	10-14-20
LAYOUT & MATERIALS PLAN	C-102	08-13-20	10-14-20
GRADING & DRAINAGE PLAN	C-103	08-13-20	10-14-20
UTILITIES PLAN	C-104	08-13-20	10-14-20
NEIGHBORHOOD PLAN	C-105	08-13-20	10-14-20
FIRE TRUCK TURNING PLAN	C-106	08-13-20	10-14-20
DETAILS	C-501	08-13-20	10-14-20
DETAILS	C-502	08-13-20	10-14-20
DETAILS	C-503	08-13-20	10-14-20
DETAILS	C-504	08-13-20	10-14-20
LANDSCAPING PLAN	L-101	08-13-20	10-14-20
LANDSCAPING PLAN	L-102	10-14-20	-
LANDSCAPING DETAILS	L-501	08-13-20	10-14-20
SITE LIGHTING PLAN	E-101	08-13-20	10-14-20

PERMITS/APPROVALS			
	PERMIT NUMBER	APPROVED DATE	EXPIR. DATE
CITY OF DOVER CONDITIONAL USE PERMIT	TBD	TBD	N/A
CITY OF DOVER SITE PLAN REVIEW	P20-56	TBD	N/A

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – BRIAN D. JONES No. 13809 LICENSED

10.14.20

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
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MANCHESTER, NH 03103
TEL: (603) 627-5500
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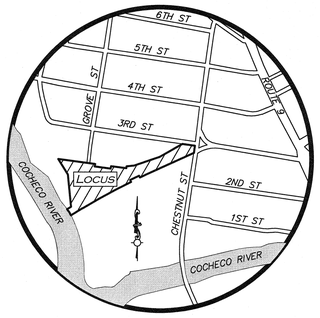
ISSUED FOR SITE REVIEW & CONDITIONAL USE: AUGUST 13, 2020

REVISION 1: OCTOBER 14, 2020

PLANNING BOARD FILE NUMBER: P20-56

R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_COVER.DWG



LOCUS MAP
(NOT TO SCALE)

WETLAND NOTE:

THOMAS SOKOLOSKI, CERTIFIED WETLAND SCIENTIST #127, OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. OF BOW, NH, PERFORMED THE WETLAND MAPPING ON JULY 15, 2020 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

UTILITY STATEMENT

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. ALLEN & MAJOR ASSOCIATES, INC. (A&M) MAKES NO GUARANTEE THAT THE UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. A&M FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. A&M HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

BENCHMARK SUMMARY

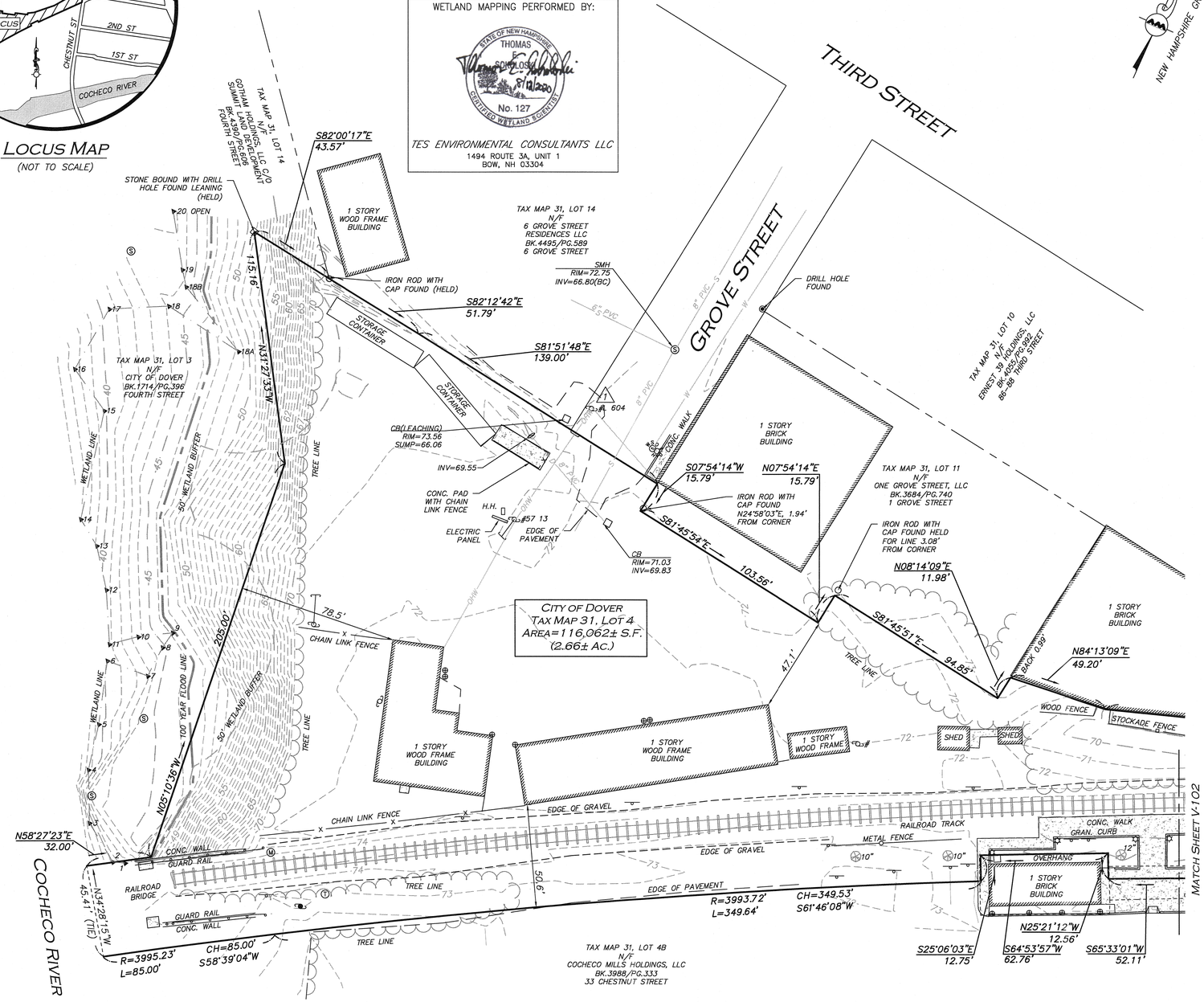
TBM #	DESCRIPTION	ELEV.
1	SPIKE SET IN UP# L-604	73.44

WETLAND MAPPING PERFORMED BY:

STATE OF NEW HAMPSHIRE — THOMAS E. SOKOLOSKI — CERTIFIED WETLAND SCIENTIST — No. 127 — 8/12/2020

TES ENVIRONMENTAL CONSULTANTS LLC
1494 ROUTE 3A, UNIT 1
BOW, NH 03304

NEW HAMPSHIRE GRID (NAD 83)



LEGEND

DRILL HOLE (DH)	◉
STONE BOUND (SB)	⊡
IRON PIPE (IP)	○
IRON ROD (IR)	○
MAG SIGNAL	△
DRAIN MANHOLE (DMH)	Ⓓ
SEWER MANHOLE (SMH)	Ⓢ
MISC. MANHOLE (MH)	Ⓜ
TELEPHONE MANHOLE (TMH)	Ⓣ
CATCH BASIN (CB)	□
UTILITY POLE	
UTILITY POLE W/LIGHT	
GUY WIRE	
FIRE HYDRANT	
WATER GATE	
BOLLARD	
INVERT (INV)	
TREE	
SIGN	
HANDICAP RAMP	
HANDICAPPED PARKING SPACE	
CONCRETE	
BUILDING	
BUILDING OVERHANG	
WETLAND	
BUFFER ZONE	
1' CONTOUR	53
5' CONTOUR	55
PROPERTY LINE	
ABUTTERS LINE	
TREE LINE	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
CHAIN LINK FENCE	x
STOCKADE FENCE	
METAL FENCE	
GUARDRAIL	
WATER LINE	W
SEWER LINE	S
DRAIN LINE	D
TELEPHONE LINE	T
OVERHEAD WIRES	OHW
FINISHED FLOOR ELEVATION	FFE
BITUMINOUS	BIT.
CONCRETE	CONC.
GRANITE	GRAN.
POLYVINYL CHLORIDE PIPE	PVC
BOTTOM CENTER	(BC)
NOW OR FORMERLY	N/F
BOOK	BK.
PAGE	PG.

LOCUS REFERENCES

- CITY OF DOVER TAX MAP 31, LOT 4
- PLAN ENTITLED, "LAND IN DOVER, NH BOSTON & MAINE CORPORATION, TAX MAP 31, LOT 4 CHESTNUT STREET, GROVE STREET, THIRD STREET AND FIFTH STREET", SCALE 1"=60', DATED JUNE, 1992, REVISED OCTOBER, 1992, PREPARED BY AMBIT SURVEY, RECORDED AT THE S.C.R.D. AS PLAN NO. 41-41.

NOTES

1. NORTH ARROW IS BASED ON NEW HAMPSHIRE GRID COORDINATE SYSTEM (NAD 83).
2. BOOK/PAGE AND PLAN REFERENCES ARE TAKEN FROM STRAFFORD COUNTY REGISTRY OF DEEDS IN DOVER, NH
3. VERTICAL DATUM IS NAVD 88 ESTABLISHED USING RTK GPS OBSERVATION.
4. CONTOUR INTERVAL IS ONE FOOT (1').
5. SEE SHEET 2 FOR PLAN REFERENCES.
6. SEE: S.C.R.D. BK. 3628, PG. 925 AT&T 16.5' WIDE UNDERGROUND TELECOMMUNICATIONS LINE. NO LOCATION OBSERVED, NO PLAN FOUND.

GRAPHIC SCALE

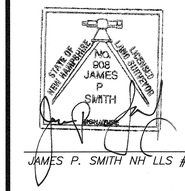
30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

R:\PROJECTS\2464-03\SURVEY\DRAWINGS\CURRENT\S-2464-03-PL.DWG
FB# NH-14

THIS PLAN IS THE RESULT OF AN ACTUAL ON THE GROUND SURVEY PERFORMED ON OR BETWEEN JULY 22, 2020 AND JULY 28, 2020 AND HAD AN ERROR OF CLOSURE OF NO GREATER THAN 1/10,000.

ALLEN & MAJOR ASSOCIATES, INC.



JAMES P. SMITH NH LLS #908 — 8-20-2020 DATE

REV	DATE	DESCRIPTION

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO., INC.
68A ROUTE 27 - P.O. BOX 405
RAYMOND, NH 03077

PROJECT:
TAX MAP 31, LOT 4
35/37 CHESTNUT STREET
DOVER, NH

PROJECT NO.	2464-03	DATE:	8/20/20
SCALE:	1" = 30'	DWG. NAME:	S-2464-03-PL
DRAFTED BY:	AJR	CHECKED BY:	JPS

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
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MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE: EXISTING CONDITIONS

SHEET No. V-101

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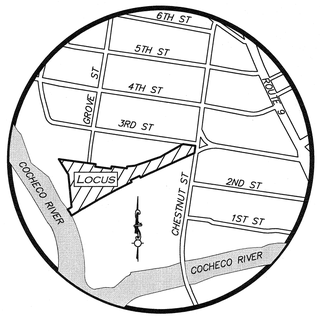

LOCUS MAP
(NOT TO SCALE)

BENCHMARK SUMMARY		
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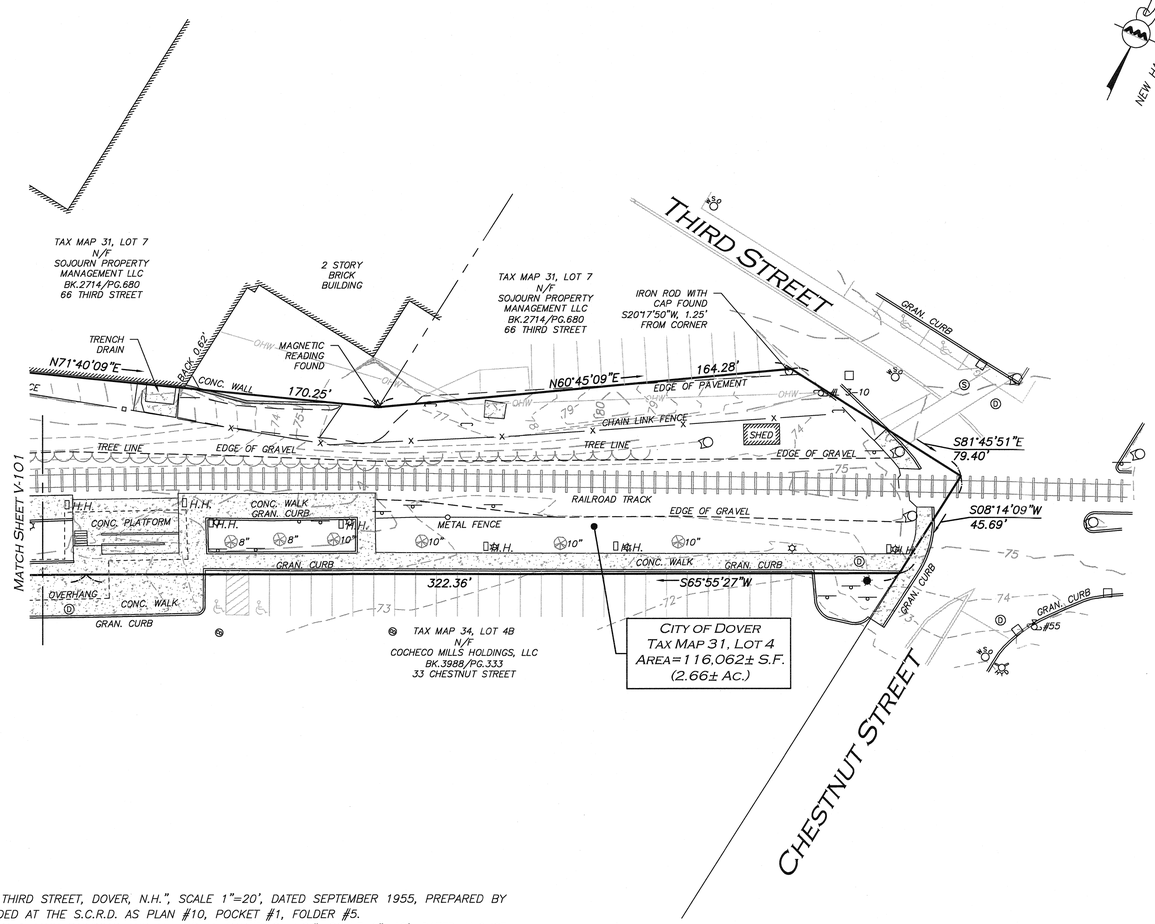

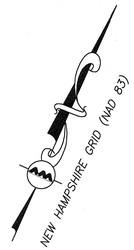

LEGEND

DRILL HOLE (DH)	
STONE BOUND (SB)	
IRON PIPE (IP)	
IRON ROD (IR)	
MAG SIGNAL	
DRAIN MANHOLE (DMH)	D
SEWER MANHOLE (SMH)	S
MISC. MANHOLE (MH)	M
TELEPHONE MANHOLE (TMH)	T
CATCH BASIN (CB)	
UTILITY POLE	
UTILITY POLE W/LIGHT	
GUY WIRE	
FIRE HYDRANT	
WATER GATE	
BOLLARD	
INVERT (INV)	
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SIGN	
HANDICAP RAMP	
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1' CONTOUR	53
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PROPERTY LINE	
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TREE LINE	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
CHAIN LINK FENCE	x
STOCKADE FENCE	
METAL FENCE	
GUARDRAIL	
WATER LINE	W
SEWER LINE	S
DRAIN LINE	D
TELEPHONE LINE	T
OVERHEAD WIRES	OHW
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GRANITE	GRAN.
POLYVINYL CHLORIDE PIPE	PVC
BOTTOM CENTER	(BC)
NOW OR FORMERLY	N/F
BOOK	BK.
PAGE	PG.

PLAN REFERENCES

- PLAN ENTITLED, "PLAN OF HEMON PROPERTY THIRD STREET, DOVER, N.H.", SCALE 1"=20', DATED SEPTEMBER 1955, PREPARED BY G.L. DAVIS & ASSOCIATES ENGINEERS, RECORDED AT THE S.C.R.D. AS PLAN #10, POCKET #1, FOLDER #5.
- PLAN ENTITLED, "LAND IN DOVER, N.H. BOSTON & MAIN RAILROAD AND M. AND M. BAKERIES, INC.", SCALE 1"=40', DATED AUGUST 1946, PREPARED BY J. CRONIN, RECORDED AT THE S.C.R.D. AS PLAN #25, POCKET #2, FOLDER #15.
- PLAN ENTITLED, "PLAN OF LAND M&M BAKERIES, DOVER NEW HAMPSHIRE", SCALE 1"=20', DATED DECEMBER 1954, PREPARED BY GRANT DAVIS LLS NO. 60, RECORDED AT THE S.C.R.D. AS PLAN #6, POCKET #2, FOLDER #20.
- PLAN ENTITLED, "LAND OF ANTHONY CONSENTINO GROVE STREET, DOVER, N.H.", SCALE 1"=20', DATED NOVEMBER 1, 1988, PREPARED BY BERRY SURVEYING & ENGINEERING, RECORDED AT THE S.C.R.D. AS PLAN 35-129.
- PLAN ENTITLED, "LAND IN DOVER, NH BOSTON & MAIN CORPORATION TO JOSEPH G. SAWTELLE JR. CHESTNUT STREET", SCALE 1"=30', DATED JUNE 1992, REVISED OCTOBER 1992, PREPARED BY AMBIT SURVEY, RECORDED AT THE S.C.R.D. AS PLAN 41-40.
- PLAN ENTITLED, "SUBDIVISION PLAN BOSTON & MAINE RAILROAD FOURTH STREET, THIRD STREET AND GROVE STREET DOVER, NEW HAMPSHIRE", SCALE 1"=30' DATED JUNE 11, 2002, PREPARED BY TRITECH, ENGINEERING CORPORATION, RECORDED AT THE S.C.R.D. AS PLAN 65-57.
- PLAN ENTITLED, "LOT LINE REVISION PLAN LAND OF BOSTON & MAINE CORPORATION TO ANTHONY CONSTENTINO REVOCABLE TRUST GROVE STREET, DOVER, N.H.", SCALE 1"=20', DATED JULY 28, 2008, PREPARED BY BERRY SURVEYING & ENGINEERING, RECORDED AT THE S.C.R.D. AS PLAN 95-88.
- PLAN ENTITLED, "SITE PLAN, CONDOMINIUM PLAN, DOVER, NH SHOWING UNITS 1 AND 2 OF THE 86-88 THIRD STREET CONDOMINIUM AT 86 & 88 THIRD STREET (ASSESSORS MAP 310, LOT 10) RECORD OWNER ERNEST 39 HOLDING, LLC 26 TIDEWATER FARM ROAD GREENLAND, NH 03840", SCALE 1"=10', DATED APRIL 27, 2015, PREPARED BY MILLENNIUM ENGINEERING, INC, RECORDED AT THE S.C.R.D. AS PLAN 110-01.
- PLAN ENTITLED, "LOT LINE REVISION FOR 6 GROVE STREET RESIDENCES, LLC & GOTHAM HOLDINGS, LLC THIRD & GROVE STREET, DOVER, NH", SCALE 1"=20', DATED NOVEMBER 1, 2017, LAST REVISED MAY 10, 2018, PREPARED BY BERRY SURVEYING & ENGINEERING, RECORDED AT THE S.C.R.D. AS PLAN 116-35.

NOTES

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4. CONTOUR INTERVAL IS ONE FOOT (1').

GRAPHIC SCALE

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(IN FEET)
1 inch = 30 ft.

R:\PROJECTS\2464-03\SURVEY\DRAWINGS\CURRENT\S-2464-03-PL.DWG
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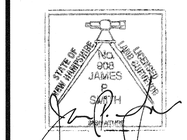

JAMES P. SMITH NH LLS #908 — 8-20-2020 DATE

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SCALE:	1" = 30'	DWG. NAME:	S-2464-03-PL
DRAFTED BY:	AJR	CHECKED BY:	JPS

PREPARED BY:

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environmental consulting ◆ landscape architecture
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DRAWING TITLE:
EXISTING CONDITIONS

SHEET No.
V-102

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RESOURCE NOTES:

1. A PORTION OF THE SUBJECT PARCEL IS LOCATED WITHIN A FEDERALLY DESIGNATED FLOOD HAZARD AREA (COMMUNITY PANEL NUMBER 33017C0310E, EFFECTIVE DATE: SEPTEMBER 30, 2015).
2. WETLANDS SHOWN HEREON WERE FIELD DELINEATED BY THOMAS E. SOKOLOSKI, CERTIFIED WETLAND SCIENTIST, CERTIFICATION NUMBER 127, IN ACCORDANCE WITH CHAPTER 170-27.1 OF THE ZONING ORDINANCE, ON JULY 15, 2020.

CITY NOTES:

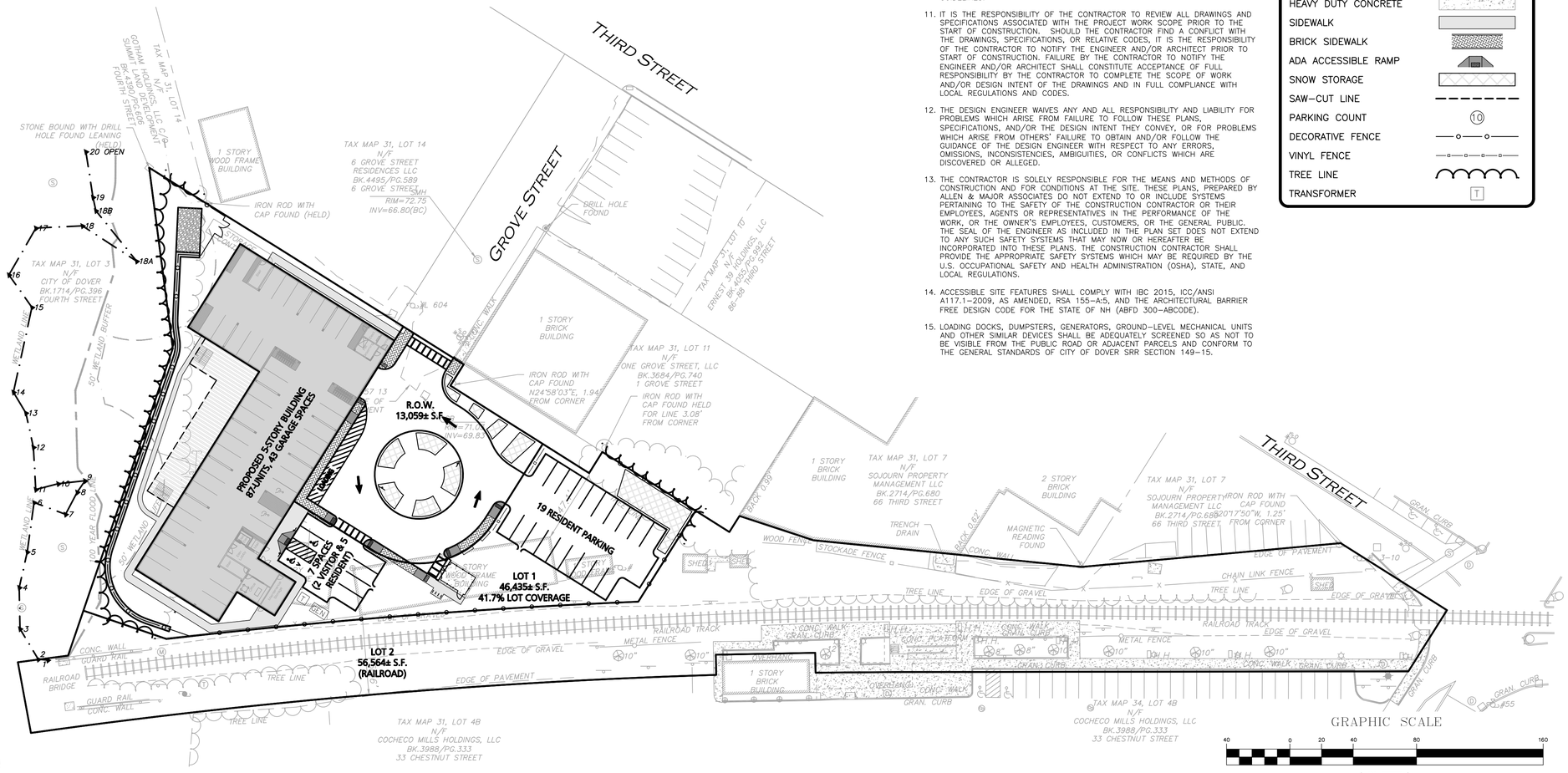
3. THE PURPOSE OF THIS PLAN IS TO GAIN SITE REVIEW APPROVAL AND TWO CONDITIONAL USE PERMITS.
4. THE PARCEL IS SHOWN AS LOT NO. 4, MAP 31 OF THE CITY OF DOVER TAX ASSESSOR'S MAPS.
5. THE SUBJECT PARCEL CONTAINS 2.66 ACRES OR 116,062 SQUARE FEET AREA OF LAND.
6. TITLE REFERENCE FOR THE PROJECT PARCEL IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, BOOK NO. 235 PAGE 592, BOOK 348 PAGE 171, BOOK 191 PAGE 87, BOOK 366 PAGE 573, BOOK 366 PAGE 551, BOOK 319 PAGE 327, BOOK 294 PAGE 5, BOOK 190 PAGE 432, BOOK 206 PAGE 592, BOOK 354 PAGE 112, BOOK 260 PAGE 393, BOOK 240 PAGE 224.
7. THIS SITE PLAN ASSUMES THAT THE SUBJECT PARCEL WILL BE SUBDIVIDED AND A PORTION OF THE PARCEL WILL BE CONVERTED TO A PUBLIC RIGHT-OF-WAY NAMED JEWETT CIRCLE.
8. THE FOLLOWING CONDITIONAL USE PERMITS HAVE BEEN REQUESTED AND ARE PENDING APPROVAL: SECTION 170-27.F.(1) – WORK WITHIN THE 50' WETLAND BUFFER; SECTION 170-20.D. – LOT COVERAGE & FRONTAGE BUILDOUT.
9. AS-BUILT PLANS OF THE SUBDIVISION 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.
10. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION, AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED.
11. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
12. 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.
13. ALL EROSION CONTROL NOTES SHALL 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.
14. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR ANY EARTH DISTURBING ACTIVITY OCCURS.
15. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
16. 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.
17. 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.
18. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM-6 PM, SATURDAY 9 AM- 4 PM. NO WORK SHALL BE PERMITTED ON SUNDAY. 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 ASSISTANT CITY MANAGER.
19. BUILDING ADDRESSES (INCLUDING APT/UNIT NUMBERS IF APPLICABLE) SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
20. THE PROPOSED USE FOR THE SITE IS MULTI-FAMILY RESIDENTIAL.
21. NO FEDERAL OR STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY AT THIS TIME.
22. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
23. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
24. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
25. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL. HTTPS://WWW.UNH.EDU/UNHSC/PTAPP
26. 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.
27. 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.
28. THE MAXIMUM PARKING SPACE CALCULATION IS **175** AND **89** SPACES ARE PROVIDED. SEE SHEET C-102 FOR A BREAK DOWN.
29. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
30. TOPOGRAPHIC SURVEY PERFORMED BY ALLEN & MAJOR ASSOCIATES ON OR BETWEEN JULY 22, 2020 AND JULY 28, 2020.
31. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 45, ARTICLE I, SECTION 45-2 OF THE CODE OF THE CITY OF DOVER.
32. APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
33. THE PROPOSED STRUCTURE 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.
34. 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.
35. 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.
36. 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.

GENERAL NOTES:

1. ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTIES DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED AND RESTORED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
2. ALL PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED AND RESTORED BY A SURVEYOR REGISTERED IN THE STATE OF NEW HAMPSHIRE AT THE CONTRACTORS EXPENSE.
3. ALL APPLICABLE PERMITS AND AN APPROVED SET OF PLANS SHALL BE AVAILABLE AT THE CONSTRUCTION SITE.
4. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A PRECONSTRUCTION MEETING WITH THE APPROPRIATE UTILITY COMPANIES, THE OWNER AND OWNER'S REPRESENTATIVE. THE MEETING SHALL TAKE PLACE PRIOR TO THE START OF CONSTRUCTION AND THE CONTRACTOR MUST PROVIDE 48 HOURS NOTICE TO ALL ATTENDEES PRIOR TO THE START OF THE MEETING.
5. APPROPRIATE WARNING SIGNS, MARKERS, BARRICADES AND/OR FLAGMEN SHALL BE PROVIDED TO REGULATE TRAFFIC. CONSTRUCTION TRAFFIC CONTROL SHALL BE IMPLEMENTED PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE LOCAL AUTHORITY.
6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ADDITIONAL BENCHMARK INFORMATION IF REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING BENCHMARKS. IF IT IS NECESSARY TO RELOCATE A BENCHMARK, IT SHALL BE RELOCATED BY A NEW HAMPSHIRE PROFESSIONAL LAND SURVEYOR AND DONE SO AT THE CONTRACTOR'S EXPENSE.
7. ALL PERMITS AND APPROVALS NECESSARY FROM AGENCIES GOVERNING THE WORK SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.
8. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY SITE WORK OR EARTHWORK OPERATIONS, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DETERMINED NECESSARY BY ON SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES, OR REGULATORY AGENCIES HAVING JURISDICTION AT NO ADDITIONAL COST TO THE OWNER.
9. CONSTRUCTION DURING WET WEATHER OR WINTER CONDITIONS IS TO BE ANTICIPATED AND PROVISIONS TO ADEQUATELY ADDRESS THESE CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
10. SNOW SHALL BE TAKEN OFF-SITE ONCE SNOW STORAGE AREAS ON SITE BECOME INADEQUATE, AND BEGINS TO BLOCK ACCESS TO AND FROM THE SITE OR BLOCKS THE USE OF ON-SITE PARKING. ANY EXCESS WILL BE BE TRUCKED OFF-SITE & DISPOSED OF IN ACCORDANCE WITH CITY OF DOVER AND NHDES GUIDELINES.
11. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE START OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DRAWINGS, SPECIFICATIONS, OR RELATIVE CODES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT PRIOR TO START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AND/OR DESIGN INTENT OF THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.
12. THE DESIGN ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS, AND/OR THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE GUIDANCE OF THE DESIGN ENGINEER WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES, OR CONFLICTS WHICH ARE DISCOVERED OR ALLEGED.
13. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY ALLEN & MAJOR ASSOCIATES DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK, OR THE OWNER'S EMPLOYEES, CUSTOMERS, OR THE GENERAL PUBLIC. THE SEAL OF THE ENGINEER AS INCLUDED IN THE PLAN SET DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PROVIDE THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), STATE, AND LOCAL REGULATIONS.
14. ACCESSIBLE SITE FEATURES SHALL COMPLY WITH IBC 2015, ICC/ANSI A117.1-2009, AS AMENDED, RSA 155-A:5, AND THE ARCHITECTURAL BARRIER FREE DESIGN CODE FOR THE STATE OF NH (ABFD 300-ABCODE).
15. LOADING DOCKS, DUMPSTERS, GENERATORS, GROUND-LEVEL MECHANICAL UNITS AND OTHER SIMILAR DEVICES SHALL BE ADEQUATELY SCREENED SO AS NOT TO BE VISIBLE FROM THE PUBLIC ROAD OR ADJACENT PARCELS AND CONFORM TO THE GENERAL STANDARDS OF CITY OF DOVER SRR SECTION 149-15.

LEGEND

PROP. PROPERTY LINE
SIGN
BOLLARD
BUILDING
BUILDING INTERIOR WALLS
CURB
TRAFFIC ARROWS
RETAINING WALL
PARKING STRIPING
HEAVY DUTY CONCRETE
SIDEWALK
BRICK SIDEWALK
ADA ACCESSIBLE RAMP
SNOW STORAGE
SAW-CUT LINE
PARKING COUNT (10)
DECORATIVE FENCE
VINYL FENCE
TREE LINE
TRANSFORMER (T)



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R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_LAYOUT & MATERIALS.DWG

STATE OF NEW HAMPSHIRE – BRIAN D. JONES No. 13809 Licensed PROFESSIONAL ENGINEER – 10.14.20

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
1	10-14-20	REVISION 1

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
THE STATION
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	08-13-20
SCALE:	1" = 40'	DWG. NAME:	C-2464-03.dwg
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE: OVERALL SITE PLAN

SHEET No. C-100

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PLANNING BOARD FILE NUMBER: P20-56

EROSION CONTROL AND SEDIMENT CONTROL NOTES

1. AS CONSTRUCTION DISTURBANCE IS GREATER THAN 1 ACRE, A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION GENERAL PERMIT NOI, AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WILL NEED TO BE SUBMITTED TO THE EPA NEW ENGLAND. THE NPDES PERMIT FOR STORM WATER DISCHARGE, & CONSTRUCTION GENERAL PERMIT NOI IS REQUIRED TO BE SUBMITTED AT LEAST 7 DAYS PRIOR TO COMMENCING CONSTRUCTION.

2. OWNER AND CONTRACTOR ARE RESPONSIBLE FOR COMPLIANCE WITH THE CONSTRUCTION GENERAL PERMIT NOI. COPIES OF ALL SWPPP REPORTS SHALL BE PROVIDED TO THE CITY OF DOVER WITHIN 3 DAYS OF EACH INSPECTION.

3. APPLICABLE WORK AND MATERIALS SHALL COMPLY WITH ALL CITY OF DOVER, NH DES, NH REGULATIONS AND CODES AND O.S.H.A. STANDARDS. ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE SITE PLAN REGULATIONS FROM THE CITY OF DOVER, NH PLANNING BOARD, AND THE PUBLIC WORKS DEPARTMENT SPECIFICATIONS, USDA SOIL CONSERVATION SERVICE VEGETATIVE PRACTICES IN SITE DEVELOPMENT.

4. AREAS WITH OVER 3:1 SLOPES SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET OR JUTE MESH.

5. SILT CONTROLS SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE ADEQUATE TO MAINTAIN SEDIMENT ON SITE. ANY MODIFICATIONS TO SILT CONTROLS SHOWN ON THE APPROVED PLANS AS A RESULT OF ACTUAL FIELD CONDITIONS OR CONSTRUCTION PRACTICES SHALL BE INSTALLED IN ACCORDANCE WITH B.M.P. (BEST MANAGEMENT PRACTICES) PER THE E.P.A. 1992 "STORMWATER MANAGEMENT FOR CONSTRUCTION ACTIVITIES" MANUAL. ANY SUCH MODIFICATIONS SHALL BE INSTALLED AS APPROVED BY THE ENGINEER.

6. AREAS OF EXPOSED SOIL UNDERGOING CONSTRUCTION THAT WILL NOT BE COVERED AND OR FINISHED GRADED WITHIN 7 DAYS OF EXPOSURE SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL MEASURES WITHIN 7 DAYS OF DISTURBANCE. TEMPORARY EROSION CONTROL MEASURES SHALL INCLUDE EROSION CONTROL MESH, NETTING OR MULCH AS DIRECTED BY THE OWNER'S REPRESENTATIVE AND SHOWN ON THE DESIGN PLANS. IF HAY OR STRAW MULCH IS USED IT SHALL BE APPLIED AT THE RATE OF 1.5 TO 2 TONS PER ACRE OR 70 TO 90 LBS. PER 1,000 S.F. APPLICATION AREA SHALL BE SUFFICIENTLY COVERED WITH MULCH TO AVOID ANY VISIBLE SOIL EXPOSURE. MULCH SHALL BE KEPT MOIST TO AVOID LOSS DUE TO WIND. MULCH AND NETTING SHALL BE APPLIED IN THE BASE OF ALL GRASSED WATERWAYS AND IN VEGETATIVE SLOPES WHICH EXCEED 15% AND DISTURBED AREAS WITHIN 100 FEET OF WETLANDS OR STREAMS.

7. IF DISTURBED AREAS DO NOT RECEIVE FINAL SEEDING BY SEPTEMBER 15 OF THE CONSTRUCTION YEAR, THEN ALL DISTURBED AREAS SHALL BE SEEDED WITH A WINTER COVER CROP AT THE RATE OF 2 LBS PER 1,000 SQUARE FEET. WINTER SEEDING SHALL BE COVERED WITH EROSION CONTROL MESH (MULCH AND NETTING). HEAVY GRADE MATS SHALL BE USED IN THE BASE OF ALL GRASSED WATERWAYS, ON VEGETATED SLOPES IN EXCESS OF 15%, AND ANY DISTURBED AREAS WITHIN 100 FEET OF WETLANDS OR STREAMS. MULCH AND NETTING SHALL ALSO BE PROVIDED FOR ADDITIONAL WINTER PROTECTION.

8. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 90 DAYS SHALL BE COVERED WITH HAY AND MULCH (AT 100LBS/1,000 SF), OR WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR 90 DAYS OR MORE SHALL BE SEEDED WITH WINTER RYE (FOR FALL SEEDING AT 3LB/1,000 SF) OR OATS (FOR SUMMER SEEDING AT 2LB/1,000 SF) AND THEN COVERED WITH HAY MULCH (AT 100LB/1,000 SF) OR AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL. LOAM SHALL BE STOCKPILED AT LOCATIONS DESIGNATED BY THE OWNER AND ENGINEER.

9. ALL FILTER BARRIERS, SILT SACKS, AND EROSION CONTROL MEASURES SHALL BE INSTALLED ACCORDING TO THE STORMWATER POLLUTION PREVENTION PLANS. THESE SHALL BE MAINTAINED DURING CONSTRUCTION TO REMOVE SEDIMENT FROM RUNOFF WATER. ALL THE FILTER BARRIERS AND EROSION CONTROL BERMS SHALL BE INSPECTED AFTER ANY RAINFALL OR RUNOFF EVENT, MAINTAINED AND CLEANED UNTIL ALL AREAS HAVE AT LEAST 85-90% VIGOROUS PERENNIAL COVER OF GRASSES.

10. A WATERING TRUCK SHALL BE USED TO PERIODICALLY SPRINKLE CONSTRUCTION AREAS IN ORDER TO KEEP THE LEVEL OF DUST TO A MINIMUM DURING THE DRY MONTHS AND AS REQUIRED IN ACCORDANCE WITH ENV-A1000.

11. THE CONTRACTOR SHALL USE EXTREME CAUTION TO AVOID ALLOWING SEDIMENTS TO ENTER THE STORM DRAIN SYSTEM DURING CONSTRUCTION. CATCH BASIN INLETS SHALL ALSO BE PROTECTED DURING CONSTRUCTION BY THE USE OF STONE INLET PROTECTION AROUND EACH INLET. SILT SACKS SHALL ALSO BE INSTALLED IN ALL EXISTING BASINS. INLET PROTECTION MAY BE REMOVED ONLY AFTER FINISHED AREAS ARE PAVED AND THE VEGETATED SLOPES ARE ESTABLISHED WITH AT LEAST 85-90% OF VIGOROUS PERENNIAL GROWTH.

12. REVEGETATION MEASURES SHALL COMMENCE IMMEDIATELY UPON THE COMPLETION OF CONSTRUCTION. FOLLOWING SEED BED PREPARATION ALL AREAS NOT NOTED TO RECEIVE COVER SHALL BE LOAM AND SEEDED. AREAS SEEDED BETWEEN MAY 15 TO AUGUST 15TH SHALL BE COVERED WITH HAY OR STRAW MULCH. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHALL BE ACHIEVED PRIOR TO OCTOBER 15TH. HAY AND STRAW MULCHES SHALL BE ANCHORED WITH MULCH NETTING OR TACKIFIER SO THAT THEY ARE NOT BLOWN AWAY BY WIND OR WASHED AWAY BY FLOWING WATER. HAY OR STRAW MULCH SHALL BE APPLIED AT A RATE OF 1.5 TO 2 TONS PER ACRE OR 70 TO 90 LBS. PER 1,000 S.F.

13. IN LIEU OF SOIL TESTS, SOIL AMENDMENTS FOR TEMPORARY SEEDED AREAS MAY BE APPLIED AS FOLLOWS:
    - 10-10-10 FERTILIZER (N-P205-K20 OR EQUAL)- APPLICATION RATE= 25 LBS/1,000 S.F.
    - GROUND LIMESTONE (85% OF TOTAL CARBONATES. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT 50% WILL PASS A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE. APPLICATION RATE= 100 LB/1,000 S.F.
    - WHEN FERTILIZER IS APPLIED WITHIN 100' OF ANY RIVER, STREAM, POND, OR LAKE IT SHALL BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER.

14. AT THE OWNER'S DISCRETION ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED TO MAINTAIN STABILITY OF EARTHWORKS AND FINISHED GRADED AREAS. THE CONTRACTOR, AT HIS EXPENSE, WILL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ADDITIONAL MEASURES AS SPECIFIED BY THE OWNER. THIS INCLUDES BUT IS NOT LIMITED TO REQUESTS BY NH DES AND THE MUNICIPALITY, AS AUTHORIZED BY THE OWNER.

15. INSPECTIONS AND MONITORING MAINTENANCE MEASURES SHALL BE APPLIED DURING THE ENTIRE CONSTRUCTION CYCLE. WEEKLY INSPECTIONS SHALL BE HELD THROUGH THE DURATION OF CONSTRUCTION ACTIVITY. WEEKLY INSPECTION REPORTS SHALL BE MAINTAINED IN THE CONTRACTORS FIELD OFFICE. IN ADDITION TO THE NORMAL WEEKLY INSPECTIONS, THE CONTRACTOR SHALL PERFORM AN INSPECTION OF ALL EROSION CONTROL MEASURES AFTER EACH RAINFALL AT A MINIMUM OF (1/4" OR GREATER OF RAINFALL) OR RUNOFF EVENT, AND PERFORM THE NECESSARY REPAIRS. THE INSPECTIONS SHALL INCLUDE BUT NOT BE LIMITED TO THE SITE'S DOWN STREAM DISCHARGE POINTS. THE CONTRACTOR SHALL MAINTAIN A LOG IN ACCORDANCE WIT THE PLANS, NHDES, AND CITY OF DOVER, NH.

16. IF ANY EVIDENCE OF SEDIMENTATION IS OBSERVED IN THE INLETS, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROVIDE A PLAN TO THE ENGINEER TO REMOVE ANY ACCUMULATED SEDIMENT IN THESE AREAS. THE CONTRACTOR SHALL ALSO IMMEDIATELY PROVIDE ADDITIONAL ON SITE EROSION AND SEDIMENTATION CONTROL MEASURES TO PREVENT FURTHER DEGRADATION OF THE AREA.

17. FOLLOWING THE TEMPORARY OR FINAL SEEDINGS, THE CONTRACTOR SHALL INSPECT THE WORK AREA BIMONTHLY TO ENSURE THE AREAS HAVE A MINIMUM OF 85-90% VEGETATED VIGOROUS GROWTH. RESEEDING SHALL BE CARRIED OUT BY THE CONTRACTOR WITH FOLLOW UP INSPECTIONS IN THE EVEN OF ANY FAILURES UNTIL VEGETATION IS ADEQUATELY ESTABLISHED.

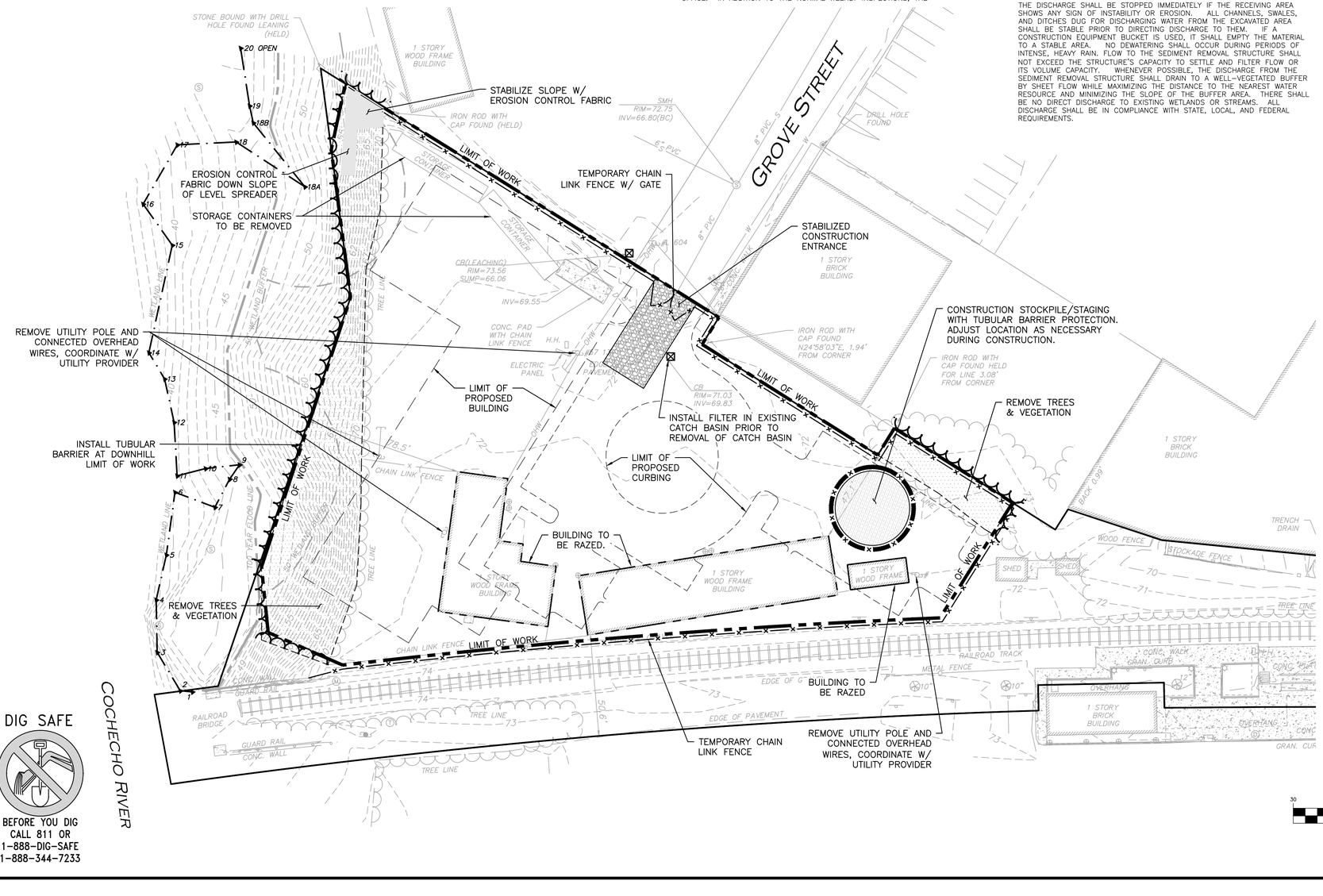
18. THE AREA OR AREAS OF ENTRANCE AND EXIT TO AND FROM THE SITE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

19. STOCKPILES SHALL BE SURROUNDED ON THEIR PERIMETERS WITH STAKED HAYBALES AND/OR SILTATION FENCES TO PREVENT AND/OR CONTROL SILTATION AND EROSION.

20. ALL EXISTING & PROPOSED CATCH BASINS SUBJECT TO STORMWATER RUNOFF DURING CONSTRUCTION SHALL HAVE STONE INLET PROTECTION AND SILT SACKS INSTALLED OR AS DIRECTED BY THE OWNER/ENGINEER. NO SEDIMENTATION SHALL ENTER THE ON-SITE OR OFF-SITE DRAINAGE SYSTEMS AT ANY TIME.

21. CONTRACTOR TO CONTROL FUGITIVE DUST IN ACCORDANCE WITH ENV-A 1002. CONTRACTOR TO PREVENT, ABATE, AND CONTROL THE EMISSION OF FUGITIVE DUST, INCLUDING BUT NOT LIMITED TO THE FOLLOWING METHODS: WETTING, COVERING, SHIELDING OR VACUUMING.

22. IF DEWATERING IS NECESSARY IT SHALL ONLY BE COMPLETED AS FOLLOWS: THE DISCHARGE SHALL BE STOPPED IMMEDIATELY IF THE RECEIVING AREA SHOWS ANY SIGN OF INSTABILITY OR EROSION. ALL CHANNELS, SWALES, AND DITCHES DUG FOR DISCHARGING WATER FROM THE EXCAVATED AREA SHALL BE STABLE PRIOR TO DIRECTING DISCHARGE TO THEM. IF A CONSTRUCTION EQUIPMENT BUCKET IS USED, IT SHALL EMPTY THE MATERIAL TO A STABLE AREA. NO DEWATERING SHALL OCCUR DURING PERIODS OF INTENSE, HEAVY RAIN. FLOW TO THE SEDIMENT REMOVAL STRUCTURE SHALL NOT EXCEED THE STRUCTURE'S CAPACITY TO SETTLE AND FILTER FLOW OR ITS VOLUME CAPACITY. WHENEVER POSSIBLE, THE DISCHARGE FROM THE SEDIMENT REMOVAL STRUCTURE SHALL DRAIN TO A WELL-VEGETATED BUFFER BY SHEET FLOW WHILE MAXIMIZING THE DISTANCE TO THE NEAREST WATER RESOURCE AND MINIMIZING THE SLOPE OF THE BUFFER AREA. THERE SHALL BE NO DIRECT DISCHARGE TO EXISTING WETLANDS OR STREAMS. ALL DISCHARGE SHALL BE IN COMPLIANCE WITH STATE, LOCAL, AND FEDERAL REQUIREMENTS.



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1-888-344-7233

LEGEND

LIMIT OF DISTURBANCE	
LIMIT OF 'CLEAR AND GRUB'	
BUILDING TO BE REMOVED	
TEMPORARY FENCE	
TUBULAR BARRIER	
EROSION CONTROL FABRIC	
CATCH BASIN FILTER	⊠
STABILIZED ENTRANCE	
STOCKPILE/STAGING AREA	

GENERAL NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES.
2. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
3. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE, THE PROPERTY OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
4. GRADING / DEMOLITION OUTSIDE OF THE PROJECT BOUNDARIES REQUIRES A TEMPORARY CONSTRUCTION/GRADING EASEMENT FROM THE LANDOWNER (BY OTHERS).
5. ALTHOUGH CERTAIN ITEMS HAVE BEEN NOTED ON THIS DRAWING FOR DEMOLITION, NO ATTEMPT HAS BEEN MADE TO DELINEATE EACH AND EVERY ITEM THAT REQUIRES DEMOLITION FOR THE COMPLETION OF THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL NECESSARY DEMOLITION WORK TO COMPLETE THE PROJECT. ALLEN & MAJOR ASSOCIATES, INC. IS NOT RESPONSIBLE FOR SITE DEMOLITION ITEMS NOT SHOWN ON THE SURVEY, OR SPECIFICALLY NOTED. THE DEMOLITION NOTES AND ARROWS ON THIS PLAN ARE TYPICAL AND DO NOT REFLECT QUANTITY.
6. WRITTEN DIMENSIONS ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS OR CONDITIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR.
7. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13809
LICENSED PROFESSIONAL ENGINEER
10.14.20

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
1	10-14-20	REVISION 1

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
THE STATION
35/37 CHESTNUT STREET
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PROJECT NO.	2464-03	DATE:	08-13-20
SCALE:	1" = 30'	DWG. NAME:	C-2464-03.dwg
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
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DRAWING TITLE: SITE PREPARATION PLAN

SHEET No. C-101

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PLANNING BOARD FILE NUMBER: P20-56

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OFF-STREET PARKING SUMMARY

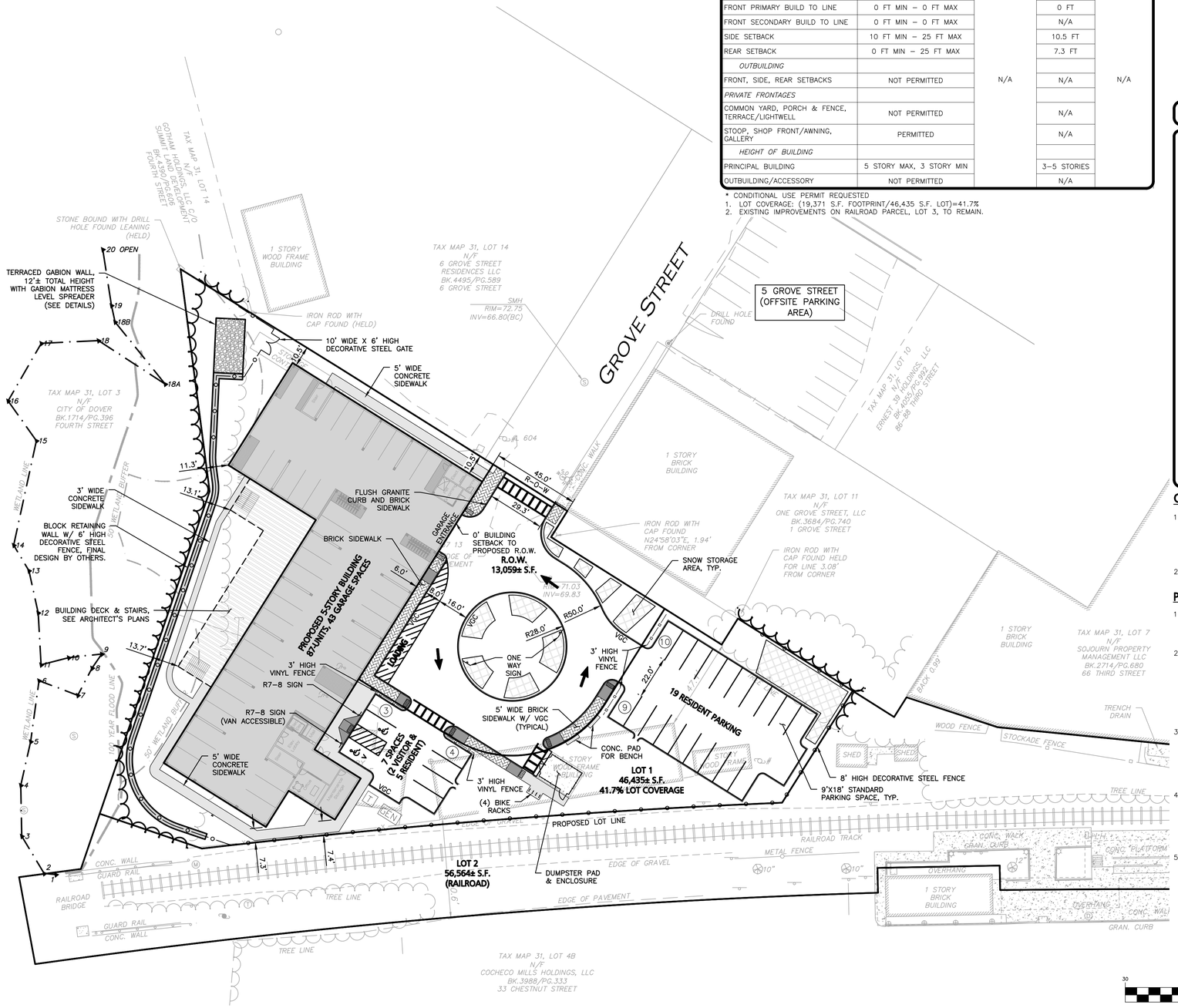
	MAX ALLOWED CALCULATION	MAX ALLOWED	MIN REQUIRED	TOTAL PROVIDED
RESIDENTIAL (NON-CBD-G)	1.4 SPACES PER UNIT + 0.5 VISITOR SPACES PER UNIT 1.4 X 87 UNITS + 0.5 X 87 UNITS	165	87	89

NOTE: TOTAL PARKING PROVIDED INCLUDES 69 ONSITE PARKING SPACES AND 20 EXISTING OFFSITE PARKING SPACES ON THE 5 GROVE STREET PROPERTY.

CITY OF DOVER
CBD TRANSIT ORIENTED DEVELOPMENT SUB-DISTRICT

ITEM	REQUIRED/ALLOWED	PROPOSED		
PRINCIPAL BUILDING		RIGHT-OF-WAY	LOT 1 "THE STATION"	LOT 2 RAILROAD
LOT SIZE (MIN)	N/A	13,059 S.F.	46,435 S.F.	56,564 S.F.
LOT COVERAGE*	75%-100%		41.7%	
FRONTAGE BUILD-OUT*	80% MIN		35.8%	
FRONT PRIMARY BUILD TO LINE	0 FT MIN - 0 FT MAX		0 FT	
FRONT SECONDARY BUILD TO LINE	0 FT MIN - 0 FT MAX		N/A	
SIDE SETBACK	10 FT MIN - 25 FT MAX		10.5 FT	
REAR SETBACK	0 FT MIN - 25 FT MAX		7.3 FT	
OUTBUILDING				
FRONT, SIDE, REAR SETBACKS	NOT PERMITTED	N/A	N/A	N/A
PRIVATE FRONTAGES				
COMMON YARD, PORCH & FENCE, TERRACE/LIGHTWELL	NOT PERMITTED		N/A	
STOOP, SHOP FRONT/AWNING, GALLERY	PERMITTED		N/A	
HEIGHT OF BUILDING				
PRINCIPAL BUILDING	5 STORY MAX, 3 STORY MIN		3-5 STORIES	
OUTBUILDING/ACCESSORY	NOT PERMITTED		N/A	

* CONDITIONAL USE PERMIT REQUESTED
1. LOT COVERAGE: (19,371 S.F. FOOTPRINT/46,435 S.F. LOT)=41.7%
2. EXISTING IMPROVEMENTS ON RAILROAD PARCEL, LOT 3, TO REMAIN.



LEGEND

- PROP. PROPERTY LINE
- SIGN
- BOLLARD
- BUILDING
- BUILDING INTERIOR WALLS
- CURB
- TRAFFIC ARROWS
- RETAINING WALL
- PARKING STRIPING
- HEAVY DUTY CONCRETE
- SIDEWALK
- BRICK SIDEWALK
- ADA ACCESSIBLE RAMP
- SNOW STORAGE
- SAW-CUT LINE
- PARKING COUNT
- DECORATIVE FENCE
- VINYL FENCE
- TREE LINE
- TRANSFORMER

GENERAL NOTES:

1. SNOW SHALL BE TAKEN OFF-SITE ONCE SNOW STORAGE AREAS ON SITE BECOME INADEQUATE, AND BEGINS TO BLOCK ACCESS TO AND FROM THE SITE OR BLOCKS THE USE OF ON-SITE PARKING. ANY EXCESS WILL BE BE TRUCKED OFF-SITE & DISPOSED OF IN ACCORDANCE WITH CITY OF DOVER AND NHDES GUIDELINES.
2. CONTRACTOR TO PROVIDE ALL-WEATHER ACCESS FOR CITY OF DOVER FIRST RESPONDERS DURING CONSTRUCTION.

PLAN NOTES:

1. EXISTING CONDITIONS WERE COMPILED FROM AN ON THE GROUND SURVEY PERFORMED BY ALLEN & MAJOR ASSOCIATES AS WELL AS AVAILABLE RECORD PLANS OBTAINED FROM THE CITY OF DOVER AND OTHER SOURCES.
2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
3. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK. THE CONTRACTOR SHALL ALSO CONTACT THE CITY DEPARTMENT OF PUBLIC WORKS AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF LOCAL UTILITIES.
4. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
5. OFFSITE PARKING COUNT PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. BY APPLICANT ON AUGUST 11, 2020.

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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R: \PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_LAYOUT & MATERIALS.DWG

STATE OF NEW HAMPSHIRE - BRIAN D. JONES No. 13809 LICENSED PROFESSIONAL ENGINEER - 10.14.20

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
1	10-14-20	REVISION 1

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
THE STATION
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	08-13-20
SCALE:	1" = 30'	DWG. NAME:	C-2464-03.dwg
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
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MANCHESTER, NH 03103
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WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE:	SHEET No.
LAYOUT & MATERIALS PLAN	C-102

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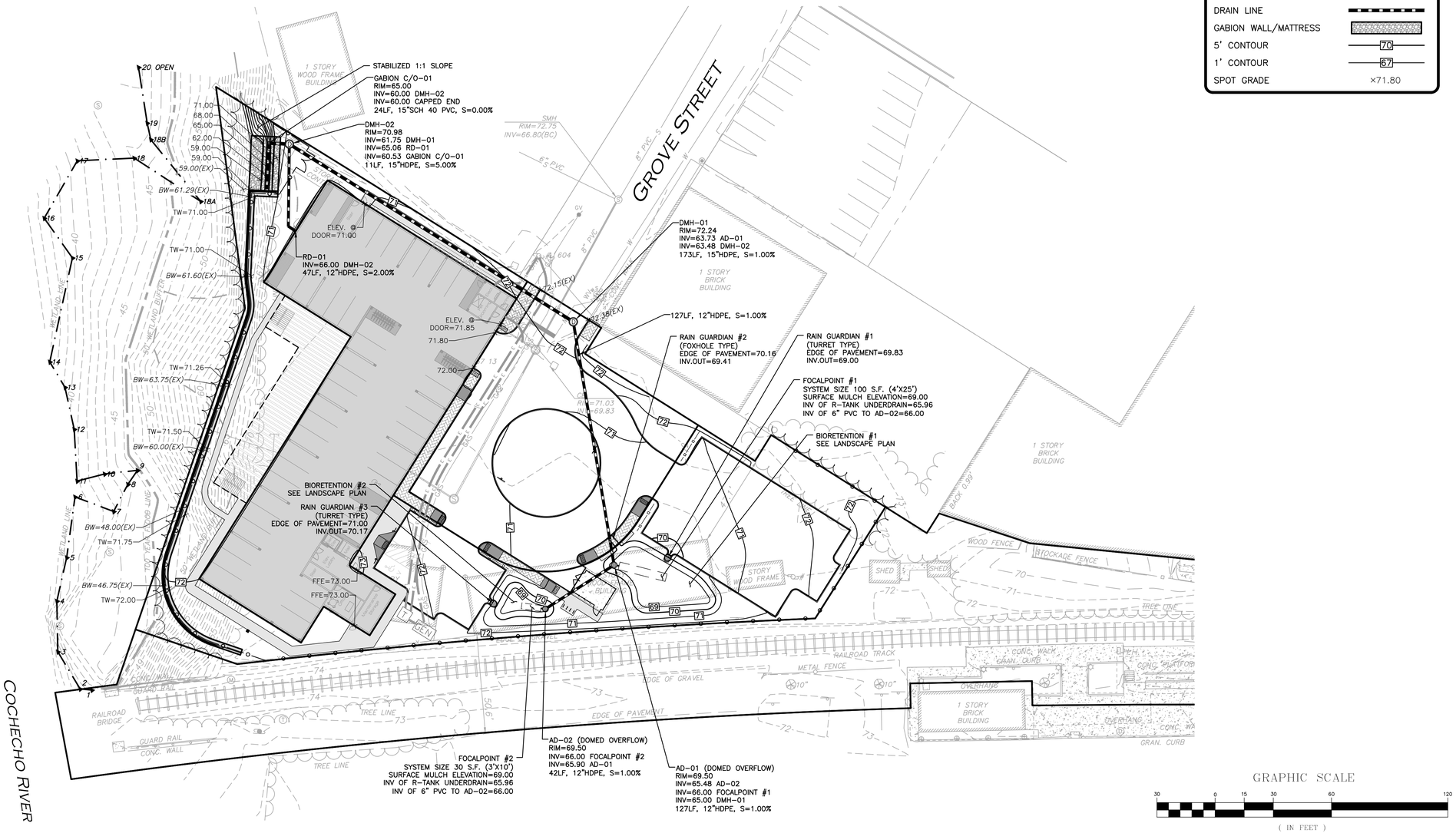
PLANNING BOARD FILE NUMBER: P20-56

CITY OF DOVER DRAINAGE NOTES:

1. ALL EROSION CONTROL NOTES SHALL 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.
2. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO THE COMMENCEMENT OF SITE WORK.
3. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
4. 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.

GRADING & DRAINAGE NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS INCLUDING THE CITY OF DOVER, NHDOT, NHDES, MUTCD, AND AASHTO.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY ALLEN & MAJOR ASSOCIATES DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK, OR THE OWNER'S EMPLOYEES, CUSTOMERS, OR THE GENERAL PUBLIC. THE SEAL OF THE ENGINEER AS INCLUDED IN THE PLAN SET DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PROVIDE THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
3. ALL ELEVATIONS REFER TO NAVD 88.
4. PIPE DIMENSIONS ARE MEASURED FROM THE CENTER OF THE STRUCTURE.
5. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
6. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
7. EXISTING AND PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT
8. ROOF DRAINS SHALL CONNECT TO NEAREST DRAIN STRUCTURE. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS.
9. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
10. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
11. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "DRAIN".
12. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S. PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
13. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
14. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
15. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL GRASS DISTURBED AREAS IN ACCORDANCE WITH COUNTY SPECIFICATIONS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
16. ALL CATCH BASINS ON-SITE SHALL BE EQUIPPED WITH HOODS AND 4 FOOT SUMPS AND SHALL CONFORM TO LOCAL DRAINAGE REQUIREMENTS.
17. A MINIMUM OF 18" VERTICAL CLEARANCE SHALL BE MAINTAINED WHERE WATER SERVICES CROSS STORM DRAIN LINES. WATER SERVICES SHALL BE ENCASED IN CONCRETE REGARDLESS OF CLEARANCE WHEN PASSING BELOW STORM DRAIN LINES. ENCASEMENT SHALL EXTEND ALONG WATER SERVICE A MINIMUM DISTANCE OF TEN FEET FROM THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
18. ALL DRAINAGE SHALL CONFORM TO LOCAL AND NHDES REQUIREMENTS.
19. PRIOR TO CONSTRUCTION OF IMPERVIOUS AREAS, ALL DRAINAGE STRUCTURES, PIPES AND BASINS SHALL BE INSTALLED AND INSPECTED FOR PROPER FUNCTION.
20. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE START OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DRAWINGS, SPECIFICATIONS, OR RELATIVE CODES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT PRIOR TO START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AND/OR DESIGN INTENT OF THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.
21. THE DESIGN ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS, AND/OR THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE GUIDANCE OF THE DESIGN ENGINEER WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES, OR CONFLICTS WHICH ARE DISCOVERED OR ALLEGED.



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GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

LEGEND

DRAIN MANHOLE	ⓓ
AREA DRAIN (BEEHIVE)	●
RAIN GUARDIAN (TURRET)	◉
DRAIN LINE	
GABION WALL/MATTRESS	
5' CONTOUR	70
1' CONTOUR	67
SPOT GRADE	×71.80

STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13809
LICENSED PROFESSIONAL ENGINEER
10.14.20

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DRAWING TITLE: GRADING & DRAINAGE PLAN

SHEET No. C-103

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PLANNING BOARD FILE NUMBER: P20-56

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CITY OF DOVER UTILITY NOTES:

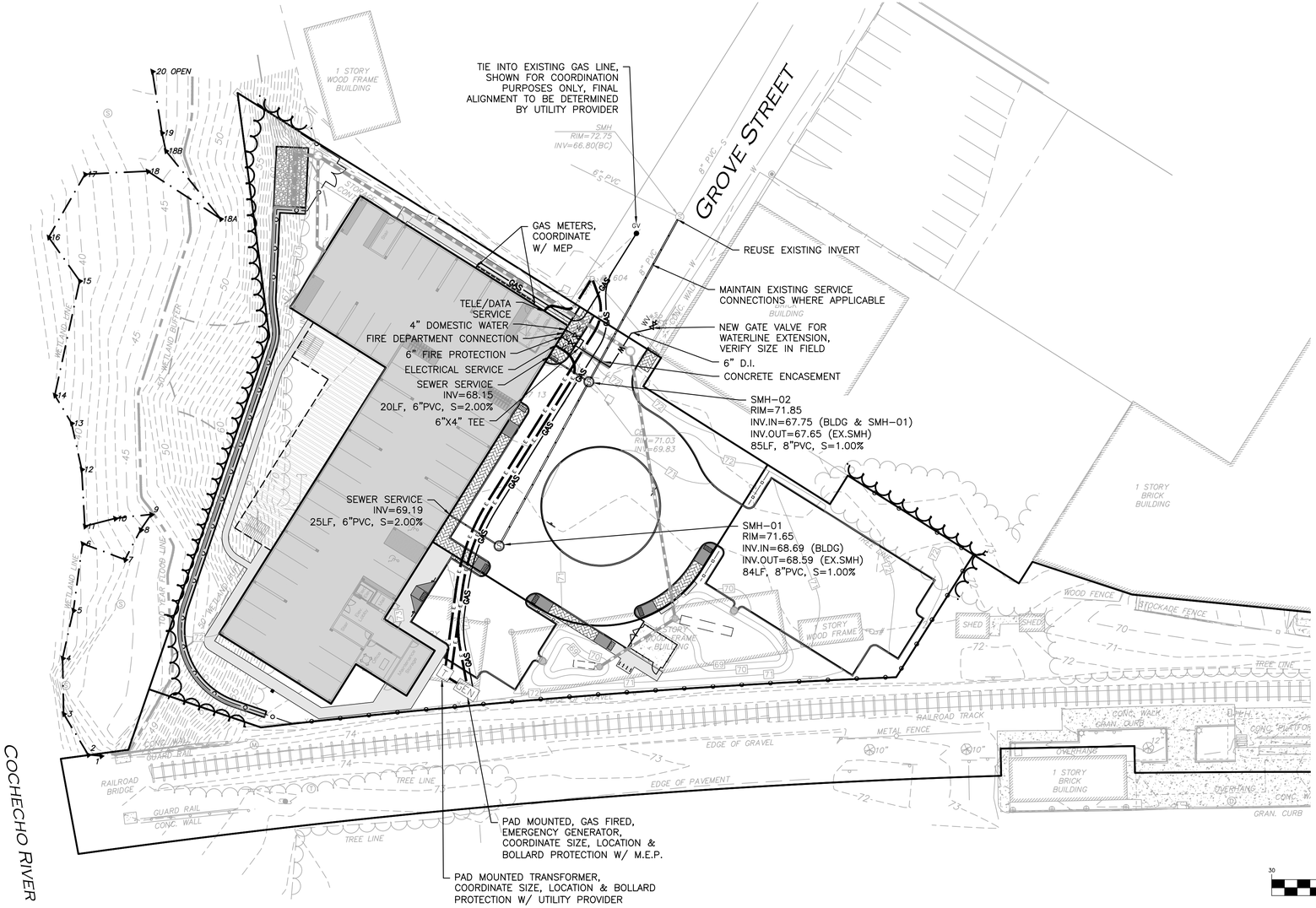
1. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 149-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
2. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 45, ARTICLE I, SECTION 45-2 OF THE CODE OF THE CITY OF DOVER.
3. APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
4. THE PROPOSED STRUCTURE 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.
5. 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.
6. 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.
7. ALL ON-SITE UTILITIES SHALL BE INSTALLED UNDERGROUND.
8. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
9. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.

UTILITY NOTES:

1. A MINIMUM OF 10 FEET CLEAR HORIZONTALLY SHALL BE MAINTAINED BETWEEN WATER MAINS AND SANITARY SEWER MAINS AND/OR STORM DRAINS. WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET TO A WATER MAIN, THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE DIFFERENCE IN ELEVATION BETWEEN THE WATER MAIN AND THE SEWER MAIN SHALL BE AT LEAST 18 INCHES.
2. IN THE CASE THAT WATER MAINS CROSS SANITARY SEWER MAINS AND ARE SEPARATED BY LESS THAT 18" OF VERTICAL CLEARANCE, THE SEWER MAIN SHALL BE ENCASED IN CONCRETE FOR THE ENTIRE WIDTH OF THE TRENCH AND FOR A DISTANCE OF 8 LINEAR FEET CENTERED ON THE CROSSING.
3. THE LATEST STANDARDS OF THE CITY OF DOVER "CHAPTER 147 – SEWERS" SHALL BE FOLLOWED WHEN PERFORMING ANY SANITARY SEWER WORK. SEWER WORK WILL BE INSPECTED BY CITY OF DOVER PERSONNEL AND ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE LATEST STANDARDS OF THE CITY OF DOVER "CHAPTER 148 – WATER SYSTEMS" SHALL BE FOLLOWED WHEN PERFORMING ANY WATER DISTRIBUTION WORK. WATER WORK WILL BE INSPECTED BY CITY OF DOVER PERSONNEL AND ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL DUCTILE IRON MAINS SHALL BE PROVIDED WITH POLYETHYLENE ENCASEMENT "POLYWRAP" AS REQUIRED BY THE CITY OF DOVER.
6. THE CONTRACTOR SHALL REFER TO ARCHITECTS PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL ROOF DRAIN LATERALS AND UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRIC, TELEPHONE, AND GAS SERVICE. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND COORDINATE WITH THE PROPER AGENCY THE LOCATION AND SCHEDULING OF CONNECTIONS WITH THEIR FACILITIES.
7. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION. THE ENGINEER WILL THEN PROVIDE RESOLUTION TO UTILITY CONFLICTS WITHOUT DELAY.
8. ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS INCLUDING THE CITY OF DOVER, NHDOT, NHDES, MUTCD, AND AASHTO.
9. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS OF THE SITE. THESE PLANS PREPARED BY ALLEN & MAJOR ASSOCIATES, INC., DO NOT EXTEND TO, NOR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THE EMPLOYEES, AGENTS OF REPRESENTATIVES IN PERFORMANCE OF THE WORK. THE SEAL OF THE ARCHITECT OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OF OBTAIN THE APPROPRIATE SAFETY SYSTEMS THAT MAY BE REQUIRED BY THE US OCCUPATIONAL SAFETY AND HEATH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
10. ALL ELEVATIONS REFER TO NAVD 88.
11. PIPE DIMENSIONS ARE MEASURED FROM THE INSIDE FACE OF THE STRUCTURE.
12. LOCATION OF PROPOSED ELECTRICAL/COMMUNICATION SERVICE IS SCHEMATIC IN NATURE AND FOR COORDINATION PURPOSES ONLY. SPECIFIC ALIGNMENTS ARE TO BE DESIGNED BY OTHERS AND REVIEWED BY THE UTILITY PROVIDING SERVICE. PROPOSED ELECTRICAL SERVICE TO BE BURIED IN ACCORDANCE WITH THE CITY OF DOVER REGULATIONS AND ELECTRIC COMPANY.
13. LOCATION OF PROPOSED GAS MAIN IS SCHEMATIC IN NATURE AND FOR COORDINATION PURPOSES ONLY. SPECIFIC ALIGNMENTS ARE TO BE DESIGNED BY OTHERS AND REVIEWED BY THE UTILITY PROVIDING SERVICE.
14. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE START OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DRAWINGS, SPECIFICATIONS, OR RELATIVE CODES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT PRIOR TO START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AND/OR DESIGN INTENT OF THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.
15. THE DESIGN ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS, AND/OR THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE GUIDANCE OF THE DESIGN ENGINEER WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES, OR CONFLICTS WHICH ARE DISCOVERED OR ALLEGED.
16. POWER FEEDS AND INTERCONNECTIONS FOR SITE LIGHTING TO BE COORDINATED WITH THE ELECTRICAL ENGINEER.
17. EXISTING UTILITY STUBS WHICH WILL NOT BE USED SHALL BE SHUT OFF AND DISCONNECTED AS APPROPRIATE.

LEGEND

SEWER MANHOLE	S
SEWER LINE	
CONCRETE PIPE ENCASEMENT	
WATER LINE	W
WATER VALVE	WV
WATER LINE REDUCER	
GAS LINE	GAS
GAS VALVE	GV
ELECTRICAL CONDUIT	E E
TELE/CABLE CONDUIT	T-C T-C



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13809
LICENSED PROFESSIONAL ENGINEER
10.14.20

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DRAWING TITLE: UTILITIES PLAN

SHEET No. C-104

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GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

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STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13809
LICENSED PROFESSIONAL ENGINEER
10.14.20

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

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DRAWING TITLE:
NEIGHBORHOOD PLAN

SHEET No.
C-105

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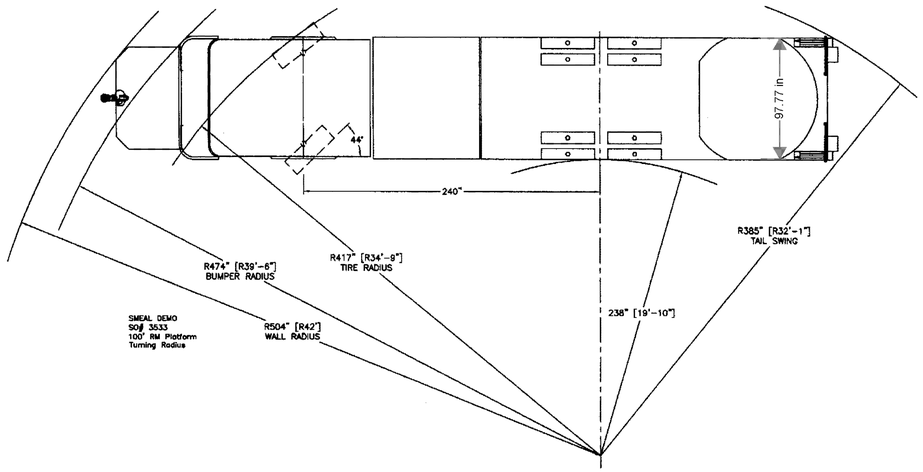
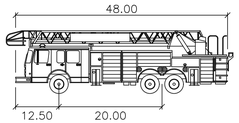
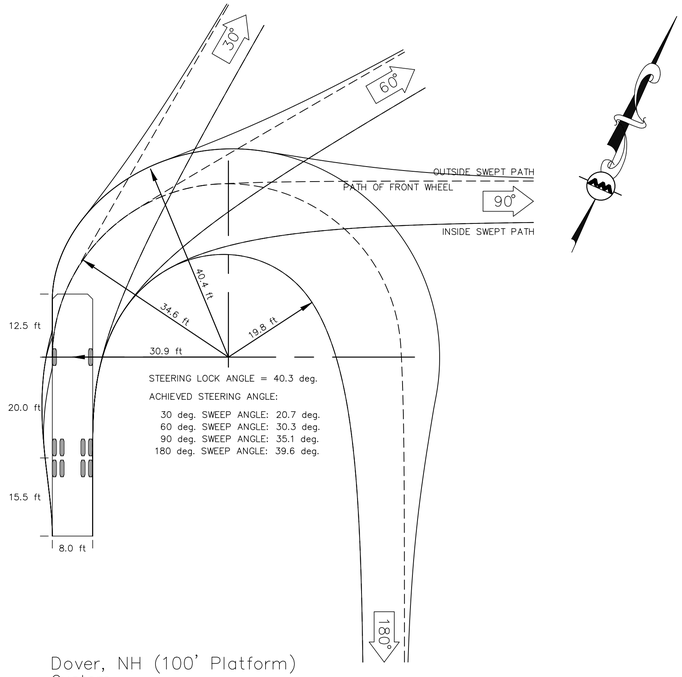




Dover, NH (100' Platform)

	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 40.3



Dover, NH (100' Platform)
Custom
[ft]
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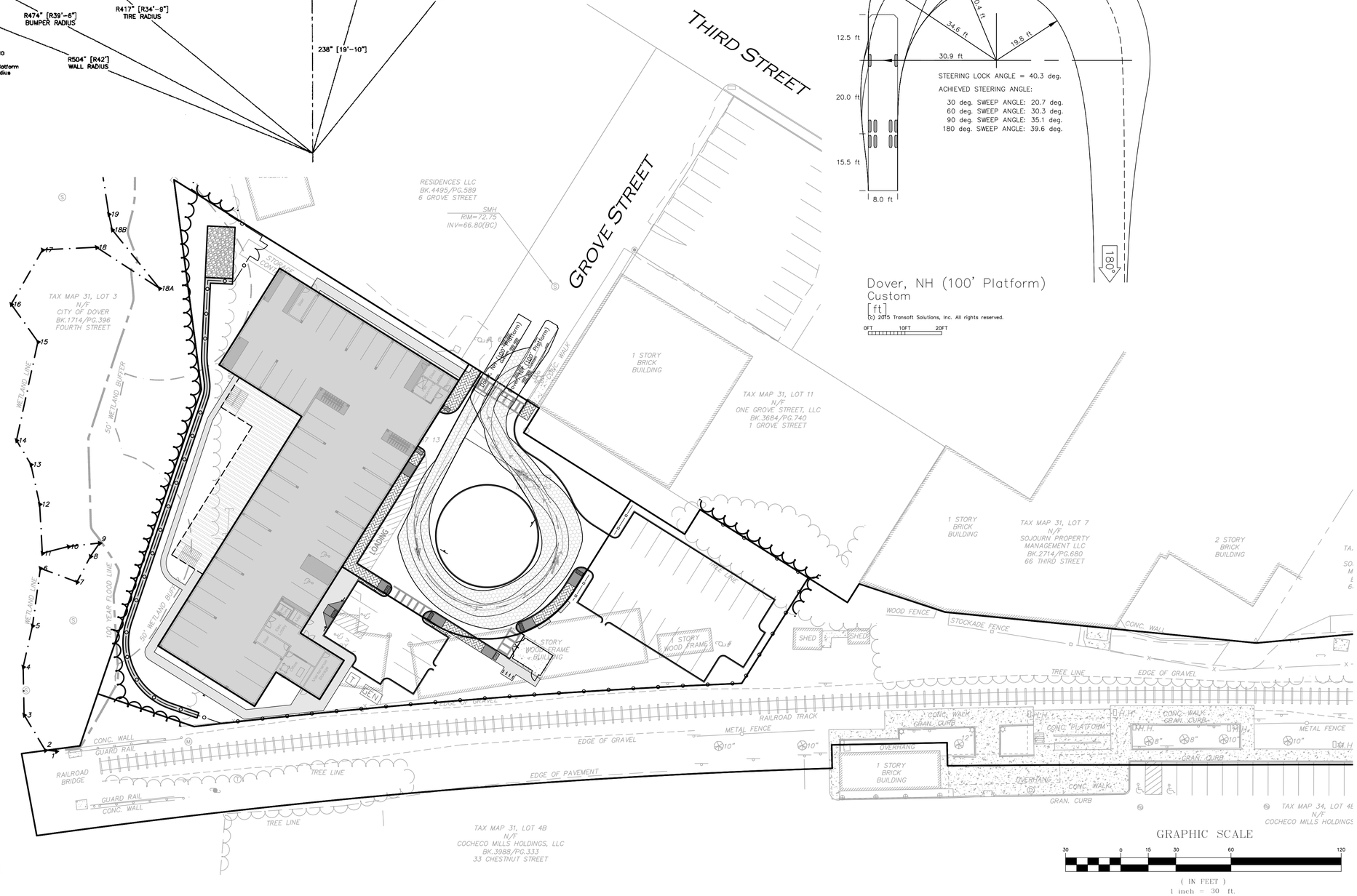
0FT 10FT 20FT



GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

DIG SAFE
BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

R: \PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_TRUCK TURNING PLAN.DWG

STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13809
LICENSED PROFESSIONAL ENGINEER
10.14.20

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
1	10-14-20	REVISION 1

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
THE STATION
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	08-13-20
SCALE:	1" = 30'	DWG. NAME:	C-2464-03.dwg
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE:
FIRE TRUCK TURNING PLAN

SHEET No.
C-106

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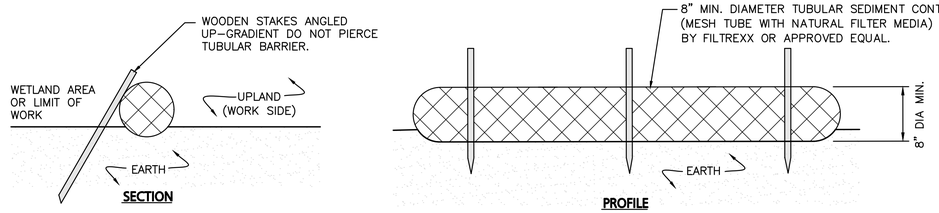
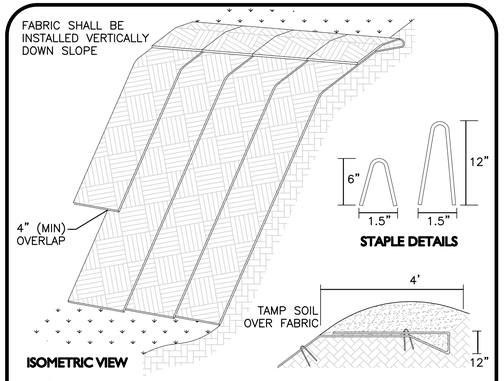
PLANNING BOARD FILE NUMBER: P20-56



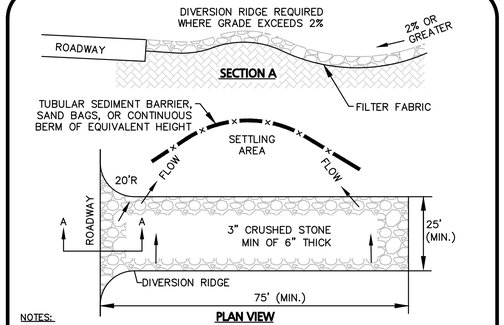
NOTES:
1. TUBULAR SEDIMENT CONTROL SHALL BE 8" MIN. DIAMETER MESH TUBE WITH NATURAL FILTER MEDIA BY FILTREXX OR APPROVED EQUAL.
2. ALL MATERIALS TO MEET MANUFACTURERS SPECIFICATIONS.
3. INSTALL WOODEN STAKES ANGLED UP-GRADIENT EVERY 8' ON CENTER
4. OVERLAP TUBULAR BARRIER SEGMENTS A MINIMUM OF 12".
5. THE CONTRACTOR SHALL MAINTAIN THE TUBULAR BARRIERS IN A FUNCTIONAL CONDITION AT ALL TIMES. THE CONTROLS SHALL BE ROUTINELY INSPECTED BY THE CONTRACTOR.
6. WHERE THE TUBULAR BARRIERS REQUIRE REPAIR OR SEDIMENT REMOVAL, IT WILL BE COMPLETED BY THE CONTRACTOR AT NO ADDITIONAL COST.
7. AT A MINIMUM, THE CONTRACTOR SHALL REMOVE SEDIMENTS COLLECTED AT THE BASE WHEN THEY REACH 1/3 THE EXPOSED HEIGHT OF THE BARRIER.

TUBULAR SEDIMENT BARRIER 1
NOT TO SCALE



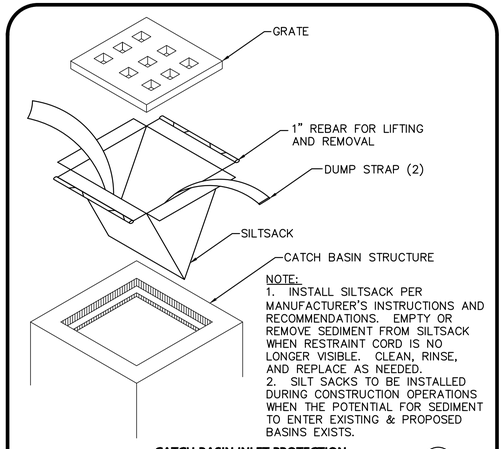
NOTE:
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS.
2. APPLY PERMANENT SEEDING BEFORE PLACING FABRIC.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

EROSION CONTROL FABRIC 2
NOT TO SCALE



NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTERING THE PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

STABILIZED CONSTRUCTION ENTRANCE 3
NOT TO SCALE

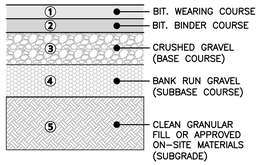


NOTE:
1. INSTALL SILTSACK PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. EMPTY OR REMOVE SEDIMENT FROM SILTSACK WHEN RESTRAINT CORD IS NO LONGER VISIBLE. CLEAN, RINSE, AND REPLACE AS NEEDED.
2. SILT SACKS TO BE INSTALLED DURING CONSTRUCTION OPERATIONS WHEN THE POTENTIAL FOR SEDIMENT TO ENTER EXISTING & PROPOSED BASINS EXISTS.

CATCH BASIN INLET PROTECTION 4
NOT TO SCALE

STANDARD DUTY FLEXIBLE PAVEMENT DESIGN SECTION

LAYER NUMBER	LAYER DESCRIPTION	LAYER THICKNESS (INCHES)
1	BITUMINOUS WEARING COURSE (½" AGGREGATE – NHDOT PRE-APPROVED MIX DESIGN)	1.5"
2	BITUMINOUS BINDER COURSE (¾" AGGREGATE – NHDOT PRE-APPROVED MIX DESIGN)	2.0"
3	CRUSHED GRAVEL (BASE COURSE) (NHDOT ITEM 304.3)	6.0"
4	GRAVEL BORROW (SUBBASE COURSE) (NHDOT ITEM 304.2)	6.0"
5	CLEAN GRANULAR FILL MATERIAL OR APPROVED ON-SITE MATERIALS (SUBGRADE)	AS NECESSARY

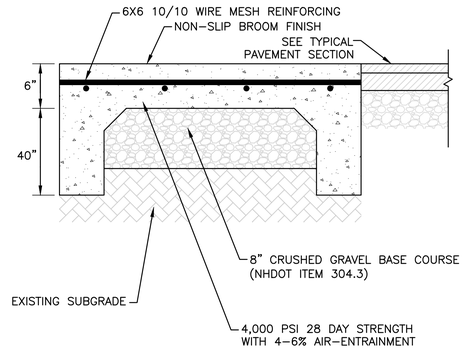


GRADATION SPECIFICATION

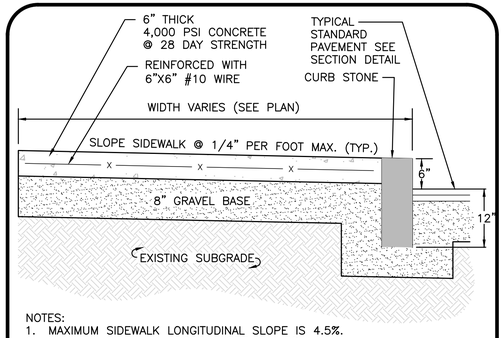
SIEVE SIZE	PERCENT PASSING BY WEIGHT		
	CLEAN GRANULAR FILL	BASE COURSE	SELECT GRANULAR FILL
8"	100	100	100
3"	70–100	100	70–100
½"	40–100	40–80	40–90
No. 4	25–100	30–70	25–80
No. 10	15–95	20–60	15–70
No. 40	10–70	10–30	5–40
No. 200	0–15	3–10	0–12

NOTES:
1. TOPSOIL SHALL BE REMOVED BENEATH ALL PAVEMENT AREAS TO EXPOSE THE NATURALLY-OCCURRING SOILS OR ACCEPTABLE ON-SITE FILL MATERIALS.
2. THE SUBGRADE SHOULD BE PROOFROLLED UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER USING AT LEAST 4 PASSES OF A 10-TON VIBRATORY ROLLER. AREAS OF THE SUBGRADE THAT 'WEAVE' OR 'ROLL' EXCESSIVELY SHOULD BE OVER EXCAVATED AND REPLACED WITH DRIER CLEAN GRANULAR FILL MATERIAL.
3. THE PAVEMENT SUBGRADE CONSISTING OF THE SPECIFIED CLEAN GRANULAR FILL SHALL BE PLACED IN 12" MAXIMUM LIFTS AND COMPACTED TO A DRY DENSITY OF AT LEAST 95 PERCENT OF THE MATERIALS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM DESIGNATION D-1557.

PAVEMENT SECTIONS 5
NOT TO SCALE

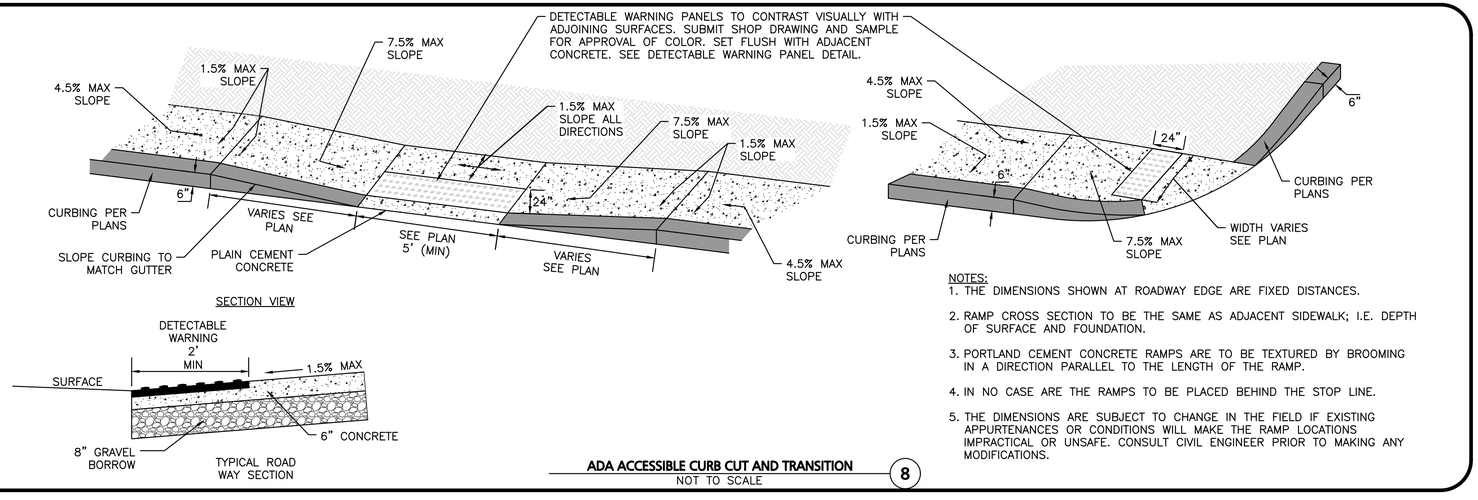


CONCRETE DUMPSTER PAD 6
NOT TO SCALE



NOTES:
1. MAXIMUM SIDEWALK LONGITUDINAL SLOPE IS 4.5%.
2. MAXIMUM SIDEWALK CROSS SLOPE IS 1.5%
3. SIDEWALK TO HAVE TOOLED JOINTS IN A 5' X 5' (TYP) GRID WITH EXPANSION JOINTS 15' ON CENTER AND PREMOLDED FILLER.
4. TOOLED JOINT 6" FROM FACE OF CURB.
5. SEE PLAN FOR ELEVATIONS AT CURB.
6. LIFT WWF TO CENTER OF SLAB WITH HOOKS AFTER CONCRETE PLACEMENT.
7. DOWEL SIDEWALK INTO FOUNDATION AT DOORS.

CONCRETE SIDEWALK WITH VERTICAL GRANITE CURB 7
NOT TO SCALE



NOTES:
1. THE DIMENSIONS SHOWN AT ROADWAY EDGE ARE FIXED DISTANCES.
2. RAMP CROSS SECTION TO BE THE SAME AS ADJACENT SIDEWALK; I.E. DEPTH OF SURFACE AND FOUNDATION.
3. PORTLAND CEMENT CONCRETE RAMPS ARE TO BE TEXTURED BY BROOMING IN A DIRECTION PARALLEL TO THE LENGTH OF THE RAMP.
4. IN NO CASE ARE THE RAMPS TO BE PLACED BEHIND THE STOP LINE.
5. THE DIMENSIONS ARE SUBJECT TO CHANGE IN THE FIELD IF EXISTING APPURTENANCES OR CONDITIONS WILL MAKE THE RAMP LOCATIONS IMPRACTICAL OR UNSAFE. CONSULT CIVIL ENGINEER PRIOR TO MAKING ANY MODIFICATIONS.

ADA ACCESSIBLE CURB CUT AND TRANSITION 8
NOT TO SCALE

STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13809
LICENSED PROFESSIONAL ENGINEER
10.14.20
PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
1	10-14-20	REVISION 1

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
THE STATION
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	08-13-20
SCALE:	AS SHOWN	DWG. NAME: C-2464-03.dwg	
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:
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civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE: DETAILS
SHEET No. C-501

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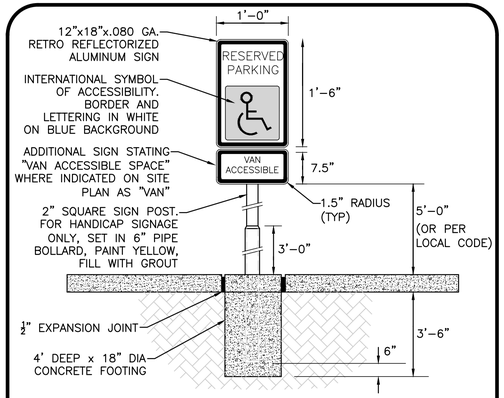
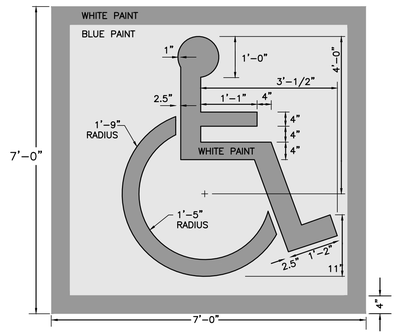
PLANNING BOARD FILE NUMBER: P20-56

R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_DETAILS.DWG



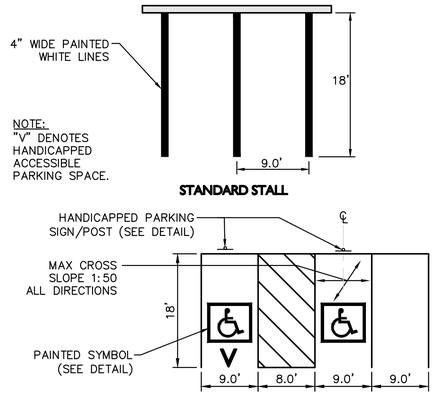
NOTES:
1. SPECIFIC CODE SHALL BE REFERENCED FOR LOCAL AND STATE REQUIREMENTS.
2. PROVIDE (1) SIGN PER HANDICAP SPACE. SEE SITE PLAN FOR EXACT LOCATION.
3. EXPANSION JOINT MATERIAL NOT REQUIRED WITH FLEXIBLE PAVEMENT.

ACCESSIBLE PARKING SIGN POST (1)
NOT TO SCALE

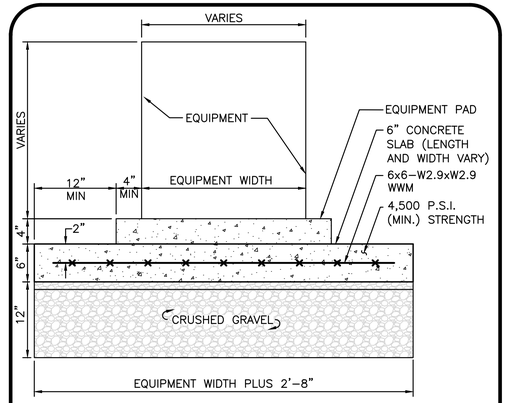


SYMBOL TO BE CENTERED ON WIDTH OF PARKING STALL. SYMBOL IS REQUIRED TO CONTRAST WITH BACKGROUND. USE WHITE ON BLUE (COLOR #105090 IN FEDERAL STANDARD 5952) DOUBLE COAT.

ACCESSIBLE PARKING STALL PAVEMENT MARKING (2)
NOT TO SCALE

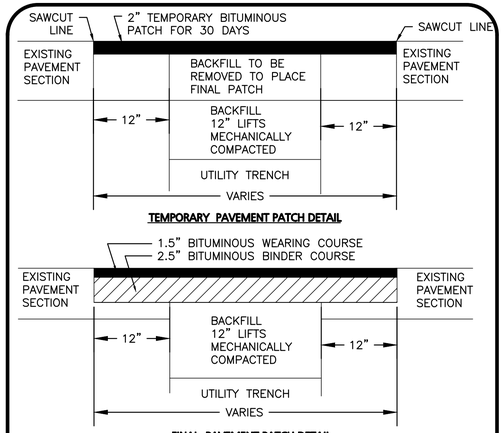


HANDICAP & STANDARD PARKING STRIPING (3)
NOT TO SCALE

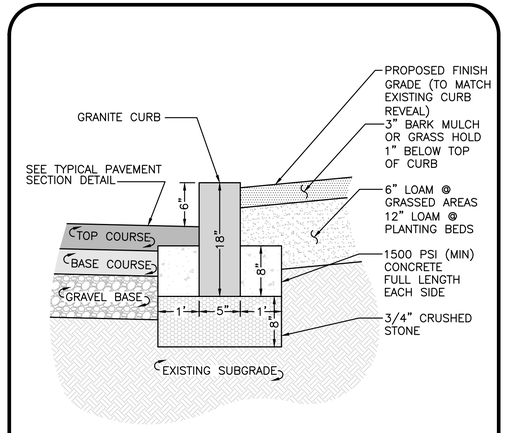


NOTE:
REFERENCE MECHANICAL ENGINEER'S PLANS FOR ANY PIPE, CONDUIT AND GROUND WIRE LOCATIONS

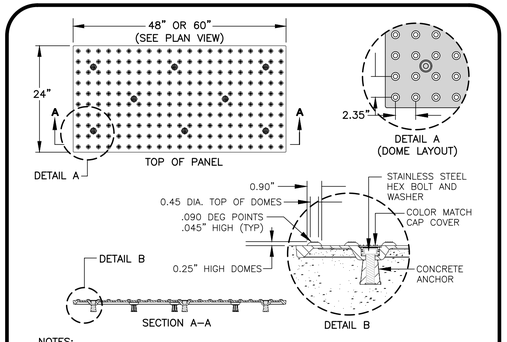
TYPICAL UTILITY PAD (4)
NOT TO SCALE



PAVEMENT TRENCH PATCH DETAIL (5)
NOT TO SCALE

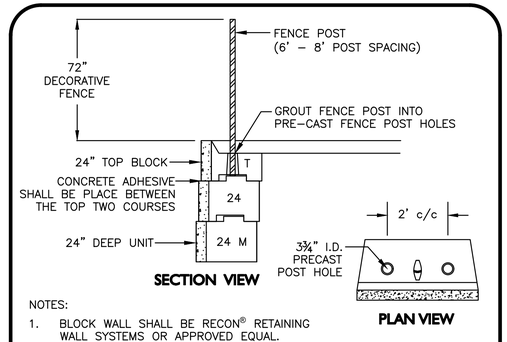


VERTICAL GRANITE CURB (6)
NOT TO SCALE



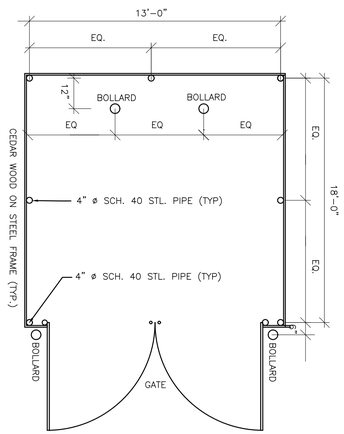
NOTES:
1. VENDOR INFORMATION: "ADATILE" WET SET ADA REPLACEABLE TACTILE (OR APPROVED EQUAL) AS MANUFACTURED BY ADATILE, PHONE: 1–800–372–0519, WWW.ADATILE.COM, EMAIL: INFO@ADATILE.COM
2. COLOR SHALL BE RED.
3. INSTALL PER MANUFACTURER'S INSTALLATION GUIDELINES.

WET SET ADA REPLACEABLE TACTILE PANEL (7)
NOT TO SCALE

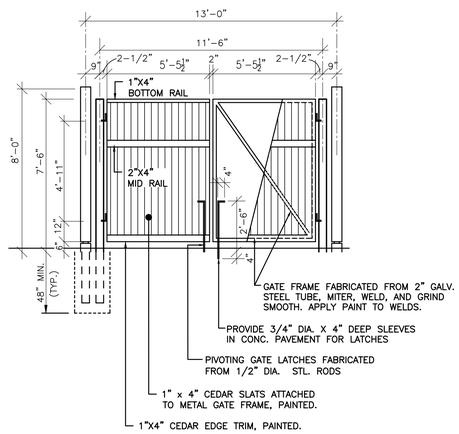


NOTES:
1. BLOCK WALL SHALL BE RECON® RETAINING WALL SYSTEMS OR APPROVED EQUAL.
2. VENDOR INFORMATION:
SHEA WALL SYSTEM INC.
87 HAVERHILL STREET
AMESBURY, MA 01913
PHONE: 800–696–7432
www.sheaconcrete.com

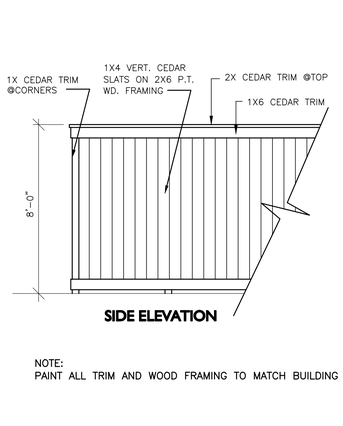
FENCE CONNECTION TO TOP OF WALL (8)
NOT TO SCALE



PLAN VIEW



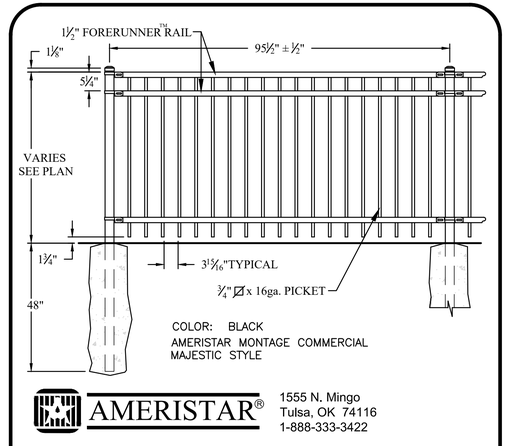
GATE DETAIL



SIDE ELEVATION

NOTE:
PAINT ALL TRIM AND WOOD FRAMING TO MATCH BUILDING

SCREENED DUMPSTER ENCLOSURE (9)
NOT TO SCALE



AMERISTAR®
1555 N. Mingo
Tulsa, OK 74116
1-888-333-3422

DECORATIVE STEEL FENCE (10)
NOT TO SCALE

R: \PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_DETAILS.DWG

BRIAN D. JONES No. 13809 Licensed PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
10.14.20
PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
1	10-14-20	REVISION 1

OWNER:
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DRAWING TITLE: DETAILS
SHEET No. C-502

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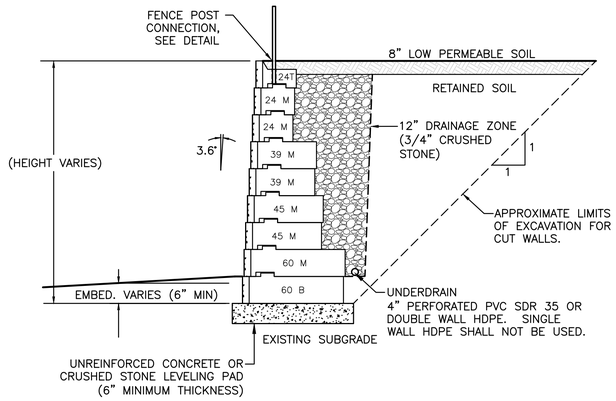
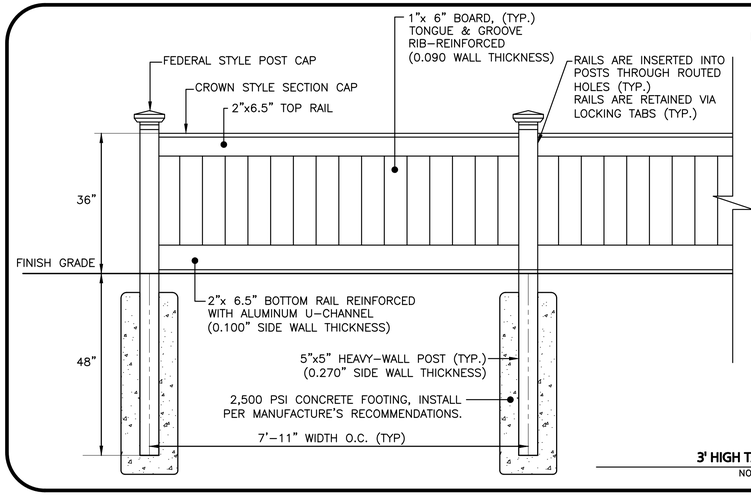
PLANNING BOARD FILE NUMBER: P20-56



NOTES:

1. BLOCK WALL SHALL BE RECON® RETAINING WALL SYSTEMS OR APPROVED EQUAL.
2. VENDOR INFORMATION:
   SHEA WALL SYSTEM INC.
   87 HAVERHILL STREET
   AMESBURY, MA 01913
   PHONE: 800-696-7432
   www.sheaconcrete.com
3. RECON BLOCK STYLE SHALL BE "NORTH SHORE GRANITE".
4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND WALL CALCULATIONS PREPARED AND ENDORSED BY A NH REGISTERED PROFESSIONAL ENGINEER.
5. SEE GRADING PLANS FOR WALL LAYOUT AND HEIGHTS.

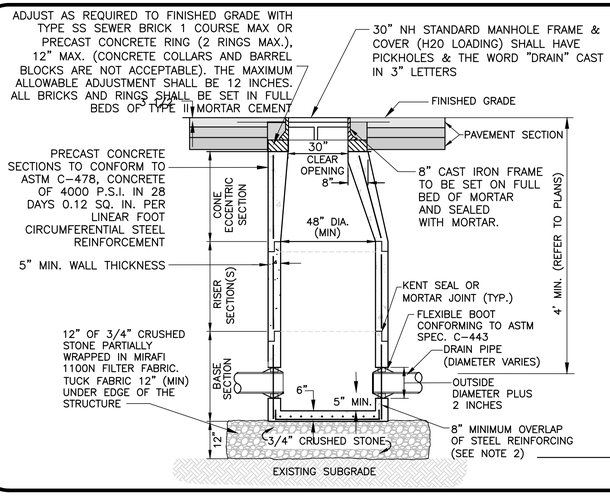
BLOCK RETAINING WALL SECTION — NOT TO SCALE — 1



NOTES:

1. FENCE LOOKS THE SAME FROM BOTH SIDES, COLOR SHALL BE TAN.
2. ALL VINYL MATERIAL SHALL BE MONOLITHIC VIRGIN VINYL.
3. EXTRUSIONS SHALL CONTAIN NO LESS THAN 10 PARTS PER 100 OF TITANIUM DIOXIDE. EXTRUSIONS SHALL NOT CONTAIN FILLERS SUCH AS LIMESTONE.
4. BOARDS SHALL BE 1"x6", 0.090" WALL THICKNESS, RIB-REINFORCED, TONGUE & GROOVE, "V-MATCH" PROFILE ON FRONT AND REAR FACES.
5. TOP & BOTTOM RAILS SHALL BE 2"x6.5" PROFILE, RIB-REINFORCED, SLOTTED TO ACCEPT THE VERTICAL TONGUE & GROOVE BOARDS.
6. BOTTOM REINFORCMENT SHALL BE ALUMINUM U-CHANNEL, 6063-T6, 0.100" VERTICAL WALL THICKNESS.
7. POSTS SHALL BE 5"x5", 0.270" WALL THICKNESS.

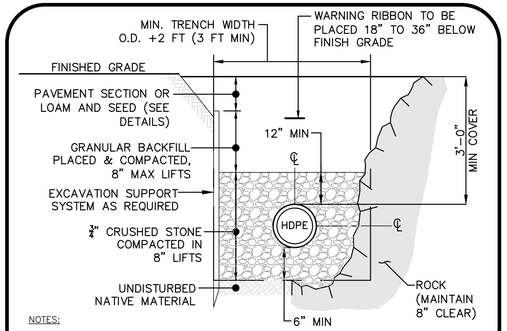
3' HIGH TAN VINYL FENCE — NOT TO SCALE — 2



NOTES:

1. MANHOLE TO BE CAPABLE OF AASHTO H-20 LOADING WITHOUT FAILURE.
2. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
3. BASE SECTION SHALL BE MONOLITHIC
4. ANY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW CUTTING AND/OR CORING. THE USE OF JACKHAMMERS, HAMMERS, AND CHISELS WILL NOT BE ALLOWED.

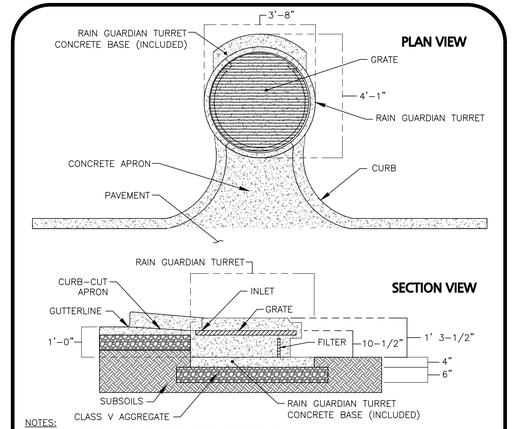
DRAIN MANHOLE — NOT TO SCALE — 3



NOTES:

1. WHERE BACKFILL IS DESIGNATED AS COMPACTED, THIS MEANS 90 TO 95% STANDARD PROCTOR. AASHTO T-99. ALL FILL PLACED BELOW PIPES AND STRUCTURES MUST MEET THIS REQUIREMENT.
2. FOR ALL TRENCHES WITH A GRADE GREATER THAN 4% AND/OR WHERE GROUNDWATER IS APPARENT, INSTALL CLAY DAMS AROUND THE PIPE AT 100' INTERVALS.
3. CRUSHED STONE SHALL BE CLEAN, HARD, FREE FROM COATINGS AND THOROUGHLY WASHED WITH A GRADATION BY WEIGHT OF 100% PASSING A 1" SQUARE OPENING, AND 0 TO 5% PASSING A ¼" SQUARE OPENING.

DRAIN TRENCH DETAIL — NOT TO SCALE — 4



NOTES:

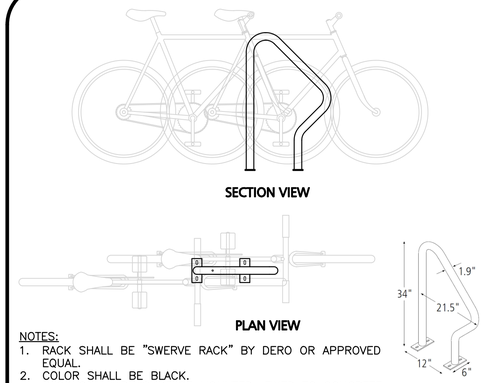
1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. SOIL UNDER BASE TO BE COMPACTED TO 95 PERCENT STANDARD PROCTOR.

RAIN GUARDIAN TURRET STYLE — NOT TO SCALE — 5

NOTES:

1. BENCH SHALL BE 6' WIDE VICTOR STANLEY MODEL NUMBER FMS-324 OR APPROVED EQUAL.
2. COLOR SHALL BE BLACK.
3. BENCH SHALL BE FIXED TO CONCRETE BASE, PER MANUFACTURER'S RECOMMENDATIONS.
4. SUBMIT SHOP DRAWING FOR APPROVAL.

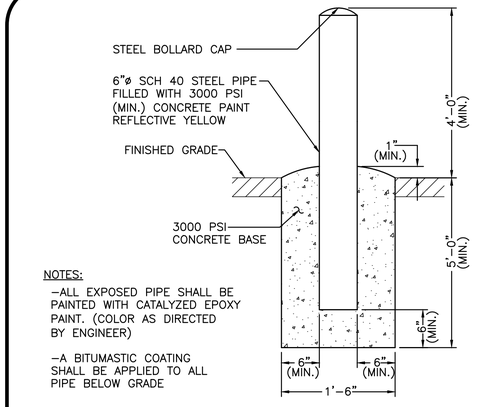
BENCH DETAIL — NOT TO SCALE — 6



NOTES:

1. RACK SHALL BE "SWERVE RACK" BY DERO OR APPROVED EQUAL.
2. COLOR SHALL BE BLACK.
3. RACK SHALL BE SURFACE MOUNTED, FIXED TO CONCRETE BASE, PER MANUFACTURER'S RECOMMENDATIONS.
4. SUBMIT SHOP DRAWING FOR APPROVAL.

BIKE RACK DETAIL — NOT TO SCALE — 7



NOTES:

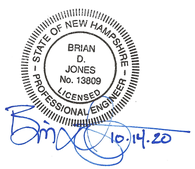
-ALL EXPOSED PIPE SHALL BE PAINTED WITH CATALYZED EPOXY PAINT. (COLOR AS DIRECTED BY ENGINEER)

-A BITUMASTIC COATING SHALL BE APPLIED TO ALL PIPE BELOW GRADE

FIXED PIPE BOLLARD — NOT TO SCALE — 8

NOT USED — NOT TO SCALE — 9

R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_DETAILS.DWG



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
1	10-14-20	REVISION 1

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
THE STATION
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	08-13-20
SCALE:	AS SHOWN	DWG. NAME: C-2464-03.dwg	
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
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environmental consulting ◆ landscape architecture
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MANCHESTER, NH 03103
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DRAWING TITLE:	SHEET No.
DETAILS	C-503

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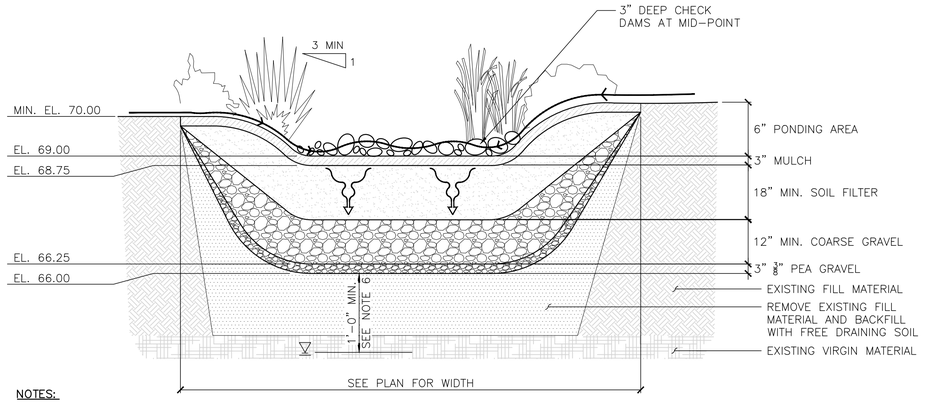
PLANNING BOARD FILE NUMBER: P20-56

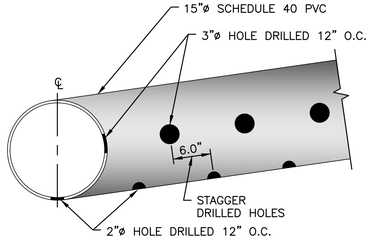
BIORETENTION FILTER MEDIA			
COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL	
		SIEVE NO.	PERCENT BY WEIGHT PASSING STANDARD SIEVE
FILTER MEDIA OPTION A			
ASTM C-22 CONCRETE SAND	50 TO 55		
LOAMY SAND TOPSOIL, WITH FINES AS INDICATED	20 TO 30	200	15 TO 25
MODERATELY FINE SHREDDED 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 COARD SAND	70 TO 80	10	85 TO 100
		20	70 TO 100
		60	15 TO 40
		200	8 TO 15



NOTES:

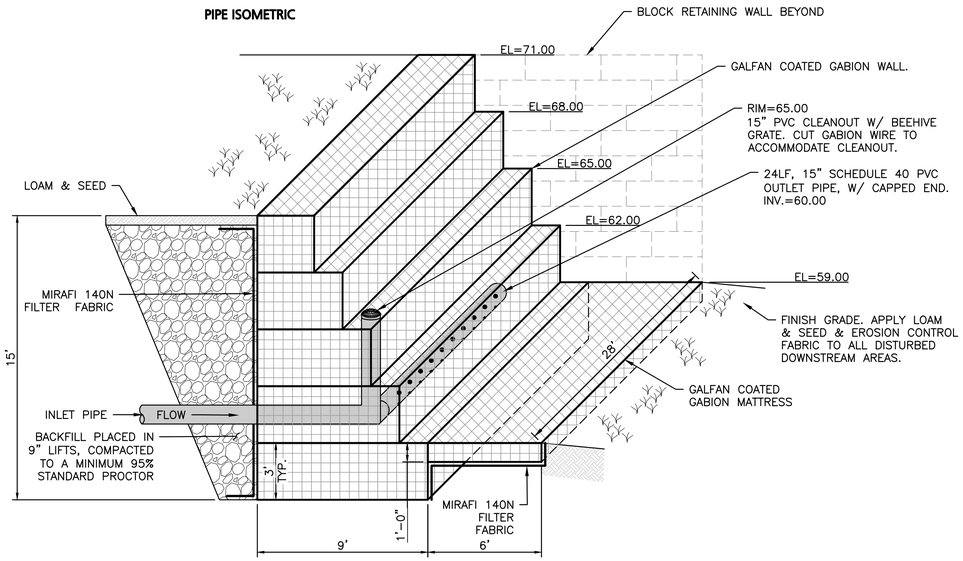
1. SEE LANDSCAPE PLAN FOR PLANT TYPES.
2. GRADING, AND PLANTING OF BIORETENTION SHALL BE COMPLETED IN EARLY PHASES OF CONSTRUCTION. PLANTS AND SEED ON SLOPES AND BOTTOM OF BASIN MUST BE ESTABLISHED PRIOR TO CONNECTING STORM DRAINAGE SYSTEM OUTLETS TO BIORETENTION AREA. PLANTS AND SEED MIX SHALL HAVE A MINIMUM OF 6 MONTHS GROWING, BE ESTABLISHED AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO CONNECTING STORM DRAINAGE SYSTEM OUTLETS TO BIORETENTION AREA.
3. EROSION CONTROL MEASURES AS SHOWN ON THE EROSION CONTROL PLAN, SHALL BE IN PLACE PRIOR TO ANY REGRADING ACTIVITY.
4. EXCAVATION, FILLING AND PLANTING SHALL OCCUR IN THE DRY. WATER LEVELS MUST BE LOWERED IN THE BIORETENTION AREA BY RELYING ON DRY SEASON AND OR DRY SPELLS; OR MAY BE ACCOMPLISHED THROUGH THE USE OF DEWATERING METHODS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ANY DEWATERING METHODS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
5. WATER FROM ANY DEWATERING OPERATION SHALL BE TREATED TO REDUCE TOTAL SUSPENDED SOLIDS AND BE IN COMPLIANCE WITH STATE AND FEDERAL STANDARDS.
6. A MINIMUM OF 1 FOOT SEPARATION BETWEEN THE BOTTOM OF THE PRACTICE AND SEASONAL HIGH WATER TABLE SHALL BE PROVIDED, VERIFY IN FIELD. IF SEPARATION CAN NOT BE ACHIEVED, SET UNDERDRAIN AT BOTTOM OF COARSE GRAVEL LAYER, OMIT PEA GRAVEL LAYER, AND PROVIDE IMPERMEABLE LINER AT BOTTOM OF PRACTICE,.

BIORETENTION SYSTEM DETAIL (1)
NOT TO SCALE

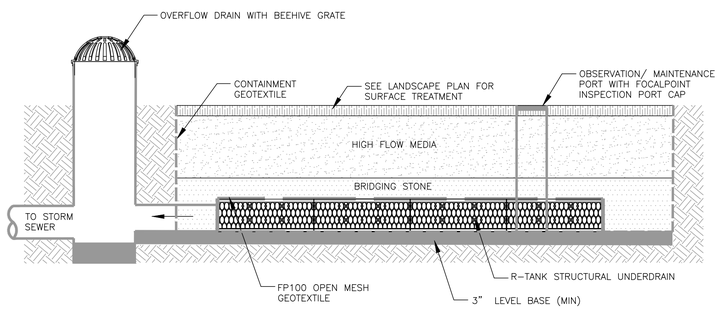


NOTES:
1. ASSEMBLE GABION WALL AND MATTRESS PER MANUFACTURER'S RECOMMENDATIONS.
2. STONE FILL FOR GABION SHALL BE BETWEEN 4"-7".
3. GALFAN COATING (95% ZINC + 5% ALUMINUM) COATING REQUIRED FOR ALL WIRE GABION PARTS.

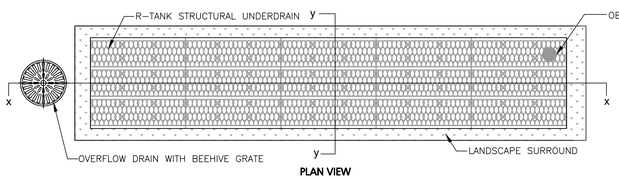
PIPE ISOMETRIC



GABION WALL & MATTRESS (2)
NOT TO SCALE



SECTION X-X

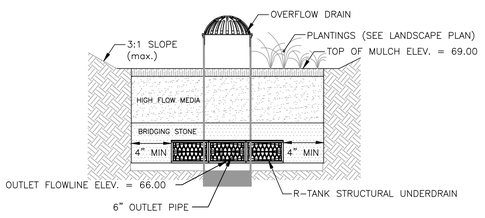


PLAN VIEW

NOTES:
1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. DETAILS ARE PROTOTYPICAL IN NATURE. SEE GRADING & DRAINAGE PLAN FOR DIMENSIONS AND ELEVATIONS.
3. SEE LANDSCAPING PLANS FOR PLANTING INFORMATION AND SURFACE TREATMENT.
4. CONTRACTOR SHALL SUBMIT SHOP DRAWING FOR REVIEW AND APPROVAL.

FOCALPOINT HP PERFORMANCE SPECIFICATION:
HIGH PERFORMANCE MEDIA MUST MEET A MINIMUM OF 100" PER HOUR INFILTRATION RATE.

HIGH PERFORMANCE STRUCTURAL UNDERDRAIN:
MUST HAVE A MINIMUM OF 19 SQUARE INCHES OF ORIFICE OPENING PER SQUARE FOOT.
MUST MEET H20 LOADING REQUIREMENTS.
MUST BE MODULAR IN NATURE AND ASSEMBLED ON SITE.
MUST HAVE MINIMUM 90% INTERIOR VOID SPACE.



SECTION Y-Y

TYPICAL FOCALPOINT DETAILS (3)
NOT TO SCALE

BRIAN D. JONES No. 13809 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE
10.14.20
PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
1	10-14-20	REVISION 1

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
THE STATION
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	08-13-20
SCALE:	AS SHOWN	DWG. NAME:	C-2464-03.dwg
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
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environmental consulting ◆ landscape architecture
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DRAWING TITLE: DETAILS

SHEET No. C-504

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PLANNING BOARD FILE NUMBER: P20-56

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PLANTING SCHEDULE-TREES, SHRUBS, GROUNDCOVERS & PERENNIALS

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	MIN. SIZE	SPACING	COMMENTS
DECIDUOUS TREES						
AR	6	ACER RUBRUM 'BOWHALL'	BOWHALL RED MAPLE	3.5" CAL.	AS SHOWN	B&B
BN	3	BETULA N. 'DURAHEAT'	DURAHEAT RIVER BIRCH	3.5" CAL.	AS SHOWN	B&B–MULTISTEM
QB	5	QUERCUS BICOLOR	SWAMP WHITE OAK	3.5" CAL.	AS SHOWN	B&B
QP	6	QUERCUS PALUSTRIS 'GREEN PILLAR'	'GREEN PILLAR OAK	3.5" CAL.	AS SHOWN	B&B
EVERGREEN/FLOWERING TREES						
AC	4	ABIES CONCOLOR	WHITE FIR	6–7' HT.	AS SHOWN	B&B
JV	9	JUNIPEROUS VIRGINIANA 'BLUE ARROW'	BLUE ARROW JUNIPER (NARROW)	6–7' HT.	AS SHOWN	B&B
CW	5	CRATAEGUS 'WINTER KING'	WINTER KING HAWTHORNE	3.5" CAL	AS SHOWN	B&B
MS	2	MAGNOLIA STELLATA 'ROYAL STAR'	ROYAL STAR MAGNOLIA	6–7' HT.	AS SHOWN	B&B
TO	51	THUJA OCCIDENTALIS 'WINTERGREEN'	WINTERGREEN ARBORVITAE	5–6' HT.	AS SHOWN	B&B
SHRUBS						
KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	MIN. SIZE	SPACING	COMMENTS
CS	10	CORNUS SERICEA 'ARCTIC FIRE'	ARCTIC FIRE RED TWIGGED DOGWOOD	#5	AS SHOWN	POT
HP	6	HYDRANGEA P. 'LITTLE LIME'	LITTLE LIME PANICLE HYDRANGEA	#5	AS SHOWN	POT
IG	98	ILEX GLABRA	INKBERRY	#5	AS SHOWN	POT
IV	17	ILEX VERTICILATA 'RED SPRITE'	RED SPRITE WINTERBERRY	#5	AS SHOWN	POT
IVM	2	ILEX VERTICILATA 'JIM DANDY'	MALE POLLINATOR WINTERBERRY	#5	AS SHOWN	POT
LB	11	LINDERA BENZOIN	SPICEBUSH	#5	AS SHOWN	POT
MP	9	MYRICA PENSYLVANICA	BAYBERRY	#5	AS SHOWN	POT
PJM	24	RHODODENDRON 'PJM ELITE'	ELITE PJM RHODODENDRON	#5	AS SHOWN	POT
RK	18	ROSE 'KNOCKOUT'	KNOCKOUT ROSE CHERRY RED	#5	AS SHOWN	POT
SP	9	SYRINGA PATULA 'MISS KIM'	MISS KIM RHODODENDRON	#5	AS SHOWN	POT
PERENNIALS/GRASSES						
KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	MIN. SIZE	SPACING	COMMENTS
AM	16	ALCHEMILLA MOLLIS	LADY'S MANTLE	#2	24" O.C.	STAGGERED
BA	24	BAPTISIA AUSTRALIS	FALSE BLUE INDIGO	#2	36" O.C.	STAGGERED
EP	34	ECHINACEA PURPUREA	ECHINACEA	#2	24" O.C.	STAGGERED
HH	28	HEMEROCALLIS 'ROSEY RETURNS'	GENTLE SHEPHERD WHITE DAYLILY	#2	24" O.C.	STAGGERED
HO	41	HOSTA 'GOLDEN PRAYERS'	GOLDEN PRAYERS HOSTA	#2	24" O.C.	STAGGERED
MF	64	MONARDA FISTULOSA	WILD BERGAMOT	#2	24" O.C.	STAGGERED
PR	12	PEROVSKIA 'LITTLE SPIRE'	RUSSIAN SAGE	#2	24" O.C.	STAGGERED
NW	15	NEPETA 'WALKER'S LOW'	WALKERS LOW NEPETA	#2	24" O.C.	STAGGERED
PV	41	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	#2	24" O.C.	STAGGERED
RF	70	RUDBECKIA FULGIDA 'GOLDSTRUM'	BLACK EYED SUSAN	#2	24" O.C.	STAGGERED

STREETSCAPE REGULATIONS - SUBDIVISION

157.35 NATURAL FEATURES	REQUIRED	PROVIDE	NOTES
E. STREET TREE PLANTING: 1. DROUGHT TOLERANT, 2. 3.5 CAL. MIN, 3. LOW GROWING UNDER UTILITIES 4. 10–20–30 TREE BIODIVERSITY 5. TREES NO MORE THAN 35' O.C. 6. WATERING PLAN FOR TREES	AS NOTED	MINIMUM REQUIRED OR GREATER	CBD OVERLAY TRANSIT ORIENTED DEVELOPMENT : TREES 25–35' O.C.
F. PERIMETER PLANTING – VEGETATED BUFFER FOR NEIGHBORING PROPERTIES	AS NOTED	MINIMUM REQUIRED OR GREATER	
G. CUL DE SAC : NATURAL VEGETATION OR STORM WATER FILTRATION WITH TREES, SHRUBS AND PERENNIALS. TO BE PLANTED AFTER CONSTRUCTION OF STREET IS COMPLETE.	AS NOTED	MINIMUM REQUIRED OR GREATER	

DIG SAFE

BEFORE YOU DIG CALL 811 OR 1-888-DIG-SAFE 1-888-344-7233

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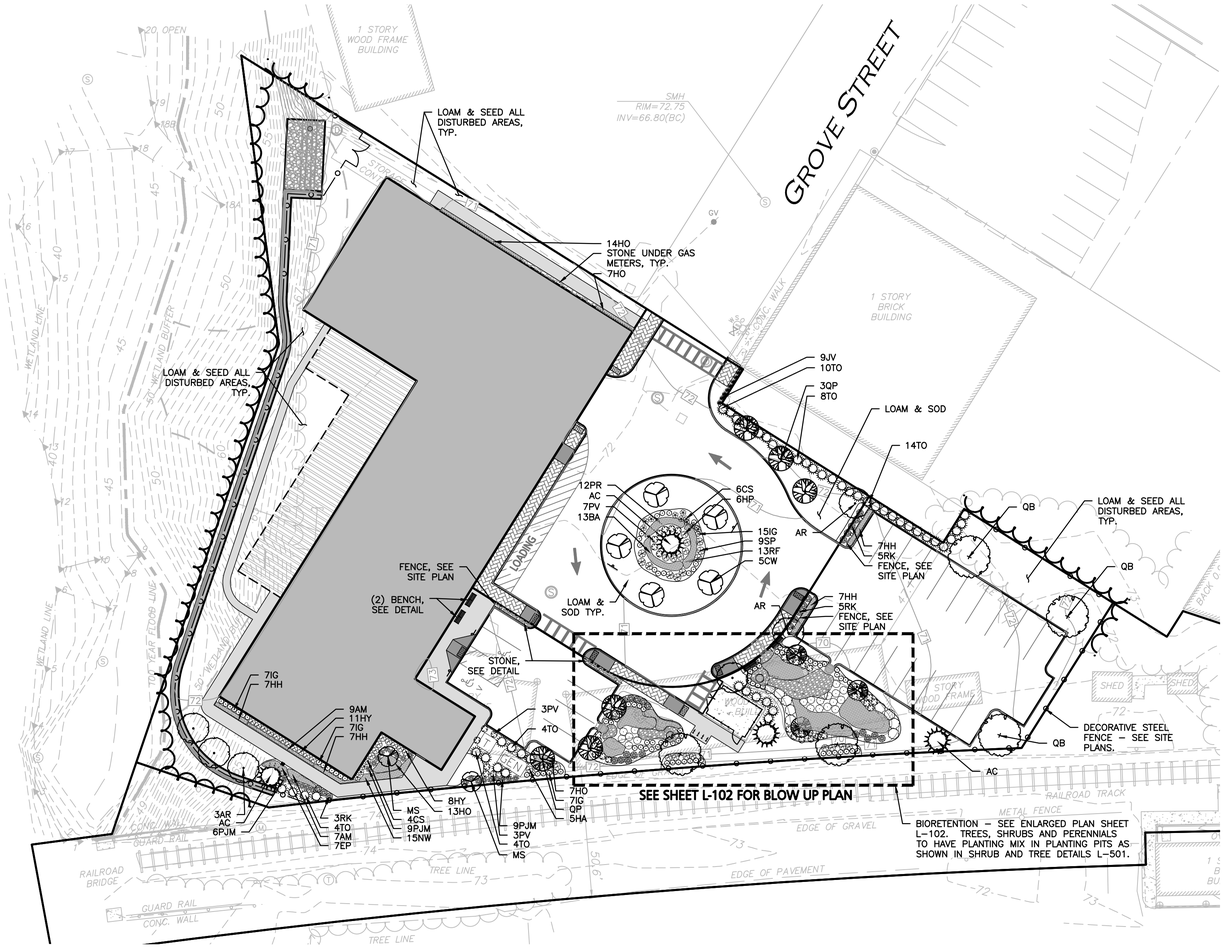
2. ALL LANDSCAPED AREAS WITH SHRUBS, TREES, AND PERENNIALS TO HAVE 18" MINIMUM DEPTH OF TOPSOIL. EIGHTEEN INCHES OF TOPSOIL AROUND TREES AND SHRUBS DOES NOT INCLUDE AMENDED PLANTING SOIL WITHIN TREE / SHRUB PIT FOR FULL DEPTH OF ROOTBALLS. SEE PLANTING DETAILS FOR PLANTING DEPTH AT SHRUBS AND TREES. ALL AREAS OF LOAM AND SEED OR LOAM & SOD TO HAVE 6" MINIMUM DEPTH OF TOPSOIL. TOPSOIL TO BE TESTED BY CONTRACTOR, AND APPROVED BY A&M PRIOR TO PURCHASE AND OR PLACEMENT. GENERAL CONTRACTOR, DEMOLITION CONTRACTOR, AND LANDSCAPE CONTRACTOR TO COORDINATE PROPER DEPTH OF EXISTING MATERIAL REMOVAL ACROSS SITE SO THAT 18" MINIMUM AND 6" MINIMUM DEPTHS OF PROPOSED TOPSOIL NOTED ABOVE ARE MET AT NO ADDITIONAL COST TO OWNER. SEE TOPSOIL DETAIL.
3. SEE SHEET L–501 FOR ADDITIONAL LANDSCAPE INFORMATION.

LEGEND

DECIDUOUS TREE
EVERGREEN TREE
FLOWERING TREE
SHRUBS
MULCH BED
PERENNIALS/GROUNDCOVER



NOTES:
1. THE CUL DE SAC CENTER CIRCLE WILL NOT HAVE IRRIGATION, BUT WILL BE MAINTAINED WITH THE REST OF THE LANDSCAPE ON THE PROPERTY BY THE OWNER. TREES IN THE CUL DE SAC TO HAVE 3.5 YEARS OF WATERING MAINTENANCE UNTIL ESTABLISHMENT TO FOLLOW THE STREET TREE REGULATIONS FOR A WATERING PLAN.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

BETHANY C. DERMODY
LICENSED LANDSCAPE ARCHITECT
STATE OF NEW HAMPSHIRE
006
10-14-2020

REGISTERED LANDSCAPE ARCHITECT FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
1	10-14-20	REVISION 1

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
THE STATION
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	08-13-20
SCALE:	1" = 30'	DWG. NAME: C-2464-03.dwg	
DESIGNED BY:	BCD	CHECKED BY:	BDJ

PREPARED BY:
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DRAWING TITLE: LANDSCAPING PLAN

SHEET No. L-101

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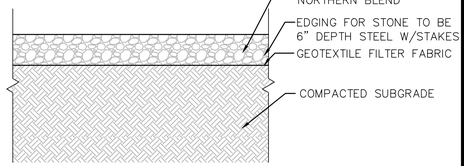
PLANNING BOARD FILE NUMBER: P20-56

R: \PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_LANDSCAPING.DWG



NOTES:
1. STONE TO BE 2–3" NATURALLY ROUND NORTHERN BLEND OR EQUAL FROM :
LANDSCAPERS DEPOT, 59 ROUTE 125, KINGSTON NH 03848,
(603) 642–6677
OR EQUAL OR BLENDED ROUNDSTONE FROM: BOB SHERWOOD LANDSCAPE,
55 KNOX MARSH RD, DOVER, NH 03820, 603–742–0463

2. PROVIDE SHOP DRAWING SAMPLE TO A&M & OWNER FOR APPROVAL PRIOR TO PURCHASE.

LANDSCAPE STONE DETAIL — NOT TO SCALE — 1

LANDSCAPING GENERAL REQUIREMENTS (G. (1))

LANDSCAPING GENERAL REQUIREMENTS	REQUIRED	PROVIDE	NOTES
e. SCREENING FOR LOADING, WASTE AREAS WITH FENCE OR PLANTING SCREEN.	AS NOTED	SCREENING	
f. 1 TREE PER 35 LINEAR FEET ALONG ROADWAYS	AS NOTED	TREES 1 TREE PER 35 LINEAR FEET	
h. A MAINTENANCE PLAN FOR LANDSCAPE SHALL BE INCLUDED.	AS NOTED	MAINTENANCE PLAN	SEE STORMWATER MANAGMENT PLAN
2. (b). INTERIOR PLANTING. TREES SHALL BE A MINIMUM OF 3.5" CAL.	AS NOTED	3.5" CAL.	

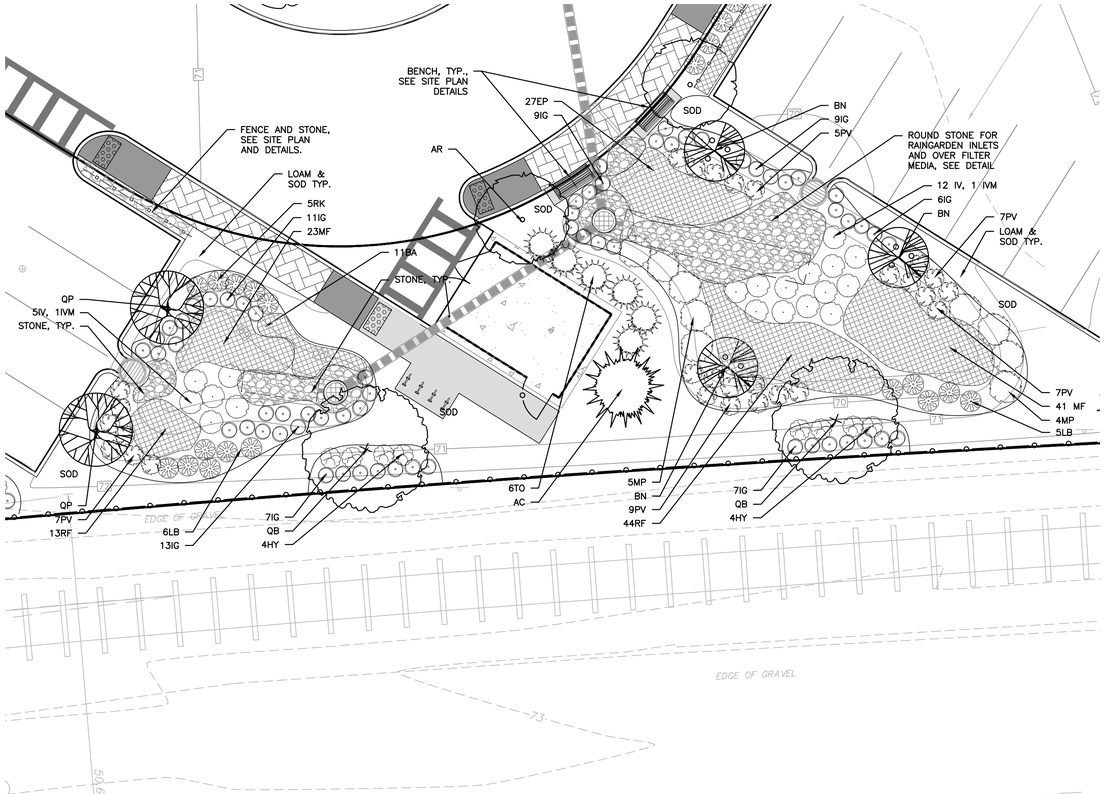
LEGEND

DECIDUOUS TREE
EVERGREEN TREE
FLOWERING TREE
SHRUBS
MULCH BED
PERENNIALS/GROUNDCOVER

NOTES:
1. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.

2. ALL LANDSCAPED AREAS WITH SHRUBS, TREES, AND PERENNIALS TO HAVE 18" MINIMUM DEPTH OF TOPSOIL. EIGHTEEN INCHES OF TOPSOIL AROUND TREES AND SHRUBS DOES NOT INCLUDE AMENDED PLANTING SOIL WITHIN TREE / SHRUB PIT FOR FULL DEPTH OF ROOTBALLS. SEE PLANTING DETAILS FOR PLANTING DEPTH AT SHRUBS AND TREES. ALL AREAS OF LOAM AND SEED OR LOAM & SOD TO HAVE 6" MINIMUM DEPTH OF TOPSOIL. TOPSOIL TO BE TESTED BY CONTRACTOR, AND APPROVED BY A&M PRIOR TO PURCHASE AND OR PLACEMENT. GENERAL CONTRACTOR, DEMOLITION CONTRACTOR, AND LANDSCAPE CONTRACTOR TO COORDINATE PROPER DEPTH OF EXISTING MATERIAL REMOVAL ACROSS SITE SO THAT 18" MINIMUM AND 6" MINIMUM DEPTHS OF PROPOSED TOPSOIL NOTED ABOVE ARE MET AT NO ADDITIONAL COST TO OWNER. SEE TOPSOIL DETAIL.

3. SEE SHEET L–501 FOR ADDITIONAL LANDSCAPE INFORMATION.



RAINGARDEN BLOWUP PLAN — 1"=10'–0" — 1

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

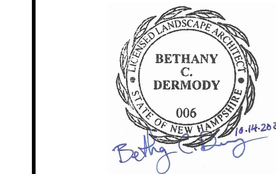
DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1–888–DIG–SAFE
1–888–344–7233

LANDSCAPE NOTES

ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF DOVER, NH.

1. PLANTING PLAN IS DIAGRAMMATIC IN NATURE. FINAL PLACEMENT OF PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES, ANY PERMITTING AGENCIES, AND "DIG–SAFE" (1–888–344–7233) AT LEAST 72 HOURS IN ADVANCE OF ANY WORK THAT WILL REQUIRE EXCAVATION. CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE OF NAY CONFLICTS IN WRITING.
3. NO PLANT MATERIAL SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA, ANY TREES NOTED AS "SEAL OR SELECTED SPECIMEN" SHALL BE TAGGED AND SEALED BY THE LANDSCAPE ARCHITECT.
4. ALL TREES SHALL BE BALLED AND BURLAPPED (B&B) UNLESS OTHERWISE NOTED OR APPROVED BY THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
5. CONTRACTOR SHALL VERIFY QUANTITIES SHOWN ON PLANT LIST. QUANTITIES SHOWN ON PLANS SHALL GOVERN OVER PLANT LIST.
6. ANY PROPOSED PLANT SUBSTITUTIONS MUST BE APPROVED IN WRITING BY OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
7. ALL PLANT MATERIALS INSTALLED SHALL MEET THE GUIDELINES ESTABLISHED BY THE STANDARDS FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
8. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF ACCEPTANCE.
9. ALL DISTURBED AREAS NOT OTHERWISE NOTED SHALL RECEIVE 6" OF SUITABLE LOAM & SEED LAWNS WITH 3:1 OR GREATER SLOPES SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET.
10. ANY FALL TRANSPLANTING HAZARD PLANTS SHALL BE DUG IN THE SPRING AND STORED FOR FALL PLANTING.
12. TREES SHALL HAVE A MINIMUM CALIPER AS INDICATED ON THE PLANTING SCHEDULE TAKEN ONE FOOT ABOVE THE ROOT CROWN.
13. ALL PLANT BEDS AND TREE SAUCERS TO RECEIVE 3" OF PINE BARK MULCH. GROUND COVER AREAS SHALL RECEIVE 1" OF PINE BARK MULCH
14. ALL DECIDUOUS TREES ADJACENT TO WALKWAYS AND ROADWAYS SHALL HAVE A BRANCHING PATTERN TO ALLOW FOR A MINIMUM OF 7' OF CLEARANCE BETWEEN THE GROUND AND THE LOWEST BRANCH.
15. ALL TREE STAKES SHALL BE STAINED DARK BROWN.
16. CONTRACTOR RESPONSIBLE FOR WATERING, AND RESEEDING OF BARE SPOTS UNTIL A UNIFORM STAND OF VEGETATION IS ESTABLISHED AND ACCEPTED.
17. ALL PARKING ISLANDS PLANTED WITH SHRUBS SHALL HAVE 24" OF TOP SOIL. FINISH GRADE SHALL BE EQUAL TO THE TOP OF CURB.
18. SOIL SAMPLES, TESTS, AND SHOP DRAWINGS SHALL BE PROVIDED TO THE LANDSCAPE ARCHITECT OR THE OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
19. ALL PROPOSED LANDSCAPE AREAS INCLUDING MOWED LAWNS, TREES, SHRUB BEDS, AND PERENNIALS SHALL BE PROVIDED WITH WATER EFFICIENT UNDERGROUND IRRIGATION. DESIGN AND INSTALLATION OF IRRIGATION SYSTEM TO BE PERFORMED BY AN APPROVED IRRIGATION DESIGN BUILD CONTRACTOR OR BY AN APPROVED EQUAL, TO BE DETERMINED BY THE OWNERS REPRESENTATIVE AND LANDSCAPE ARCHITECT. IRRIGATION SYSTEM IS TO BE DESIGNED FOR EFFICIENT WATER USAGE INCLUDING: USE OF DRIP IRRIGATION FOR SHRUBS AND PERENNIALS, IRRIGATION SYSTEM WITH HEAD–TO–HEAD COVERAGE, A CENTRAL SHUT–OFF VALVE, SEPARATE ZONES FOR EACH TYPE OF BEDDING AREA BASED ON WATERING NEEDS, AND A RAIN SENSOR TO SHUT OFF IRRIGATION DURING RAIN EVENTS.



REGISTERED LANDSCAPE ARCHITECT FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
1	10-14-20	REVISION 1

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
THE STATION
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	08-13-20
SCALE:	1" = 10'	DWG. NAME: C-2464-03.dwg	
DESIGNED BY:	BCD	CHECKED BY:	BDJ

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE: LANDSCAPING PLAN
SHEET No. L-102

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PLANNING BOARD FILE NUMBER: P20-56

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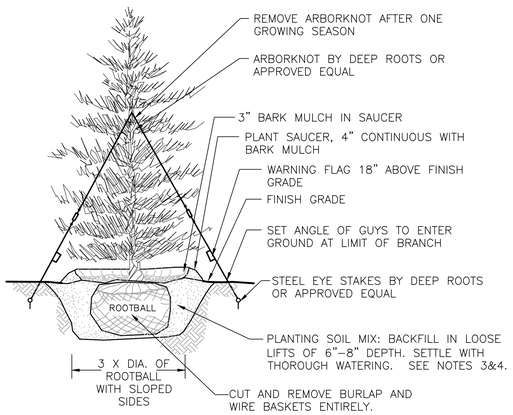
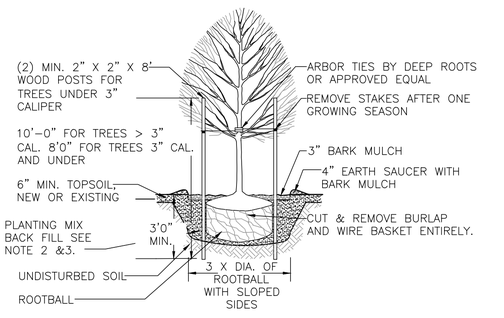


NOTES

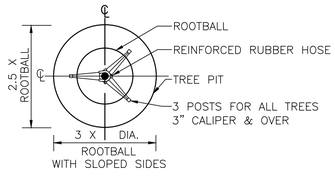
1. TREES SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT BORE TO NURSERY OR FIELD GRADE. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL TOP OF ROOTBALL AREA.
2. INSTALL THREE GUYS PER TREE; EQUALLY SPACED AROUND BALL.
3. ATTACH GUYS AT 2/3 HEIGHT OF TREE.
4. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
5. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.

EVERGREEN TREE DETAIL — NOT TO SCALE — 1



NOTES:

1. ALL TREES SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL ROOTBALL AREA.
2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.



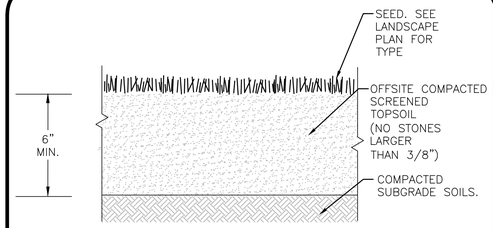
DECIDUOUS TREE PLANTING DETAIL — NOT TO SCALE — 2

LOAM AND SEEDING NOTES:

CONTRACTOR SHALL SEED ALL DISTURBED AREAS NOT NOTED TO RECEIVE OTHER MATERIALS, AND AT AREAS SHOWN ON THE PLAN PER SPECIFICATIONS BELOW

SCIENTIFIC NAME	COMMON NAME	PROPORTION BY WEIGHT	PERCENT PURITY	PERCENT GERMINATION
FESTUCA RUBRA "RUBRA"	CREEPING RED FESCUE	37%	95%	90%
PAO PRAENTENSIS "BARON"	BARON KENTUCKY BLUEGRASS	40%	85%	90%
LOLIUM PERENNE "PALMER"	PALMER PERENNIAL RYEGRASS	15%	95%	90%
FESTUCA RUBRA COMMUTATA WILMA	WILMA CHEWINGS	8%	95%	80%

1. SEED TO BE SPREAD AT MINIMUM RATE OF 5 LBS. PER 1000 SQ. FT.
2. SEEDING TO BE COMPLETED "IN SEASON" BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 1, EXCEPT FOR RESEEDING OF BARE SPOTS. IF UNABLE TO SEED WITHIN THESE TIMEFRAMES, CONTRACTOR TO INSTALL EROSION CONTROL MATS ON ALL SLOPES 3:1 AND OVER, HYDROSEED ALL EXPOSED AREAS, ADD SOIL STABILIZER "FLUX TERRA HP-FGM SOIL STABILIZER" AS MANUFACTURED BY "PROFILE" TO HYDROSEED (AT RATE OF 3,000 LBS PER ACRE), AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO COMPLETE ALL ABOVE "OUT OF SEASON" REQUIREMENTS AND THEN ALSO BE RESPONSIBLE FOR RE-GRADING AND RE-SEEDING ALL DISTURBED, ERODED, OR BARE SPOTS WITHIN NEXT CLOSEST PLANTING SEASON IN FALL OR SPRING AT NO ADDITIONAL COST TO OWNER. CONTRACTOR RESPONSIBLE FOR ALL MAINTENANCE UNTIL FINAL ACCEPTANCE OF LAWN AREAS INCLUDING: WATERING, ADDING FERTILIZERS AND LIME AND MOWING AT NO ADDITIONAL COST TO OWNER.
3. COMMERCIAL FERTILIZER SHALL BE APPLIED AT THE RATE OF 25 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. LIME TO BE SPREAD AT THE RATE OF 100 POUNDS PER 1000 SQ. FT OR AS RECOMMENDED BY THE TESTING AGENCY. COMMERCIAL FERTILIZER SHALL BE A COMPLETE FERTILIZER CONTAINING AT LEAST 50% OF THE NITROGEN OF WHICH IS DERIVED FROM NATURAL ORGANIZE SOURCES OF UREAFORM. IT SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT: NITROGEN (N) 10%, PHOSPHORUS (P) 6%, POTASH (K) 4%. LIME SHALL BE AN APPROVED AGRICULTURAL LIMESTONE CONTAINING NOT LESS THAN 85% OF TOTAL CARBONATES. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT 50% WILL PASS A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE.
4. LAWN AREAS TO BE SEEDED BY SOWING EVENLY WITH AN APPROVED MECHANICAL SEEDER AT THE RATE OF TEN POUNDS PER 1000 SQUARE FEET.
5. CONTRACTOR RESPONSIBLE FOR WATERING, MOWING, AND RESEEDING OF LAWN BARE SPOTS UNTIL A UNIFORM, HEALTHY STAND OF GRASS IS ESTABLISHED AND ACCEPTED.



TEXTURE CLASS	% OF TOTAL WEIGHT
SAND	45% – 65%
SILT	15% – 35%
CLAY	5% – 20%

SIEVE	% PASSING
3/8"	100
NO. 4	85–100
NO. 40	60–85
NO. 100	38–60
NO. 200	10–35
20 um	LESS THAN 5%

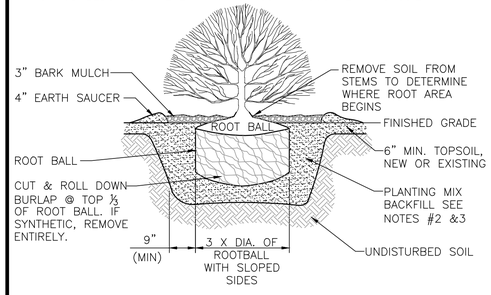
NOTES:

1. TOP OF LOAM (TOPSOIL) IS FINISH GRADE.
2. ALL TOPSOIL (BOTH ONSITE AND OFFSITE SOURCES) SHALL BE COMPOSED OF A NATURAL, FERTILE, FRIABLE SOIL TYPICAL OF CULTIVATED TOPSOILS OF THE LOCALITY. OFFSITE SOIL SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND SUPPORT OF VEGETATIVE GROWTH, WITH ADDITIVES, IF REQUIRED, TO ACHIEVE PARTICLE DISTRIBUTION AND ORGANIC CONTENT BELOW. TOPSOIL SHALL BE TAKEN FROM A WELL-DRAINED, ARIABLE SITE, FREE OF SUBSOIL, LARGE STONES, EARTH CLODS, STICKS, STUMPS, CLAY LUMPS, ROOTS, OTHER OBJECTIONABLE, EXTRANEOUS MATTER OR DEBRIS NOR CONTAIN TOXIC SUBSTANCES.
3. THE CONTRACTOR SHALL PROVIDE THE OWNER / LANDSCAPE ARCHITECT WITH TOPSOIL TEST RESULTS (RECOMMEND UMASS AMHERST SOIL TESTING LAB) FOR APPROVAL PRIOR TO OBTAINING AND PLACING THE SOIL. IF ANY TOPSOIL IS PURCHASED OR PLACED PRIOR TO APPROVAL BY OWNER / LANDSCAPE ARCHITECT, IT IS AT CONTRACTORS RISK, AND IT CAN BE REMOVED AT NO ADDITIONAL COST TO THE OWNER. IF THE PLANTING SOIL (BOTH ONSITE AND OFFSITE SOURCES) DOES NOT FALL WITHIN THE REQUIRED SIEVE ANALYSIS, TEXTURAL CLASS, ORGANIC CONTENT, OR PH RANGE, IT SHALL BE ADJUSTED TO MEET THE SPECIFICATIONS THROUGH THE ADDITION OF SAND, COMPOST, LIMESTONE, OR ALUMINUM SULFATE TO BRING IT WITHIN THE SPECIFIED LIMITS AT NO ADDITIONAL COST TO THE OWNER.
4. TOPSOIL SHALL HAVE A PH VALUE BETWEEN 5.5 AND 6.5. TOPSOIL SHALL CONTAIN BETWEEN 4% AND 8% ORGANIC MATTER OF TOTAL DRY WEIGHT AND SHALL CONFORM TO THE FOLLOWING GRADATION AND TEXTURE CLASS ABOVE.

TOPSOIL FOR LAWN, TREES, SHRUBS, & PERENNIALS — NOT TO SCALE — 3

NOTES:

1. ALL SHRUBS SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. SET SHRUB 1"-2" ABOVE FINISH GRADE.
2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.
4. SHRUB BEDS TO HAVE 24" MIN. OF CONTINUOUS PLANTING SOIL.



SHRUB PLANTING DETAIL — NOT TO SCALE — 4

LOAM AND SODDING NOTES

CONTRACTOR SHALL SOD AREAS NOTED ON THE PLANS.

SOD IS TO BE A BLEND OF FOUR TO FIVE CURRENT AND IMPROVED HYBRID BLUEGRASS AND FESCUE MIXES APPROPRIATE FOR BOTH SEMI-SHADED AND AREAS OF SUN.

HYBRIDS MAY INCLUDE: BLACKSTONE KENTUCKY BLUEGRASS, AWARD KENTUCKY BLUEGRASS, CHALLENGER KENTUCKY BLUEGRASS, BLACKBURG II KENTUCKY BLUEGRASS OR COMPARABLE AND EQUAL BLUEGRASS HYBRIDS.

1. SOD SHALL BE HIGH QUALITY, NURSERY GROWN ON CULTIVATED MINERAL AGRICULTURAL SOILS. SOD SHALL BE MOIST, AND MACHINE CUT AT A UNIFORM SOIL THICKNESS OF AT LEAST ¾" AT TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL INCLUDE TOP GROWTH AND THATCH. SOD SHALL BE FREE OF DISEASES, WEEDS, BARE SPOTS, OR INSECTS.

2. SODDING TO BE COMPLETED "IN SEASON" BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 1, EXCEPT FOR RE-SODDING OF BARE SPOTS. IF UNABLE TO SOD WITHIN THESE TIMEFRAMES, CONTRACTOR TO INSTALL EROSION CONTROL MATS ON ALL SLOPES 3:1 AND OVER, HYDROSEED ALL EXPOSED AREAS, ADD SOIL STABILIZER "FLUX TERRA HP-FGM SOIL STABILIZER" AS MANUFACTURED BY "PROFILE" TO HYDROSEED (AT RATE OF 3,000 LBS PER ACRE), AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO COMPLETE ALL ABOVE "OUT OF SEASON" REQUIREMENTS AND THEN ALSO BE RESPONSIBLE FOR RE-GRADING AND RE-SODDING ALL DISTURBED, ERODED, OR BARE SPOTS WITHIN NEXT CLOSEST PLANTING SEASON IN FALL OR SPRING AT NO ADDITIONAL COST TO OWNER. CONTRACTOR RESPONSIBLE FOR ALL MAINTENANCE UNTIL FINAL ACCEPTANCE OF LAWN AREAS INCLUDING: WATERING, ADDING FERTILIZERS AND LIME AND MOWING AT NO ADDITIONAL COST TO OWNER.

3. COMMERCIAL FERTILIZER SHALL BE APPLIED AT THE RATE OF 25 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. LIME TO BE SPREAD AT THE RATE OF 100 POUNDS PER 1000 SQ. FT OR AS RECOMMENDED BY THE TESTING AGENCY. COMMERCIAL FERTILIZER SHALL BE A COMPLETE FERTILIZER CONTAINING AT LEAST 50% OF THE NITROGEN OF WHICH IS DERIVED FROM NATURAL ORGANIZE SOURCES OF UREAFORM. IT SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT: NITROGEN (N) 10%, PHOSPHORUS (P) 6%, POTASH (K) 4%. LIME SHALL BE AN APPROVED AGRICULTURAL LIMESTONE CONTAINING NOT LESS THAN 85% OF TOTAL CARBONATES. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT 50% WILL PASS A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE.

4. CONTRACTOR RESPONSIBLE FOR WATERING, MOWING, AND RE-SODDING OF LAWN BARE SPOTS UNTIL A UNIFORM, HEALTHY STAND OF GRASS IS ESTABLISHED AND ACCEPTED.

BETHANY C. DERMODY
LICENSED LANDSCAPE ARCHITECT
STATE OF NEW HAMPSHIRE
006
10-14-20

REGISTERED LANDSCAPE ARCHITECT FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
1	10-14-20	REVISION 1

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
THE STATION
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	08-13-20
SCALE:	AS SHOWN	DWG. NAME:	C-2464-03.dwg
DESIGNED BY:	BCD	CHECKED BY:	BDJ

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
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environmental consulting ◆ landscape architecture
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MANCHESTER, NH 03103
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DRAWING TITLE:	SHEET No.
LANDSCAPING DETAILS	L-501

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PLANNING BOARD FILE NUMBER: P20-56

R: \PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_LANDSCAPING.DWG

LIGHTING LEVEL SUMMARY

AREA	UNITS	AVERAGE	MAX	MIN	AVG/MIN
OVERALL SITE	Fc	0.6	27.9	0.0	–
FRONT ENTRANCE PARKING AREA	Fc	1.2	2.9	0.6	2.0
EASTERLY PARKING AREA	Fc	1.2	2.6	0.2	5.8

KIM LIGHTING, ENTABLATURE

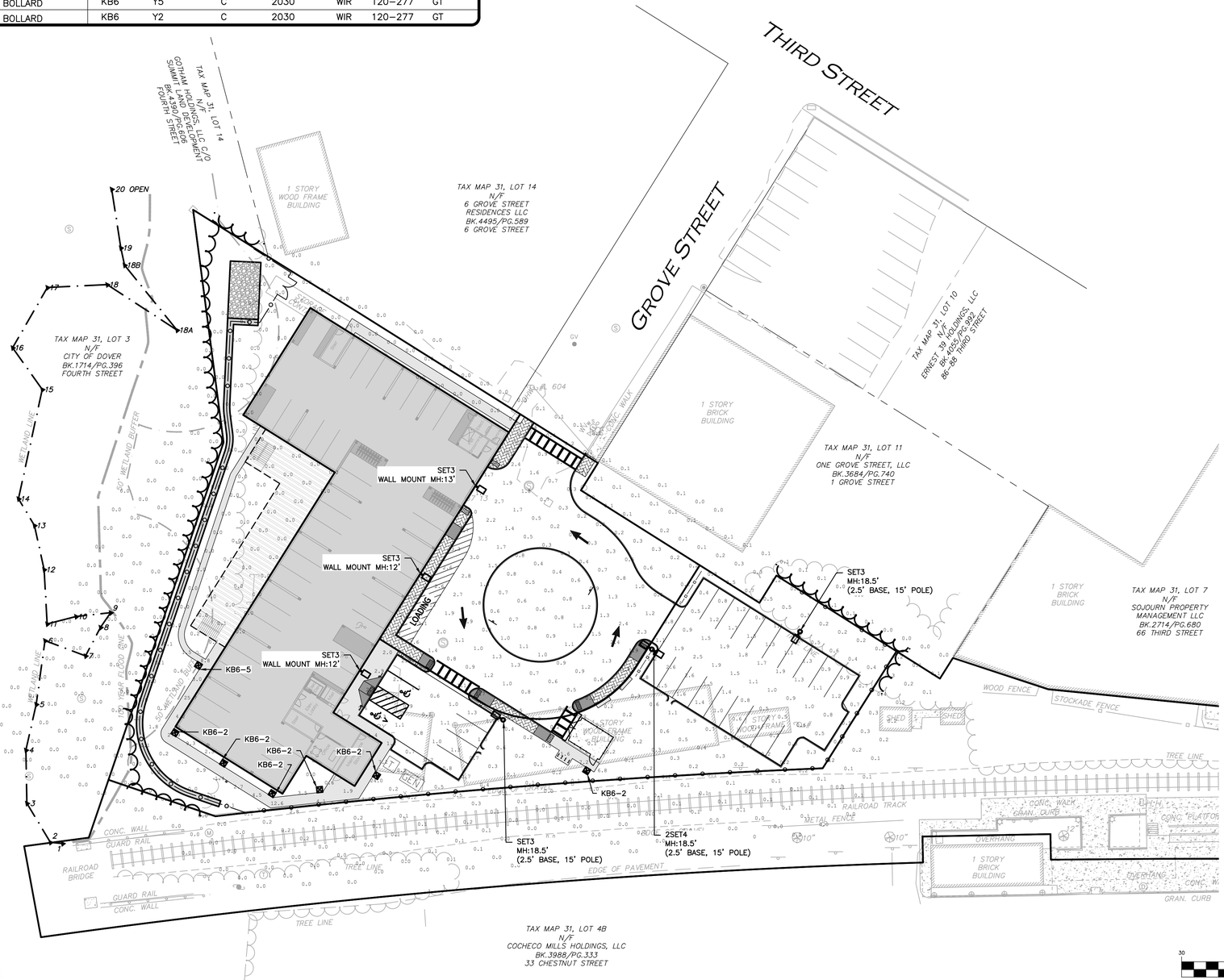
SYMBOL	QTY	LABEL	ARRANGEMENT	HOUSING	DIST.	DRIVE	SOURCE	COLOR	VOLTAGE	FINISH	OPTIONS	CONTROLS
▭▭▭	1	2SET4	DOUBLE, POLE MOUNT	SET	4	P35	40L	3K	120–277	GT	A5	WIR–RMI–IO
▭▭	2	SET3	SINGLE, POLE MOUNT	SET	3	P35	40L	3K	120–277	GT	A5	WIR–RMI–IO
▭	3	SET3	SINGLE, WALL MOUNT	SET	3	P35	40L	3K	120–277	GT	A5	WIR–RMI–IO

KICK, KB6 BOLLARD

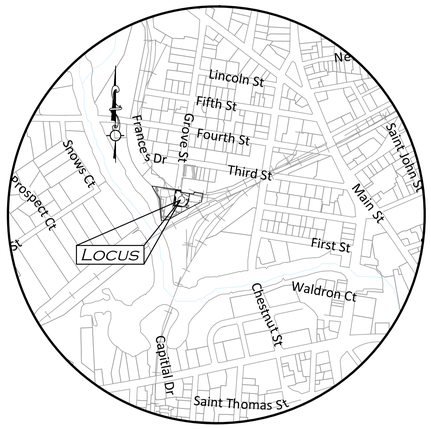
SYMBOL	QTY	LABEL	ARRANGEMENT	MODEL	DISTRIBUTION	SHIELDING	LIGHT ENGINE	CONTROL	VOLTAGE	FINISH
▣	1	KB6–5	42" BOLLARD	KB6	Y5	C	2030	WIR	120–277	GT
▣	6	KB6–2	42" BOLLARD	KB6	Y2	C	2030	WIR	120–277	GT

POLE LIGHT FIXTURE (LED)
KIM LIGHTING, ENTABLATURE

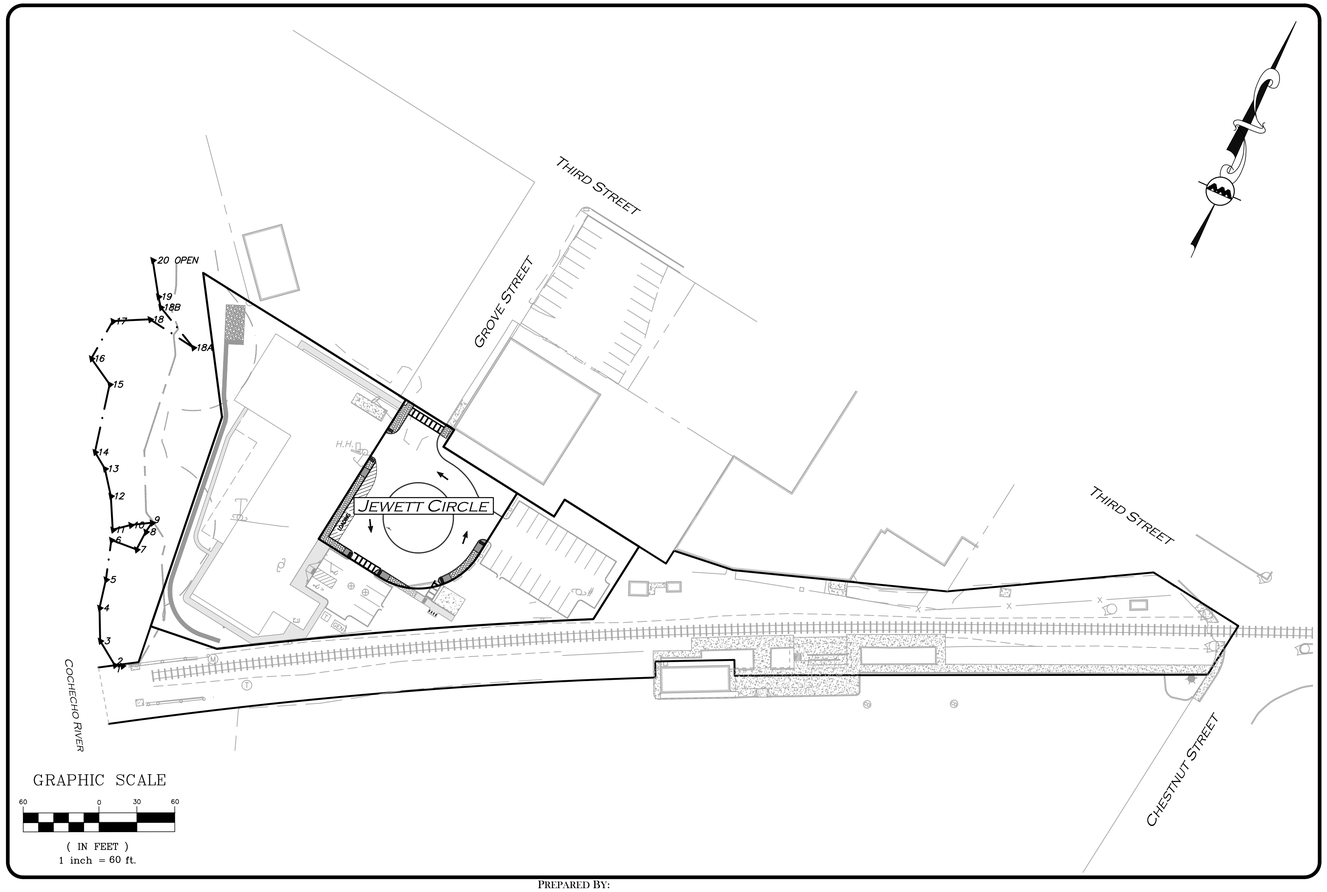
BOLLARD LIGHT (LED)
KICK, KB6 BOLLARD


THIRD STREET
GROVE STREET
TAX MAP 31, LOT 14 N/F 6 GROVE STREET RESIDENCES LLC BK.4495/PG.589 6 GROVE STREET
TAX MAP 31, LOT 14 N/F GOTHAM HOLDINGS, LLC C/O SUMMIT LAND DEVELOPMENT BK.4390/PG.69 FOURTH STREET
1 STORY WOOD FRAME BUILDING
TAX MAP 31, LOT 3 N/F CITY OF DOVER BK.1714/PG.396 FOURTH STREET
TAX MAP 31, LOT 10 N/F ERNEST 59 HOLDINGS, LLC BK.4155/PG.893 86–88 THIRD STREET
1 STORY BRICK BUILDING
TAX MAP 31, LOT 11 N/F ONE GROVE STREET, LLC BK.3684/PG.740 1 GROVE STREET
TAX MAP 31, LOT 7 N/F SOJOURN PROPERTY MANAGEMENT LLC BK.2714/PG.680 66 THIRD STREET
TAX MAP 31, LOT 4B N/F COCHECO MILLS HOLDINGS, LLC BK.3988/PG.333 33 CHESTNUT STREET
COCHECHO RIVER
20 OPEN
19
18B
18
18A
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
SET3 WALL MOUNT MH:13'
SET3 WALL MOUNT MH:12'
SET3 WALL MOUNT MH:12'
SET3 MH:18.5' (2.5' BASE, 15' POLE)
2SET4 MH:18.5' (2.5' BASE, 15' POLE)
SET3 MH:18.5' (2.5' BASE, 15' POLE)
KB6–5
KB6–2
KB6–2
KB6–2
KB6–2
KB6–2
LOADING
WETLAND LINE
50' WETLAND BUFFER
100 YEAR FLOOD LINE
50' WETLAND BUFFER
WETLAND LINE
CONC. WALL
GUARD RAIL
RAILROAD BRIDGE
GUARD RAIL
CONC. WALL
TREE LINE
TREE LINE
EDGE OF PAVEMENT
RAILROAD TRACK
METAL FENCE
CONC. WALK
GRAN. CURB
CONC. PLATFORM
OVERHANG
1 STORY BRICK BUILDING
OVERHANG
CONC. W.
GRAN. CURB
WOOD FENCE
STOCKADE FENCE
SHED
SHED
1 STORY WOOD FRAME BUILDING
1 STORY BRICK BUILDING
SWMH #604
CONC. WALK
CONC. WALK
GV
WV
WV
W

SUBDIVISION PLANS FOR
JEWETT CIRCLE
35/37 CHESTNUT STREET (MAP 31, LOT 4)
DOVER, NEW HAMPSHIRE



LOCUS MAP
SCALE: 1" = 600'



LIST OF DRAWINGS

DRAWING TITLE	SHEET NO.	ISSUED	REVISED
EXISTING CONDITIONS	V-101	07-30-20	-
EXISTING CONDITIONS	V-102	07-30-20	-
SUBDIVISION PLAN OF LAND	SD-101	10-14-20	-
SUBDIVISION PLAN OF LAND	SD-102	10-14-20	-
SITE PREPARATION PLAN	C-101	10-14-20	-
LAYOUT & MATERIALS PLAN	C-102	10-14-20	-
GRADING & DRAINAGE PLAN	C-103	10-14-20	-
UTILITIES PLAN	C-104	10-14-20	-
NEIGHBORHOOD PLAN	C-105	10-14-20	–
FIRE TRUCK TURNING PLAN	C-106	10-14-20	-
CENTERLINE PROFILE	C-107	10-14-20	-
DETAILS	C-501	10-14-20	-
DETAILS	C-502	10-14-20	-
DETAILS	C-503	10-14-20	-
LANDSCAPING PLAN	L-101	10-14-20	-
LANDSCAPING DETAILS	L-501	10-14-20	-

OWNER:
BOSTON & MAINE RAILROAD
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO., LLC
68A ROUTE 27
RAYMOND, NH 03077
603.895.2412

CIVIL ENGINEER / SURVEYOR / LANDSCAPE ARCHITECT:
ALLEN & MAJOR ASSOCIATES, INC.
400 HARVEY ROAD
MANCHESTER, NH 03103
PHONE: 603.627.5500

ARCHITECT:
THA ARCHITECTS, LLC
89 WILLOWBROOK AVENUE
STRATHAM, NH 03885
603.770.2491

WETLAND SCIENTIST:
TES ENVIRONMENTAL CONSULTANTS, LLC
1494 ROUTE 3A, UNIT 1
BOW, NH 03304
603.856.8925

PERMITS/APPROVALS

	PERMIT NUMBER	APPROVED DATE	EXPIR. DATE
CITY OF DOVER CONDITIONAL USE PERMIT	TBD	TBD	N/A
CITY OF DOVER SITE PLAN REVIEW	P20-56	TBD	N/A

STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13809
LICENSED PROFESSIONAL ENGINEER
10.14.20

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501

WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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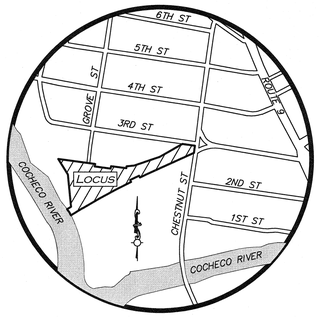
ISSUED FOR SUBDIVSION REVIEW: OCTOBER 14, 2020

PLANNING BOARD FILE NUMBER: P20-56

R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_COVER - SD.DWG



LOCUS MAP
(NOT TO SCALE)

WETLAND NOTE:

THOMAS SOKOLOSKI, CERTIFIED WETLAND SCIENTIST #127, OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. OF BOW, NH, PERFORMED THE WETLAND MAPPING ON JULY 15, 2020 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

UTILITY STATEMENT

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. ALLEN & MAJOR ASSOCIATES, INC. (A&M) MAKES NO GUARANTEE THAT THE UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. A&M FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. A&M HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

BENCHMARK SUMMARY

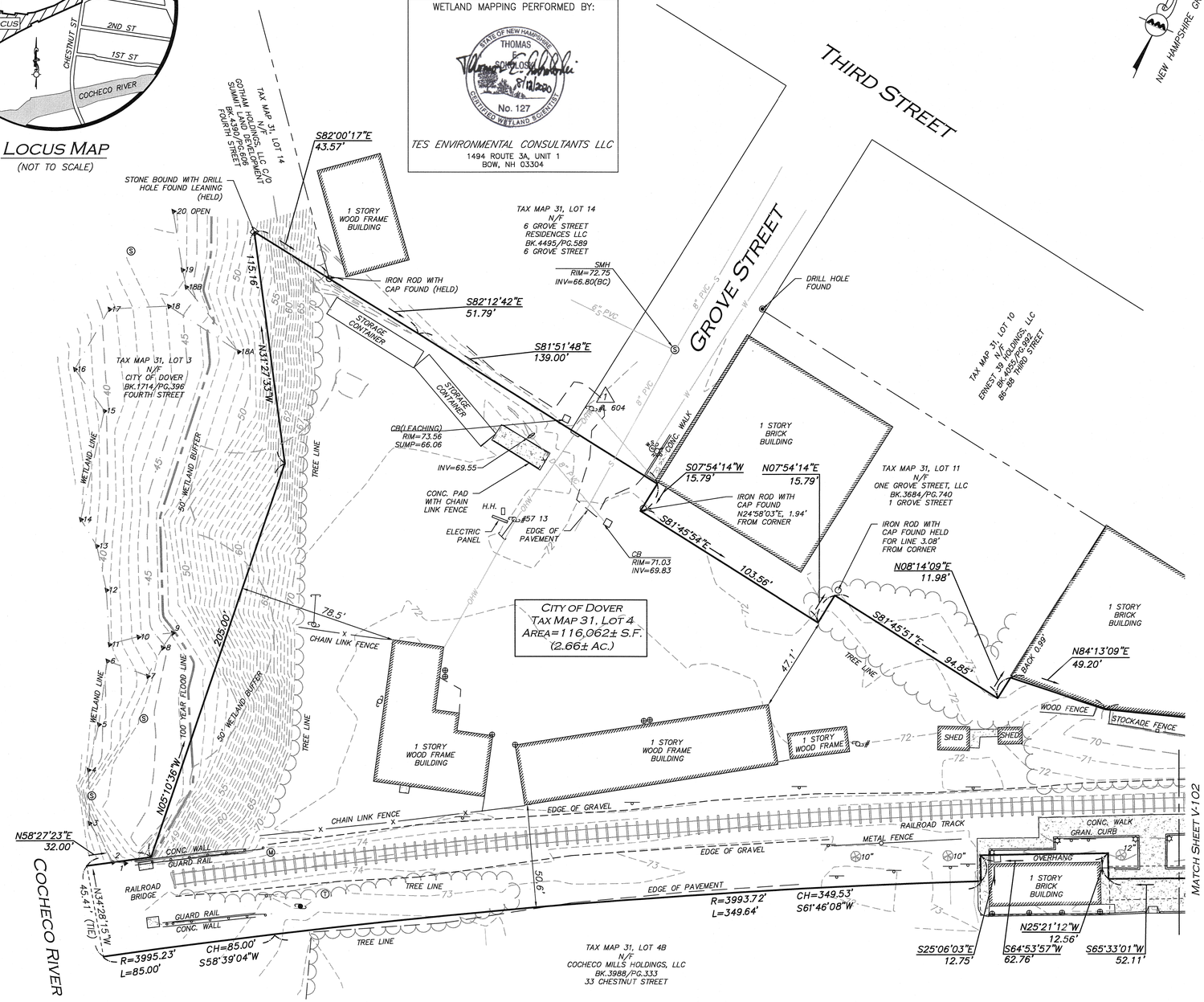
TBM #	DESCRIPTION	ELEV.
1	SPIKE SET IN UP# L-604	73.44

WETLAND MAPPING PERFORMED BY:

STATE OF NEW HAMPSHIRE — THOMAS E. SOKOLOSKI — CERTIFIED WETLAND SCIENTIST — No. 127 — 8/12/2020

TES ENVIRONMENTAL CONSULTANTS LLC
1494 ROUTE 3A, UNIT 1
BOW, NH 03304

NEW HAMPSHIRE GRID (NAD 83)



LEGEND

DRILL HOLE (DH)	◉
STONE BOUND (SB)	⊡
IRON PIPE (IP)	○
IRON ROD (IR)	○
MAG SIGNAL	△
DRAIN MANHOLE (DMH)	Ⓓ
SEWER MANHOLE (SMH)	Ⓢ
MISC. MANHOLE (MH)	Ⓜ
TELEPHONE MANHOLE (TMH)	Ⓣ
CATCH BASIN (CB)	□
UTILITY POLE	
UTILITY POLE W/LIGHT	
GUY WIRE	
FIRE HYDRANT	
WATER GATE	
BOLLARD	
INVERT (INV)	
TREE	
SIGN	
HANDICAP RAMP	
HANDICAPPED PARKING SPACE	
CONCRETE	
BUILDING	
BUILDING OVERHANG	
WETLAND	
BUFFER ZONE	
1' CONTOUR	53
5' CONTOUR	55
PROPERTY LINE	
ABUTTERS LINE	
TREE LINE	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
CHAIN LINK FENCE	x
STOCKADE FENCE	
METAL FENCE	
GUARDRAIL	
WATER LINE	W
SEWER LINE	S
DRAIN LINE	D
TELEPHONE LINE	T
OVERHEAD WIRES	OHW
FINISHED FLOOR ELEVATION	FFE
BITUMINOUS	BIT.
CONCRETE	CONC.
GRANITE	GRAN.
POLYVINYL CHLORIDE PIPE	PVC
BOTTOM CENTER	(BC)
NOW OR FORMERLY	N/F
BOOK	BK.
PAGE	PG.

LOCUS REFERENCES

- CITY OF DOVER TAX MAP 31, LOT 4
- PLAN ENTITLED, "LAND IN DOVER, NH BOSTON & MAINE CORPORATION, TAX MAP 31, LOT 4 CHESTNUT STREET, GROVE STREET, THIRD STREET AND FIFTH STREET", SCALE 1"=60', DATED JUNE, 1992, REVISED OCTOBER, 1992, PREPARED BY AMBIT SURVEY, RECORDED AT THE S.C.R.D. AS PLAN NO. 41-41.

NOTES

1. NORTH ARROW IS BASED ON NEW HAMPSHIRE GRID COORDINATE SYSTEM (NAD 83).
2. BOOK/PAGE AND PLAN REFERENCES ARE TAKEN FROM STRAFFORD COUNTY REGISTRY OF DEEDS IN DOVER, NH
3. VERTICAL DATUM IS NAVD 88 ESTABLISHED USING RTK GPS OBSERVATION.
4. CONTOUR INTERVAL IS ONE FOOT (1').
5. SEE SHEET 2 FOR PLAN REFERENCES.
6. SEE: S.C.R.D. BK. 3628, PG. 925 AT&T 16.5' WIDE UNDERGROUND TELECOMMUNICATIONS LINE. NO LOCATION OBSERVED, NO PLAN FOUND.

GRAPHIC SCALE

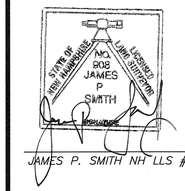
30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

R:\PROJECTS\2464-03\SURVEY\DRAWINGS\CURRENT\S-2464-03-PL.DWG
FB# NH-14

THIS PLAN IS THE RESULT OF AN ACTUAL ON THE GROUND SURVEY PERFORMED ON OR BETWEEN JULY 22, 2020 AND JULY 28, 2020 AND HAD AN ERROR OF CLOSURE OF NO GREATER THAN 1/10,000.

ALLEN & MAJOR ASSOCIATES, INC.



JAMES P. SMITH NH LLS #908 — 8-20-2020 DATE

REV	DATE	DESCRIPTION

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO., INC.
68A ROUTE 27 - P.O. BOX 405
RAYMOND, NH 03077

PROJECT:
TAX MAP 31, LOT 4
35/37 CHESTNUT STREET
DOVER, NH

PROJECT NO.	2464-03	DATE:	8/20/20
SCALE:	1" = 30'	DWG. NAME:	S-2464-03-PL
DRAFTED BY:	AJR	CHECKED BY:	JPS

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
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FAX: (603) 627-5501
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE: EXISTING CONDITIONS

SHEET No. V-101

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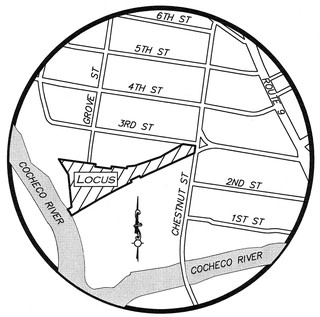
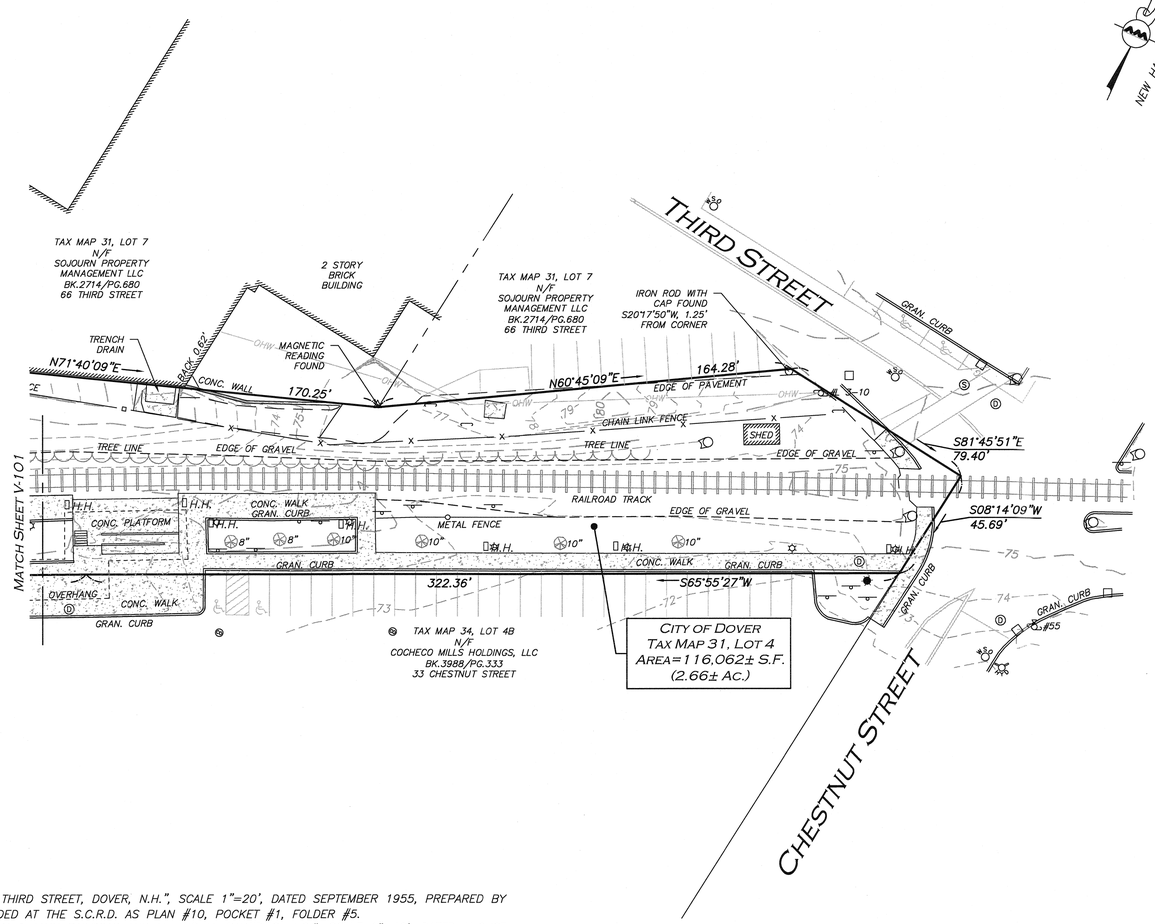
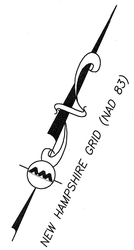


LOCUS MAP
(NOT TO SCALE)

BENCHMARK SUMMARY		
TBM #	DESCRIPTION	ELEV.
1	SPIKE SET IN UP# L-604	73.44





LEGEND

DRILL HOLE (DH)	
STONE BOUND (SB)	
IRON PIPE (IP)	
IRON ROD (IR)	
MAG SIGNAL	
DRAIN MANHOLE (DMH)	D
SEWER MANHOLE (SMH)	S
MISC. MANHOLE (MH)	M
TELEPHONE MANHOLE (TMH)	T
CATCH BASIN (CB)	
UTILITY POLE	
UTILITY POLE W/LIGHT	
GUY WIRE	
FIRE HYDRANT	
WATER GATE	
BOLLARD	
INVERT (INV)	
TREE	
SIGN	
HANDICAP RAMP	
HANDICAPPED PARKING SPACE	
CONCRETE	
BUILDING	
BUILDING OVERHANG	
WETLAND	
BUFFER ZONE	
1' CONTOUR	53
5' CONTOUR	55
PROPERTY LINE	
ABUTTERS LINE	
TREE LINE	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
CHAIN LINK FENCE	x
STOCKADE FENCE	
METAL FENCE	
GUARDRAIL	
WATER LINE	W
SEWER LINE	S
DRAIN LINE	D
TELEPHONE LINE	T
OVERHEAD WIRES	OHW
FINISHED FLOOR ELEVATION	FFE
BITUMINOUS	BIT.
CONCRETE	CONC.
GRANITE	GRAN.
POLYVINYL CHLORIDE PIPE	PVC
BOTTOM CENTER	(BC)
NOW OR FORMERLY	N/F
BOOK	BK.
PAGE	PG.

PLAN REFERENCES

- PLAN ENTITLED, "PLAN OF HEMON PROPERTY THIRD STREET, DOVER, N.H.", SCALE 1"=20', DATED SEPTEMBER 1955, PREPARED BY G.L. DAVIS & ASSOCIATES ENGINEERS, RECORDED AT THE S.C.R.D. AS PLAN #10, POCKET #1, FOLDER #5.
- PLAN ENTITLED, "LAND IN DOVER, N.H. BOSTON & MAIN RAILROAD AND M. AND M. BAKERIES, INC.", SCALE 1"=40', DATED AUGUST 1946, PREPARED BY J. CRONIN, RECORDED AT THE S.C.R.D. AS PLAN #25, POCKET #2, FOLDER #15.
- PLAN ENTITLED, "PLAN OF LAND M&M BAKERIES, DOVER NEW HAMPSHIRE", SCALE 1"=20', DATED DECEMBER 1954, PREPARED BY GRANT DAVIS LLS NO. 60, RECORDED AT THE S.C.R.D. AS PLAN #6, POCKET #2, FOLDER #20.
- PLAN ENTITLED, "LAND OF ANTHONY CONSENTINO GROVE STREET, DOVER, N.H.", SCALE 1"=20', DATED NOVEMBER 1, 1988, PREPARED BY BERRY SURVEYING & ENGINEERING, RECORDED AT THE S.C.R.D. AS PLAN 35-129.
- PLAN ENTITLED, "LAND IN DOVER, NH BOSTON & MAIN CORPORATION TO JOSEPH G. SAWTELLE JR. CHESTNUT STREET", SCALE 1"=30', DATED JUNE 1992, REVISED OCTOBER 1992, PREPARED BY AMBIT SURVEY, RECORDED AT THE S.C.R.D. AS PLAN 41-40.
- PLAN ENTITLED, "SUBDIVISION PLAN BOSTON & MAINE RAILROAD FOURTH STREET, THIRD STREET AND GROVE STREET DOVER, NEW HAMPSHIRE", SCALE 1"=30' DATED JUNE 11, 2002, PREPARED BY TRITECH, ENGINEERING CORPORATION, RECORDED AT THE S.C.R.D. AS PLAN 65-57.
- PLAN ENTITLED, "LOT LINE REVISION PLAN LAND OF BOSTON & MAINE CORPORATION TO ANTHONY CONSTENTINO REVOCABLE TRUST GROVE STREET, DOVER, N.H.", SCALE 1"=20', DATED JULY 28, 2008, PREPARED BY BERRY SURVEYING & ENGINEERING, RECORDED AT THE S.C.R.D. AS PLAN 95-88.
- PLAN ENTITLED, "SITE PLAN, CONDOMINIUM PLAN, DOVER, NH SHOWING UNITS 1 AND 2 OF THE 86-88 THIRD STREET CONDOMINIUM AT 86 & 88 THIRD STREET (ASSESSORS MAP 310, LOT 10) RECORD OWNER ERNEST 39 HOLDING, LLC 26 TIDEWATER FARM ROAD GREENLAND, NH 03840", SCALE 1"=10', DATED APRIL 27, 2015, PREPARED BY MILLENNIUM ENGINEERING, INC, RECORDED AT THE S.C.R.D. AS PLAN 110-01.
- PLAN ENTITLED, "LOT LINE REVISION FOR 6 GROVE STREET RESIDENCES, LLC & GOTHAM HOLDINGS, LLC THIRD & GROVE STREET, DOVER, NH", SCALE 1"=20', DATED NOVEMBER 1, 2017, LAST REVISED MAY 10, 2018, PREPARED BY BERRY SURVEYING & ENGINEERING, RECORDED AT THE S.C.R.D. AS PLAN 116-35.

NOTES

1. NORTH ARROW IS BASED ON NEW HAMPSHIRE GRID COORDINATE SYSTEM (NAD 83).
2. BOOK/PAGE AND PLAN REFERENCES ARE TAKEN FROM STRAFFORD COUNTY REGISTRY OF DEEDS IN DOVER, NH
3. VERTICAL DATUM IS NAVD 88 ESTABLISHED USING RTK GPS OBSERVATION.
4. CONTOUR INTERVAL IS ONE FOOT (1').

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

R:\PROJECTS\2464-03\SURVEY\DRAWINGS\CURRENT\S-2464-03-PL.DWG
FB# NH-14

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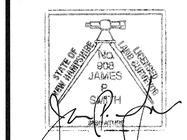
ALLEN & MAJOR ASSOCIATES, INC.



JAMES P. SMITH NH LLS #908 — 8-20-2020 DATE

REV	DATE	DESCRIPTION

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO., INC.
68A ROUTE 27 - P.O. BOX 405
RAYMOND, NH 03077

PROJECT:
TAX MAP 31, LOT 4
35/37 CHESTNUT STREET
DOVER, NH

PROJECT NO.	2464-03	DATE:	8/20/20
SCALE:	1" = 30'	DWG. NAME:	S-2464-03-PL
DRAFTED BY:	AJR	CHECKED BY:	JPS

PREPARED BY:

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DRAWING TITLE:
EXISTING CONDITIONS

SHEET No.
V-102

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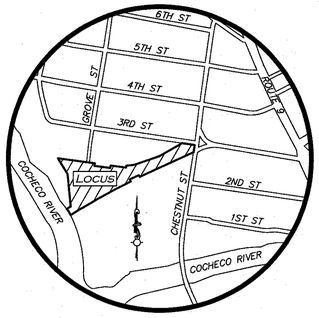


LOCUS MAP
(NOT TO SCALE)

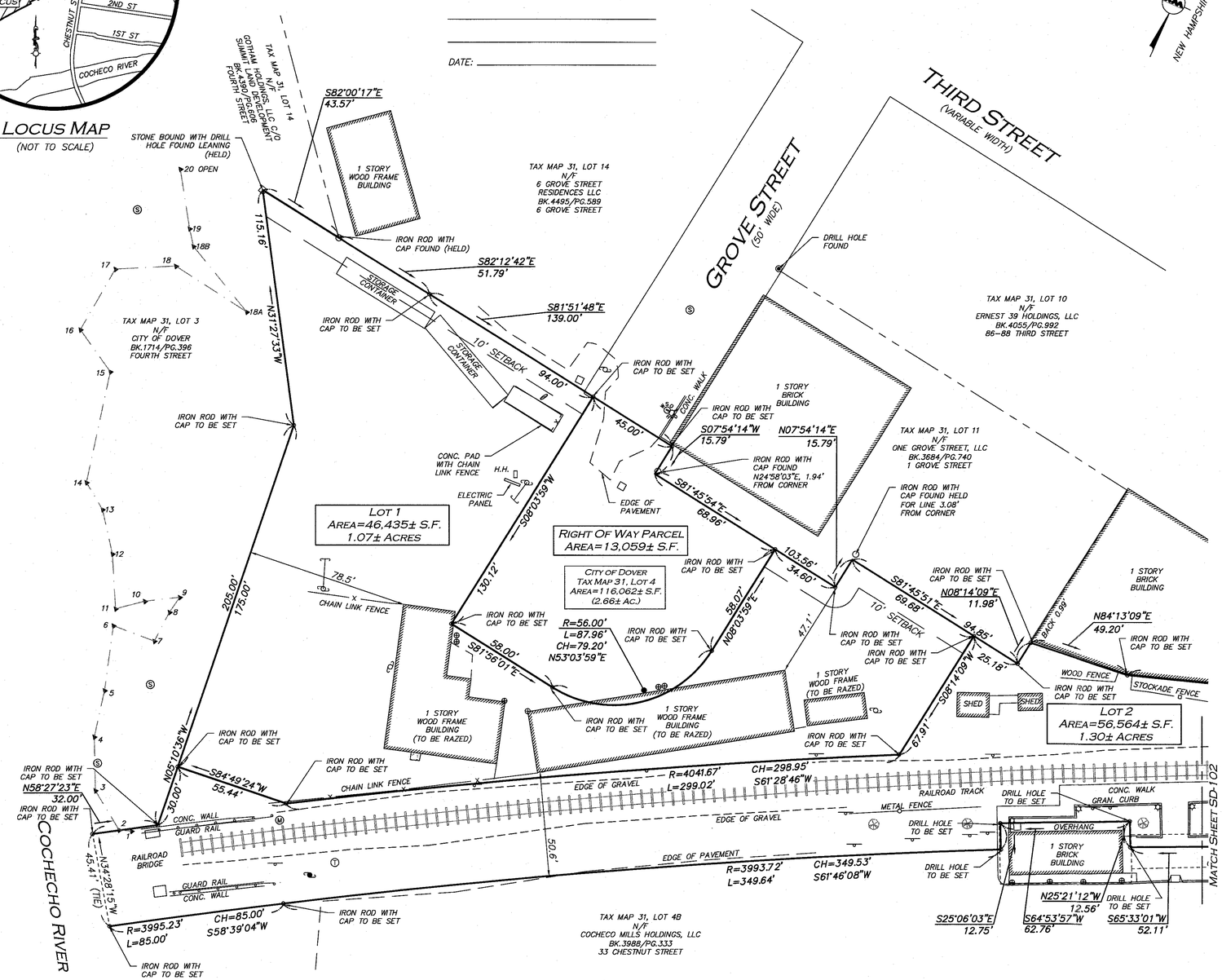
CITY OF DOVER PLANNING DEPARTMENT

DATE: _____

WETLAND NOTE:

THOMAS SOKOLOSKI, CERTIFIED WETLAND SCIENTIST #127, OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. OF BOW, NH, PERFORMED THE WETLAND MAPPING ON JULY 15, 2020 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

NEW HAMPSHIRE GRID (NAD 83)



LEGEND

DRILL HOLE (DH)	◉
STONE BOUND (SB)	⊡
IRON PIPE (IP)	o
IRON ROD (IR)	○
MAG SIGNAL	△
DRAIN MANHOLE (DMH)	Ⓓ
SEWER MANHOLE (SMH)	Ⓢ
MISC. MANHOLE (MH)	Ⓜ
TELEPHONE MANHOLE (TMH)	Ⓣ
CATCH BASIN (CB)	□
UTILITY POLE	○
UTILITY POLE W/LIGHT	○
GUY WIRE	→
FIRE HYDRANT	
WATER GATE	
BOLLARD	⊕
INVERT (INV)	
TREE	
SIGN	
HANDICAP RAMP	
BUILDING	
BUILDING OVERHANG	
WETLAND	
PROPERTY LINE	
ABUTTERS LINE	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
CHAIN LINK FENCE	x
STOCKADE FENCE	□
METAL FENCE	o
GUARDRAIL	
BITUMINOUS	BIT.
CONCRETE	CONC.
GRANITE	GRAN.
NOW OR FORMERLY	N/F
BOOK	BK.
PAGE	PG.

TITLE REFERENCES:

- CITY OF DOVER TAX MAP 31, LOT 4
- PLAN ENTITLED, "LAND IN DOVER, NH BOSTON & MAINE CORPORATION, TAX MAP 31, LOT 4 CHESTNUT STREET, GROVE STREET, THIRD STREET AND FIFTH STREET", SCALE 1"=60', DATED JUNE, 1992, REVISED OCTOBER, 1992, PREPARED BY AMBIT SURVEY, RECORDED AT THE S.C.R.D. AS PLAN NO. 41-41.

NOTES

1. NORTH ARROW IS BASED ON NEW HAMPSHIRE GRID COORDINATE SYSTEM (NAD 83).
2. BOOK/PAGE AND PLAN REFERENCES ARE TAKEN FROM STRAFFORD COUNTY REGISTRY OF DEEDS IN DOVER, NH
3. SEE SHEET SD-102 FOR PLAN REFERENCES.
4. THE PURPOSE OF THIS PLAN IS TO CREATE 3 SEPARATE PARCELS FROM CITY OF DOVER TAX MAP 31, LOT 4. LOT 2 IS TO BE RETAINED BY THE RAILROAD, AND THE RIGHT OF WAY PARCEL IS TO BE CONVEYED TO THE CITY OF DOVER.
5. SEE SHEET SD-102 FOR ZONING TABLE.
6. THE SUBJECT PREMISES IS LOCATED MOSTLY IN ZONE X (UNSHADED) WITH PORTIONS OF THE LOT LOCATED ZONE X(SHADED) AS WELL AS ZONE AE AS SHOWN ON FEMA FLOOD MAP 33017C 0310E HAVING AN EFFECTIVE DATE OF 9/30/2015.
7. SEE SHEETS V-101 & V-102 FOR TOPOGRAPHIC DATA.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

R:\PROJECTS\2464-03\SURVEY\DRAWINGS\CURRENT\S-2464-03-SUB.DWG
FB# NH-14

THIS PLAN IS THE RESULT OF AN ACTUAL ON THE GROUND SURVEY PERFORMED ON OR BETWEEN JULY 22, 2020 AND JULY 28, 2020 AND HAD AN ERROR OF CLOSURE OF NO GREATER THAN 1/10,000.

ALLEN & MAJOR ASSOCIATES, INC.

STATE OF NEW HAMPSHIRE — LICENSED LAND SURVEYOR — NO. 908 JAMES P SMITH — SIGNATURE

10.14.2020

JAMES P. SMITH NH LLS #908 — DATE

REV	DATE	DESCRIPTION

OWNER OF RECORD:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO., INC.
68A ROUTE 27 - P.O. BOX 405
RAYMOND, NH 03077

PROJECT:
"THE STATION"
TAX MAP 31, LOT 4
35/37 CHESTNUT STREET
DOVER, NH

PROJECT NO.	2464-03	DATE:	10/08/20
SCALE:	1" = 30'	DWG. NAME:	S-2464-03-SUB
DRAFTED BY:	AJR	CHECKED BY:	JPS

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE:
SUBDIVISION PLAN
OF LAND

SHEET No.
SD-101

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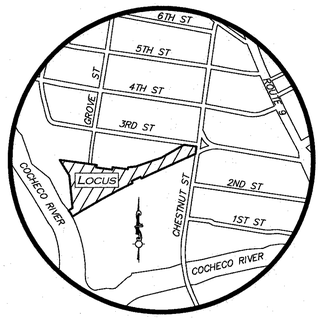
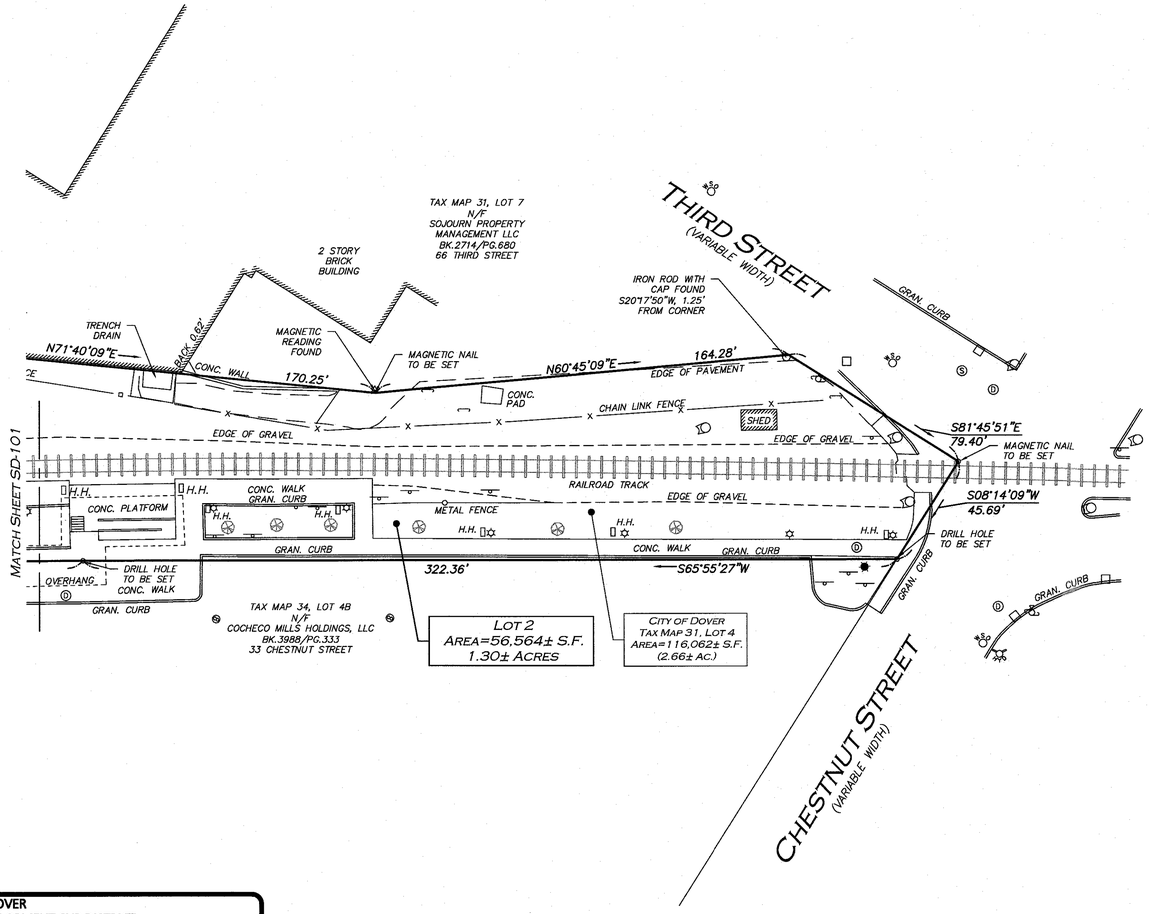


LOCUS MAP
(NOT TO SCALE)

CITY OF DOVER PLANNING DEPARTMENT

DATE: _____



LEGEND

DRILL HOLE (DH)	
STONE BOUND (SB)	
IRON PIPE (IP)	
IRON ROD (IR)	
MAG SIGNAL	
DRAIN MANHOLE (DMH)	D
SEWER MANHOLE (SMH)	S
MISC. MANHOLE (MH)	M
TELEPHONE MANHOLE (TMH)	T
CATCH BASIN (CB)	
UTILITY POLE	
UTILITY POLE W/LIGHT	
GUY WIRE	
FIRE HYDRANT	
WATER GATE	
BOLLARD	
INVERT (INV)	
TREE	
SIGN	
HANDICAP RAMP	
BUILDING	
BUILDING OVERHANG	
WETLAND	
PROPERTY LINE	
ABUTTERS LINE	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
CHAIN LINK FENCE	x
STOCKADE FENCE	
METAL FENCE	
GUARDRAIL	
BITUMINOUS	BIT.
CONCRETE	CONC.
GRANITE	GRAN.
NOW OR FORMERLY	N/F
BOOK	BK.
PAGE	PG.

CITY OF DOVER
CBD TRANSIT ORIENTED DEVELOPMENT SUB-DISTRICT

ITEM	REQUIRED/ALLOWED	PROPOSED		
PRINCIPAL BUILDING		RIGHT-OF-WAY	LOT 1 "THE STATION"	LOT 2 RAILROAD
LOT SIZE (MIN)	N/A	13,059	46,435 S.F.	56,564 S.F.
LOT COVERAGE*	75%-100%		41.70%	
FRONTAGE BUILD-OUT*	80% MIN		35.8	
FRONT PRIMARY BUILD TO LINE*	0 FT MIN - 0 FT MAX		0 FT	
FRONT SECONDARY BUILD TO LINE*	0 FT MIN - 0 FT MAX		N/A	
SIDE SETBACK*	10 FT MIN - 25 FT MAX		10.5 FT	
REAR SETBACK	0 FT MIN - 25 FT MAX		7.3 FT	
OUTBUILDING				
FRONT, SIDE, REAR SETBACKS	NOT PERMITTED	N/A	N/A	N/A
PRIVATE FRONTAGES				
COMMON YARD, PORCH & FENCE, TERRACE/LIGHTWELL	NOT PERMITTED		N/A	
STOOP, SHOP FRONT/AWNING, GALLERY	PERMITTED		N/A	
HEIGHT OF BUILDING				
PRINCIPAL BUILDING	5 STORY MAX, 3 STORY MIN		3-5 STORIES	
OUTBUILDING/ACCESSORY	NOT PERMITTED		N/A	

* CONDITIONAL USE PERMIT REQUESTED
1. LOT COVERAGE: (19,371 S.F. FOOTPRINT/46,435 S.F. LOT)=41.7%
2. EXISTING IMPROVEMENTS ON RAILROAD PARCEL, LOT 3, TO REMAIN.

PLAN REFERENCES

-PLAN ENTITLED, "PLAN OF HEMON PROPERTY THIRD STREET, DOVER, N.H.", SCALE 1"=20', DATED SEPTEMBER 1955, PREPARED BY G.L. DAVIS & ASSOCIATES ENGINEERS, RECORDED AT THE S.C.R.D. AS PLAN #10, POCKET #1, FOLDER #5.
-PLAN ENTITLED, "LAND IN DOVER, N.H. BOSTON & MAIN RAILROAD AND M. AND M. BAKERIES, INC.", SCALE 1"=40', DATED AUGUST 1946, PREPARED BY J. CRONIN, RECORDED AT THE S.C.R.D. AS PLAN #25, POCKET #2, FOLDER #15.
-PLAN ENTITLED, "PLAN OF LAND M&M BAKERIES, DOVER NEW HAMPSHIRE", SCALE 1"=20', DATED DECEMBER 1954, PREPARED BY GRANT DAVIS LLS NO. 60, RECORDED AT THE S.C.R.D. AS PLAN #6, POCKET #2, FOLDER #20.
-PLAN ENTITLED, "LAND OF ANTHONY CONSENTINO GROVE STREET, DOVER, N.H.", SCALE 1"=20', DATED NOVEMBER 1, 1988, PREPARED BY BERRY SURVEYING & ENGINEERING, RECORDED AT THE S.C.R.D. AS PLAN 35-129.
-PLAN ENTITLED, "LAND IN DOVER, NH BOSTON & MAIN CORPORATION TO JOSEPH G. SAWTELLE JR. CHESTNUT STREET", SCALE 1"=30', DATED JUNE 1992, REVISED OCTOBER 1992, PREPARED BY AMBIT SURVEY, RECORDED AT THE S.C.R.D. AS PLAN 41-40.
-PLAN ENTITLED, "SUBDIVISION PLAN BOSTON & MAINE RAILROAD FOURTH STREET, THIRD STREET AND GROVE STREET DOVER, NEW HAMPSHIRE", SCALE 1"=30' DATED JUNE 11, 2002, PREPARED BY TRITECH, ENGINEERING CORPORATION, RECORDED AT THE S.C.R.D. AS PLAN 65-57.
-PLAN ENTITLED, "LOT LINE REVISION PLAN LAND OF BOSTON & MAINE CORPORATION TO ANTHONY CONSTENTINO REVOCABLE TRUST GROVE STREET, DOVER, N.H.", SCALE 1"=20', DATED JULY 28, 2008, PREPARED BY BERRY SURVEYING & ENGINEERING, RECORDED AT THE S.C.R.D. AS PLAN 95-88.
-PLAN ENTITLED, "SITE PLAN, CONDOMINIUM PLAN, DOVER, NH SHOWING UNITS 1 AND 2 OF THE 86-88 THIRD STREET CONDOMINIUM AT 86 & 88 THIRD STREET (ASSESSORS MAP 310, LOT 10) RECORD OWNER ERNEST 39 HOLDING, LLC 26 TIDEWATER FARM ROAD GREENLAND, NH 03840", SCALE 1"=10', DATED APRIL 27, 2015, PREPARED BY MILLENNIUM ENGINEERING, INC, RECORDED AT THE S.C.R.D. AS PLAN 110-01.
-PLAN ENTITLED, "LOT LINE REVISION FOR 6 GROVE STREET RESIDENCES, LLC & GOTHAM HOLDINGS, LLC THIRD & GROVE STREET, DOVER, NH", SCALE 1"=20', DATED NOVEMBER 1, 2017, LAST REVISED MAY 10, 2018, PREPARED BY BERRY SURVEYING & ENGINEERING, RECORDED AT THE S.C.R.D. AS PLAN 116-35.

NOTES

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5. SEE SHEETS V-101 & V-102 FOR TOPOGRAPHIC DATA.

GRAPHIC SCALE

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(IN FEET)
1 inch = 30 ft.

R:\PROJECTS\2464-03\SURVEY\DRAWINGS\CURRENT\S-2464-03-SUB.DWG
FB# NH-14

THIS PLAN IS THE RESULT OF AN ACTUAL ON THE GROUND SURVEY PERFORMED ON OR BETWEEN JULY 22, 2020 AND JULY 28, 2020 AND HAD AN ERROR OF CLOSURE OF NO GREATER THAN 1/10,000.

ALLEN & MAJOR ASSOCIATES, INC.

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR NO. 908 JAMES P SMITH SIGNATURE

10-14-2020

JAMES P. SMITH, NH LLS #908 DATE

REV	DATE	DESCRIPTION

OWNER OF RECORD:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO., INC.
68A ROUTE 27 - P.O. BOX 405
RAYMOND, NH 03077

PROJECT:
"THE STATION"
TAX MAP 31, LOT 4
35/37 CHESTNUT STREET
DOVER, NH

PROJECT NO.	2464-03	DATE:	10/08/20
SCALE:	1" = 30'	DWG. NAME:	S-2464-03-SUB
DRAFTED BY:	AJR	CHECKED BY:	JPS

PREPARED BY:

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DRAWING TITLE:
SUBDIVISION
PLAN OF LAND

SHEET No.
SD-102

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EROSION CONTROL AND SEDIMENT CONTROL NOTES

1. AS CONSTRUCTION DISTURBANCE IS GREATER THAN 1 ACRE, A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION GENERAL PERMIT NOI, AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WILL NEED TO BE SUBMITTED TO THE EPA NEW ENGLAND. THE NPDES PERMIT FOR STORM WATER DISCHARGE, & CONSTRUCTION GENERAL PERMIT NOI IS REQUIRED TO BE SUBMITTED AT LEAST 7 DAYS PRIOR TO COMMENCING CONSTRUCTION.

2. OWNER AND CONTRACTOR ARE RESPONSIBLE FOR COMPLIANCE WITH THE CONSTRUCTION GENERAL PERMIT NOI. COPIES OF ALL SWPPP REPORTS SHALL BE PROVIDED TO THE CITY OF DOVER WITHIN 3 DAYS OF EACH INSPECTION.

3. APPLICABLE WORK AND MATERIALS SHALL COMPLY WITH ALL CITY OF DOVER, NH DES, NH REGULATIONS AND CODES AND O.S.H.A. STANDARDS. ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE SITE PLAN REGULATIONS FROM THE CITY OF DOVER, NH PLANNING BOARD, AND THE PUBLIC WORKS DEPARTMENT SPECIFICATIONS, USDA SOIL CONSERVATION SERVICE VEGETATIVE PRACTICES IN SITE DEVELOPMENT.

4. AREAS WITH OVER 3:1 SLOPES SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET OR JUTE MESH.

5. SILT CONTROLS SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE ADEQUATE TO MAINTAIN SEDIMENT ON SITE. ANY MODIFICATIONS TO SILT CONTROLS SHOWN ON THE APPROVED PLANS AS A RESULT OF ACTUAL FIELD CONDITIONS OR CONSTRUCTION PRACTICES SHALL BE INSTALLED IN ACCORDANCE WITH B.M.P. (BEST MANAGEMENT PRACTICES) PER THE E.P.A. 1992 "STORMWATER MANAGEMENT FOR CONSTRUCTION ACTIVITIES" MANUAL. ANY SUCH MODIFICATIONS SHALL BE INSTALLED AS APPROVED BY THE ENGINEER.

6. AREAS OF EXPOSED SOIL UNDERGOING CONSTRUCTION THAT WILL NOT BE COVERED AND OR FINISHED GRADED WITHIN 7 DAYS OF EXPOSURE SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL MEASURES WITHIN 7 DAYS OF DISTURBANCE. TEMPORARY EROSION CONTROL MEASURES SHALL INCLUDE EROSION CONTROL MESH, NETTING OR MULCH AS DIRECTED BY THE OWNER'S REPRESENTATIVE AND SHOWN ON THE DESIGN PLANS. IF HAY OR STRAW MULCH IS USED IT SHALL BE APPLIED AT THE RATE OF 1.5 TO 2 TONS PER ACRE OR 70 TO 90 LBS. PER 1,000 S.F. APPLICATION AREA SHALL BE SUFFICIENTLY COVERED WITH MULCH TO AVOID ANY VISIBLE SOIL EXPOSURE. MULCH SHALL BE KEPT MOIST TO AVOID LOSS DUE TO WIND. MULCH AND NETTING SHALL BE APPLIED IN THE BASE OF ALL GRASSED WATERWAYS AND IN VEGETATIVE SLOPES WHICH EXCEED 15% AND DISTURBED AREAS WITHIN 100 FEET OF WETLANDS OR STREAMS.

7. IF DISTURBED AREAS DO NOT RECEIVE FINAL SEEDING BY SEPTEMBER 15 OF THE CONSTRUCTION YEAR, THEN ALL DISTURBED AREAS SHALL BE SEEDED WITH A WINTER COVER CROP AT THE RATE OF 2 LBS PER 1,000 SQUARE FEET. WINTER SEEDING SHALL BE COVERED WITH EROSION CONTROL MESH (MULCH AND NETTING). HEAVY GRADE MATS SHALL BE USED IN THE BASE OF ALL GRASSED WATERWAYS, ON VEGETATED SLOPES IN EXCESS OF 15%, AND ANY DISTURBED AREAS WITHIN 100 FEET OF WETLANDS OR STREAMS. MULCH AND NETTING SHALL ALSO BE PROVIDED FOR ADDITIONAL WINTER PROTECTION.

8. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 90 DAYS SHALL BE COVERED WITH HAY AND MULCH (AT 100LBS/1,000 SF), OR WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR 90 DAYS OR MORE SHALL BE SEEDED WITH WINTER RYE (FOR FALL SEEDING AT 3LB/1,000 SF) OR OATS (FOR SUMMER SEEDING AT 2LB/1,000 SF) AND THEN COVERED WITH HAY MULCH (AT 100LB/1,000 SF) OR AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL. LOAM SHALL BE STOCKPILED AT LOCATIONS DESIGNATED BY THE OWNER AND ENGINEER.

9. ALL FILTER BARRIERS, SILT SACKS, AND EROSION CONTROL MEASURES SHALL BE INSTALLED ACCORDING TO THE STORMWATER POLLUTION PREVENTION PLANS. THESE SHALL BE MAINTAINED DURING CONSTRUCTION TO REMOVE SEDIMENT FROM RUNOFF WATER. ALL THE FILTER BARRIERS AND EROSION CONTROL BERMS SHALL BE INSPECTED AFTER ANY RAINFALL OR RUNOFF EVENT, MAINTAINED AND CLEANED UNTIL ALL AREAS HAVE AT LEAST 85-90% VIGOROUS PERENNIAL COVER OF GRASSES.

10. A WATERING TRUCK SHALL BE USED TO PERIODICALLY SPRINKLE CONSTRUCTION AREAS IN ORDER TO KEEP THE LEVEL OF DUST TO A MINIMUM DURING THE DRY MONTHS AND AS REQUIRED IN ACCORDANCE WITH ENV-A1000.

11. THE CONTRACTOR SHALL USE EXTREME CAUTION TO AVOID ALLOWING SEDIMENTS TO ENTER THE STORM DRAIN SYSTEM DURING CONSTRUCTION. CATCH BASIN INLETS SHALL ALSO BE PROTECTED DURING CONSTRUCTION BY THE USE OF STONE INLET PROTECTION AROUND EACH INLET. SILT SACKS SHALL ALSO BE INSTALLED IN ALL EXISTING BASINS. INLET PROTECTION MAY BE REMOVED ONLY AFTER FINISHED AREAS ARE PAVED AND THE VEGETATED SLOPES ARE ESTABLISHED WITH AT LEAST 85-90% OF VIGOROUS PERENNIAL GROWTH.

12. REVEGETATION MEASURES SHALL COMMENCE IMMEDIATELY UPON THE COMPLETION OF CONSTRUCTION. FOLLOWING SEED BED PREPARATION ALL AREAS NOT NOTED TO RECEIVE COVER SHALL BE LOAM AND SEEDED. AREAS SEEDED BETWEEN MAY 15 TO AUGUST 15TH SHALL BE COVERED WITH HAY OR STRAW MULCH. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHALL BE ACHIEVED PRIOR TO OCTOBER 15TH. HAY AND STRAW MULCHES SHALL BE ANCHORED WITH MULCH NETTING OR TACKIFIER SO THAT THEY ARE NOT BLOWN AWAY BY WIND OR WASHED AWAY BY FLOWING WATER. HAY OR STRAW MULCH SHALL BE APPLIED AT A RATE OF 1.5 TO 2 TONS PER ACRE OR 70 TO 90 LBS. PER 1,000 S.F.

13. IN LIEU OF SOIL TESTS, SOIL AMENDMENTS FOR TEMPORARY SEEDED AREAS MAY BE APPLIED AS FOLLOWS:
    - 10-10-10 FERTILIZER (N-P205-K20 OR EQUAL)- APPLICATION RATE= 25 LBS/1,000 S.F.
    - GROUND LIMESTONE (85% OF TOTAL CARBONATES. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT 50% WILL PASS A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE. APPLICATION RATE= 100 LB/1,000 S.F.
    - WHEN FERTILIZER IS APPLIED WITHIN 100' OF ANY RIVER, STREAM, POND, OR LAKE IT SHALL BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER.

14. AT THE OWNER'S DISCRETION ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED TO MAINTAIN STABILITY OF EARTHWORKS AND FINISHED GRADED AREAS. THE CONTRACTOR, AT HIS EXPENSE, WILL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ADDITIONAL MEASURES AS SPECIFIED BY THE OWNER. THIS INCLUDES BUT IS NOT LIMITED TO REQUESTS BY NH DES AND THE MUNICIPALITY, AS AUTHORIZED BY THE OWNER.

15. INSPECTIONS AND MONITORING MAINTENANCE MEASURES SHALL BE APPLIED DURING THE ENTIRE CONSTRUCTION CYCLE. WEEKLY INSPECTIONS SHALL BE HELD THROUGH THE DURATION OF CONSTRUCTION ACTIVITY. WEEKLY INSPECTION REPORTS SHALL BE MAINTAINED IN THE CONTRACTORS FIELD OFFICE. IN ADDITION TO THE NORMAL WEEKLY INSPECTIONS, THE CONTRACTOR SHALL PERFORM AN INSPECTION OF ALL EROSION CONTROL MEASURES AFTER EACH RAINFALL AT A MINIMUM OF (1/4" OR GREATER OF RAINFALL) OR RUNOFF EVENT, AND PERFORM THE NECESSARY REPAIRS. THE INSPECTIONS SHALL INCLUDE BUT NOT BE LIMITED TO THE SITE'S DOWN STREAM DISCHARGE POINTS. THE CONTRACTOR SHALL MAINTAIN A LOG IN ACCORDANCE WIT THE PLANS, NHDES, AND CITY OF DOVER, NH.

16. IF ANY EVIDENCE OF SEDIMENTATION IS OBSERVED IN THE INLETS, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROVIDE A PLAN TO THE ENGINEER TO REMOVE ANY ACCUMULATED SEDIMENT IN THESE AREAS. THE CONTRACTOR SHALL ALSO IMMEDIATELY PROVIDE ADDITIONAL ON SITE EROSION AND SEDIMENTATION CONTROL MEASURES TO PREVENT FURTHER DEGRADATION OF THE AREA.

17. FOLLOWING THE TEMPORARY OR FINAL SEEDINGS, THE CONTRACTOR SHALL INSPECT THE WORK AREA BIMONTHLY TO ENSURE THE AREAS HAVE A MINIMUM OF 85-90% VEGETATED VIGOROUS GROWTH. RESEEDING SHALL BE CARRIED OUT BY THE CONTRACTOR WITH FOLLOW UP INSPECTIONS IN THE EVEN OF ANY FAILURES UNTIL VEGETATION IS ADEQUATELY ESTABLISHED.

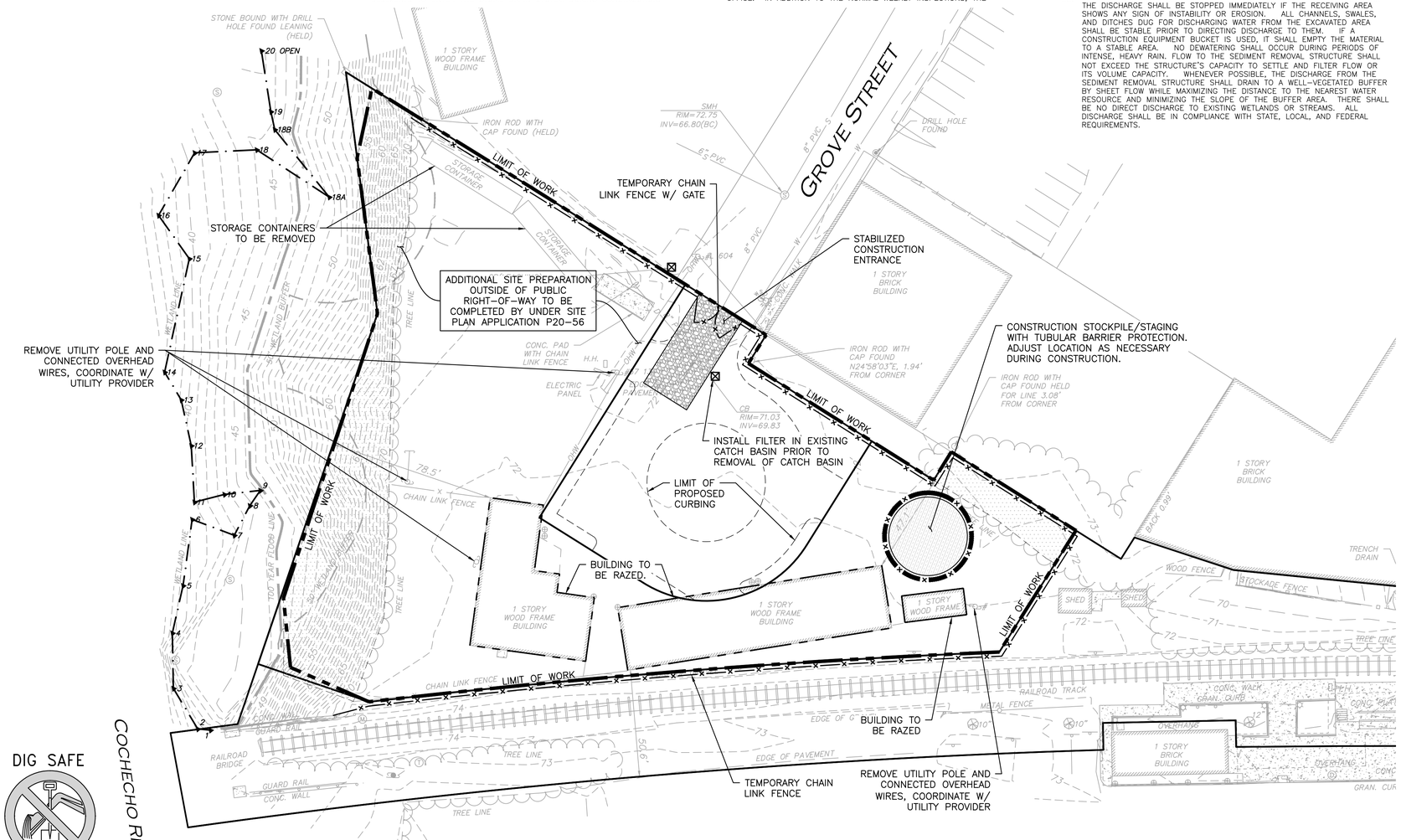
18. THE AREA OR AREAS OF ENTRANCE AND EXIT TO AND FROM THE SITE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

19. STOCKPILES SHALL BE SURROUNDED ON THEIR PERIMETERS WITH STAKED HAYBALES AND/OR SILTATION FENCES TO PREVENT AND/OR CONTROL SILTATION AND EROSION.

20. ALL EXISTING & PROPOSED CATCH BASINS SUBJECT TO STORMWATER RUNOFF DURING CONSTRUCTION SHALL HAVE STONE INLET PROTECTION AND SILT SACKS INSTALLED OR AS DIRECTED BY THE OWNER/ENGINEER. NO SEDIMENTATION SHALL ENTER THE ON-SITE OR OFF-SITE DRAINAGE SYSTEMS AT ANY TIME.

21. CONTRACTOR TO CONTROL FUGITIVE DUST IN ACCORDANCE WITH ENV-A 1002. CONTRACTOR TO PREVENT, ABATE, AND CONTROL THE EMISSION OF FUGITIVE DUST, INCLUDING BUT NOT LIMITED TO THE FOLLOWING METHODS: WETTING, COVERING, SHIELDING OR VACUUMING.

22. IF DEWATERING IS NECESSARY IT SHALL ONLY BE COMPLETED AS FOLLOWS: THE DISCHARGE SHALL BE STOPPED IMMEDIATELY IF THE RECEIVING AREA SHOWS ANY SIGN OF INSTABILITY OR EROSION. ALL CHANNELS, SWALES, AND DITCHES DUG FOR DISCHARGING WATER FROM THE EXCAVATED AREA SHALL BE STABLE PRIOR TO DIRECTING DISCHARGE TO THEM. IF A CONSTRUCTION EQUIPMENT BUCKET IS USED, IT SHALL EMPTY THE MATERIAL TO A STABLE AREA. NO DEWATERING SHALL OCCUR DURING PERIODS OF INTENSE, HEAVY RAIN. FLOW TO THE SEDIMENT REMOVAL STRUCTURE SHALL NOT EXCEED THE STRUCTURE'S CAPACITY TO SETTLE AND FILTER FLOW OR ITS VOLUME CAPACITY. WHENEVER POSSIBLE, THE DISCHARGE FROM THE SEDIMENT REMOVAL STRUCTURE SHALL DRAIN TO A WELL-VEGETATED BUFFER BY SHEET FLOW WHILE MAXIMIZING THE DISTANCE TO THE NEAREST WATER RESOURCE AND MINIMIZING THE SLOPE OF THE BUFFER AREA. THERE SHALL BE NO DIRECT DISCHARGE TO EXISTING WETLANDS OR STREAMS. ALL DISCHARGE SHALL BE IN COMPLIANCE WITH STATE, LOCAL, AND FEDERAL REQUIREMENTS.



DIG SAFE

BEFORE YOU DIG CALL 811 OR 1-888-DIG-SAFE 1-888-344-7233

LEGEND

LIMIT OF DISTURBANCE	
LIMIT OF 'CLEAR AND GRUB'	
BUILDING TO BE REMOVED	
TEMPORARY FENCE	x — x
TUBULAR BARRIER	x x
EROSION CONTROL FABRIC	
CATCH BASIN FILTER	⊠
STABILIZED ENTRANCE	
STOCKPILE/STAGING AREA	

GENERAL NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES.
2. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
3. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE, THE PROPERTY OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
4. GRADING / DEMOLITION OUTSIDE OF THE PROJECT BOUNDARIES REQUIRES A TEMPORARY CONSTRUCTION/GRADING EASEMENT FROM THE LANDOWNER (BY OTHERS).
5. ALTHOUGH CERTAIN ITEMS HAVE BEEN NOTED ON THIS DRAWING FOR DEMOLITION, NO ATTEMPT HAS BEEN MADE TO DELINEATE EACH AND EVERY ITEM THAT REQUIRES DEMOLITION FOR THE COMPLETION OF THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL NECESSARY DEMOLITION WORK TO COMPLETE THE PROJECT. ALLEN & MAJOR ASSOCIATES, INC. IS NOT RESPONSIBLE FOR SITE DEMOLITION ITEMS NOT SHOWN ON THE SURVEY, OR SPECIFICALLY NOTED. THE DEMOLITION NOTES AND ARROWS ON THIS PLAN ARE TYPICAL AND DO NOT REFLECT QUANTITY.
6. WRITTEN DIMENSIONS ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS OR CONDITIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR.
7. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 inch = 30 ft.

STATE OF NEW HAMPSHIRE — BRIAN D. JONES No. 13809 LICENSED PROFESSIONAL ENGINEER

10.14.20

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

OWNER:

BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:

JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:

JEWETT CIRCLE
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	10-14-20
SCALE:	1" = 30'	DWG. NAME:	C-2464-03.dwg
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501

WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE: SITE PREPARATION PLAN

SHEET No. C-101

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PLANNING BOARD FILE NUMBER: P20-56

R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_SITE_PREP - SD.DWG

RESOURCE NOTES:

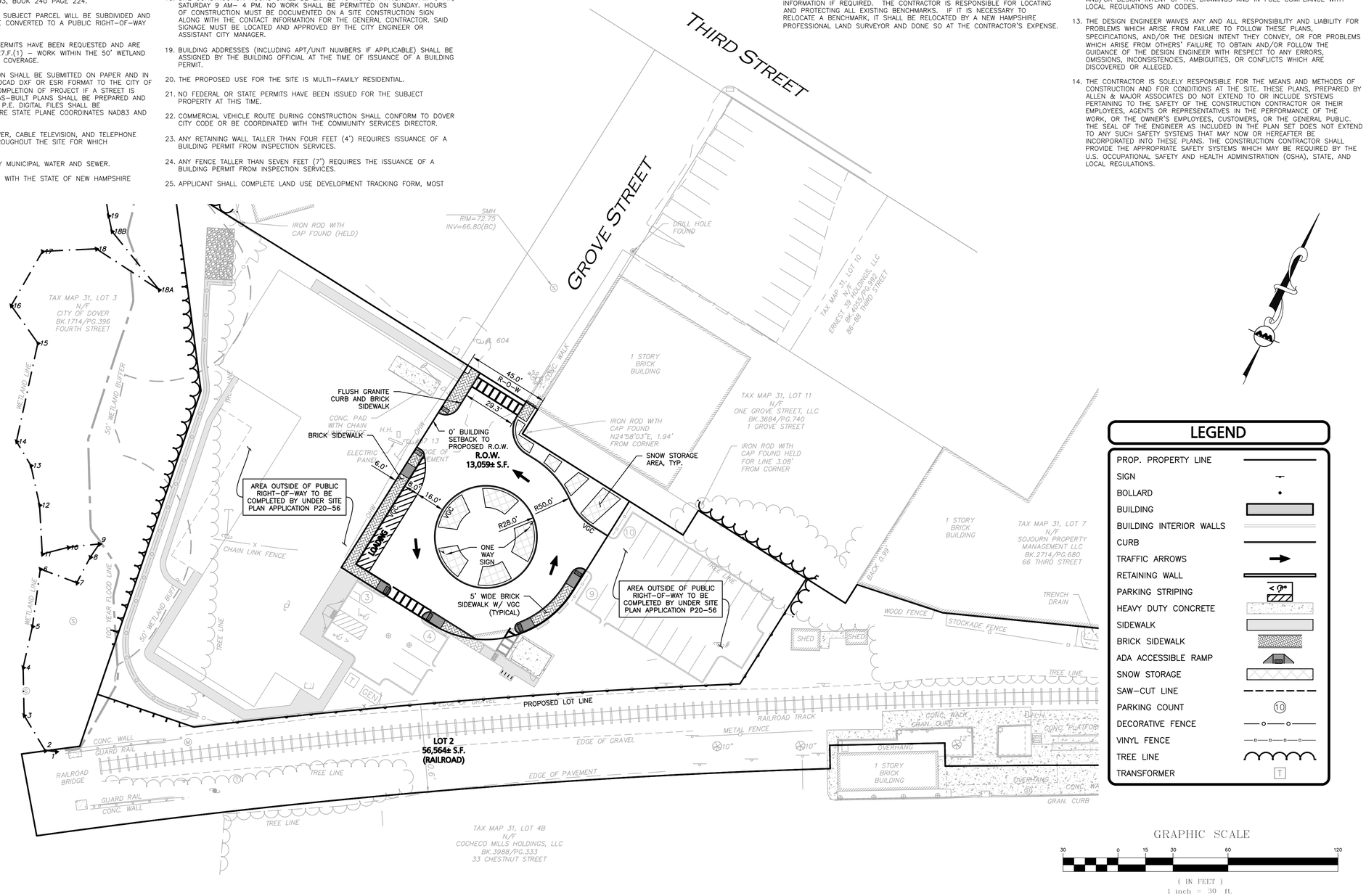
1. A PORTION OF THE SUBJECT PARCEL IS LOCATED WITHIN A FEDERALLY DESIGNATED FLOOD HAZARD AREA (COMMUNITY PANEL NUMBER 33017C0310E, EFFECTIVE DATE: SEPTEMBER 30, 2015).
2. WETLANDS SHOWN HEREON WERE FIELD DELINEATED BY THOMAS E. SOKOLOSKI, CERTIFIED WETLAND SCIENTIST, CERTIFICATION NUMBER 127, IN ACCORDANCE WITH CHAPTER 170-27.1 OF THE ZONING ORDINANCE, ON JULY 15, 2020.

CITY NOTES:

3. THE PURPOSE OF THIS PLAN IS TO GAIN SUBDIVISION REVIEW APPROVAL.
4. THE PARCEL IS SHOWN AS LOT NO. 4, MAP 31 OF THE CITY OF DOVER TAX ASSESSOR'S MAPS.
5. THE SUBJECT PARCEL CONTAINS 2.66 ACRES OR 116,062 SQUARE FEET. AREA OF LAND.
6. TITLE REFERENCE FOR THE PROJECT PARCEL IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, BOOK NO. 235 PAGE 592, BOOK 348 PAGE 171, BOOK 191 PAGE 87, BOOK 366 PAGE 573, BOOK 366 PAGE 551, BOOK 319 PAGE 327, BOOK 294 PAGE 5, BOOK 190 PAGE 432, BOOK 206 PAGE 592, BOOK 354 PAGE 112, BOOK 260 PAGE 393, BOOK 240 PAGE 224.
7. THIS SITE PLAN ASSUMES THAT THE SUBJECT PARCEL WILL BE SUBDIVIDED AND A PORTION OF THE PARCEL WILL BE CONVERTED TO A PUBLIC RIGHT-OF-WAY NAMED JEWETT CIRCLE.
8. THE FOLLOWING CONDITIONAL USE PERMITS HAVE BEEN REQUESTED AND ARE PENDING APPROVAL: SECTION 170-27.F.(1) – WORK WITHIN THE 50' WETLAND BUFFER; SECTION 170-20.D. – LOT COVERAGE.
9. AS-BUILT PLANS OF THE SUBDIVISION 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.
10. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION, AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED.
11. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
12. 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.
13. ALL EROSION CONTROL NOTES SHALL 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.
14. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR ANY EARTH DISTURBING ACTIVITY OCCURS.
15. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
16. 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.
17. 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.
18. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM-6 PM, SATURDAY 9 AM- 4 PM. NO WORK SHALL BE PERMITTED ON SUNDAY. 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 ASSISTANT CITY MANAGER.
19. BUILDING ADDRESSES (INCLUDING APT/UNIT NUMBERS IF APPLICABLE) SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
20. THE PROPOSED USE FOR THE SITE IS MULTI-FAMILY RESIDENTIAL.
21. NO FEDERAL OR STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY AT THIS TIME.
22. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
23. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
24. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
25. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL. HTTPS://WWW.UNH.EDU/UNHSC/PTAPP
26. 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.
27. 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.
28. NO ROADWAY WITH PRIVATE UTILITY EASEMENTS SHALL BE ACCEPTED AS A PUBLIC ROAD BY THE CITY UNLESS THE EASEMENTS ARE EXPUNGED PRIOR TO THE TRANSFER OF LAND TO THE CITY. LICENSE AGREEMENTS FOR ANY AND ALL PRIVATE UTILITIES WITHIN THE RIGHT OF WAY MAY BE GRANTED BY THE CITY UPON ACCEPTANCE OF THE UNENCUMBERED ROADWAY CONSISTENT WITH APPLICABLE STATE LAW.
29. VERTICAL DATUM IS NAVD 88 ESTABLISHED USING RTK GPS OBSERVATION.

GENERAL NOTES:

3. ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTIES DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED AND RESTORED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
4. ALL PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED AND RESTORED BY A SURVEYOR REGISTERED IN THE STATE OF NEW HAMPSHIRE AT THE CONTRACTORS EXPENSE.
5. ALL APPLICABLE PERMITS AND AN APPROVED SET OF PLANS SHALL BE AVAILABLE AT THE CONSTRUCTION SITE.
6. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A PRECONSTRUCTION MEETING WITH THE CITY, THE APPROPRIATE UTILITY COMPANIES, THE OWNER AND OWNER'S REPRESENTATIVE. THE MEETING SHALL TAKE PLACE PRIOR TO THE START OF CONSTRUCTION AND THE CONTRACTOR MUST PROVIDE 48 HOURS NOTICE TO ALL ATTENDEES PRIOR TO THE START OF THE MEETING.
7. APPROPRIATE WARNING SIGNS, MARKERS, BARRICADES AND/OR FLAGMEN SHALL BE PROVIDED TO REGULATE TRAFFIC. CONSTRUCTION TRAFFIC CONTROL SHALL BE IMPLEMENTED PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE LOCAL AUTHORITY.
8. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ADDITIONAL BENCHMARK INFORMATION IF REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING BENCHMARKS. IF IT IS NECESSARY TO RELOCATE A BENCHMARK, IT SHALL BE RELOCATED BY A NEW HAMPSHIRE PROFESSIONAL LAND SURVEYOR AND DONE SO AT THE CONTRACTOR'S EXPENSE.
9. ALL PERMITS AND APPROVALS NECESSARY FROM AGENCIES GOVERNING THE WORK SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.
10. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY SITE WORK OR EARTHWORK OPERATIONS, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DETERMINED NECESSARY BY ON SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES, OR REGULATORY AGENCIES HAVING JURISDICTION AT NO ADDITIONAL COST TO THE OWNER.
11. CONSTRUCTION DURING WET WEATHER OR WINTER CONDITIONS IS TO BE ANTICIPATED AND PROVISIONS TO ADEQUATELY ADDRESS THESE CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
12. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE START OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DRAWINGS, SPECIFICATIONS, OR RELATIVE CODES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT PRIOR TO START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AND/OR DESIGN INTENT OF THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.
13. THE DESIGN ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS, AND/OR THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE GUIDANCE OF THE DESIGN ENGINEER WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES, OR CONFLICTS WHICH ARE DISCOVERED OR ALLEGED.
14. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY ALLEN & MAJOR ASSOCIATES DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK, OR THE OWNER'S EMPLOYEES, CUSTOMERS, OR THE GENERAL PUBLIC. THE SEAL OF THE ENGINEER AS INCLUDED IN THE PLAN SET DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PROVIDE THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), STATE, AND LOCAL REGULATIONS.



LEGEND

- PROP. PROPERTY LINE
- SIGN
- BOLLARD
- BUILDING
- BUILDING INTERIOR WALLS
- CURB
- TRAFFIC ARROWS
- RETAINING WALL
- PARKING STRIPING
- HEAVY DUTY CONCRETE
- SIDEWALK
- BRICK SIDEWALK
- ADA ACCESSIBLE RAMP
- SNOW STORAGE
- SAW-CUT LINE
- PARKING COUNT
- DECORATIVE FENCE
- VINYL FENCE
- TREE LINE
- TRANSFORMER

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R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_LAYOUT & MATERIALS - SD.DWG

STATE OF NEW HAMPSHIRE – BRIAN D. JONES No. 13809 LICENSED PROFESSIONAL ENGINEER – 10.14.20

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
JEWETT CIRCLE
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	10-14-20
SCALE:	1" = 30'	DWG. NAME:	C-2464-03.dwg
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:

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civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
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MANCHESTER, NH 03103
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DRAWING TITLE: SUBDIVISION LAYOUT & MATERIALS PLAN

SHEET No. C-102

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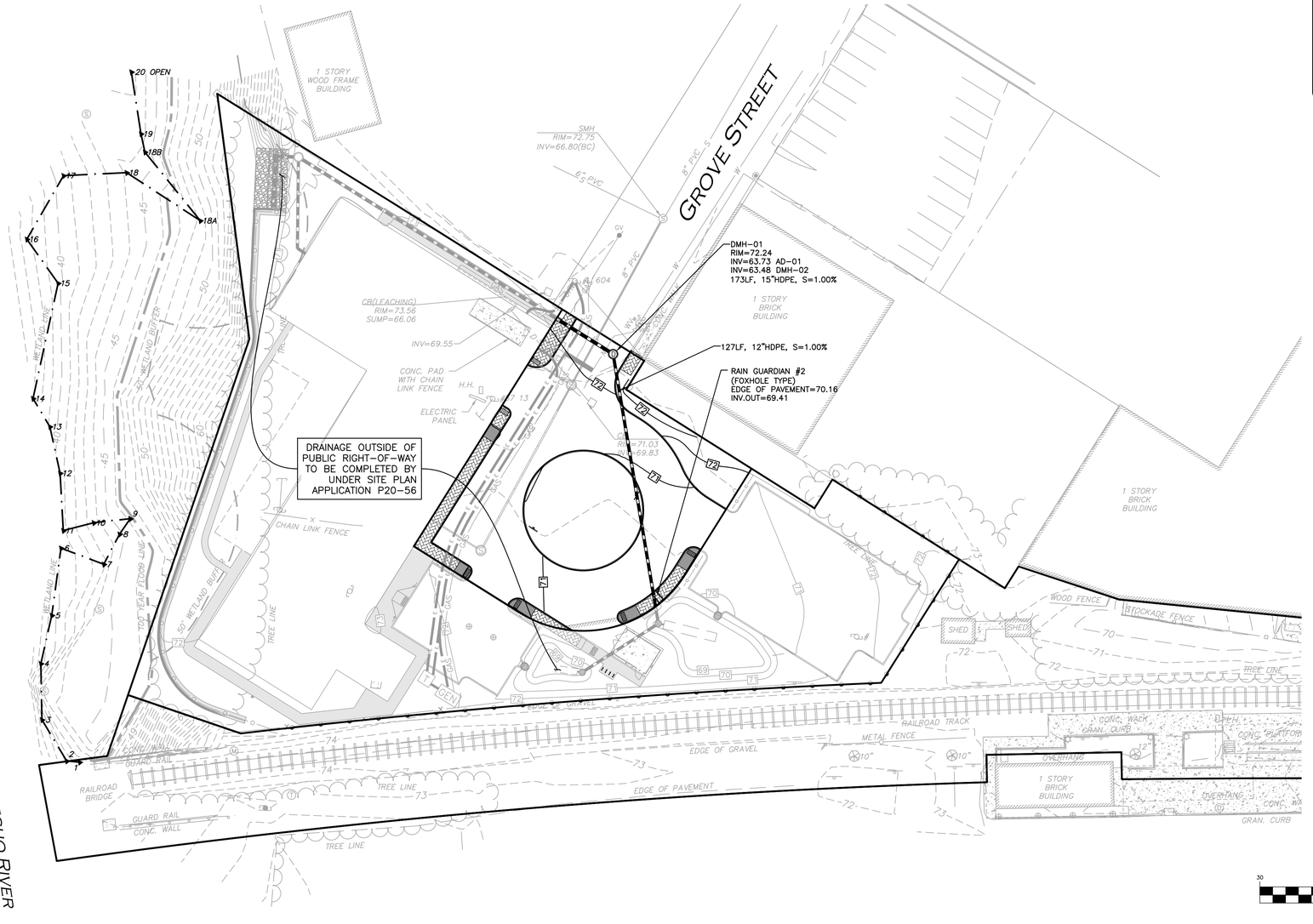
PLANNING BOARD FILE NUMBER: P20-56

CITY OF DOVER DRAINAGE NOTES:

1. ALL EROSION CONTROL NOTES SHALL 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.
2. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO THE COMMENCEMENT OF SITE WORK.
3. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
4. 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.

GRADING & DRAINAGE NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS INCLUDING THE CITY OF DOVER, NHDOT, NHDES, MUTCD, AND AASHTO.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY ALLEN & MAJOR ASSOCIATES DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK, OR THE OWNER'S EMPLOYEES, CUSTOMERS, OR THE GENERAL PUBLIC. THE SEAL OF THE ENGINEER AS INCLUDED IN THE PLAN SET DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PROVIDE THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
3. ALL ELEVATIONS REFER TO NAVD 88.
4. PIPE DIMENSIONS ARE MEASURED FROM THE CENTER OF THE STRUCTURE.
5. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
6. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
7. EXISTING AND PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT
8. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
9. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
10. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "DRAIN".
11. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S. PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
12. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
13. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
14. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL GRASS DISTURBED AREAS IN ACCORDANCE WITH COUNTY SPECIFICATIONS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
15. ALL CATCH BASINS ON-SITE SHALL BE EQUIPPED WITH HOODS AND 4 FOOT SUMPS AND SHALL CONFORM TO LOCAL DRAINAGE REQUIREMENTS.
16. A MINIMUM OF 18" VERTICAL CLEARANCE SHALL BE MAINTAINED WHERE WATER SERVICES CROSS STORM DRAIN LINES. WATER SERVICES SHALL BE ENCASED IN CONCRETE REGARDLESS OF CLEARANCE WHEN PASSING BELOW STORM DRAIN LINES. ENCASEMENT SHALL EXTEND ALONG WATER SERVICE A MINIMUM DISTANCE OF TEN FEET FROM THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
17. ALL DRAINAGE SHALL CONFORM TO LOCAL AND NHDES REQUIREMENTS.
18. PRIOR TO CONSTRUCTION OF IMPERVIOUS AREAS, ALL DRAINAGE STRUCTURES, PIPES AND BASINS SHALL BE INSTALLED AND INSPECTED FOR PROPER FUNCTION.
19. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE START OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DRAWINGS, SPECIFICATIONS, OR RELATIVE CODES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT PRIOR TO START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AND/OR DESIGN INTENT OF THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.
20. THE DESIGN ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS, AND/OR THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE GUIDANCE OF THE DESIGN ENGINEER WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES, OR CONFLICTS WHICH ARE DISCOVERED OR ALLEGED.



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1-888-344-7233

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(IN FEET)
1 inch = 30 ft.

LEGEND

DRAIN MANHOLE	ⓓ
AREA DRAIN (BEEHIVE)	●
RAIN GUARDIAN (TURRET)	◉
DRAIN LINE	
GABION WALL/MATTRESS	
5' CONTOUR	70
1' CONTOUR	67
SPOT GRADE	×71.80

STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13809
LICENSED PROFESSIONAL ENGINEER
10.14.20

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

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TEL: (603) 627-5500
FAX: (603) 627-5501
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE:
SUBDIVISION
GRADING & DRAINAGE PLAN

SHEET No.
C-103

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PLANNING BOARD FILE NUMBER: P20-56

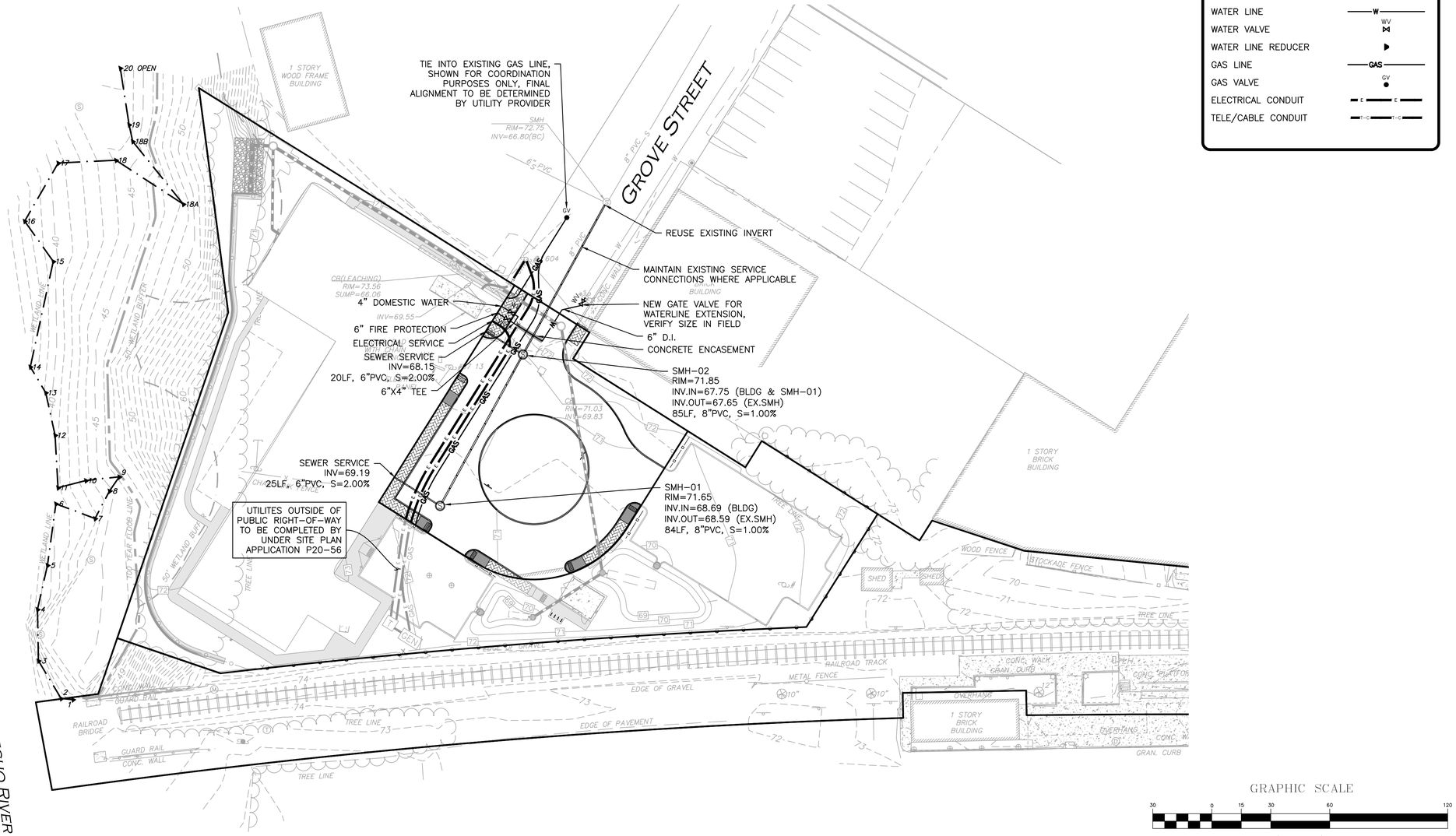
R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_GRADING & DRAINAGE - SD.DWG

CITY OF DOVER UTILITY NOTES:

1. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION, AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED. SUBDIVISION PLANS SHALL SHOW ANY EASEMENTS FOR THESE SERVICES.
2. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
3. 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.

UTILITY NOTES:

1. A MINIMUM OF 10 FEET CLEAR HORIZONTALLY SHALL BE MAINTAINED BETWEEN WATER MAINS AND SANITARY SEWER MAINS AND/OR STORM DRAINS. WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET TO A WATER MAIN, THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE DIFFERENCE IN ELEVATION BETWEEN THE WATER MAIN AND THE SEWER MAIN SHALL BE AT LEAST 18 INCHES.
2. IN THE CASE THAT WATER MAINS CROSS SANITARY SEWER MAINS AND ARE SEPARATED BY LESS THAT 18" OF VERTICAL CLEARANCE, THE SEWER MAIN SHALL BE ENCASED IN CONCRETE FOR THE ENTIRE WIDTH OF THE TRENCH AND FOR A DISTANCE OF 8 LINEAR FEET CENTERED ON THE CROSSING.
3. THE LATEST STANDARDS OF THE CITY OF DOVER "CHAPTER 147 – SEWERS" SHALL BE FOLLOWED WHEN PERFORMING ANY SANITARY SEWER WORK. SEWER WORK WILL BE INSPECTED BY CITY OF DOVER PERSONNEL AND ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE LATEST STANDARDS OF THE CITY OF DOVER "CHAPTER 148 – WATER SYSTEMS" SHALL BE FOLLOWED WHEN PERFORMING ANY WATER DISTRIBUTION WORK. WATER WORK WILL BE INSPECTED BY CITY OF DOVER PERSONNEL AND ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL DUCTILE IRON MAINS SHALL BE PROVIDED WITH POLYETHYLENE ENCASEMENT "POLYWRAP" AS REQUIRED BY THE CITY OF DOVER.
6. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION. THE ENGINEER WILL THEN PROVIDE RESOLUTION TO UTILITY CONFLICTS WITHOUT DELAY.
7. ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS INCLUDING THE CITY OF DOVER, NHDOT, NHDES, MUTCD, AND AASHTO.
8. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS OF THE SITE. THESE PLANS PREPARED BY ALLEN & MAJOR ASSOCIATES, INC., DO NOT EXTEND TO, NOR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THE EMPLOYEES, AGENTS OF REPRESENTATIVES IN PERFORMANCE OF THE WORK. THE SEAL OF THE ARCHITECT OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OF OBTAIN THE APPROPRIATE SAFETY SYSTEMS THAT MAY BE REQUIRED BY THE US OCCUPATIONAL SAFETY AND HEATH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
9. ALL ELEVATIONS REFER TO NAVD 88.
10. PIPE DIMENSIONS ARE MEASURED FROM THE INSIDE FACE OF THE STRUCTURE.
11. LOCATION OF PROPOSED ELECTRICAL/COMMUNICATION SERVICE IS SCHEMATIC IN NATURE AND FOR COORDINATION PURPOSES ONLY. SPECIFIC ALIGNMENTS ARE TO BE DESIGNED BY OTHERS AND REVIEWED BY THE UTILITY PROVIDING SERVICE. PROPOSED ELECTRICAL SERVICE TO BE BURIED IN ACCORDANCE WITH THE CITY OF DOVER REGULATIONS AND ELECTRIC COMPANY.
12. LOCATION OF PROPOSED GAS MAIN IS SCHEMATIC IN NATURE AND FOR COORDINATION PURPOSES ONLY. SPECIFIC ALIGNMENTS ARE TO BE DESIGNED BY OTHERS AND REVIEWED BY THE UTILITY PROVIDING SERVICE.
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE START OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DRAWINGS, SPECIFICATIONS, OR RELATIVE CODES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT PRIOR TO START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AND/OR DESIGN INTENT OF THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.
14. THE DESIGN ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS, AND/OR THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE GUIDANCE OF THE DESIGN ENGINEER WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES, OR CONFLICTS WHICH ARE DISCOVERED OR ALLEGED.
15. EXISTING UTILITY STUBS WHICH WILL NOT BE USED SHALL BE SHUT OFF AND DISCONNECTED AS APPROPRIATE.



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GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

LEGEND

SEWER MANHOLE	S
SEWER LINE	
CONCRETE PIPE ENCASEMENT	
WATER LINE	W
WATER VALVE	WV
WATER LINE REDUCER	
GAS LINE	GAS
GAS VALVE	GV
ELECTRICAL CONDUIT	E E
TELE/CABLE CONDUIT	T-C T-C

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
JEWETT CIRCLE
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	10-14-20
SCALE:	1" = 30'	DWG. NAME:	C-2464-03.dwg
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
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DRAWING TITLE:
SUBDIVISION
UTILITIES PLAN

SHEET No.
C-104

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PLANNING BOARD FILE NUMBER: P20-56

R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_UTILITIES - SD.DWG

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GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_NEIGHBORHOOD PLAN - SD.DWG

STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13809
LICENSED PROFESSIONAL ENGINEER
10.14.20

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
JEWETT CIRCLE
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	10-14-20
SCALE:	1" = 200'	DWG. NAME:	C-2464-03.dwg
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:

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civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
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TEL: (603) 627-5500
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DRAWING TITLE:
NEIGHBORHOOD PLAN

SHEET No.
C-105

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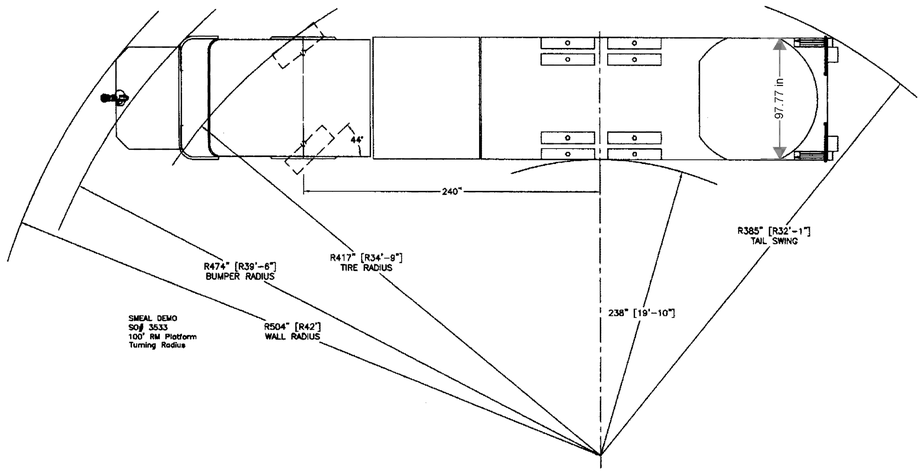

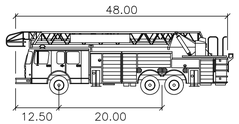

Dover, NH (100' Platform)

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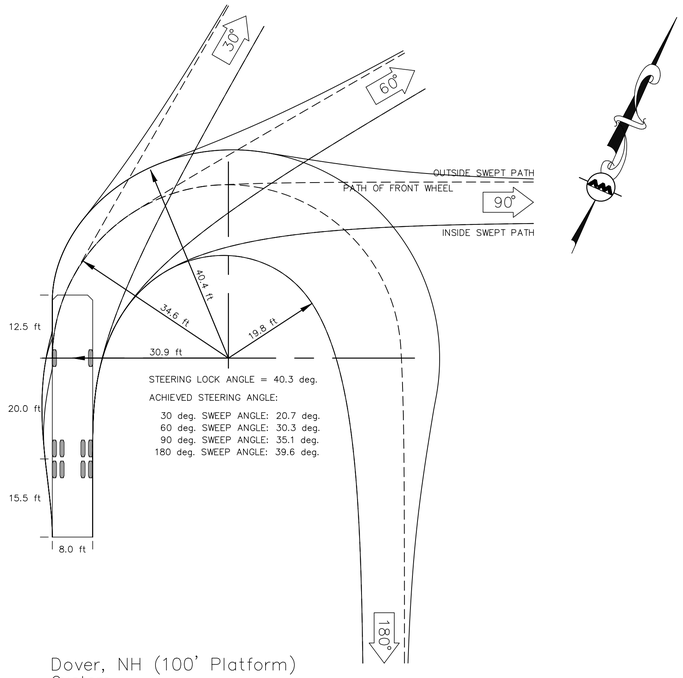
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 40.3



Dover, NH (100' Platform)
Custom
[ft]
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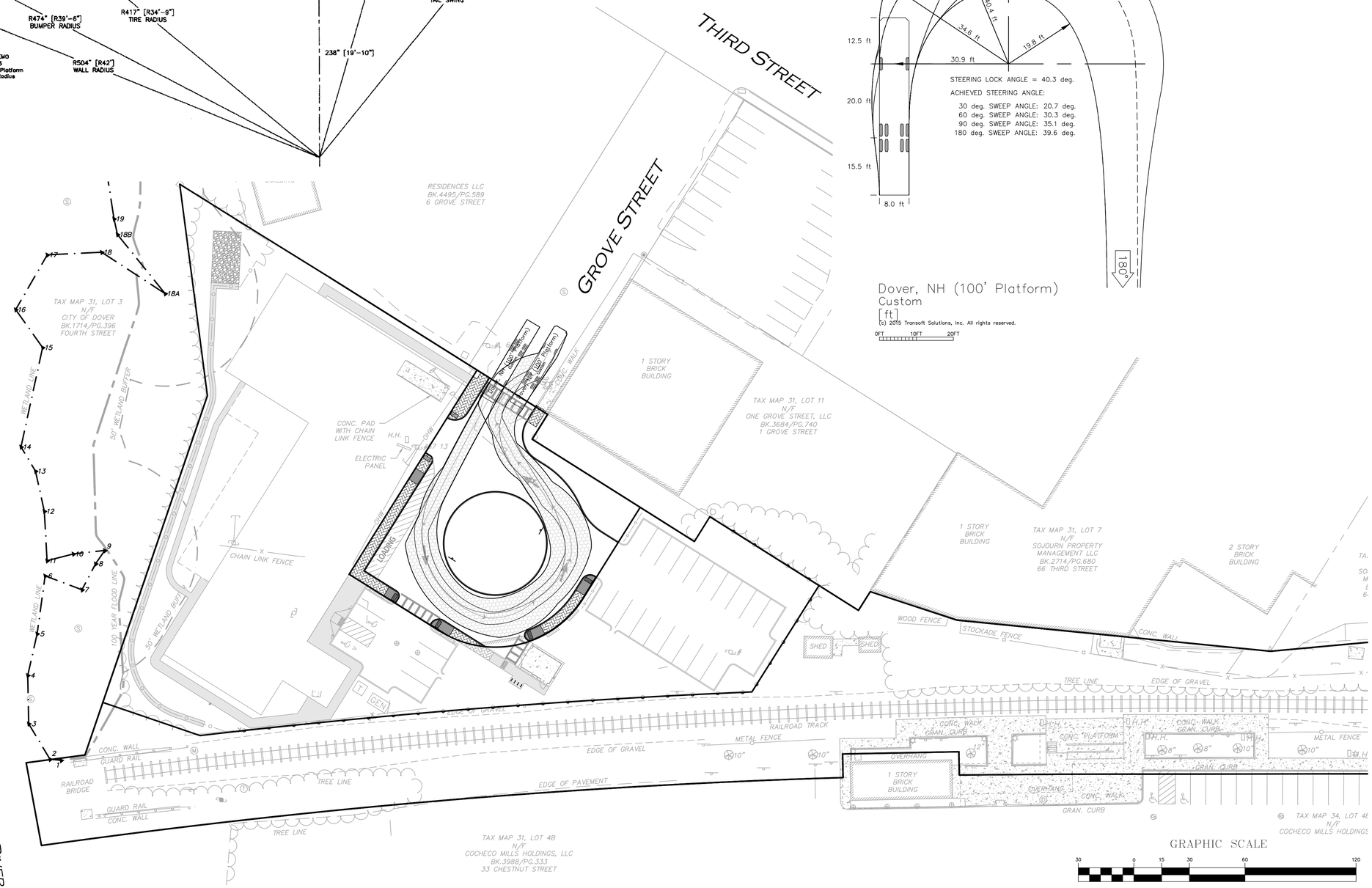
0FT 10FT 20FT



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_TRUCK TURNING PLAN - SD.DWG

STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13809
LICENSED PROFESSIONAL ENGINEER
10.14.20

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
JEWETT CIRCLE
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	10-14-20
SCALE:	1" = 30'	DWG. NAME:	C-2464-03.dwg
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:

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civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
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DRAWING TITLE:
FIRE TRUCK TURNING PLAN

SHEET No.
C-106

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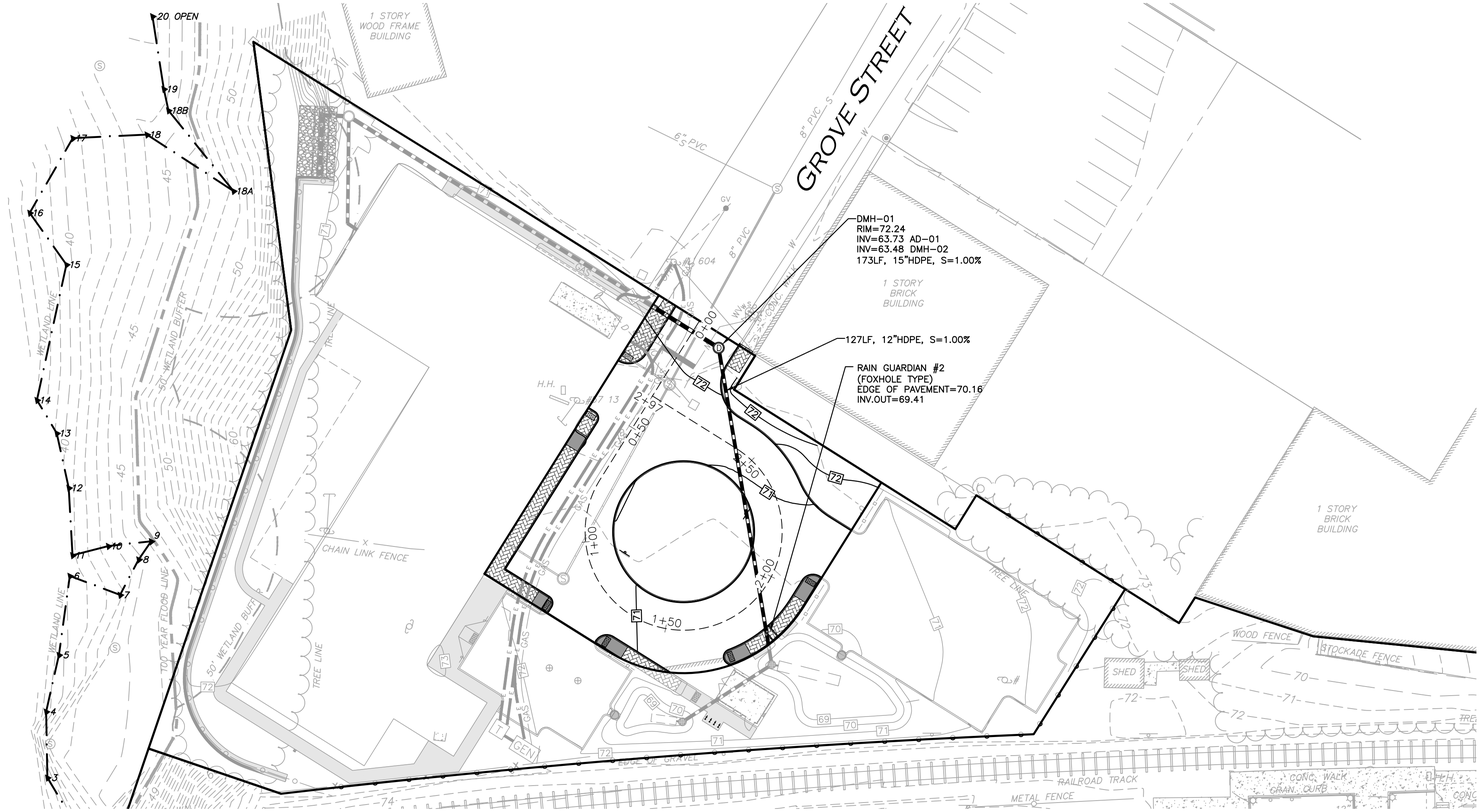
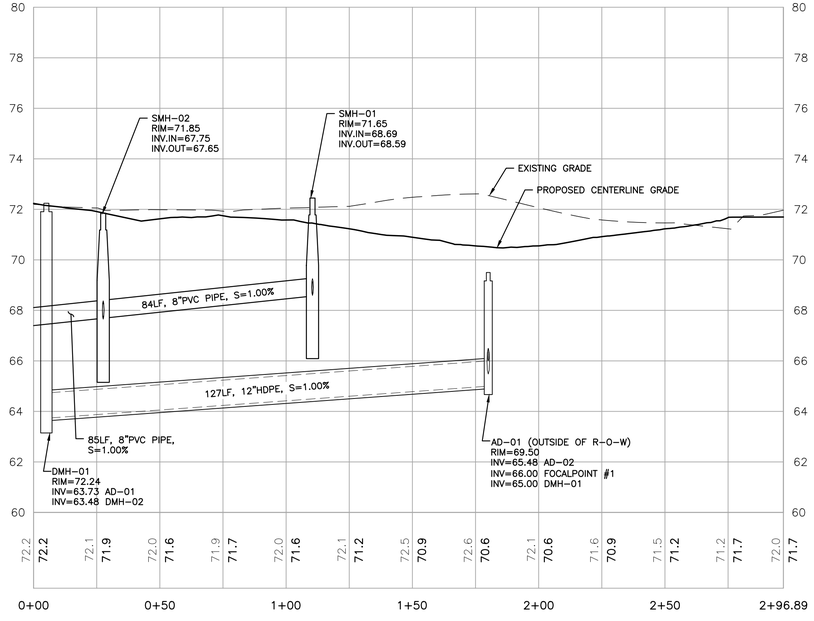
PLANNING BOARD FILE NUMBER: P20-56



JEWETT CIRCLE CENTERLINE PROFILE
VERTICAL EXAGGERATION = 10.0



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GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13809
LICENSED PROFESSIONAL ENGINEER
10.14.20

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

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IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
JEWETT CIRCLE
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	10-14-20
SCALE:	1" = 30'	DWG. NAME: C-2464-03.dwg	
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:
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civil engineering ◆ land surveying
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DRAWING TITLE:
CENTERLINE PROFILE

SHEET No.
C-107

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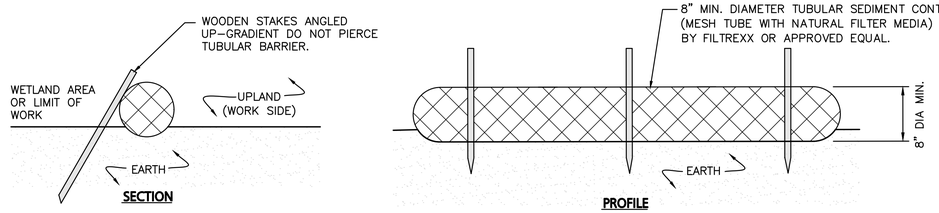
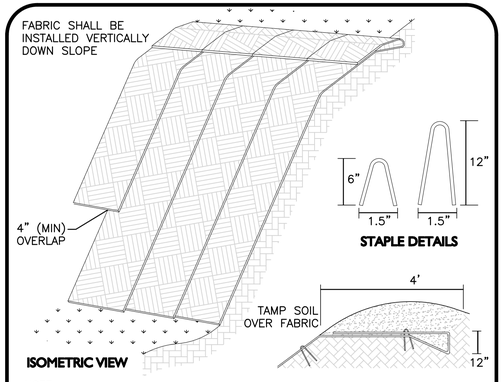


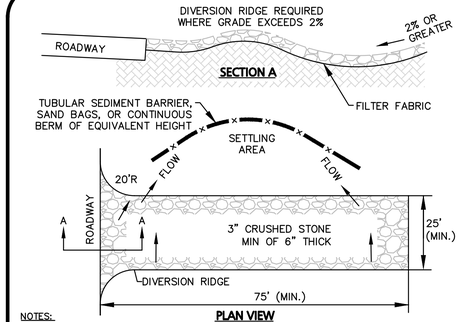
NOTES:
1. TUBULAR SEDIMENT CONTROL SHALL BE 8" MIN. DIAMETER MESH TUBE WITH NATURAL FILTER MEDIA BY FILTREXX OR APPROVED EQUAL.
2. ALL MATERIALS TO MEET MANUFACTURERS SPECIFICATIONS.
3. INSTALL WOODEN STAKES ANGLED UP–GRADIENT EVERY 8' ON CENTER
4. OVERLAP TUBULAR BARRIER SEGMENTS A MINIMUM OF 12".
5. THE CONTRACTOR SHALL MAINTAIN THE TUBULAR BARRIERS IN A FUNCTIONAL CONDITION AT ALL TIMES. THE CONTROLS SHALL BE ROUTINELY INSPECTED BY THE CONTRACTOR.
6. WHERE THE TUBULAR BARRIERS REQUIRE REPAIR OR SEDIMENT REMOVAL, IT WILL BE COMPLETED BY THE CONTRACTOR AT NO ADDITIONAL COST.
7. AT A MINIMUM, THE CONTRACTOR SHALL REMOVE SEDIMENTS COLLECTED AT THE BASE WHEN THEY REACH 1/3 THE EXPOSED HEIGHT OF THE BARRIER.

TUBULAR SEDIMENT BARRIER 1
NOT TO SCALE



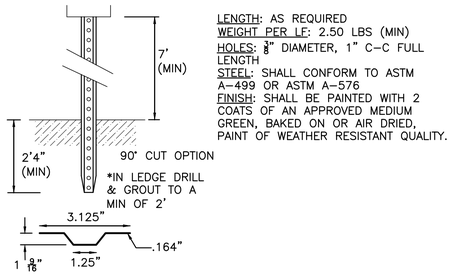
NOTE:
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS.
2. APPLY PERMANENT SEEDING BEFORE PLACING FABRIC.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

EROSION CONTROL FABRIC 2
NOT TO SCALE



NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTERING THE PUBLIC RIGHT–OF–WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

STABILIZED CONSTRUCTION ENTRANCE 3
NOT TO SCALE

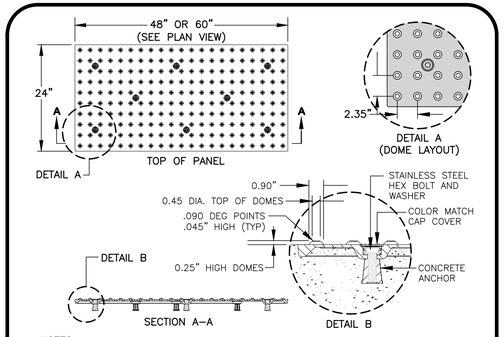


LENGTH: AS REQUIRED
WEIGHT PER LF: 2.50 LBS (MIN)
HOLES: ⅜" DIAMETER, 1" C–C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A–499 OR ASTM A–576
FINISH: SHALL BE PAINTED WITH 2 COATS OF AN APPROVED MEDIUM GREEN, BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY.

STANDARD SIGN POST
NOT TO SCALE

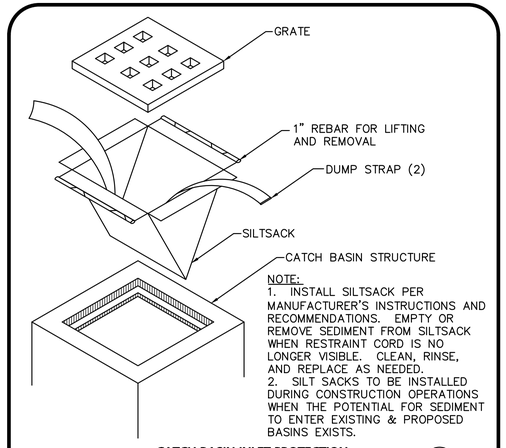
DESC.	SIGN	SIZE	MOUNTING HEIGHT	DESCRIPTION	REFLEC–TORIZED
R6–1	ONE WAY	36"x12"	7' – 0"	WHITE ARROW ON BLACK	YES

SIGN POST DETAIL & SIGN TABLE 4
NOT TO SCALE



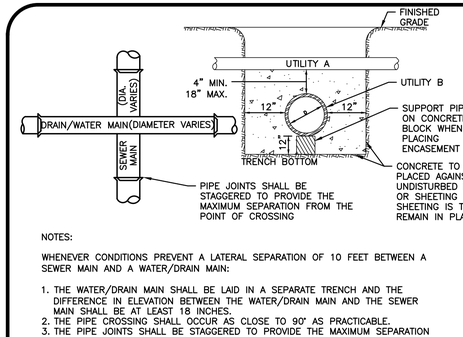
NOTES:
1. VENDOR INFORMATION: "ADATILE" CAST IRON DETECTABLE WARNING PLATES (OR APPROVED EQUAL) AS MANUFACTURED BY ADATILE, PHONE: 1–800–372–0519, WWW.ADATILE.COM, EMAIL: INFO@ADATILE.COM
2. COLOR SHALL BE RED CITY STANDARD SPECIFICATION.
3. INSTALL PER MANUFACTURER'S INSTALLATION GUIDELINES.

WET SET ADA REPLACEABLE TACTILE PANEL 5
NOT TO SCALE



NOTE:
1. INSTALL SILTSACK PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. EMPTY OR REMOVE SEDIMENT FROM SILTSACK WHEN RESTRAINT CORD IS NO LONGER VISIBLE. CLEAN, RINSE, AND REPLACE AS NEEDED.
2. SILT SACKS TO BE INSTALLED DURING CONSTRUCTION OPERATIONS WHEN THE POTENTIAL FOR SEDIMENT TO ENTER EXISTING & PROPOSED BASINS EXISTS.

CATCH BASIN INLET PROTECTION 6
NOT TO SCALE



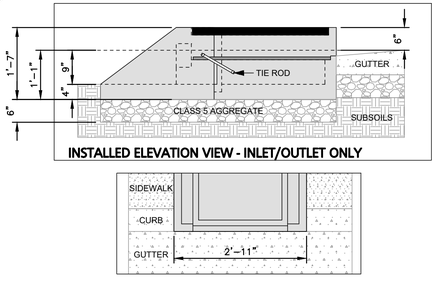
NOTES:

WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET BETWEEN A SEWER MAIN AND A WATER/DRAIN MAIN:

1. THE WATER/DRAIN MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE DIFFERENCE IN ELEVATION BETWEEN THE WATER/DRAIN MAIN AND THE SEWER MAIN SHALL BE AT LEAST 18 INCHES.
2. THE PIPE CROSSING SHALL OCCUR AS CLOSE TO 90° AS PRACTICABLE.
3. THE PIPE JOINTS SHALL BE STAGGERED TO PROVIDE THE MAXIMUM SEPARATION FROM THE POINT OF CROSSING.
4. THE CROSSING SHALL BE ENCASED IN CONCRETE FOR THE ENTIRE WIDTH OF THE TRENCH AND FOR A DISTANCE OF 10 LINEAR FEET CENTERED ON THE CROSSING.
5. UTILITIES A AND B CAN BE EITHER NEW OR EXISTING.
6. WHEN ONE UTILITY IS A SANITARY SEWER, IT IS PREFERABLE TO BE POSITIONED AS SHOWN FOR UTILITY B.
7. ENCASEMENT EXTENDS 10'–0" ON EACH SIDE OF THE CENTERLINE OF UTILITY A.
8. PIPE MUST BE BRACED VERTICALLY AND HORIZONTALLY TO PREVENT FLOATATION DURING PLACEMENT OF CONCRETE.

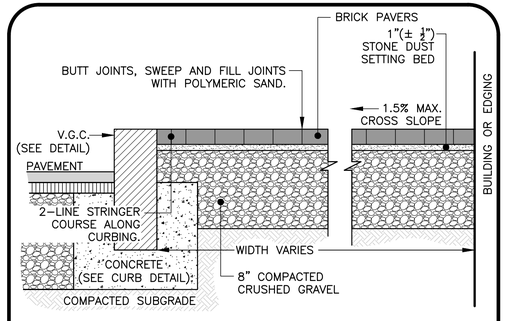
SEWER, WATER/DRAIN CROSSING DETAIL 7
NOT TO SCALE

NOT USED 8
NOT TO SCALE



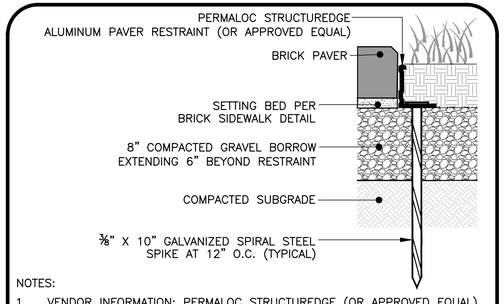
INSTALLATION NOTES
1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. INSTALL A CLASS 5 BASE (COMPACTED TO 95% STANDARD PROCTOR).
3. SET RAIN GUARDIAN FOXHOLE INLET FIRST. SET THE OUTLET LAST, ON THE PREPARED CLASS 5 BASE. POSITION RAIN GUARDIAN FOXHOLE OUTLET PIECE SO PRIMARY OUTLET ALIGNS WITH TOE OF BASIN SIDE SLOPE TO AVOID SOIL INTERFERENCE WITH REMOVABLE FILTER WALL.
4. SECURE MODULAR FOXHOLE PIECES AT EACH JOINT USING PROVIDED GALVANIZED TIE RODS.
5. REMOVABLE FILTER WALL SHOULD BE INSTALLED WITH FILTER FABRIC FACING THE RAIN GUARDIAN FOXHOLE INLET.

RAIN GUARDIAN FOXHOLE STYLE 9
NOT TO SCALE



NOTES:
1. MATERIALS SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS.
2. BASE FOR SIDEWALK SHALL BE 8 INCHES OF CRUSHED GRAVEL.

BRICK SIDEWALK CROSS SECTION WITH CEMENT BASE DETAIL 10
NOT TO SCALE



NOTES:
1. VENDOR INFORMATION: PERMALOC STRUCTUREDGE (OR APPROVED EQUAL) AS MANUFACTURED BY PERMALOC CORPORATION, HOLLAND MI. PHONE: 1–800–356–9660. WWW.PERMALOC.COM
2. DIMENSIONS SHALL BE ⅜" x 2 ¼" WITH A 0.21" TOP LIP.
3. FINISH SHALL BE BLACK DURAFLEX–ELECTROSTATICALLY APPLIED BAKED ON PAINT, MEETS AAMA 2603.
4. INSTALL PER MANUFACTURER'S "INSTALLATION GUIDELINES".
5. CONNECTION BETWEEN SECTIONS TO UTILIZE MANUFACTURERS' SLIDING CONNECTOR SYSTEM.
6. CORNERS: NOTCH BASE ONLY AND FORM A CONTINUOUS CORNER.

BRICK SIDEWALK EDGING DETAIL 11
NOT TO SCALE

STATE OF NEW HAMPSHIRE – BRIAN D. JONES No. 13809 LICENSED PROFESSIONAL ENGINEER
10.14.20

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
JEWETT CIRCLE
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	10-14-20
SCALE:	AS SHOWN	DWG. NAME: C-2464-03.dwg	
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE: DETAILS
SHEET No. C-501

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PLANNING BOARD FILE NUMBER: P20-56

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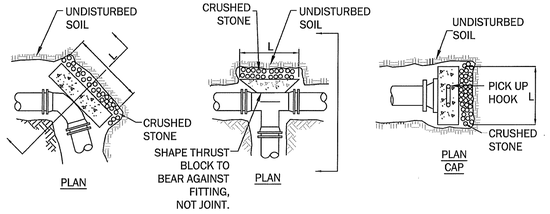


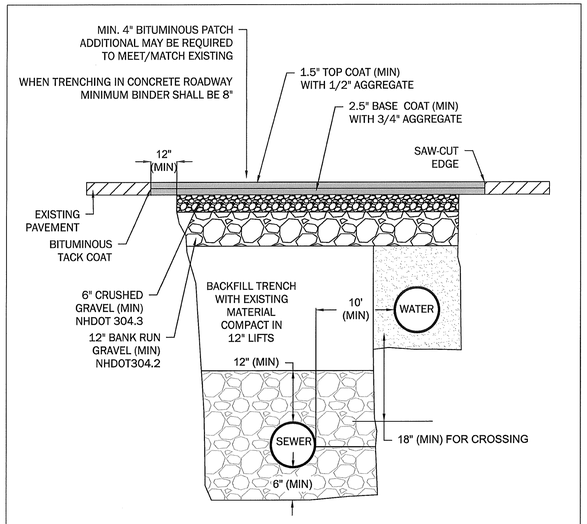
THRUST BLOCK SCHEDULE
MINIMUM BEARING AREA (SQUARE FEET)

Nominal Dia. (in)	PIPE SIZE 4	6	8	10	12	16
Tees, Caps, Plugs, & Tapping Sleeves	1.05	2.32	4.15	6.37	9.15	16.23
90 Degree Bends	1.48	3.29	5.86	9.01	12.93	22.96
45 Degree Bends	0.80	1.78	3.17	4.88	7.00	12.42
22-1/2 Degree Bends	0.41	0.91	1.62	2.49	3.57	6.33
11-1/4 Degree Bends	0.21	0.46	0.81	1.25	1.79	3.18

System Pressure: 100 psi
Safety Factor: 1.5
Soil Bearing Capacity: 2,000 psf

THE MINIMUM BEARING AREAS SHOWN IN THE THRUST BLOCK SCHEDULE ARE BASED ON A SYSTEM PRESSURE OF 100 PSI. IF THE SYSTEM PRESSURE IS ABOVE 100 PSI, INCREASE THE NOTED AREAS PROPORTIONAL TO THE ACTUAL SYSTEM PRESSURE. FOR EXAMPLE, IF THE ACTUAL SYSTEM PRESSURE IS 160 PSI, MULTIPLY THE ABOVE VALUES BY 160%.

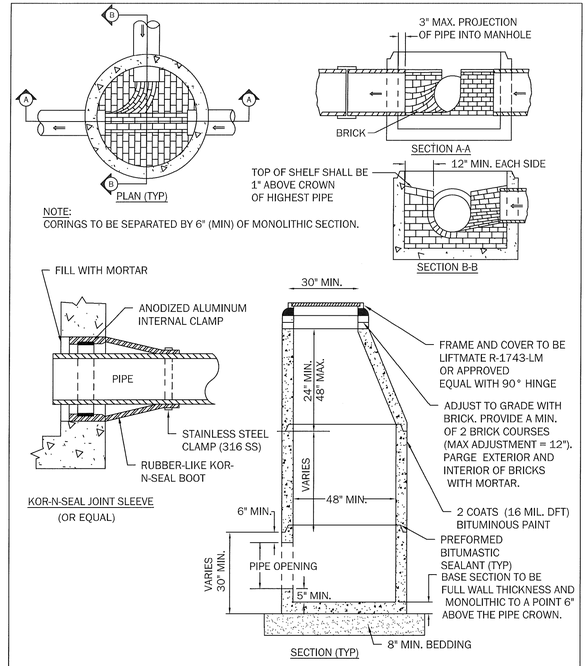
1 CITY OF DOVER - PRECAST CONCRETE THRUST BLOCK & ANCHOR
NOT TO SCALE



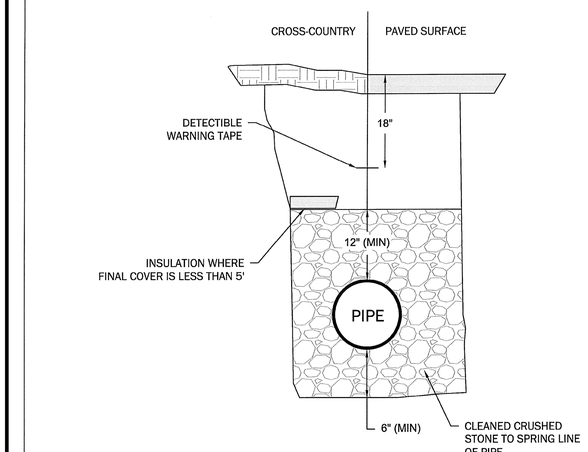
NOTES:

1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY.
2. ALL WORK SHALL COMPLY WITH THE CITY OF DOVER CONSTRUCTION GUIDELINES AND PROCEDURES

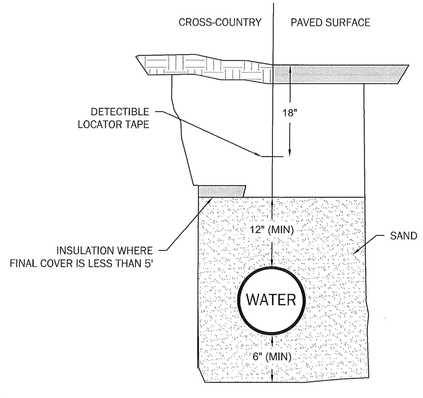
2 CITY OF DOVER - TYPICAL TRENCH DETAIL
NOT TO SCALE



3 CITY OF DOVER - SEWER MANHOLE
NOT TO SCALE



CITY OF DOVER- TYPICAL SEWER/DRAINLINE TRENCH 4
NOT TO SCALE



NOTE:

1. ALL WATER LINES 4" OR GREATER SHALL BE DUCTILE IRON WITH AN 8 MIL POLYETHYLENE WRAP. CONTRACTOR MAY FORGO WRAPPING PIPE IF THE DUCTILE IRON PIPE IS ZINC-COATED, TEES AND OTHER CONNECTIONS WILL STILL NEED TO BE WRAPPED.

CITY OF DOVER - WATERLINE TRENCH 5
NOT TO SCALE

R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_DETAILS_SUBDIVISION.DWG

STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13809
LICENSED PROFESSIONAL ENGINEER
10.14.20

PROFESSIONAL ENGINEER FOR
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DRAWING TITLE: DETAILS

SHEET No. C-502

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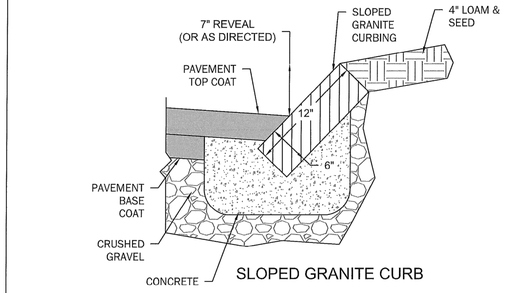
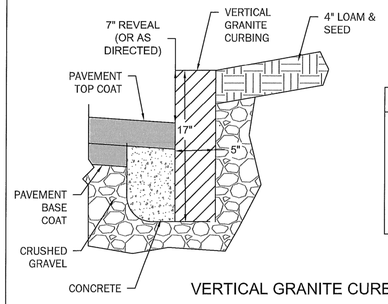


SLOPED GRANITE CURB

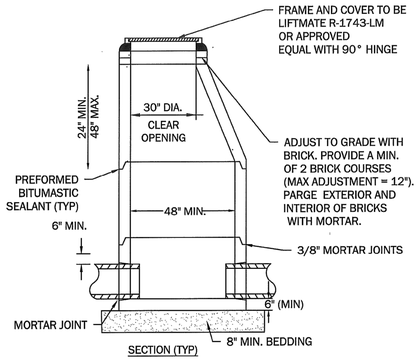


VERTICAL GRANITE CURB

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'

CITY OF DOVER - STANDARD CURBING DETAILS 1

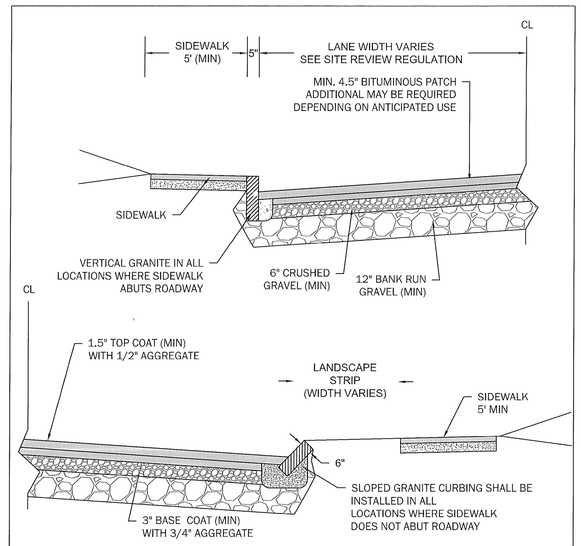
NOT TO SCALE



SECTION (TYP)

CITY OF DOVER - DRAIN MANHOLE 2

NOT TO SCALE



NOTES:

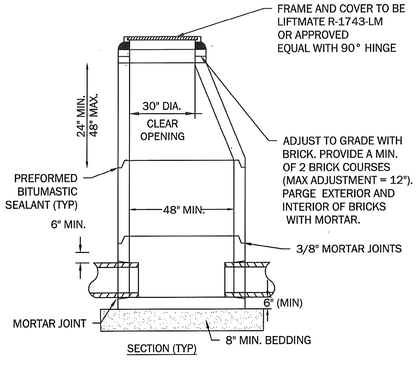
1. THIS DETAIL IS FOR GENERAL REVIEW PURPOSES ONLY, FINAL DESIGN SHALL BE BASED ON SPECIFIC SITE CONDITIONS.
2. SIDEWALK LOCATION SHALL BE AS APPROVED BY THE CITY OF DOVER.

CITY OF DOVER - PUBLIC ROADWAY CROSS SECTION 3

NOT TO SCALE

NOT USED 4

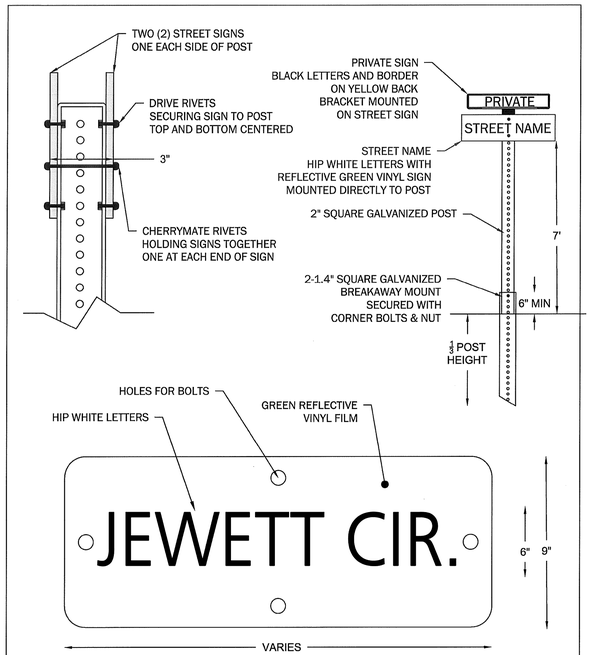
NOT TO SCALE



SECTION (TYP)

CITY OF DOVER - DRAIN MANHOLE 5

NOT TO SCALE



CITY OF DOVER - STREET SIGN 6

NOT TO SCALE

R: \PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_DETAILS_SUBDIVISION.DWG

STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13809
LICENSED PROFESSIONAL ENGINEER
10.14.20

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

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DRAWING TITLE:	SHEET No.
DETAILS	C-503

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PLANNING BOARD FILE NUMBER: P20-56

PLANTING SCHEDULE-TREES, SHRUBS, GROUNDCOVERS & PERENNIALS

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	MIN. SIZE	SPACING	COMMENTS
DECIDUOUS TREES						
AR	6	ACER RUBRUM 'BOWHALL'	BOWHALL RED MAPLE	3.5" CAL.	AS SHOWN	B&B
BN	3	BETULA N. 'DURAHEAT'	DURAHEAT RIVER BIRCH	3.5" CAL.	AS SHOWN	B&B–MULTISTEM
QB	5	QUERCUS BICOLOR	SWAMP WHITE OAK	3.5" CAL.	AS SHOWN	B&B
QP	6	QUERCUS PALUSTRIS 'GREEN PILLAR'	'GREEN PILLAR OAK	3.5" CAL.	AS SHOWN	B&B
EVERGREEN/FLOWERING TREES						
AC	4	ABIES CONCOLOR	WHITE FIR	6–7' HT.	AS SHOWN	B&B
JV	9	JUNIPEROUS VIRGINIANA 'BLUE ARROW'	BLUE ARROW JUNIPER (NARROW)	6–7' HT.	AS SHOWN	B&B
CW	5	CRATAEGUS 'WINTER KING'	WINTER KING HAWTHORNE	3.5" CAL	AS SHOWN	B&B
MS	2	MAGNOLIA STELLATA 'ROYAL STAR'	ROYAL STAR MAGNOLIA	6–7' HT.	AS SHOWN	B&B
TO	51	THUJA OCCIDENTALIS 'WINTERGREEN'	WINTERGREEN ARBORVITAE	5–6' HT.	AS SHOWN	B&B
SHRUBS						
KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	MIN. SIZE	SPACING	COMMENTS
CS	10	CORNUS SERICEA 'ARCTIC FIRE'	ARCTIC FIRE RED TWIGGED DOGWOOD	#5	AS SHOWN	POT
HP	6	HYDRANGEA P. 'LITTLE LIME'	LITTLE LIME PANICLE HYDRANGEA	#5	AS SHOWN	POT
IG	98	ILEX GLABRA	INKBERRY	#5	AS SHOWN	POT
IV	17	ILEX VERTICILATA 'RED SPRITE'	RED SPRITE WINTERBERRY	#5	AS SHOWN	POT
IVM	2	ILEX VERTICILATA 'JIM DANDY'	MALE POLLINATOR WINTERBERRY	#5	AS SHOWN	POT
LB	11	LINDERA BENZOIN	SPICEBUSH	#5	AS SHOWN	POT
MP	9	MYRICA PENSYLVANICA	BAYBERRY	#5	AS SHOWN	POT
PJM	24	RHODODENDRON 'PJM ELITE'	ELITE PJM RHODODENDRON	#5	AS SHOWN	POT
RK	18	ROSE 'KNOCKOUT'	KNOCKOUT ROSE CHERRY RED	#5	AS SHOWN	POT
SP	9	SYRINGA PATULA 'MISS KIM'	MISS KIM RHODODENDRON	#5	AS SHOWN	POT
PERENNIALS/GRASSES						
KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	MIN. SIZE	SPACING	COMMENTS
AM	16	ALCHEMILLA MOLLIS	LADY'S MANTLE	#2	24" O.C.	STAGGERED
BA	24	BAPTISIA AUSTRALIS	FALSE BLUE INDIGO	#2	36" O.C.	STAGGERED
EP	34	ECHINACEA PURPUREA	ECHINACEA	#2	24" O.C.	STAGGERED
HH	28	HEMEROCALLIS 'ROSEY RETURNS'	GENTLE SHEPHERD WHITE DAYLILY	#2	24" O.C.	STAGGERED
HO	41	HOSTA 'GOLDEN PRAYERS'	GOLDEN PRAYERS HOSTA	#2	24" O.C.	STAGGERED
MF	64	MONARDA FISTULOSA	WILD BERGAMOT	#2	24" O.C.	STAGGERED
PR	12	PEROVSKIA 'LITTLE SPIRE'	RUSSIAN SAGE	#2	24" O.C.	STAGGERED
NW	15	NEPETA 'WALKER'S LOW'	WALKERS LOW NEPETA	#2	24" O.C.	STAGGERED
PV	41	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	#2	24" O.C.	STAGGERED
RF	70	RUDBECKIA FULGIDA 'GOLDSTRUM'	BLACK EYED SUSAN	#2	24" O.C.	STAGGERED

NOTE:
THE PLANTING SCHEDULE INCLUDES COUNTS FOR PLANTINGS WITHIN THE RIGHT–OF–WAY & AND PROJECT SITE (P20–56).

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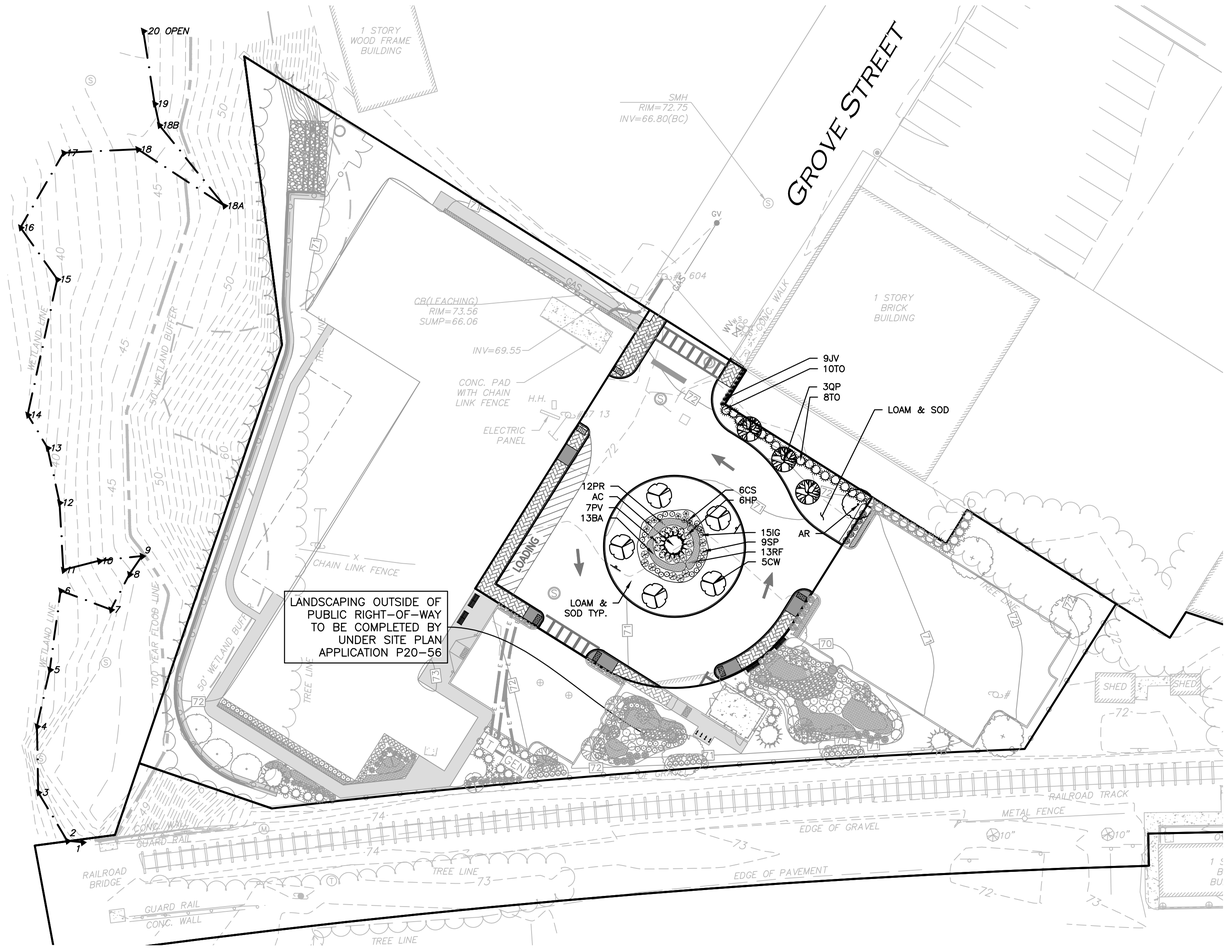
2. ALL LANDSCAPED AREAS WITH SHRUBS, TREES, AND PERENNIALS TO HAVE 18" MINIMUM DEPTH OF TOPSOIL. EIGHTEEN INCHES OF TOPSOIL AROUND TREES AND SHRUBS DOES NOT INCLUDE AMENDED PLANTING SOIL WITHIN TREE / SHRUB PIT FOR FULL DEPTH OF ROOTBALLS. SEE PLANTING DETAILS FOR PLANTING DEPTH AT SHRUBS AND TREES. ALL AREAS OF LOAM AND SEED OR LOAM & SOD TO HAVE 6" MINIMUM DEPTH OF TOPSOIL. TOPSOIL TO BE TESTED BY CONTRACTOR, AND APPROVED BY A&M PRIOR TO PURCHASE AND OR PLACEMENT. GENERAL CONTRACTOR, DEMOLITION CONTRACTOR, AND LANDSCAPE CONTRACTOR TO COORDINATE PROPER DEPTH OF EXISTING MATERIAL REMOVAL ACROSS SITE SO THAT 18" MINIMUM AND 6" MINIMUM DEPTHS OF PROPOSED TOPSOIL NOTED ABOVE ARE MET AT NO ADDITIONAL COST TO OWNER. SEE TOPSOIL DETAIL.
3. SEE SHEET L–501 FOR ADDITIONAL LANDSCAPE INFORMATION.

LEGEND

DECIDUOUS TREE
EVERGREEN TREE
FLOWERING TREE
SHRUBS
MULCH BED
PERENNIALS/GROUNDCOVER



GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

NOTES:
1. THE CUL DE SAC CENTER CIRCLE WILL NOT HAVE IRRIGATION, BUT WILL BE MAINTAINED WITH THE REST OF THE LANDSCAPE ON THE PROPERTY BY THE OWNER. TREES IN THE CUL DE SAC TO HAVE 3.5 YEARS OF WATERING MAINTENANCE UNTIL ESTABLISHMENT TO FOLLOW THE STREET TREE REGULATIONS FOR A WATERING PLAN.

STREETSCAPE REGULATIONS - SUBDIVISION

157.35 NATURAL FEATURES	REQUIRED	PROVIDE	NOTES
E. STREET TREE PLANTING: 1. DROUGHT TOLERANT, 2. 3.5 CAL. MIN, 3. LOW GROWING UNDER UTILITIES 4. 10–20–30 TREE BIODIVERSITY 5. TREES NO MORE THAN 35' O.C. 6. WATERING PLAN FOR TREES	AS NOTED	MINIMUM REQUIRED OR GREATER	CBD OVERLAY TRANSIT ORIENTED DEVELOPMENT : TREES 25–35' O.C.
F. PERIMETER PLANTING – VEGETATED BUFFER FOR NEIGHBORING PROPERTIES	AS NOTED	MINIMUM REQUIRED OR GREATER	
G. CUL DE SAC : NATURAL VEGETATION OR STORM WATER FILTRATION WITH TREES, SHRUBS AND PERENNIALS. TO BE PLANTED AFTER CONSTRUCTION OF STREET IS COMPLETE.	AS NOTED	MINIMUM REQUIRED OR GREATER	

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1–888–DIG–SAFE
1–888–344–7233

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LICENSED LANDSCAPE ARCHITECT
BETHANY C. DERMODY
006
STATE OF NEW HAMPSHIRE
10.14.2020

REGISTERED LANDSCAPE ARCHITECT FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
JEWETT CIRCLE
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	10-14-20
SCALE:	1" = 30'	DWG. NAME: C-2464-03.dwg	
DESIGNED BY:	BCD	CHECKED BY:	BDJ

PREPARED BY:

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DRAWING TITLE:
LANDSCAPING PLAN

SHEET No.
L-101

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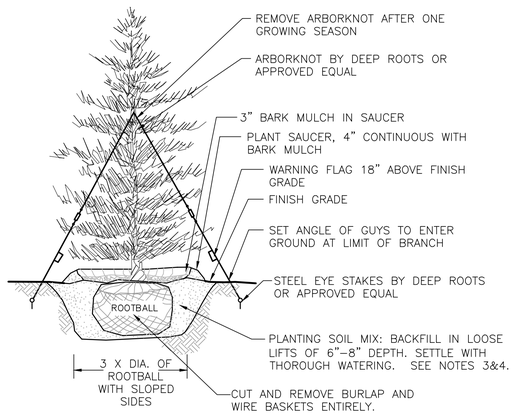
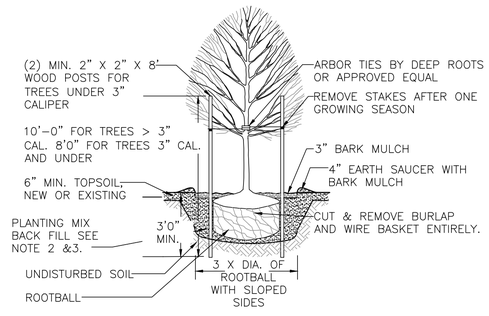
PLANNING BOARD FILE NUMBER: P20-56



NOTES

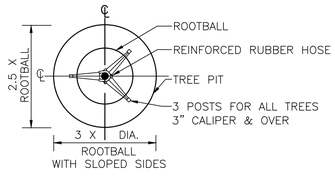
1. TREES SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT BORE TO NURSERY OR FIELD GRADE. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL TOP OF ROOTBALL AREA.
2. INSTALL THREE GUYS PER TREE; EQUALLY SPACED AROUND BALL.
3. ATTACH GUYS AT 2/3 HEIGHT OF TREE.
4. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
5. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.

EVERGREEN TREE DETAIL (1)
NOT TO SCALE



NOTES:

1. ALL TREES SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL ROOTBALL AREA.
2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.



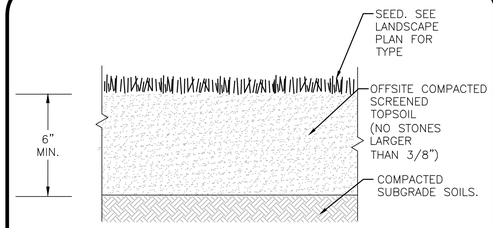
DECIDUOUS TREE PLANTING DETAIL (2)
NOT TO SCALE

LOAM AND SEEDING NOTES:

CONTRACTOR SHALL SEED ALL DISTURBED AREAS NOT NOTED TO RECEIVE OTHER MATERIALS, AND AT AREAS SHOWN ON THE PLAN PER SPECIFICATIONS BELOW

SCIENTIFIC NAME	COMMON NAME	PROPORTION BY WEIGHT	PERCENT PURITY	PERCENT GERMINATION
FESTUCA RUBRA "RUBRA"	CREEPING RED FESCUE	37%	95%	90%
PAO PRAENTENSIS "BARON"	BARON KENTUCKY BLUEGRASS	40%	85%	90%
LOLIUM PERENNE "PALMER"	PALMER PERENNIAL RYEGRASS	15%	95%	90%
FESTUCA RUBRA COMMUTATA WILMA	WILMA CHEWINGS	8%	95%	80%

1. SEED TO BE SPREAD AT MINIMUM RATE OF 5 LBS. PER 1000 SQ. FT.
2. SEEDING TO BE COMPLETED "IN SEASON" BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 1, EXCEPT FOR RESEEDING OF BARE SPOTS. IF UNABLE TO SEED WITHIN THESE TIMEFRAMES, CONTRACTOR TO INSTALL EROSION CONTROL MATS ON ALL SLOPES 3:1 AND OVER, HYDROSEED ALL EXPOSED AREAS, ADD SOIL STABILIZER "FLUX TERRA HP-FGM SOIL STABILIZER" AS MANUFACTURED BY "PROFILE" TO HYDROSEED (AT RATE OF 3,000 LBS PER ACRE), AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO COMPLETE ALL ABOVE "OUT OF SEASON" REQUIREMENTS AND THEN ALSO BE RESPONSIBLE FOR RE-GRADING AND RE-SEEDING ALL DISTURBED, ERODED, OR BARE SPOTS WITHIN NEXT CLOSEST PLANTING SEASON IN FALL OR SPRING AT NO ADDITIONAL COST TO OWNER. CONTRACTOR RESPONSIBLE FOR ALL MAINTENANCE UNTIL FINAL ACCEPTANCE OF LAWN AREAS INCLUDING: WATERING, ADDING FERTILIZERS AND LIME AND MOWING AT NO ADDITIONAL COST TO OWNER.
3. COMMERCIAL FERTILIZER SHALL BE APPLIED AT THE RATE OF 25 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. LIME TO BE SPREAD AT THE RATE OF 100 POUNDS PER 1000 SQ. FT OR AS RECOMMENDED BY THE TESTING AGENCY. COMMERCIAL FERTILIZER SHALL BE A COMPLETE FERTILIZER CONTAINING AT LEAST 50% OF THE NITROGEN OF WHICH IS DERIVED FROM NATURAL ORGANIZE SOURCES OF UREAFORM. IT SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT: NITROGEN (N) 10%, PHOSPHORUS (P) 6%, POTASH (K) 4%. LIME SHALL BE AN APPROVED AGRICULTURAL LIMESTONE CONTAINING NOT LESS THAN 85% OF TOTAL CARBONATES. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT 50% WILL PASS A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE.
4. LAWN AREAS TO BE SEEDED BY SOWING EVENLY WITH AN APPROVED MECHANICAL SEEDER AT THE RATE OF TEN POUNDS PER 1000 SQUARE FEET.
5. CONTRACTOR RESPONSIBLE FOR WATERING, MOWING, AND RESEEDING OF LAWN BARE SPOTS UNTIL A UNIFORM, HEALTHY STAND OF GRASS IS ESTABLISHED AND ACCEPTED.



TEXTURE CLASS	% OF TOTAL WEIGHT
SAND	45% – 65%
SILT	15% – 35%
CLAY	5% – 20%

SIEVE	% PASSING
3/8"	100
NO. 4	85–100
NO. 40	60–85
NO. 100	38–60
NO. 200	10–35
20 um	LESS THAN 5%

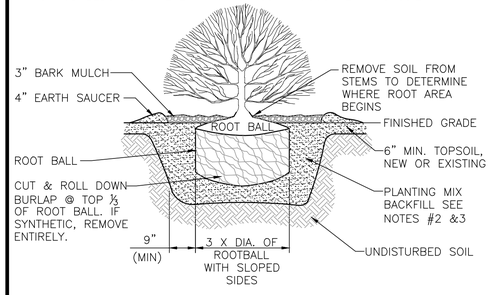
NOTES:

1. TOP OF LOAM (TOPSOIL) IS FINISH GRADE.
2. ALL TOPSOIL (BOTH ONSITE AND OFFSITE SOURCES) SHALL BE COMPOSED OF A NATURAL, FERTILE, FRIABLE SOIL TYPICAL OF CULTIVATED TOPSOILS OF THE LOCALITY. OFFSITE SOIL SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND SUPPORT OF VEGETATIVE GROWTH, WITH ADDITIVES, IF REQUIRED, TO ACHIEVE PARTICLE DISTRIBUTION AND ORGANIC CONTENT BELOW. TOPSOIL SHALL BE TAKEN FROM A WELL-DRAINED, ARIABLE SITE, FREE OF SUBSOIL, LARGE STONES, EARTH CLODS, STICKS, STUMPS, CLAY LUMPS, ROOTS, OTHER OBJECTIONABLE, EXTRANEOUS MATTER OR DEBRIS NOR CONTAIN TOXIC SUBSTANCES.
3. THE CONTRACTOR SHALL PROVIDE THE OWNER / LANDSCAPE ARCHITECT WITH TOPSOIL TEST RESULTS (RECOMMEND UMASS AMHERST SOIL TESTING LAB) FOR APPROVAL PRIOR TO OBTAINING AND PLACING THE SOIL. IF ANY TOPSOIL IS PURCHASED OR PLACED PRIOR TO APPROVAL BY OWNER / LANDSCAPE ARCHITECT, IT IS AT CONTRACTORS RISK, AND IT CAN BE REMOVED AT NO ADDITIONAL COST TO THE OWNER. IF THE PLANTING SOIL (BOTH ONSITE AND OFFSITE SOURCES) DOES NOT FALL WITHIN THE REQUIRED SIEVE ANALYSIS, TEXTURAL CLASS, ORGANIC CONTENT, OR PH RANGE, IT SHALL BE ADJUSTED TO MEET THE SPECIFICATIONS THROUGH THE ADDITION OF SAND, COMPOST, LIMESTONE, OR ALUMINUM SULFATE TO BRING IT WITHIN THE SPECIFIED LIMITS AT NO ADDITIONAL COST TO THE OWNER.
4. TOPSOIL SHALL HAVE A PH VALUE BETWEEN 5.5 AND 6.5. TOPSOIL SHALL CONTAIN BETWEEN 4% AND 8% ORGANIC MATTER OF TOTAL DRY WEIGHT AND SHALL CONFORM TO THE FOLLOWING GRADATION AND TEXTURE CLASS ABOVE.

TOPSOIL FOR LAWN, TREES, SHRUBS, & PERENNIALS (3)
NOT TO SCALE

NOTES:

1. ALL SHRUBS SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. SET SHRUB 1"-2" ABOVE FINISH GRADE.
2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.
4. SHRUB BEDS TO HAVE 24" MIN. OF CONTINUOUS PLANTING SOIL.



SHRUB PLANTING DETAIL (4)
NOT TO SCALE

LOAM AND SODDING NOTES

CONTRACTOR SHALL SOD AREAS NOTED ON THE PLANS.

SOD IS TO BE A BLEND OF FOUR TO FIVE CURRENT AND IMPROVED HYBRID BLUEGRASS AND FESCUE MIXES APPROPRIATE FOR BOTH SEMI-SHADED AND AREAS OF SUN.

HYBRIDS MAY INCLUDE: BLACKSTONE KENTUCKY BLUEGRASS, AWARD KENTUCKY BLUEGRASS, CHALLENGER KENTUCKY BLUEGRASS, BLACKBURG II KENTUCKY BLUEGRASS OR COMPARABLE AND EQUAL BLUEGRASS HYBRIDS.

1. SOD SHALL BE HIGH QUALITY, NURSERY GROWN ON CULTIVATED MINERAL AGRICULTURAL SOILS. SOD SHALL BE MOIST, AND MACHINE CUT AT A UNIFORM SOIL THICKNESS OF AT LEAST ⅝" AT TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL INCLUDE TOP GROWTH AND THATCH. SOD SHALL BE FREE OF DISEASES, WEEDS, BARE SPOTS, OR INSECTS.

2. SODDING TO BE COMPLETED "IN SEASON" BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 1, EXCEPT FOR RE-SODDING OF BARE SPOTS. IF UNABLE TO SOD WITHIN THESE TIMEFRAMES, CONTRACTOR TO INSTALL EROSION CONTROL MATS ON ALL SLOPES 3:1 AND OVER, HYDROSEED ALL EXPOSED AREAS, ADD SOIL STABILIZER "FLUX TERRA HP-FGM SOIL STABILIZER" AS MANUFACTURED BY "PROFILE" TO HYDROSEED (AT RATE OF 3,000 LBS PER ACRE), AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO COMPLETE ALL ABOVE "OUT OF SEASON" REQUIREMENTS AND THEN ALSO BE RESPONSIBLE FOR RE-GRADING AND RE-SODDING ALL DISTURBED, ERODED, OR BARE SPOTS WITHIN NEXT CLOSEST PLANTING SEASON IN FALL OR SPRING AT NO ADDITIONAL COST TO OWNER. CONTRACTOR RESPONSIBLE FOR ALL MAINTENANCE UNTIL FINAL ACCEPTANCE OF LAWN AREAS INCLUDING: WATERING, ADDING FERTILIZERS AND LIME AND MOWING AT NO ADDITIONAL COST TO OWNER.

3. COMMERCIAL FERTILIZER SHALL BE APPLIED AT THE RATE OF 25 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. LIME TO BE SPREAD AT THE RATE OF 100 POUNDS PER 1000 SQ. FT OR AS RECOMMENDED BY THE TESTING AGENCY. COMMERCIAL FERTILIZER SHALL BE A COMPLETE FERTILIZER CONTAINING AT LEAST 50% OF THE NITROGEN OF WHICH IS DERIVED FROM NATURAL ORGANIZE SOURCES OF UREAFORM. IT SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT: NITROGEN (N) 10%, PHOSPHORUS (P) 6%, POTASH (K) 4%. LIME SHALL BE AN APPROVED AGRICULTURAL LIMESTONE CONTAINING NOT LESS THAN 85% OF TOTAL CARBONATES. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT 50% WILL PASS A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE.

4. CONTRACTOR RESPONSIBLE FOR WATERING, MOWING, AND RE-SODDING OF LAWN BARE SPOTS UNTIL A UNIFORM, HEALTHY STAND OF GRASS IS ESTABLISHED AND ACCEPTED.

TREEGATOR® JR. PRO

SLOW RELEASE WATERING BAG FOR EVERGREENS, TREES AND SHRUBS

BENEFITS:

- *Ideal for newly planted trees, evergreens or shrubs.*
- *Reduces transplant and drought shock.*
- *100% absorption eliminates water waste.*
- *Install and fill in minutes with no tools required. - Just place, fill, and walk away!*
- *Color and low-profile blends with landscape.*
- *Removable dual emitter system.*
- *Deep water saturation with every application.*
- *Fill just 1 to 2 times per week, or as needed.***
- *Promotes deep root growth.*
- *Made in the U.S.A. with a 3-year limited warranty.*

***REFER TO WATERING CAPACITY / FREQUENCY CHART SHOWN BELOW*

DESCRIPTION:

Professionally water any newly planted tree or shrub with a Treegator® Jr. Pro Slow Release Watering Bag! Dual emitters continuously provides water over a 5 to 8 hour time period with no run-off. Brown color and low profile blends with existing landscape and reduces visibility while in use. Installs in minutes with no tools. Requires filling just 1 to 2 times per week. Just place, fill, and walk away!

SPECS:

Fits plantings up to 5 inches in trunk caliper.
Made of brown PVC with "gator-skin" embossing.
Removable dual PVC emitters.
Continuously waters for 5 to 8 hours.
Convenient handle allows for easy filling.
Recommended for use on a level surface or properly built mulch pile to ensure proper drainage.

DIRECTIONS FOR USE:

Place Treegator® Jr. Pro on flat ground, or on top of a properly built mulch pile (recommended).
Wrap both sides of bag around trunk.
Open the top of the red fill valve cap and insert hose.
Lift up on handle and fill with water to desired level.
While lifting on handle, remove hose end, and close red fill valve cap tightly and securely.
Bag will be empty in approximately 5 to 8 hours.
Fill bag 1 to 2 times per week, or as needed.
When not in use, remove from around planting, and store in a cool, dry place until next use.
Do not use in temperatures below 40 degrees Fahrenheit..

MEASUREMENTS:

Full - 35" diameter x 6" high

WATERING CAPACITY / FREQUENCY CHART:

Treegator® Jr. Pro	Trunk Caliper (diameter)	Recommended Fills per Week
15 gallon capacity	1 to 2 inch (3 to 5 cm)	1 Fill per Week
	2 to 3 inch (5 to 8 cm)	2 Fills per Week
	4 to 5 inch (10 to 13 cm)	3 Fills per Week

PUBLIC ROW CIRCLE TREE WATERING OR EQUAL (5)
NOT TO SCALE

LICENSED LANDSCAPE ARCHITECT
BETHANY C. DERMODY
006
STATE OF NEW HAMPSHIRE
10.14.20

REGISTERED LANDSCAPE ARCHITECT FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
JEWETT CIRCLE
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	10-14-20
SCALE:	AS SHOWN	DWG. NAME:	C-2464-03.dwg
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PREPARED BY:
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environmental consulting ◆ landscape architecture
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DRAWING TITLE:	SHEET No.
LANDSCAPING DETAILS	L-501

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PLANNING BOARD FILE NUMBER: P20-56

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ALLEN & MAJOR
ASSOCIATES, INC.

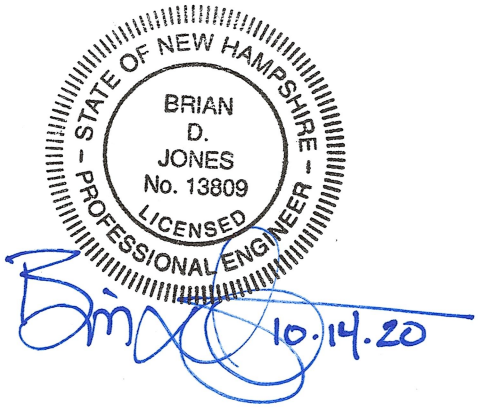
THE STATION

35/37 CHESTNUT STREET
MAP 31, LOT 4
DOVER, NEW HAMPSHIRE

STORMWATER MANAGEMENT PLAN

DATE PREPARED
August 12, 2020

DATE REVISED
October 14, 2020



APPLICANT:
Jewett Construction Co., LLC
68A Route 27
Raymond, NH 03077

PREPARED BY:
Allen & Major Associates, Inc.
400 Harvey Road
Manchester, New Hampshire 03103

A&M PROJECT NO.: 2464-03

STORMWATER MANAGEMENT PLAN

THE STATION
35/37 CHESTNUT STREET
MAP 31, LOT 4
DOVER, NH

APPLICANT:

JEWETT CONSTRUCTION CO., LLC
68A ROUTE 27
RAYMOND, NH 03077

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
400 HARVEY ROAD
MANCHESTER, NH 03103

A&M PROJECT #2464-03

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PROJECT OVERVIEW

1.0 OVERVIEW

1.1 EXECUTIVE SUMMARY

The purpose of this drainage report is to provide a detailed review of the stormwater runoff, both quality and quantity, as it pertains to the existing and proposed developed conditions. The report will show by means of narrative, calculations and exhibits that appropriate best management practices have been used to mitigate the impacts from the proposed development. The report will demonstrate that there is no increase in peak rate and volume of runoff, from the site for all design storm events. The following table illustrates the reduction in runoff from the site.

Study Point #1 (onsite flow to Cochecho River)								
	2-Year		10-Year		25-Year		50-Year	
	Rate (cfs)	Volume (cf)	Rate (cfs)	Volume (cf)	Rate (cfs)	Volume (cf)	Rate (cfs)	Volume (cf)
Existing	3.81	11,363	6.17	18,971	7.99	25,010	9.69	30,700
Proposed	2.14	10,664	5.42	18,030	7.14	23,945	8.44	29,548
Change	**-1.67**	**-699**	**-0.75**	**-941**	**-0.85**	**-1,065**	**-1.25**	**-1,152**

1.2 SITE LOCATION AND DESCRIPTION

The project site is comprised of a 2.66± acre lot located at 35/37 Chestnut Street in Dover, New Hampshire. The lot is identified on the City of Dover Tax Map 31 as Lot 4. The site is owned by Boston & Maine Railroad and is currently being used as a railroad dispatch and maintenance facility. Active railroad tracks traverse the southern side of the property. The project proposes to subdivide the property into two separate parcels, one of which will be devoted to the multi-family development. The proposed building will be five stories tall, four stories of residential units with podium parking on the ground floor. The second parcel will remain under the current ownership and will encompass the land necessary to maintain the existing railroad. The remainder of the existing property will be converted to a public right-of-way and conveyed to the City.

The proposed multifamily parcel is bordered to the south by the railroad tracks, to the west by the Cochecho River, to the north by various commercial uses, and to the east by Chestnut Street. The Site has access to Grove Street on the north side. The property lies within the Transit Oriented Development sub-district, which is within the overlying Central Business District.

The majority of the project site has been developed to accommodate the railroad facility and is covered by gravel, with several buildings of various size. Grades on the developed portion of the site are generally flat and range from elevation 80 on the eastern side, to elevation 70 near the center of the site. The eastern side of the site slopes steeply towards the Cochecho River and ranges from elevation 72 to elevation 46.

View looking south from Grove Street

The underlying soils have been mapped by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), and include:

SfC	Suffield silt loam, 8-15% slopes	C
SfE	Suffield silt loam, 15-35% slopes	C

Additional soil information is provided in the NRCS Soil Map. See Figure 2.

A stormwater analysis has been performed for two project site situations. The first analysis consists of the existing site conditions and the second consists of the proposed site conditions. There is one study point developed along the western limits of the project boundaries where storm water runoff leaves the site via overland flow and eventually enters the Cochecho River. The study point and contributing watersheds are further outlined in the accompanying text and calculations.

1.3 EXISTING SITE CONDITIONS

Storm water runoff exits the project site in one location. The included Existing Watershed Plan (WS-1) outlines the boundaries and contributing watershed for the Study Point.

Study Point 1: The study point is the western property boundary. Surface runoff leaves the site via overland flow, down the steep slope towards the Cochecho River.

Discharge Point	Existing Conditions							
	2yr		10yr		25yr		50yr	
	Rate (cfs)	Volume (cfs)	Rate (cfs)	Volume (cf)	Rate (cfs)	Volume (cf)	Rate (cfs)	Volume (cf)
SP1	3.81	11,363	6.17	18,971	7.99	25,010	9.69	30,700

1.4 PROPOSED SITE CONDITIONS

Proposed is the construction of a new multi-family residential building with associated parking spaces, concrete sidewalks, landscaping, utilities, and stormwater BMPs. The project will also construct the necessary improvements for the proposed public right-of-way which will create a new road, extended from the end of Grove Street.

The long-term stormwater pollution prevention plan for the site uses Low Impact Development (LID) strategies in the form of a bioretention system.

Existing conditions, topographic and boundary information is based upon plan entitled "Existing Conditions Plan" as prepared by Allen & Major Associates, Inc., scale 1" = 30'.

Wetlands shown hereon were field delineated in general accordance with 1987 Corps of Engineers Wetland Delineation Manual and the 2012 Northcentral and Northeast Regional Supplement (Version 2.0) by TES Environmental Consultants, LLC in July 2020. The wetland flags were located by field survey by Allen & Major Associates.

Site Data for Stormwater Modeling

The proposed project will disturb approximately 59,000 sf. This disturbance includes the construction of a new multi-family building, parking areas, stormwater BMP's, landscaping, utility improvements and a public right-of-way.

The proposed watershed is comprised of 39,710 +/- square feet of impervious (a **decrease** of 10,752 sf +/- from the existing conditions), including paved parking, roofs, and walkways. As mentioned above, the site has already been developed which means that the City's Redevelopment standards apply (149-14.A.(2)(a)(iii). With that said, the stormwater management facilities have been designed to meet the New Development standards, to the maximum extent practicable. The site Rainfall data used for modeling the stormwater runoff was derived from the "Extreme Precipitation Tables" from the Northeast Regional Climate Center at Cornell University. The storm events were broken down for the 2, 10, 25, and 50-year storms.

Discharge Point	Proposed Conditions							
	2yr		10yr		25yr		50yr	
	Rate (cfs)	Volume (cfs)	Rate (cfs)	Volume (cf)	Rate (cfs)	Volume (cf)	Rate (cfs)	Volume (cf)
SP1	2.14	10,664	5.42	18,030	7.14	23,945	8.44	29,548

Hydraulic Study

A hydrologic study of the site was conducted in order to determine the impact of the proposed development on the existing stormwater runoff. The study determined the rates and volume of runoff at the study point discussed has decreased. The included Proposed Watershed Plan (WS-2) outlines the boundaries and contributing watersheds for the Study Points.

The post-development analysis includes four subcatchment areas (P-1 through P-4).

- Subcatchment area P-1 includes the public right-of-way, a portion of the project's parking, and landscaped areas along the eastern side of the site. Runoff from this area is directed via sheet flow to the first of two bioretention systems, which is on the southeastern side of the site. The treatment provided by the bioretention system meets the City's objectives for pollutant removal. Stormwater will flow through the bioretention system before being piped to the gabion level spreader, located at the northwestern side of the site.

- Subcatchment area P-2 includes the remaining portion of the project's parking, concrete sidewalks, and landscaped areas along the southern side of the site. Runoff from this area is directed via sheet flow to the second bioretention system, which is on the southern side of the site. The treatment provided by the bioretention meets the City's objectives for pollutant removal. Stormwater will flow through the bioretention system before being piped to the gabion level spreader, located at the northwestern side of the site.

- Subcatchment P-3 includes clean runoff from the roof area of the proposed building. This runoff is collected via roof leaders and piped to the gabion level spreader, located on the northwestern side of the site.

- Subcatchment P-4 includes clean runoff from the deck and landscaped areas to the rear of the proposed building. Runoff from this subcatchment will sheet flow towards the study point.

SECTION 2.0

DISCUSSION

2.0 DISCUSSION

2.1 METHODOLOGY

The peak discharge rates were determined using techniques and data found in the following:

1. Northeast Regional Climate Center by Cornell University and the Natural Resources Conservation Service. 24-hour precipitation values were obtained from this reference.

2. HydroCAD© Storm water Modeling System by HydroCAD Software Solutions LLC, version 10.00-24, 2020. The HydroCAD program was used to generate the runoff hydrographs for the watershed areas, to determine discharge/stage/storage characteristics for the bioretention systems, to perform drainage routing and to combine the results of the runoff hydrographs.

3. Soil Survey of Strafford County, New Hampshire by the United States Department of Agriculture, Natural Resources Conservation Services (NRCS). Soil types and boundaries were obtained from this reference.

2.2 PEAK DISCHARGE RATES

The storm water runoff analysis of the existing and proposed conditions includes an estimation of the peak discharge rate from various rainfall events. Peak discharge rates were developed using TR-55 Urban Hydrology for Small Watersheds, developed by the U.S. Department of Commerce, Engineering Division and the HydroCAD 10.00 computer program. Further, the analysis has been prepared in accordance with the NH Stormwater Management Manual and standard engineering practices. The peak discharge rate has been estimated for each watershed during the 2, 10, 25, and 50-year storm events.

The stormwater runoff model shows that the proposed site design results in a decrease of the rate and volume of runoff during all storm events. This is accomplished by constructing two bioretention systems and reducing the amount of impervious material onsite. The table in *Section 1.4 Proposed Site Conditions* provides a summary of the estimated peak discharge rates for the study point during each of the design storm events. The HydroCAD worksheets are included in the Existing and Proposed Drainage Calculations section of this report.

2.3 PERFORMANCE STANDARDS

Stormwater performance standards have been implemented as part of the overall stormwater management plan for the proposed project. The City's Site Review Regulations state that these standards have been implemented for the purpose of:

a) Managing stormwater runoff to protect water quality and quantity;
b) Minimizing the contribution of a pollutant for which a water body is impaired to the maximum extent practicable;
c) Causing no discharge of runoff to an adjacent property in excess of runoff discharge in the existing developed condition;
d) Encouraging the use of Low Impact Development (LID) strategies

The performance standards are met by directing stormwater from onsite pavement to one of two bioretention systems (which are forms of LID) and implementing an Operation and Maintenance Plan. As outlined in Volume 1, Appendix E of the New Hampshire Stormwater Manual, a bioretention system will remove 99% of total suspended solids (TSS) and 65% of total nitrogen (TN) and total phosphorus (TP) from the stormwater

runoff. This far exceeds the City's removal requirements of 80% TSS and 50% TN and TP.

As discussed in Section 1 of this report, Rainfall data used for modeling the stormwater runoff was derived from the "Extreme Precipitation Tables" from the Northeast Regional Climate Center at Cornell University. By reducing the impervious area onsite and directing stormwater to the LID, the project has been designed such that the peak rate and volume of runoff from the site has been reduced for all design storm events, when comparing the proposed conditions to the existing, see summary table in Section 1.1 of this report.

Appropriate piping has been included in the HydroCAD model to ensure that stormwater can be conveyed during the 10-year storm event without overtopping the bioretention system and flooding the site. As shown in the attached HydroCAD worksheets, the pipes will pass the 50-year storm event without causing any site flooding.

The project does not propose work within the 100-year flood zone. Peak rates and volumes of runoff have been reduced for all design storm events, ensuring that the project will not increase future flooding potential.

SECTION 3.0

FIGURES

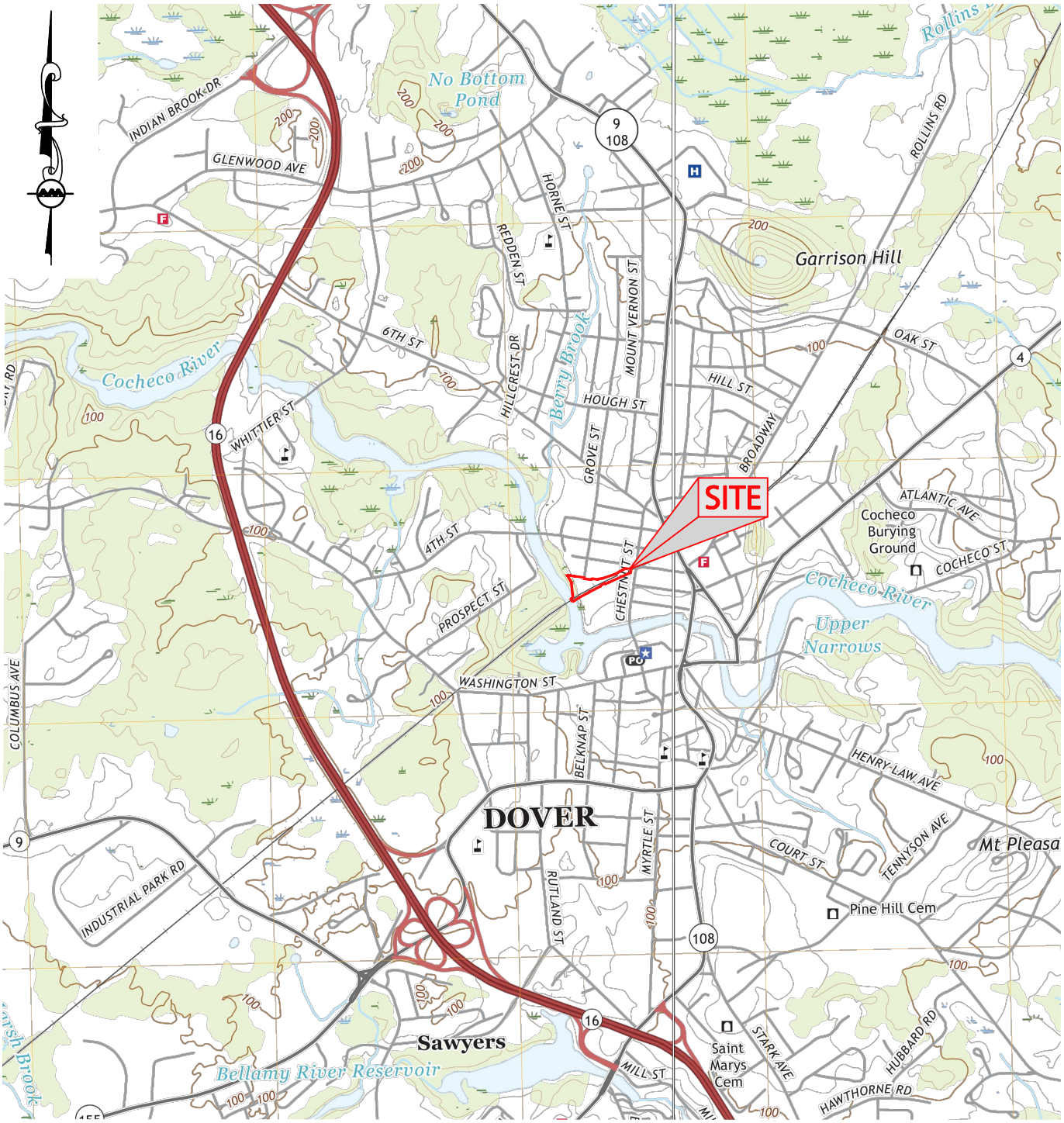

IMAGE SOURCE: USGS DOVER WEST & EAST QUADRANGLES, NEW HAMPSHIRE, 7.5 MINUTE SERIES, 2018

R:\PROJECTS\2464-03\WP\REPORTS\DRAINAGE\3.0 - FIGURES\BACKUP & CAD\2464-03_DRAINAGE FIGURES.DWG

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PROJECT:

#35/37 CHESTNUT STREET
MAP 31, LOT 4
DOVER, NH

USGS FIGURE

PROJECT NO.	2464-03	DATE:	08-12-20
SCALE:	1" = 2000'	DWG. NAME:	FIGURES
DESIGNED BY:	SM	CHECKED BY:	BDJ

APPLICANT: JEWETT CONSTRUCTION CO., LLC

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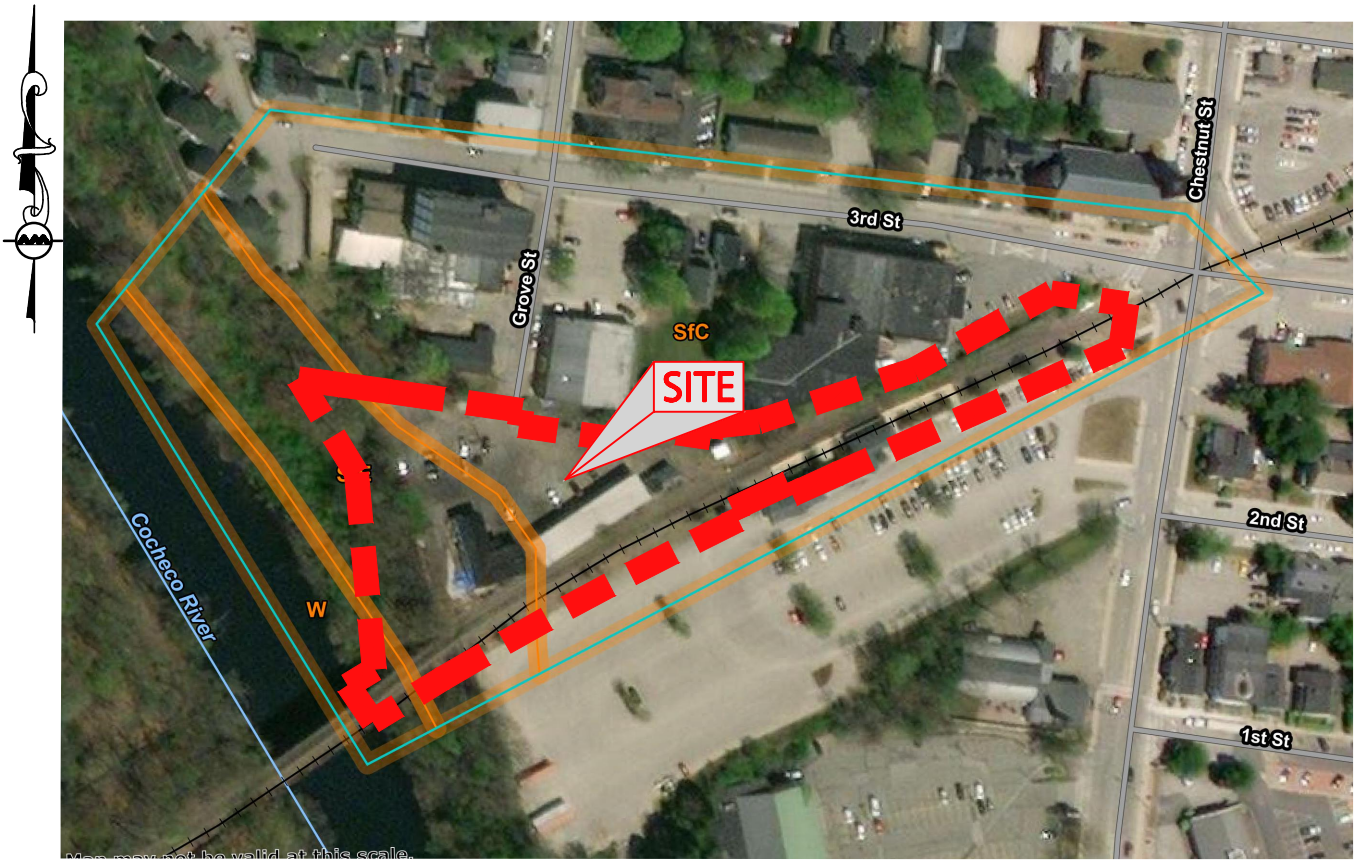
FIG-1



Custom Soil Resource Report

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
SfC	Suffield silt loam, 8 to 15 percent slopes	C	7.2	72.6%
SfE	Suffield silt loam, 15 to 35 percent slopes	C	1.8	18.6%
W	Water		0.9	8.9%
Totals for Area of Interest			**9.9**	**100.0%**

IMAGE SOURCE: NRCS SOIL REPORT FOR STRAFFORD COUNTY, PRINTED 08-04-20

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PROJECT:
#35/37 CHESTNUT STREET
MAP 31, LOT 4
DOVER, NH

NRCS SOIL SURVEY MAP

PROJECT NO.	2464-03	DATE:	08-12-20
SCALE:	1" = 200'	DWG. NAME:	FIGURES
DESIGNED BY:	SM	CHECKED BY:	BDJ

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FIG-2

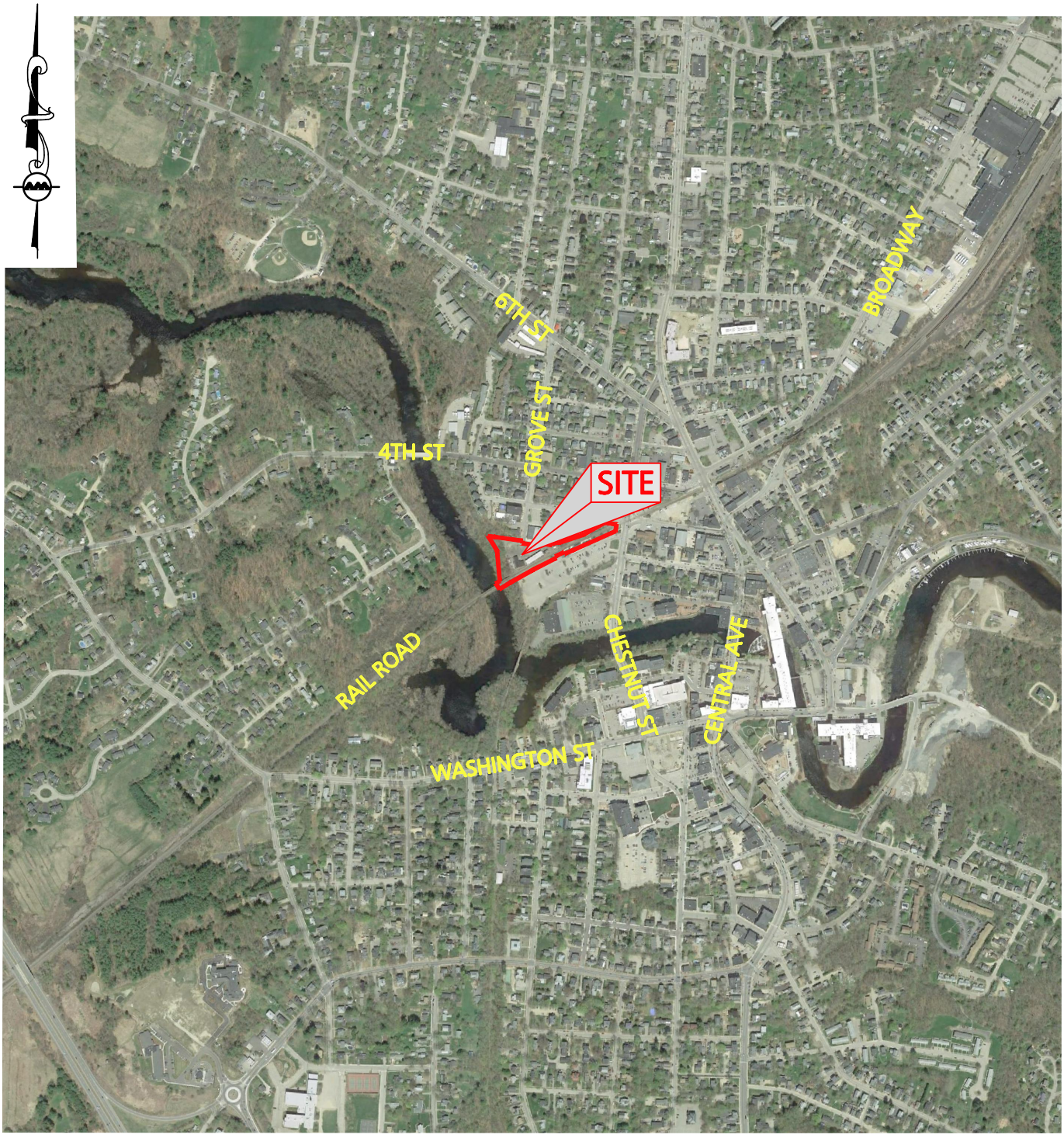

IMAGE SOURCE: GOOGLE EARTH

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environmental consultants ♦ landscape architects

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PROJECT:

#35/37 CHESTNUT STREET
MAP 31, LOT 4
DOVER, NH

AERIAL IMAGE

PROJECT NO.	2464-03	DATE:	08-12-20
SCALE:	1" = 1000'	DWG. NAME:	FIGURES
DESIGNED BY:	SM	CHECKED BY:	BDJ

APPLICANT: JEWETT CONSTRUCTION CO., LLC

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SHEET No.

FIG-3

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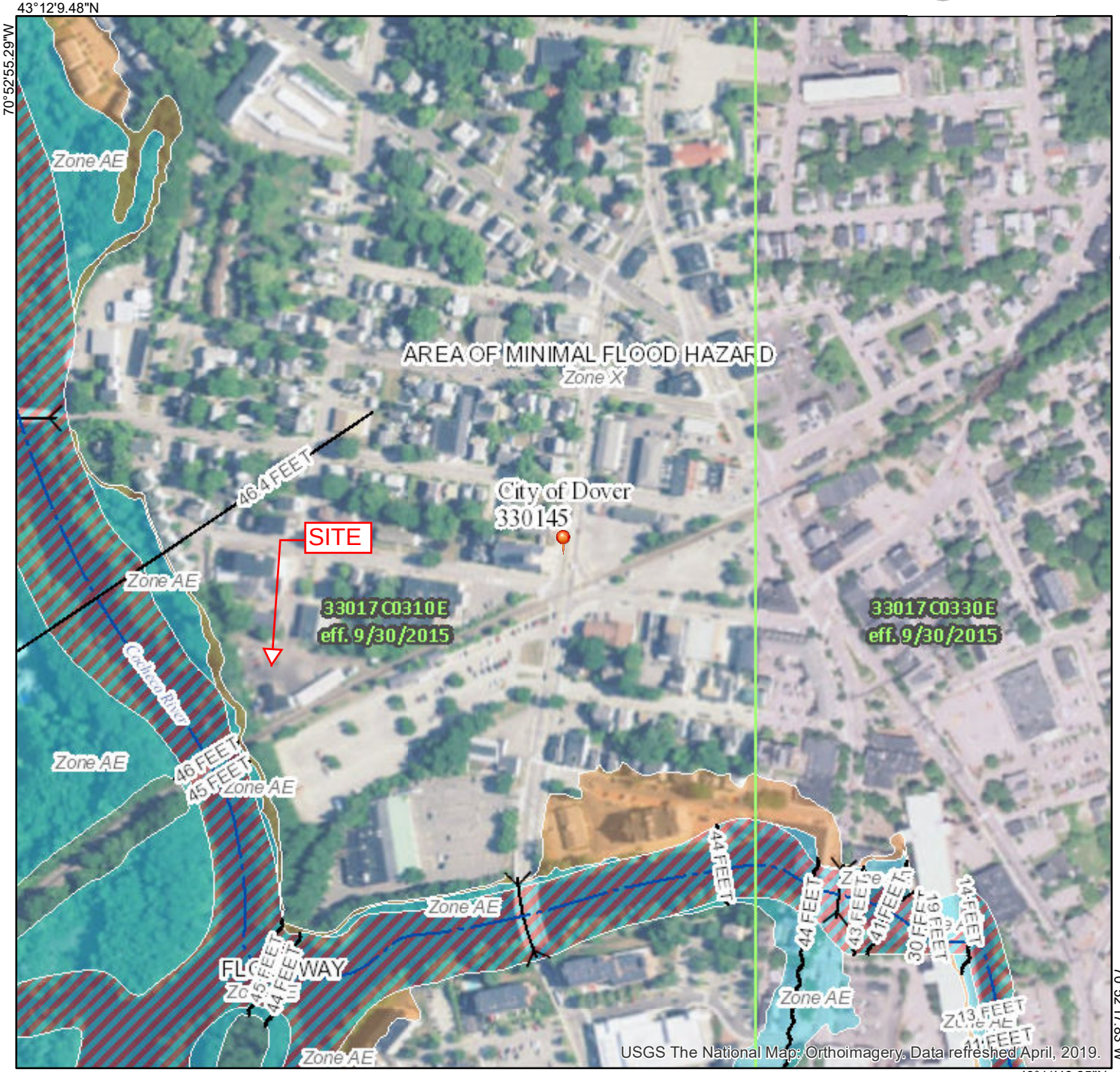
National Flood Hazard Layer FIRMette

FEMA



Feet

0 250 500 1,000 1,500 2,000

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

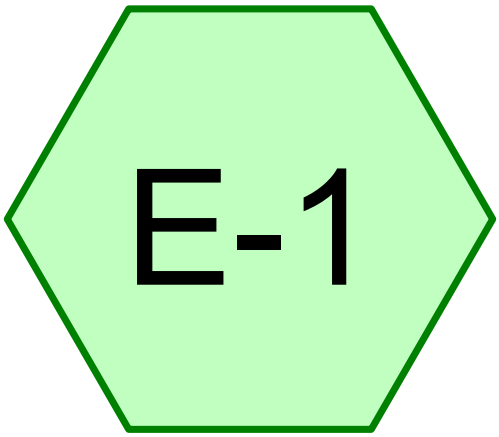
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/27/2020 at 11:31:18 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

SECTION 4.0

EXISTING DRAINAGE CALCULATIONS



Subcat E-1

Subcat Reach Pond Link

Routing Diagram for 2464-03_Existing-Conditions
Prepared by Allen & Major Associates, Inc., Printed 10/8/2020
HydroCAD® 10.00-26 s/n 02947 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
41,525	96	Gravel surface, HSG C (E-1)
993	98	Paved parking, HSG C (E-1)
7,944	98	Roofs, HSG C (E-1)
8,741	70	Woods, Good, HSG C (E-1)
59,202	**92**	**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	Subcatchment Numbers
0	0	41,525	0	0	41,525	Gravel surface	E-1
0	0	993	0	0	993	Paved parking	E-1
0	0	7,944	0	0	7,944	Roofs	E-1
0	0	8,741	0	0	8,741	Woods, Good	E-1
0	**0**	**59,202**	**0**	**0**	**59,202**	**TOTAL AREA**	

Notes Listing (all nodes)

Line#	Node Number	Notes
1	Project	Rainfall events imported from "NRCS-Rain.txt" for 6511 NH Grafton Northeast

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 E-1: Subcat E-1 Runoff Area=59,202 sf 15.09% Impervious Runoff Depth=2.30"
Tc=6.0 min CN=92 Runoff=3.81 cfs 11,363 cf

Total Runoff Area = 59,202 sf Runoff Volume = 11,363 cf Average Runoff Depth = 2.30"
84.91% Pervious = 50,266 sf 15.09% Impervious = 8,937 sf

Summary for Subcatchment E-1: Subcat E-1

Runoff = 3.81 cfs @ 12.13 hrs, Volume= 11,363 cf, Depth= 2.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 2-Year Rainfall=3.15"

Area (sf)	CN	Description
8,741	70	Woods, Good, HSG C
993	98	Paved parking, HSG C
7,944	98	Roofs, HSG C
41,525	96	Gravel surface, HSG C
59,202	92	Weighted Average
50,266		84.91% Pervious Area
8,937		15.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 E-1: Subcat E-1 Runoff Area=59,202 sf 15.09% Impervious Runoff Depth=3.85"
Tc=6.0 min CN=92 Runoff=6.17 cfs 18,971 cf

Total Runoff Area = 59,202 sf Runoff Volume = 18,971 cf Average Runoff Depth = 3.85"
84.91% Pervious = 50,266 sf 15.09% Impervious = 8,937 sf

Summary for Subcatchment E-1: Subcat E-1

Runoff = 6.17 cfs @ 12.13 hrs, Volume= 18,971 cf, Depth= 3.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 10-Year Rainfall=4.75"

Area (sf)	CN	Description
8,741	70	Woods, Good, HSG C
993	98	Paved parking, HSG C
7,944	98	Roofs, HSG C
41,525	96	Gravel surface, HSG C
59,202	92	Weighted Average
50,266		84.91% Pervious Area
8,937		15.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 E-1: Subcat E-1 Runoff Area=59,202 sf 15.09% Impervious Runoff Depth=5.07"
Tc=6.0 min CN=92 Runoff=7.99 cfs 25,010 cf

Total Runoff Area = 59,202 sf Runoff Volume = 25,010 cf Average Runoff Depth = 5.07"
84.91% Pervious = 50,266 sf 15.09% Impervious = 8,937 sf

Summary for Subcatchment E-1: Subcat E-1

Runoff = 7.99 cfs @ 12.13 hrs, Volume= 25,010 cf, Depth= 5.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 25-Year Rainfall=6.00"

Area (sf)	CN	Description
8,741	70	Woods, Good, HSG C
993	98	Paved parking, HSG C
7,944	98	Roofs, HSG C
41,525	96	Gravel surface, HSG C
59,202	92	Weighted Average
50,266		84.91% Pervious Area
8,937		15.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 E-1: Subcat E-1 Runoff Area=59,202 sf 15.09% Impervious Runoff Depth=6.22"
Tc=6.0 min CN=92 Runoff=9.69 cfs 30,700 cf

Total Runoff Area = 59,202 sf Runoff Volume = 30,700 cf Average Runoff Depth = 6.22"
84.91% Pervious = 50,266 sf 15.09% Impervious = 8,937 sf

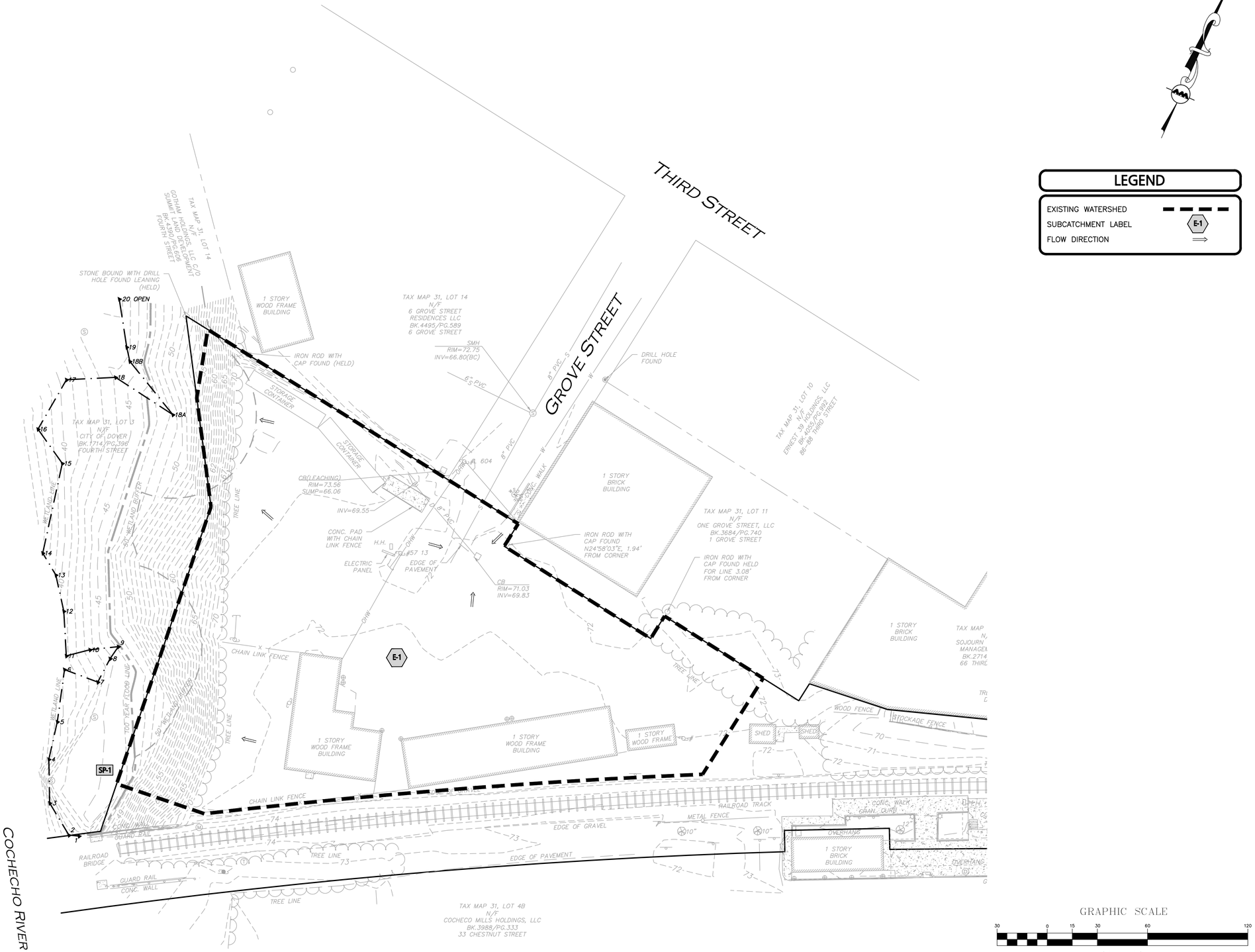
Summary for Subcatchment E-1: Subcat E-1

Runoff = 9.69 cfs @ 12.13 hrs, Volume= 30,700 cf, Depth= 6.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 50-Year Rainfall=7.17"

Area (sf)	CN	Description
8,741	70	Woods, Good, HSG C
993	98	Paved parking, HSG C
7,944	98	Roofs, HSG C
41,525	96	Gravel surface, HSG C
59,202	92	Weighted Average
50,266		84.91% Pervious Area
8,937		15.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**



DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

LEGEND

EXISTING WATERSHED

SUBCATCHMENT LABEL E-1

FLOW DIRECTION

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

REV	DATE	DESCRIPTION
1	10-14-20	REVISION 1

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
THE STATION
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	08-13-20
SCALE:	1" = 30'	DWG. NAME:	C-2464-03.dwg
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:

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civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
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DRAWING TITLE: EXISTING WATERSHED PLAN

SHEET No. WS-1

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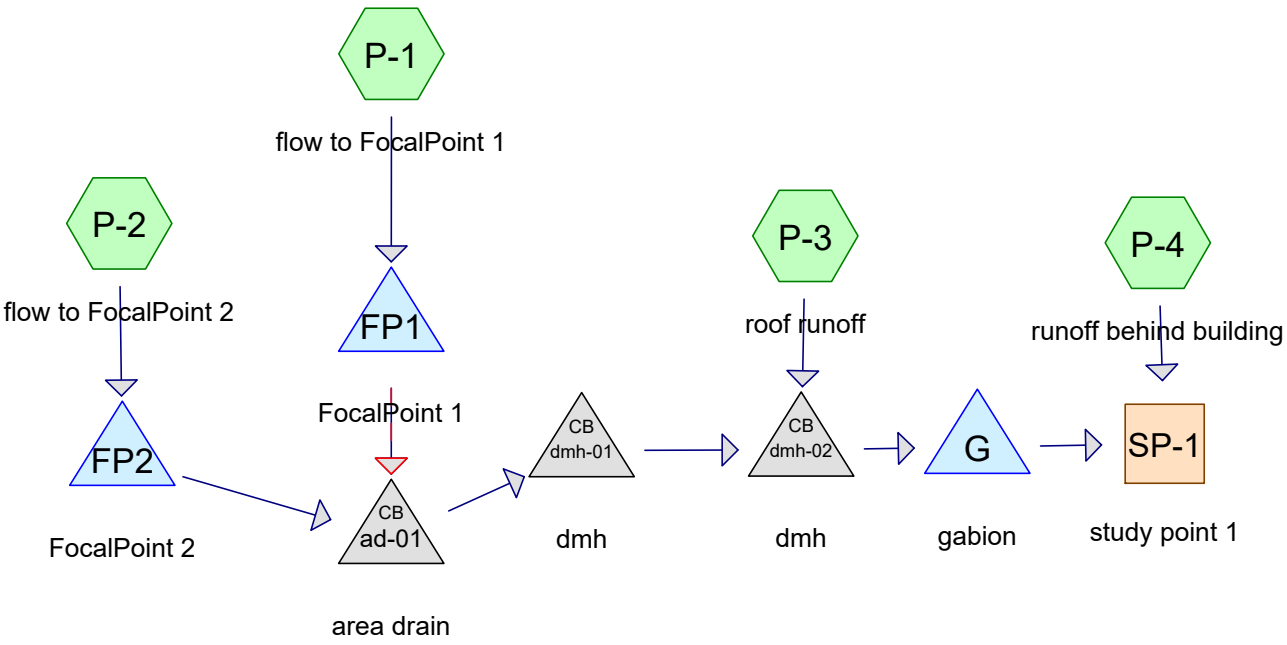
PLANNING BOARD FILE NUMBER: P20-56

R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_WATERSHED-EXISTING.DWG

SECTION 5.0

PROPOSED DRAINAGE CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for 2464-03_Proposed-Conditions
Prepared by Allen & Major Associates, Inc., Printed 10/9/2020
HydroCAD® 10.00-26 s/n 02947 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
19,492	74	>75% Grass cover, Good, HSG C (P-1, P-2, P-4)
20,339	98	Paved parking, HSG C (P-1, P-2, P-4)
19,371	98	Roofs, HSG C (P-3, P-4)
59,202	**90**	**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	Sub Num
0	0	19,492	0	0	19,492	>75% Grass cover, Good	
0	0	20,339	0	0	20,339	Paved parking	
0	0	19,371	0	0	19,371	Roofs	
0	**0**	**59,202**	**0**	**0**	**59,202**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	ad-01	65.00	63.73	127.0	0.0100	0.013	12.0	0.0	0.0
2	dmh-01	63.48	61.75	173.0	0.0100	0.013	15.0	0.0	0.0
3	dmh-02	60.53	60.00	11.0	0.0482	0.013	15.0	0.0	0.0
4	FP2	65.90	65.48	42.0	0.0100	0.013	12.0	0.0	0.0

Notes Listing (all nodes)

Line#	Node Number	Notes
1	Project	Rainfall events imported from "NRCS-Rain.txt" for 6511 NH Grafton Northeast

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 P-1: flow to FocalPoint 1 Runoff Area=23,919 sf 64.56% Impervious Runoff Depth=2.04"
Tc=6.0 min CN=89 Runoff=1.40 cfs 4,058 cf

Subcatchment P-2: flow to FocalPoint 2 Runoff Area=5,144 sf 58.89% Impervious Runoff Depth=1.95"
Tc=6.0 min CN=88 Runoff=0.29 cfs 837 cf

Subcatchment P-3: roof runoff Runoff Area=16,965 sf 100.00% Impervious Runoff Depth=2.92"
Tc=6.0 min CN=98 Runoff=1.25 cfs 4,125 cf

Subcatchment P-4: runoff behind building Runoff Area=13,174 sf 32.44% Impervious Runoff Depth=1.50"
Tc=6.0 min CN=82 Runoff=0.58 cfs 1,645 cf

Reach SP-1: study point 1 Inflow=2.14 cfs 10,664 cf
Outflow=2.14 cfs 10,664 cf

Pond ad-01: area drain Peak Elev=65.48' Inflow=0.89 cfs 4,895 cf
12.0" Round Culvert n=0.013 L=127.0' S=0.0100 '/' Outflow=0.89 cfs 4,895 cf

Pond dmh-01: dmh Peak Elev=63.93' Inflow=0.89 cfs 4,895 cf
15.0" Round Culvert n=0.013 L=173.0' S=0.0100 '/' Outflow=0.89 cfs 4,895 cf

Pond dmh-02: dmh Peak Elev=61.15' Inflow=1.65 cfs 9,020 cf
15.0" Round Culvert n=0.013 L=11.0' S=0.0482 '/' Outflow=1.65 cfs 9,020 cf

Pond FP1: FocalPoint 1 Peak Elev=69.64' Storage=683 cf Inflow=1.40 cfs 4,058 cf
Outflow=0.75 cfs 4,058 cf

Pond FP2: FocalPoint 2 Peak Elev=69.54' Storage=125 cf Inflow=0.29 cfs 837 cf
Outflow=0.15 cfs 837 cf

Pond G: gabion Peak Elev=60.43' Storage=9 cf Inflow=1.65 cfs 9,020 cf
Outflow=1.64 cfs 9,020 cf

Total Runoff Area = 59,202 sf Runoff Volume = 10,664 cf Average Runoff Depth = 2.16"
32.92% Pervious = 19,492 sf 67.08% Impervious = 39,710 sf

Summary for Subcatchment P-1: flow to FocalPoint 1

Runoff = 1.40 cfs @ 12.13 hrs, Volume= 4,058 cf, Depth= 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 2-Year Rainfall=3.15"

Area (sf)	CN	Description
15,442	98	Paved parking, HSG C
8,477	74	>75% Grass cover, Good, HSG C
23,919	89	Weighted Average
8,477		35.44% Pervious Area
15,442		64.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment P-2: flow to FocalPoint 2

Runoff = 0.29 cfs @ 12.13 hrs, Volume= 837 cf, Depth= 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 2-Year Rainfall=3.15"

Area (sf)	CN	Description
3,029	98	Paved parking, HSG C
2,115	74	>75% Grass cover, Good, HSG C
5,144	88	Weighted Average
2,115		41.11% Pervious Area
3,029		58.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment P-3: roof runoff

Runoff = 1.25 cfs @ 12.13 hrs, Volume= 4,125 cf, Depth= 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 2-Year Rainfall=3.15"

Area (sf)	CN	Description
16,965	98	Roofs, HSG C
16,965		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment P-4: runoff behind building

Runoff = 0.58 cfs @ 12.13 hrs, Volume= 1,645 cf, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 2-Year Rainfall=3.15"

Area (sf)	CN	Description
1,867	98	Paved parking, HSG C
8,900	74	>75% Grass cover, Good, HSG C
2,407	98	Roofs, HSG C
13,174	82	Weighted Average
8,900		67.56% Pervious Area
4,274		32.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Reach SP-1: study point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 59,202 sf, 67.08% Impervious, Inflow Depth = 2.16" for 2-Year event
Inflow = 2.14 cfs @ 12.16 hrs, Volume= 10,664 cf
Outflow = 2.14 cfs @ 12.16 hrs, Volume= 10,664 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Summary for Pond ad-01: area drain

Inflow Area = 29,063 sf, 63.56% Impervious, Inflow Depth = 2.02" for 2-Year event
Inflow = 0.89 cfs @ 12.22 hrs, Volume= 4,895 cf
Outflow = 0.89 cfs @ 12.22 hrs, Volume= 4,895 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.89 cfs @ 12.22 hrs, Volume= 4,895 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.48' @ 12.22 hrs
Flood Elev= 70.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 127.0' Ke= 0.500 Inlet / Outlet Invert= 65.00' / 63.73' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.89 cfs @ 12.22 hrs HW=65.48' TW=63.93' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.89 cfs @ 2.37 fps)

Summary for Pond dmh-01: dmh

Inflow Area = 29,063 sf, 63.56% Impervious, Inflow Depth = 2.02" for 2-Year event
Inflow = 0.89 cfs @ 12.22 hrs, Volume= 4,895 cf
Outflow = 0.89 cfs @ 12.22 hrs, Volume= 4,895 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.89 cfs @ 12.22 hrs, Volume= 4,895 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 63.93' @ 12.22 hrs
Flood Elev= 72.24'

Device	Routing	Invert	Outlet Devices
#1	Primary	63.48'	**15.0" Round Culvert** L= 173.0' Ke= 0.500 Inlet / Outlet Invert= 63.48' / 61.75' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.89 cfs @ 12.22 hrs HW=63.93' TW=61.13' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.89 cfs @ 2.27 fps)

Summary for Pond dmh-02: dmh

Inflow Area = 46,028 sf, 76.99% Impervious, Inflow Depth = 2.35" for 2-Year event
Inflow = 1.65 cfs @ 12.17 hrs, Volume= 9,020 cf
Outflow = 1.65 cfs @ 12.17 hrs, Volume= 9,020 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.65 cfs @ 12.17 hrs, Volume= 9,020 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.15' @ 12.17 hrs
Flood Elev= 70.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.53'	**15.0" Round Culvert** L= 11.0' Ke= 0.500 Inlet / Outlet Invert= 60.53' / 60.00' S= 0.0482 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.65 cfs @ 12.17 hrs HW=61.15' TW=60.42' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 1.65 cfs @ 2.69 fps)

Summary for Pond FP1: FocalPoint 1

Inflow Area = 23,919 sf, 64.56% Impervious, Inflow Depth = 2.04" for 2-Year event
Inflow = 1.40 cfs @ 12.13 hrs, Volume= 4,058 cf
Outflow = 0.75 cfs @ 12.22 hrs, Volume= 4,058 cf, Atten= 46%, Lag= 5.2 min
Primary = 0.75 cfs @ 12.22 hrs, Volume= 4,058 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 69.64' @ 12.22 hrs Surf.Area= 100 sf Storage= 683 cf
Flood Elev= 70.50' Surf.Area= 100 sf Storage= 1,885 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 11.7 min (831.4 - 819.7)

Volume	Invert	Avail.Storage	Storage Description
#1	66.75'	45 cf	**4.00'W x 25.00'L x 2.25'H FocalPoint** 225 cf Overall x 20.0% Voids
#2	69.00'	1,840 cf	**Surface Bowl Area (Irregular)** Listed below (Recalc) -Impervious
		1,885 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
69.00	876	130.0	0	0	876
70.00	1,296	149.0	1,079	1,079	1,320
70.50	1,758	180.0	761	1,840	2,136

Device	Routing	Invert	Outlet Devices
#1	Primary	66.75'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Primary	69.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.75 cfs @ 12.22 hrs HW=69.64' TW=65.48' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.23 cfs)
└─**2=Orifice/Grate** (Weir Controls 0.52 cfs @ 1.21 fps)

Summary for Pond FP2: FocalPoint 2

Inflow Area = 5,144 sf, 58.89% Impervious, Inflow Depth = 1.95" for 2-Year event
Inflow = 0.29 cfs @ 12.13 hrs, Volume= 837 cf
Outflow = 0.15 cfs @ 12.23 hrs, Volume= 837 cf, Atten= 50%, Lag= 5.8 min
Primary = 0.15 cfs @ 12.23 hrs, Volume= 837 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 69.54' @ 12.23 hrs Surf.Area= 30 sf Storage= 125 cf
Flood Elev= 70.50' Surf.Area= 30 sf Storage= 515 cf

Plug-Flow detention time= 7.5 min calculated for 837 cf (100% of inflow)
Center-of-Mass det. time= 7.5 min (831.7 - 824.1)

Volume	Invert	Avail.Storage	Storage Description
#1	66.75'	14 cf	**3.00'W x 10.00'L x 2.25'H FocalPoint** 68 cf Overall x 20.0% Voids
#2	69.00'	502 cf	**Surface Bowl Area (Irregular)** Listed below (Recalc) -Impervious
		515 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
69.00	157	61.0	0	0	157
70.00	369	80.0	256	256	382
70.50	626	112.0	246	502	873

Device	Routing	Invert	Outlet Devices
#1	Primary	65.90'	**12.0" Round Culvert** L= 42.0' Ke= 0.500 Inlet / Outlet Invert= 65.90' / 65.48' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	66.75'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#3	Device 1	69.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.15 cfs @ 12.23 hrs HW=69.54' TW=65.48' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.15 cfs of 6.56 cfs potential flow)
  ├─**2=Exfiltration** (Exfiltration Controls 0.07 cfs)
  └─**3=Orifice/Grate** (Weir Controls 0.08 cfs @ 0.64 fps)

Summary for Pond G: gabion

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=1)

Inflow Area = 46,028 sf, 76.99% Impervious, Inflow Depth = 2.35" for 2-Year event
Inflow = 1.65 cfs @ 12.17 hrs, Volume= 9,020 cf
Outflow = 1.64 cfs @ 12.18 hrs, Volume= 9,020 cf, Atten= 0%, Lag= 0.3 min
Primary = 1.64 cfs @ 12.18 hrs, Volume= 9,020 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.43' @ 12.18 hrs Surf.Area= 28 sf Storage= 9 cf
Flood Elev= 61.25' Surf.Area= 0 sf Storage= 29 cf

Plug-Flow detention time= 0.0 min calculated for 9,017 cf (100% of inflow)
Center-of-Mass det. time= 0.0 min (798.2 - 798.2)

Volume	Invert	Avail.Storage	Storage Description
#1	60.00'	29 cf	**15.0" Round Pipe Storage** L= 24.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.63'	**3.0" Vert. 3" outlet holes X 24.00** C= 0.600
#2	Primary	60.00'	**2.0" Horiz. 2" outlet holes X 24.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.64 cfs @ 12.18 hrs HW=60.42' TW=0.00' (Dynamic Tailwater)
└─**1=3" outlet holes** (Controls 0.00 cfs)
└─**2=2" outlet holes** (Orifice Controls 1.64 cfs @ 3.14 fps)

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 P-1: flow to FocalPoint 1 Runoff Area=23,919 sf 64.56% Impervious Runoff Depth=3.53"
Tc=6.0 min CN=89 Runoff=2.35 cfs 7,042 cf

Subcatchment P-2: flow to FocalPoint 2 Runoff Area=5,144 sf 58.89% Impervious Runoff Depth=3.43"
Tc=6.0 min CN=88 Runoff=0.50 cfs 1,471 cf

Subcatchment P-3: roof runoff Runoff Area=16,965 sf 100.00% Impervious Runoff Depth=4.51"
Tc=6.0 min CN=98 Runoff=1.90 cfs 6,381 cf

Subcatchment P-4: runoff behind building Runoff Area=13,174 sf 32.44% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=82 Runoff=1.09 cfs 3,136 cf

Reach SP-1: study point 1 Inflow=5.42 cfs 18,030 cf
Outflow=5.42 cfs 18,030 cf

Pond ad-01: area drain Peak Elev=65.95' Inflow=2.56 cfs 8,514 cf
12.0" Round Culvert n=0.013 L=127.0' S=0.0100 '/' Outflow=2.56 cfs 8,514 cf

Pond dmh-01: dmh Peak Elev=64.29' Inflow=2.56 cfs 8,514 cf
15.0" Round Culvert n=0.013 L=173.0' S=0.0100 '/' Outflow=2.56 cfs 8,514 cf

Pond dmh-02: dmh Peak Elev=61.69' Inflow=4.35 cfs 14,895 cf
15.0" Round Culvert n=0.013 L=11.0' S=0.0482 '/' Outflow=4.35 cfs 14,895 cf

Pond FP1: FocalPoint 1 Peak Elev=69.82' Storage=897 cf Inflow=2.35 cfs 7,042 cf
Outflow=2.09 cfs 7,042 cf

Pond FP2: FocalPoint 2 Peak Elev=69.62' Storage=146 cf Inflow=0.50 cfs 1,471 cf
Outflow=0.48 cfs 1,471 cf

Pond G: gabion Peak Elev=60.88' Storage=22 cf Inflow=4.35 cfs 14,895 cf
Outflow=4.36 cfs 14,895 cf

Total Runoff Area = 59,202 sf Runoff Volume = 18,030 cf Average Runoff Depth = 3.65"
32.92% Pervious = 19,492 sf 67.08% Impervious = 39,710 sf

Summary for Subcatchment P-1: flow to FocalPoint 1

Runoff = 2.35 cfs @ 12.13 hrs, Volume= 7,042 cf, Depth= 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 10-Year Rainfall=4.75"

Area (sf)	CN	Description
15,442	98	Paved parking, HSG C
8,477	74	>75% Grass cover, Good, HSG C
23,919	89	Weighted Average
8,477		35.44% Pervious Area
15,442		64.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment P-2: flow to FocalPoint 2

Runoff = 0.50 cfs @ 12.13 hrs, Volume= 1,471 cf, Depth= 3.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 10-Year Rainfall=4.75"

Area (sf)	CN	Description
3,029	98	Paved parking, HSG C
2,115	74	>75% Grass cover, Good, HSG C
5,144	88	Weighted Average
2,115		41.11% Pervious Area
3,029		58.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment P-3: roof runoff

Runoff = 1.90 cfs @ 12.13 hrs, Volume= 6,381 cf, Depth= 4.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 10-Year Rainfall=4.75"

Area (sf)	CN	Description
16,965	98	Roofs, HSG C
16,965		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment P-4: runoff behind building

Runoff = 1.09 cfs @ 12.13 hrs, Volume= 3,136 cf, Depth= 2.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 10-Year Rainfall=4.75"

Area (sf)	CN	Description
1,867	98	Paved parking, HSG C
8,900	74	>75% Grass cover, Good, HSG C
2,407	98	Roofs, HSG C
13,174	82	Weighted Average
8,900		67.56% Pervious Area
4,274		32.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Reach SP-1: study point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 59,202 sf, 67.08% Impervious, Inflow Depth = 3.65" for 10-Year event
Inflow = 5.42 cfs @ 12.14 hrs, Volume= 18,030 cf
Outflow = 5.42 cfs @ 12.14 hrs, Volume= 18,030 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Summary for Pond ad-01: area drain

Inflow Area = 29,063 sf, 63.56% Impervious, Inflow Depth = 3.52" for 10-Year event
Inflow = 2.56 cfs @ 12.16 hrs, Volume= 8,514 cf
Outflow = 2.56 cfs @ 12.16 hrs, Volume= 8,514 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.56 cfs @ 12.16 hrs, Volume= 8,514 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.95' @ 12.16 hrs
Flood Elev= 70.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 127.0' Ke= 0.500 Inlet / Outlet Invert= 65.00' / 63.73' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.55 cfs @ 12.16 hrs HW=65.95' TW=64.28' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 2.55 cfs @ 3.32 fps)

Summary for Pond dmh-01: dmh

Inflow Area = 29,063 sf, 63.56% Impervious, Inflow Depth = 3.52" for 10-Year event
Inflow = 2.56 cfs @ 12.16 hrs, Volume= 8,514 cf
Outflow = 2.56 cfs @ 12.16 hrs, Volume= 8,514 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.56 cfs @ 12.16 hrs, Volume= 8,514 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.29' @ 12.16 hrs
Flood Elev= 72.24'

Device	Routing	Invert	Outlet Devices
#1	Primary	63.48'	**15.0" Round Culvert** L= 173.0' Ke= 0.500 Inlet / Outlet Invert= 63.48' / 61.75' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.55 cfs @ 12.16 hrs HW=64.28' TW=61.67' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.55 cfs @ 3.05 fps)

Summary for Pond dmh-02: dmh

Inflow Area = 46,028 sf, 76.99% Impervious, Inflow Depth = 3.88" for 10-Year event
Inflow = 4.35 cfs @ 12.14 hrs, Volume= 14,895 cf
Outflow = 4.35 cfs @ 12.14 hrs, Volume= 14,895 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.35 cfs @ 12.14 hrs, Volume= 14,895 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.69' @ 12.14 hrs
Flood Elev= 70.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.53'	**15.0" Round Culvert** L= 11.0' Ke= 0.500 Inlet / Outlet Invert= 60.53' / 60.00' S= 0.0482 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=4.34 cfs @ 12.14 hrs HW=61.69' TW=60.88' (Dynamic Tailwater)
1=Culvert (Inlet Controls 4.34 cfs @ 3.66 fps)

Summary for Pond FP1: FocalPoint 1

Inflow Area = 23,919 sf, 64.56% Impervious, Inflow Depth = 3.53" for 10-Year event
Inflow = 2.35 cfs @ 12.13 hrs, Volume= 7,042 cf
Outflow = 2.09 cfs @ 12.16 hrs, Volume= 7,042 cf, Atten= 11%, Lag= 1.9 min
Primary = 2.09 cfs @ 12.16 hrs, Volume= 7,042 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 69.82' @ 12.16 hrs Surf.Area= 100 sf Storage= 897 cf
Flood Elev= 70.50' Surf.Area= 100 sf Storage= 1,885 cf

Plug-Flow detention time= 10.8 min calculated for 7,040 cf (100% of inflow)
Center-of-Mass det. time= 10.8 min (813.2 - 802.5)

Volume	Invert	Avail.Storage	Storage Description
#1	66.75'	45 cf	**4.00'W x 25.00'L x 2.25'H FocalPoint** 225 cf Overall x 20.0% Voids
#2	69.00'	1,840 cf	**Surface Bowl Area (Irregular)** Listed below (Recalc) -Impervious
		1,885 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
69.00	876	130.0	0	0	876
70.00	1,296	149.0	1,079	1,079	1,320
70.50	1,758	180.0	761	1,840	2,136

Device	Routing	Invert	Outlet Devices
#1	Primary	66.75'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Primary	69.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.08 cfs @ 12.16 hrs HW=69.82' TW=65.95' (Dynamic Tailwater)
- **1=Exfiltration** (Exfiltration Controls 0.23 cfs)
- **2=Orifice/Grate** (Weir Controls 1.85 cfs @ 1.85 fps)

Summary for Pond FP2: FocalPoint 2

Inflow Area = 5,144 sf, 58.89% Impervious, Inflow Depth = 3.43" for 10-Year event
Inflow = 0.50 cfs @ 12.13 hrs, Volume= 1,471 cf
Outflow = 0.48 cfs @ 12.14 hrs, Volume= 1,471 cf, Atten= 2%, Lag= 0.9 min
Primary = 0.48 cfs @ 12.14 hrs, Volume= 1,471 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 69.62' @ 12.14 hrs Surf.Area= 30 sf Storage= 146 cf
Flood Elev= 70.50' Surf.Area= 30 sf Storage= 515 cf

Plug-Flow detention time= 7.0 min calculated for 1,471 cf (100% of inflow)
Center-of-Mass det. time= 7.0 min (813.4 - 806.4)

Volume	Invert	Avail.Storage	Storage Description
#1	66.75'	14 cf	**3.00'W x 10.00'L x 2.25'H FocalPoint** 68 cf Overall x 20.0% Voids
#2	69.00'	502 cf	**Surface Bowl Area (Irregular)** Listed below (Recalc) -Impervious
		515 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
69.00	157	61.0	0	0	157
70.00	369	80.0	256	256	382
70.50	626	112.0	246	502	873

Device	Routing	Invert	Outlet Devices
#1	Primary	65.90'	**12.0" Round Culvert** L= 42.0' Ke= 0.500 Inlet / Outlet Invert= 65.90' / 65.48' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	66.75'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#3	Device 1	69.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.48 cfs @ 12.14 hrs HW=69.62' TW=65.93' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.48 cfs of 6.65 cfs potential flow)
  ├─**2=Exfiltration** (Exfiltration Controls 0.07 cfs)
  └─**3=Orifice/Grate** (Weir Controls 0.41 cfs @ 1.12 fps)

Summary for Pond G: gabion

Inflow Area = 46,028 sf, 76.99% Impervious, Inflow Depth = 3.88" for 10-Year event
Inflow = 4.35 cfs @ 12.14 hrs, Volume= 14,895 cf
Outflow = 4.36 cfs @ 12.15 hrs, Volume= 14,895 cf, Atten= 0%, Lag= 0.1 min
Primary = 4.36 cfs @ 12.15 hrs, Volume= 14,895 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.88' @ 12.15 hrs Surf.Area= 27 sf Storage= 22 cf
Flood Elev= 61.25' Surf.Area= 0 sf Storage= 29 cf

Plug-Flow detention time= 0.0 min calculated for 14,890 cf (100% of inflow)
Center-of-Mass det. time= 0.0 min (786.3 - 786.3)

Volume	Invert	Avail.Storage	Storage Description
#1	60.00'	29 cf	**15.0" Round Pipe Storage** L= 24.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.63'	**3.0" Vert. 3" outlet holes X 24.00** C= 0.600
#2	Primary	60.00'	**2.0" Horiz. 2" outlet holes X 24.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.34 cfs @ 12.15 hrs HW=60.88' TW=0.00' (Dynamic Tailwater)
└─**1=3" outlet holes** (Orifice Controls 1.98 cfs @ 1.69 fps)
└─**2=2" outlet holes** (Orifice Controls 2.36 cfs @ 4.51 fps)

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 P-1: flow to FocalPoint 1 Runoff Area=23,919 sf 64.56% Impervious Runoff Depth=4.74"
Tc=6.0 min CN=89 Runoff=3.10 cfs 9,439 cf

Subcatchment P-2: flow to FocalPoint 2 Runoff Area=5,144 sf 58.89% Impervious Runoff Depth=4.63"
Tc=6.0 min CN=88 Runoff=0.66 cfs 1,983 cf

Subcatchment P-3: roof runoff Runoff Area=16,965 sf 100.00% Impervious Runoff Depth=5.76"
Tc=6.0 min CN=98 Runoff=2.41 cfs 8,146 cf

Subcatchment P-4: runoff behind building Runoff Area=13,174 sf 32.44% Impervious Runoff Depth=3.99"
Tc=6.0 min CN=82 Runoff=1.50 cfs 4,377 cf

Reach SP-1: study point 1 Inflow=7.14 cfs 23,945 cf
Outflow=7.14 cfs 23,945 cf

Pond ad-01: area drain Peak Elev=66.26' Inflow=3.30 cfs 11,422 cf
12.0" Round Culvert n=0.013 L=127.0' S=0.0100 '/' Outflow=3.30 cfs 11,422 cf

Pond dmh-01: dmh Peak Elev=64.43' Inflow=3.30 cfs 11,422 cf
15.0" Round Culvert n=0.013 L=173.0' S=0.0100 '/' Outflow=3.30 cfs 11,422 cf

Pond dmh-02: dmh Peak Elev=62.07' Inflow=5.65 cfs 19,568 cf
15.0" Round Culvert n=0.013 L=11.0' S=0.0482 '/' Outflow=5.65 cfs 19,568 cf

Pond FP1: FocalPoint 1 Peak Elev=69.92' Storage=1,020 cf Inflow=3.10 cfs 9,439 cf
Outflow=2.68 cfs 9,439 cf

Pond FP2: FocalPoint 2 Peak Elev=69.65' Storage=154 cf Inflow=0.66 cfs 1,983 cf
Outflow=0.65 cfs 1,983 cf

Pond G: gabion Peak Elev=61.05' Storage=26 cf Inflow=5.65 cfs 19,568 cf
Outflow=5.65 cfs 19,568 cf

Total Runoff Area = 59,202 sf Runoff Volume = 23,945 cf Average Runoff Depth = 4.85"
32.92% Pervious = 19,492 sf 67.08% Impervious = 39,710 sf

Summary for Subcatchment P-1: flow to FocalPoint 1

Runoff = 3.10 cfs @ 12.13 hrs, Volume= 9,439 cf, Depth= 4.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 25-Year Rainfall=6.00"

Area (sf)	CN	Description
15,442	98	Paved parking, HSG C
8,477	74	>75% Grass cover, Good, HSG C
23,919	89	Weighted Average
8,477		35.44% Pervious Area
15,442		64.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment P-2: flow to FocalPoint 2

Runoff = 0.66 cfs @ 12.13 hrs, Volume= 1,983 cf, Depth= 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 25-Year Rainfall=6.00"

Area (sf)	CN	Description
3,029	98	Paved parking, HSG C
2,115	74	>75% Grass cover, Good, HSG C
5,144	88	Weighted Average
2,115		41.11% Pervious Area
3,029		58.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment P-3: roof runoff

Runoff = 2.41 cfs @ 12.13 hrs, Volume= 8,146 cf, Depth= 5.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 25-Year Rainfall=6.00"

Area (sf)	CN	Description
16,965	98	Roofs, HSG C
16,965		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment P-4: runoff behind building

Runoff = 1.50 cfs @ 12.13 hrs, Volume= 4,377 cf, Depth= 3.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 25-Year Rainfall=6.00"

Area (sf)	CN	Description
1,867	98	Paved parking, HSG C
8,900	74	>75% Grass cover, Good, HSG C
2,407	98	Roofs, HSG C
13,174	82	Weighted Average
8,900		67.56% Pervious Area
4,274		32.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Reach SP-1: study point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 59,202 sf, 67.08% Impervious, Inflow Depth = 4.85" for 25-Year event
Inflow = 7.14 cfs @ 12.14 hrs, Volume= 23,945 cf
Outflow = 7.14 cfs @ 12.14 hrs, Volume= 23,945 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Summary for Pond ad-01: area drain

Inflow Area = 29,063 sf, 63.56% Impervious, Inflow Depth = 4.72" for 25-Year event
Inflow = 3.30 cfs @ 12.15 hrs, Volume= 11,422 cf
Outflow = 3.30 cfs @ 12.15 hrs, Volume= 11,422 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.30 cfs @ 12.15 hrs, Volume= 11,422 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.26' @ 12.15 hrs
Flood Elev= 70.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 127.0' Ke= 0.500 Inlet / Outlet Invert= 65.00' / 63.73' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.30 cfs @ 12.15 hrs HW=66.26' TW=64.43' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 3.30 cfs @ 4.20 fps)

Summary for Pond dmh-01: dmh

Inflow Area = 29,063 sf, 63.56% Impervious, Inflow Depth = 4.72" for 25-Year event
Inflow = 3.30 cfs @ 12.15 hrs, Volume= 11,422 cf
Outflow = 3.30 cfs @ 12.15 hrs, Volume= 11,422 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.30 cfs @ 12.15 hrs, Volume= 11,422 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.43' @ 12.15 hrs
Flood Elev= 72.24'

Device	Routing	Invert	Outlet Devices
#1	Primary	63.48'	**15.0" Round Culvert** L= 173.0' Ke= 0.500 Inlet / Outlet Invert= 63.48' / 61.75' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.30 cfs @ 12.15 hrs HW=64.43' TW=62.03' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.30 cfs @ 3.31 fps)

Summary for Pond dmh-02: dmh

Inflow Area = 46,028 sf, 76.99% Impervious, Inflow Depth = 5.10" for 25-Year event
Inflow = 5.65 cfs @ 12.14 hrs, Volume= 19,568 cf
Outflow = 5.65 cfs @ 12.14 hrs, Volume= 19,568 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.65 cfs @ 12.14 hrs, Volume= 19,568 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.07' @ 12.14 hrs
Flood Elev= 70.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.53'	**15.0" Round Culvert** L= 11.0' Ke= 0.500 Inlet / Outlet Invert= 60.53' / 60.00' S= 0.0482 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=5.64 cfs @ 12.14 hrs HW=62.07' TW=61.05' (Dynamic Tailwater)
1=Culvert (Inlet Controls 5.64 cfs @ 4.60 fps)

Summary for Pond FP1: FocalPoint 1

Inflow Area = 23,919 sf, 64.56% Impervious, Inflow Depth = 4.74" for 25-Year event
Inflow = 3.10 cfs @ 12.13 hrs, Volume= 9,439 cf
Outflow = 2.68 cfs @ 12.16 hrs, Volume= 9,439 cf, Atten= 14%, Lag= 2.1 min
Primary = 2.68 cfs @ 12.16 hrs, Volume= 9,439 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 69.92' @ 12.16 hrs Surf.Area= 100 sf Storage= 1,020 cf
Flood Elev= 70.50' Surf.Area= 100 sf Storage= 1,885 cf

Plug-Flow detention time= 10.5 min calculated for 9,436 cf (100% of inflow)
Center-of-Mass det. time= 10.5 min (804.0 - 793.5)

Volume	Invert	Avail.Storage	Storage Description
#1	66.75'	45 cf	**4.00'W x 25.00'L x 2.25'H FocalPoint** 225 cf Overall x 20.0% Voids
#2	69.00'	1,840 cf	**Surface Bowl Area (Irregular)** Listed below (Recalc) -Impervious
		1,885 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
69.00	876	130.0	0	0	876
70.00	1,296	149.0	1,079	1,079	1,320
70.50	1,758	180.0	761	1,840	2,136

Device	Routing	Invert	Outlet Devices
#1	Primary	66.75'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Primary	69.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.68 cfs @ 12.16 hrs HW=69.92' TW=66.25' (Dynamic Tailwater)
└**1=Exfiltration** (Exfiltration Controls 0.23 cfs)
└**2=Orifice/Grate** (Orifice Controls 2.44 cfs @ 3.11 fps)

Summary for Pond FP2: FocalPoint 2

Inflow Area = 5,144 sf, 58.89% Impervious, Inflow Depth = 4.63" for 25-Year event
Inflow = 0.66 cfs @ 12.13 hrs, Volume= 1,983 cf
Outflow = 0.65 cfs @ 12.14 hrs, Volume= 1,983 cf, Atten= 2%, Lag= 0.7 min
Primary = 0.65 cfs @ 12.14 hrs, Volume= 1,983 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 69.65' @ 12.14 hrs Surf.Area= 30 sf Storage= 154 cf
Flood Elev= 70.50' Surf.Area= 30 sf Storage= 515 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 6.8 min (804.0 - 797.2)

Volume	Invert	Avail.Storage	Storage Description
#1	66.75'	14 cf	**3.00'W x 10.00'L x 2.25'H FocalPoint** 68 cf Overall x 20.0% Voids
#2	69.00'	502 cf	**Surface Bowl Area (Irregular)** Listed below (Recalc) -Impervious
		515 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
69.00	157	61.0	0	0	157
70.00	369	80.0	256	256	382
70.50	626	112.0	246	502	873

Device	Routing	Invert	Outlet Devices
#1	Primary	65.90'	**12.0" Round Culvert** L= 42.0' Ke= 0.500 Inlet / Outlet Invert= 65.90' / 65.48' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	66.75'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#3	Device 1	69.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.64 cfs @ 12.14 hrs HW=69.65' TW=66.25' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.64 cfs of 6.68 cfs potential flow)
  ├─**2=Exfiltration** (Exfiltration Controls 0.07 cfs)
  └─**3=Orifice/Grate** (Weir Controls 0.57 cfs @ 1.25 fps)

Summary for Pond G: gabion

Inflow Area = 46,028 sf, 76.99% Impervious, Inflow Depth = 5.10" for 25-Year event
Inflow = 5.65 cfs @ 12.14 hrs, Volume= 19,568 cf
Outflow = 5.65 cfs @ 12.14 hrs, Volume= 19,568 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.65 cfs @ 12.14 hrs, Volume= 19,568 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.05' @ 12.14 hrs Surf.Area= 22 sf Storage= 26 cf
Flood Elev= 61.25' Surf.Area= 0 sf Storage= 29 cf

Plug-Flow detention time= 0.0 min calculated for 19,561 cf (100% of inflow)
Center-of-Mass det. time= 0.0 min (780.0 - 779.9)

Volume	Invert	Avail.Storage	Storage Description
#1	60.00'	29 cf	**15.0" Round Pipe Storage** L= 24.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.63'	**3.0" Vert. 3" outlet holes X 24.00** C= 0.600
#2	Primary	60.00'	**2.0" Horiz. 2" outlet holes X 24.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.64 cfs @ 12.14 hrs HW=61.05' TW=0.00' (Dynamic Tailwater)
├─**1=3" outlet holes** (Orifice Controls 3.06 cfs @ 2.60 fps)
└─**2=2" outlet holes** (Orifice Controls 2.58 cfs @ 4.93 fps)

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 P-1: flow to FocalPoint 1 Runoff Area=23,919 sf 64.56% Impervious Runoff Depth=5.87"
Tc=6.0 min CN=89 Runoff=3.79 cfs 11,709 cf

Subcatchment P-2: flow to FocalPoint 2 Runoff Area=5,144 sf 58.89% Impervious Runoff Depth=5.76"
Tc=6.0 min CN=88 Runoff=0.81 cfs 2,469 cf

Subcatchment P-3: roof runoff Runoff Area=16,965 sf 100.00% Impervious Runoff Depth=6.93"
Tc=6.0 min CN=98 Runoff=2.88 cfs 9,798 cf

Subcatchment P-4: runoff behind building Runoff Area=13,174 sf 32.44% Impervious Runoff Depth=5.08"
Tc=6.0 min CN=82 Runoff=1.88 cfs 5,572 cf

Reach SP-1: study point 1 Inflow=8.44 cfs 29,548 cf
Outflow=8.44 cfs 29,548 cf

Pond ad-01: area drain Peak Elev=66.71' Inflow=3.78 cfs 14,177 cf
12.0" Round Culvert n=0.013 L=127.0' S=0.0100 '/' Outflow=3.78 cfs 14,177 cf

Pond dmh-01: dmh Peak Elev=64.52' Inflow=3.78 cfs 14,177 cf
15.0" Round Culvert n=0.013 L=173.0' S=0.0100 '/' Outflow=3.78 cfs 14,177 cf

Pond dmh-02: dmh Peak Elev=62.44' Inflow=6.57 cfs 23,976 cf
15.0" Round Culvert n=0.013 L=11.0' S=0.0482 '/' Outflow=6.57 cfs 23,976 cf

Pond FP1: FocalPoint 1 Peak Elev=70.05' Storage=1,190 cf Inflow=3.79 cfs 11,709 cf
Outflow=3.04 cfs 11,709 cf

Pond FP2: FocalPoint 2 Peak Elev=69.67' Storage=161 cf Inflow=0.81 cfs 2,469 cf
Outflow=0.79 cfs 2,469 cf

Pond G: gabion Peak Elev=61.20' Storage=29 cf Inflow=6.57 cfs 23,976 cf
Outflow=6.57 cfs 23,976 cf

Total Runoff Area = 59,202 sf Runoff Volume = 29,548 cf Average Runoff Depth = 5.99"
32.92% Pervious = 19,492 sf 67.08% Impervious = 39,710 sf

Summary for Subcatchment P-1: flow to FocalPoint 1

Runoff = 3.79 cfs @ 12.13 hrs, Volume= 11,709 cf, Depth= 5.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 50-Year Rainfall=7.17"

Area (sf)	CN	Description
15,442	98	Paved parking, HSG C
8,477	74	>75% Grass cover, Good, HSG C
23,919	89	Weighted Average
8,477		35.44% Pervious Area
15,442		64.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment P-2: flow to FocalPoint 2

Runoff = 0.81 cfs @ 12.13 hrs, Volume= 2,469 cf, Depth= 5.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 50-Year Rainfall=7.17"

Area (sf)	CN	Description
3,029	98	Paved parking, HSG C
2,115	74	>75% Grass cover, Good, HSG C
5,144	88	Weighted Average
2,115		41.11% Pervious Area
3,029		58.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment P-3: roof runoff

Runoff = 2.88 cfs @ 12.13 hrs, Volume= 9,798 cf, Depth= 6.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 50-Year Rainfall=7.17"

Area (sf)	CN	Description
16,965	98	Roofs, HSG C
16,965		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment P-4: runoff behind building

Runoff = 1.88 cfs @ 12.13 hrs, Volume= 5,572 cf, Depth= 5.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 50-Year Rainfall=7.17"

Area (sf)	CN	Description
1,867	98	Paved parking, HSG C
8,900	74	>75% Grass cover, Good, HSG C
2,407	98	Roofs, HSG C
13,174	82	Weighted Average
8,900		67.56% Pervious Area
4,274		32.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Reach SP-1: study point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 59,202 sf, 67.08% Impervious, Inflow Depth = 5.99" for 50-Year event
Inflow = 8.44 cfs @ 12.14 hrs, Volume= 29,548 cf
Outflow = 8.44 cfs @ 12.14 hrs, Volume= 29,548 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Summary for Pond ad-01: area drain

Inflow Area = 29,063 sf, 63.56% Impervious, Inflow Depth = 5.85" for 50-Year event
Inflow = 3.78 cfs @ 12.16 hrs, Volume= 14,177 cf
Outflow = 3.78 cfs @ 12.16 hrs, Volume= 14,177 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.78 cfs @ 12.16 hrs, Volume= 14,177 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.71' @ 12.16 hrs
Flood Elev= 70.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 127.0' Ke= 0.500 Inlet / Outlet Invert= 65.00' / 63.73' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.78 cfs @ 12.16 hrs HW=66.70' TW=64.52' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 3.78 cfs @ 4.81 fps)

Summary for Pond dmh-01: dmh

Inflow Area = 29,063 sf, 63.56% Impervious, Inflow Depth = 5.85" for 50-Year event
Inflow = 3.78 cfs @ 12.16 hrs, Volume= 14,177 cf
Outflow = 3.78 cfs @ 12.16 hrs, Volume= 14,177 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.78 cfs @ 12.16 hrs, Volume= 14,177 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.52' @ 12.16 hrs
Flood Elev= 72.24'

Device	Routing	Invert	Outlet Devices
#1	Primary	63.48'	**15.0" Round Culvert** L= 173.0' Ke= 0.500 Inlet / Outlet Invert= 63.48' / 61.75' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.78 cfs @ 12.16 hrs HW=64.52' TW=62.34' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.78 cfs @ 3.47 fps)

Summary for Pond dmh-02: dmh

Inflow Area = 46,028 sf, 76.99% Impervious, Inflow Depth = 6.25" for 50-Year event
Inflow = 6.57 cfs @ 12.14 hrs, Volume= 23,976 cf
Outflow = 6.57 cfs @ 12.14 hrs, Volume= 23,976 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.57 cfs @ 12.14 hrs, Volume= 23,976 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.44' @ 12.14 hrs
Flood Elev= 70.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.53'	**15.0" Round Culvert** L= 11.0' Ke= 0.500 Inlet / Outlet Invert= 60.53' / 60.00' S= 0.0482 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=6.56 cfs @ 12.14 hrs HW=62.44' TW=61.20' (Dynamic Tailwater)
1=Culvert (Inlet Controls 6.56 cfs @ 5.35 fps)

Summary for Pond FP1: FocalPoint 1

Inflow Area = 23,919 sf, 64.56% Impervious, Inflow Depth = 5.87" for 50-Year event
Inflow = 3.79 cfs @ 12.13 hrs, Volume= 11,709 cf
Outflow = 3.04 cfs @ 12.17 hrs, Volume= 11,709 cf, Atten= 20%, Lag= 2.6 min
Primary = 3.04 cfs @ 12.17 hrs, Volume= 11,709 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 70.05' @ 12.17 hrs Surf.Area= 100 sf Storage= 1,190 cf
Flood Elev= 70.50' Surf.Area= 100 sf Storage= 1,885 cf

Plug-Flow detention time= 10.4 min calculated for 11,705 cf (100% of inflow)
Center-of-Mass det. time= 10.4 min (797.6 - 787.1)

Volume	Invert	Avail.Storage	Storage Description
#1	66.75'	45 cf	**4.00'W x 25.00'L x 2.25'H FocalPoint** 225 cf Overall x 20.0% Voids
#2	69.00'	1,840 cf	**Surface Bowl Area (Irregular)** Listed below (Recalc) -Impervious
		1,885 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
69.00	876	130.0	0	0	876
70.00	1,296	149.0	1,079	1,079	1,320
70.50	1,758	180.0	761	1,840	2,136

Device	Routing	Invert	Outlet Devices
#1	Primary	66.75'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Primary	69.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.03 cfs @ 12.17 hrs HW=70.05' TW=66.66' (Dynamic Tailwater)
└**1=Exfiltration** (Exfiltration Controls 0.23 cfs)
└**2=Orifice/Grate** (Orifice Controls 2.80 cfs @ 3.57 fps)

Summary for Pond FP2: FocalPoint 2

Inflow Area = 5,144 sf, 58.89% Impervious, Inflow Depth = 5.76" for 50-Year event
Inflow = 0.81 cfs @ 12.13 hrs, Volume= 2,469 cf
Outflow = 0.79 cfs @ 12.14 hrs, Volume= 2,469 cf, Atten= 1%, Lag= 0.7 min
Primary = 0.79 cfs @ 12.14 hrs, Volume= 2,469 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 69.67' @ 12.14 hrs Surf.Area= 30 sf Storage= 161 cf
Flood Elev= 70.50' Surf.Area= 30 sf Storage= 515 cf

Plug-Flow detention time= 6.6 min calculated for 2,468 cf (100% of inflow)
Center-of-Mass det. time= 6.6 min (797.2 - 790.6)

Volume	Invert	Avail.Storage	Storage Description
#1	66.75'	14 cf	**3.00'W x 10.00'L x 2.25'H FocalPoint** 68 cf Overall x 20.0% Voids
#2	69.00'	502 cf	**Surface Bowl Area (Irregular)** Listed below (Recalc) -Impervious
		515 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
69.00	157	61.0	0	0	157
70.00	369	80.0	256	256	382
70.50	626	112.0	246	502	873

Device	Routing	Invert	Outlet Devices
#1	Primary	65.90'	**12.0" Round Culvert** L= 42.0' Ke= 0.500 Inlet / Outlet Invert= 65.90' / 65.48' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	66.75'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#3	Device 1	69.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.79 cfs @ 12.14 hrs HW=69.67' TW=66.65' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.79 cfs of 6.52 cfs potential flow)
  ├─**2=Exfiltration** (Exfiltration Controls 0.07 cfs)
  └─**3=Orifice/Grate** (Weir Controls 0.72 cfs @ 1.35 fps)

Summary for Pond G: gabion

Inflow Area = 46,028 sf, 76.99% Impervious, Inflow Depth = 6.25" for 50-Year event
Inflow = 6.57 cfs @ 12.14 hrs, Volume= 23,976 cf
Outflow = 6.57 cfs @ 12.14 hrs, Volume= 23,976 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.57 cfs @ 12.14 hrs, Volume= 23,976 cf

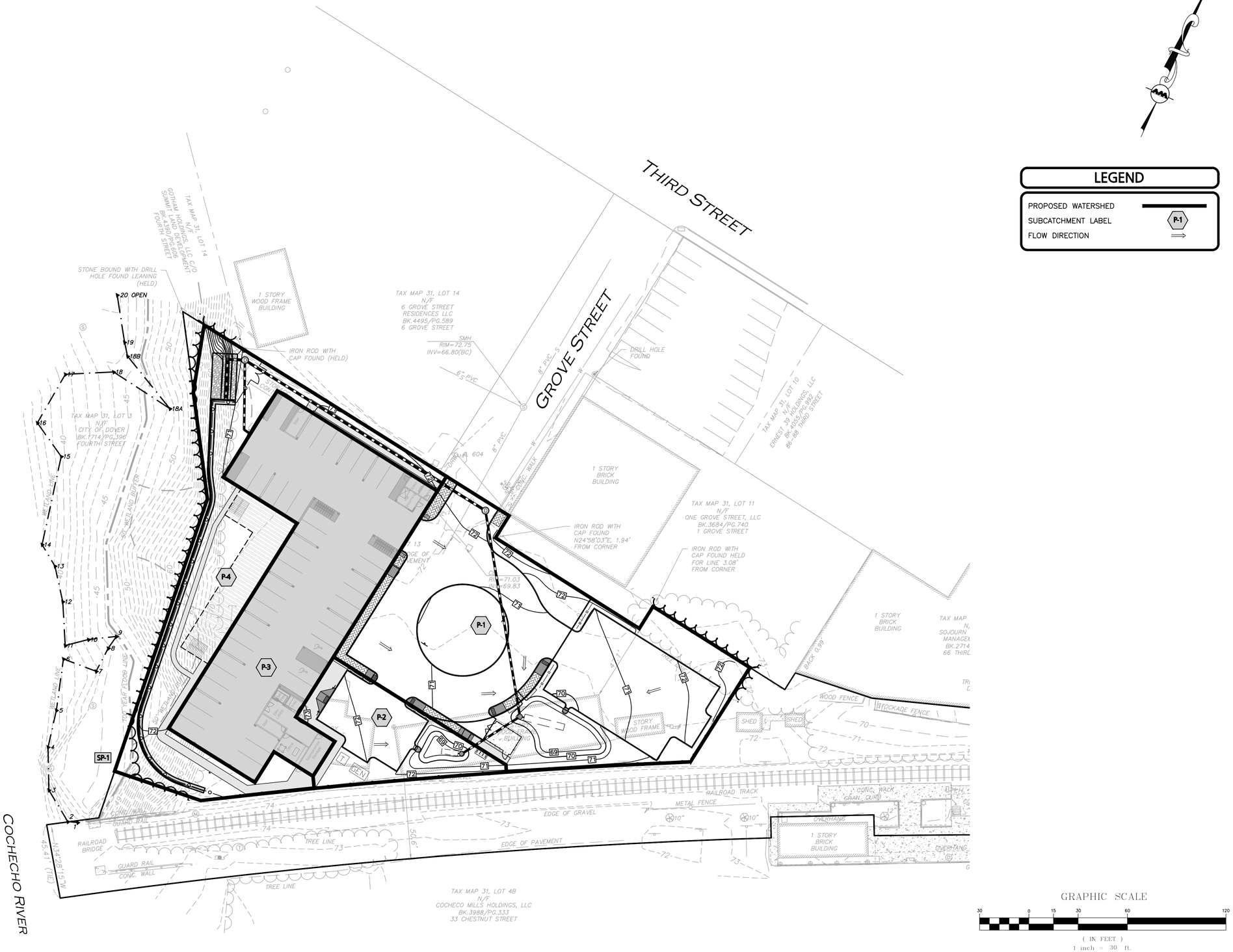
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.20' @ 12.14 hrs Surf.Area= 11 sf Storage= 29 cf
Flood Elev= 61.25' Surf.Area= 0 sf Storage= 29 cf

Plug-Flow detention time= 0.0 min calculated for 23,968 cf (100% of inflow)
Center-of-Mass det. time= 0.0 min (775.5 - 775.5)

Volume	Invert	Avail.Storage	Storage Description
#1	60.00'	29 cf	**15.0" Round Pipe Storage** L= 24.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.63'	**3.0" Vert. 3" outlet holes X 24.00** C= 0.600
#2	Primary	60.00'	**2.0" Horiz. 2" outlet holes X 24.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.56 cfs @ 12.14 hrs HW=61.20' TW=0.00' (Dynamic Tailwater)
└─**1=3" outlet holes** (Orifice Controls 3.80 cfs @ 3.22 fps)
└─**2=2" outlet holes** (Orifice Controls 2.77 cfs @ 5.28 fps)



LEGEND

PROPOSED WATERSHED	
SUBCATCHMENT LABEL	P-1
FLOW DIRECTION	

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

R:\PROJECTS\2464-03\CIVIL\DRAWINGS\CURRENT\C-2464-03_WATERSHED-PROPOSED.DWG

REV	DATE	DESCRIPTION
1	10-14-20	REVISION 1

OWNER:
BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
NORTH BILLERICA, MA 01862

APPLICANT:
JEWETT CONSTRUCTION CO. LLC
68A ROUTE 27
RAYMOND, NH 03077

PROJECT:
THE STATION
35/37 CHESTNUT STREET
DOVER, NH 03820

PROJECT NO.	2464-03	DATE:	08-13-20
SCALE:	1" = 30'	DWG. NAME:	C-2464-03.dwg
DESIGNED BY:	SM	CHECKED BY:	BDJ

PREPARED BY:
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DRAWING TITLE:	SHEET No.
PROPOSED WATERSHED PLAN	WS-2

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PLANNING BOARD FILE NUMBER: P20-56

SECTION 6.0

OPERATION & MAINTENANCE PLAN

6.1 OPERATION AND MAINTENANCE PLAN

General Information

Allen & Major Associates, Inc. has prepared the following Operation and Maintenance Plan for the project at 35/37 Chestnut Street, Dover, NH, otherwise known as "The Station". The plan is broken down into the following major sections. The first section gives general information about ownership and responsibility (General Information). The next section describes the erosion and sediment control measures used during construction (Construction Period). The third section describes the long-term pollution prevention measures (Long Term Pollution Prevention Plan). The last section describes the maintenance requirements for the stormwater management practices. (Maintenance Plan).

Contact Information

Stormwater Management System Owner: Jewett Construction Co., LLC
68A Route 27
Raymond, NH 03077

Notification Procedures for Change of Responsibility for O&M

The Stormwater Management System (SMS) for the proposed multifamily project is owned by Jewett Construction Co., LLC. The owner shall be legally responsible for the long-term operation and maintenance of this SMS as outlined in this Operation and Maintenance (O&M) Plan. Should ownership of the SMS change, the owner will continue to be responsible until the succeeding owner has notified the City that the succeeding owner has assumed such responsibility. Upon subsequent transfers, the responsibility shall continue to be that of transferring owner until the transferee owner notifies the City of its assumption of responsibility.

In the event the SMS will serve multiple lots/owners, such as the subdivision of the existing parcel, the owner(s) shall establish an association or other legally enforceable arrangements under which the association or a single party shall have legal responsibility for the operation and maintenance of the entire SMS.

The project has been designed to minimize the amount of drainage infrastructure located within the proposed right-of-way. Stormwater will sheet flow out of the right-of-way to a bioretention system within the development. As mentioned above, the Owner will be responsible for maintaining the bioretention system. After flowing through the bioretention system, stormwater will be piped north, through the right-of-way, in order to discharge to the level spreader, located on the northwestern side of the site. The piping within the right-of-way will be installed per the City of Dover Construction Guidelines. Maintenance of all stormwater infrastructure and utilities as well as street sweeping and snow removal within public right-of-way will be the City's responsibility.

Construction Period

1. Contact the City of Dover Engineering Department at least two (2) weeks prior to start of construction.

2. Install the coir logs and silt sacks as shown on the enclosed Erosion Control Plan.

3. Site access shall be achieved only from the designated construction entrance.

4. All erosion control measures shall be inspected weekly and after all rainfall events, and shall be maintained, repaired or replaced as required or at the direction of the owner's engineer, or the City Engineer.

5. Sediment accumulation up-gradient of the coir logs and silt fence greater than 6" in depth shall be removed and disposed of in accordance with all applicable regulations.

6. If it appears that sediment is exiting the site, silt sacks shall be installed in all catch basins adjacent to the site. Sediment accumulation on all adjacent catch basin inlets shall be removed and the silt sack replaced if torn or damaged.

7. The contractor shall comply with the General and Erosion Notes as shown on the Site Development Plans.

Post-Development Activities

1. Upon completion of all terrain alteration activities that direct stormwater to a particular practice, the responsible party (ies) shall initiate the O&M activities.

2. Paved Areas – Paved areas should be swept as part of the routine site maintenance. Pavement sweeping is an excellent source control for sedimentation to the existing drainage system and is typically performed in the spring of each year following the snow melt.

3. Paved Areas – Salt for de-icing on the paved areas during the winter months shall be limited to the minimum amount practicable. Sand containing the minimum amount of calcium chloride (or approved equivalent) needed for handling may be applied as part of the routine winter maintenance activities.

4. All sediments removed from site drainage facilities shall be disposed of properly, and in accordance with applicable local and state regulations.

5. All vegetated areas on the site shall be stabilized and maintained to control erosion. Any disturbed areas shall be re-seeded as soon as practicable.

6. Work within any drainage structures shall be performed in accordance with the latest OSHA regulations, and only by individuals with appropriate OSHA certification.

7. Maintenance Responsibilities - All post-construction maintenance activities shall be documented and kept on file and made available to the proper Local and State authorities upon request.

8. If ownership of the property is transferred, the new owner(s) shall become the responsible party (ies).

Long Term Pollution Prevention Plan

The Long Term Pollution Prevention Plan (LTPPP) be prepared and incorporated as part of the Operation and Maintenance of the Stormwater Management System. The purpose of the LTPPP is to identify potential sources of pollution that may affect the quality of stormwater discharges, and to describe the implementation of practices to reduce the pollutants in stormwater discharges. The following items describe the source control and proper procedures for the LTPPP.

Housekeeping
The proposed site development has been designed to maintain a high level of water quality treatment for all stormwater discharge and groundwater. An Operation and Maintenance (O&M) plan has been prepared and is included in this section of the report. The Owner (or its designee) is responsible for adherence to the O&M plan in a strict and complete manner.

Storing of Materials and Waste Products
There are no proposed exterior (un-covered) storage areas. The trash and waste program for the site includes a dedicated enclosure for waste & recyclables.

Vehicle Washing
Outdoor vehicle washing has the potential to result in high loads of nutrients, metals, and hydrocarbons during dry weather conditions, as the detergent-rich water used to wash the grime off the vehicle enters the stormwater drainage system. The proposed project does not include any designated vehicle washing areas, nor is it expected that any vehicle washing will take place on-site. Resident car washing or charity car wash fundraisers are not anticipated at this site and would not be allowed.

Maintenance of Lawns, Gardens and other Landscaped Areas
It should be recognized that this is a general guideline towards achieving high quality and well groomed landscaped areas. The grounds staff / landscape contractor must recognize the shortcomings of a general maintenance plan such as this, and modify and/or augment it based on weekly, monthly, and yearly observations. In order to assure the highest quality conditions, the staff must also recognize and appreciate the need to be aware of the constantly changing conditions of the landscaping and be able to respond to them on a proactive basis. No trash or landscape debris (including lawn clippings) shall be stored or dumped within the landscaped or naturalized areas.

Fertilizer

Maintenance practices should be aimed at reducing environmental, mechanical and pest stresses to promote healthy and vigorous growth. When necessary, pest outbreaks should be treated with the most sensitive control measures available. Synthetic chemical controls should be used only as a last resort to organic and biological control methods. Fertilizer, synthetic chemical controls and pest management applications (when necessary) shall be performed only by licensed applicators in accordance with the manufacturer's label instructions when environmental conditions are conducive to controlled product application.

Only slow-release organic fertilizers should be used in the landscaped areas to limit the amount of nutrients that could enter downstream resource areas. Fertilization of developed areas on site will be performed within manufacturers labeling instructions and shall not exceed an NPK ratio of 1:1:1 (i.e. Triple 10 fertilizer mix), considered a low nitrogen mixture. Additionally, the fertilizer will include a slow release element.

Suggested Aeration Program

In-season aeration of lawn areas is good cultural practice, and is recommended whenever feasible. It should be accomplished with a solid thin tine aeration method to reduce disruption to the use of the area. The depth of solid tine aeration is similar to core type, but should be performed when the soil is somewhat drier for a greater overall effect.

Depending on the intensity of use, it can be expected that all landscaped lawn areas will need aeration to reduce compaction at least once per year. The first operation should occur in late May following the spring season. Methods of reducing compaction will vary based on the nature of the compaction. Compaction on newly established landscaped areas is generally limited to the top 2-3" and can be alleviated using hollow core or thin tine aeration methods.

Landscape Maintenance Program Practices:

Lawn	▪ Mow a minimum of once a week in spring, to a height of 2” to 2 1/2” high. Mowing should be frequent enough so that no more than 1/3 of grass blade is removed at each mowing. The top growth supports the roots; the shorter the grass is cut, the less the roots will grow. Short cutting also dries out the soil and encourages weeds to germinate. ▪ Mow approximately once every two weeks from July 1st to August 15th depending on lawn growth. ▪ Mow on a ten-day cycle in fall, when growth is stimulated by cooler nights and increased moisture. ▪ Do not remove grass clippings after mowing. ▪ Keep mower blades sharp to prevent ragged cuts on grass leaves, which cause a brownish appearance and increase the chance for disease to enter a leaf.
Shrubs	▪ Mulch not more than 3” depth with shredded pine or fir bark. ▪ Hand prune annually, immediately after blooming, to remove 1/3 of the above-ground biomass (older stems). Stem removals to occur within 6” of the ground to open up shrub and maintain two-year wood (the blooming wood). ▪ Fertilize with ½ lb. slow-release fertilizer (see above section on Fertilizer) every second year. ▪ Hand prune evergreen shrubs only as needed to remove dead and damaged wood and to maintain the naturalistic form of the shrub. Never mechanically shear evergreen shrubs.
Trees	▪ Provide aftercare for new tree plantings for the first three years. ▪ Do not fertilize trees, it artificially stimulates them (unless tree health warrants). ▪ Water once a week for the first year; twice a month the second, once a month the third year. ▪ Prune trees on a four-year cycle.

Management of Deicing Chemicals and Snow
Snow shall only be stockpiled on site within the snow storage areas depicted on the Layout & Materials plan. If the stockpiles of snow do not fit within the designated areas, then snow will be disposed off-site. It will be the responsibility of the snow removal contractor to properly dispose of transported snow according NHDES. It will be the responsibility of the snow removal contractor to follow these guidelines and all applicable laws and regulations.

The owner (or its designee) will be responsible for the clearing of the sidewalk and building entrances. The Owner may be required to use a de-icing agent such as potassium chloride to maintain a safe walking surface; however, these are to be used at the minimum amount practicable. The de-icing agent for the walkways and building entrances will be kept within the storage rooms located within the buildings. De-icing agents will not be stored outside.

Maintenance Plan

Documentation
Maintenance documents shall include a completed maintenance checklist (attached) that will include any applicable notes or other documents as described in this section. Per Env-Wq 1507.07 (c), this documentation will be made available to the City upon request.

Stormwater Collection System:
The stormwater collection system includes a series of roof drains and two bioretention systems. Stormwater from the paved parking area is directed via sheet flow, pretreated by one of three curb inlet pretreatment devices, and then to one of the two bioretention systems. These systems filter and detain runoff prior to discharge. Stormwater runoff is then piped to a gabion style level spreader on the northwestern side of the site which surface discharges towards the study point. All BMPs shall be inspected and maintained as noted on the attached maintenance log.

Bioretention System
- Systems should be inspected 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.
- Trash and debris should be removed at each inspection.
- At least once annually, system should be inspected for drawdown time. If bioretention system does not drain within 72-hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore filtration function, including but not limited to removal of accumulated sediments or reconstruction of the filter media.
- Vegetation should be inspected at least annually, and maintained in healthy condition, including pruning, removal and replacement of dead or diseased vegetation, and removal of invasive species.
- Additional operation and maintenance information for the FocalPoint portion of the bioretention systems is included in the following pages.

Gabion Style Level Spreaders
- The base of the level spreader should be inspected annually for scouring and erosion.
- Woody vegetation surrounding the base of the level spreader should be removed during annual inspections.
- Inspect the level spreader clean out annually for sediment build up. If any is found, remove using a vacuum truck or shop vac.

Operation and Maintenance Schedule Summary
The following is a summary of the maintenance schedule for each of the stormwater BMPs. Note all anomalies, signs of degradation, or corrective actions on the annual Maintenance Checklist.

BMP	MAINTENANCE ITEM	FREQUENCY
Pavement Sweeping	Perform sweeping. No Sand. Distribute de-icing agents and inspect according to narrative.	Inspect /sweep twice per year (Early spring & late fall)
Rain Guardians (curb inlet pretreatment devices)	Removal of trash, debris, sediment	Inspect twice annually and after rainfall events exceeding 2.5" in a 24 hour period. Remove trash, debris sediment when encountered
Bioretention System (includes FocalPoint systems)	Inspect for erosion and general conditions	Twice annually and after rainfall events exceeding 2.5" in a 24 hour period
	Removal of trash and debris	At each inspection
	Inspect for drawdown within 72 hours	Annually, following significant rainfall event
	Removal of accumulated sediment or reconstruction of filter media	As needed, only if system fails to drawdown within 72 hours
	Inspect vegetation, removal of invasive species or dead vegetation	Annually
Level Spreader	Inspect for erosion and general conditions	Annually
	Removal of accumulated sediment and woody/dead vegetation	As needed at each inspection

The Owner or its designee shall keep records of the maintenance of the Stormwater BMPs on a yearly basis including representative photographs of each stormwater practice. Maintenance documents shall include a completed maintenance checklist.

Supplemental Information:

-Operation and Maintenance Plan Schedule
-Operation and Maintenance Log Forms
-Operation and Maintenance Plan Log Forms (During Construction)
-Control of Invasive Plants
-FocalPoint Operation & Maintenance

OPERATION & MAINTENANCE PLAN SCHEDULE

Party Responsible for O & M Plan: Jewett Construction Co., LLC

Project: The Station

Address: 35/37 Chestnut Street, Dover, NH

Date: _____

Address:

Main Phone Number:

O&M Main Point of Contact:

Structure or Task	Maintenance Activity	Schedule	Notes	Inspection Performed		Inspection Results
				Date:	By:	
Street Sweeping	Sweep, power broom or vacuum paved areas.	Sweeping should be conducted a minimum of twice a year. • Early fall • Immediately following spring snowmelt to remove sand and other debris.	Since contaminants accumulate within 12 inches of the curb line. Street cleaning operations should concentrate in cleaning curb and gutter lines for maximum pollutant removal efficiency. Other areas can also be swept periodically, probably on a less regular basis.			
Rain Guardians (curb inlet pretreatment devices)	Trash, debris, & sediment removal	Inspect twice annually & after rainfall events of 2.5” or greater	• Remove trash and debris at each inspection • Remove sediment when visible within structure			
Bioretention System	Trash, debris, & sediment removal, replacement of filter media, vegetation management	Inspect twice annually & after rainfall events of 2.5” or greater	• Restore conditions if evidence of erosion • Remove trash and debris at each inspection • Sediment removal/replacement of filter media only as needed, if system fails to drawdown within 72 hours of storm event • Remove diseased or dead vegetation annually			
Gabion Level Spreader	Removal of accumulated sediment and woody/dead vegetation	Inspect annually, remove sediment using vacuum truck or shop vac via cleanout and repair erosion as needed	The level spreader shall be inspected for evidence of clogging or outflow release velocities that are greater than design flow. Areas to be inspected shall include: subsidence, erosion, cracking or tree growth, sediment accumulation around the outlet; Any necessary repairs shall be made immediately.			
Mosquito Control	CB management targeted larvicide treatment to CB's and all storm drains to control mosquitoes in their aquatic stages.		Surveillance is a non-chemical inspection method that involves classification of mosquito breeding sites, larval presents, and survey.			

Notes: 1. This O&M Plan Schedule must be maintained by the owner and remain in onsite office at all times.

2. Owner must keep the past 7 years of maintenance and inspection records on site.

THE STATION
35/37 CHESTNUT STREET
DOVER, NH

MAINTENANCE LOG FORM

INSPECTOR:_____

DATE MAINTENANCE PERFORMED:_____

INSPECTOR'S QUALIFICATIONS:_____

_____

_____

MAINTENANCE LOG

TYPE OF MAINTENANCE PERFORMED	DATE SINCE LAST MAINTENANCE	STAFF MEMBER OR CONTRACTOR WHO PERFORMED MAINTENANCE	CONDITION	ISSUE RESOLVED (YES/NO)

FOLLOW-UP REQUIRED:

_____

_____

TO BE PERFORMED BY:_____ ON OR BEFORE:_____

NOTES:

1. Attach copies of maintenance work orders.
2. Owner must keep a minimum of the past 7 years of inspections / operations and maintenance records onsite.

Operation and Maintenance Plan Log During Construction

Project: The Station
Address: 35/37 Chestnut Street
Dover, NH

Company Responsible for O&M During Construction: _____
Individual responsible for Inspections & Log: _____
Erosion Control Inspection Qualifications: _____
Address: _____
Phone (24 Hour Contact Number): _____

Erosion Control Measures	Weekly Inspection Schedule/or After Rainfall	Inspection Performed		Method	Notes/Remarks
		Date	By:		
Temporary Tree Protection				Review temporary tree protection fencing and trunk protection. Verify no machinery or construction materials are stored within the fenced area. Repair any damaged fencing. Document any damage to tree. Contact client's construction representative with any tree trunk or root damage.	
Tubular Sediment Barrier				Sediment accumulation up-gradient of the tubular sediment barrier greater than 6" in depth shall be removed and disposed of in accordance with all applicable regulations	
Stone barrier and Silt Sacks at Catch Basins				When the sediment is exiting the site, and as shown on the plan, silt sacks shall be installed in all catch basins adjacent to the site. Sediment accumulation on all catch basin inlets shall be removed and the silt sack replaced if torn or damaged. Remove silt and replace damage silt sacks at each catch basin.	
Construction Entrance				When silt is accumulating in the construction entrance, then the construction entrance shall be cleaned and stone replaced as necessary.	

Note: Operation and maintenance plan log shall be documented by contractor and kept within onsite construction office. Upon request, log and operation and maintenance files shall be made available to the Local, State, and Federal authorities.

CONTROL OF INVASIVE PLANTS

During maintenance activities, check for the presence of invasive plants and remove in a safe manner as described on the following pages. They should be controlled as described on the following pages.

Background:

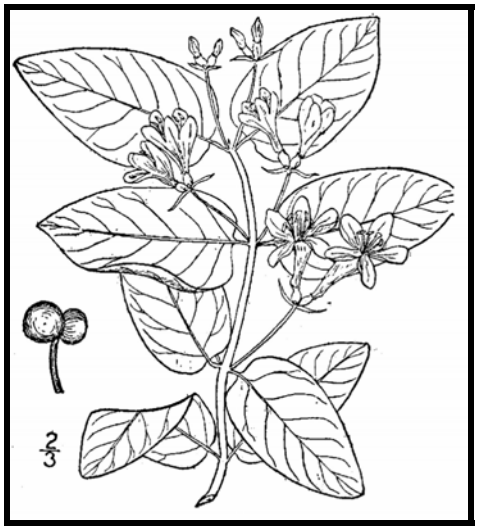
Invasive plants are introduced, alien, or non-native plants, which have been moved by people from their native habitat to a new area. Some exotic plants are imported for human use such as landscaping, erosion control, or food crops. They also can arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some exotic plants become invasive and cause harm by:

- becoming weedy and overgrown;
- killing established shade trees;
- obstructing pipes and drainage systems;
- forming dense beds in water;
- lowering water levels in lakes, streams, and wetlands;
- destroying natural communities;
- promoting erosion on stream banks and hillsides; and
- resisting control except by hazardous chemical.

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

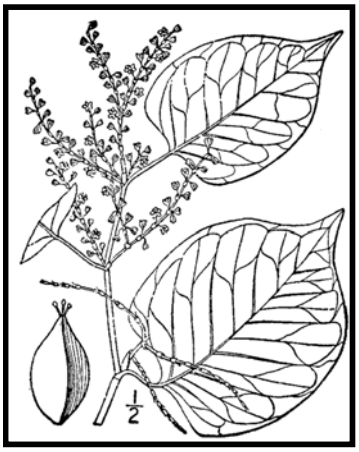
Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

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>

<table>
<tr><th>Non-Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">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)</td><td rowspan="2">Fruits and Seeds
 </td><td>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.</td></tr>
<tr><td>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.</td></tr>
<tr><td>common reed
(Phragmites australis)
Japanese knotweed
(Polygonum cuspidatum)
Bohemian knotweed
(Polygonum x bohemicum)</td><td>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.</td><td>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.</td></tr>
</table>

January 2010

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FocalPoint

BIOFILTRATION SYSTEMS

HIGH PERFORMANCE MODULAR BIOFILTRATION SYSTEM (HPMBS)

Operations & Maintenance

ACF ENVIRONMENTAL

Customer Focused, Environmentally Committed

GENERAL DESCRIPTION

The following general specifications describe the general operations and maintenance requirements for the FocalPoint® High Performance Modular Biofiltration System (HPMBS). The system utilizes physical, chemical and biological mechanisms of a soil, plant and microbe complex to remove pollutants typically found in urban stormwater runoff. The treatment system is a fully equipped, modular, constructed in place system designed to treat contaminated runoff.

Stormwater enters the FocalPoint® HPMBS, is filtered by the High Flow Biofiltration Media and passes through to the underdrain/storage system where the treated water is detained, retained or infiltrated to sub-soils, prior to discharge to the storm sewer system of any remaining flow.

Higher flows bypass the FocalPoint® HPMBS via a downstream inlet or other overflow conveyance. Maintenance is a simple, inexpensive and safe operation that does not require confined space entry, pumping or vacuum equipment, or specialized tools. Properly trained landscape personnel can effectively maintain FocalPoint® HPMBS by following instructions in this manual.

BASIC OPERATIONS

FocalPoint® is a modular, high performance biofiltration system that often works in tandem with other integrated management practices (IMP). Contaminated stormwater runoff enters the biofiltration bed through a conveyance swale, planter box, or directly through a curb cut or false inlet. Energy is dissipated by a rock or vegetative dissipation device and is absorbed by a 3-inch layer of aged, double shredded hardwood mulch, with fines removed, (when specified) on the surface of the biofiltration media.

As the water passes through the mulch layer, most of the larger sediment particles and heavy metals are removed through sedimentation and chemical reactions with the organic material in the mulch. Water passes through the biofiltration media where the finer particles are removed and numerous chemical reactions take place to immobilize and capture pollutants in the soil media.

The cleansed water passes into the underdrain/storage system and remaining flows are directed to a storm sewer system or other appropriate discharge point. Once the pollutants are in the soil, bacteria begin to break down and metabolize the materials and the plants begin to uptake and metabolize the pollutants. Some pollutants such as heavy metals, which are chemically bound to organic particles in the mulch, are released over time as the organic matter decomposes to release the metals to the feeder roots of the plants and the cells of the bacteria in the soil where they remain and are recycled. Other pollutants such as phosphorus are chemically bound to the soil particles and released slowly back to the plants and bacteria and used in their metabolic processes. Nitrogen goes through a variety of very complex biochemical processes where it can ultimately end up in the plant/bacteria biomass, turned to nitrogen gas or dissolves back into the water column as nitrates depending on soil temperature, pH and the availability of oxygen. The pollutants ultimately are retained in the mulch, soil and biomass with some passing out of the system into the air or back into the water.

DESIGN AND INSTALLATION

Each project presents different scopes for the use of FocalPoint® HPMBS. To ensure the safe and specified function of this stormwater BMP, Convergent Water Technologies and/or its Value Added Resellers (VAR) review each application before supply. Information and design assistance is available to the design engineer during the planning process. Correct FocalPoint® sizing is essential to optimum performance. The engineer shall submit calculations for approval by the local jurisdiction when required. The contractor and/or VAR is responsible for the correct installation of FocalPoint® HPMBS units as described in approved plans. A comprehensive installation manual is available at www.convergentwater.com.

FocalPoint
BIOFILTRATION SYSTEMS

MAINTENANCE

Why Maintain?

All stormwater treatment systems require maintenance for effective operation. This necessity is often incorporated in your property's permitting process as a legally binding BMP maintenance agreement. Other reasons for maintenance include:

- Avoid legal challenges from your jurisdiction's maintenance enforcement program.
- Prolong the lifespan of your FocalPoint® HPMBS.
- Avoid costly repairs.
- Help reduce pollutant loads leaving your property.

Simple maintenance of the FocalPoint® HPMBS is required to continue effective pollutant removal from stormwater runoff before any discharge into downstream waters. This procedure will also extend the longevity of the living biofiltration system. The unit will recycle and accumulate pollutants within the biomass, but may also subjected to other materials entering the surface of the system. This may include trash, silt and leaves etc. which will be contained above the mulch and/or biofiltration media layer. Too much silt may inhibit the FocalPoint's® HPMBS flow rate, which is a primary reason for system maintenance. Removal of accumulated silt/sediment and/or replacement of the mulch layer (when specified), is an important activity that prevents over accumulation of such silt/sediment.

When to Maintain?

Convergent Water Technologies and/or its VAR includes a 1-year maintenance plan with each system purchased. Annual included maintenance consists of two (2) scheduled maintenance visits. Additional maintenance may be necessary depending on sediment and trash loading (by Owner or at additional cost). The start of the maintenance plan begins when the system is activated for full operation. Full operation is defined as when the site is appropriately stabilized, the unit is installed and activated (by VAR), i.e., when mulch (if specified) and plantings are added.

Activation should be avoided until the site is fully stabilized (full landscaping, grass cover, final paving and street sweeping completed). Maintenance visits are scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands. The fall visit helps the system by removing excessive leaf litter.

A first inspection to determine if maintenance is necessary should be performed at least twice annually after storm events of greater than (1) one inch total depth (subject to regional climate). Please refer to the maintenance checklist for specific conditions that indicate if maintenance is necessary.

It has been found that in regions which receive between 30-50 inches of annual rainfall, (2) two visits are generally required. Regions with less rainfall often only require (1) one visit per annum. Varying land uses can affect maintenance frequency.

Some sites may be subjected to extreme sediment or trash loads, requiring more frequent maintenance visits. This is the reason for detailed notes of maintenance actions per unit, helping the VAR/Maintenance contractor and Owner predict future maintenance frequencies, reflecting individual site conditions.

Owners must promptly notify the VAR/Maintenance contractor of any damage to the plant(s), which constitute(s) an integral part of the biofiltration technology. Owners should also advise other landscape or maintenance contractors to leave all maintenance of the FocalPoint® HPMBS to the VAR/Maintenance contractor (i.e. no pruning or fertilizing).

EXCLUSION OF SERVICES

It is the responsibility of the owner to provide adequate irrigation when necessary to the plant(s) in the FocalPoint® HPMBS.

Clean up due to major contamination such as oils, chemicals, toxic spills, etc. will result in additional costs and are not covered under the VAR/Maintenance contractor maintenance contract. Should a major contamination event occur, the Owner must block off the outlet pipe of the FocalPoint® (where the cleaned runoff drains to, such as drop-inlet) and block off the point where water enters of the FocalPoint® HPMBS. The VAR/Maintenance contractor should be informed immediately.

MAINTENANCE VISIT SUMMARY

Each maintenance visit consists of the following simple tasks (detailed instructions below).

1. Inspection of FocalPoint® HPMBS and surrounding area
2. Removal of debris, trash and mulch
3. Mulch replacement
4. Plant health evaluation (including measurements) and pruning or replacement as necessary
5. Clean area around FocalPoint® HPMBS
6. Complete paperwork, including date stamped photos of the tasks listed above.

MAINTENANCE TOOLS, SAFETY EQUIPMENT AND SUPPLIES

Ideal tools include: camera, bucket, shovel, broom, pruners, hoe/rake, and tape measure. Appropriate Personal Protective Equipment (PPE) should be used in accordance with local or company procedures. This may include impervious gloves where the type of trash is unknown, high visibility clothing and barricades when working in close proximity to traffic and also safety hats and shoes.

MAINTENANCE VISIT PROCEDURE

Inspection of FocalPoint® HPMBS and surrounding area

Record individual unit before maintenance with photograph (numbered). Record on Maintenance Report (see example in this document) the following:

- Standing Water yes | no
- Is Bypass Inlet Clear? yes | no
- Damage to HPMBS System yes | no
- to Overflow conveyance yes | no

Removal of Silt / Sediment / Clay

Dig out silt (if any) and mulch and remove trash & foreign items.

- Silt / Clay Found? yes | no
- Cups / Bags Found? yes | no
- Leaves? yes | no
- Volume of material removed _____ (volume or weight)

Removal of debris, trash and mulch

After removal of mulch and debris, measure distance from the top of the FocalPoint® HPMBS engineered media soil to the flow line elevation of the adjacent overflow conveyance. If this distance is greater than that specified on the plans (typ. 6" - 12"), add media (not top soil or other) to recharge to the distance specified.

- Distance to media surface to flow line of overflow conveyance (inches) _____
- # of Buckets of Media Added _____

Mulch Replacement

Most maintenance visits require only replacement mulch (if utilized) which must be, aged, double shredded hardwood mulch with fines removed. For smaller projects, one cubic foot of mulch will cover four square feet of biofiltration bed, and for larger projects, one cubic yard of mulch will cover 108 square feet of biofiltration bed. Some visits may require additional FocalPoint® HPMBS engineered soil media available from the VAR/Contractor.

- Add double shredded, aged hardwood mulch which has been screened to remove fines, evenly across the entire biofiltration media bed to a depth of 3".
- Clean accumulated sediment from energy dissipation system at the inlet to the FocalPoint® HPMBS to allow for entry of trash during a storm event.

Plant health evaluation and pruning or replacement as necessary

Examine the plant's health and replace if dead or dying.
Prune as necessary to encourage growth in the correct directions

- Height above Grate (feet) _____
- Width at Widest point (feet) _____
- Health alive | dead
- Damage to Plant yes | no

Clean area around FocalPoint® HPMBS

- Clean area around unit and remove all refuse to be disposed of appropriately.

Complete paperwork

- Deliver Maintenance Report and photographs as appropriate.
- Some jurisdictions may require submission of maintenance reports in accordance with approvals.
- It is the responsibility of the Owner to comply with local regulations.

FocalPoint

BIOFILTRATION SYSTEM

FocalPoint Warranty

Seller warrants goods sold hereunder against defects in materials and workmanship only, for a period of (1) year from date the Seller activates the system into service. Seller makes no other warranties, express or implied.

Seller's liability hereunder shall be conditioned upon the Buyer's installation, maintenance, and service of the goods in strict compliance with the written instructions and specifications provided by the Seller. Any deviation from Seller's instructions and specifications or any abuse or neglect shall void warranties.

In the event of any claim upon Seller's warranty, the burden shall be upon the Buyer to prove strict compliance with all instructions and specifications provided by the Seller.

Seller's liability hereunder shall be limited only to the cost or replacement of the goods. Buyer agrees that Seller shall not be liable for any consequential losses arising from the purchase, installation, and/or use of the goods.

Maintenance Checklist

Element	Problem	What To Check	Should Exist	Action
Inlet	Excessive sediment or trash accumulation	Accumulation of sediment or trash impair free flow of water into FocalPoint	Inlet free of obstructions allowing free flow into FocalPoint System	Sediments or trash should be removed
Mulch Cover	Trash and floatable debris accumulation	Excessive trash or debris accumulation.	Minimal trash or other debris on mulch cover	Trash and debris should be removed and mulch cover raked level. Ensure that bark nugget
Mulch Cover	Ponding of water on mulch cover	Ponding in unit could be indicative of clogging due to excessive fine sediment accumulation or spill of petroleum oils	Stormwater should drain freely and evenly over mulch cover.	Contact VAR for advice.
Plants	Plants not growing, or in poor condition	Soil/mulch too wet, evidence of spill. Pest infestation. Vandalism to plants.	Plants should be healthy and pest free.	Contact VAR for advice.
Plants	Plant growth excessive	Plants should be appropriate to the species and location of FocalPoint		Trim/prune plants in accordance with typical landscaping and

SECTION 7.0

APPENDIX

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	New Hampshire
Location	
Longitude	70.879 degrees West
Latitude	43.198 degrees North
Elevation	0 feet
Date/Time	Tue, 04 Aug 2020 15:20:30 -0400

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**	2.30	2.76	3.16	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	3.51	**2yr**	2.79	3.37	3.87	4.60	5.24	**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	6.00	6.95	**25yr**	5.31	6.68	7.62	8.77	9.79	**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	7.17	8.40	**50yr**	6.35	8.07	9.19	10.47	11.64	**50yr**
100yr	0.58	0.94	1.21	1.71	2.32	3.12	**100yr**	2.01	2.89	3.75	4.96	6.53	8.57	10.15	**100yr**	7.58	9.76	11.08	12.52	13.84	**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	10.25	12.26	**200yr**	9.07	11.79	13.36	14.97	16.46	**200yr**
500yr	0.76	1.24	1.62	2.36	3.31	4.54	**500yr**	2.85	4.22	5.50	7.37	9.81	12.98	15.75	**500yr**	11.49	15.15	17.14	18.97	20.72	**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	1.25	1.57	2.13	2.46	**1yr**	1.88	2.36	2.89	3.36	4.04	**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	5.06	**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	1.32	1.60	**10yr**	1.14	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	0.83	1.18	1.55	1.91	**25yr**	1.34	1.87	2.11	2.84	3.65	4.95	5.78	**25yr**	4.38	5.56	6.48	7.54	8.41	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.19	**50yr**	1.52	2.14	2.35	3.19	4.10	5.65	6.67	**50yr**	5.00	6.41	7.53	8.70	9.64	**50yr**
100yr	0.54	0.81	1.02	1.47	2.01	2.51	**100yr**	1.74	2.45	2.63	3.57	4.57	6.44	7.68	**100yr**	5.70	7.39	8.74	10.03	11.03	**100yr**
200yr	0.59	0.90	1.13	1.64	2.29	2.87	**200yr**	1.98	2.81	2.93	3.99	5.10	7.33	8.85	**200yr**	6.48	8.51	10.13	11.57	12.65	**200yr**
500yr	0.69	1.03	1.33	1.93	2.74	3.46	**500yr**	2.37	3.38	3.40	4.62	5.92	8.67	10.65	**500yr**	7.67	10.24	12.31	14.00	15.11	**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	3.09	**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	3.63	**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	4.86	**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	3.04	3.86	5.21	6.07	**10yr**	4.61	5.83	6.67	7.65	8.54	**10yr**
25yr	0.56	0.85	1.05	1.50	1.97	2.48	**25yr**	1.70	2.42	2.88	3.96	4.96	7.05	8.15	**25yr**	6.24	7.84	8.93	10.08	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	6.02	8.71	10.22	**50yr**	7.70	9.82	11.17	12.39	13.60	**50yr**
100yr	0.75	1.13	1.42	2.04	2.80	3.62	**100yr**	2.42	3.54	4.24	5.90	7.32	10.75	12.80	**100yr**	9.52	12.31	13.95	15.27	16.64	**100yr**
200yr	0.87	1.30	1.65	2.39	3.34	4.39	**200yr**	2.88	4.29	5.15	7.22	8.89	13.32	16.07	**200yr**	11.79	15.45	17.44	18.80	20.38	**200yr**
500yr	1.06	1.58	2.03	2.95	4.20	5.63	**500yr**	3.62	5.51	6.66	9.45	11.52	17.70	21.69	**500yr**	15.66	20.86	23.46	24.79	26.67	**500yr**

Powered by ACIS Northeast Regional Climate Center

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

August 4, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,990 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 25 50 100 150

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 20, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

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	7.2	72.6%
SfE	Suffield silt loam, 15 to 35 percent slopes	1.8	18.6%
W	Water	0.9	8.9%
Totals for Area of Interest		**9.9**	**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 capacity: 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

SfE—Suffield silt loam, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: 9d8w
Elevation: 0 to 210 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: Not prime farmland

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: 15 to 35 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 capacity: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: F144AY017NH - Well Drained Lake Plain
Hydric soil rating: No

Minor Components

Not named

Percent of map unit: 14 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent
Hydric soil rating: No

W—Water

Map Unit Composition

Water (less than 40 acres): 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Physical Properties

Soil Physical Properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

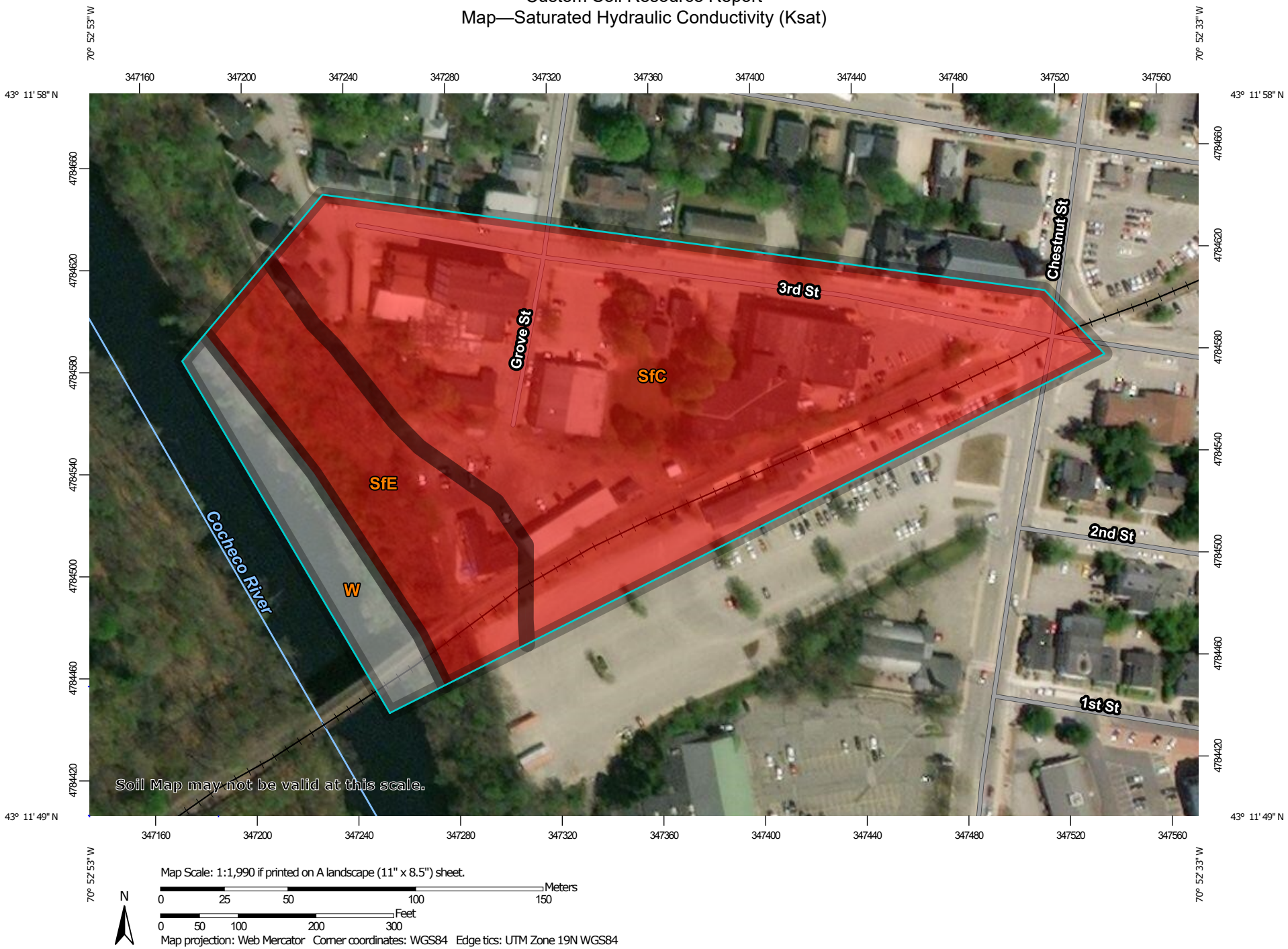
Saturated Hydraulic Conductivity (Ksat)

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.

Custom Soil Resource Report
Map—Saturated Hydraulic Conductivity (Ksat)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

= 6.4857

Not rated or not available

Soil Rating Lines

= 6.4857

Not rated or not available

Soil Rating Points

= 6.4857

Not rated or not available

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.

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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 20, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

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.

Table—Saturated Hydraulic Conductivity (Ksat)

Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
SfC	Suffield silt loam, 8 to 15 percent slopes	6.4857	7.2	72.6%
SfE	Suffield silt loam, 15 to 35 percent slopes	6.4857	1.8	18.6%
W	Water		0.9	8.9%
Totals for Area of Interest			**9.9**	**100.0%**

Rating Options—Saturated Hydraulic Conductivity (Ksat)

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Fastest

Interpret Nulls as Zero: No

Layer Options (Horizon Aggregation Method): Depth Range (Weighted Average)

Top Depth: 0

Bottom Depth: 100

Units of Measure: Inches

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

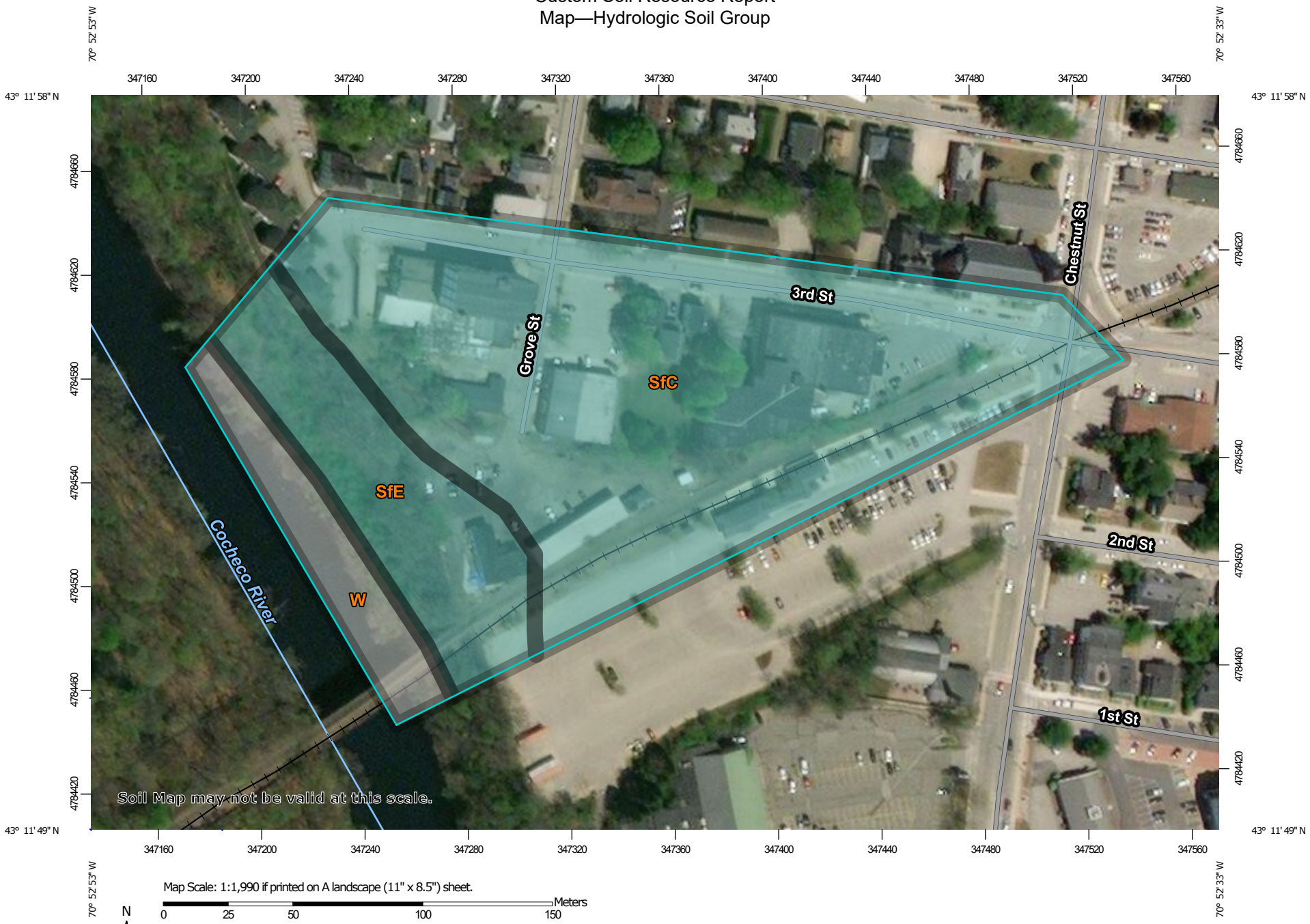
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Map—Hydrologic Soil Group



Map Scale: 1:1,990 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 25 50 100 150

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 Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

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.

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Soil Survey Area: Strafford County, New Hampshire
Survey Area Data: Version 20, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

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.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
SfC	Suffield silt loam, 8 to 15 percent slopes	C	7.2	72.6%
SfE	Suffield silt loam, 15 to 35 percent slopes	C	1.8	18.6%
W	Water		0.9	8.9%
Totals for Area of Interest			**9.9**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Anti-icing Route Data Form				
Truck Station:				
Date:				
Air Temperature	Pavement Temperature	Relative Humidity	Dew Point	Sky
Reason for applying:				
Route:				
Chemical:				
Application Time:				
Application Amount:				
Observation (first day):				
Observation (after event):				
Observation (before next application):				
Name:				

Figure 4-2. Example Documentation Form for Anti-Icing