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, April 14, 2022**
Meeting Time: **10:30 AM**

1. 10:30 AM – 11:15 AM: Site Review for Diamond Capital, LLC., Assessor's Map 14, Lots 17 & 17A, zoned Gateway, located at 71 & 73 Rutland Street. (Proposal is to retain the two current structures as well as new construction of 8 townhouses in a single building). *[This item was previously heard on October 14, 2021 and February 3, 2022]* (P21-64)

2. 11:15 AM – 12:00 PM: Site Review for City of Dover Recreation, Assessor's Map 26, Lot 2, zoned RM-U, located at 150 Portland Avenue. (Proposal is to construct a 17,000 s.f. skatepark in two phases.) (P22-25)

HANCOCK ASSOCIATES

Civil Engineering
Land Surveying
Wetland Science

Letter of Transmittal

10 Ferry Street, Suite 406
Concord, New Hampshire 03301
603-223-1950
www.hancockassociates.com

To:	Ms. Donna Benton	**Date:**	03/28/22	**Job #:**	23800
	City of Dover Planning Board	**From:**	Erik Rolser, EIT/ Joseph Peznola, PE		
	288 Central Avenue	**Re:**	TRC Resubmission - "Stonington Drive"		
	Dover, NH 03820-4169		71-73 Rutland St. - Planning File no. P21-64		

● **We are sending you:**

☒ **Prints** ☐ **Plans** ☐ **Samples** ☐ **Specifications** ☐ **Copy of letter** ☐ **Other**

COPIES	DATE	DESCRIPTION
8	03/25/22	TRC Response Letter
8	03/25/22	Site Plans (24"x36" - 17 sheets)
8	12/17/21	Stormwater Report
8	-	Site Review Application, Traffic Assessment, Photometric Report, Landscape Maintenance Plan, Postmaster Letter

● **These are transmitted as checked below:**

☒ **For Approval** ☐ **Approved as submitted** ☐ **Resubmit ___ copies for approval**
☒ **For your use** ☐ **Approved as noted** ☐ **Submit _____ copies for distribution**
☐ **As requested** ☐ **Returned for corrections** ☐ **Return _____ corrected prints**
☐ **For review and comment** ☐ **PRINTS RETURNED AFTER LOAN TO US**

REMARKS:

Condo documents sent under separate cover by project attorney. Letters to serve and all related fees will be sent under separate cover by applicant as a condition of approval.

Copy To:		**Signed:**	Erik J. Rolser

If enclosures are not as noted, kindly notify us at once.

HANCOCK
ASSOCIATES
Surveyors | Engineers | Scientists

City of Dover Planning Board
288 Central Ave.
Dover, NH 03820-4169

March 25, 2022

Attn: Ms. Donna Benton
AICP City Planner

RE: Proposed Townhome Project
71-73 Rutland Street and Abbey Lane
Planning File No. P21-64
Technical Review Committee Meeting – Responses

Dear Ms. Benton:

In response to the comments received from the City of Dover Technical Review Committee meeting on February 3, 2022 regarding the above referenced project, please find:

- Site Plan Application and Checklist
- Site Plan prepared by Hancock Associates, containing 11 sheets. (rev. 03-25-22)
- Architectural Plans prepared by Koal Architecture, PLLC (rev. 03-01-22)
- Streetscape Rendering prepared by Koal Architecture, PLLC (rev. 03-01-22)
- Traffic Assessment prepared by Hancock Associates
- Stormwater Management Report prepared by Hancock Associates (rev. 12-17-21)
- Stormwater Operation & Maintenance Plan (rev. 12-17-21)
- Landscape Operation & Maintenance Plan
- Photometric Report prepared by Hurry Associates
- Soils Report prepared by Gove Environmental
- Impact, sewer and water, and passive and active recreation fees (sent under separate cover by Applicant)
- Condominium documents (sent under separate cover by Attorney)
- Postmaster Letter

In addition, we offer the following responses to your comments below (responses in **red**):

PLAN REVIEW:
Planning:

- Impact fees
  Applicant is handling all fee payments direct.
- Sewer and water fees
  Applicant is handling all fee payments direct.

- EV readiness in parking lot as well
  EV readiness is noted on the plan (C-2). Conduit running to the parking lot is shown on the Utility Plan (C-3).
- TIA meets the Standard analysis so no waiver required
  Noted.
- No further work should occur before pre-con meaning plans have been signed by PB chair
  Noted.
- Provide:
  - Letters to serve
    Letters to serve will be submitted by the Applicant under a separate cover as a condition of approval.
  - Condo documents as COA
    Condo docs will be submitted by the Project Attorney under a separate cover as a condition of approval.
  - Lot merger form
    Lot merger form has been submitted by the Project Attorney.
  - Postmaster note about mail kiosk
    Postmaster note has been received by the client and included in this submission.
  - Passive & Active ref fees per Chapter 170-15 a COA
    We believe the nature of the development as a townhouse condominium development affords the residents private rear decks and patios as well as greenspace within the lot to meet these requirements. Should the Board decide otherwise the Applicant will handle any fee in lieu payments direct.
  - More detail in target market or how tandem spaces would work to justification on parking calculations. Tandem parking counts as one space.
    In-depth justification on parking calculations will be provided within the condo documents submitted by the Project Attorney.
- Revise Plans to:
  - Note who and whin it was determined there were no wetlands onsite
    Luke Hurley of Gove Environmental Services, Inc. determined on August 13, 2021 that there were no wetlands within the project site. This has been noted on the plan (C-0).
  - Provide 2x2” box on lower right corner on cover and site plan (C-2) for Dover approval stamp.
    Revised accordingly.
  - Add Planning File number P21-64 on all sheets.
    Revised accordingly. Planning File number located on bottom right corner of all sheets.
  - Revise site work hours to no Saturday, no Sunday, and no federal holidays
    Revised accordingly. Per Planning Board comment and discussion at 2/3/22 TRC meeting, Saturday work hours have been approved (C-0).
  - Add Signature and stamps on each submission
    Revised accordingly.
  - Add Owners signatures on final plans
    Owners will sign off on final plans once planning board approval is obtained.

- Add note to plan about trash totes location
  As noted on sheet C-2, Trash Totes will be stored in garage and brought out in front of each unit on trash pickup day. Trash pickup will be private.
- Why don't the lighting plan and lighting report match fc? Which one is accurate?
  Revised accordingly. Report was outdated. Correct report has been supplemented.
- Include frontage build out on zoning table
  Revised accordingly.
- Add existing residential units/parking to parking table if you are treating as entire project
  Revised accordingly. 3 existing parking spaces were added to the table.
- Revise leader note about one garage having EV
  Revised accordingly. At least one unit's garage shall be equipped with a vehicle charging station. All units will provide electric vehicle charging readiness, if desired in the future.
- Revise trees to at least 3" caliper
  Revised accordingly.
- Add Neighborhood Plan/abutters info
  Revised accordingly. Abutter information can be found on sheet C-1.
- Add stop bars and signs on Abbey
  Revised accordingly.
- Tipdown on sidewalk?
  Revised accordingly.
- Where is the note about loaming and seeding grass strip on Rutland?
  This note can be found on sheet C-2 and C-5.
- No parking signs on turnaround?
  Revised accordingly. Signs have been added.
- Add note of fence to renderings
  Revised accordingly. Fence is noted on renderings and engineering site plan.
- Provide detail of fence
  Revised accordingly. Fence detail is added on sheet C-8.
- Add note that driveway is not built to City Road standards and cannot be accepted by the City as public
  Revised accordingly. Note has been added on sheet C-2.
- Note about unit count and not able to convert **single family dwellings** into duplexes in the future
  Revised accordingly. Note has been updated on sheet C-0.
- Revise intent note to include existing homes to treat as one project
  Revised accordingly. Note has been updated on sheet C-0.
- Confirm road length meets requirements
  Drive length is greater than 150', so an emergency turnaround has been provided, which meets City of Dover requirements.

Engineering Comments:

- Road box on tap at Abbey Lane
  Plan and detail have been revised accordingly.

- Replace blow-off with post hydrant
  Revised accordingly. Blow-off has been replaced.
- Show curb stops
  Revised accordingly.
- Update brick shelf on sewer manhole detail. Replace SMH with city spec. stone bed
  Revised accordingly. Detail has been replaced with City of Dover standard detail.
- Tip-downs with cast iron pads
  Revised accordingly.
- Eccentric catch basin tops
  Revised accordingly. Detail has been replaced with City of Dover standard detail.
- Sidewalks – use 9" crushed gravel
  Revised accordingly. Detail has been replaced with City of Dover standard detail.
- Revise typical hydrant detail to meet city specifications
  Revised accordingly. Detail has been replaced with City of Dover standard detail.
- Revise typical trench detail to meet city specifications
  Revised accordingly. Detail has been replaced with City of Dover standard detail.
- Use vertical granite curb with sidewalks against the curb
  Revised accordingly. Bituminous sidewalks now abut vertical granite curb, with cement concrete tip-downs at the proposed drive entrance. As discussed in the TRC meeting on 2/3/22, the sidewalk has been continued down to the southern property line.

Police Department Comments:

- In accordance with Dover City Code, you must provide "No Parking Between Signs" signs with arrows at a distance of 20' from either side of your site driveway.
  Revised accordingly. Signs have been added and noted on sheet C-2.
- Emergency truck turnaround does not appear truly viable with this configuration. Winter maintenance is a concern, particularly for the eventual owner of 71 Rutland
  Per discussion at the 2/3/22 TRC meeting, the grass pavers proposed (Grasspave2) exceed H20 loading requirements and will be able to handle emergency vehicles and snowplows due to how the pavers are installed. The turnaround has been expanded to provide adequate spacing for trucks/emergency vehicles. Information regarding the grass paver truck turnaround will be included in the condo documents, so the eventual owner of 71 Rutland will be made fully aware of the turnaround location.
- Provide No Parking Fire Lane signs along east side of your site driveway, and emergency truck turnaround
  Revised accordingly. Signs have been added.
- Do not use "Eagle" in the proposed street name
  Noted. Street name has been revised to 'Stonington Drive'. City of Dover Building Official Jim Maxfield has approved of the name and is now being reviewed by 911 for approval (as per email Jim Maxfield sent on 3/24/22). Approval from 911 will be obtained prior to planning board submission.

Fire/Inspections Comments:

- Provide a private drive name.
  Proposed private drive name is now 'Stonington Drive'. See response to comment made from police department regarding street name for more information.
- Provide a location for mail kiosk on plan set
  Mail kiosk location noted on sheet C-2. Final location to be determined by the postmaster.
- Confirm dwelling units will be constructed as true townhouses as referenced by ICC
  Confirmed. Dwelling units will be constructed as true townhouses and noted as such in condo documents.
- Provide "No Parking Fire Lane" signage along roadway
  Revised accordingly. Signs have been added along Abbey Lane.
- Indicate location of electrical service and meters on structure.
  Location of electrical service and meters have been added on the Utility Plan (C-4). Please note the electric and gas meters and services on the plan are not final. Final design for both services will be determined by the utility provider in the construction documents phase. Plans submitted are noted "Not for Construction" (C-0).
- Add snow storage at the end of turnaround.
  Revised accordingly.

Economic Development Comments:

- Concerned about parking and snow removal.
  These concerns have been brought up in comments from Planning and Fire Departments and have been addressed.
- Proposed building materials and colors are nice.
  Noted – thank you.

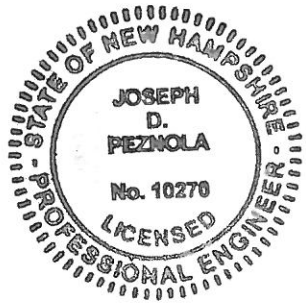
Planning Board Comments:

- Why would we not allow Saturday work hours?
  Works hours have been revised to Monday-Friday 7AM-6PM and Saturday 9AM-4PM. Work on Sundays and Federal Holidays is prohibited.
- Provide screening for transformer
  Provided. See Landscape Plan (C-5).
- Make sure rendering matches landscape plan
  Confirmed – rending and landscape plan match.
- Material used for rear fence?
  Rear fence will be 6 ft. tall white vinyl fence, as noted on sheet C-2.

We hope this demonstrates we have addressed all comments made by the Technical Review Committee and comply with the applicable sections of the Zoning Ordinance and Site Plan Regulations. We look forward to receiving approval from the committee and continuing the review process with the Planning Board.

Sincerely,
Hancock Associates
Acting on Behalf of Diamond Capital, LLC

Joseph D. Peznola. P.E.
Director of Engineering



Erik Rolser, E.I.T.
Project Engineer

cc: Diamond Capitol, LLC
Attorney FX Bruton
Donald Blajda, AIA

CHRISTOPHER G. PARKER, AICP
Assistant City Manager
Planning & Strategic Initiatives
c.parker@dover.nh.gov

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City of Dover, New Hampshire

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

INSTRUCTIONS TO APPLICANTS TO THE DOVER PLANNING BOARD

IMPORTANT: PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE FILLING OUT ATTACHED APPLICATION.
INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED FOR REVIEW.

Dear Applicant:

This will serve to briefly inform you regarding the process to have the Dover Planning Board (the Board) review a land use application. Please refer to the NH Statutes on Land Use and Regulation the Dover Code, and our Developer's Handbook for more specific information.

The Board primarily reviews 5 types of applications:

1. **Site Plans** - A site plan is a professionally rendered drawing which delineates the proposed development of a site. This plan is required for non-residential development, creation of multi-family residential structures, and for extensions of parking lots and alteration of an acre or more of land. These plans require meeting with the Technical Review Committee before Planning Board review.

2. **Subdivisions** - A subdivision is the division of the lot, tract, or parcel of land into two (2) or more lots, plats, sites or other divisions of land for the purpose, whether immediate or future, of sale, rent, lease or building development. It includes re-subdivision and, when appropriate to the context, relates to the process of subdividing or to the land or territory subdivided. Major subdivision plans (4+) require meeting with the Technical Review Committee before Planning Board review.

3. **Lot Line Adjustments** - A lot line adjustment alters the size of two (2) or more lots, but does not create a new buildable lot.

4. **Conditional Use Permits** - A conditional use permit is required for any alteration of wetlands, wetland buffers or work within the City's conservation district. Additionally, a conditional use permit could be issued as to offer relief in the Central Business District, for plans in the Residential Mixed Use Overlay District, or parking relief. Environmental Conditional Use Permits are acted on after Conservation Commission review.

5. **Excavation Permits** – NH RSA Chapter 155-E grants municipalities the authority to regulate earth excavations within their borders. This authority rests with the Planning Board.

The Board cannot and will not review applications that do not meet zoning requirements. **Please review the need to apply to the Zoning Board of Adjustment prior to applying to the Board.**

Professional agents will prepare your application; however, you may represent yourself or authorize, in writing, someone else to represent you before the Planning Board.

In most cases, 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, and a PDF, need to be provided, along with payment of plan review fees. These meetings occur on Thursday, and materials and payment must be submitted three (3) weeks prior to meeting. Meetings are scheduled, upon receipt of completed applications with the full checklist and payment.

The next step would be to provide, two weeks prior to Planning Board, the final plan sets (three (3) full size and twelve (12) half size (11x 17), folded, copies of the plan), and 15 copies, and a PDF, of all supporting materials, including response to TRC comments. Please print all materials on both sides of paper.

For projects not appearing before the Technical Review Committee, Plan Review Fees are due along with three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and 15 copies, plus a PDF, of plans and materials, 3 weeks prior to the Planning Board meeting. Please print all materials on both sides of paper.

Staff will generate an abutter list, and Abutter/Notice Fees will be invoiced. They are due 28 hours prior to Planning Board. If they are not paid, the application will not be heard.

Once an item is placed upon an agenda the following process is used:

- The Board will hold a public hearing on your application at a regularly scheduled meeting
    - Typically the second or fourth Tuesday of the Month.
- Public notice of the hearing will be posted at the City Clerk's office and the Planning Department office and printed in the newspaper.
- Certified letters will be mailed to you and to all abutters at least ten days before the date of the hearing.
- 28 hours prior to the meeting, abutter/notice fees must be paid
- At the meeting
    - Staff will introduce your project
    - You and all other parties will be invited to appear in person or by agent or counsel to present your application.
        - Your project will be pre-loaded onto a laptop for review by the Board and public
    - The Board may ask clarifying questions
    - The Board will vote to accept jurisdiction on the application
    - If accepted:
        - The Board will hold a public hearing
        - The Board may ask additional questions
        - The Board will deliberate on your application
            - Typically decisions are made the night of the presentation, but an application may be tabled
        - After deliberation, a decision will be made.
            - You will be sent a notice of the decision.

City of Dover, New Hampshire
SITE REVIEW APPLICATION

[Revision Date: July 1, 2021]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: Diamond Capital, LLC Telephone # 978-255-2410

Address of Applicant: 170 Commerce Way Suite 200 Portsmouth, NH 03801

E-Mail Address: Sarah@SavageBuilders.com

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

Address of Property Owner: _____

PROPERTY INFORMATION

Address of Property: 71 and 73 Rutland Street

Assessor's Map # 14 Lot(s) # 17 and 17A

Zoning District(s) Gateway Overlay District(s) _____

Size of Parcel: 43560 sq. ft. 1.0 ac. Property Deed: Book _____ Page: _____

Existing Use of Property: Residential

SITE PLAN INFORMATION

Describe Proposed Use: Multi-family

Area of Parcel to be Developed: 43,560 sq. ft.

If Multi-family Residential: Number of Units 10 & Buildings Proposed 3 (2 exist/1 proposed)

If lodging: Number of Units _____ & number of Buildings _____

Number of Parking Spaces: Existing 4 Proposed 16

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

Number of Employees Total: n/a In Maximum Shift: _____

Disposition of Parcel:

Building Footprint 7,040 sq. ft.

Total Building Area 14,340 sq. ft.

Paved Area 8,650 sq. ft.

Building Setbacks:

Front Yard 20 ft.

Rear Yard 15 ft.

Side Yard: n/a Right____ ft. Left_____ ft.

City Water? _x_ Yes ___ No How far is city water from the property? In street in front

City Sewer? _x_ Yes ___ No How far is city sewer from the property? In street in front

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

Type of TRANSFER OF DEVELOPMENT RIGHT REQUEST (Check All That Apply):

□ Residential □ Residential (reduced size) □ Industrial | □ Purchase □ Land Preservation

Relief sought (Check All That Apply):

□ Lot Size □ Frontage □ Setback □ 30' Buffer □ Increase by _____ units

Describe Proposed Use or Activity that requires TDR; describe any impacts and document mitigation:

_____

_____

_____

BUILDING INFORMATION

Type of Building to be Built: 2-story wood framed townhouse (standard construction)

Height of Building: 32 feet to peak of roof Finished Floor Elevation: Stepped slabs, see plan

Number of Seats (where applicable) n/a

Estimated value of construction: $1.736M Refuse removal: Public/Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: 153-13(12) partial

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

Waiver requested from requirement to have landscape plan prepared by a N.H. Landscape Architect. Applicant unable to secure a NH RLA. Plan completed by James Emmanuel who is a Registered Landscape Architect in Massachusetts with extensive experience.

_____

_____

_____

_____

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Wayne C. Jalbert, PLS, Hancock Survey Assoc., Inc.

Address 10 Ferry Street Suite 406 Concord, NH 03301 Telephone #: 603-223-1950

Professional License #: 0861 E-mail address: wjalbert@hancockassociates.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Joseph D. Peznola, PE, Hancock Survey Assoc.,Inc.

Address 10 Ferry Street Suite 406 Concord, NH 03301 Telephone #: 603-223-1950

Professional License #: 10270 E-mail address: jpeznola@hancockasscoaites.com

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) Donald W. Bladjda, AIA Koal, PLLC

Address 42 Gilford East Dr. , Gilford, NH 03249 Telephone #: 603-215-7055

Professional License #: 0260 E-mail address: donald@koalpllc.com

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) Waiver requested

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) Luke Hurley Gove Environmental Services, Inc.

Address 8 Continental Drive Bldg 2 Unit H Exeter, NH 03883 Telephone #: 603-418-7260

Professional License #: 0095 E-mail address: lhurley@gesinc.biz

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: 9-8-21

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

Signature of Agent: _____ Date: 9-8-21

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: 9-8-21

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: 9-8-21

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: 9-8-21

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

CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS

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

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
14	17&17A	Diamond Capital, LLC	170 Commerce Way Portsmouth NH

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Same		

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Joseph Peznola, PE	Hancock Associates	10 Ferry St Suite 406 Concord, NH

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS
n/a			

PLANNING BOARD FEE SCHEDULE/INVOICE

(Revised July 1, 2021)

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+ $100.00 x # __ per dwelling unit =$_____
- ☒ SITE REVIEW – NON-RESIDENTIAL Application fee $200.00 + (not to exceed $10,000)
  - New construction $.15 sq. ft. x # 14,340 sq. ft.= $2,151.00
  - 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 = $_____

2. TOTAL IMPERVIOUS PAVED AREA (for new development, roadways or additions to existing parking lots, (not to exceed $10,000)) Application fee of $200.00 is N/A if it is part of a Site Review or Subdivision Plan. $200.00 + $.07 per sq. ft. x # 8,650 sq. ft. = $ 605.50

SUBTOTAL PLAN REVIEW FEE (A) = $ 2,756.50

AND

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 review the list for accuracy and provide to us 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 # 5 of x $8.00= $ 40.00
- ☒ 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= $?

C. Foster's newspaper public notice fee $100.00 x # 1 applications = $ 100.00

SUBTOTAL NOTICE FEE (B & C) = $ 140.00

TOTAL INVOICE AMOUNT (A, B & C) = $ 2,896.50

PLAN REVIEW FEE COLLECTED/PAID = $ _____

BALANCE DUE = $ _____

The balance due must be paid 28 hours prior to the Planning Board Meeting, to be heard.

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: Diamond Capitol, LLC File Number: _____

PROJECT TITLE: TBD

PROPERTY LOCATION: 71 & 73 Rutland St Tax Map: 14 Lot: 17 & 17A

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

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access	x	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	x	
Existing and proposed topographic information at two foot intervals	x	
Existing and proposed buildings and structure locations	x	
Minimum building setbacks or build to lines on all lots	x	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	x	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	3,600 GPD	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	3,600 GPD	
Existing and proposed stormwater lines and facilities	x	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	x	
Location of Flood Hazard Zone	n/a	
Location of all bodies of water and watercourses	none	
Location of wetlands and buffers	none	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	x	
Existing natural features and/or significant vegetation on property	x	
Depict existing contours up to 100 ft. beyond project limits	x	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	x	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	x	
Location, material and size of existing and proposed pavement area	x	
Location of proposed fire lanes		
Specify finished floor elevations of buildings	x	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	x	
Depict all service, storage, loading bays and utility areas	x	
All applicable Dover Common Site Plan notes	x	
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	x	
Stormwater Management System Operation and Maintenance Plan	x	
Letter to Serve from Public and Private Utilities	pending	
Erosion and Sedimentation Control Plan	x	
Landscape Operation and Maintenance Plan	x	
Proposed restrictive covenants or homeowners association documents	pending	
Dates and permit numbers of all required state and federal permits	none	
If wetland buffer, indicate placards locations, as applicable	n/a	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	see soils report by Gove	
Location of proposed drive-in facilities	none	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required		

REVIEWED BY: _____ DATE_____ TRC DATE_____

CITY OF DOVER PLANNING DEPARTMENT
Revised August 10, 2020

APPLICANT: Diamond Capital, LLC 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. 17/17A, Map 14 of the City of Dover Tax Assessor's Maps.

4. The subject parcel(s) contains 1.0 acres or 43,560 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 G 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. NVD 1988 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:

STORMWATER REPORT

FOR

71-73 Rutland Street

DOVER, NEW HAMPSHIRE

September 10, 2021
Rev. December 17, 2021

Prepared for: Diamond Capital, LLC
170 Commerce Way, Suite 200
Portsmouth, NH 03801

Prepared by: Hancock Associates, Inc.
Civil Engineers | Land Planners | Wetland Scientists
10 Ferry Street, Suite 406
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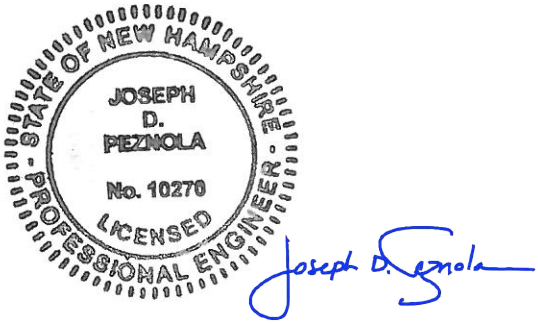

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STORMWATER REPORT
71-73 RUTLAND STREET
DOVER, NH

1.0 PROJECT DESCRIPTION

Diamond Capital, LLC proposes to merge 71 and 73 Rutland Street parcels to construct eight-unit three-story townhouses. The project will include a new drive, utility services, and site alterations which will disturb 27,500± sq. ft. (0.63± acres). In accordance with the New Hampshire Department of Environmental Services (NHDES) requirements for land development, an Alteration of Terrain (AoT) permit will not be required for this project.

1.1 Existing Site Description

The project site includes both 71 and 73 Rutland Street parcels, which are adjacent, rectangular lots with a total area of 43,550± sq. ft. (1.0± acres). 71 Rutland Street (Lot B) has 118± ft. of frontage on Rutland Street. 73 Rutland Street (Lot A) has 100± ft. of frontage on Rutland Street and 200± ft. of frontage on Abbey Lane. The lots will be merged for the proposed project.

The existing 2-½ story wood frame dwelling on Lot B is located on the northern portion of the property, facing Rutland Street. Attached to the dwelling is a 1-½ story garage, with a bituminous concrete driveway and walk providing access to Rutland Street. The dwelling and attached garage will be retained and rehabilitated. A wood deck is attached to the rear of the dwelling, which leads to an inground pool surrounded by a concrete patio. The pool and patio will be removed prior to construction of the townhouses. A garden, fence, and 1-foot-tall stone retaining wall are located to the rear of the garage, adjacent to the pool area, and will also be removed. The back of the lot is grass covered with some areas of thick vegetation.

The existing 1-story wood frame dwelling on Lot A is located on the northeastern portion of the property, facing Rutland Street. Attached to the dwelling is a 1-story garage, with a bituminous concrete driveway and walk providing access to Rutland Street. An enclosed porch is attached to the rear of the dwelling. The dwelling, attached garage, and porch will be retained and rehabilitated. A 1-story wood frame garage is located on the southwest corner of the existing lot, with a concrete apron along the eastern side of the building. Both the garage and the concrete apron will be removed prior to construction of the townhouses. The back of the lot is grass covered with some areas of thick vegetation.

Topography of the overall site consists mostly of flat to moderate slopes. Generally, the site slopes south. The high point onsite is at the northern corner of the parcel at elevation 74.2, and the low elevation onsite if 59.5 is located at the southern corner of the parcel. The average slope between the high and low point is roughly 5 percent.

Stormwater from the dwellings discharges via downspouts to grade without any stormwater controls. Two catch basins located south of the site on Abbey Lane collect the sheet flow and carry the runoff to an existing brook which flows through a 30 in. x 30 in. stone culvert.

The project site is not within a federally designated flood hazard area and there are no wetlands on or near the project site.

1.2 Proposed Site Description

The proposed project includes three-story eight-unit townhouses with a new drive entrance from Abbey Lane, parking, retaining walls, transformer, utility connections and an associated stormwater management system. The proposed building is located on the rear of the two adjacent lots. Facing the front of the townhouses is a 22 ft.-wide bituminous concrete drive, which provides access to Abbey Lane. Each townhouse will be provided one garage parking spot. Four visitor parking spots will be located on the property.

The proposed stormwater management system will utilize a subsurface infiltration system and a bioretention system (rain garden). Both BMPs will comply with the City of Dover and NHDES stormwater management design standards.

1.3 Soil conditions

A review of Web Soil Survey (Appendix G) operated by the Natural Resource Conservation Service (NRCS) indicates Scantic silt loam, 3 to 8 percent slopes (Map Unit ScB) and Suffield silt loam, 8 to 15 percent slopes (Map Unit SfC) to be the primary soil groups onsite. Both soil groups predominantly consist of silty loam, with silty clay in the deeper layers. Scantic is classified into hydraulic soil group "C/D" and Suffield is classified into hydraulic soil group "C".

A site-specific soil survey report was prepared by certified soil scientist Luke Hurley of GES, Inc. on August 16, 2021, for Hancock Associates. Utilizing *Society of Soil Scientists of Northern New England (SSSNNE)* standards, GES, Inc. determined the project site to contain Scio Variant soils, which are dominated by silt and very fine sand and is classified into hydraulic soil group "C".

Additionally, Hancock Associates conducted soil testing on October 22, 2021. Results from the testing confirmed "C/D" soils were present on site and that the seasonal mean high-water table was below elevation 54.0 (NAVD 88).

The compiled results of Web Soil Survey, the site-specific soil survey report, and the test pit data concluded soils on site were within hydrological soil group "C". An approximated Rawls' Rate of 0.27 in/hr would be used in the stormwater mitigation and recharge calculations.

2.0 STORMWATER MANAGEMENT STANDARDS

The City of Dover follows the *New Hampshire Stormwater Manual Volume 2*, issued by NHDES, for all proposed stormwater practices and measures. The chapter 2 of the manual states, "Land development projects should employ site design and Best Management Practices (BMPs) to control peak runoff rates, provide stormwater quality treatment, use stormwater for groundwater recharge, and provide for stream channel protection". The proposed project has been designed in compliance with these standards as follows:

2.1 Peak Control

Post-development peak discharge rates can not exceed pre-development peak discharge rates for the 10- & 50-year, 24-hour storm events.

Stormwater runoff calculations contained herein for site related runoff have been computed in accordance with methods developed by the NRCS, as described in the "NRCS National Engineering Handbook, Section 5, and Hydrology for Small Watersheds." Storm hydrographs were generated and routed using the NRCS TR-20/TR-55 methodologies (incorporated into the hydraulic modeling software HydroCAD) with a Type III Storm Distribution.
The methodologies provide for hydraulic analyses of a watershed under various combinations of land cover/use. Surface runoff hydrographs were developed from storm rainfall data using a dimensionless unit hydrograph, drainage areas, times of concentration (Tc), and NRCS runoff curve numbers. These computer simulated hydrographs have been flood-routed, when appropriate, to account for effects of surface storage and hydraulic constraints provided by the designed mitigative measures.

For this analysis, hydrographs were developed to simulate peak storm runoff flows under existing and proposed conditions for the 2, 10, 25, and 50-year storm events. 24-hour values of 3.0, 4.3, 5.2, and 5.7 inches of rainfall were utilized for the respective storm events, as interpolated from *Technical Paper No. 40 (TP40) Rainfall Frequency Atlas of the Eastern United States*, by NHDES. These calculations indicate the order-of-magnitude of existing and proposed peak runoff rates anticipated from the project site. The following section provides a brief description of the existing and proposed watershed areas and associated downstream facilities.

2.1.1 Existing Watersheds

Existing Watershed E1 – includes the roofs on the existing dwellings of each lot, the roof on the existing garages, the bituminous concrete drives, the bituminous and cement concrete walkways, patios, decks, lawn, vegetation and wooded areas. Stormwater runoff in this watershed primarily drains towards the existing sub-catchment system on Abbey Lane before being brought to the stone culvert.
Area = 43,550 sq. ft.

Existing Watershed E2 – includes the area from Abbey Lane and Rutland Manor that is collected and drains towards the stone culvert. This watershed does not change between existing and proposed and will not have an increase in impervious area but was modeled to confirm that the stone culvert will not be overwhelmed with the construction of the proposed townhouses.
Area = 130,680 sq. ft.

2.1.2 Proposed Watersheds

Proposed Watershed P1 – includes the proposed bituminous concrete driveway, parking, the rain garden area, the grass paver turnaround, and the surrounding area that will sheet flow into the BMP. Stormwater is collected and treated in this BMP, which overflows into the existing system on Abbey Lane and brought to the stone culvert. Approximately 500 sq. ft. of the proposed driveway will miss the catch basin at the end of the driveway and flow into the existing Abbey Lane system. The rain garden was sized to account for this additional impervious area.

Area = 16,718 sq. ft.

Proposed Watershed P2 – consists of the roof area of the proposed townhouses. Stormwater is collected and treated in the proposed infiltration system (*48 Stormtank Module 25 Series chambers – 24" height double stacked*). Overflow from the proposed system will be carried to the existing sub-catchment system on Abbey Lane and brought to the stone culvert.
Area = 7,040 sq. ft.

Proposed Watershed P3 – consists of the remaining area on the site, including the roofs on the existing dwellings of each lot, the roof on the existing garage, the existing bituminous concrete drives, the existing bituminous and cement concrete walkways, and the proposed grading around the new townhouses which does not flow into watersheds P1 or P2. This sheet flow drains into the existing system on Abbey Lane before being carried to the stone culvert.
Area = 19,792 sq. ft.

Proposed Watershed P4 – includes the area from Abbey Lane and Rutland Manor that is collected and drains towards the stone culvert. This watershed does not change between existing and proposed and will not have an increase in impervious area but was modeled to confirm that the stone culvert will not be overwhelmed with the construction of the proposed townhouses.
Area = 130,680 sq. ft.

2.1.3 Pre-Development vs. Post-Development

Attenuation of peak runoff rates and stormwater volumes from the project site has been provided through construction of a subsurface infiltration system and a wet pond. Under the existing conditions, all stormwater sheet flows offsite to catch basins in Abbey Lane before being carried to a 30" x 30" stone culvert. Under the proposed conditions, all new impervious area is captured and treated within the proposed subsurface infiltration system and rain garden. This in turn will provide adequate mitigation and reduction of runoff to the existing stone culvert.

As noted in the following sections, the proposed project will result in significant decrease in both peak flow and volume of stormwater runoff. Additionally, the project includes stormwater recharge and best management practices (BMPs) to improve stormwater quality.

The peak flow calculations indicate the "order-of magnitude" of runoff rates under existing and proposed conditions for the 2, 10, 25, and 50-year storm event recurrence intervals. Refer to **Table 1** for a summary of the peak runoff rates. As shown in the table, there is no increase in the peak rate of runoff for the 10-year and 50-year storm events.

Table 1 – Peak Flow Reduction

Storm Event	Watershed	Existing Peak Rate	Proposed Peak Rate	% Change
		cfs	cfs	
50-yr	Stone Culvert (R3/R4)	18.92	17.86	**-5.6%**
25-yr	Stone Culvert (R3/R4)	16.93	16.01	**-5.4%**
10-yr	Stone Culvert (R3/R4)	13.35	12.76	**-4.4%**
2-yr	Stone Culvert (R3/R4)	8.23	8.09	**-1.7%**

2.2 Water Quality Volume

The amount of stormwater runoff from a rainfall event that should be captured and treated to remove the majority of stormwater pollutants on an average annual basis.

Water Quality Volume (WQV) in New Hampshire is associated with the first inch of rainfall, and is calculated using the following equation:

WQV = (P)(Rv)(A)

Where:
P = 1 inch
Rv = the unitless runoff coefficient, Rv = 0.05 + 0.9(I)
I = the percent impervious cover draining to the structure, in decimal form
A = total site area draining to the structure

When calculating the WQV of the area draining into the proposed rain garden:
I = 0.19 Ac. / 0.38 Ac. = 0.48
Rv = 0.05 + 0.9(0.48) = 0.49
WQV = (1 in.) * (0.49) * 0.38 Ac.
WQV = 676 cubic ft.

A bioretention system (rain garden) was proposed to meet this water quality volume requirement due to the size and nature of this project. Rain gardens are typically used when treating a watershed of less than five acres. A 3-inch layer of mulch will cover an 18-inch soil filter bed to treat and infiltrate stormwater. Underneath the soil filter bed will be a 14-inch coarse gravel layer with 6-inch perforated PVC underdrains capturing and discharging the treated stormwater. The entire system will be underlaid with a 3" layer of pea gravel. The rain garden will be planted with native

shrub and perennial plantings which will assist with pollutant uptake. A drain basin with dome grate will be installed in the middle of the garden to capture stormwater overflow and direct it to the existing sub-catchment system in Abbey Lane.

Since the project site located in an MS4 area, pretreatment is required prior to the bioretention system. A deep sump catch basin will be used to capture sediments and debris from runoff. A hood will be fitted over the outlet pipe to prevent floating materials from exiting the structure.

The rain garden was sized to capture and treat the stormwater runoff from watershed P1 using the NHDES BMP worksheet (Appendix C), which follows the NH Stormwater Manual design criteria. A portion of stormwater runoff in the driveway (500± sq. ft.) will miss the catch basin and sheet flow out to Abbey Lane. However, considering the existing pool and patio area on the lot is greater than 500 sq. ft. and will be removed, there will be no net increase in impervious runoff leaving the site.

2.3 Groundwater Recharge Volume

The purpose of the groundwater recharge volume criterion is to protect groundwater resources by minimizing the loss of annual pre-development recharge as a result of the proposed development.

Groundwater recharge is heavily dependent on the existing soil conditions of the project site. The equation to calculate groundwater recharge volume (GRV) is as follows:

$GRV = (A_I)(R_d)$

Where:
A_I = the total effective area of impervious surfaces that exist on the site after development
R_d = the groundwater recharge depth based on the USDA/NRCS hydrologic soil group

When calculating the GRV for the project site:
A_I = 21,640 sq. ft.
R_d = 0.10 in.
GRV = 21,640 sq. ft. * 0.10 in. = 180.3 cubic ft.

To reach the recharge requirement, a subsurface infiltration system will be utilized. Roof water from the proposed townhouses will be captured using a gutter system and brought to 48 *Stormtank Module 25 Series chambers – 24" height double stacked*, surrounded by crushed stone, to be infiltrated.

Table 3 summarizes the on-site recharge requirements and the proposed recharge volumes provided by the proposed stormwater infiltration system. The "Static" Method was used to calculate the volume required for the project.

Table 3 – Recharge Compliance Summary

Impervious Area		Recharge Required	Recharge Vol. Required	BMP	Recharge Vol. Provided
	(sf)	(in)	(CF)		(CF)
Exist. Imp Area	7,650	0.10	63.8	N/A	0
Prop. Imp Area	21,640	0.10	**180.3**	**Infiltration System**	**438.3**

2.4 Effective Impervious Cover and Undisturbed Cover

NHDES has proposed a target 10% effective impervious cover (%EIC) maximum and 65% undisturbed cover (%UDC) minimum for development sites, referred to as "the 1065 Rule".

The proposed project does not need to meet these antidegradation requirements. Chapter 5 of the *NH Stormwater Manual Volume 1* states that a NHDES Antidegradation Review is only required for projects that trigger one of the following state or federal permits:

- NHDES Shoreland
- NHDES Wetland
- NHDES AoT
- NHDES Individual 401 Certification
- NPDES CGP
- USACOE404 Individual Permit

2.5 Channel Protection

The purpose of this design criterion is to protect stream channels, downstream receiving waters, and wetlands from erosion and associated sedimentation resulting from the urbanization within a watershed.

The existing collection point on Abbey Lane drains to a brook. To protect the channel, the following NHDES design criteria was followed:

- If the 2-year, 24-hour post-development storm volume **has not increased** over the pre-development volume, then control the 2-year, 24-hour post-development peak flow rate to the 2-year, 24-hour pre-development flow rate.
- If the 2-year, 24-hour post-development storm volume **has increased** over the pre-development volume, then control the 2-year, 24-hour post-development peak flow rate to 50 percent of the 2-year.

The storm runoff volume calculations indicate the "order-of magnitude" of volumes under existing and proposed conditions for the 2, 10, 25, and 50-year storm event recurrence intervals. Refer to **Table 4** for a summary of the runoff volumes. As shown in the table, there is no increase in volume for the 2-yr storm. Thus, the 2-year, 24-hour post-development peak flow rate must be equal to or below the pre-development peak flow rate. The City of Dover also requires that the runoff volumes decrease in the 10, 25, and 50-year storms. As shown in **Table 4**, these requirements are met.

Table 4 – Runoff Volume Reduction

Storm Event	Watershed	Existing Volume	Proposed Volume	% Change
		cf	cf	
50-yr	Stone Culvert (R3/R4)	59221	59208	**0.0%**
25-yr	Stone Culvert (R3/R4)	52725	52609	**-0.2%**
10-yr	Stone Culvert (R3/R4)	41162	40818	**-0.8%**
2-yr	Stone Culvert (R3/R4)	11242	10862	**-3.4%**

3.0 EROSION AND SEDIMENT CONTROL

Downslope areas will be protected through the installation of a combination of erosion control tubes and filter fabric fence to be located along the perimeter and/or elsewhere as required to protect and stabilize earthwork. All embankment slopes will be fine graded and stabilized by the means of wood chip mulch, shrubs, sod and/or seed and mulch as is appropriate. All pipe drains and catch basins will be installed early in the construction period in order to provide early control of site runoff. Crushed stone will be judiciously applied to stabilize select areas, as required during the course of construction. The erosions controls are further described in the Operation and Maintenance Plan located in the appendix.

4.0 SUMMARY AND CONCLUSIONS

Significant attention and consideration has been given to proper management of stormwater runoff from the project site. The unique site-specific characteristics and hydrologic setting has been carefully studied to develop a comprehensive plan that fully utilizes and recognizes these attributes. Disposition of stormwater has been considered, with respect to its peak rate, total volume, groundwater recharge, and water quality aspects, to ensure appropriate mitigation upon project completion.

- There will be no adverse impact to any surrounding areas.
- The drainage systems have been properly designed to handle the design flow rates.
- A significant decrease in stormwater rate and volume will be realized.
- The project will provide groundwater recharge and increase stormwater quality off the site.

A

LOCUS MAP

125 0 250 500 1000 METERS

250 0 250 500 750 1000 1500 2000 2500 FEET

N

DOVER, NEW HAMPSHIRE

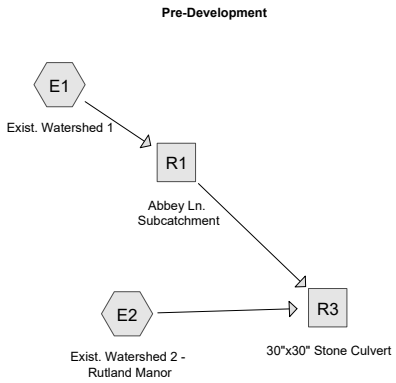
Source: NH GraniteView web mapping application.

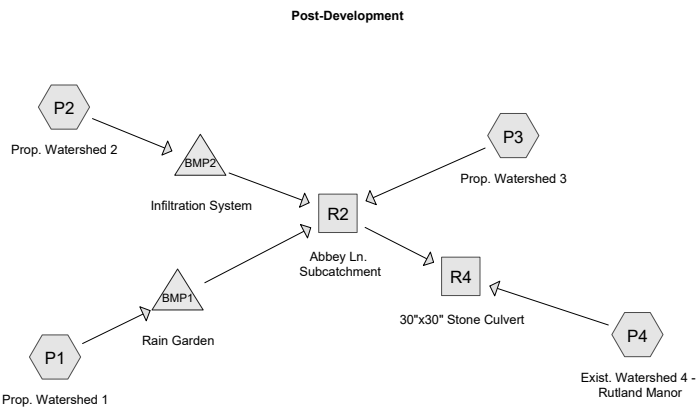
HANCOCK ASSOCIATES	Project Title: 71-73 Rutland Street Location: Dover, NH Plan Title: Locus Map	Project #: 23800 Date: 9/8/2021 Scale: 1" = 500'	FIGURE: 1

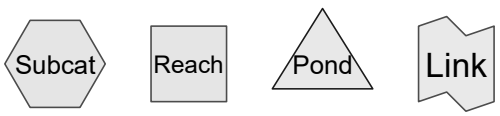
File Name: O:\Civil 3D Projects\23800 - Diamond Cap - Dover, NH\Eng\DWG\23800sp1.dwg Saved 9/8/2021 11:18 AM Plotted: Sep 08, 2021 11:43:46am Tab: Locus Plot Style: ENGINEER.CTB Plotted By: Erik Rolser

B

HYDROCAD CALCULATIONS







Routing Diagram for 23800-Dover-NH-Stormwater
Prepared by Hancock Associates, Printed 11/18/2021
HydroCAD® 10.00-22 s/n 08528 © 2018 HydroCAD Software Solutions LLC

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Exist. Watershed 1 Runoff Area=43,550 sf 17.53% Impervious Runoff Depth>1.04"
Tc=6.0 min CN=78 Runoff=1.26 cfs 3,760 cf

Subcatchment E2: Exist. Watershed 2 - Runoff Area=130,680 sf 70.00% Impervious Runoff Depth>1.95"
Tc=6.0 min CN=91 Runoff=7.03 cfs 21,223 cf

Subcatchment P1: Prop. Watershed 1 Runoff Area=16,718 sf 48.37% Impervious Runoff Depth>1.55"
Tc=6.0 min CN=86 Runoff=0.73 cfs 2,160 cf

Subcatchment P2: Prop. Watershed 2 Runoff Area=7,040 sf 100.00% Impervious Runoff Depth>2.59"
Tc=6.0 min CN=98 Runoff=0.46 cfs 1,520 cf

Subcatchment P3: Prop. Watershed 3 Runoff Area=19,792 sf 32.91% Impervious Runoff Depth>1.28"
Tc=6.0 min CN=82 Runoff=0.72 cfs 2,105 cf

Subcatchment P4: Exist. Watershed 4 - Runoff Area=130,680 sf 70.00% Impervious Runoff Depth>1.95"
Tc=6.0 min CN=91 Runoff=7.03 cfs 21,223 cf

Reach R1: Abbey Ln. Subcatchment Inflow=1.26 cfs 3,760 cf
Outflow=1.26 cfs 3,760 cf

Reach R2: Abbey Ln. Subcatchment Inflow=1.12 cfs 3,128 cf
Outflow=1.12 cfs 3,128 cf

Reach R3: 30"x30" Stone Culvert Avg. Flow Depth=0.59' Max Vel=5.63 fps Inflow=8.29 cfs 24,983 cf
30.0" x 30.0" Box Pipe n=0.018 L=70.0' S=0.0157 '/' Capacity=47.28 cfs Outflow=8.23 cfs 24,973 cf

Reach R4: 30"x30" Stone Culvert Avg. Flow Depth=0.58' Max Vel=5.59 fps Inflow=8.15 cfs 24,350 cf
30.0" x 30.0" Box Pipe n=0.018 L=70.0' S=0.0157 '/' Capacity=47.28 cfs Outflow=8.09 cfs 24,341 cf

Pond BMP1: Rain Garden Peak Elev=58.88' Storage=1,887 cf Inflow=0.73 cfs 2,160 cf
Discarded=0.01 cfs 272 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 272 cf

Pond BMP2: Infiltration System Peak Elev=60.31' Storage=507 cf Inflow=0.46 cfs 1,520 cf
Discarded=0.00 cfs 54 cf Primary=0.42 cfs 1,023 cf Outflow=0.42 cfs 1,077 cf

Summary for Subcatchment E1: Exist. Watershed 1

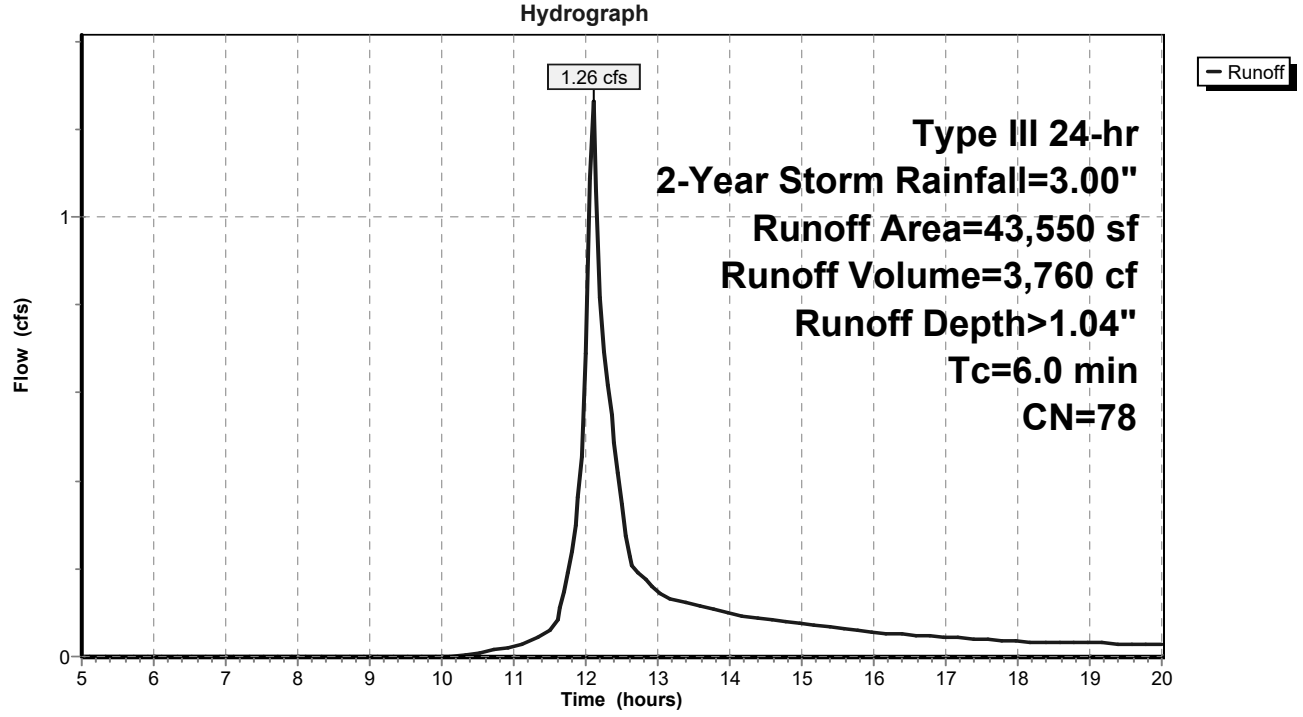
Runoff = 1.26 cfs @ 12.10 hrs, Volume= 3,760 cf, Depth> 1.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.00"

	Area (sf)	CN	Description
*	7,635	98	Paved parking, roofs, walks
	35,915	74	>75% Grass cover, Good, HSG C
	43,550	78	Weighted Average
	35,915		82.47% Pervious Area
	7,635		17.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment E1: Exist. Watershed 1



Summary for Subcatchment E2: Exist. Watershed 2 - Rutland Manor

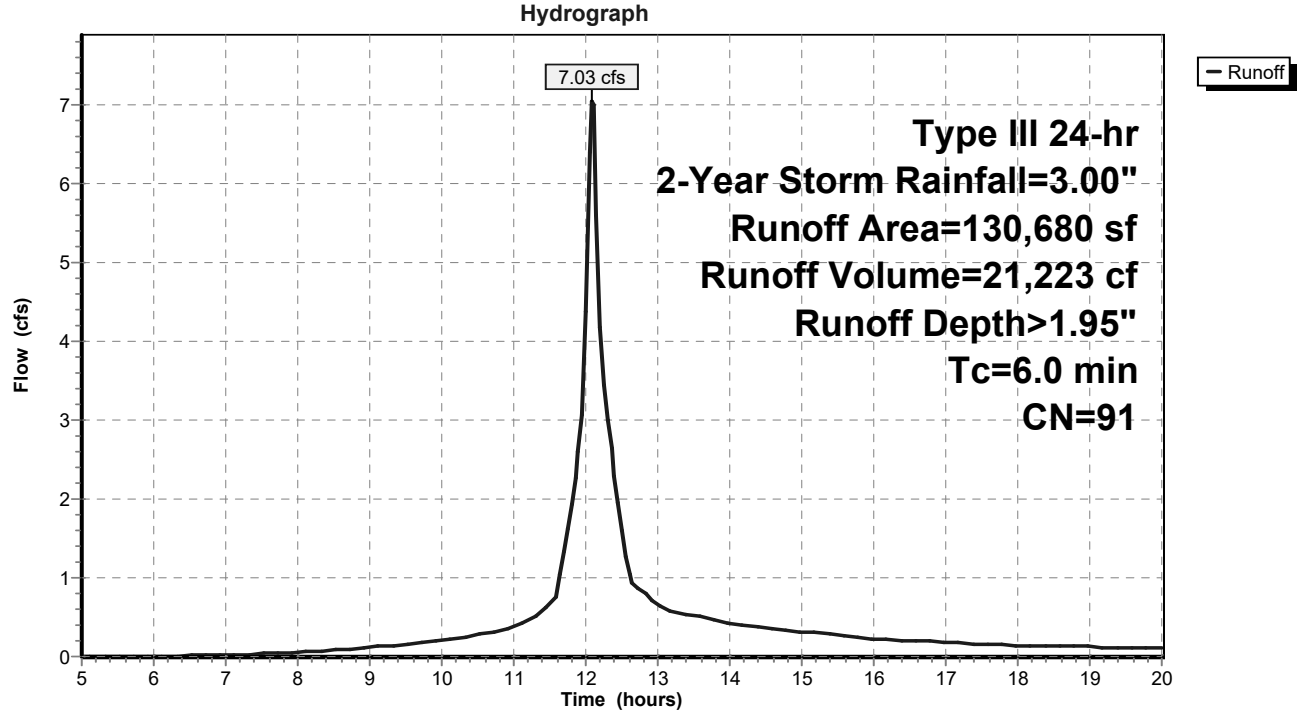
Runoff = 7.03 cfs @ 12.09 hrs, Volume= 21,223 cf, Depth> 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.00"

Area (sf)	CN	Description
91,476	98	Paved parking, HSG A
39,204	74	>75% Grass cover, Good, HSG C
130,680	91	Weighted Average
39,204		30.00% Pervious Area
91,476		70.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment E2: Exist. Watershed 2 - Rutland Manor



Summary for Subcatchment P1: Prop. Watershed 1

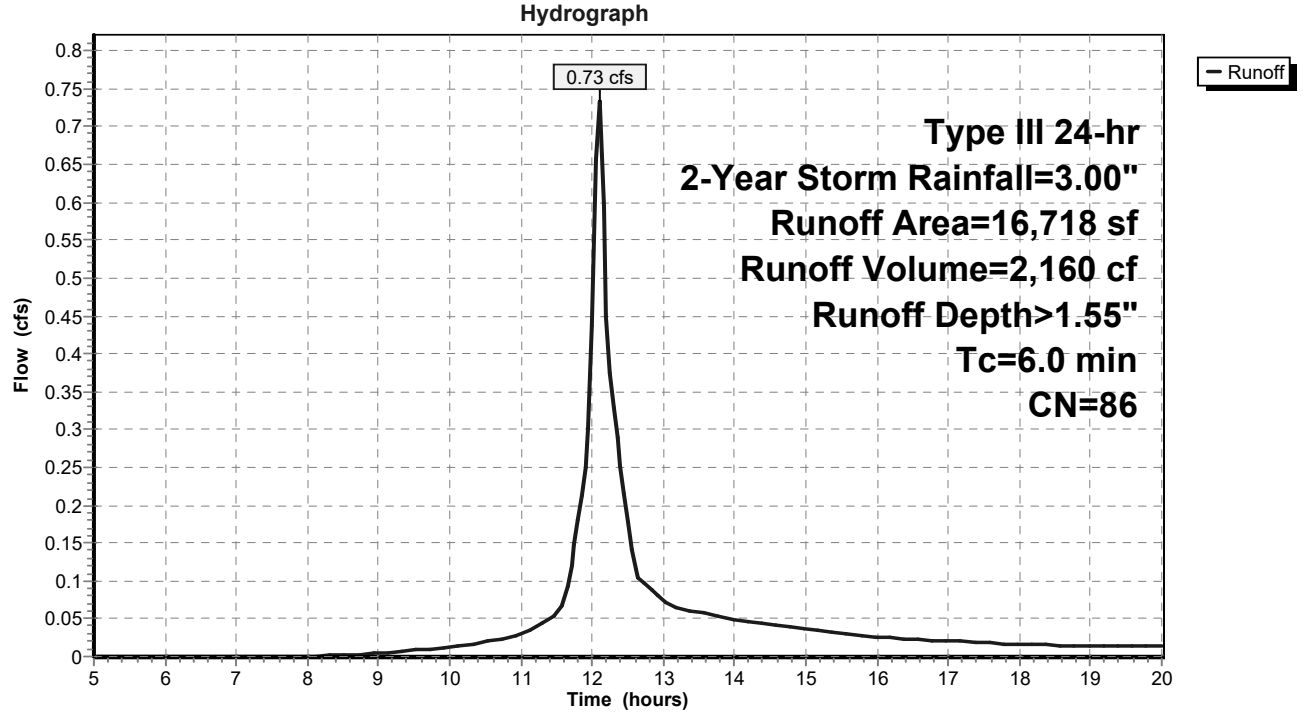
Runoff = 0.73 cfs @ 12.09 hrs, Volume= 2,160 cf, Depth> 1.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.00"

	Area (sf)	CN	Description
	8,086	98	Paved parking, HSG A
*	8,632	74	>75% Grass cover, Good, HSG C
	16,718	86	Weighted Average
	8,632		51.63% Pervious Area
	8,086		48.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P1: Prop. Watershed 1



Summary for Subcatchment P2: Prop. Watershed 2

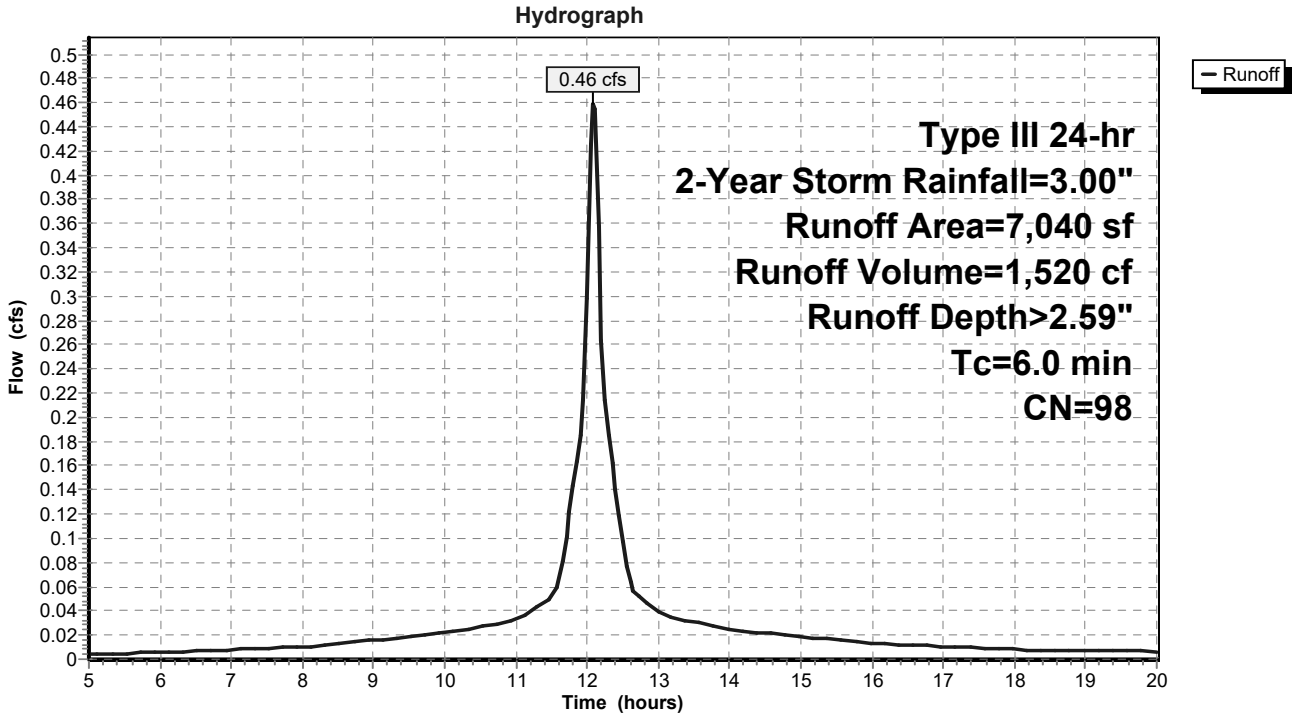
Runoff = 0.46 cfs @ 12.09 hrs, Volume= 1,520 cf, Depth> 2.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.00"

Area (sf)	CN	Description
7,040	98	Roofs, HSG C
7,040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P2: Prop. Watershed 2



Summary for Subcatchment P3: Prop. Watershed 3

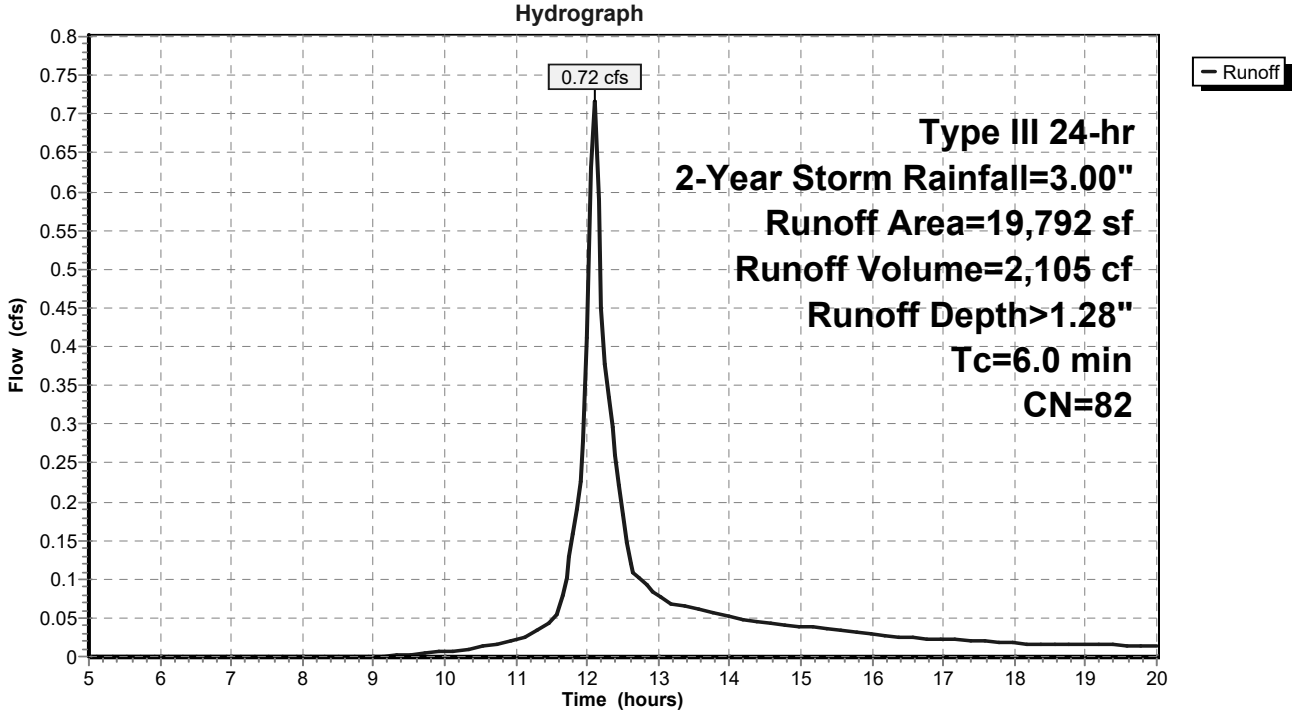
Runoff = 0.72 cfs @ 12.10 hrs, Volume= 2,105 cf, Depth> 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.00"

	Area (sf)	CN	Description
*	6,514	98	Paved parking, exist houses HSG C
	13,278	74	>75% Grass cover, Good, HSG C
	19,792	82	Weighted Average
	13,278		67.09% Pervious Area
	6,514		32.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P3: Prop. Watershed 3



Summary for Subcatchment P4: Exist. Watershed 4 - Rutland Manor

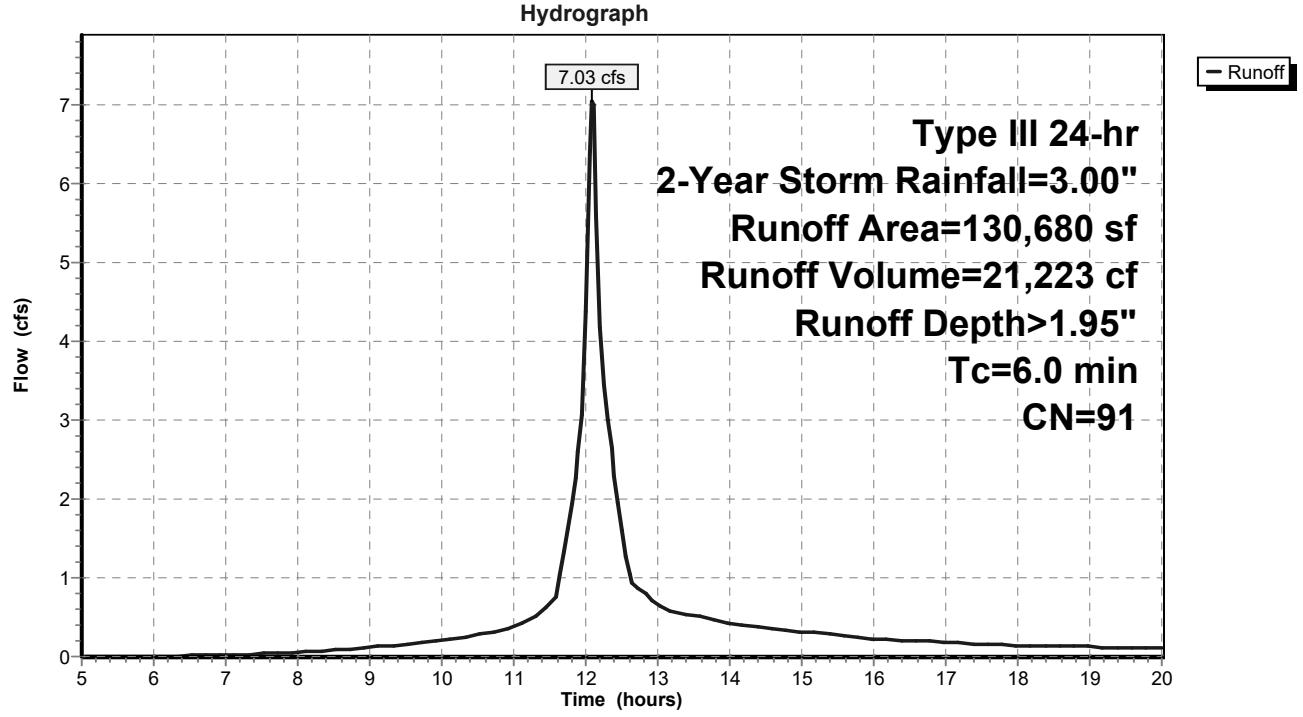
Runoff = 7.03 cfs @ 12.09 hrs, Volume= 21,223 cf, Depth> 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.00"

Area (sf)	CN	Description
91,476	98	Paved parking, HSG A
39,204	74	>75% Grass cover, Good, HSG C
130,680	91	Weighted Average
39,204		30.00% Pervious Area
91,476		70.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P4: Exist. Watershed 4 - Rutland Manor

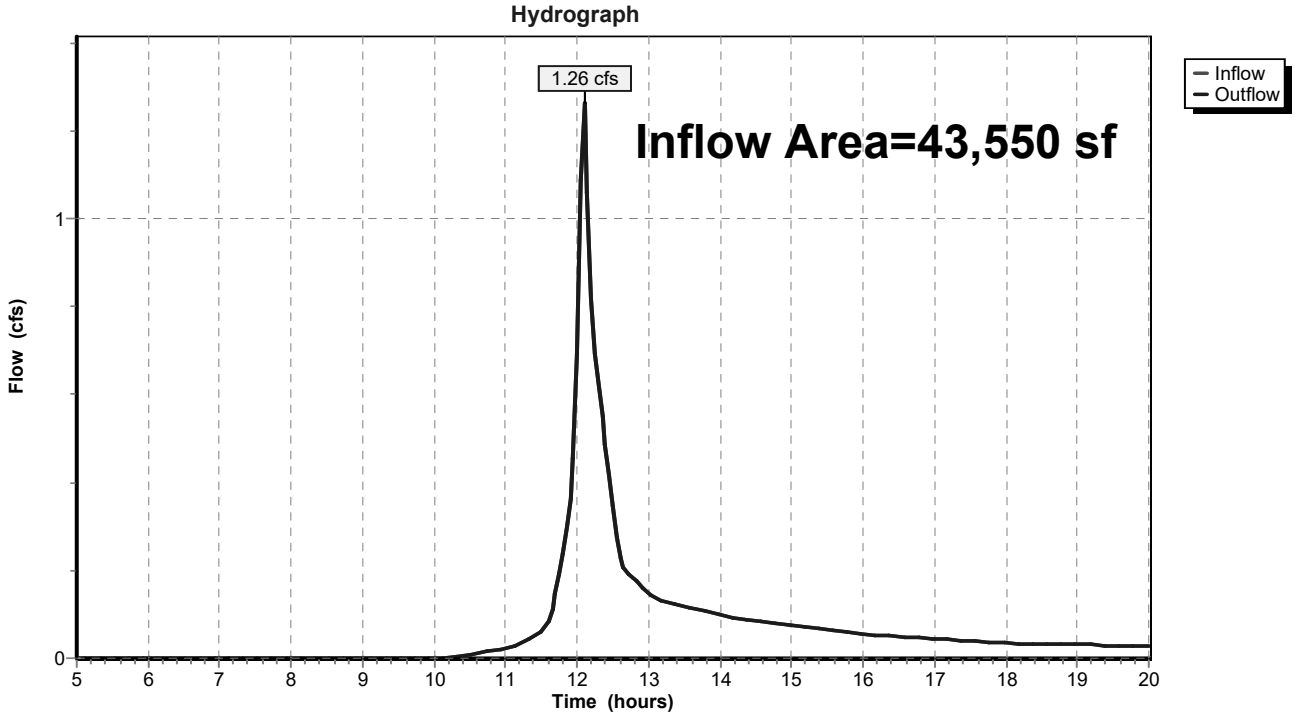


Summary for Reach R1: Abbey Ln. Subcatchment

Inflow Area = 43,550 sf, 17.53% Impervious, Inflow Depth > 1.04" for 2-Year Storm event
Inflow = 1.26 cfs @ 12.10 hrs, Volume= 3,760 cf
Outflow = 1.26 cfs @ 12.10 hrs, Volume= 3,760 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach R1: Abbey Ln. Subcatchment

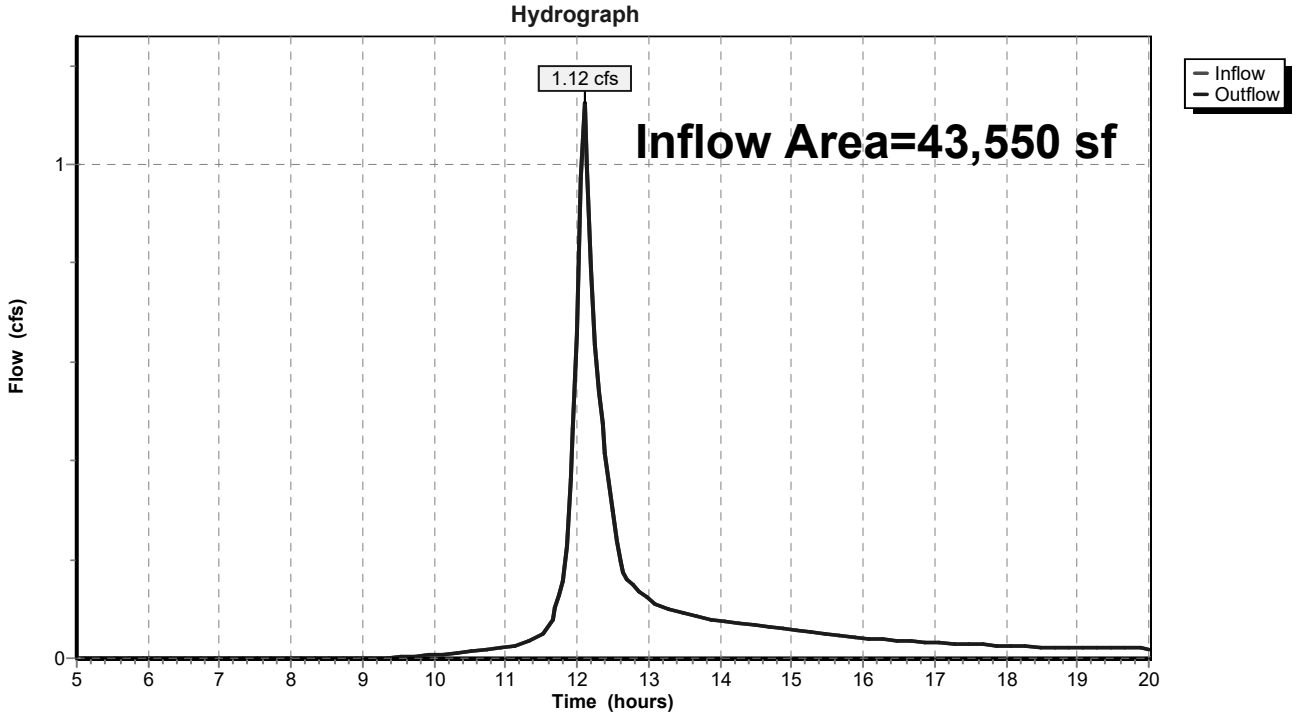


Summary for Reach R2: Abbey Ln. Subcatchment

Inflow Area = 43,550 sf, 49.69% Impervious, Inflow Depth > 0.86" for 2-Year Storm event
Inflow = 1.12 cfs @ 12.10 hrs, Volume= 3,128 cf
Outflow = 1.12 cfs @ 12.10 hrs, Volume= 3,128 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach R2: Abbey Ln. Subcatchment



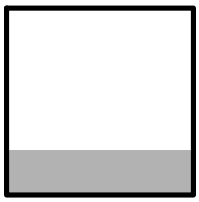
Summary for Reach R3: 30"x30" Stone Culvert

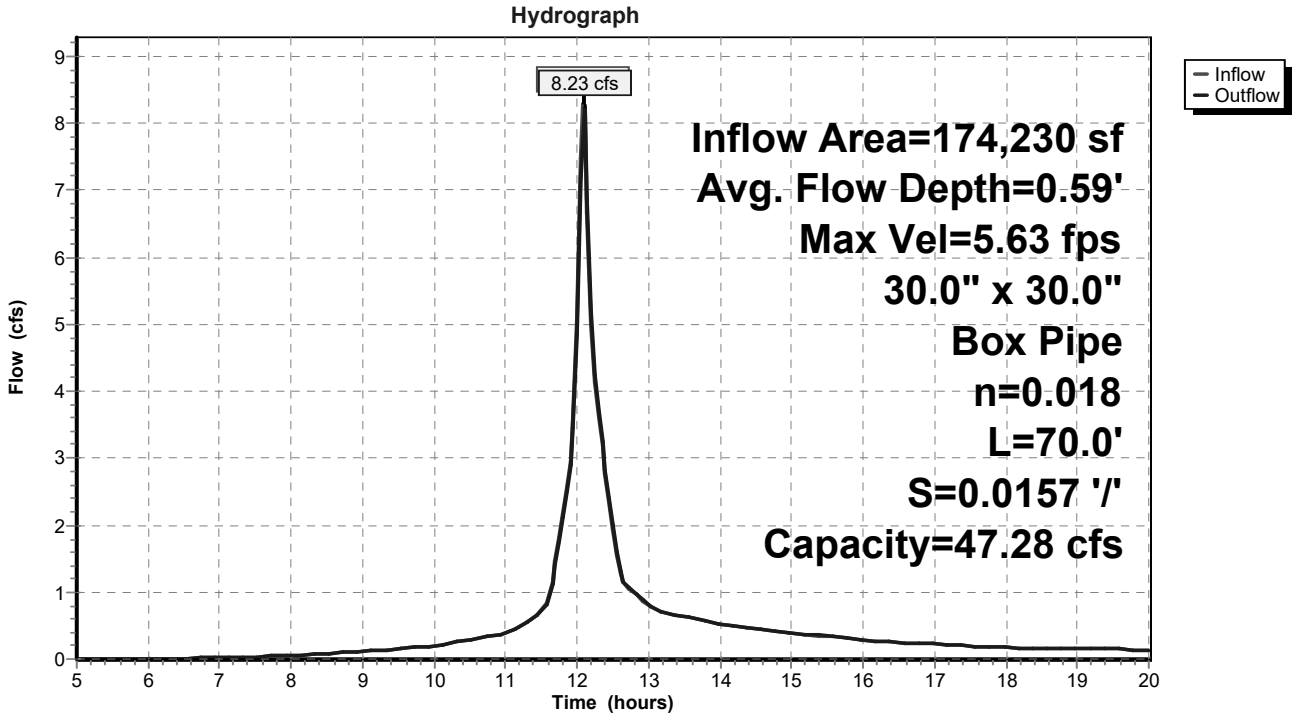
Inflow Area = 174,230 sf, 56.89% Impervious, Inflow Depth > 1.72" for 2-Year Storm event
Inflow = 8.29 cfs @ 12.09 hrs, Volume= 24,983 cf
Outflow = 8.23 cfs @ 12.10 hrs, Volume= 24,973 cf, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.63 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.69 fps, Avg. Travel Time= 0.7 min

Peak Storage= 103 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.59'
Bank-Full Depth= 2.50' Flow Area= 6.3 sf, Capacity= 47.28 cfs

30.0" W x 30.0" H Box Pipe
n= 0.018 Rubble masonry, cemented
Length= 70.0' Slope= 0.0157 '/'
Inlet Invert= 43.80', Outlet Invert= 42.70'





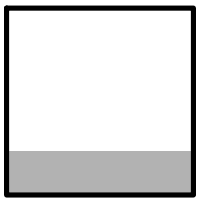
Summary for Reach R4: 30"x30" Stone Culvert

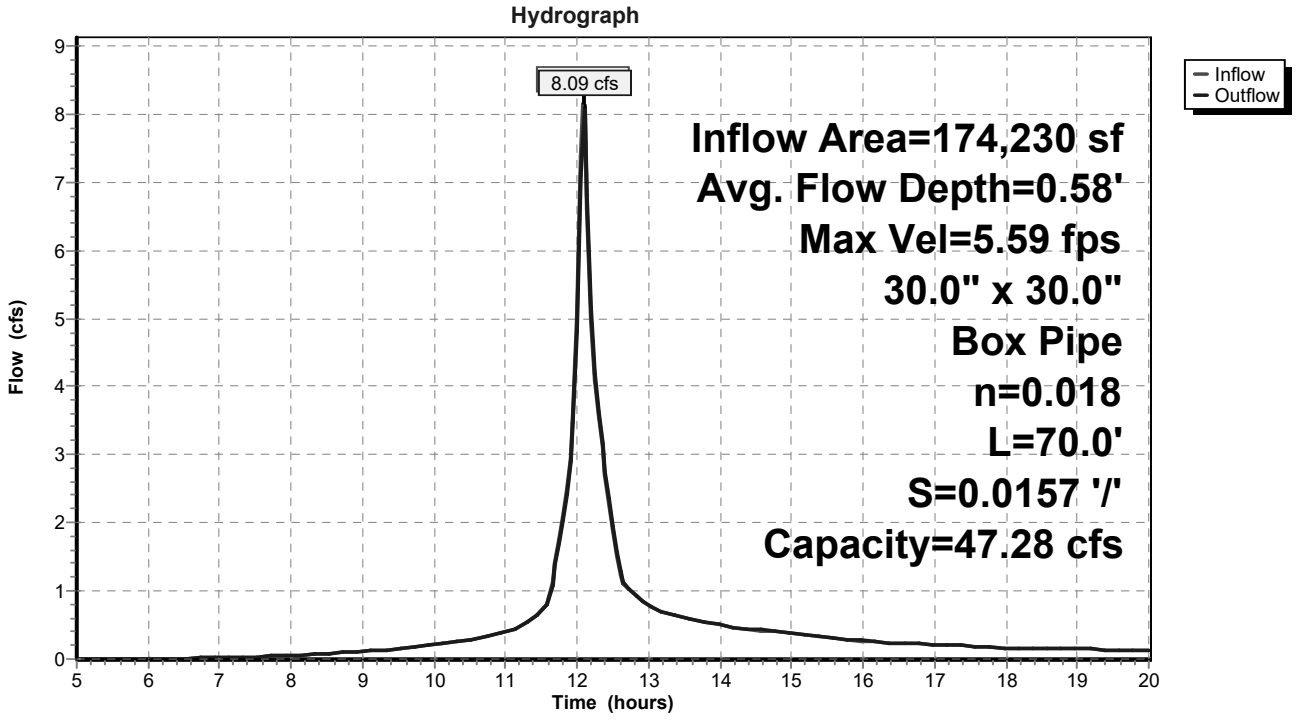
Inflow Area = 174,230 sf, 64.92% Impervious, Inflow Depth > 1.68" for 2-Year Storm event
Inflow = 8.15 cfs @ 12.09 hrs, Volume= 24,350 cf
Outflow = 8.09 cfs @ 12.10 hrs, Volume= 24,341 cf, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.59 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.68 fps, Avg. Travel Time= 0.7 min

Peak Storage= 102 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.58'
Bank-Full Depth= 2.50' Flow Area= 6.3 sf, Capacity= 47.28 cfs

30.0" W x 30.0" H Box Pipe
n= 0.018 Rubble masonry, cemented
Length= 70.0' Slope= 0.0157 '/'
Inlet Invert= 43.80', Outlet Invert= 42.70'





Summary for Pond BMP1: Rain Garden

Inflow Area = 16,718 sf, 48.37% Impervious, Inflow Depth > 1.55" for 2-Year Storm event
Inflow = 0.73 cfs @ 12.09 hrs, Volume= 2,160 cf
Outflow = 0.01 cfs @ 20.00 hrs, Volume= 272 cf, Atten= 99%, Lag= 474.4 min
Discarded = 0.01 cfs @ 20.00 hrs, Volume= 272 cf
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 58.88' @ 20.00 hrs Surf.Area= 1,312 sf Storage= 1,887 cf

Plug-Flow detention time= 254.6 min calculated for 272 cf (13% of inflow)
Center-of-Mass det. time= 120.9 min (910.8 - 789.9)

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	3,580 cf	**Rain Garden - Ponding Area (Prismatic)** Listed below (Recalc)

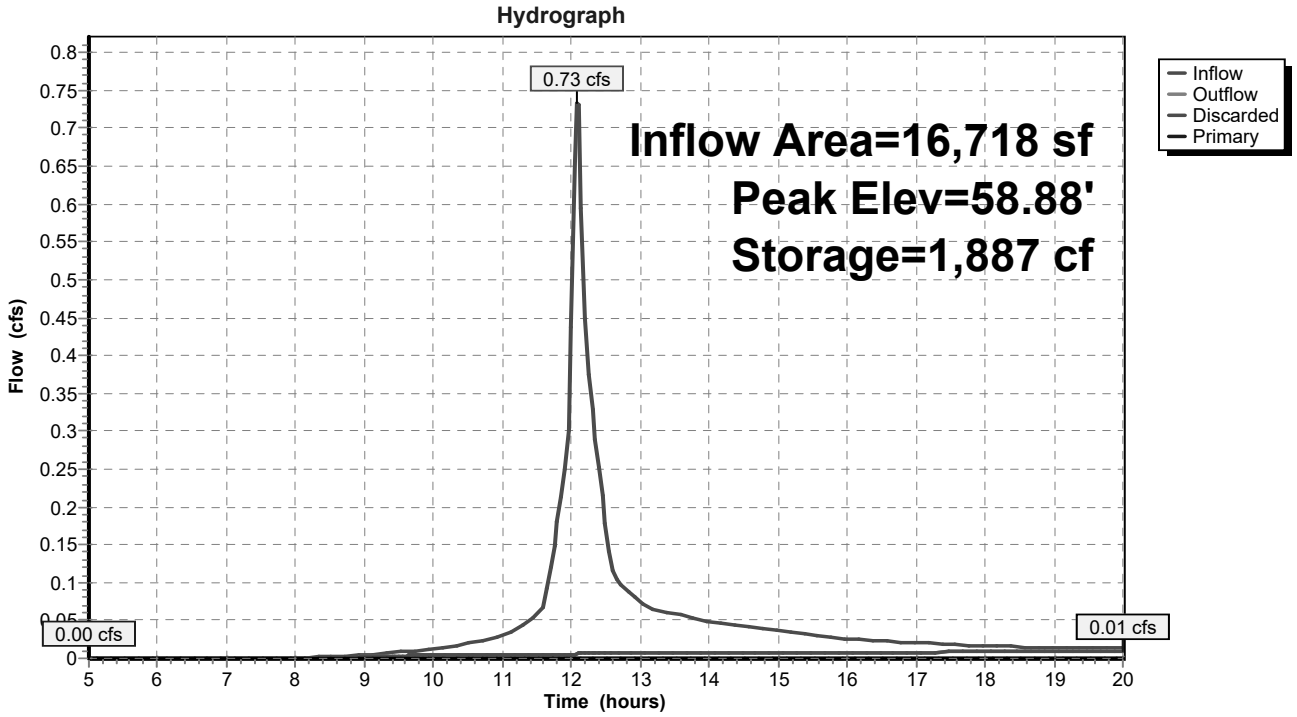
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.00	707	0	0
58.00	1,016	862	862
59.00	1,352	1,184	2,046
60.00	1,716	1,534	3,580

Device	Routing	Invert	Outlet Devices
#1	Primary	53.50'	**12.0" Round Culvert** L= 89.0' Ke= 0.200 Inlet / Outlet Invert= 53.50' / 52.60' S= 0.0101 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	59.00'	**24.0" Horiz. Dome Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	57.00'	**0.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.01 cfs @ 20.00 hrs HW=58.88' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=57.00' (Free Discharge)
└**1=Culvert** (Passes 0.00 cfs of 6.88 cfs potential flow)
└**2=Dome Grate** (Controls 0.00 cfs)

Pond BMP1: Rain Garden



Summary for Pond BMP2: Infiltration System

Inflow Area = 7,040 sf,100.00% Impervious, Inflow Depth > 2.59" for 2-Year Storm event
Inflow = 0.46 cfs @ 12.09 hrs, Volume= 1,520 cf
Outflow = 0.42 cfs @ 12.12 hrs, Volume= 1,077 cf, Atten= 9%, Lag= 2.2 min
Discarded = 0.00 cfs @ 5.25 hrs, Volume= 54 cf
Primary = 0.42 cfs @ 12.12 hrs, Volume= 1,023 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 60.31' @ 12.12 hrs Surf.Area= 160 sf Storage= 507 cf

Plug-Flow detention time= 124.9 min calculated for 1,073 cf (71% of inflow)
Center-of-Mass det. time= 58.9 min (798.1 - 739.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	56.00'	179 cf	**8.00'W x 20.00'L x 5.50'H Field A** 880 cf Overall - 432 cf Embedded = 448 cf x 40.0% Voids
#2A	56.50'	415 cf	**Brentwood StormTank 48"** x 24 Inside #1 Inside= 18.0"W x 48.0"H => 5.77 sf x 3.00'L = 17.3 cf Outside= 18.0"W x 48.0"H => 6.00 sf x 3.00'L = 18.0 cf 4 Rows of 6 Chambers
		595 cf	Total Available Storage

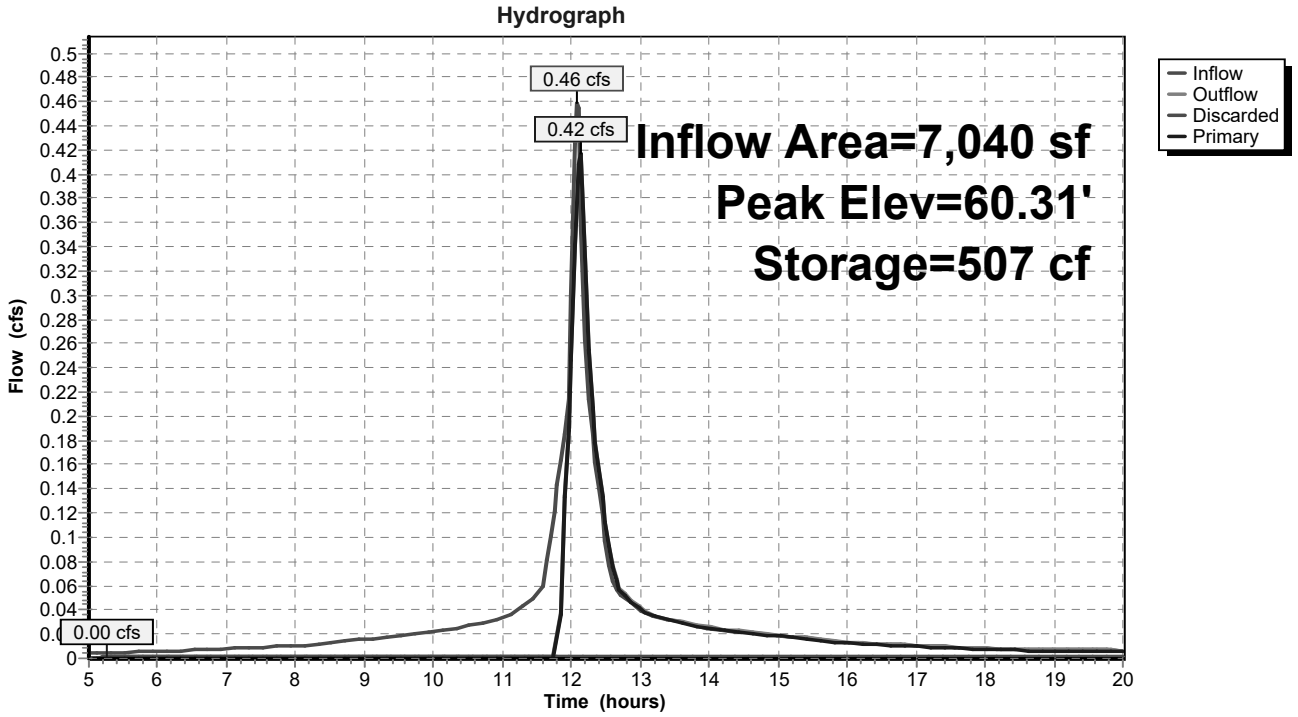
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	59.75'	**6.0" Round 6" PVC out** L= 19.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.75' / 56.70' S= 0.1605 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf
#2	Discarded	56.00'	**0.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.00 cfs @ 5.25 hrs HW=56.06' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.41 cfs @ 12.12 hrs HW=60.30' (Free Discharge)
↑—**1=6" PVC out** (Inlet Controls 0.41 cfs @ 2.08 fps)

Pond BMP2: Infiltration System



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Exist. Watershed 1 Runoff Area=43,550 sf 17.53% Impervious Runoff Depth>1.98"
Tc=6.0 min CN=78 Runoff=2.44 cfs 7,171 cf

Subcatchment E2: Exist. Watershed 2 - Runoff Area=130,680 sf 70.00% Impervious Runoff Depth>3.12"
Tc=6.0 min CN=91 Runoff=10.99 cfs 34,004 cf

Subcatchment P1: Prop. Watershed 1 Runoff Area=16,718 sf 48.37% Impervious Runoff Depth>2.65"
Tc=6.0 min CN=86 Runoff=1.23 cfs 3,688 cf

Subcatchment P2: Prop. Watershed 2 Runoff Area=7,040 sf 100.00% Impervious Runoff Depth>3.78"
Tc=6.0 min CN=98 Runoff=0.66 cfs 2,218 cf

Subcatchment P3: Prop. Watershed 3 Runoff Area=19,792 sf 32.91% Impervious Runoff Depth>2.30"
Tc=6.0 min CN=82 Runoff=1.28 cfs 3,791 cf

Subcatchment P4: Exist. Watershed 4 - Runoff Area=130,680 sf 70.00% Impervious Runoff Depth>3.12"
Tc=6.0 min CN=91 Runoff=10.99 cfs 34,004 cf

Reach R1: Abbey Ln. Subcatchment Inflow=2.44 cfs 7,171 cf
Outflow=2.44 cfs 7,171 cf

Reach R2: Abbey Ln. Subcatchment Inflow=1.86 cfs 6,827 cf
Outflow=1.86 cfs 6,827 cf

Reach R3: 30"x30" Stone Culvert Avg. Flow Depth=0.83' Max Vel=6.50 fps Inflow=13.43 cfs 41,175 cf
30.0" x 30.0" Box Pipe n=0.018 L=70.0' S=0.0157 '/' Capacity=47.28 cfs Outflow=13.35 cfs 41,162 cf

Reach R4: 30"x30" Stone Culvert Avg. Flow Depth=0.80' Max Vel=6.41 fps Inflow=12.83 cfs 40,832 cf
30.0" x 30.0" Box Pipe n=0.018 L=70.0' S=0.0157 '/' Capacity=47.28 cfs Outflow=12.76 cfs 40,818 cf

Pond BMP1: Rain Garden Peak Elev=59.05' Storage=2,119 cf Inflow=1.23 cfs 3,688 cf
Discarded=0.01 cfs 318 cf Primary=0.26 cfs 1,317 cf Outflow=0.27 cfs 1,635 cf

Pond BMP2: Infiltration System Peak Elev=60.63' Storage=539 cf Inflow=0.66 cfs 2,218 cf
Discarded=0.00 cfs 54 cf Primary=0.59 cfs 1,720 cf Outflow=0.59 cfs 1,774 cf

Summary for Subcatchment E1: Exist. Watershed 1

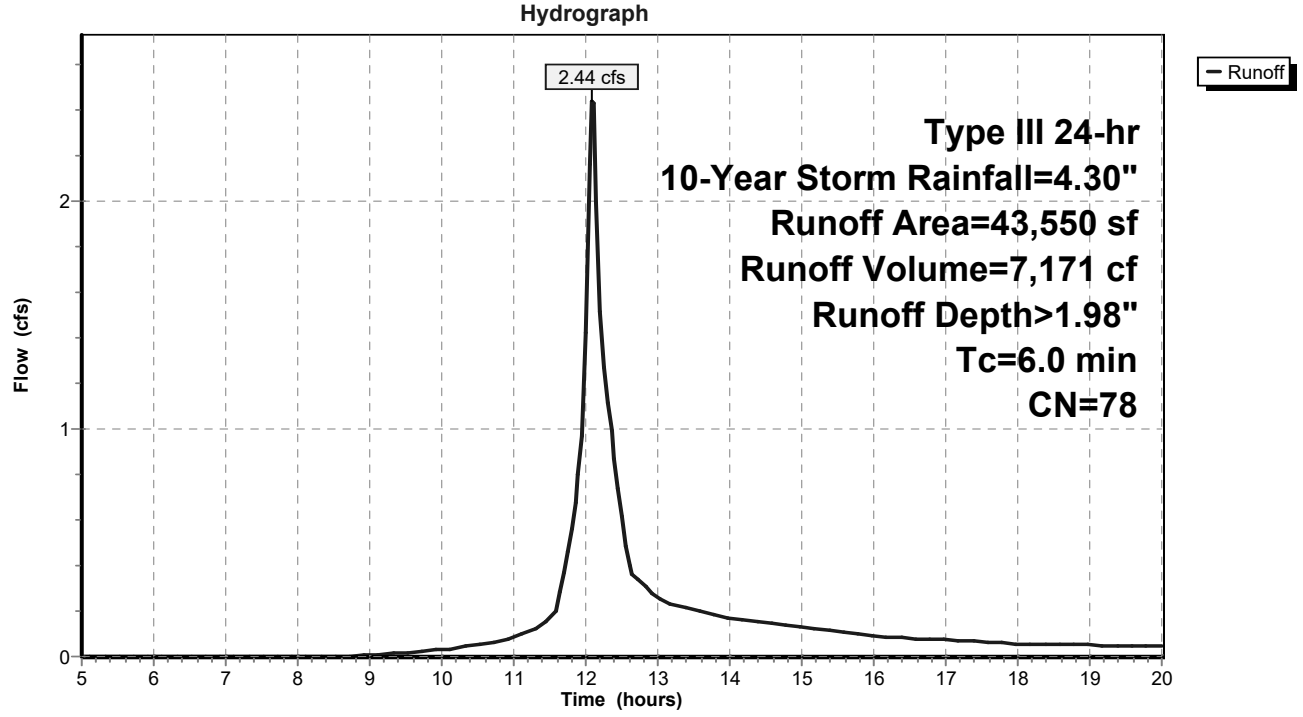
Runoff = 2.44 cfs @ 12.09 hrs, Volume= 7,171 cf, Depth> 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.30"

	Area (sf)	CN	Description
*	7,635	98	Paved parking, roofs, walks
	35,915	74	>75% Grass cover, Good, HSG C
	43,550	78	Weighted Average
	35,915		82.47% Pervious Area
	7,635		17.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment E1: Exist. Watershed 1



Summary for Subcatchment E2: Exist. Watershed 2 - Rutland Manor

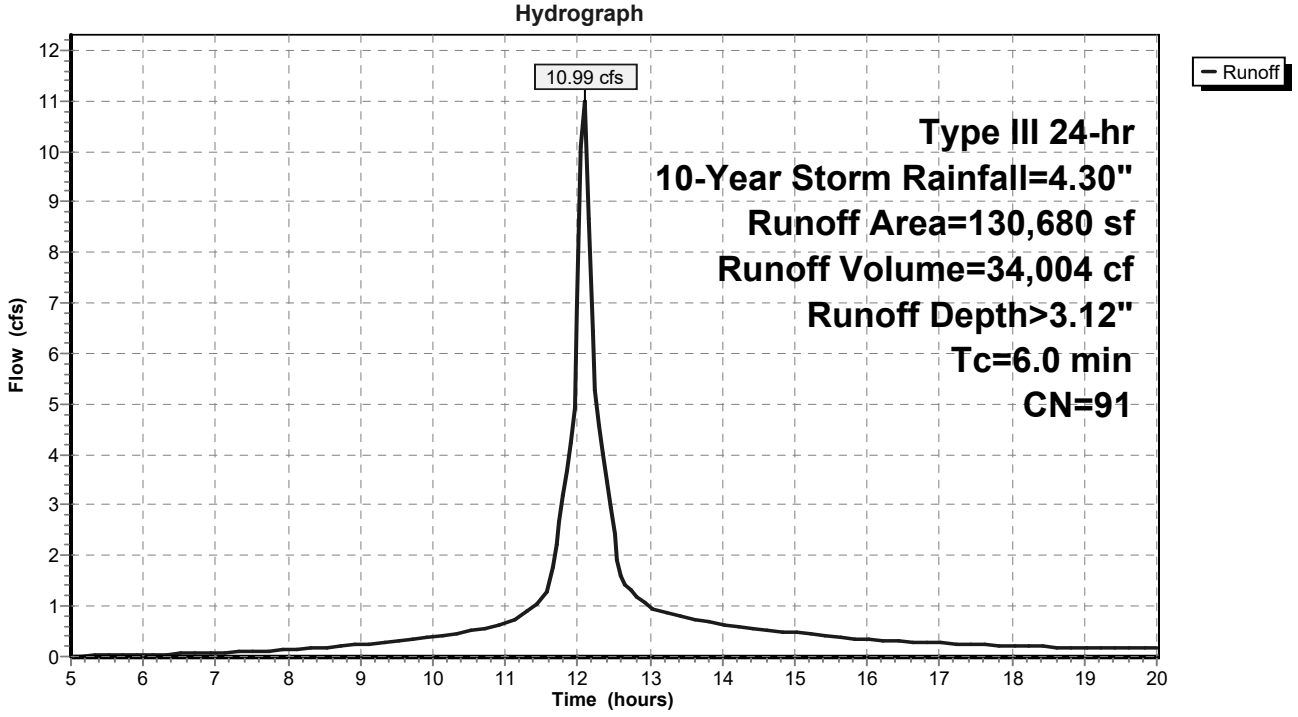
Runoff = 10.99 cfs @ 12.09 hrs, Volume= 34,004 cf, Depth> 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.30"

Area (sf)	CN	Description
91,476	98	Paved parking, HSG A
39,204	74	>75% Grass cover, Good, HSG C
130,680	91	Weighted Average
39,204		30.00% Pervious Area
91,476		70.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment E2: Exist. Watershed 2 - Rutland Manor



Summary for Subcatchment P1: Prop. Watershed 1

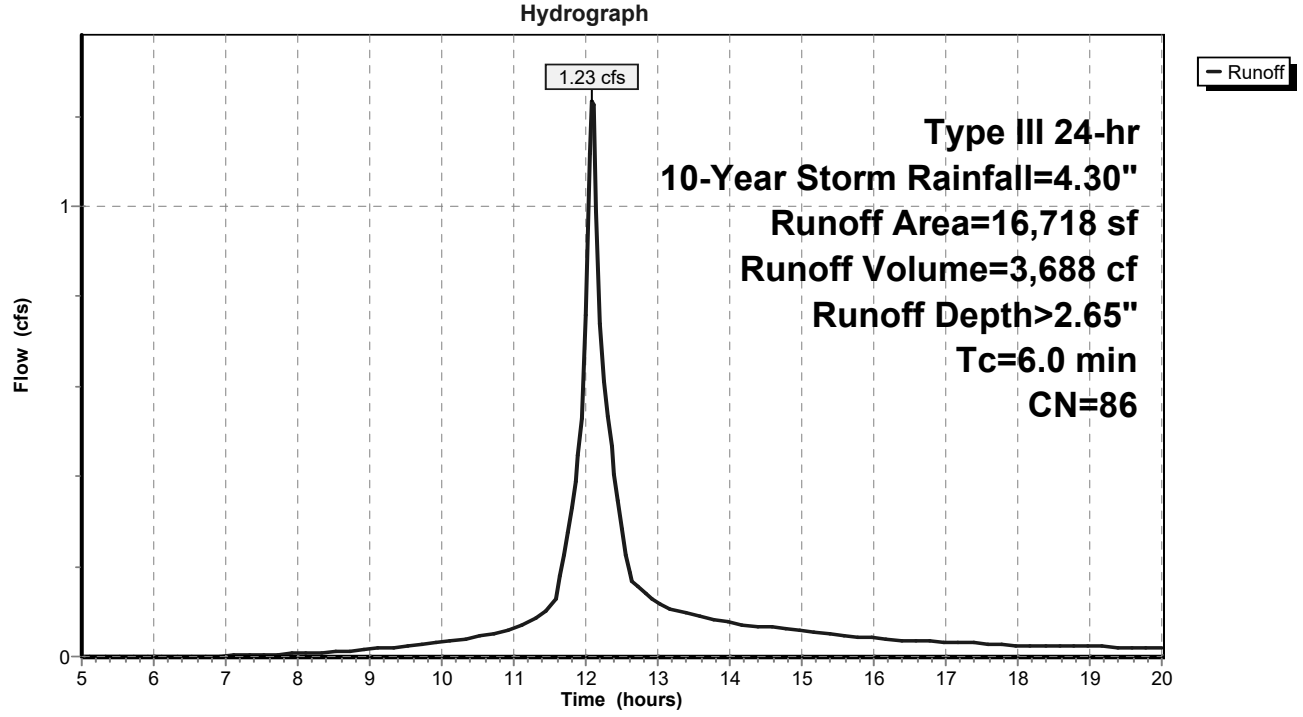
Runoff = 1.23 cfs @ 12.09 hrs, Volume= 3,688 cf, Depth> 2.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.30"

	Area (sf)	CN	Description
	8,086	98	Paved parking, HSG A
*	8,632	74	>75% Grass cover, Good, HSG C
	16,718	86	Weighted Average
	8,632		51.63% Pervious Area
	8,086		48.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P1: Prop. Watershed 1



Summary for Subcatchment P2: Prop. Watershed 2

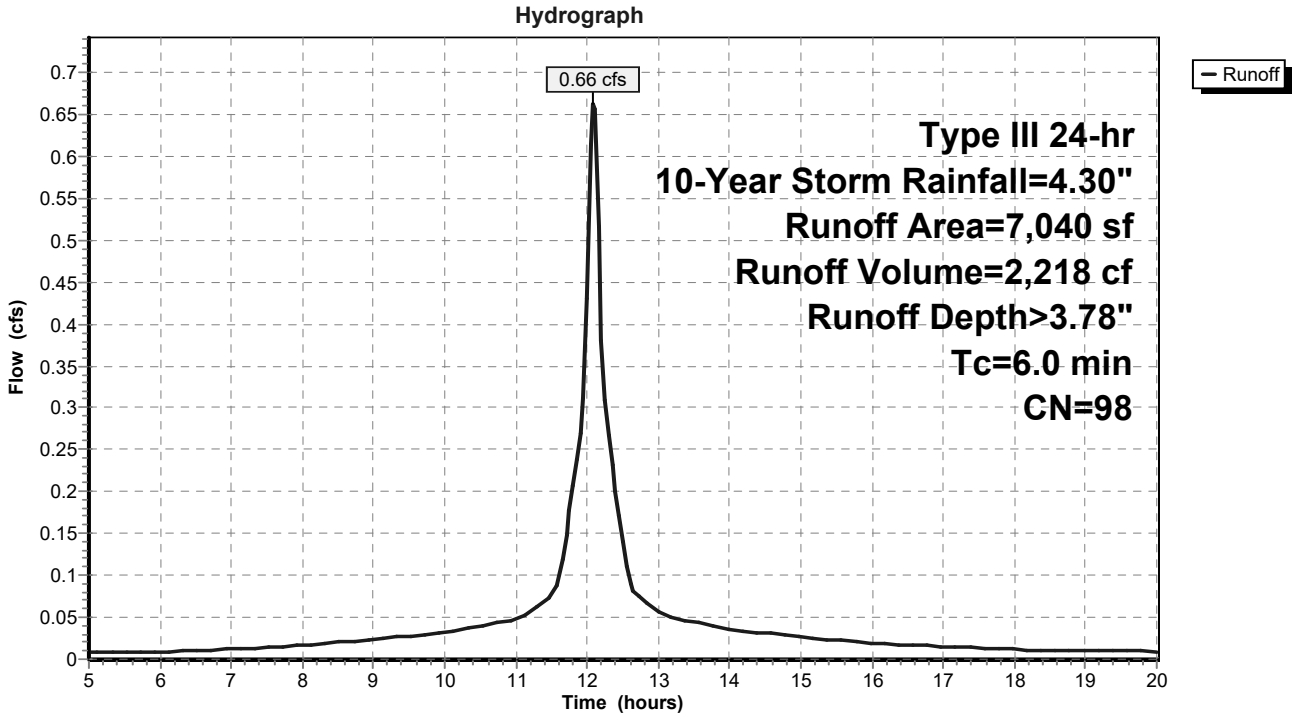
Runoff = 0.66 cfs @ 12.09 hrs, Volume= 2,218 cf, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.30"

Area (sf)	CN	Description
7,040	98	Roofs, HSG C
7,040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P2: Prop. Watershed 2



Summary for Subcatchment P3: Prop. Watershed 3

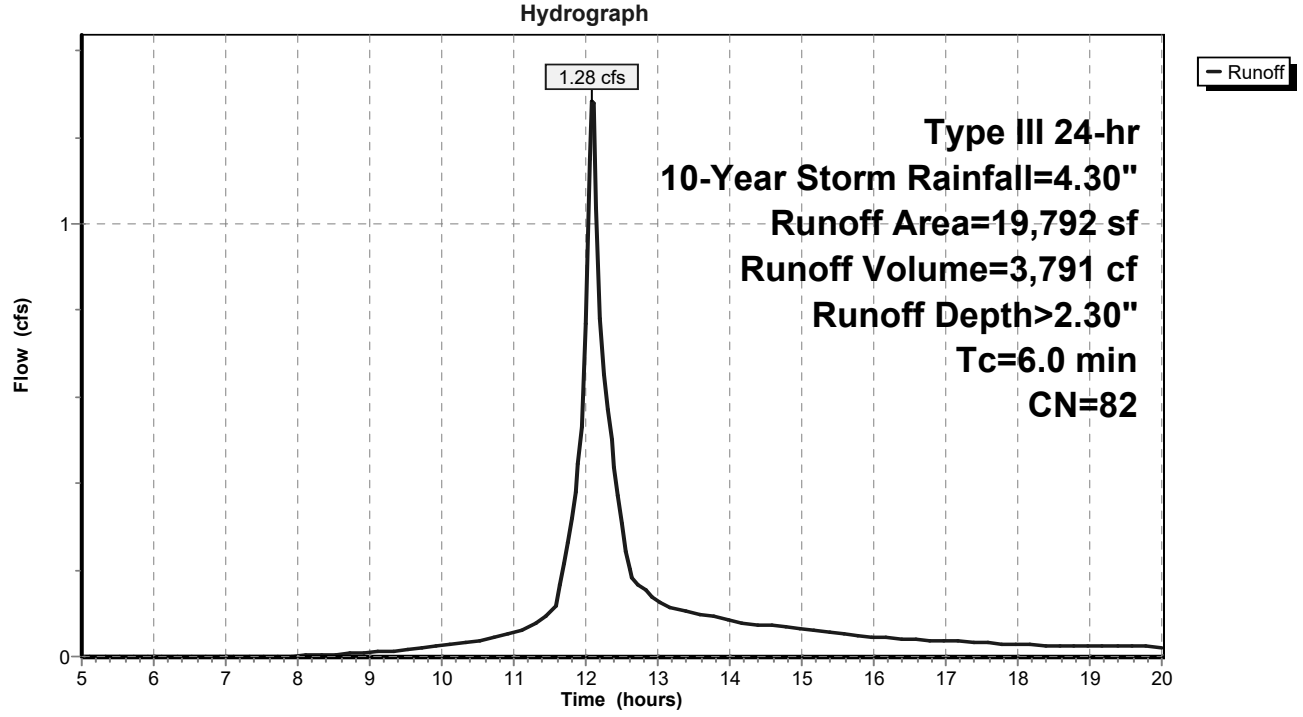
Runoff = 1.28 cfs @ 12.09 hrs, Volume= 3,791 cf, Depth> 2.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.30"

	Area (sf)	CN	Description
*	6,514	98	Paved parking, exist houses HSG C
	13,278	74	>75% Grass cover, Good, HSG C
	19,792	82	Weighted Average
	13,278		67.09% Pervious Area
	6,514		32.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P3: Prop. Watershed 3



Summary for Subcatchment P4: Exist. Watershed 4 - Rutland Manor

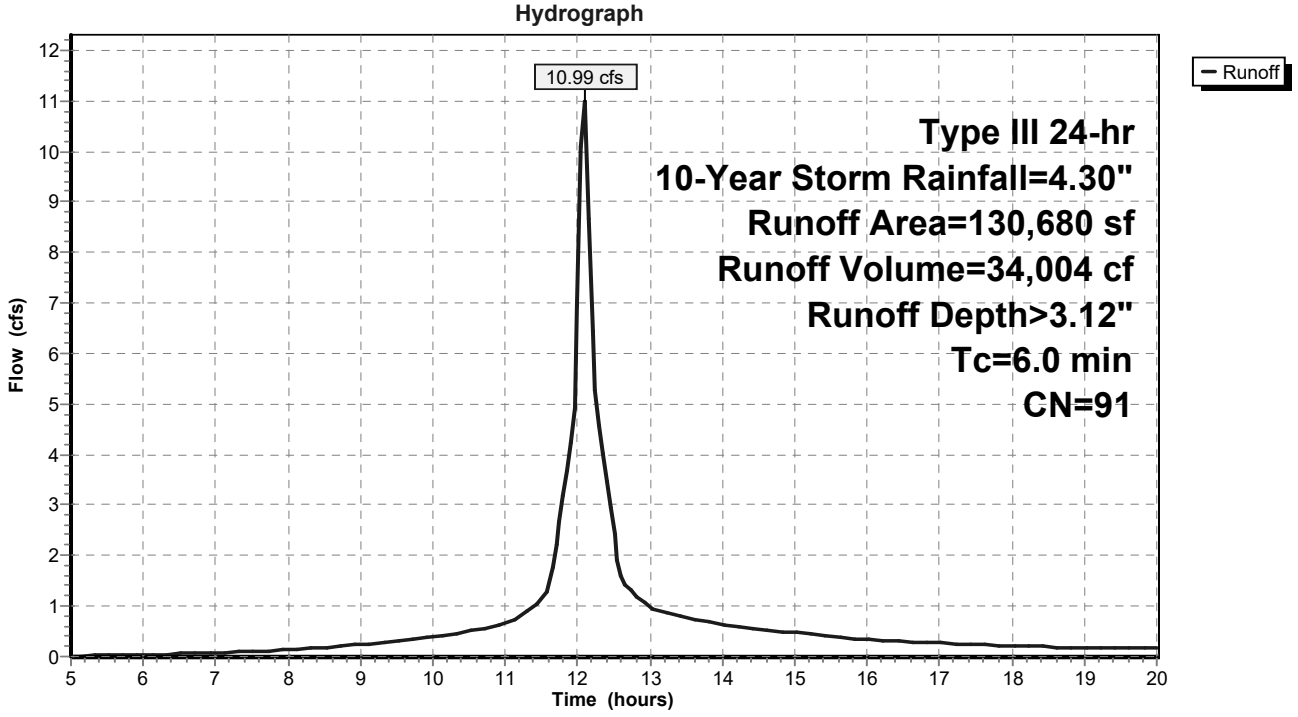
Runoff = 10.99 cfs @ 12.09 hrs, Volume= 34,004 cf, Depth> 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.30"

Area (sf)	CN	Description
91,476	98	Paved parking, HSG A
39,204	74	>75% Grass cover, Good, HSG C
130,680	91	Weighted Average
39,204		30.00% Pervious Area
91,476		70.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P4: Exist. Watershed 4 - Rutland Manor

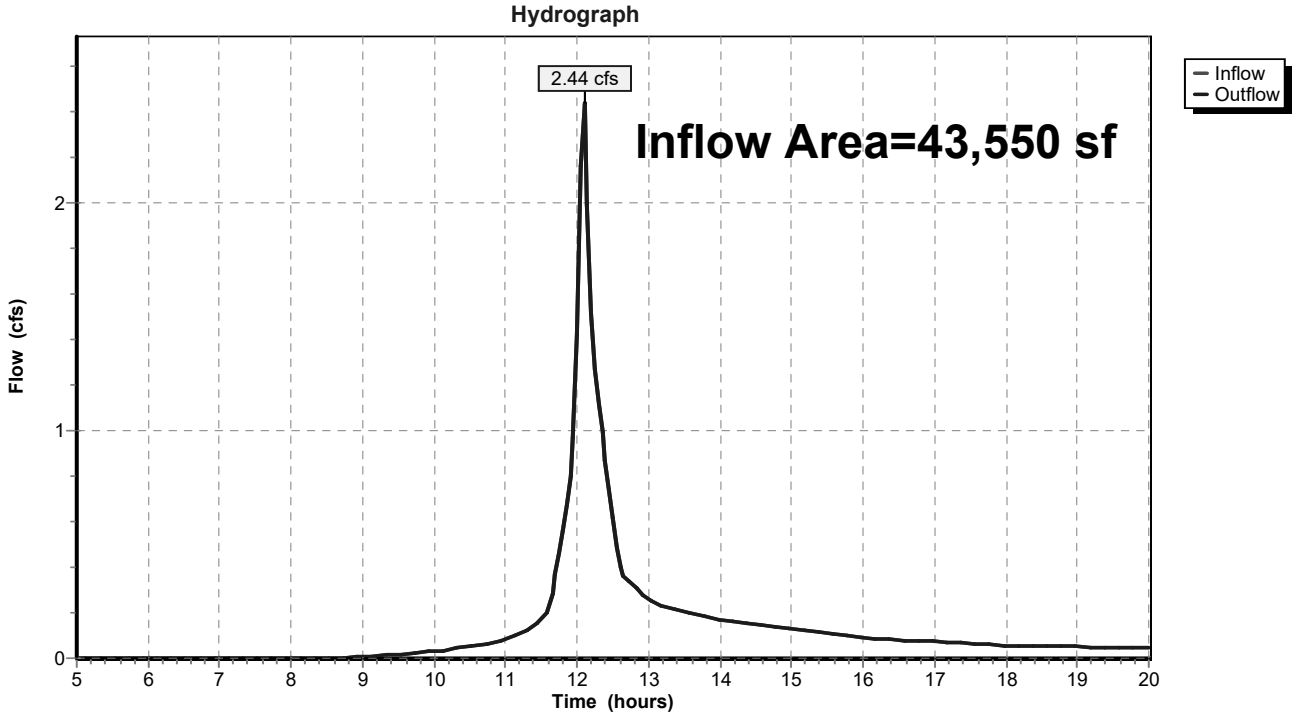


Summary for Reach R1: Abbey Ln. Subcatchment

Inflow Area = 43,550 sf, 17.53% Impervious, Inflow Depth > 1.98" for 10-Year Storm event
Inflow = 2.44 cfs @ 12.09 hrs, Volume= 7,171 cf
Outflow = 2.44 cfs @ 12.09 hrs, Volume= 7,171 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach R1: Abbey Ln. Subcatchment

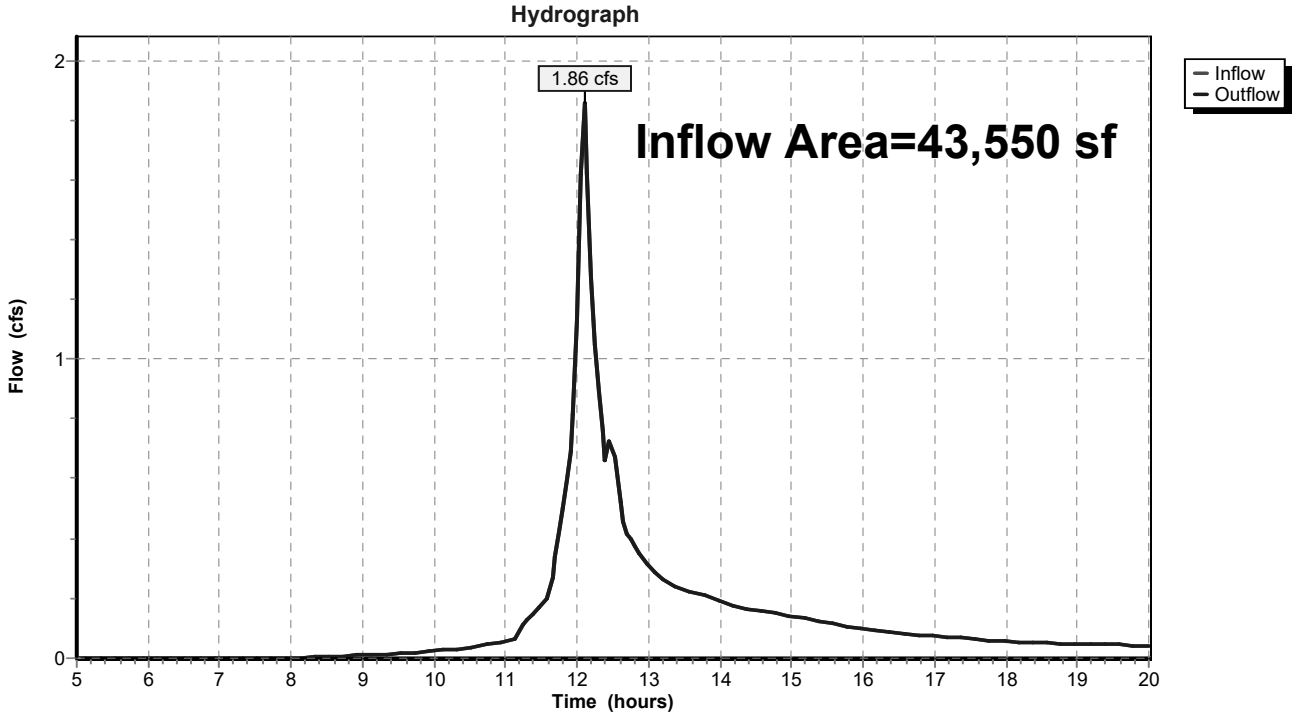


Summary for Reach R2: Abbey Ln. Subcatchment

Inflow Area = 43,550 sf, 49.69% Impervious, Inflow Depth > 1.88" for 10-Year Storm event
Inflow = 1.86 cfs @ 12.10 hrs, Volume= 6,827 cf
Outflow = 1.86 cfs @ 12.10 hrs, Volume= 6,827 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach R2: Abbey Ln. Subcatchment



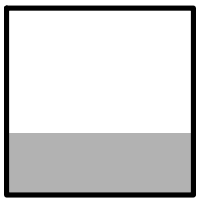
Summary for Reach R3: 30"x30" Stone Culvert

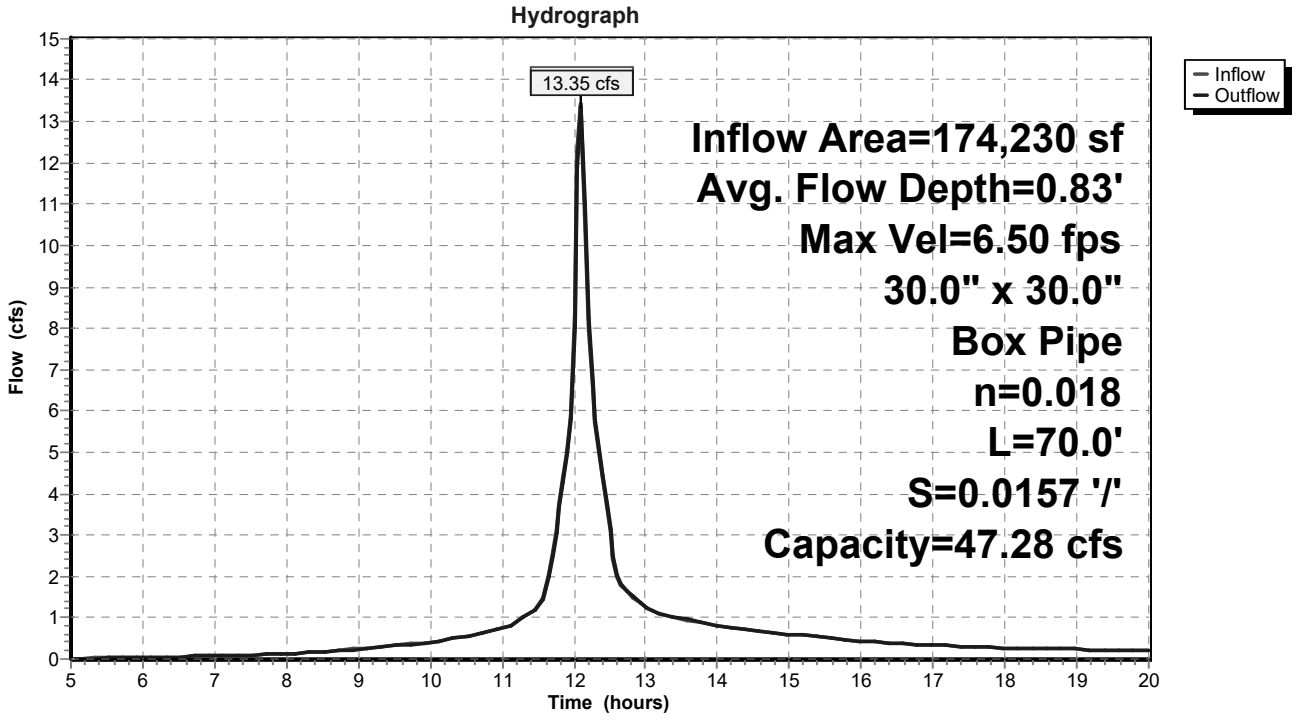
Inflow Area = 174,230 sf, 56.89% Impervious, Inflow Depth > 2.84" for 10-Year Storm event
Inflow = 13.43 cfs @ 12.09 hrs, Volume= 41,175 cf
Outflow = 13.35 cfs @ 12.09 hrs, Volume= 41,162 cf, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.50 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.99 fps, Avg. Travel Time= 0.6 min

Peak Storage= 145 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.83'
Bank-Full Depth= 2.50' Flow Area= 6.3 sf, Capacity= 47.28 cfs

30.0" W x 30.0" H Box Pipe
n= 0.018 Rubble masonry, cemented
Length= 70.0' Slope= 0.0157 '/'
Inlet Invert= 43.80', Outlet Invert= 42.70'





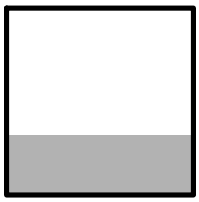
Summary for Reach R4: 30"x30" Stone Culvert

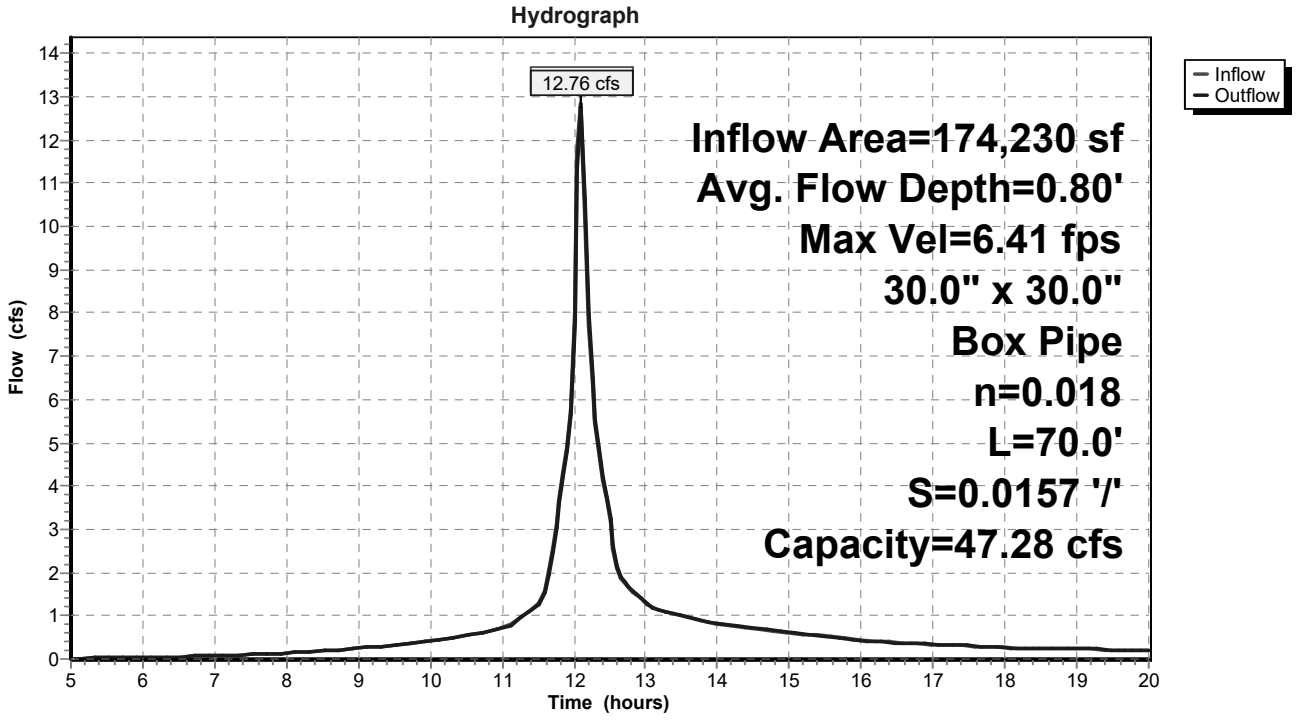
Inflow Area = 174,230 sf, 64.92% Impervious, Inflow Depth > 2.81" for 10-Year Storm event
Inflow = 12.83 cfs @ 12.09 hrs, Volume= 40,832 cf
Outflow = 12.76 cfs @ 12.10 hrs, Volume= 40,818 cf, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.41 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.99 fps, Avg. Travel Time= 0.6 min

Peak Storage= 140 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.80'
Bank-Full Depth= 2.50' Flow Area= 6.3 sf, Capacity= 47.28 cfs

30.0" W x 30.0" H Box Pipe
n= 0.018 Rubble masonry, cemented
Length= 70.0' Slope= 0.0157 '/'
Inlet Invert= 43.80', Outlet Invert= 42.70'





Summary for Pond BMP1: Rain Garden

Inflow Area = 16,718 sf, 48.37% Impervious, Inflow Depth > 2.65" for 10-Year Storm event
Inflow = 1.23 cfs @ 12.09 hrs, Volume= 3,688 cf
Outflow = 0.27 cfs @ 12.52 hrs, Volume= 1,635 cf, Atten= 78%, Lag= 26.0 min
Discarded = 0.01 cfs @ 12.52 hrs, Volume= 318 cf
Primary = 0.26 cfs @ 12.52 hrs, Volume= 1,317 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 59.05' @ 12.52 hrs Surf.Area= 1,372 sf Storage= 2,119 cf

Plug-Flow detention time= 181.8 min calculated for 1,629 cf (44% of inflow)
Center-of-Mass det. time= 95.3 min (872.8 - 777.4)

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	3,580 cf	**Rain Garden - Ponding Area (Prismatic)** Listed below (Recalc)

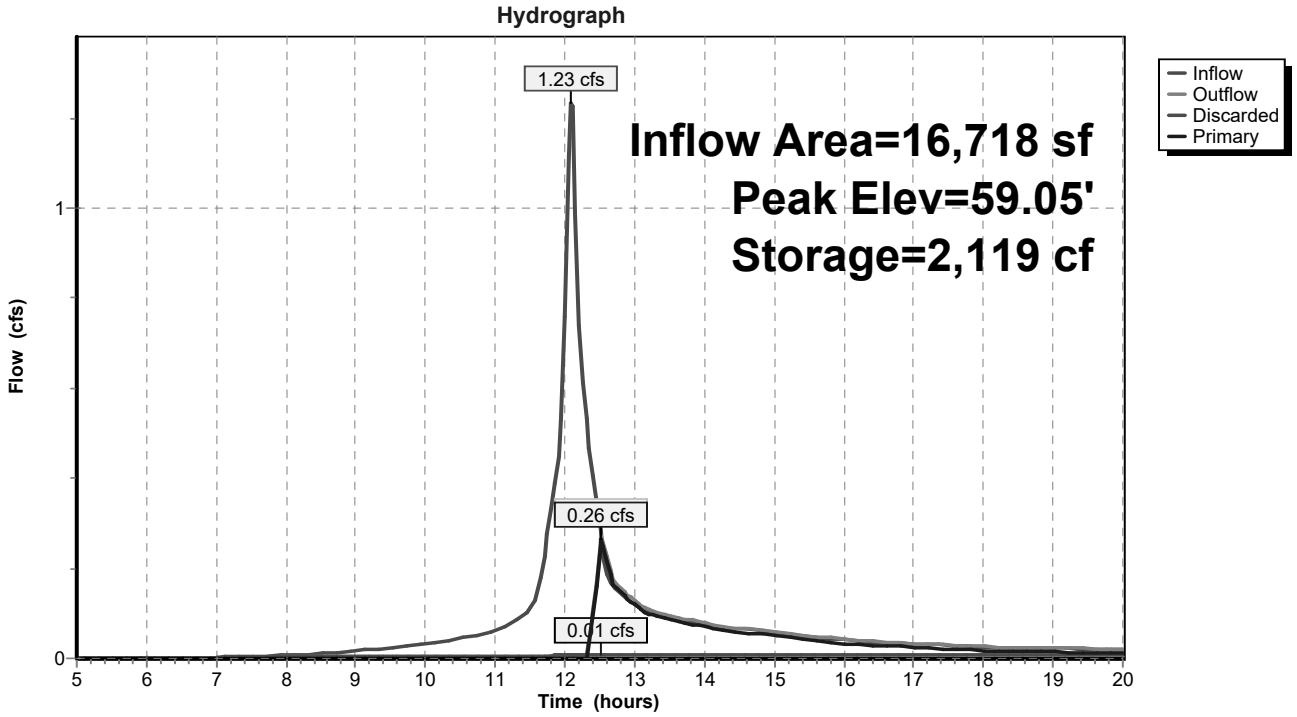
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.00	707	0	0
58.00	1,016	862	862
59.00	1,352	1,184	2,046
60.00	1,716	1,534	3,580

Device	Routing	Invert	Outlet Devices
#1	Primary	53.50'	**12.0" Round Culvert** L= 89.0' Ke= 0.200 Inlet / Outlet Invert= 53.50' / 52.60' S= 0.0101 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	59.00'	**24.0" Horiz. Dome Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	57.00'	**0.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.01 cfs @ 12.52 hrs HW=59.05' (Free Discharge)
↑└**3=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.24 cfs @ 12.52 hrs HW=59.05' (Free Discharge)
↑└**1=Culvert** (Passes 0.24 cfs of 8.71 cfs potential flow)
↑└**2=Dome Grate** (Weir Controls 0.24 cfs @ 0.75 fps)

Pond BMP1: Rain Garden



Summary for Pond BMP2: Infiltration System

Inflow Area = 7,040 sf,100.00% Impervious, Inflow Depth > 3.78" for 10-Year Storm event
Inflow = 0.66 cfs @ 12.09 hrs, Volume= 2,218 cf
Outflow = 0.59 cfs @ 12.13 hrs, Volume= 1,774 cf, Atten= 10%, Lag= 2.5 min
Discarded = 0.00 cfs @ 5.15 hrs, Volume= 54 cf
Primary = 0.59 cfs @ 12.13 hrs, Volume= 1,720 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 60.63' @ 12.13 hrs Surf.Area= 160 sf Storage= 539 cf

Plug-Flow detention time= 105.0 min calculated for 1,773 cf (80% of inflow)
Center-of-Mass det. time= 50.2 min (786.3 - 736.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	56.00'	179 cf	**8.00'W x 20.00'L x 5.50'H Field A** 880 cf Overall - 432 cf Embedded = 448 cf x 40.0% Voids
#2A	56.50'	415 cf	**Brentwood StormTank 48"** x 24 Inside #1 Inside= 18.0"W x 48.0"H => 5.77 sf x 3.00'L = 17.3 cf Outside= 18.0"W x 48.0"H => 6.00 sf x 3.00'L = 18.0 cf 4 Rows of 6 Chambers
		595 cf	Total Available Storage

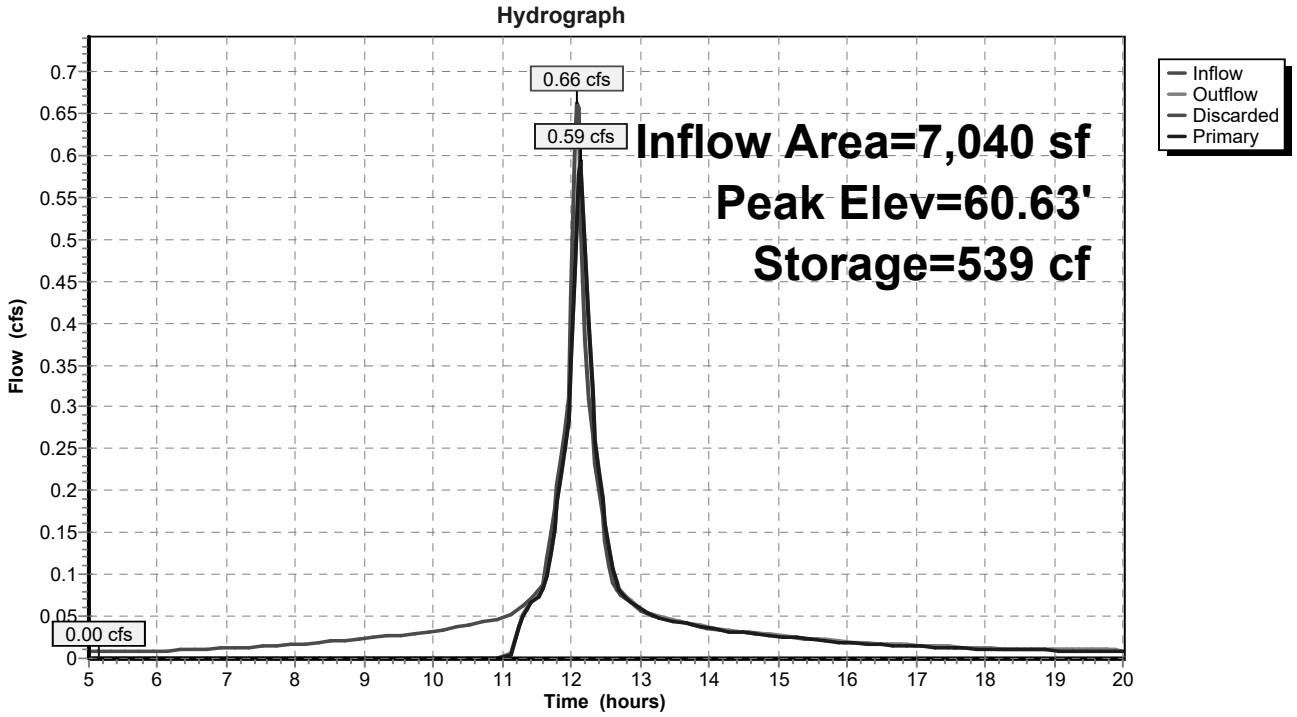
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	59.75'	**6.0" Round 6" PVC out** L= 19.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.75' / 56.70' S= 0.1605 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf
#2	Discarded	56.00'	**0.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.00 cfs @ 5.15 hrs HW=56.07' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.58 cfs @ 12.13 hrs HW=60.61' (Free Discharge)
↑—**1=6" PVC out** (Inlet Controls 0.58 cfs @ 2.96 fps)

Pond BMP2: Infiltration System



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Exist. Watershed 1 Runoff Area=43,550 sf 17.53% Impervious Runoff Depth>2.69"
Tc=6.0 min CN=78 Runoff=3.31 cfs 9,754 cf

Subcatchment E2: Exist. Watershed 2 - Runoff Area=130,680 sf 70.00% Impervious Runoff Depth>3.95"
Tc=6.0 min CN=91 Runoff=13.71 cfs 42,988 cf

Subcatchment P1: Prop. Watershed 1 Runoff Area=16,718 sf 48.37% Impervious Runoff Depth>3.44"
Tc=6.0 min CN=86 Runoff=1.58 cfs 4,793 cf

Subcatchment P2: Prop. Watershed 2 Runoff Area=7,040 sf 100.00% Impervious Runoff Depth>4.60"
Tc=6.0 min CN=98 Runoff=0.80 cfs 2,699 cf

Subcatchment P3: Prop. Watershed 3 Runoff Area=19,792 sf 32.91% Impervious Runoff Depth>3.05"
Tc=6.0 min CN=82 Runoff=1.69 cfs 5,037 cf

Subcatchment P4: Exist. Watershed 4 - Runoff Area=130,680 sf 70.00% Impervious Runoff Depth>3.95"
Tc=6.0 min CN=91 Runoff=13.71 cfs 42,988 cf

Reach R1: Abbey Ln. Subcatchment Inflow=3.31 cfs 9,754 cf
Outflow=3.31 cfs 9,754 cf

Reach R2: Abbey Ln. Subcatchment Inflow=2.40 cfs 9,638 cf
Outflow=2.40 cfs 9,638 cf

Reach R3: 30"x30" Stone Culvert Avg. Flow Depth=0.98' Max Vel=6.94 fps Inflow=17.02 cfs 52,742 cf
30.0" x 30.0" Box Pipe n=0.018 L=70.0' S=0.0157 '/' Capacity=47.28 cfs Outflow=16.93 cfs 52,725 cf

Reach R4: 30"x30" Stone Culvert Avg. Flow Depth=0.94' Max Vel=6.83 fps Inflow=16.10 cfs 52,626 cf
30.0" x 30.0" Box Pipe n=0.018 L=70.0' S=0.0157 '/' Capacity=47.28 cfs Outflow=16.01 cfs 52,609 cf

Pond BMP1: Rain Garden Peak Elev=59.12' Storage=2,205 cf Inflow=1.58 cfs 4,793 cf
Discarded=0.01 cfs 336 cf Primary=0.82 cfs 2,401 cf Outflow=0.83 cfs 2,737 cf

Pond BMP2: Infiltration System Peak Elev=60.97' Storage=561 cf Inflow=0.80 cfs 2,699 cf
Discarded=0.00 cfs 54 cf Primary=0.74 cfs 2,201 cf Outflow=0.74 cfs 2,255 cf

Summary for Subcatchment E1: Exist. Watershed 1

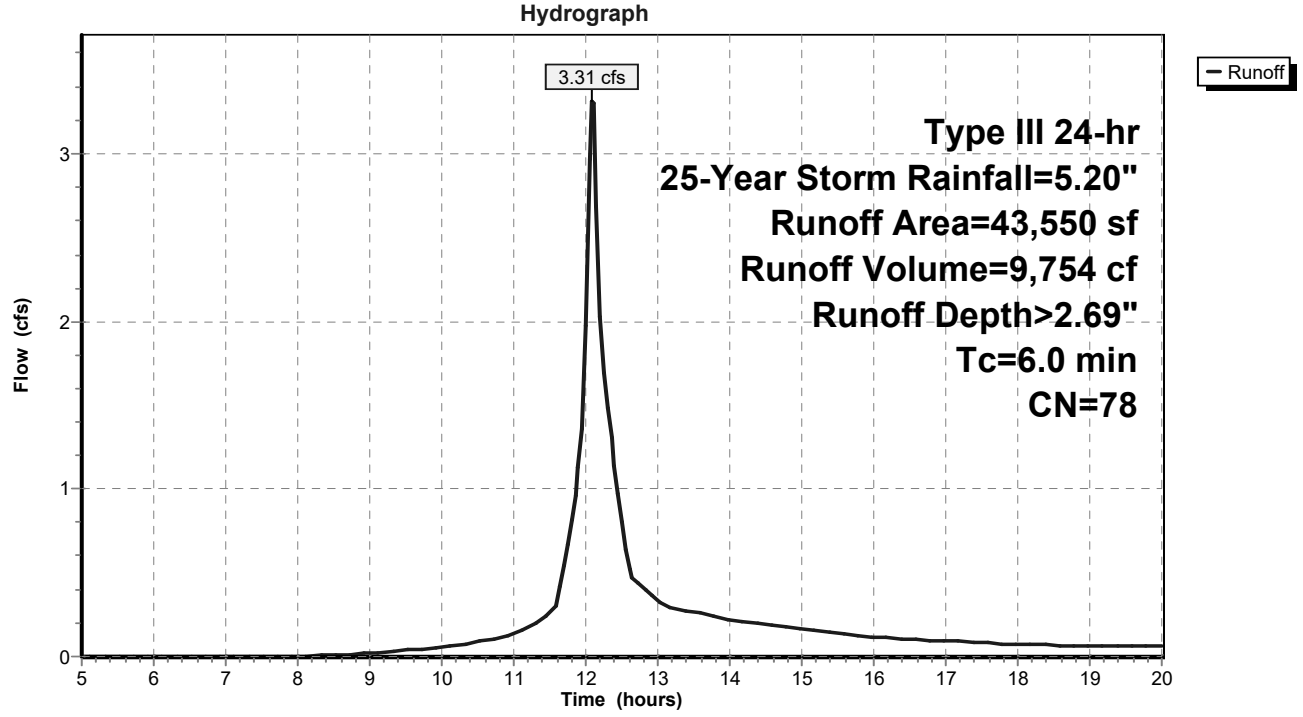
Runoff = 3.31 cfs @ 12.09 hrs, Volume= 9,754 cf, Depth> 2.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.20"

	Area (sf)	CN	Description
*	7,635	98	Paved parking, roofs, walks
	35,915	74	>75% Grass cover, Good, HSG C
	43,550	78	Weighted Average
	35,915		82.47% Pervious Area
	7,635		17.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment E1: Exist. Watershed 1



Summary for Subcatchment E2: Exist. Watershed 2 - Rutland Manor

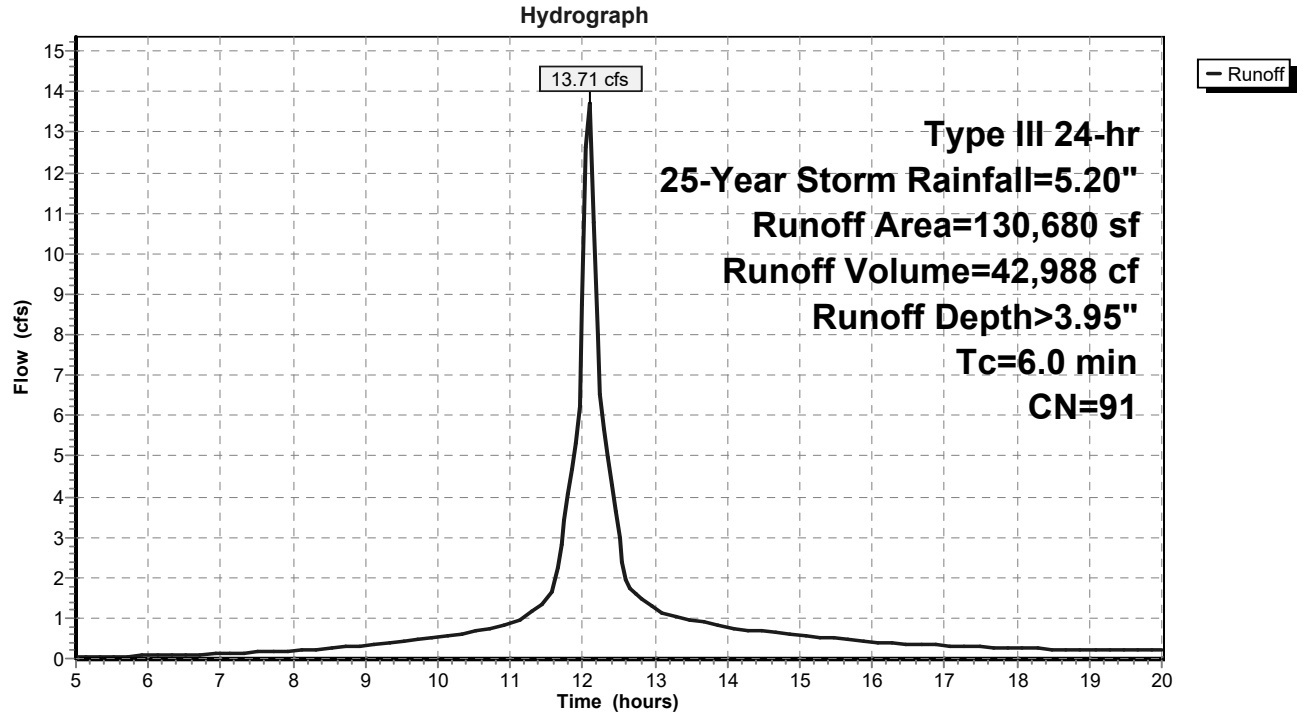
Runoff = 13.71 cfs @ 12.09 hrs, Volume= 42,988 cf, Depth> 3.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.20"

Area (sf)	CN	Description
91,476	98	Paved parking, HSG A
39,204	74	>75% Grass cover, Good, HSG C
130,680	91	Weighted Average
39,204		30.00% Pervious Area
91,476		70.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment E2: Exist. Watershed 2 - Rutland Manor



Summary for Subcatchment P1: Prop. Watershed 1

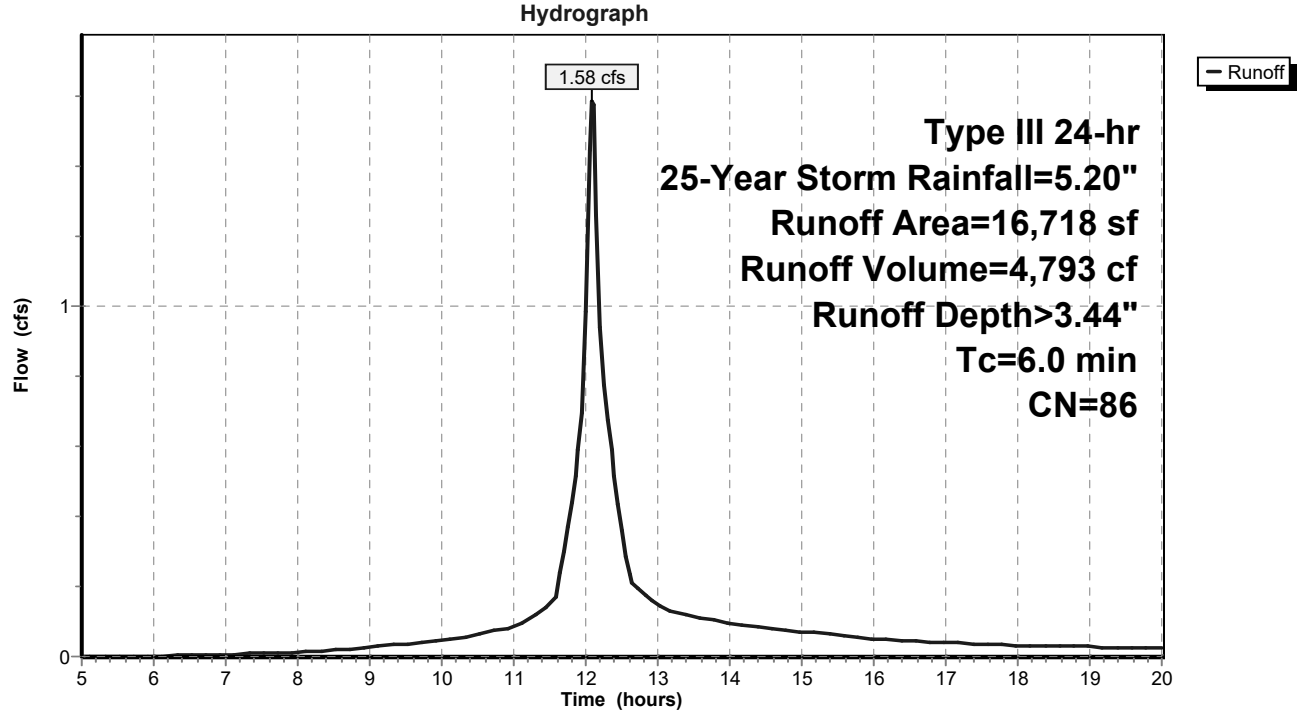
Runoff = 1.58 cfs @ 12.09 hrs, Volume= 4,793 cf, Depth> 3.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.20"

	Area (sf)	CN	Description
	8,086	98	Paved parking, HSG A
*	8,632	74	>75% Grass cover, Good, HSG C
	16,718	86	Weighted Average
	8,632		51.63% Pervious Area
	8,086		48.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P1: Prop. Watershed 1



Summary for Subcatchment P2: Prop. Watershed 2

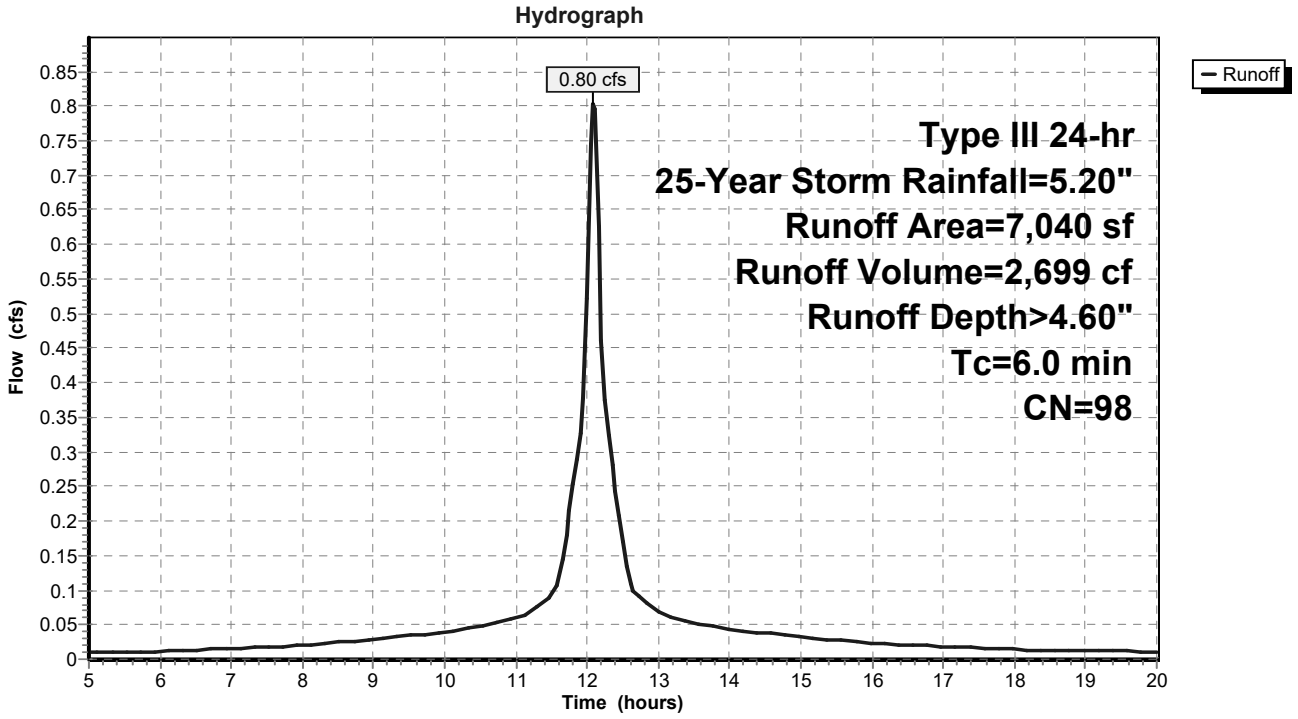
Runoff = 0.80 cfs @ 12.09 hrs, Volume= 2,699 cf, Depth> 4.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.20"

Area (sf)	CN	Description
7,040	98	Roofs, HSG C
7,040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P2: Prop. Watershed 2



Summary for Subcatchment P3: Prop. Watershed 3

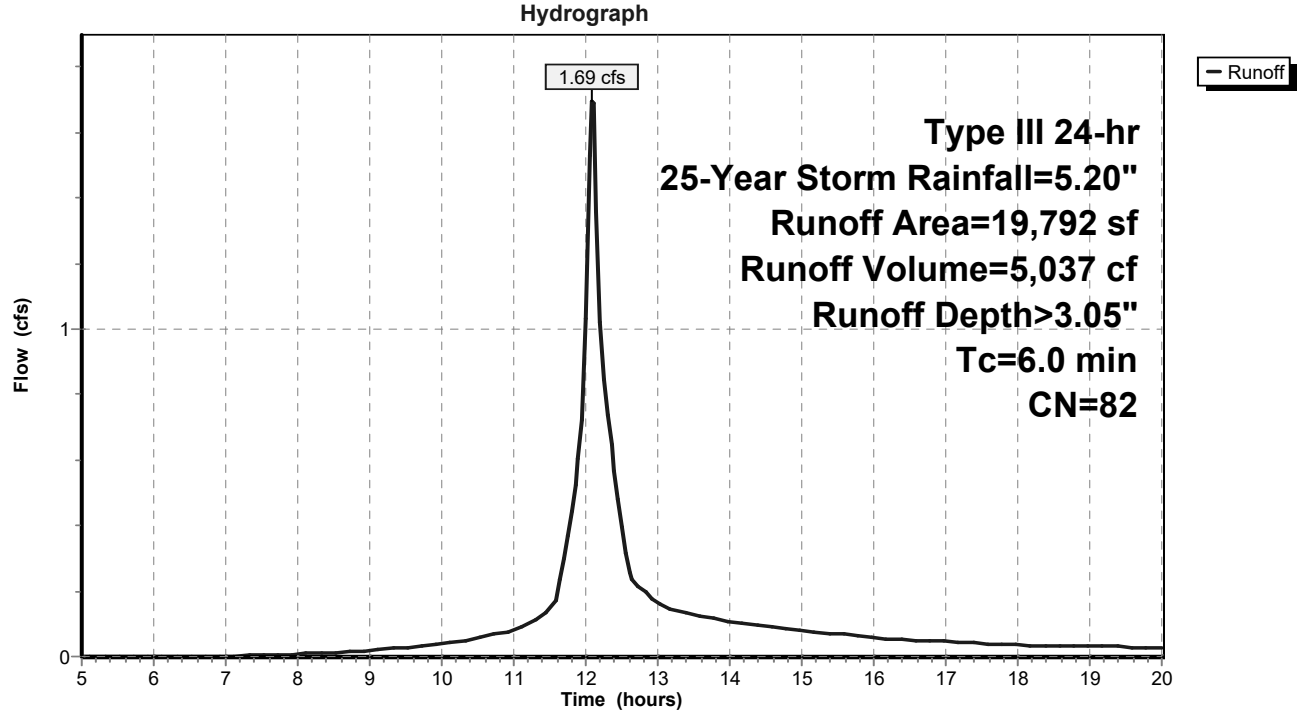
Runoff = 1.69 cfs @ 12.09 hrs, Volume= 5,037 cf, Depth> 3.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.20"

	Area (sf)	CN	Description
*	6,514	98	Paved parking, exist houses HSG C
	13,278	74	>75% Grass cover, Good, HSG C
	19,792	82	Weighted Average
	13,278		67.09% Pervious Area
	6,514		32.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P3: Prop. Watershed 3



Summary for Subcatchment P4: Exist. Watershed 4 - Rutland Manor

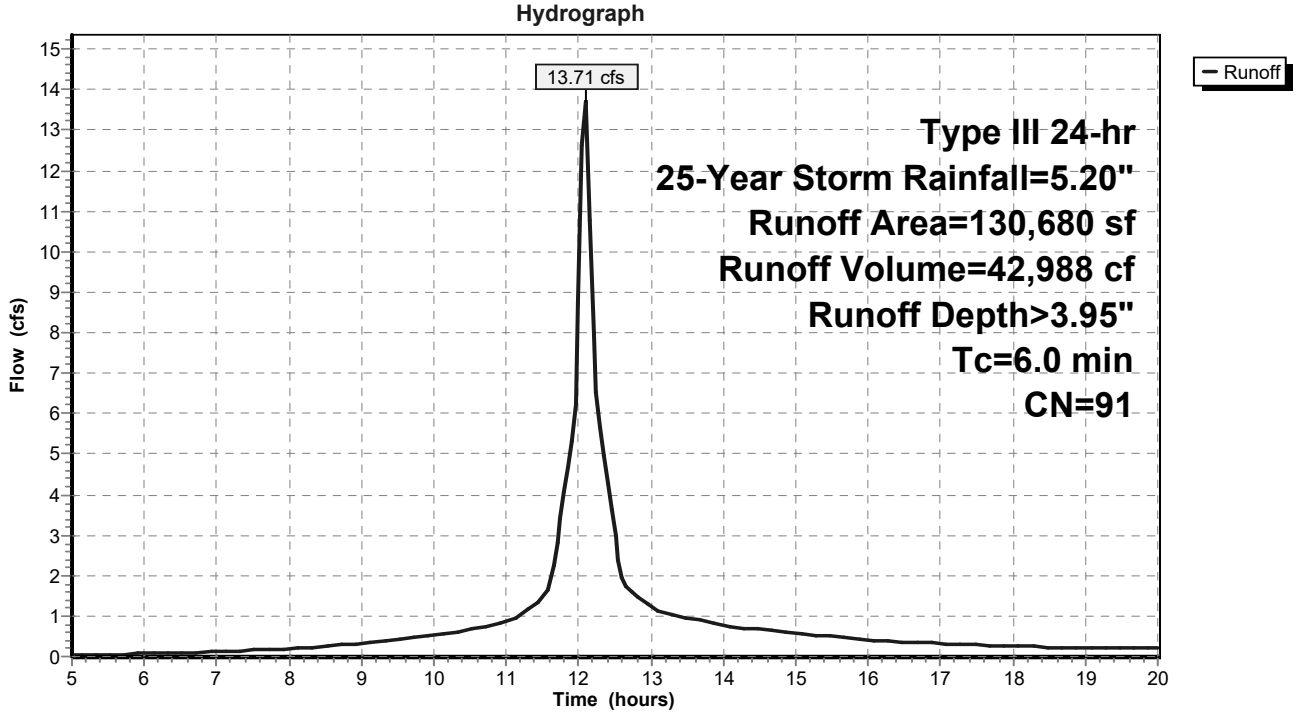
Runoff = 13.71 cfs @ 12.09 hrs, Volume= 42,988 cf, Depth> 3.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.20"

Area (sf)	CN	Description
91,476	98	Paved parking, HSG A
39,204	74	>75% Grass cover, Good, HSG C
130,680	91	Weighted Average
39,204		30.00% Pervious Area
91,476		70.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P4: Exist. Watershed 4 - Rutland Manor

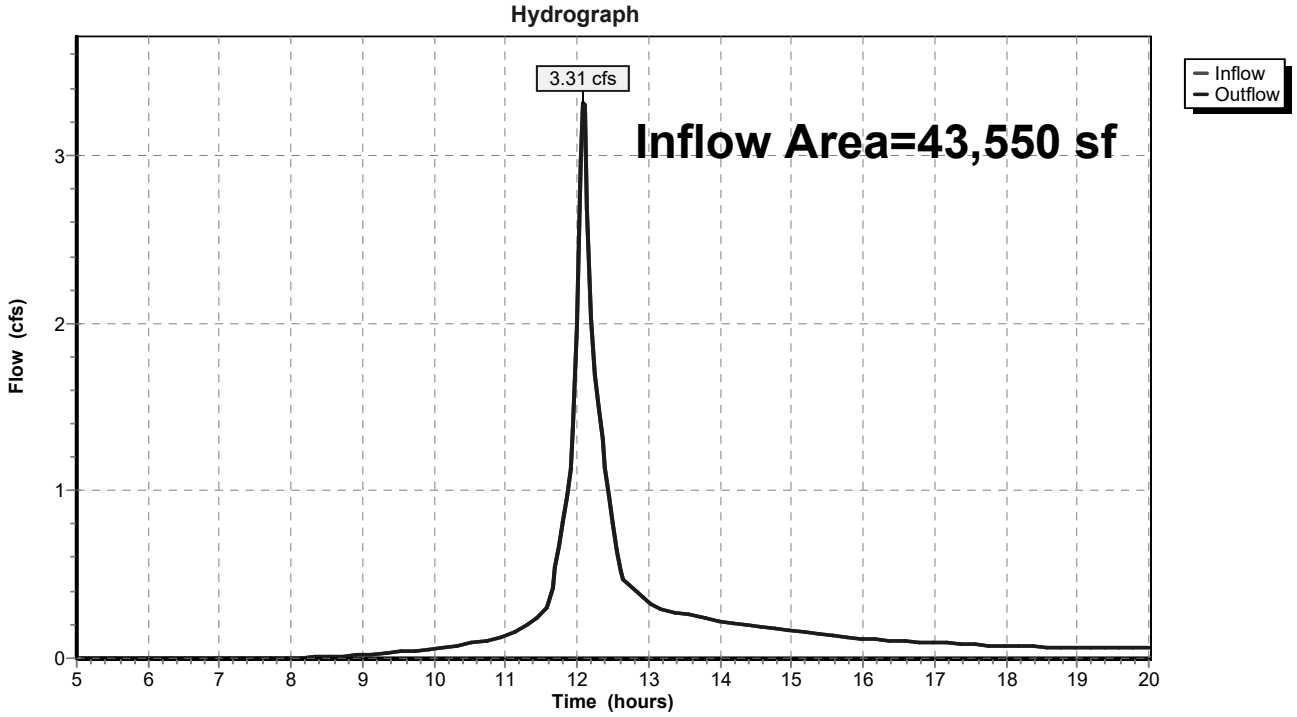


Summary for Reach R1: Abbey Ln. Subcatchment

Inflow Area = 43,550 sf, 17.53% Impervious, Inflow Depth > 2.69" for 25-Year Storm event
Inflow = 3.31 cfs @ 12.09 hrs, Volume= 9,754 cf
Outflow = 3.31 cfs @ 12.09 hrs, Volume= 9,754 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach R1: Abbey Ln. Subcatchment

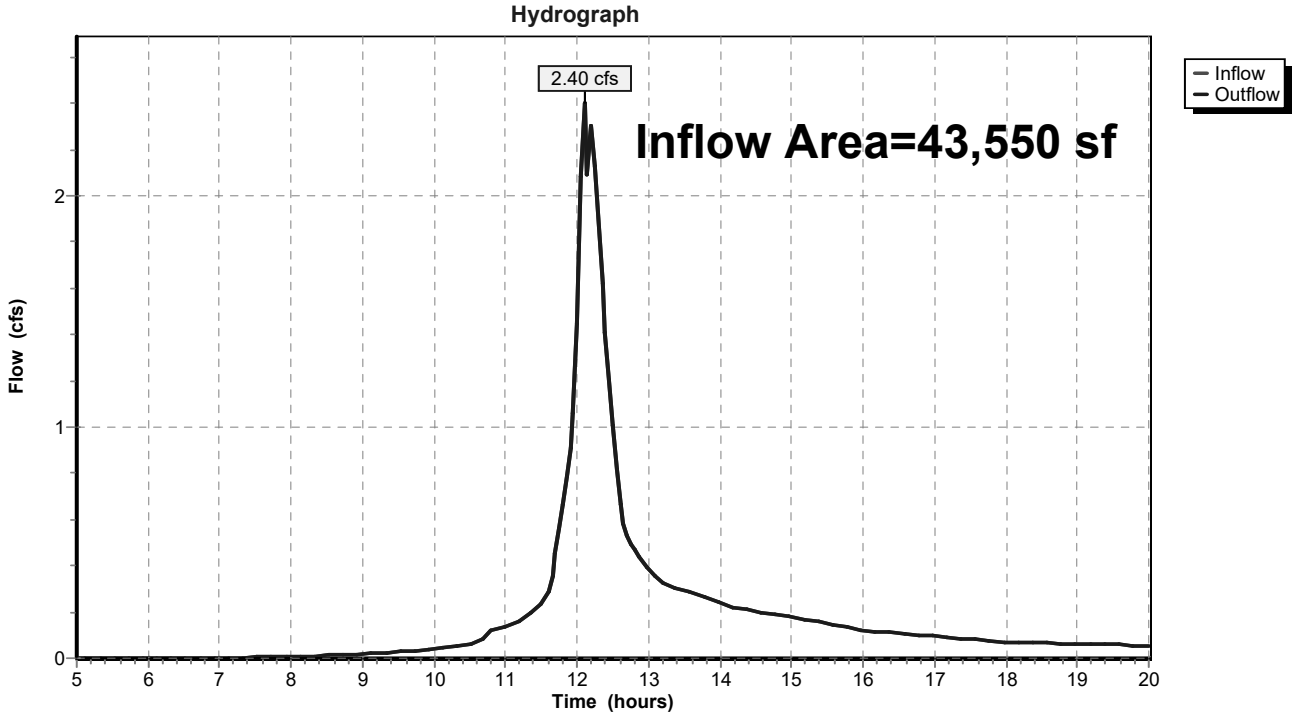


Summary for Reach R2: Abbey Ln. Subcatchment

Inflow Area = 43,550 sf, 49.69% Impervious, Inflow Depth > 2.66" for 25-Year Storm event
Inflow = 2.40 cfs @ 12.10 hrs, Volume= 9,638 cf
Outflow = 2.40 cfs @ 12.10 hrs, Volume= 9,638 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach R2: Abbey Ln. Subcatchment



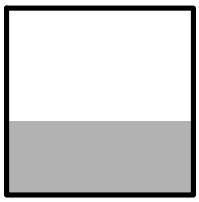
Summary for Reach R3: 30"x30" Stone Culvert

Inflow Area = 174,230 sf, 56.89% Impervious, Inflow Depth > 3.63" for 25-Year Storm event
Inflow = 17.02 cfs @ 12.09 hrs, Volume= 52,742 cf
Outflow = 16.93 cfs @ 12.09 hrs, Volume= 52,725 cf, Atten= 1%, Lag= 0.3 min

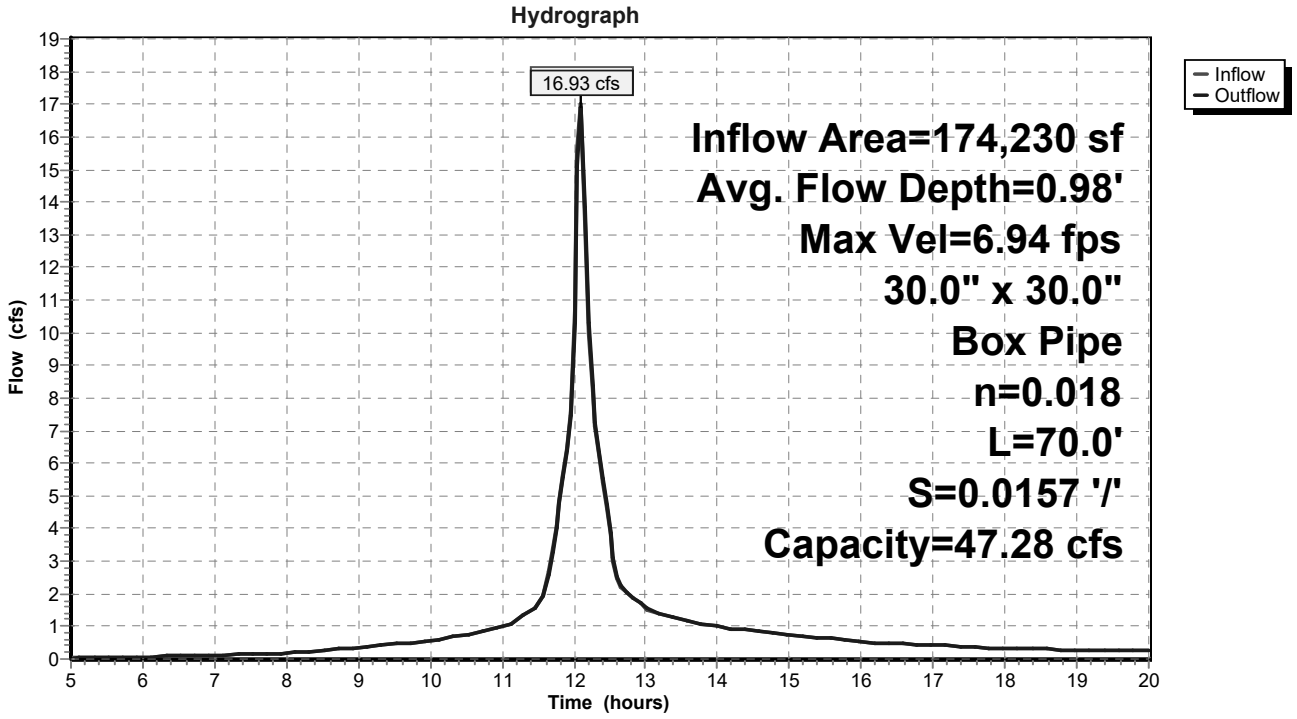
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.94 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.18 fps, Avg. Travel Time= 0.5 min

Peak Storage= 172 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.98'
Bank-Full Depth= 2.50' Flow Area= 6.3 sf, Capacity= 47.28 cfs

30.0" W x 30.0" H Box Pipe
n= 0.018 Rubble masonry, cemented
Length= 70.0' Slope= 0.0157 '/'
Inlet Invert= 43.80', Outlet Invert= 42.70'



Reach R3: 30"x30" Stone Culvert



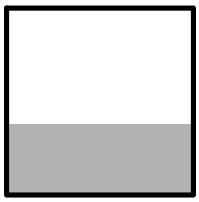
Summary for Reach R4: 30"x30" Stone Culvert

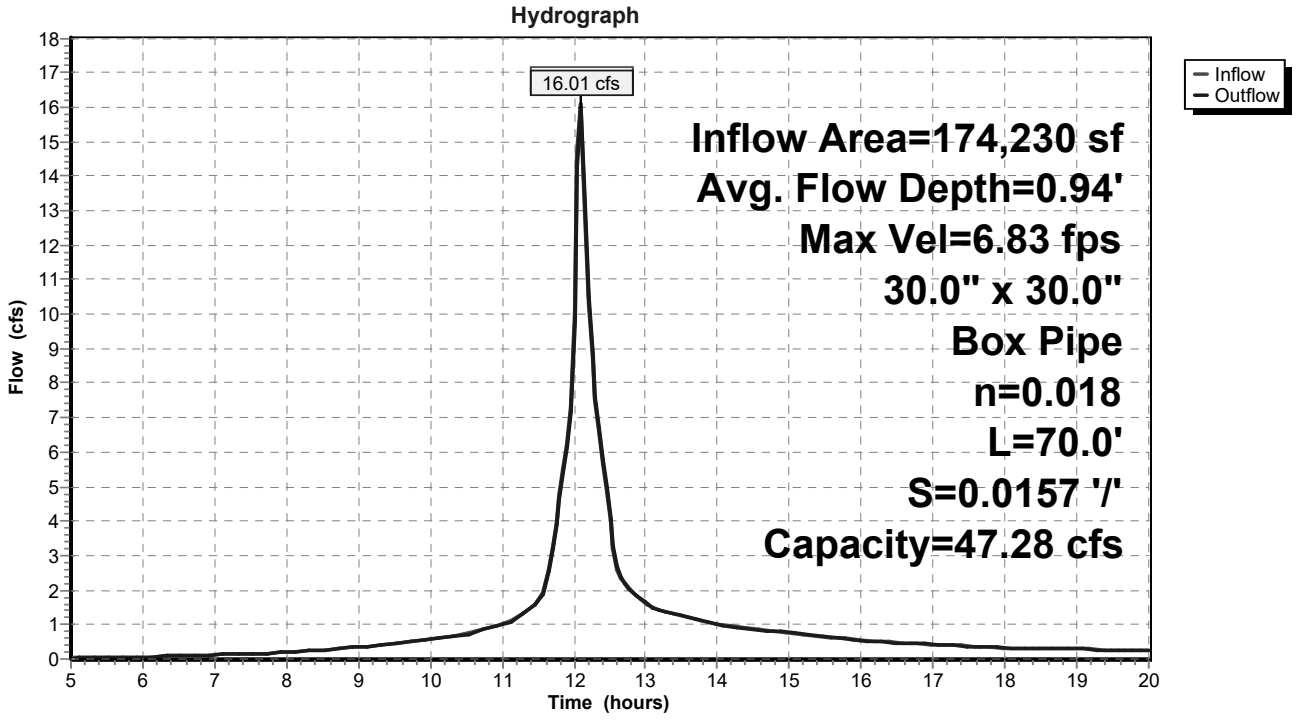
Inflow Area = 174,230 sf, 64.92% Impervious, Inflow Depth > 3.62" for 25-Year Storm event
Inflow = 16.10 cfs @ 12.09 hrs, Volume= 52,626 cf
Outflow = 16.01 cfs @ 12.09 hrs, Volume= 52,609 cf, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.83 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.19 fps, Avg. Travel Time= 0.5 min

Peak Storage= 165 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.94'
Bank-Full Depth= 2.50' Flow Area= 6.3 sf, Capacity= 47.28 cfs

30.0" W x 30.0" H Box Pipe
n= 0.018 Rubble masonry, cemented
Length= 70.0' Slope= 0.0157 '/'
Inlet Invert= 43.80', Outlet Invert= 42.70'





Summary for Pond BMP1: Rain Garden

Inflow Area = 16,718 sf, 48.37% Impervious, Inflow Depth > 3.44" for 25-Year Storm event
Inflow = 1.58 cfs @ 12.09 hrs, Volume= 4,793 cf
Outflow = 0.83 cfs @ 12.25 hrs, Volume= 2,737 cf, Atten= 48%, Lag= 9.9 min
Discarded = 0.01 cfs @ 12.25 hrs, Volume= 336 cf
Primary = 0.82 cfs @ 12.25 hrs, Volume= 2,401 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 59.12' @ 12.25 hrs Surf.Area= 1,394 sf Storage= 2,205 cf

Plug-Flow detention time= 143.7 min calculated for 2,737 cf (57% of inflow)
Center-of-Mass det. time= 66.2 min (837.4 - 771.2)

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	3,580 cf	**Rain Garden - Ponding Area (Prismatic)** Listed below (Recalc)

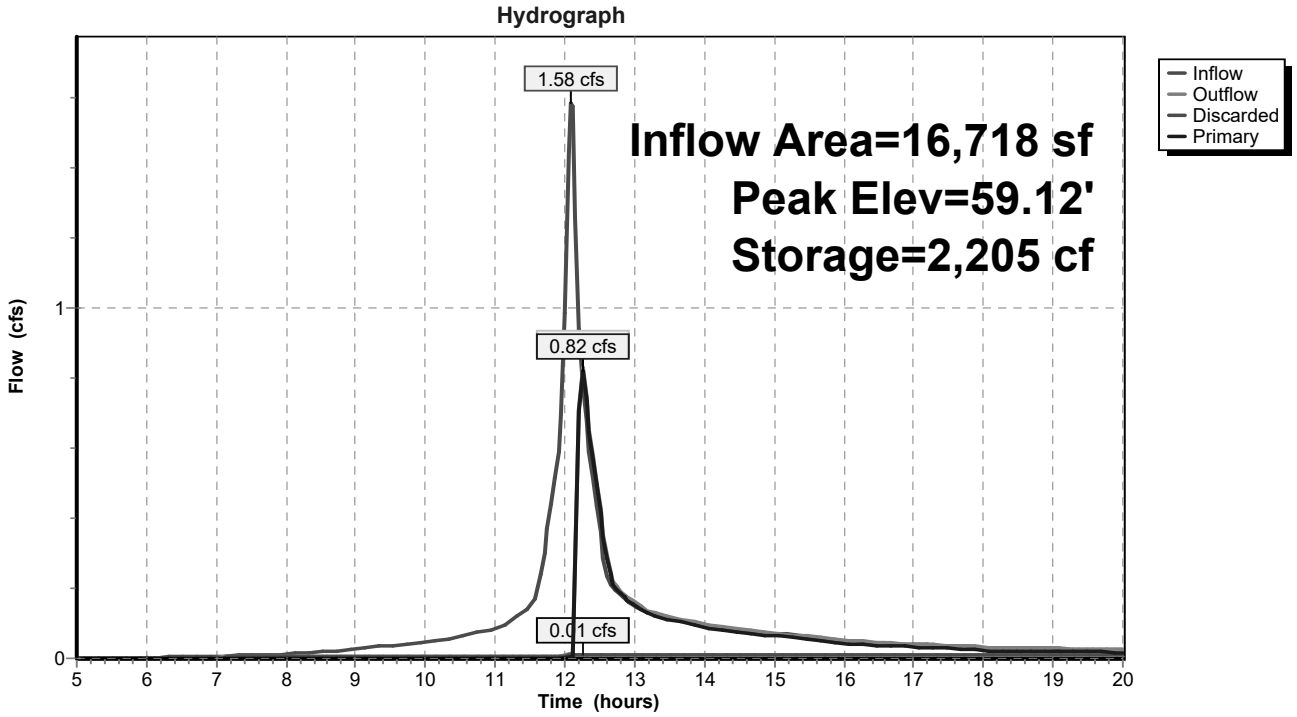
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.00	707	0	0
58.00	1,016	862	862
59.00	1,352	1,184	2,046
60.00	1,716	1,534	3,580

Device	Routing	Invert	Outlet Devices
#1	Primary	53.50'	**12.0" Round Culvert** L= 89.0' Ke= 0.200 Inlet / Outlet Invert= 53.50' / 52.60' S= 0.0101 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	59.00'	**24.0" Horiz. Dome Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	57.00'	**0.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.01 cfs @ 12.25 hrs HW=59.12' (Free Discharge)
↑└**3=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.81 cfs @ 12.25 hrs HW=59.12' (Free Discharge)
↑└**1=Culvert** (Passes 0.81 cfs of 8.76 cfs potential flow)
↑└**2=Dome Grate** (Weir Controls 0.81 cfs @ 1.11 fps)

Pond BMP1: Rain Garden



Summary for Pond BMP2: Infiltration System

Inflow Area = 7,040 sf,100.00% Impervious, Inflow Depth > 4.60" for 25-Year Storm event
Inflow = 0.80 cfs @ 12.09 hrs, Volume= 2,699 cf
Outflow = 0.74 cfs @ 12.12 hrs, Volume= 2,255 cf, Atten= 8%, Lag= 2.2 min
Discarded = 0.00 cfs @ 5.10 hrs, Volume= 54 cf
Primary = 0.74 cfs @ 12.12 hrs, Volume= 2,201 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 60.97' @ 12.12 hrs Surf.Area= 160 sf Storage= 561 cf

Plug-Flow detention time= 94.3 min calculated for 2,254 cf (83% of inflow)
Center-of-Mass det. time= 45.6 min (780.5 - 734.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	56.00'	179 cf	**8.00'W x 20.00'L x 5.50'H Field A** 880 cf Overall - 432 cf Embedded = 448 cf x 40.0% Voids
#2A	56.50'	415 cf	**Brentwood StormTank 48"** x 24 Inside #1 Inside= 18.0"W x 48.0"H => 5.77 sf x 3.00'L = 17.3 cf Outside= 18.0"W x 48.0"H => 6.00 sf x 3.00'L = 18.0 cf 4 Rows of 6 Chambers
		595 cf	Total Available Storage

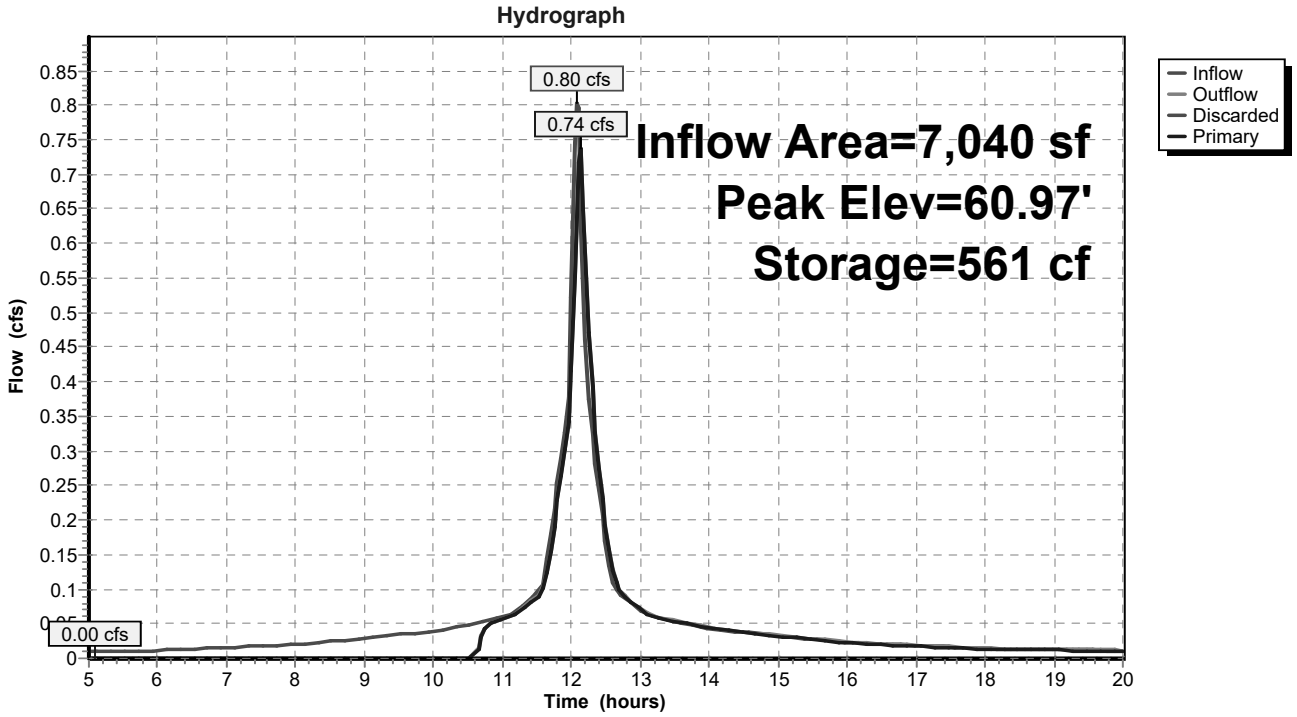
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	59.75'	**6.0" Round 6" PVC out** L= 19.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.75' / 56.70' S= 0.1605 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf
#2	Discarded	56.00'	**0.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.00 cfs @ 5.10 hrs HW=56.06' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.72 cfs @ 12.12 hrs HW=60.92' (Free Discharge)
↑—**1=6" PVC out** (Inlet Controls 0.72 cfs @ 3.64 fps)

Pond BMP2: Infiltration System



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Exist. Watershed 1 Runoff Area=43,550 sf 17.53% Impervious Runoff Depth>3.10"
Tc=6.0 min CN=78 Runoff=3.81 cfs 11,242 cf

Subcatchment E2: Exist. Watershed 2 - Runoff Area=130,680 sf 70.00% Impervious Runoff Depth>4.41"
Tc=6.0 min CN=91 Runoff=15.21 cfs 47,999 cf

Subcatchment P1: Prop. Watershed 1 Runoff Area=16,718 sf 48.37% Impervious Runoff Depth>3.89"
Tc=6.0 min CN=86 Runoff=1.78 cfs 5,418 cf

Subcatchment P2: Prop. Watershed 2 Runoff Area=7,040 sf 100.00% Impervious Runoff Depth>5.06"
Tc=6.0 min CN=98 Runoff=0.88 cfs 2,966 cf

Subcatchment P3: Prop. Watershed 3 Runoff Area=19,792 sf 32.91% Impervious Runoff Depth>3.48"
Tc=6.0 min CN=82 Runoff=1.92 cfs 5,747 cf

Subcatchment P4: Exist. Watershed 4 - Runoff Area=130,680 sf 70.00% Impervious Runoff Depth>4.41"
Tc=6.0 min CN=91 Runoff=15.21 cfs 47,999 cf

Reach R1: Abbey Ln. Subcatchment Inflow=3.81 cfs 11,242 cf
Outflow=3.81 cfs 11,242 cf

Reach R2: Abbey Ln. Subcatchment Inflow=3.52 cfs 11,228 cf
Outflow=3.52 cfs 11,228 cf

Reach R3: 30"x30" Stone Culvert Avg. Flow Depth=1.07' Max Vel=7.15 fps Inflow=19.01 cfs 59,240 cf
30.0" x 30.0" Box Pipe n=0.018 L=70.0' S=0.0157 '/' Capacity=47.28 cfs Outflow=18.92 cfs 59,221 cf

Reach R4: 30"x30" Stone Culvert Avg. Flow Depth=1.02' Max Vel=7.04 fps Inflow=17.92 cfs 59,227 cf
30.0" x 30.0" Box Pipe n=0.018 L=70.0' S=0.0157 '/' Capacity=47.28 cfs Outflow=17.86 cfs 59,208 cf

Pond BMP1: Rain Garden Peak Elev=59.15' Storage=2,257 cf Inflow=1.78 cfs 5,418 cf
Discarded=0.01 cfs 345 cf Primary=1.24 cfs 3,014 cf Outflow=1.25 cfs 3,360 cf

Pond BMP2: Infiltration System Peak Elev=61.14' Storage=572 cf Inflow=0.88 cfs 2,966 cf
Discarded=0.00 cfs 54 cf Primary=0.80 cfs 2,467 cf Outflow=0.80 cfs 2,521 cf

Summary for Subcatchment E1: Exist. Watershed 1

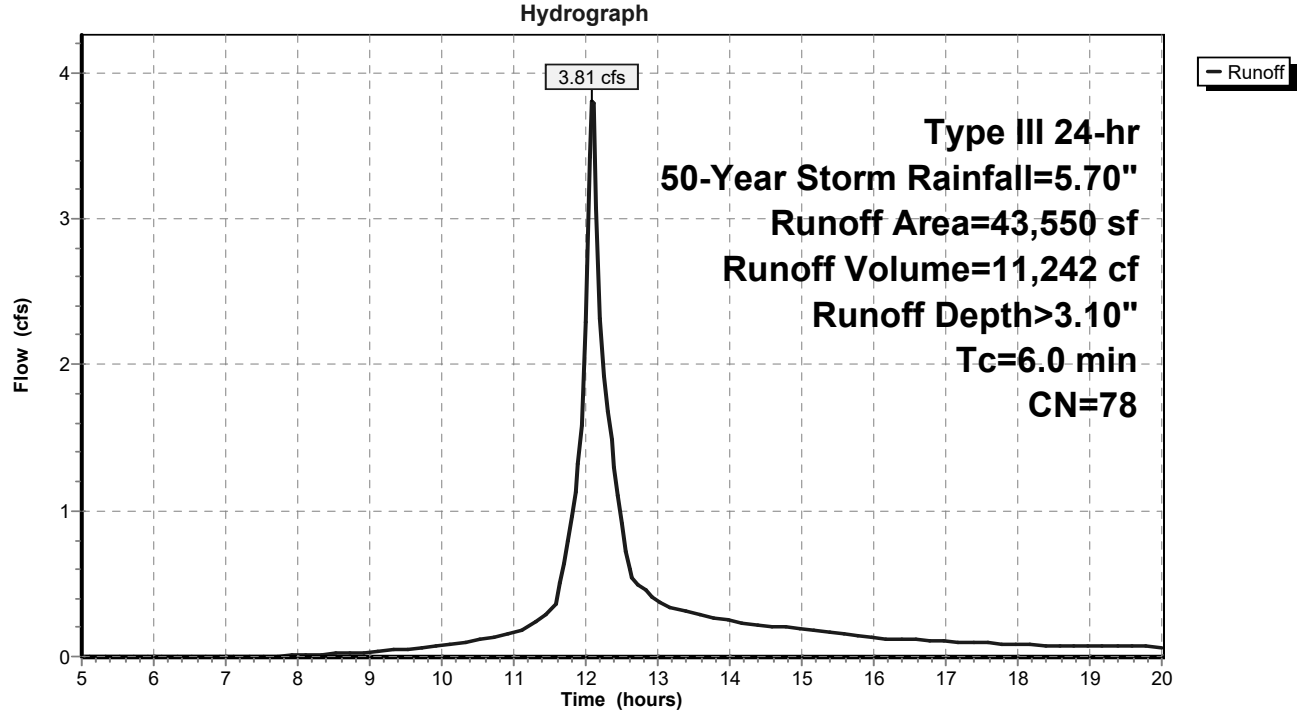
Runoff = 3.81 cfs @ 12.09 hrs, Volume= 11,242 cf, Depth> 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-Year Storm Rainfall=5.70"

	Area (sf)	CN	Description
*	7,635	98	Paved parking, roofs, walks
	35,915	74	>75% Grass cover, Good, HSG C
	43,550	78	Weighted Average
	35,915		82.47% Pervious Area
	7,635		17.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment E1: Exist. Watershed 1



Summary for Subcatchment E2: Exist. Watershed 2 - Rutland Manor

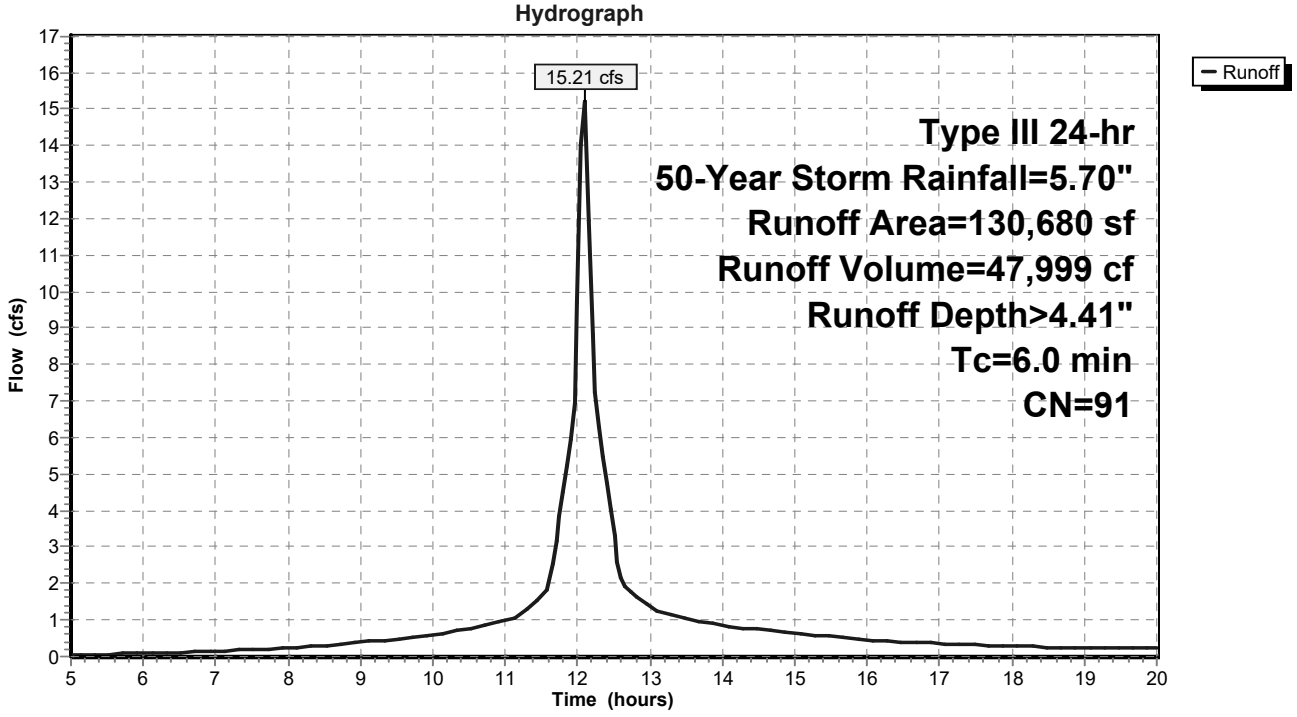
Runoff = 15.21 cfs @ 12.09 hrs, Volume= 47,999 cf, Depth> 4.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-Year Storm Rainfall=5.70"

Area (sf)	CN	Description
91,476	98	Paved parking, HSG A
39,204	74	>75% Grass cover, Good, HSG C
130,680	91	Weighted Average
39,204		30.00% Pervious Area
91,476		70.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment E2: Exist. Watershed 2 - Rutland Manor



Summary for Subcatchment P1: Prop. Watershed 1

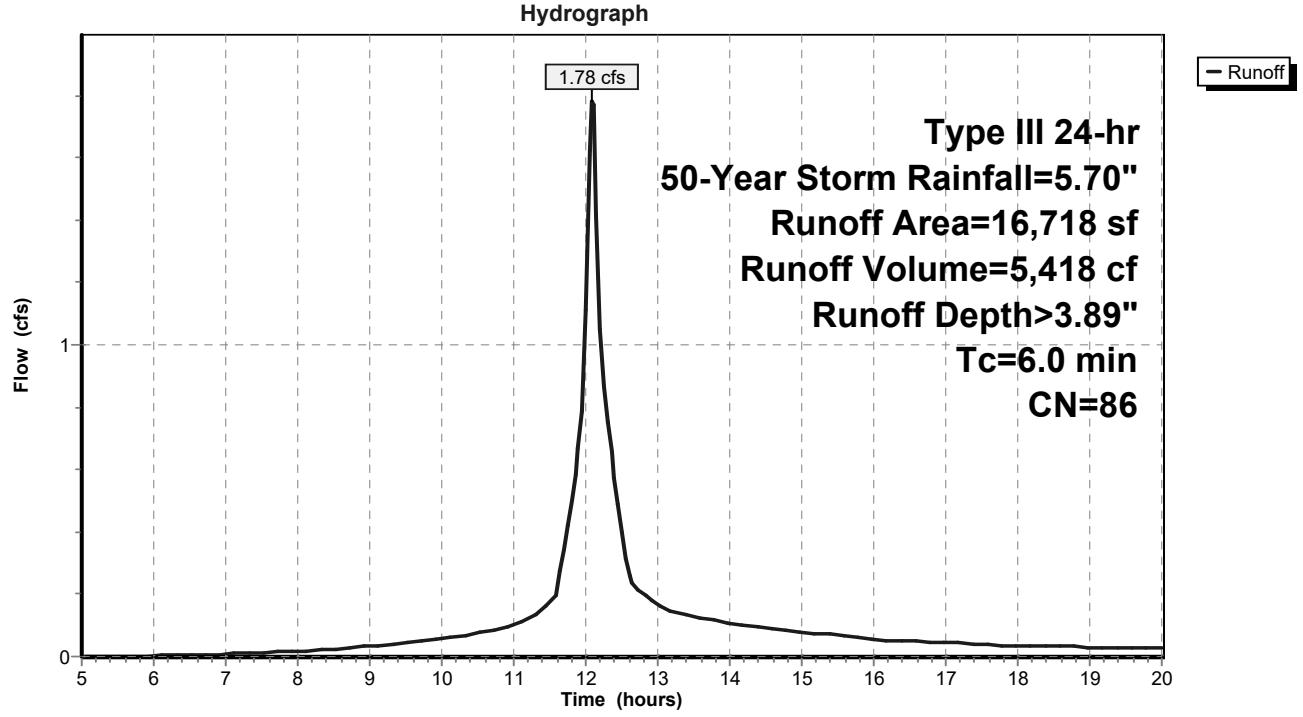
Runoff = 1.78 cfs @ 12.09 hrs, Volume= 5,418 cf, Depth> 3.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-Year Storm Rainfall=5.70"

	Area (sf)	CN	Description
	8,086	98	Paved parking, HSG A
*	8,632	74	>75% Grass cover, Good, HSG C
	16,718	86	Weighted Average
	8,632		51.63% Pervious Area
	8,086		48.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P1: Prop. Watershed 1



Summary for Subcatchment P2: Prop. Watershed 2

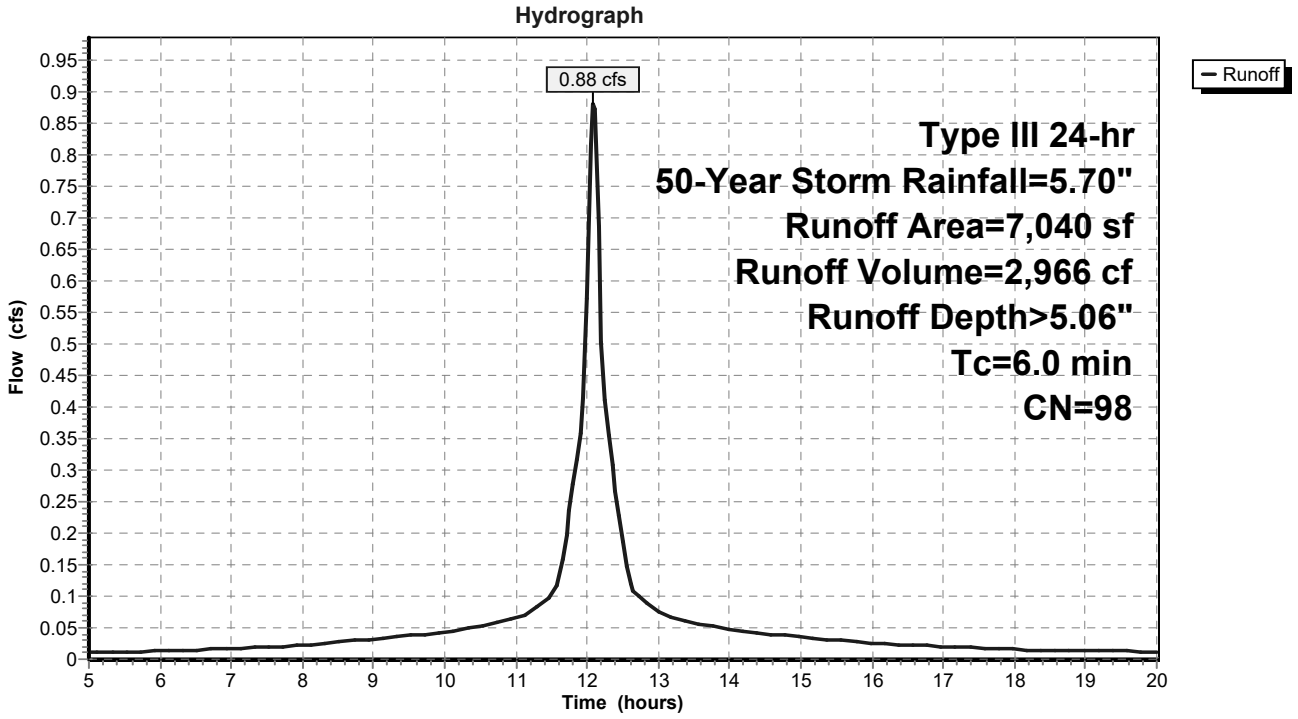
Runoff = 0.88 cfs @ 12.09 hrs, Volume= 2,966 cf, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-Year Storm Rainfall=5.70"

Area (sf)	CN	Description
7,040	98	Roofs, HSG C
7,040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P2: Prop. Watershed 2



Summary for Subcatchment P3: Prop. Watershed 3

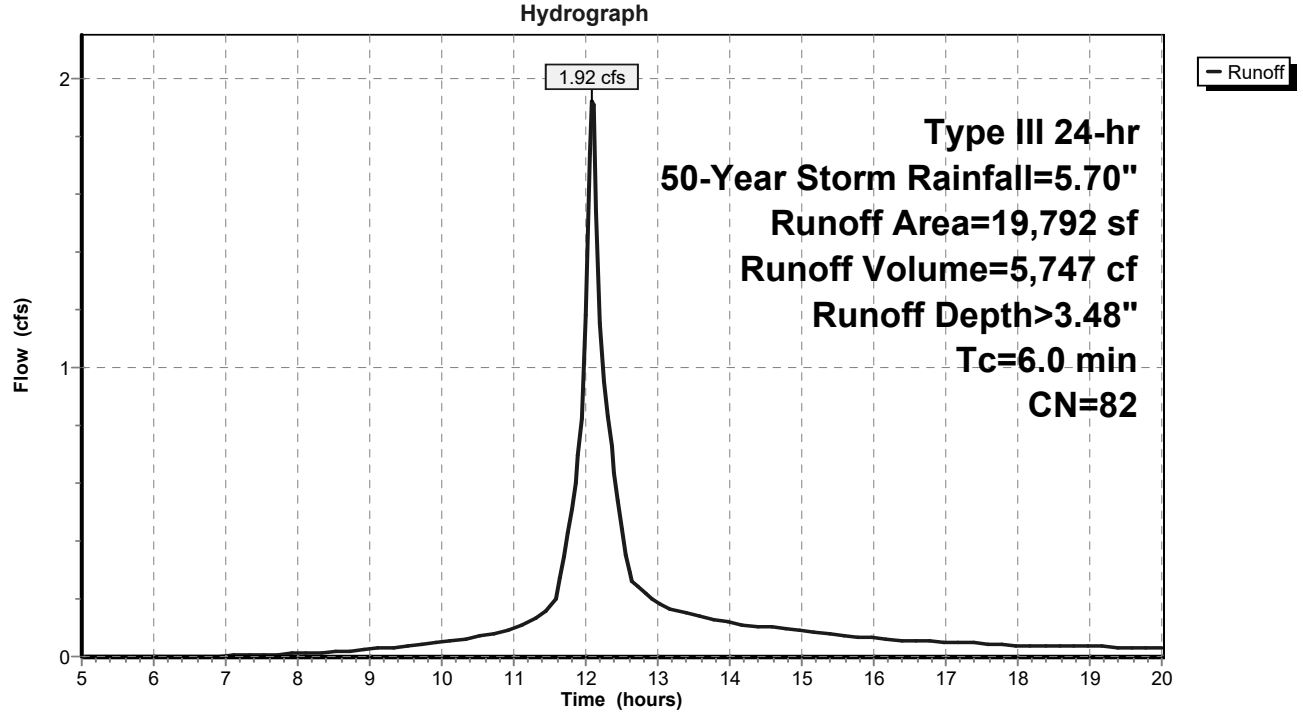
Runoff = 1.92 cfs @ 12.09 hrs, Volume= 5,747 cf, Depth> 3.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-Year Storm Rainfall=5.70"

	Area (sf)	CN	Description
*	6,514	98	Paved parking, exist houses HSG C
	13,278	74	>75% Grass cover, Good, HSG C
	19,792	82	Weighted Average
	13,278		67.09% Pervious Area
	6,514		32.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P3: Prop. Watershed 3



Summary for Subcatchment P4: Exist. Watershed 4 - Rutland Manor

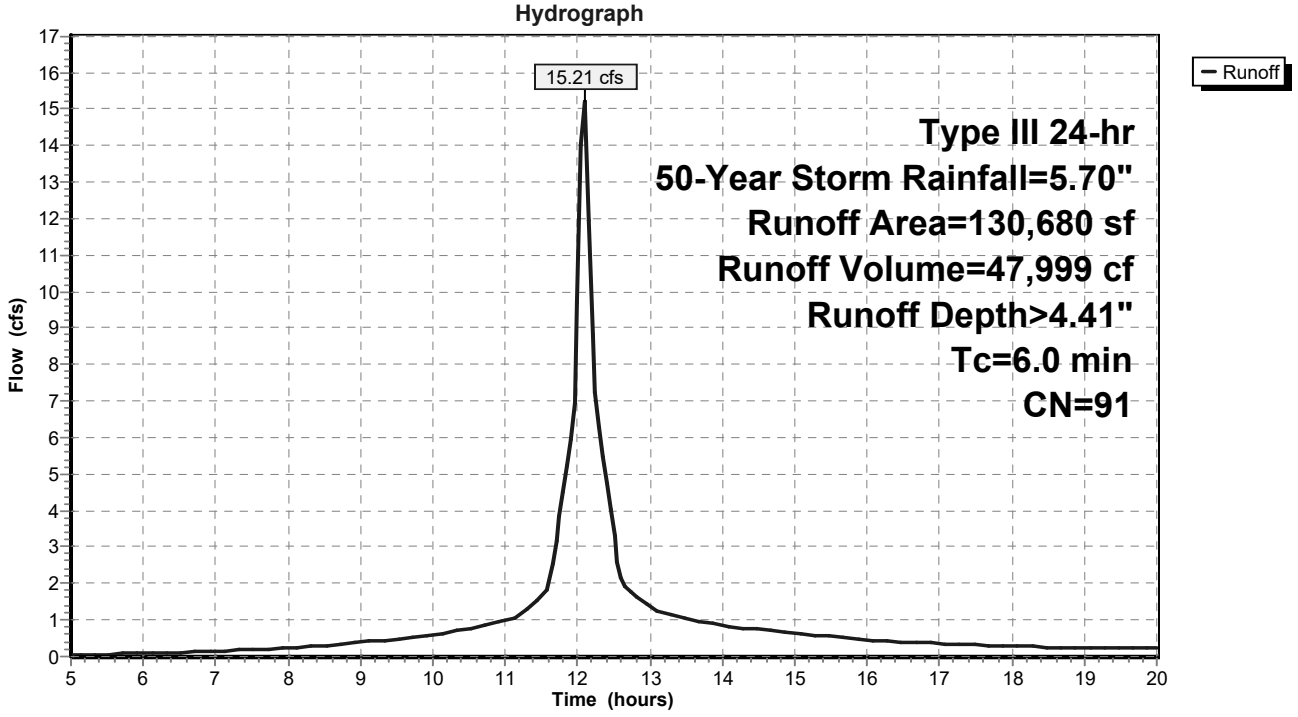
Runoff = 15.21 cfs @ 12.09 hrs, Volume= 47,999 cf, Depth> 4.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-Year Storm Rainfall=5.70"

Area (sf)	CN	Description
91,476	98	Paved parking, HSG A
39,204	74	>75% Grass cover, Good, HSG C
130,680	91	Weighted Average
39,204		30.00% Pervious Area
91,476		70.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P4: Exist. Watershed 4 - Rutland Manor

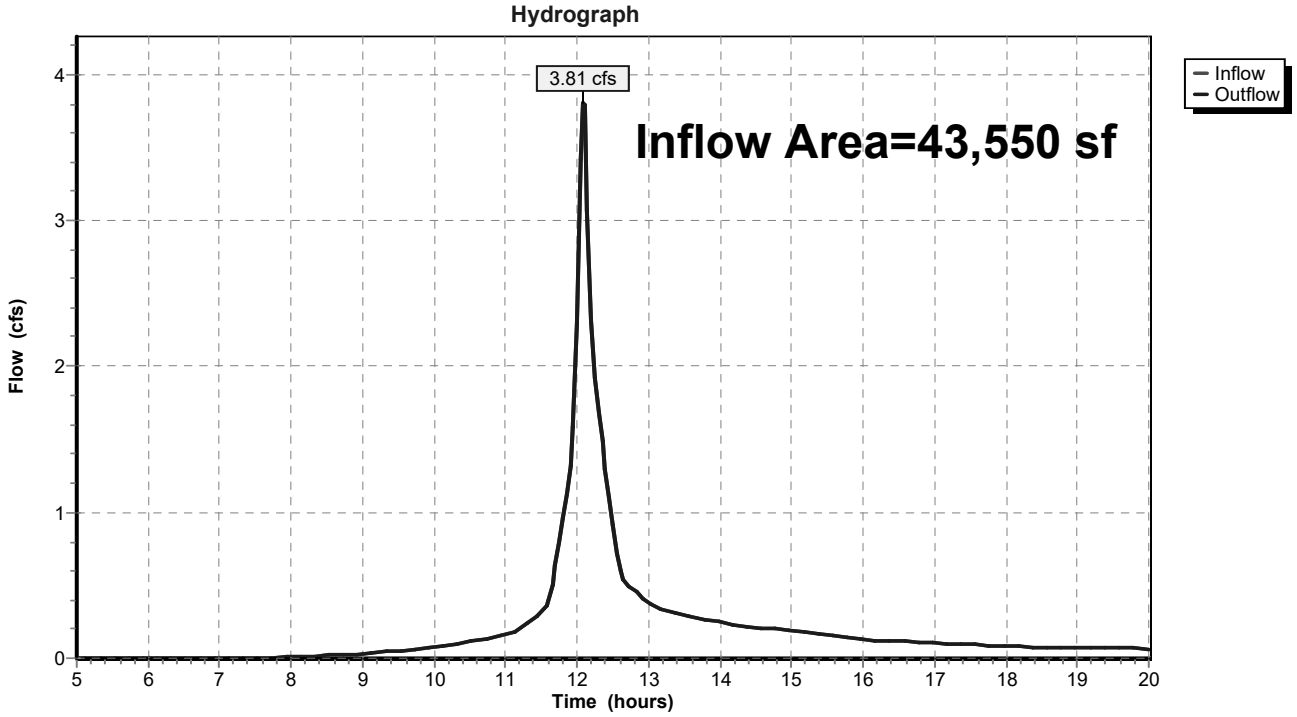


Summary for Reach R1: Abbey Ln. Subcatchment

Inflow Area = 43,550 sf, 17.53% Impervious, Inflow Depth > 3.10" for 50-Year Storm event
Inflow = 3.81 cfs @ 12.09 hrs, Volume= 11,242 cf
Outflow = 3.81 cfs @ 12.09 hrs, Volume= 11,242 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach R1: Abbey Ln. Subcatchment

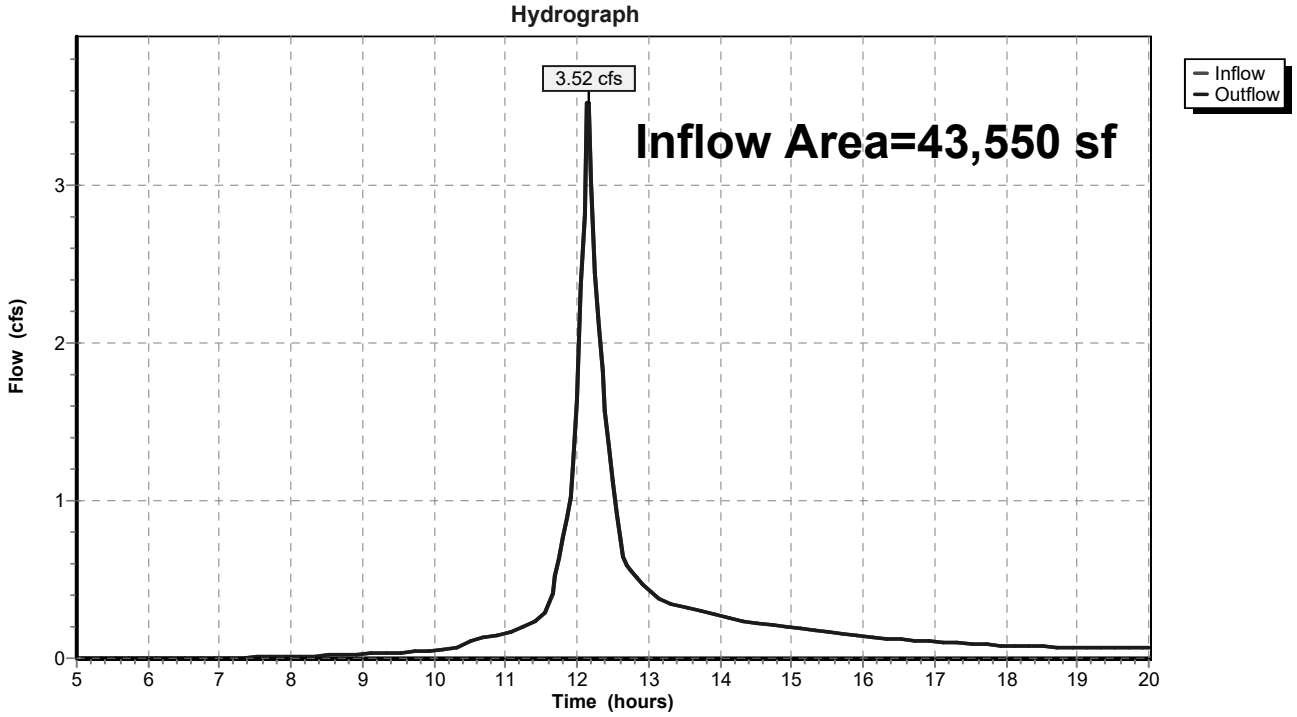


Summary for Reach R2: Abbey Ln. Subcatchment

Inflow Area = 43,550 sf, 49.69% Impervious, Inflow Depth > 3.09" for 50-Year Storm event
Inflow = 3.52 cfs @ 12.15 hrs, Volume= 11,228 cf
Outflow = 3.52 cfs @ 12.15 hrs, Volume= 11,228 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach R2: Abbey Ln. Subcatchment



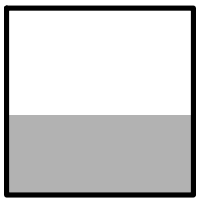
Summary for Reach R3: 30"x30" Stone Culvert

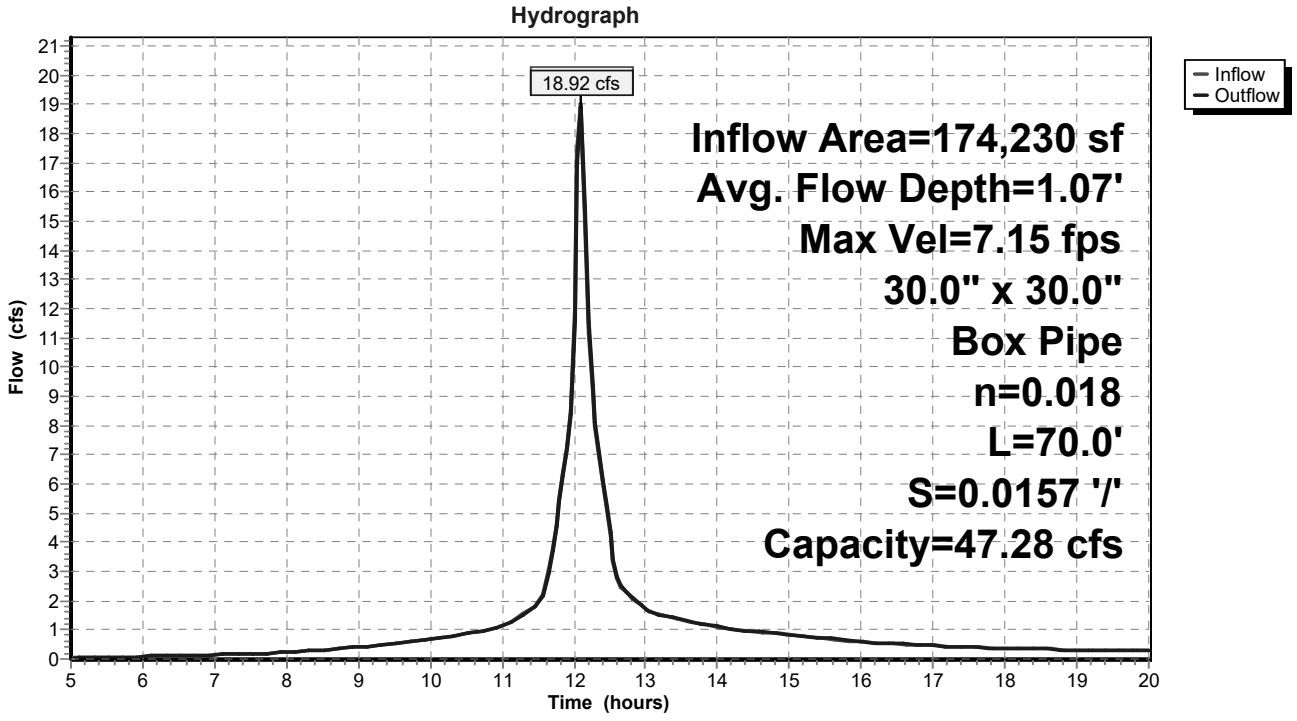
Inflow Area = 174,230 sf, 56.89% Impervious, Inflow Depth > 4.08" for 50-Year Storm event
Inflow = 19.01 cfs @ 12.09 hrs, Volume= 59,240 cf
Outflow = 18.92 cfs @ 12.09 hrs, Volume= 59,221 cf, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.15 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.29 fps, Avg. Travel Time= 0.5 min

Peak Storage= 186 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.07'
Bank-Full Depth= 2.50' Flow Area= 6.3 sf, Capacity= 47.28 cfs

30.0" W x 30.0" H Box Pipe
n= 0.018 Rubble masonry, cemented
Length= 70.0' Slope= 0.0157 '/'
Inlet Invert= 43.80', Outlet Invert= 42.70'





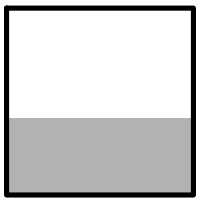
Summary for Reach R4: 30"x30" Stone Culvert

Inflow Area = 174,230 sf, 64.92% Impervious, Inflow Depth > 4.08" for 50-Year Storm event
Inflow = 17.92 cfs @ 12.09 hrs, Volume= 59,227 cf
Outflow = 17.86 cfs @ 12.10 hrs, Volume= 59,208 cf, Atten= 0%, Lag= 0.3 min

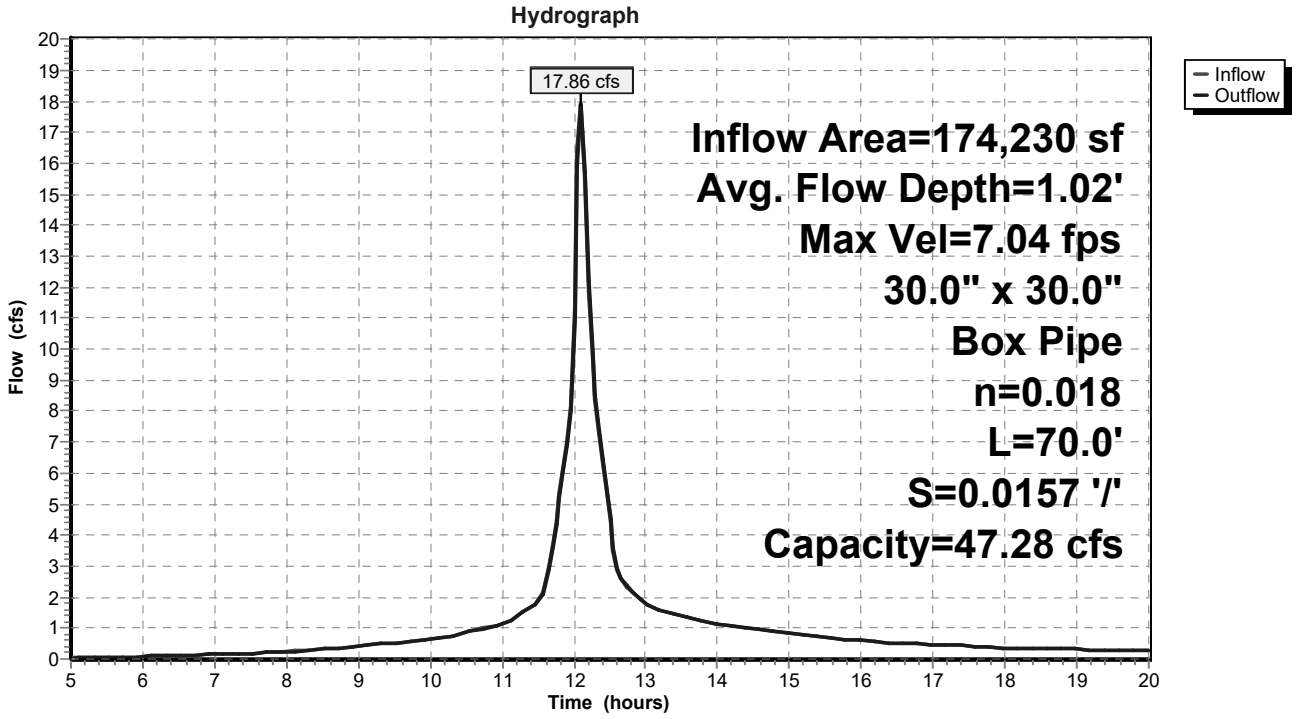
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.04 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.29 fps, Avg. Travel Time= 0.5 min

Peak Storage= 179 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.02'
Bank-Full Depth= 2.50' Flow Area= 6.3 sf, Capacity= 47.28 cfs

30.0" W x 30.0" H Box Pipe
n= 0.018 Rubble masonry, cemented
Length= 70.0' Slope= 0.0157 '/'
Inlet Invert= 43.80', Outlet Invert= 42.70'



Reach R4: 30"x30" Stone Culvert



Summary for Pond BMP1: Rain Garden

Inflow Area = 16,718 sf, 48.37% Impervious, Inflow Depth > 3.89" for 50-Year Storm event
Inflow = 1.78 cfs @ 12.09 hrs, Volume= 5,418 cf
Outflow = 1.25 cfs @ 12.18 hrs, Volume= 3,360 cf, Atten= 30%, Lag= 5.4 min
Discarded = 0.01 cfs @ 12.18 hrs, Volume= 345 cf
Primary = 1.24 cfs @ 12.18 hrs, Volume= 3,014 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 59.15' @ 12.18 hrs Surf.Area= 1,408 sf Storage= 2,257 cf

Plug-Flow detention time= 130.8 min calculated for 3,348 cf (62% of inflow)
Center-of-Mass det. time= 58.3 min (826.5 - 768.3)

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	3,580 cf	**Rain Garden - Ponding Area (Prismatic)** Listed below (Recalc)

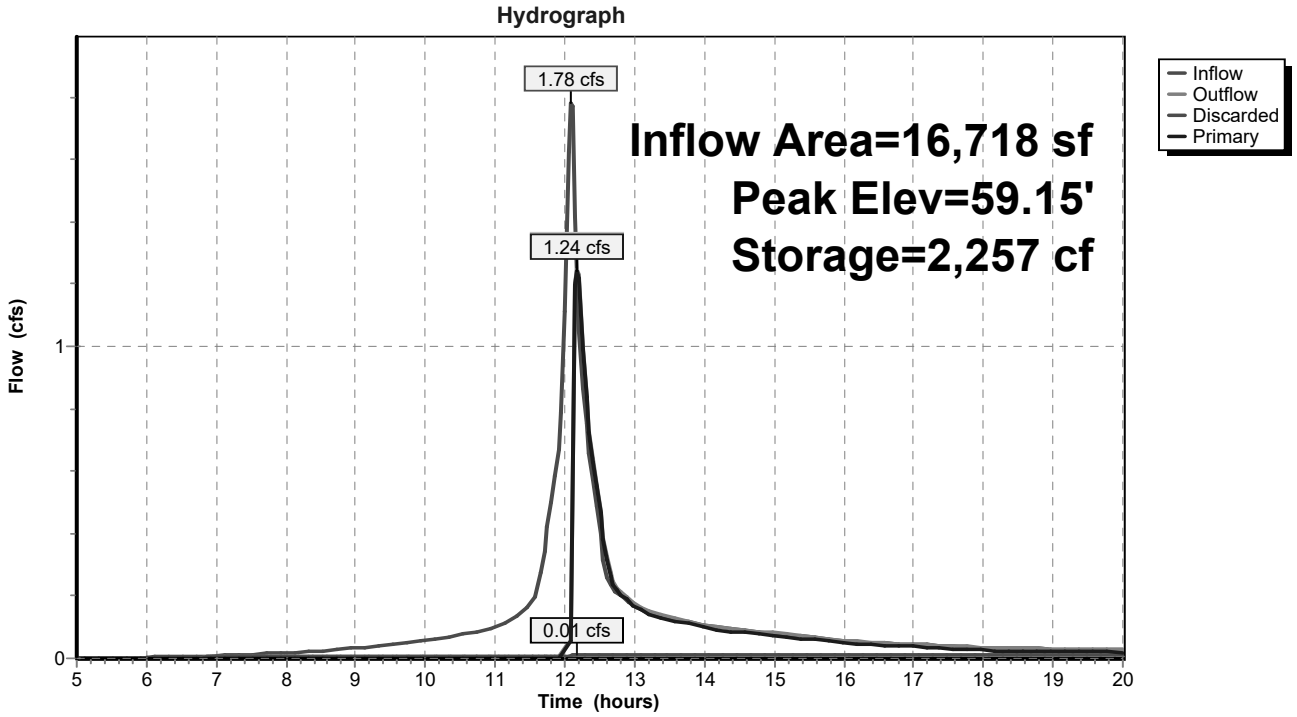
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.00	707	0	0
58.00	1,016	862	862
59.00	1,352	1,184	2,046
60.00	1,716	1,534	3,580

Device	Routing	Invert	Outlet Devices
#1	Primary	53.50'	**12.0" Round Culvert** L= 89.0' Ke= 0.200 Inlet / Outlet Invert= 53.50' / 52.60' S= 0.0101 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	59.00'	**24.0" Horiz. Dome Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	57.00'	**0.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.01 cfs @ 12.18 hrs HW=59.15' (Free Discharge)
↑└**3=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=1.20 cfs @ 12.18 hrs HW=59.15' (Free Discharge)
↑└**1=Culvert** (Passes 1.20 cfs of 8.79 cfs potential flow)
↑└**2=Dome Grate** (Weir Controls 1.20 cfs @ 1.27 fps)

Pond BMP1: Rain Garden



Summary for Pond BMP2: Infiltration System

Inflow Area = 7,040 sf,100.00% Impervious, Inflow Depth > 5.06" for 50-Year Storm event
Inflow = 0.88 cfs @ 12.09 hrs, Volume= 2,966 cf
Outflow = 0.80 cfs @ 12.12 hrs, Volume= 2,521 cf, Atten= 9%, Lag= 2.3 min
Discarded = 0.00 cfs @ 5.10 hrs, Volume= 54 cf
Primary = 0.80 cfs @ 12.12 hrs, Volume= 2,467 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 61.14' @ 12.12 hrs Surf.Area= 160 sf Storage= 572 cf

Plug-Flow detention time= 88.4 min calculated for 2,512 cf (85% of inflow)
Center-of-Mass det. time= 43.4 min (777.8 - 734.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	56.00'	179 cf	**8.00'W x 20.00'L x 5.50'H Field A** 880 cf Overall - 432 cf Embedded = 448 cf x 40.0% Voids
#2A	56.50'	415 cf	**Brentwood StormTank 48"** x 24 Inside #1 Inside= 18.0"W x 48.0"H => 5.77 sf x 3.00'L = 17.3 cf Outside= 18.0"W x 48.0"H => 6.00 sf x 3.00'L = 18.0 cf 4 Rows of 6 Chambers
		595 cf	Total Available Storage

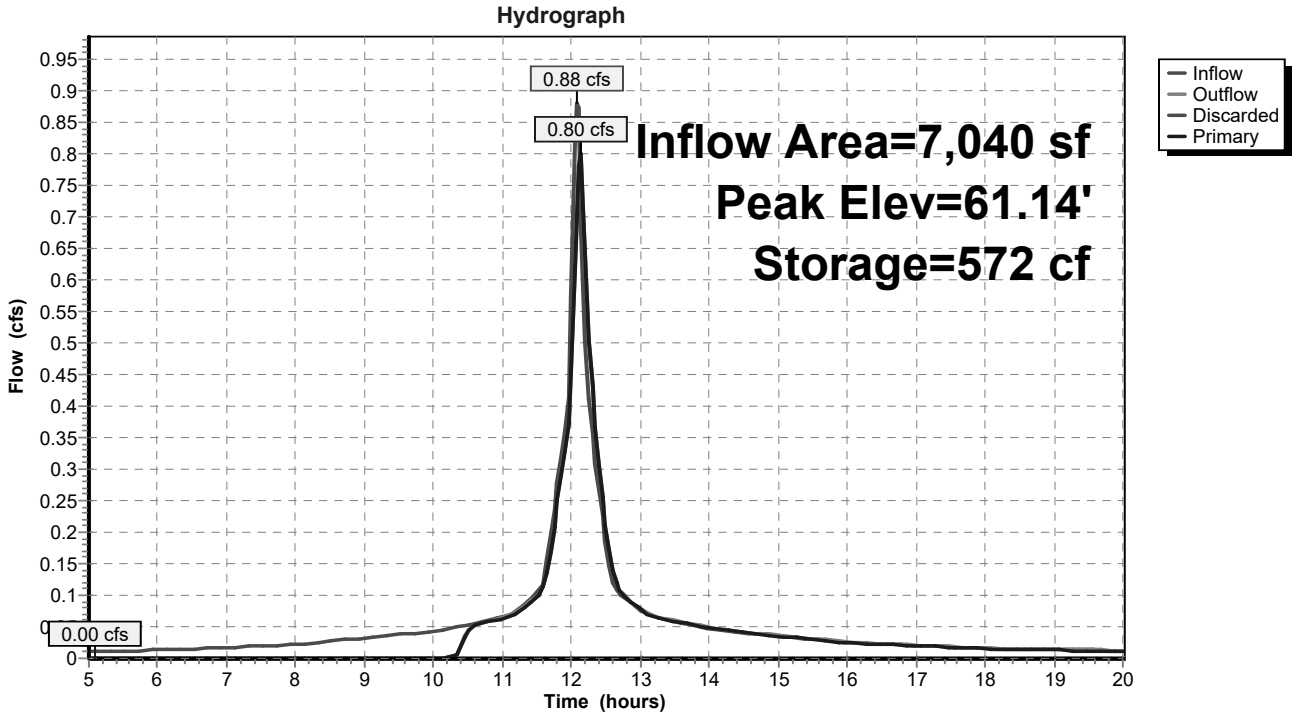
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	59.75'	**6.0" Round 6" PVC out** L= 19.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.75' / 56.70' S= 0.1605 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf
#2	Discarded	56.00'	**0.270 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.00 cfs @ 5.10 hrs HW=56.07' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.78 cfs @ 12.12 hrs HW=61.09' (Free Discharge)
↑—**1=6" PVC out** (Inlet Controls 0.78 cfs @ 3.97 fps)

Pond BMP2: Infiltration System



C

NHDES BMP WORKSHEET

BIORETENTION SYSTEM WITH INTERNAL STORAGE RESERVOIR
(UNH Stormwater Center Specification)

Type/Node Name: **Rain Garden (P1)**

Enter the node name in the drainage analysis if applicable.

0.38	ac	A = Area draining to the practice	
0.19	ac	A_I = Impervious area draining to the practice	
0.48	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.49	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.19	ac-in	WQV= 1" x Rv x A	
676	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
68	cf	10% x WQV (check calc for sediment forebay)	
169	cf	25% x WQV (check calc for water stored in saturated zone)	
Deep Sump CB		Method of Pretreatment	
-	cf	If pretrt is sed forebay: V_{SED} (sediment forebay volume)	**≥ 10%WQV**
2,046	cf	Volume below lowest orifice[1]	**≥ 100%WQV**
-	cf	Water stored in voids of saturated zone	**≥ 26%WQV**
0.02	cfs	$2Q_{avg}$ = 2* WQV / 24 hrs * (1hr / 3600 sec)[2]	
57.81	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
0.01	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	**< $2Q_{WQV}$**
37.56	hours	T_{ED} = Drawdown time of extended detention = 2WQV/Q_{WQV}	**≥ 24-hrs**
18.00	in	Depth of Filter Media	**≥ 18"**
3.00	:1	Pond side slopes	**≥ 3:1**
Orifices > 6"		What mechanism is proposed to prevent the outlet structure from clogging (applicable for orifices/weirs with a dimension of ≤6")?	
59.15	ft	Peak elevation of the 50-year storm event (E_{50})	
60.00	ft	Berm elevation of the pond	
YES		E_{50} ≤ the berm elevation?	**← yes**

1. Volume stored above the wetland soil and below the high flow by-pass.

Designer's Notes:

- Water stored in voids of saturated zone of filter media not included in WQV storage calc.

D

GROUNDWATER RECHARGE CALCULATIONS

Hancock Associates

SURVEYORS | ENGINEERS | SCIENTISTS

71-73 Rutland Street
Dover, NH

DATE: 11/18/21

GROUNDWATER RECHARGE CALCULATION

PROPOSED INFILTRATION SYSTEM

INFILTRATION SYSTEM STORAGE VOLUME

STORMTANK MODULE 25 - 48" HEIGHT

	OUTLET ORIFICE INVERT	I_W	=	59.75	ft.
	BOTTOM INVERT CHAMBERS	I_C	=	56.50	ft.
	STORMWATER DEPTH	D_C	=	3.25	ft.
	VOLUME PER CHAMBER	V_C	=	14.11	cf.
	NUMER OF ROWS	R_C	=	4	
	CHAMBERS PER ROW	C_C	=	6	
$N_C = (R_C * C_C)$	NUMBER OF CHAMBERS	N_C	=	24	
$V_{CHAMBERS} = (V_C * N_C)$	TOTAL VOLUME OF CHAMBERS BELOW OUTLET	$V_{CHAMBERS}$	=	338.7	cf.

STONE VOLUME

	STONE BOTTOM INVERT	I_S	=	56.00	ft.
$D_S = I_W - I_S$	STONE STORMWATER DEPTH	D_S		3.75	
	STONE WIDTH	W_S	=	8.0	ft.
	STONE LENGTH	L_S	=	20.0	ft.
	% VOIDS	VOIDS	=	40%	
$V_{STONE} = [(W_S * L_S * (I_W - I_S)) - V_{CHAMBERS}] * VOIDS$	STONE VOLUME	V_{stone}	=	99.6	cf.

TOTAL VOLUME BELOW INVERT

$V_{TOTAL} = V_{CHAMBERS} + V_{STONE}$	**TOTAL STORAGE VOLUME**	V_{TOTAL}	=	**438.3**	cf.

BOTTOM AREA

$A_{bottom} = W_S * L_S$	BOTTOM SURFACE AREA	A_{bottom}	=	**160.0**	sf.

REQUIRED RECHARGE VOLUME

STATIC METHOD

	SOIL TYPE		=	C	
	RECHARGE DEPTH	F	=	0.1	in.
	IMPERVIOUS AREA	A_{IMP}	=	**21,624**	sf
	% IMPERVIOUS AREA CAPTURED		=	100%	
$Rv = (F * A_{imp})$	RECHARGE STORAGE VOLUME	Rv	=	**180.2**	cf.

438.3 cf. >>> 180.2 cf.

REQUIREMENT SATISFIED

E

OPERATION AND MAINTENANCE PLAN

- OPERATION AND MAINTENANCE PLAN -

Owner & Responsible Party:
Diamond Capital, LLC
170 Commerce Way, Suite 200
Portsmouth, NH 03801
Date: 12/17/2021

I. Short Term Maintenance Program During Construction – Responsible Party: Site Contractor

- Contractor shall refer to Site Plans dated 12/17/21, prepared by Hancock Associates for additional information.

- Site contractor shall provide Dover Engineering Department a 24 hour emergency contact (name and number) prior to start of construction.

- Care shall be taken at all times to control erosion and sediment movement by the use of compaction of disturbed areas and the use of straw wattles as shown on the plan. Other than erosion, no pollutant discharges are expected during construction.

- The contractor shall ensure that all runoff is collected in the appropriate structures as they are constructed and that uncontrolled runoff is kept to a minimum

- During construction the straw wattles, must be inspected every week and rain events greater than 1". Repair and replace as necessary, and remove any sediment buildup behind the devices.

- After installation of the drainage control devices and temporary erosion protection, weekly inspections are required to ensure they are operating as designed and to determine maintenance/cleaning requirements. Structures are to be cleaned either by hand, or mechanical means. Refer to following schedule.

- Sweeping of tracked soils on public way to be performed weekly, or as necessary. Additional crushed stone to be placed within the filter berm as required to prevent tracking of soils offsite.

- If storm events occur after the side slopes and other areas that are to be stabilized have been planted, but prior to seed germination, then re-grading and replanting of those areas may be required.

- Contractor shall take all measures to protect trees marked on site plans.

- Contractor shall maintain a weekly log of inspections using template below. Logs shall be made available to municipal representatives at request.

- In the event of a fuel spill immediately contact the Dover Fire Department (603-516-6153).

- Contractor shall clean all drainage and stormwater control structures at completion of construction

Maintenance Schedule during Construction

Sediment Control	Inspection	Maintenance Thresholds	Maintenance Action
Erosion control silt sacks, straw wattles, soil stockpiles	Weekly and after large storm events (more than 0.5-inch of rainfall in 24-hour period)	If integrity of the system is compromised	Restore the integrity of the system and/or clean sediment out
Drainage Structures	Weekly and after large storm events (more than 1.0-inches of rainfall in 24-hour period)	If the sump is 1/3 full with sediment	Clean sediment out
Infiltration Chambers	Weekly and after large storm events (more than 1.0-inches of rainfall in 24-hour period)	When sediment is observed in infiltration units	Remove sediment by jetting system. Replace system if infiltration component is compromised.
Loamed and seeded areas	Weekly and after large storm events (more than 1.0-inches of rainfall in 24-hour period)	When sediment is greater than 2-inches in depth, vegetation is not taking	Remove sediment by non-intrusive means (non-mechanical), repair vegetation
Adjacent Roadways and Parking Areas	Weekly and after large storm events (more than 1.0 -inches of rainfall in 24-hour period)	If sediment is greater than 1/2 inch in any area of the paved surfaces	Sweep/clean sediment from street

71-73 Rutland Street, Dover, New Hampshire

Short Term – Operation and Maintenance

To be performed by site contractor

WEEKLY INSPECTION SCHEDULE AND EVALUATION CHECKLIST

Best Management practice	Current Conditions and Minimum Maintenance / Repairs, If Necessary	Completed Maintenance / Repair (i.e. date, contractor, tasks complete, etc.)
Catch Basins		
Erosion control/compost filter tube		
Soil Stockpiles		
Subsurface Infiltration Systems		
Crushed Stone Filter Berm		
Slope Stabilization Condition		
Soils tracked offsite		
Overall Site Condition		

Inspected by: _____ Date: _____

II. Long Term Maintenance Program After Construction – Responsible Party: Owner

After construction and issuance of Occupancy Permit, the owner, shall be the responsible party for maintenance as outlined below:

Diamond Capital, LLC
170 Commerce Way, Suite 200
Portsmouth, NH 03801

Long Term Maintenance Schedule after Construction

Task	Inspection	Maintenance Thresholds	Maintenance Action
Drainage Structures	Twice a year – spring and fall	If the sump is 1/3 full with sediment	Clean sediment out
Infiltration Chambers	Twice a year – spring and fall	When sediment is observed in infiltration units, or standing water	Remove sediment by jetting system. Replace system if infiltration component is compromised. Contact a registered engineer if standing water is observed.
Bioretention System	Twice a year – spring and fall	When sediment is accumulating, debris is observed in outlet structures, and vegetation is overgrowing	Remove woody vegetation, remove debris from outlet structures, remove sediment, inspect and repair embankments, inlet and outlet structures, and appurtenances.

Title:

F

SITE-SPECIFIC SOIL SURVEY REPORT

SITE-SPECIFIC SOIL SURVEY REPORT
For
Rutland Street, Dover

1. MAPPING STANDARDS

Site-Specific Soil Mapping Standards for New Hampshire and Vermont. SSSNNE Special Publication No. 3, Version 5.0, December 2017. This map product is within the technical standards of the National Cooperative Soil Survey. It is a special product, intended for the submission to NH DES Alteration of Terrain. It was produced by a professional soil scientist and is not a product of the USDA Natural Resource Conservation Service.

Hydrologic Soil Group was determined using SSSNNE Special Publication No. 5.
Scale of soil map:
Approximately 1" equals
Contours:
Intervals of 2 feet

2. DATE SOIL MAP PRODUCED

Date(s) of on-site field work: 8/16/21
Date(s) of test pits: None Performed for Soil Map by GES, Inc.
Test pits recorded by:

3. GEOGRAPHIC LOCATION AND SIZE OF SITE

City or town where soil mapping was conducted: Dover
Location: Rutland Street
Size of area: approximately 0.5 acre
Was the map for the entire lot? no
If no, where was the mapping conducted on the parcel: rear of lot

4. PURPOSE OF THE SOIL MAP

Was the map prepared to meet the requirement of Alteration of Terrain? No
If no, what was the purpose of the map? City of Dover
Who was the map prepared for? Hancock Associates

5. SOIL IDENTIFICATION LEGEND

SSSM SYM.	SSS MAP NAME	HISS SYM.	HYDROLOGIC SOIL GRP.
933	Scio Variant	431	C

SLOPE PHASE:
0-8% B 8-15% C 15-25% D 25%+ E

6. SOIL MAP UNIT DESCRIPTIONS

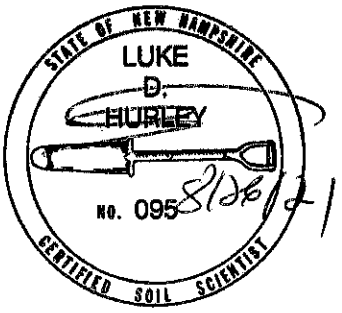
933 The Scio Variant series consists of very deep, somewhat poorly drained soils formed in eolian, lacustrine, or alluvial sediments dominated by silt and very fine sand. They are on terraces, old alluvial fans, lake plains, outwash plains and lakebeds. Saturated

hydraulic conductivity is moderately high or high to a depth of 100 centimeters and ranges from moderately low through very high below 100 centimeters. Slope ranges from 0 through 25 percent. ESHWT ranges between 0-15"

7. RESPONSIBLE SOIL SCIENTIST
Name: Luke Hurley
Certified Soil Scientist Number: 095

8. OTHER DISTINGUISHING FEATURES OF SITE
Is the site in a natural condition? Yes

If no, what is the nature of the disturbance? Residential backyard.



G

TEST PIT LOG

HANCOCK
ASSOCIATES
Surveyors | Engineers | Scientists

Test Pits
71 and 73 Rutland Street, Dover, NH
November 2, 2021
9:30 AM

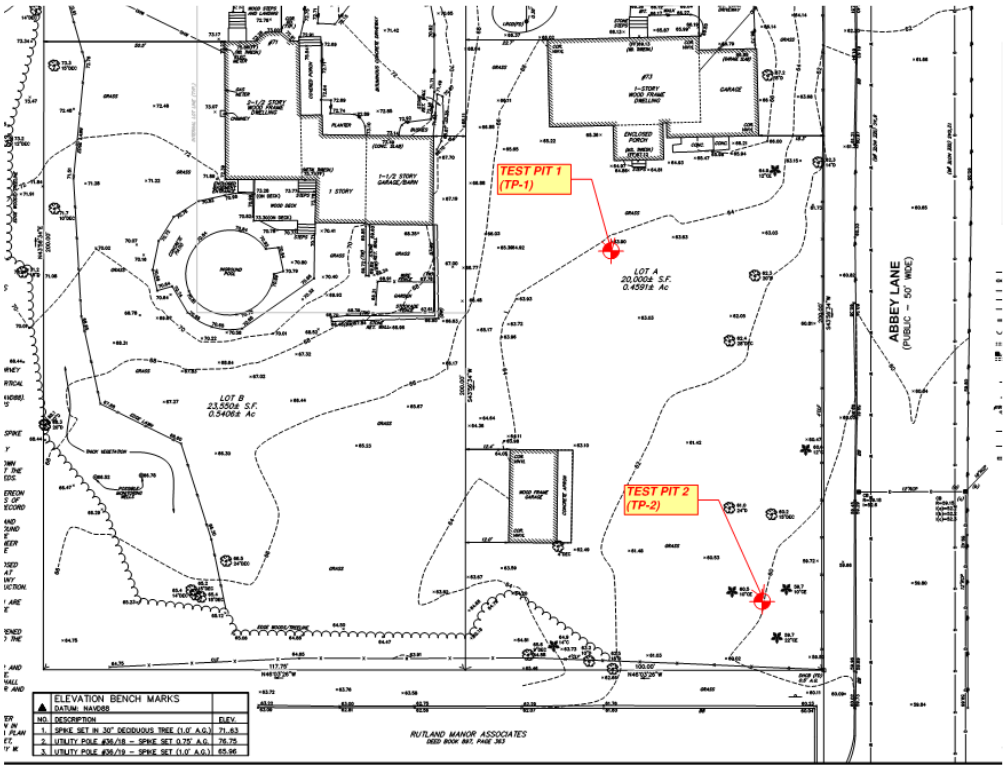
Soil Evaluator: Joe Peznola, PE

Test Pit#1	
Elevation:	64.0 ±
0-3”	Loam
3-24”	Loam
24”-84”	Silty Clay Loam
ESHWT:	N/A
	(No GW observed)

Test Pit#2	
Elevation:	60.0 ±
0-3”	Loam
3-12”	Loam
12”-96”	Silty Clay Loam
ESHWT:	N/A
	(No GW Observed)

ESHWT below 96” (below 52.0 ±)

Figure 1: Test pit locations



H

NRCS SOILS MAP

Custom Soil Resource Report
Soil Map

Map Scale: 1:669 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 30 60 120 180

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ScB	Scantic silt loam, 3 to 8 percent slopes	0.7	68.4%
SfC	Suffield silt loam, 8 to 15 percent slopes	0.3	31.6%
Totals for Area of Interest		**1.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

Strafford County, New Hampshire

ScB—Scantic silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9d8t
Elevation: 0 to 260 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 local importance

Map Unit Composition

Scantic and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scantic

Setting

Landform: Marine terraces

Typical profile

H1 - 0 to 13 inches: silt loam
H2 - 13 to 23 inches: silty clay loam
H3 - 23 to 40 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly 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: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Swanton

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

Not named wet

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

Buxton
Percent of map unit: 5 percent
Hydric soil rating: No

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

I

WATERSHED PLANS

RUTLAND STREET
(PUBLIC – 50' WIDE)

ABBEY LANE
(PUBLIC – 50' WIDE)

CATARACT AVE

24" RCP

15" RCP

EXIST. WATERSHED E1
43,550± S.F.

EXIST. WATERSHED E2
(RUTLAND MANOR)
130,680± S.F.

SURFACE FLOW ARROW
(TYP.)

CB
R=59.15
I(a)=52.2
I(b)=52.2
I(c)=52.3
I=52.6

CB
R=59.58
I=55.5

CB
R=59.71
I(a)=53.4
I(b)=53.3

CB
R=59.85
I(a)=53.1
I(b)=52.8

EXIST. 30"x30"
STONE CULVERT

EXIST. BROOK

EXIST. SUB-CATCHMENT
SYSTEM ON ABBEY LANE

EXISTING BUILDING

EXISTING BUILDING
#26-50

RUTLAND MANOR ASSOCIATES

DELBERT W. BELYEA
JUDITH A. BELYEA

EXISTING WATERSHED

HANCOCK
ASSOCIATES
10 Ferry Street, Suite 406
Concord, NH 03301
tel 603-223-1950
fax 978-774-7816

71-73 RUTLAND STREET

DOVER, NEW HAMPSHIRE

EXIST. WATERSHEDS

50 0 25 50
Scale: 1" = 50' SCALE IN FEET

Date: Sept. 8, 2021
Rev: Dec. 17, 2021

SHEET
W1

File Name: O:\Civil 3D Projects\23800 - Diamond Cap - Dover, NH\Eng\DWG\23800sp2.dwg Saved 12/17/2021 1:24 PM Plotted: Dec 17, 2021 2:30:59pm Tab: Ex Watershed Plot Style: ENGINEER.CTB Plotted By: Erik Rolser

RUTLAND STREET
(PUBLIC – 50' WIDE)

SURFACE FLOW ARROW
(TYP.)

PROP. RAIN GARDEN
(BMP #1)

PROP. WATERSHED P3
19,792± S.F.

PROP. WATERSHED P1
16,718± S.F.

PROP. WATERSHED P2
7,040± S.F.

EXIST. WATERSHED P4
(RUTLAND MANOR)
130,680± S.F.

ABBEY LANE
(PUBLIC – 50' WIDE)

24" RCP

15" RCP

CATARACT AVE

CB
R=59.15
I(a)=52.2
I(b)=52.2
I(c)=52.3

CB
R=59.58
I=53.7

CB
R=59.71
I(a)=53.4
I(b)=53.3

CB
R=59.85
I(a)=53.1
I(b)=52.8

EXISTING BUILDING

RUTLAND MANOR ASSOCIATES.
BOOK 1107, PAGE 383

EXIST. 30"x30"
STONE CULVERT

EXIST. BROOK

EXIST. SUB-CATCHMENT
SYSTEM ON ABBEY LANE

PROP. INFILTRATION
SYSTEM (BMP #2)

PROPOSED WATERSHED

HANCOCK
ASSOCIATES
10 Ferry Street, Suite 406
Concord, NH 03301
tel 603-223-1950
fax 978-774-7816

71-73 RUTLAND STREET

DOVER, NEW HAMPSHIRE

PROP. WATERSHEDS

50 0 25 50
Scale: 1" = 50' SCALE IN FEET

Date: Sept. 8, 2021
Rev: Dec. 17, 2021

SHEET
W2

File Name: O:\Civil 3D Projects\23800 - Diamond Cap - Dover, NH\Eng\DWG\23800sp2.dwg Saved 12/17/2021 1:24 PM Plotted: Dec 17, 2021 2:29:57pm Tab: Prop. Watershed Plot Style: ENGINEER.CTB Plotted By: Erik Rolser

HANCOCK
ASSOCIATES
Surveyors | Engineers | Scientists

September 8, 2021

City of Dover Planning Board
288 Central Avenue
Dover, NH 03820
Donna Benton, AICP, City Planner

Subject: Traffic Assessment 71/73 Rutland Street and Abbey Lane

Dear Ms. Benton:

Hancock Associates has reviewed the requirements of Chapter 157, Land Subdivision Regulations, Subsection 157-10D regarding the proposed project.

This assessment considers the safety of the proposal along with a general assessment of the potential impact of the project. This is not a full Traffic Impact Analysis considering the project is proposing only eight townhomes.

Existing Conditions
The project site is comprised of two properties at 71 and 73 Rutland Street containing a combined one acre (43,550 square feet). The site is bounded by Rutland Street to the north, Abbey Lane (a public way) to the east and property of Rutland Manor to the south and west. Rutland Manor is a 50-unit apartment complex containing two buildings built in the 1970s. Directly across Rutland Street are two single family homes at 70 and 72 Rutland and the Assembly of God Restoration Church. Single-family homes currently exist on each of the lots at 71 and 73 Rutland with individual driveways onto Rutland. Rutland Street is a city street with a 50 foot right of way, 30 feet of pavement and a sidewalk on the south (locus) side. Abbey Lane is a city street with a 50 foot right of way, 30 feet of pavement and no sidewalk. Neither street is stiped. Rutland Street connects Central Ave (NH Route 108) at the interchange with eth Spaulding Turnpike to the east and Cataract Avenue to the west. The area including the subject parcel is in Dover's Gateway Zoning District. Existing traffic volumes were not obtained.

Proposed Conditions
The proposal calls for the merger of the two lots, retaining the two structures and the construction of eight three-bedroom townhomes in a single building at the back of the lot. Access to the townhomes will be via a new driveway on Abbey Lane. The two existing homes and the eight new townhomes will be sold under a condominium form of ownership. The two existing homes will continue to utilize their driveways onto Rutland with the townhomes using the new drive from Abbey Lane

Project Generated Traffic
The anticipated vehicle trips generated by the proposed eight (8) townhouse condominiums are as follows in accordance with the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition; Institute of Transportation Engineers; Washington, DC; 2017:

	Vehicle Trips
Average Weekday	90 (50% entering/50% exiting)
AM peak hour (7:00 a.m. to 9:00 a.m.)	7 (24% entering/76% exiting)
PM peak hour (4:00 p.m. to 6:00 p.m.)	9 (62% entering/38% exiting)

Based on ITE LUC 210, Single-Family Detached Housing; 8 dwelling units.

Pedestrian and Bike Facilities
A sidewalk exists on the south side of Rutland Street out to Central Street where Central Street has sidewalks on both sides and is striped with a double yellow center and 1–2-foot fog lines. There are no designated bicycle lanes in the area.

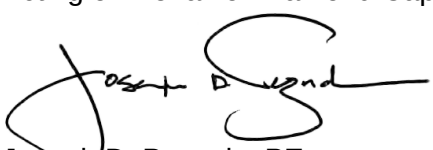
Public Transportation
The nearest bus stop on the Cooperative Alliance for Seacoast Transportation (COAST) system is on the Regional Route 13 at the Dover Transportation Center 1.3 miles away.

Sight Distance Assessment
At the intersection of Abbey Lane and Rutland Street sight distances are unobstructed to the west to Cataract Ave., 370 feet away and to the east over 1,200 feet to Central Ave. There is no posted speed limit on Rutland Street. We did not perform a speed study. The sight distances would support a required minimum stopping sight distance (SSD), per AASHTO 2018 standards of 45 miles per hour at 360 feet. Intersection sight distance (ISD) at 45 miles per hour is 500 feet, available to the east and outside the distance to the intersection to the west.

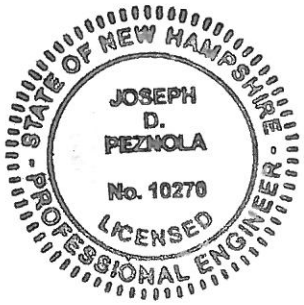
Summary
Hancock Associates does not believe the proposed project poses any safety concerns given the use of existing roadways, available sight distance and the relative low trip generation.

Recommendations
- The project site driveway should be a minimum of 20 feet wide.
- On street parking on Abbey Lane and Rutland Street should be prohibited by residents and guests.
- Vehicles existing the site should be placed under stop sign control with a stop line provided.
- All signs and pavement markings to be installed should conform to the applicable standards of the Manual on Uniform Traffic Control Devices (MUTCD).
- Signs and landscaping at the site drive intersection with Abbey Lane should be installed so as not to impede line of sight.
- Snow accumulation within the project site should not impede parking or sight lines.

Hancock Associates
Acting on Behalf of Diamond Capital, LLC



Joseph D. Peznola, PE



Luminaire Schedule						
Symbol	**Qty**	**Label**	**Description**	**Arrangement**	**Luminaire Lumens**	**Luminaire Watts**
	1	CLS32-36W-4K-IV	CLASSIC II -36W-4K-iV	Single	2821	41.2
	4	CLS32-36W-4K-III	CLASSIC II -36W-4K-III	Single	3233	39.6
	8	LTN WALL MOUNT 5W 4K	LTN 5W 4K SMT-V-OA	Single	659	5.5

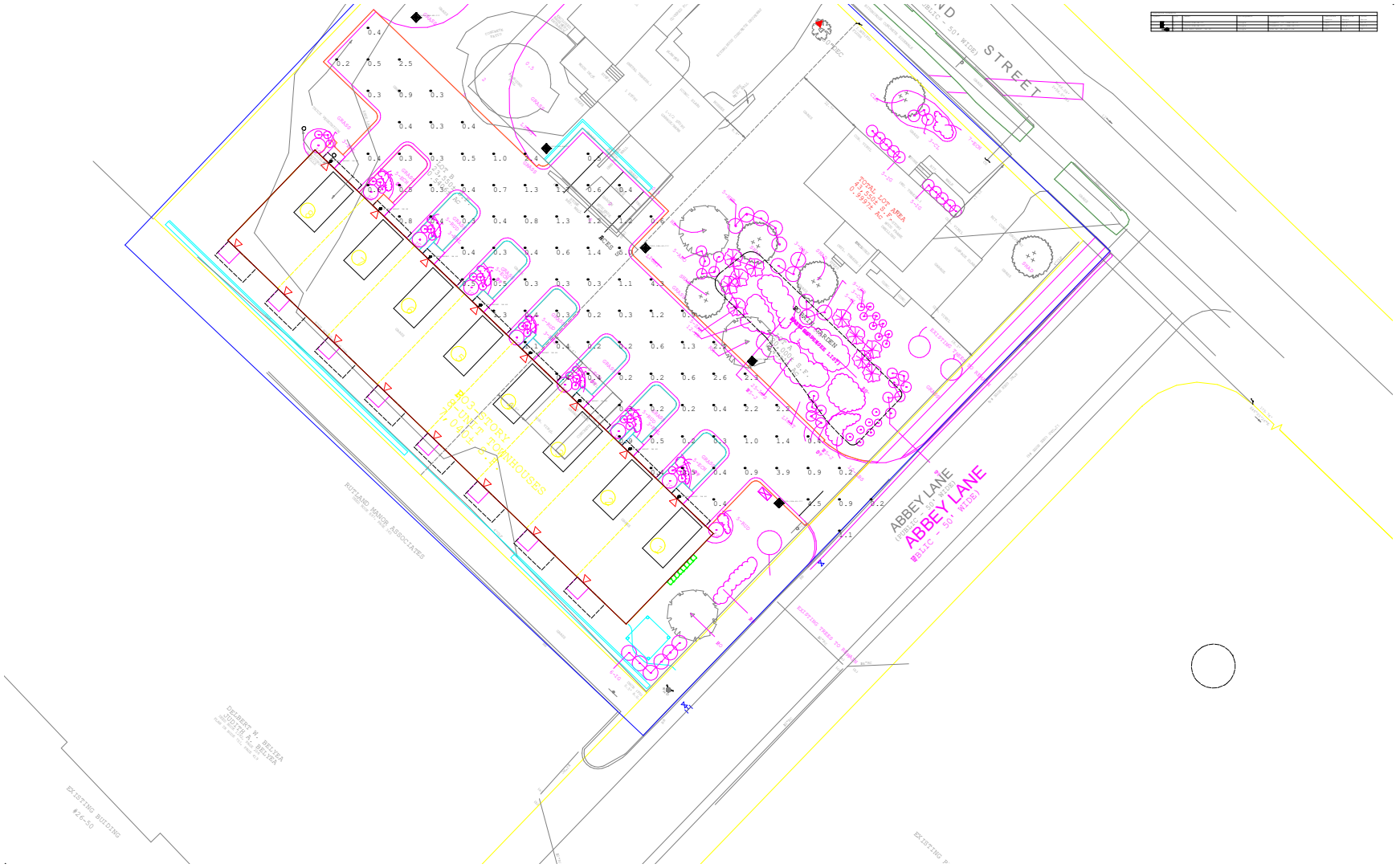
Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
Parking Lot	Illuminance	Fc	0.87	5.0	0.2	4.35

RUTLAND STREET DOVER NH
CLASSIC II-32W 4K III
LTN-WM 5W-4K-V

ECHO LIGHTING INC
5618 EAST WASHINGTON BLVD
COMMERCE, CA 90040

ECHO
ECHO LIGHTING, INC.
COMMERCE, CA 90040

Luminaire Location Summary						
SeqNo	**Label**	**X**	**Y**	**Z**	**Orient**	**Tilt**
1	LTN WALL MOUNT 5W 4K	1193860.518	250197.259	6	46.105	0
2	LTN WALL MOUNT 5W 4K	1193844.894	250212.555	6	43.62	0
3	LTN WALL MOUNT 5W 4K	1193828.865	250227.746	6	48.463	0
4	LTN WALL MOUNT 5W 4K	1193813.099	250243.048	6	42.565	0
5	LTN WALL MOUNT 5W 4K	1193797.211	250258.307	6	38.004	0
6	LTN WALL MOUNT 5W 4K	1193781.389	250273.609	6	47.226	0
7	LTN WALL MOUNT 5W 4K	1193765.558	250288.842	6	49.973	0
8	LTN WALL MOUNT 5W 4K	1193749.713	250304.03	6	44.672	0
9	CLS32-36W-4K-IV	1193819.017	250308.747	12	225.031	0
10	CLS32-36W-4K-III	1193850.549	250277.101	12	223.901	0
11	CLS32-36W-4K-III	1193884.515	250241.096	12	227.436	0
12	CLS32-36W-4K-III	1193777.578	250350.445	12	314.237	0
13	CLS32-36W-4K-III	1193893.029	250195.868	12	43.691	0



RUTLAND STREET DOVER NH

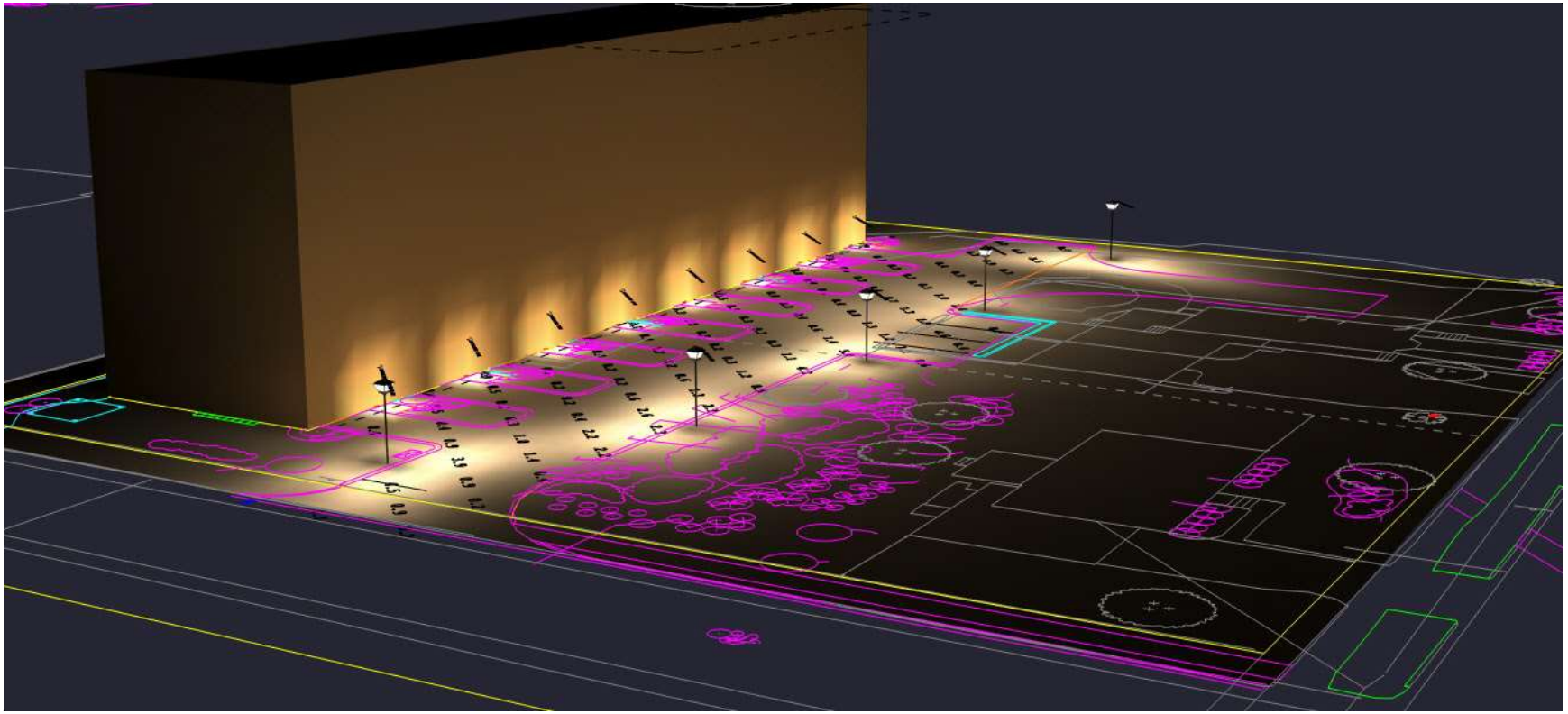
CLASSIC II-32W 4K III
LTN-WM 5W-4K-V

ECHO LIGHTING INC

5618 EAST WASHINGTON BLVD
COMMERCE, CA 90040

ECHO
ECHO LIGHTING, INC.
COMMERCE, CA 90040

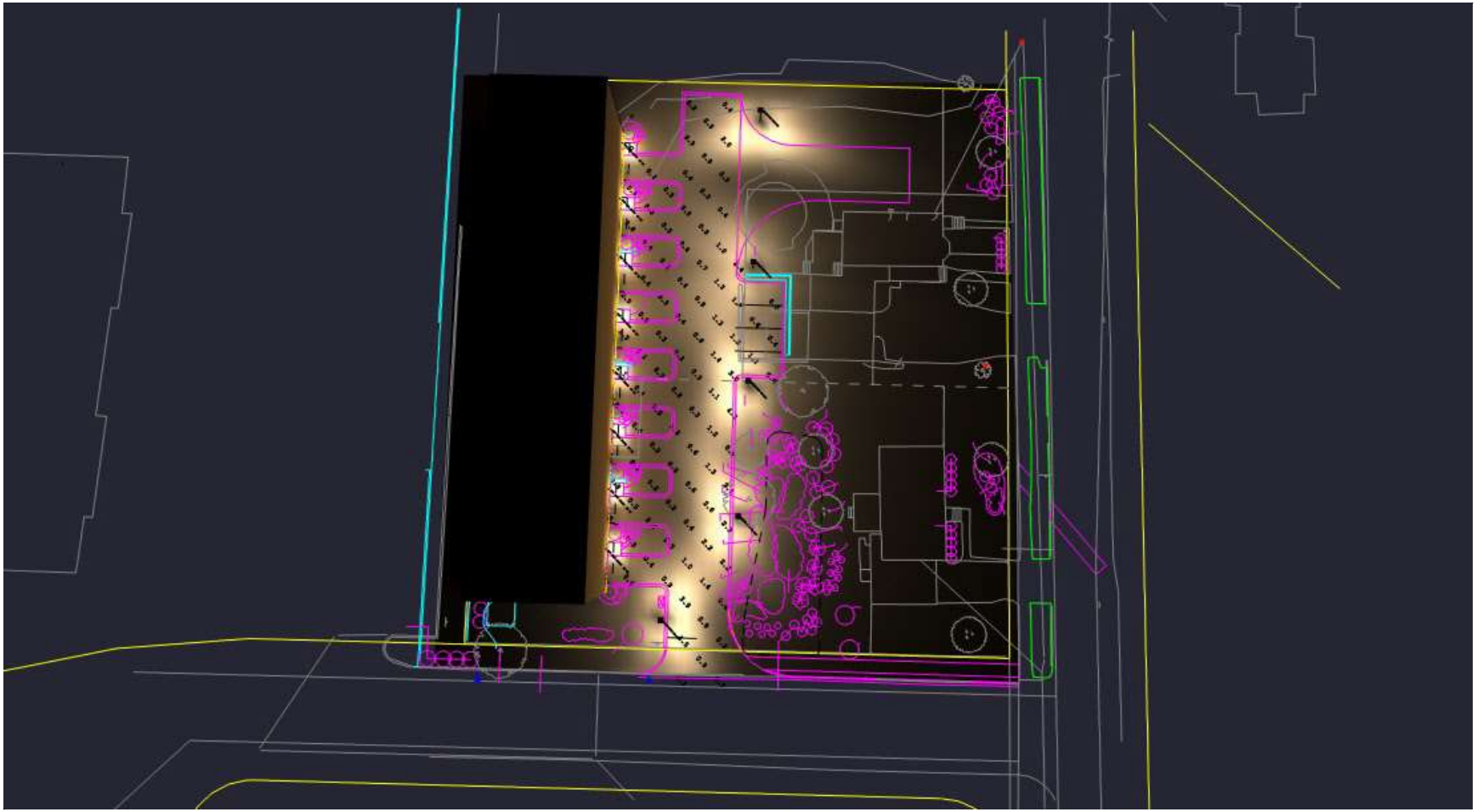
Date:1/5/2022



RUTLAND STREET DOVER NH
CLASSIC II-32W 4K III
LTN-WM 5W-4K-V

ECHO LIGHTING INC
5618 EAST WASHINGTON BLVD
COMMERCE, CA 90040

ECHO
ECHO LIGHTING, INC.
COMMERCE, CA 90040



RUTLAND STREET DOVER NH
CLASSIC II-32W 4K III
LTN-WM 5W-4K-V

ECHO LIGHTING INC
5618 EAST WASHINGTON BLVD
COMMERCE, CA 90040

ECHO
ECHO LIGHTING, INC.
COMMERCE, CA 90040

Date:1/5/2022

LANDSCAPE MAINTENANCE PLAN

General

The Owner of each lot shall be responsible for the maintenance of all landscaped open space, natural screens, and constructed screens within the lot. Landscaping shall be maintained in good condition such that planting shall be vigorous and in good health at all times and that the parcel shall present a healthy, neat, and orderly appearance, free from refuse and debris.

Integrated Turf Management Plan

Maintenance of lawn areas shall generally consist of watering, weeding, mowing and edging, replacement of dead sod, disease and insect control, repair of erosion, and any and all procedures consistent with good horticultural practice, as necessary to insure normal, vigorous and healthy growth of grass,

The lot Owner shall provide the following maintenance activities as specified:

1. Mowing: Once a week or more often as conditions warrant.
2. Watering: by natural rainfall after establishment period. Seed to be kept moist during establishment period.
3. Fertilizing: Early spring and fall.
4. Weeding: Once or twice a year.
5. Pest and Disease Control: Only as needed
6. De-thatching: spring and fall.
7. Liming: Once a year, in the fall and as soil tests indicate need.
8. Raking, edging, debris removal, sod replacement, erosion repair: As needed.
9. Soil testing shall be performed once every 3 years or more frequent if conditions warrant. Soil shall be amended as indicated by test for turf grass.
10. Lawns shall be aerated annually during late summer or early fall. Thinning lawns shall be over-seeded with a certified general turf blended seed mix and top-dressed with a compost/sand mixture ¼-1/2" in the late summer and early fall.

22 Carlton Road Marblehead, MA 01945 tel.(781) 622-7487
james@jamesemmanuel.com www.jamesemmanuel.com

11. Soil and seed shall be kept moist during seed establishment period. Late summer/early fall application of seed is preferable.

12. Turf fertilizer (slow release) shall be applied mid to late fall according to manufacturers recommended rates.

13. Weeds shall be mechanically removed from the site as feasible and disposed of in a legal manner.

14. Grass clippings shall be left on turf areas using mulching mowers. Mowing patterns shall be alternated to avoid ruts and compaction. Care shall be taken to avoid damage to lawn areas.

Shrub and Groundcover Management

The lot Owner shall provide the following shrub and maintenance activities as specified:

1. Mulching: Once each year in spring. Mulch shall be 2"-3" maximum depth and shall always be kept pulled 2"-3" away from tree trunk. Mulch shall be shredded bark, 100% organic and be free of any disease, pests, and insects. Mulch may be applied by manual or mechanical methods where appropriate.

2. Weeding: Once or twice a year as needed. Weeds shall be removed and disposed of off site in a legal manner.

3. Watering: weekly minimum during the establishment period. Long term watering typically only warranted by severe weather conditions.

4. Pruning: To include cleaning, raising and reduction, spring to fall, dependent on accepted practice for each particular species.

5. Preventative pest/disease management: Avoid shrubs and groundcover known to be susceptible to various pests. Establish pest thresholds prior to treatment with acceptable pesticides. Pesticide application to be performed by certified applicator. See tree pest management below.

6. Fertilizer shall be granular 16-16-16 formulation or similar in the spring prior to anticipated rainfall.

7. Once established, plantings shall be watered by natural rainfall. During excessive drought periods watering by hand or drip irrigation bags may be required.

8. Shrubs shall be pruned in accordance with generally accepted standards for proper pruning. Shrubs shall be pruned to remove branches that are dead, broken, extending beyond the face of curbs (where applicable). Shrubs shall not be sheared into topiary shapes.

9. Known invasive plants shall be identified, removed from site as practicable, and disposed of in a legal manner.

Tree Management

The lot Owner shall provide the following tree maintenance activities as specified:

1. Risk Management: this includes management of existing trees to minimize risk of tree failure and possible damage or injury. This includes:

   - Removal of trees that show significant decline or serious defects in their structure.
   - Hazard pruning to remove a dead or broken portion of the tree.

2. Pruning: These include three different types of pruning as defined by the American National Standard for Tree Operations: Tree, Shrub and Other Woody Plant Maintenance - Standard Practices.

   - Crown Cleaning - selective pruning to remove one or more of the following parts: dead, diseased, and/or broken branches
   - Crown Raising - selective pruning to provide vertical clearance
   - Crown Reduction - selective pruning to decrease height and/or spread

3. Mulching: Once each year In spring. Mulch shall be 2"-3" maximum depth and shall always be kept pulled 2"-3" away form tree trunk. Mulch shall be shredded bark, 100% organic and be free of any disease, pests, and insects. Mulch may be applied by manual or mechanical methods where appropriate.

4. Pest and Disease Control: Only as needed. Dead or diseased branches shall be removed and disposed of off site in a legal manner.

5. Watering: weekly minimum during the establishment period. Long term shall be by natural rainfall. During excessive drought periods watering by hand or drip irrigation bags may be required.

6. Fertilization: early spring or fall. Formulation shall depend on soil test recommendations and plant variety. Granular type fertilizer to be used and watered in.

7. Soil additives: Only as needed.

8. Root crown excavation: This is required where excessive soil or mulch has been placed over the base of the tree.

9. Only trees on slopes 2:1 or greater shall be staked. Stakes shall be removed after first growing season.

10. Preventative pest/disease management: Avoid trees known to be susceptible to various pests. Establish acceptable pest thresholds. Once monitoring, identification, and action thresholds indicate that pest control is required, and preventive methods are no longer effective or available, evaluate the proper control method both for effectiveness and risk. Effective, less risky pest controls are chosen first, including highly targeted chemicals, such as pheromones

to disrupt pest mating, or mechanical control, such as trapping or weeding. If further monitoring, identifications and action thresholds indicate that less risky controls are not working, then additional pest control methods would be employed, such as targeted spraying of pesticides. Broadcast spraying of non-specific pesticides is a last resort. Pesticides, if required, to be applied by a certified applicator.

11. Replacement Trees: Owner shall replace dead or missing trees according to the following:

- Lost, dead or diseased trees shall be replaced with the same or similar species.
- New trees shall be 3" in caliper for shade trees and to 2" in caliper for ornamental trees.

Watering during establishment period

Water source shall consist of local water supply systems. At a minimum trees and shrubs shall be watered by flooding as follows:
Month 0-3: Once per week
Month 3-6: Twice per month
Month 6-12: Once per month.

Watering frequency may be increased or decreased depending upon excessive rainfall or drought conditions.

Seasonal Maintenance

Each lot Owner shall maintain a plan for seasonal activities including raking, de thatching, removal of dead brush and flowers, fertilizing, watering, pruning, mowing, weeding, etc. for each of the following:

1. Spring Clean-up Plan

2. Fall Clean-up Plan

3. Leaf & Plant Debris Disposal

4. Winter Plowing: Prior to the start of each winter season, curb lines and planting beds should be stacked out with brightly colored wooden stakes to demarcate edges. Snow storage will be in designated open areas adjacent to parking and walks. During periods of extreme snowfall, portions of the common area may be utilized for storage of snow. Springtime cleanup will typically include repair of any turf damage related to plowing operations.

5. Winter Deicing Plan: Only calcium based products will be utilized for deicing on an as-needed basis to control ice build-up.

Wet Pond Area - First Year Maintenance Guidelines

Successful establishment of wet ponds requires that the following tasks be undertaken during the first year following construction.

• Initial inspections. For the first six months following construction, the site should be inspected at least twice after storm events that exceed a 1/2-inch of rainfall.

• Remove and replace dead or dying plants.

• Spot Reseeding. Inspect for eroding areas in the contributing drainage area or around the pond buffer, and make sure they are immediately stabilized with grass cover.

• Watering. Trees planted in the pond buffer need to be watered during the first growing season. In general, consider watering every 3 days for first month, and then weekly during the remainder of the first growing season (April - October), depending on rainfall.

Routine Maintenance Guidelines
Wet Ponds must be inspected to ensure that they operate in good working condition. Items in need of repair must be immediately addressed.

Routine Maintenance Tasks
Remove trash and debris As needed Check and repair eroded areas - Annually
Check for and remove nuisance animals and burrows - Annually
Forebay inspection and cleanout Annually-remove sediment when forebay reaches 50% capacity or every 7 years
Inspect plant composition for consistency with approved plans and correct any deficiencies Annually
Inspect and repair any clogging or damage to the orifice - Annually
Inspect and exercise all mechanical devices - Annually
Inspect for and repair structural damage and leaks - Annually
Inspect and repair any damaged or clogged inlets and outlets - Annually
Remove woody vegetation on or near, forebays, spillways, and outlets - Annually
Check sediment accumulation in the permanent pool - Annually, dredge if necessary
Replace dead or damaged plant material As needed Repair broken pipes - As needed

Date Feb 2, 2022, 2:55 PM

Standard encryption (TLS)
Learn more

Sarah,

Per our conversation regarding the mailboxes for the new develop on Rutland & Abby Lane, it is ok to put up a NCDBU for the 8 units that are being constructed. If you have any questions please contact me at 603-742-4040

Vonyel C. Jeffrey

SCS-Supervisor Customer Service

Dover Post Office

133 Washington St

Dover, NH 03820

603-742-4040

GENERAL NOTES:

1. THE INTENT OF THIS PLAN IS TO DEVELOP EIGHT (8) SINGLE FAMILY TOWNHOUSES AND REHABILITATE TWO (2) EXISTING HOMES IN THE CITY OF DOVER GATEWAY (G) DISTRICT. **SINGLE FAMILY DWELLINGS CANNOT BE CONVERTED INTO DUPLEXES IN THE FUTURE.**
2. REFERENCE PLANS: DEED BOOK 4776, PAGE 392 (LOT B)
   DEED BOOK 4909, PAGE 701 (LOT A)
   PLAN IN BOOK 751, PAGE 419
3. LOCATIONS AND ELEVATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM THE REFERENCED PLAN AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. HANCOCK ASSOCIATES ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES INACCURATELY SHOWN OR OMITTED. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER UTILITY DEPARTMENT SHALL BE NOTIFIED AND THE ACTUAL LOCATIONS OF SUBSURFACE STRUCTURES SHALL BE VERIFIED IN THE FIELD. CALL THE DIG-SAFE CALL CENTER, (888)344-7233, 72 HOURS (3 WORKING DAYS) PRIOR TO EXCAVATION.
4. ALL APPLICABLE RIGHT-OF-WAY, CONSERVATION, SLOPE. CONSTRUCTION, POWER LINE, CROSS TRAVEL, OR OTHER EASEMENTS SHALL BE REFERENCED IN A NOTE.
5. 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.
6. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY HANCOCK ASSOCIATES ON JUNE 10, 2021 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.
7. TOPOGRAPHIC SURVEY PERFORMED BY HANCOCK ASSOCIATES ON JUNE 10, 2021.
8. ELEVATIONS ARE BASED ON U.S.G.S. NAVD 1988 DATUM.
9. SUBJECT PARCELS ARE NOT LOCATED WITHIN A FEDERALLY DESIGNATED FLOOD HAZARD AREA. THERE ARE NO WETLANDS WITHIN THE PROJECT SITE, AS DETERMINED BY LUKE HURLEY OF GOVE ENVIRONMENTAL SERVICES, INC. ON AUGUST 13, 2021.
10. 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 PLAN COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.
11. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION, AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED.
12. THE SUBJECT PARCELS ARE SERVED BY MUNICIPAL WATER AND SEWER.
13. 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 SERVICE REGULATIONS AND STANDARD SPECIFICATION FOR CONSTRUCTION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
14. ALL EROSION CONTROL NOTES SHALL INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, 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.
15. 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.
16. 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 OCCURS.
17. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7AM-6PM AND SATURDAY 9AM-4PM. WORK ON SUNDAY AND FEDERAL HOLIDAYS IS PROHIBITED. 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.
18. BUILDING ADDRESS (INCLUDING APT./UNIT NUMBERS IF APPLICABLE), SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
19. THE PROPOSED USE FOR THE SITE IS TO PROVIDE EIGHT (8) SINGLE-FAMILY TOWNHOUSES,
20. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
21. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
22. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
23. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNT PILOT PROJECT (PTAPP) PORTAL.
24. 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.
25. 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.
26. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
27. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 45, ARTICLE I, SECTION 45-2 OF THE CODE OF CITY OF DOVER.
28. APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
29. 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.
30. 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.
31. FIRE DEPARTMENT CONNECTION(S) SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13. ACCESS TO FDC SHALL MAINTAIN A CLEAR AND UNOBSTRUCTED PATH AT ALL TIMES.
32. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS (i.e. IBC, ANSI-117.1) AND NH RSA 155-A:5.
33. IF EXISTING ABANDONED UTILITY LINES ARE ENCOUNTERED THEY SHALL BE CUT AND CAPPED.
34. CONSTRUCTION ACCESS DRIVES SHALL HAVE CRUSHED STONE TO MINIMIZE MUD FROM BEING TRACKED ONTO THE ROADWAYS. MUD TRACKED ONTO ROADWAYS SHALL BE SWEPT CLEAN.
35. CONTRACTOR TO EMPLOY MEASURES TO CONTROL DUST DURING CONSTRUCTION.
36. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM AND OTHER PRIVATE UTILITIES BY THE RESPECTIVE UTILITY COMPANIES, AS REQUIRED.
37. IF ANY CHANGES FROM THE FINAL APPROVED DESIGN PLAN THAT ARE REQUIRED DUE TO UNFORESEEN SITE CONDITIONS, THE CONTRACTOR OF RECORD SHALL CONTACT THE DESIGN ENGINEER OF RECORD AND SUBMIT REVISED DESIGN AND STAMPED FULL SCALE PLANS FOR REVIEW AND APPROVAL PRIOR TO CONTINUING WITH CONSTRUCTION.

PERMIT SITE PLAN

STONINGTON DRIVE

71 & 73 RUTLAND STREET

RESIDENTIAL DEVELOPMENT

PLANNING FILE NO. P21-64

SEPTEMBER 10, 2021

REV. MARCH 25, 2022

LOCUS MAP
SCALE: 1" =300'

ZONING DIMENSIONAL TABLE			
ZONE: GATEWAY DISTRICT (G)			
PARCEL ID: #14017 (LOT B); #14017-A (LOT A)			
DEED REFERENCE: BOOK 4776 PAGE 392; BOOK 4909 PAGE 701			
	REQUIRED	**EXISTING**	**PROPOSED**
LOT AREA	N/A	20,000 S.F. (LOT A) 23,550 S.F. (LOT B)	43,550 S.F.*
LOT COVERAGE	50% MAX.	17.2%	49.0%
FRONTAGE BUILD OUT	60% MIN.	12.1% **	32.1% **
PRIMARY FRONT SETBACK	5.0' MIN. – 20' MAX.	22.1' **	22.1' **
SECONDARY FRONT SETBACK	5.0' MIN. – 20' MAX.	18.3'	18.3'
SIDE SETBACK	5.0' MIN.	22.7'	5.0'
REAR SETBACK	10.0' MIN.	124.1'	21.8'
BUILDING HEIGHT	4 STORY MAX. – 2 STORY MIN.	2.5 STORY	3 STORY
PARKING REQUIREMENTS			
PER CH. 153 SECTION 14			
RESIDENTIAL PARKING SPACES	1.9 PER UNIT x 10 UNITS = 20 SPACES (MAX.)	3 SPACES	15 SPACES
ACCESSIBLE PARKING	N/A	0 SPACES	0 SPACES
TOTAL PARKING	**20 SPACES (MAX.)**	**3 SPACES**	**15 SPACES**
*LOTS A AND B TO BE COMBINED			
** EXISTING NON-CONFORMING			

LEGEND

67	PROP. CONTOUR
65.45	SPOT GRADE
	PROP. FENCE
	PROP. BITUMINOUS PAVEMENT
	PROP. CONCRETE CEMENT
	PROP. RETAINING WALL
	PROP. CURBING
SD	PROP. DRAIN
RD	PROP. ROOF DRAIN
W W	PROP. WATER LINE
G G	PROP. GAS LINE
SS SS	PROP. SEWER
ETC	PROP. ELECTRIC, CABLE, & TELE.
T	PROP. TELEVISION
//	PROP. EROSION CONTROL
	PROP. CATCH BASIN
	PROP. OUTLET CONTROL STRUCTURE
S	PROP. SEWER MANHOLE
FES	PROP. FLARED END SECTION W/RIP RAP
TC/BC	TOP OF CURB/BOTTOM OF CURB
TW/BW	TOP OF WALL/BOTTOM OF WALL
CO	PROP. CLEANOUT
HDPE	HIGH-DENSITY POLYETHYLENE
PVC	POLYVINYL CHLORIDE
BB	PROP. BITUMINOUS BERM
VGC	VERTICAL GRANITE CURB
	PROP. FLOW ARROW
	PROP. HYDRANT
	TEST PIT
	ECHO CLS32-36W-4K-III & -IV LIGHT POLE

APPLICANT/OWNER
DIAMOND CAPITAL, LLC
170 COMMERCE WAY, SUITE 200
PORTSMOUTH, NH 03801

ARCHITECT
KOAL ARCHITECTURE, PLLC
42 GILFORD E. DRIVE, SUITE 4
GILFORD, NH 03249

CIVIL ENGINEER
HANCOCK ASSOCIATES
10 FERRY STREET, SUITE 406
CONCORD, NH 03301

LANDSCAPE ARCHITECT
JAMES K. EMMANUAL ASSOCIATES
22 CARLTON ROAD
MARBLEHEAD, MA 01945

SURVEYOR
HANCOCK ASSOCIATES
10 FERRY STREET, SUITE 406
CONCORD, NH 03301

SHEET INDEX

SHEET C-0..... COVER SHEET
SHEET C-1..... SITE PREPARATION & DEMOLITION PLAN
SHEET C-2..... LAYOUT & MATERIALS PLAN
SHEET C-3..... UTILITY PLAN
SHEET C-4..... GRADING & DRAINAGE PLAN
SHEET C-5..... LANDSCAPE & LIGHTING PLAN
SHEET C-6..... DETAILS 1
SHEET C-7..... DETAILS 2
SHEET C-8..... DETAILS 3
SHEET C-9..... DETAILS 4
SHEET C-10..... EMERGENCY VEHICLE SWEPT PATH ANALYSIS
SHEET EX-1..... EXISTING CONDITIONS PLAN

NOT FOR CONSTRUCTION - PERMITTING USE ONLY

DOVER PLANNING BOARD

PERMIT
SITE
PLAN

'Stonington Drive'
71 & 73 Rutland Street
Dover, New Hampshire 03820

ASSESSORS:
PARCEL ID:
#14017 (LOT B)
#14017-A (LOT A)

PREPARED FOR:

Diamond
Capital, LLC

170 Commerce Way, Suite 200
Portsmouth, New Hampshire 03801

HANCOCK
ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

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STATE OF NEW HAMPSHIRE
JOSEPH D. PEZZIOLA
No. 10279
LICENSED PROFESSIONAL ENGINEER

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	EJR	JDP	03/25/22	2nd TRC COMMENTS
1	EJR	JDP	01/07/22	TRC COMMENTS

DATE:	09/10/21	DESIGN BY:	EJR
SCALE:	AS INDICATED	DRAWN BY:	EJR
APPRVD. BY:	JDP	CHECK BY:	AD

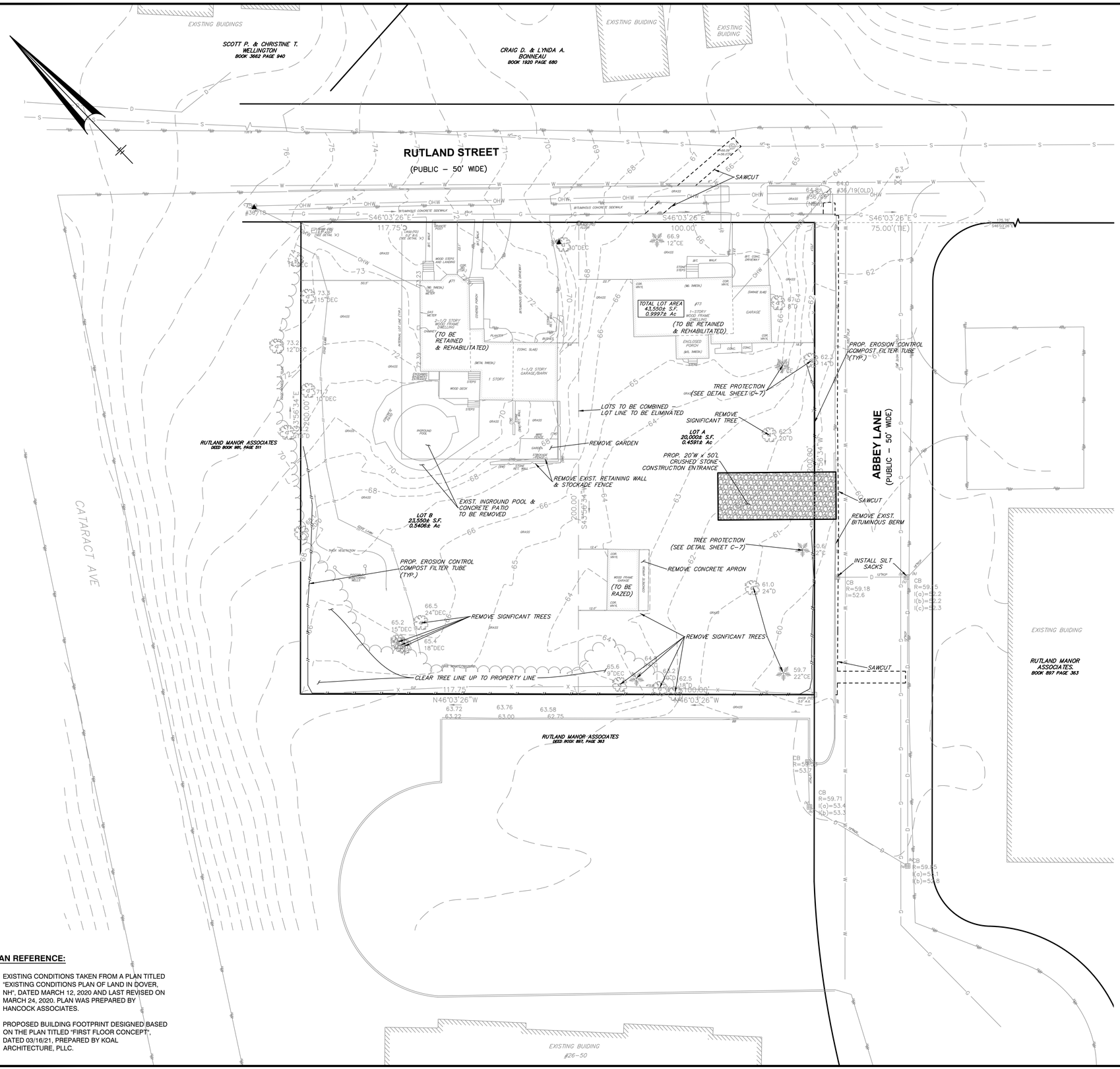
COVER
SHEET

PLOT DATE: Mar 25, 2022 10:22 am
PATH: G:\Job 30 Projects\23800 - Diamond Cap - Dover, NH\dwg\2WO\23800 - Diamond Cap\23800 - Diamond Cap

DWG: *23800sp5.dwg*
LAYOUT: *Cover*
SHEET: 1 OF 11

C-0

PLANNING FILE No. : P21-64



EROSION & SEDIMENT CONTROL NOTES

1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE AS SET FORTH IN THE MOST CURRENT STATE SEDIMENT AND EROSION CONTROL MANUAL.
2. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME. AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 90 DAYS OF INITIAL DISTURBANCE OF THE SOIL. IF THE DISTURBANCE IS WITHIN 100 FEET OF A STREAM OR POND, THE AREA SHALL BE STABILIZED WITHIN 7 DAYS OR PRIOR TO ANY STORM EVENT (THIS WOULD INCLUDE WETLANDS).
3. SEDIMENT BARRIERS (SILT FENCE, STRAW BARRIERS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15% AFTER OCTOBER 1ST THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
4. INSTALL SILTATION BARRIER AT TOE OF SLOPE TO FILTER SILT FROM RUNOFF. SEE SILTATION BARRIER DETAILS FOR PROPER INSTALLATION. SILTATION BARRIER WILL REMAIN IN PLACE PER NOTE #5.
5. ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY TURF.
6. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO TO ONE (2:1).
7. TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST TO PROTECT FROM SPRING RUNOFF PROBLEMS.
8. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS.
9. CONTRACTOR TO INSTALL COMPOST FILTER TUBES DOWN SLOPE OF ALL EXCAVATIONS.

CONSTRUCTION NOTES

A. SELECTED GENERAL CONTRACTOR (GC) MUST ADVISE ALL SUB-CONTRACTORS OF PROPOSED PARKING LOCATIONS, STABILIZED CONSTRUCTION ENTRANCE, AND STAGING LOCATIONS.

B. CONTACT DIG-SAFE 72 HOURS PRIOR TO ANY EARTHWORK.

C. GIVEN THE SEASONAL HIGH-WATER ELEVATIONS DETERMINED FOR THE SITE, DE-WATERING IS ANTICIPATED. SHOULD ANY DE-WATERING BE REQUIRED, SC TO INCORPORATE THE USE OF DE-WATERING BAGS OR OTHER ACCEPTABLE MEANS TO DE-WATER. DIRECT DISCHARGE TO CATCH BASIN STRUCTURES IS FORBIDDEN.

D. REFUELING OF MACHINERY OVER CATCH BASINS IS FORBIDDEN. GC TO HAVE AN EMERGENCY SPILL KIT ONSITE AT ALL TIMES. IMMEDIATELY REPORT ANY FUEL SPILLS TO THE DOVER FIRE DEPARTMENT.

E. CONTRACTOR TO USE WATER AS A MEANS FOR DUST CONTROL AS NECESSARY DURING CONSTRUCTION.

F. ALL EQUIPMENT MUST BE SECURED OVERNIGHT.

LEGEND

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65.45	SPOT GRADE
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	PROP. CONCRETE CEMENT
	PROP. RETAINING WALL
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VGC	VERTICAL GRANITE CURB
	PROP. FLOW ARROW
	PROP. HYDRANT
	TEST PIT
	ECHO CLS32-36W-4K-III & -IV LIGHT POLE

PLAN REFERENCE:

1. EXISTING CONDITIONS TAKEN FROM A PLAN TITLED "EXISTING CONDITIONS PLAN OF LAND IN DOVER, NH", DATED MARCH 12, 2020 AND LAST REVISED ON MARCH 24, 2020. PLAN WAS PREPARED BY HANCOCK ASSOCIATES.
2. PROPOSED BUILDING FOOTPRINT DESIGNED BASED ON THE PLAN TITLED "FIRST FLOOR CONCEPT", DATED 03/16/21, PREPARED BY KOAL ARCHITECTURE, PLLC.

PERMIT SITE PLAN

'Stonington Drive'
71 & 73 Rutland Street
Dover, New Hampshire 03820

ASSESSORS:

PARCEL ID:
#14017 (LOT B)
#14017-A (LOT A)

PREPARED FOR:

Diamond Capital, LLC

170 Commerce Way, Suite 200
Portsmouth, New Hampshire 03801

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

10 FERRY STREET, SUITE 406, CONCORD, NH 03301
VOICE (603) 223-1950, FAX (978) 774-7816
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STATE OF NEW HAMPSHIRE
JOSEPH D. PEZIKOLA
No. 10270
LICENSED PROFESSIONAL ENGINEER

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	EJR	JDP	03/25/22	2nd TRC COMMENTS
1	EJR	JDP	01/07/22	TRC COMMENTS

DATE:	09/10/21	DESIGN BY:	EJR
SCALE:	1" = 20'	DRAWN BY:	EJR
APPRVD. BY:	JDP	CHECK BY:	AD

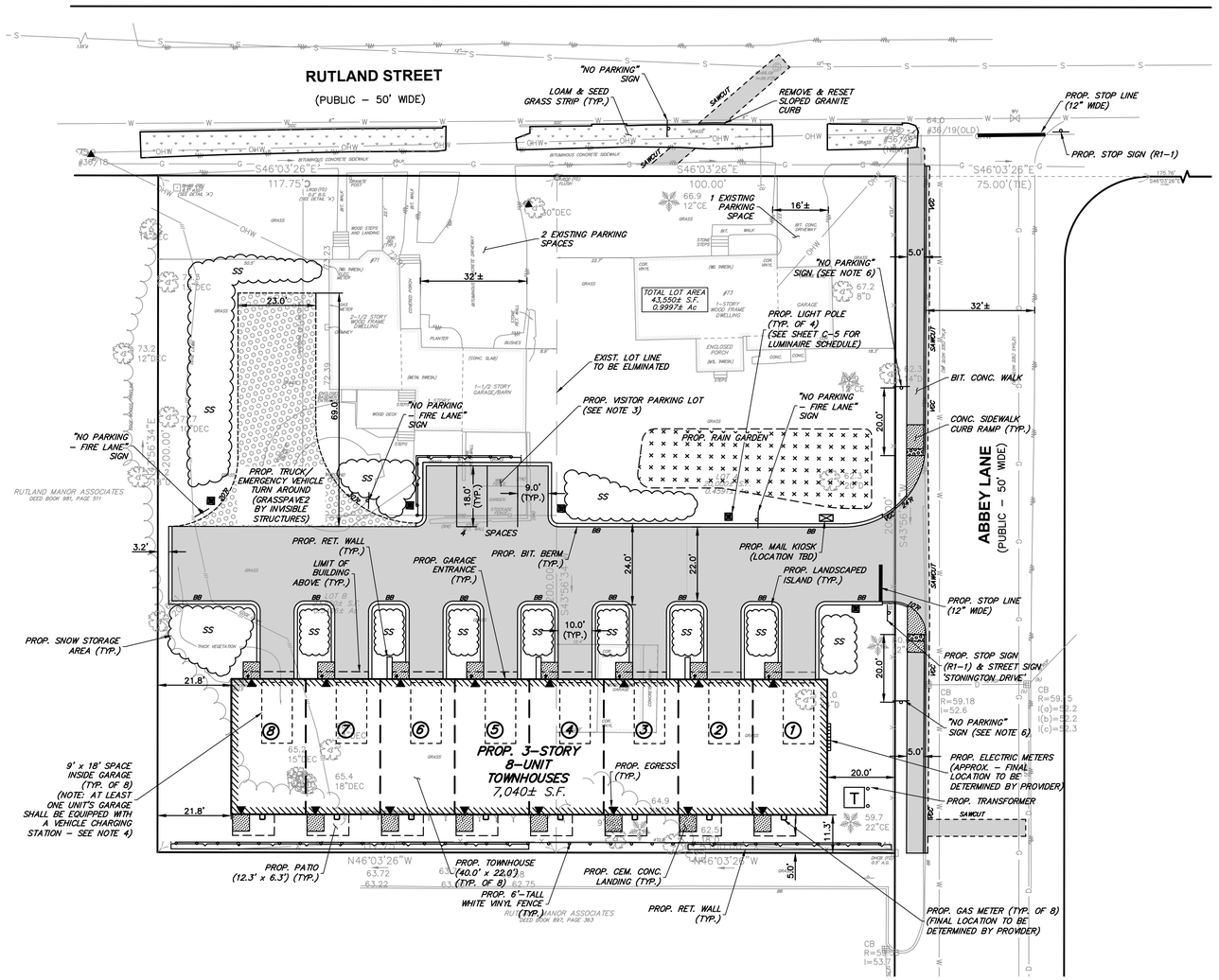
SITE PREPARATION & DEMOLITION PLAN

PLOT DATE: Mar 25, 2022 10:22 am
PATH: G:\234 3D Projects\23800 - Diamond Cap - Dover, NH\Dwg\24X\23800 - Diamond Cap\23800 - Diamond Cap

DWG: *23800sp5.dwg*
LAYOUT: *Site*
SHEET: 2 OF 11

C-1

PLANNING FILE No. : **P21-64**



LEGEND

- PROP. CONTOUR
- 65.45 — SPOT GRADE
- PROP. FENCE
- PROP. BITUMINOUS PAVEMENT
- PROP. CONCRETE CEMENT
- PROP. RETAINING WALL
- PROP. CURBING
- SD — PROP. DRAIN
- RD — PROP. ROOF DRAIN
- W — W — PROP. WATER LINE
- G — G — PROP. GAS LINE
- SS — SS — PROP. SEWER
- ETC — PROP. ELECTRIC, CABLE, & TELE.
- T — PROP. TELEVISION
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- VGC — VERTICAL GRANITE CURB
- PROP. FLOW ARROW
- PROP. HYDRANT
- TEST PIT
- ECHO CLS32-36W-4K-III & -IV LIGHT POLE

PARKING SUMMARY:

REQUIRED: 1.9 SPACES/UNIT MAX. (1.4 SPACES/UNIT + 0.5 PER VISITOR)

EXISTING:
- 2 SPACES (@ 71 RUTLAND)
- \+ 1 SPACES (@ 73 RUTLAND)
- 3 SPACES

PROPOSED:
- 4 VISITOR SPACES
- \+ 8 GARAGE SPACES
- \+ 3 EXISTING SPACES
- 15 SPACES

15 SPACES/10 UNITS = **1.5 SPACES/UNIT**

NOTES:

1. BIKE STORAGE WILL BE CONTAINED IN EACH UNIT.
2. PROPOSED DRIVE IS NOT BUILT TO CITY ROAD STANDARDS AND CANNOT BE ACCEPTED BY THE CITY AS PUBLIC.
3. VISITOR PARKING LOT WILL BE EQUIPPED TO PROVIDE ELECTRIC VEHICLE CHARGING READINESS IF DESIRED.
4. ALL UNITS WILL BE EQUIPPED TO PROVIDE ELECTRIC VEHICLE CHARGING READINESS IF DESIRED.
5. TRASH TOTERS WILL BE STORED IN GARAGE AND BROUGHT OUT IN FRONT OF EACH UNIT ON TRASH PICKUP DAY. TRASH PICKUP WILL BE PRIVATE.
6. "NO PARKING BETWEEN SIGNS" SIGNS ALONG ABBEY LANE WILL BE PLACED 20' FROM EITHER SIDE OF THE DRIVE, IN ACCORDANCE WITH DOVER CITY CODE.
7. FINAL GAS AN ELECTRIC LAYOUT, INCLUDING METERS AND TRANSFORMER LOCATIONS, TO BE DETERMINED BY PROVIDERS.

PLAN REFERENCE:

1. EXISTING CONDITIONS TAKEN FROM A PLAN TITLED "EXISTING CONDITIONS PLAN OF LAND IN DOVER, NH", DATED MARCH 12, 2020 AND LAST REVISED ON MARCH 24, 2020. PLAN WAS PREPARED BY HANCOCK ASSOCIATES.
2. PROPOSED BUILDING FOOTPRINT DESIGNED BASED ON THE PLAN TITLED "FIRST FLOOR CONCEPT", DATED 03/16/21, PREPARED BY KOAL ARCHITECTURE, PLLC.

GRAPHIC SCALE" 1 INCH = 20 FEET
0 10 20 40 80

DOVER PLANNING BOARD

PERMIT SITE PLAN

'Stonington Drive'
71 & 73 Rutland Street
Dover, New Hampshire 03820

ASSESSORS:
PARCEL ID:
#14017 (LOT B)
#14017-A (LOT A)

PREPARED FOR:

Diamond Capital, LLC

170 Commerce Way, Suite 200
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STATE OF NEW HAMPSHIRE
JOSEPH D. PEZIKOLA
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APPRVD. BY:	JDP	CHECK BY:	AD

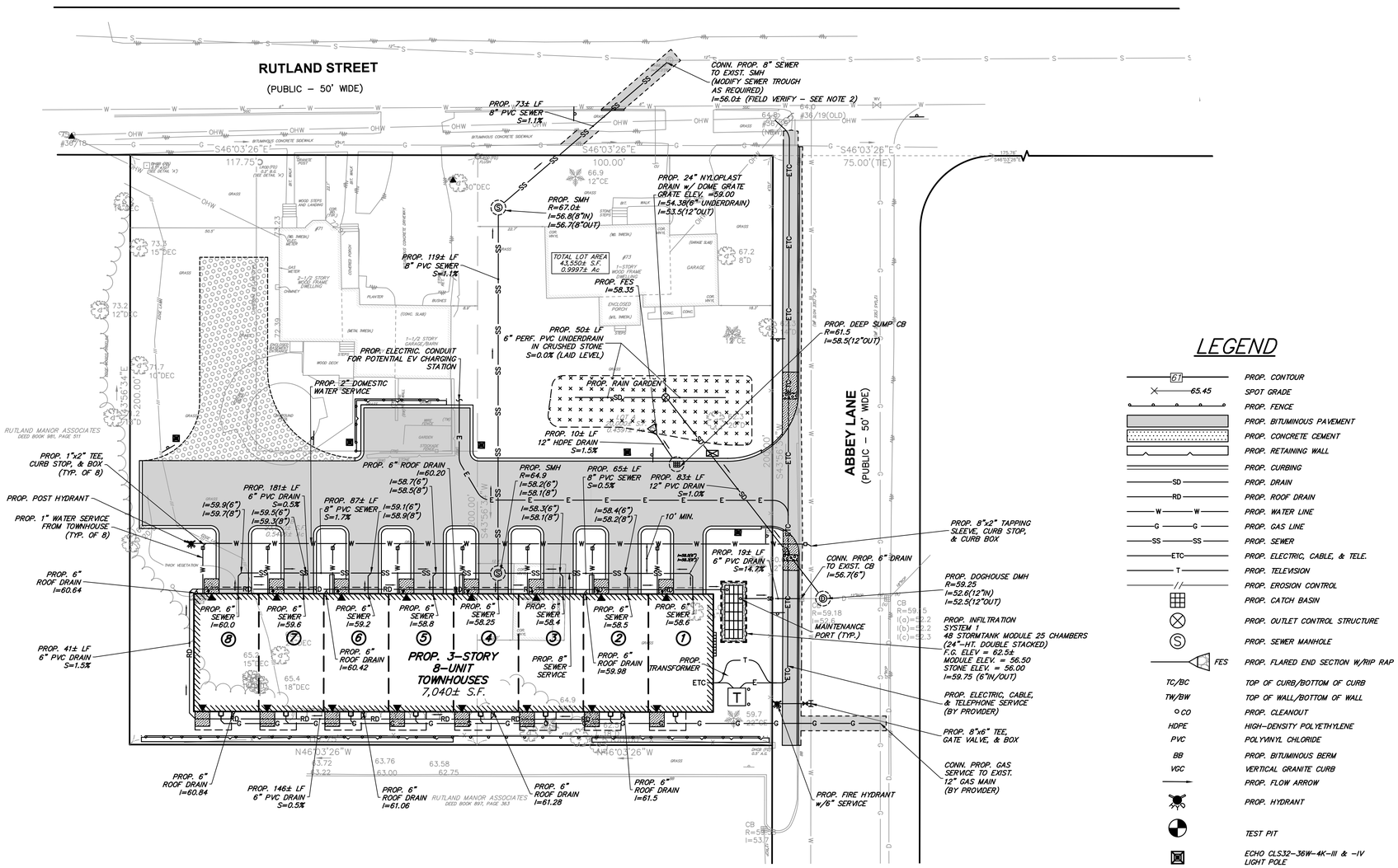
LAYOUT & MATERIALS PLAN

PLOT DATE: Mar 25, 2022 2:45 pm
PATH: G:\24 3D Projects\23800 - Diamond Cap - Dover, NH\Dwg\24P\23800 - Diamond Cap\23800 - Diamond Cap

DWG: *23800sp5.dwg*
LAYOUT: *Layout*
SHEET: 3 OF 11

C-2

PLANNING FILE No. : P21-64



NOTES:

1. CLEANOUTS FOR 6" SEWER SERVICES ARE LOCATED WITHIN THE BUILDING FOOTPRINT.
2. SEWER STRUCTURES WERE NOT OPENED AT THE TIME OF SURVEY DUE TO THE ONGOING COVID-19 HEALTH CRISIS. RECORD INVERT INFORMATION SHOWN WAS COMPILED FROM PLANS OBTAINED BY THE CITY OF DOVER. SEWER CONNECTIONS AND INVERTS WILL BE VERIFIED BY THE DESIGN ENGINEER AND CONTRACTOR PRIOR TO ANY CONSTRUCTION.
3. FINAL GAS AND ELECTRICAL LAYOUT TO BE DETERMINED BY PROVIDERS.

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JOSEPH D. PIAZZOLA No. 10270 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

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APPRVD. BY:	JDP	CHECK BY:	AD

UTILITY PLAN

PLOT DATE: Mar 25, 2022 2:45 pm
PATH: G:\Civil 3D Projects\23800 - Diamond Cap - Dover, NH\Dwg\24X\23800 - Diamond Cap\23800 - Diamond Cap

DWG: *23800sp5.dwg*
LAYOUT: *Utility*
SHEET: 4 OF 11

C-3

PLANNING FILE No. : P21-64

BMP SIZING CALCULATIONS:

BIORETENTION SYSTEM (RAIN GARDEN)

TOTAL AREA DRAINING TO PRACTICE (A) = 16,718 S.F. (0.38 Ac)
IMPERVIOUS AREA DRAINING TO PRACTICE (A_I) = 8,086 S.F. (0.19 Ac)
PERCENT IMPERVIOUS AREA DRAINING TO PRACTICE (I) = 0.19 Ac/0.38 Ac = 0.49
RUNOFF COEFFICIENT (Rv) = 0.05 + (0.9 x I) = 0.49
WQV = 1" x Rv x A = 1" x 0.49 x 0.38 Ac = 0.19 Ac-in = 676 C.F.

PER NHDES DESIGN STANDARDS:

VOLUME BELOW LOWEST ORIFICE = 2,046 C.F. > 676 C.F. (WQV)

(FOR MORE RAIN GARDEN INFORMATION SEE STORMWATER REPORT)

INFILTRATION SYSTEM 1 (ROOF DRAINAGE)

EFFECTIVE IMPERVIOUS AREA ON PROJECT SITE (A_I) = 21,640± S.F.
GROUNDWATER RECHARGE DEPTH (R_D) = 0.10" (HYDRAULIC SOIL GROUP C)
GROUNDWATER RECHARGE VOLUME (GRV) = A_I x R_D = 21,640 S.F. x 0.10" = 2,164 S.F.- in
GRV = 180.3 C.F.

PROP. INFILTRATION SYSTEM 1:
48 STORMTANK MODULE 25 CHAMBERS (24" - HEIGHT DOUBLE STACKED)

STACKED CHAMBER DIMENSIONS: 1.5' WIDTH x 3.0' LENGTH x (2.0'+2.0') HEIGHT
CHAMBER VOIDS: 96.5%
OUTLET PIPE INVERT: 59.75
CHAMBER INVERT: 56.50
STONE INVERT: 56.00

EXCAVATION AREA = 160.0 S.F.

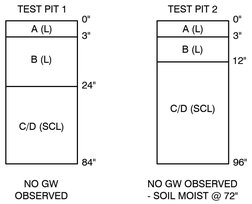
CHAMBER VOLUME = 24 CHAMBERS * [1.5' x 3.0' x (59.75-56.50)] * 96.5%
CHAMBER VOLUME = 351.0 C.F. * 96.5% = 338.7 C.F.

CR. STONE VOLUME = [160.0 S.F. x (59.75-56.00) - 351.0 C.F.] * 40%
CR. STONE VOLUME = 99.6 C.F.

PROP. RECHARGE VOLUME = 338.7 C.F. + 99.6 C.F. = 438.3 C.F. >> 180.3 C.F.

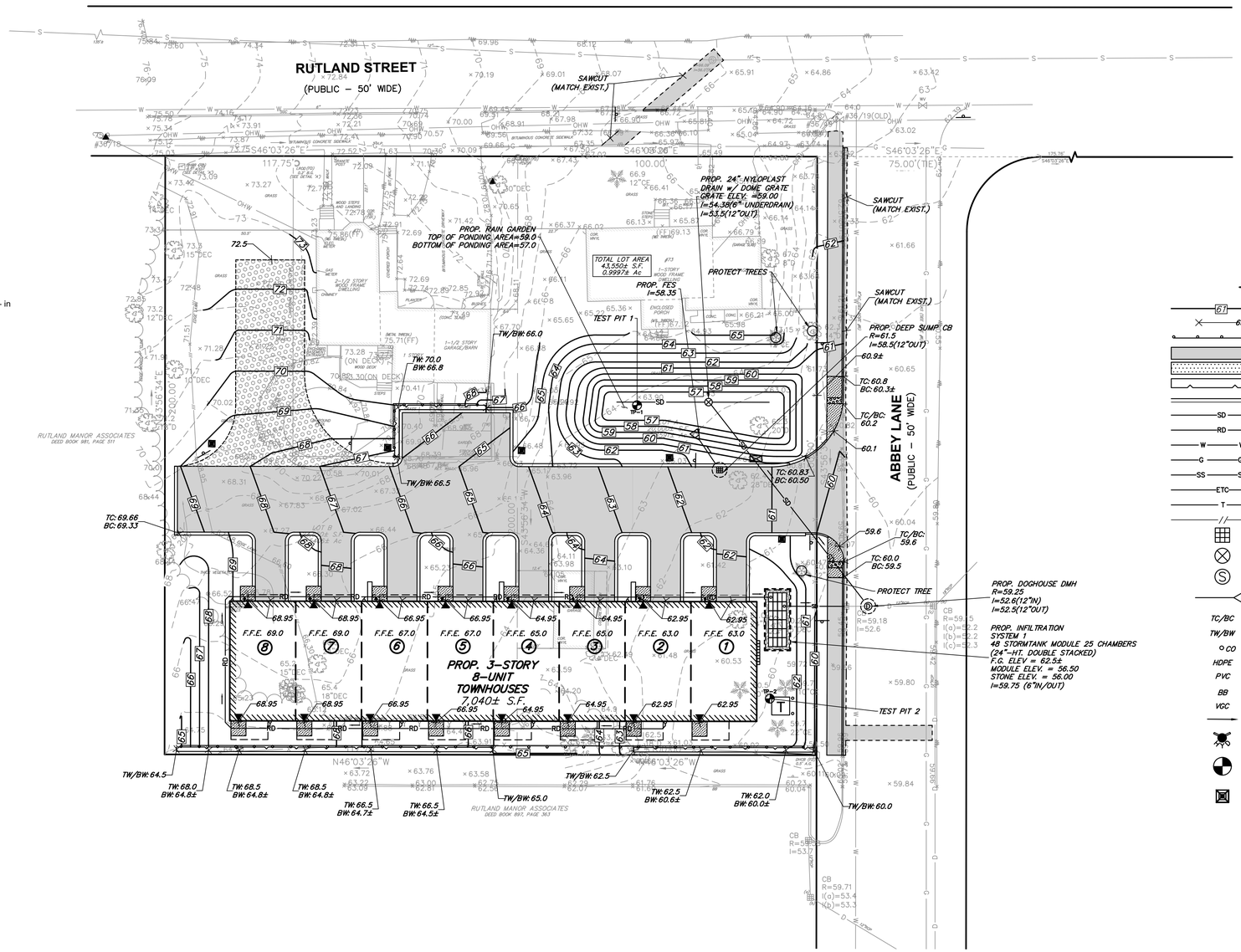
TEST PIT DATA:

SOIL TESTING CONDUCTED ON 10/22/21 AT 9:30 AM BY JOE PEZNOLA, PE OF HANCOCK ASSOCIATES.



PLAN REFERENCE:

1. EXISTING CONDITIONS TAKEN FROM A PLAN TITLED "EXISTING CONDITIONS PLAN OF LAND IN DOVER, NH", DATED MARCH 12, 2020 AND LAST REVISED ON MARCH 24, 2020. PLAN WAS PREPARED BY HANCOCK ASSOCIATES.
2. PROPOSED BUILDING FOOTPRINT DESIGNED BASED ON THE PLAN TITLED "FIRST FLOOR CONCEPT", DATED 03/16/21, PREPARED BY KOAL ARCHITECTURE, PLLC.



LEGEND

- PROP. CONTOUR
- SPOT GRADE
- PROP. FENCE
- PROP. BITUMINOUS PAVEMENT
- PROP. CONCRETE CEMENT
- PROP. RETAINING WALL
- PROP. CURBING
- SD — PROP. DRAIN
- RD — PROP. ROOF DRAIN
- W W — PROP. WATER LINE
- G G — PROP. GAS LINE
- SS SS — PROP. SEWER
- ETC — PROP. ELECTRIC, CABLE, & TELE.
- T — PROP. TELEVISION
- // — PROP. EROSION CONTROL
- PROP. CATCH BASIN
- PROP. OUTLET CONTROL STRUCTURE
- PROP. SEWER MANHOLE
- FES — PROP. FLARED END SECTION W/RIP RAP
- TC/BC — TOP OF CURB/BOTTOM OF CURB
- TW/BW — TOP OF WALL/BOTTOM OF WALL
- CO — PROP. CLEANOUT
- HDPE — HIGH–DENSITY POLYETHYLENE
- PVC — POLYVINYL CHLORIDE
- BB — PROP. BITUMINOUS BERM
- VGC — VERTICAL GRANITE CURB
- PROP. FLOW ARROW
- PROP. HYDRANT
- TEST PIT
- ECHO CLS32–36W–4K–III & –IV LIGHT POLE

NOTE:

FOR MORE UTILITY INFORMATION REGARDING PIPE SIZES, MATERIALS, LENGTHS, INVERTS, ETC., SEE SHEET C-5.

GRAPHIC SCALE" 1 INCH = 20 FEET
0 10 20 40 80

PERMIT SITE PLAN

'Stonington Drive'
71 & 73 Rutland Street
Dover, New Hampshire 03820

ASSESSORS:

PARCEL ID:
#14017 (LOT B)
#14017-A (LOT A)

PREPARED FOR:

Diamond Capital, LLC

170 Commerce Way, Suite 200
Portsmouth, New Hampshire 03801

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

10 FERRY STREET, SUITE 406, CONCORD, NH 03301
VOICE (603) 223–1950, FAX (978) 774–7816
WWW.HANCOCKASSOCIATES.COM

STATE OF NEW HAMPSHIRE – JOSEPH D. PEZNOLA – No. 10270 – LICENSED PROFESSIONAL ENGINEER

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	EJR	JDP	03/25/22	2nd TRC COMMENTS
1	EJR	JDP	01/07/22	TRC COMMENTS

DATE:	09/10/21	DESIGN BY:	EJR
SCALE:	1" = 10'	DRAWN BY:	EJR
APPRVD. BY:	JDP	CHECK BY:	AD

GRADING & DRAINAGE PLAN

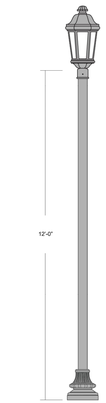
PLOT DATE: Mar 25, 2022 10:22 am
PATH: G:\Old 30 Projects\23800 - Diamond Cap - Dover, NH\Eng\[23800 - Diamond Cap\]23800 - Diamond Cap

DWG: 23800sp5.dwg
LAYOUT: Grading
SHEET: 5 OF 11

C-4

PLANNING FILE No. : P21–64

AREALIGHTING | POLE MOUNT
PROJECT: RUTLAND STREET (13135)



CLS32 SERIES

FEATURES + BENEFITS

- Industry leading LED systems
- High efficiency & energy savings
- Environmentally friendly
- Reliable & low-maintenance
- 5-year limited warranty
- UL Listed electrical components
- Suitable for wet conditions

SPECIFICATIONS

LUMINAIRE: All aluminum construction

LIGHT SOURCE: 36W LED 4000K

DRIVER: Electronic LED Driver, 120V-277V, 480V Available. Dimming Leads Optional 0-10V

DIFFUSER: Injection molded lens with open frame

OPTICS: Type III

OPTIONS: N/A

ARM: N/A

POLE: 4"OD straight round aluminum pole with cast decorative base (Washington/DCB4)

ANCHOR BOLTS: (4)1/2" x 18" x 3" galvanized anchor bolts on an 8" diameter bolt circle

FINISH: Powder coat. Standard colors are Black, White, Dark Bronze, and Silver.
Custom Colors and RAL Colors Available. Consult Factory
All exposed hardware shall be stainless steel.

CATALOG # CLS32-36W-4K-SMT-III-OF/SRAP4-12-DCB4

APPROVED BY _____ DATE : _____

ECHO LIGHTING, INC.
Designers and Manufacturers of Outdoor Lighting
Ph.: +1-323-890-9008 | Fax: +1-323-890-1981 | Email: info@echoltg.com
5618 E. Washington Blvd. Commerce, CA 90040 | www.echolighting.com

AREALIGHTING | POLE MOUNT
PROJECT: RUTLAND STREET (13135)

CLS32 SERIES

FEATURES + BENEFITS

- Industry leading LED systems
- High efficiency & energy savings
- Environmentally friendly
- Reliable & low-maintenance
- 5-year limited warranty
- UL Listed electrical components
- Suitable for wet conditions

SPECIFICATIONS

LUMINAIRE: All aluminum construction

LIGHT SOURCE: 36W LED 4000K

DRIVER: Electronic LED Driver, 120V-277V, 480V Available. Dimming Leads Optional 0-10V

DIFFUSER: Injection molded lens with open frame

OPTICS: Type IV

OPTIONS: N/A

ARM: N/A

POLE: 4"OD straight round aluminum pole with cast decorative base (Washington/DCB4)

ANCHOR BOLTS: (4)1/2" x 18" x 3" galvanized anchor bolts on an 8" diameter bolt circle

FINISH: Powder coat. Standard colors are Black, White, Dark Bronze, and Silver.
Custom Colors and RAL Colors Available. Consult Factory
All exposed hardware shall be stainless steel.

CATALOG # CLS32-36W-4K-SMT-IV-OF/SRAP4-12-DCB4

APPROVED BY _____ DATE : _____

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LTN SERIES

AREA LIGHTING | WALL MOUNT

Echo LTNS-5W-4K-SMT-OPL-V-WM-COLOR

SPECIFICATIONS

LUMINAIRE All aluminum construction.

DRIVER Electronic LED driver, 120-277V
Options: 480V Driver, Dimming control 0-10V.

ELECTRICAL All components UL recognized. Luminaire shipped complete & ready to install.

FINISH Powder coat – Standard colors are Black, White, Dark Green & Dark Bronze. *Custom colors available, consult factory.*
All exposed hardware shall be stainless-steel.

FEATURES + BENEFITS

- Industry leading LED systems
- High efficiency & energy savings
- Environmentally friendly
- Reliable & low-maintenance
- 7-year limited warranty
- UL Listed electrical components
- *Suitable for wet locations*

ORDER INFORMATION *EXAMPLE: LTNS-12W-4K-SMT-V-WM-CC-HSS*

SERIES	WATTAGE	COLOR TEMP	VOLTAGE	OPTICS	MOUNTING	FINISH	OPTIONS
LTNS	8W 8 watt 12W 12 watt	27K 2700K 3K 3000K 4K 4000K 5K 5000K CUSTOM COLOR TEMP. CONSULT FACTORY	SMT 120-277V 480V	OPL OPAL LENS TYPE V	WM WALL MOUNT	BLK BLACK WHT WHITE GRN DARK GREEN DBZ DARK BRONZE CC CUSTOM COLOR	DIM 0-10V DIMMING BPC BUTTON PHOTO CELL MS MOTION SENSOR

ECHO LIGHTING, INC.
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5618 E. Washington Blvd. Commerce, CA 90040 | www.echolighting.com

CLASSIC SERIES

AREA LIGHTING | POST TOP, WALL MOUNT

Echo CLS32-36W-4K-SMT-[III & IVI-OF-COLOR / SRAP4-12-DCB4(SM WASHINGTON BASE)

SPECIFICATIONS

LUMINAIRE All aluminum construction.

DRIVER Electronic LED driver, 120-277V
Options: 480V Driver, Dimming control 0-10V.

ELECTRICAL All components UL recognized. Luminaire shipped complete & ready to install.

FINISH Powder coat – Standard colors are Black, White, Dark Green & Dark Bronze. *Custom colors available, consult factory.*
All exposed hardware shall be stainless-steel.

FEATURES + BENEFITS

- Industry leading LED systems
- High efficiency & energy savings
- Environmentally friendly
- Reliable & low-maintenance
- 7-year limited warranty
- UL Listed electrical components
- *Suitable for wet locations*

ORDER INFORMATION *EXAMPLE: CLS38-85W-4K-SMT-OF III-PT-BLK-BPC*

SERIES	WATTAGE	COLOR TEMP	VOLTAGE	OPTICS	MOUNTING	FINISH	OPTIONS
CLS15 CLS25 CLS32 CLS38	8W 85W	27K 2700K 3K 3000K 4K 4000K 5K 5000K CUSTOM COLOR TEMP. CONSULT FACTORY	SMT 120-277V 480V	OL CLEAR LENS OPL OPAL LENS OF OPEN FRAME TYPE II TYPE III TYPE IV TYPE V	PT POST TOP WM WALL MOUNT	BLK BLACK WHT WHITE GRN DARK GREEN DBZ DARK BRONZE CC CUSTOM COLOR	DIM 0-10V DIMMING BPC BUTTON PHOTO CELL HSS HOUSE SIDE SHIELD MS MOTION SENSOR EM8 EMERGENCY BATTERY BACKUP *ONLY AVAILABLE ON CLS38*

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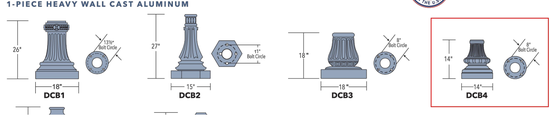
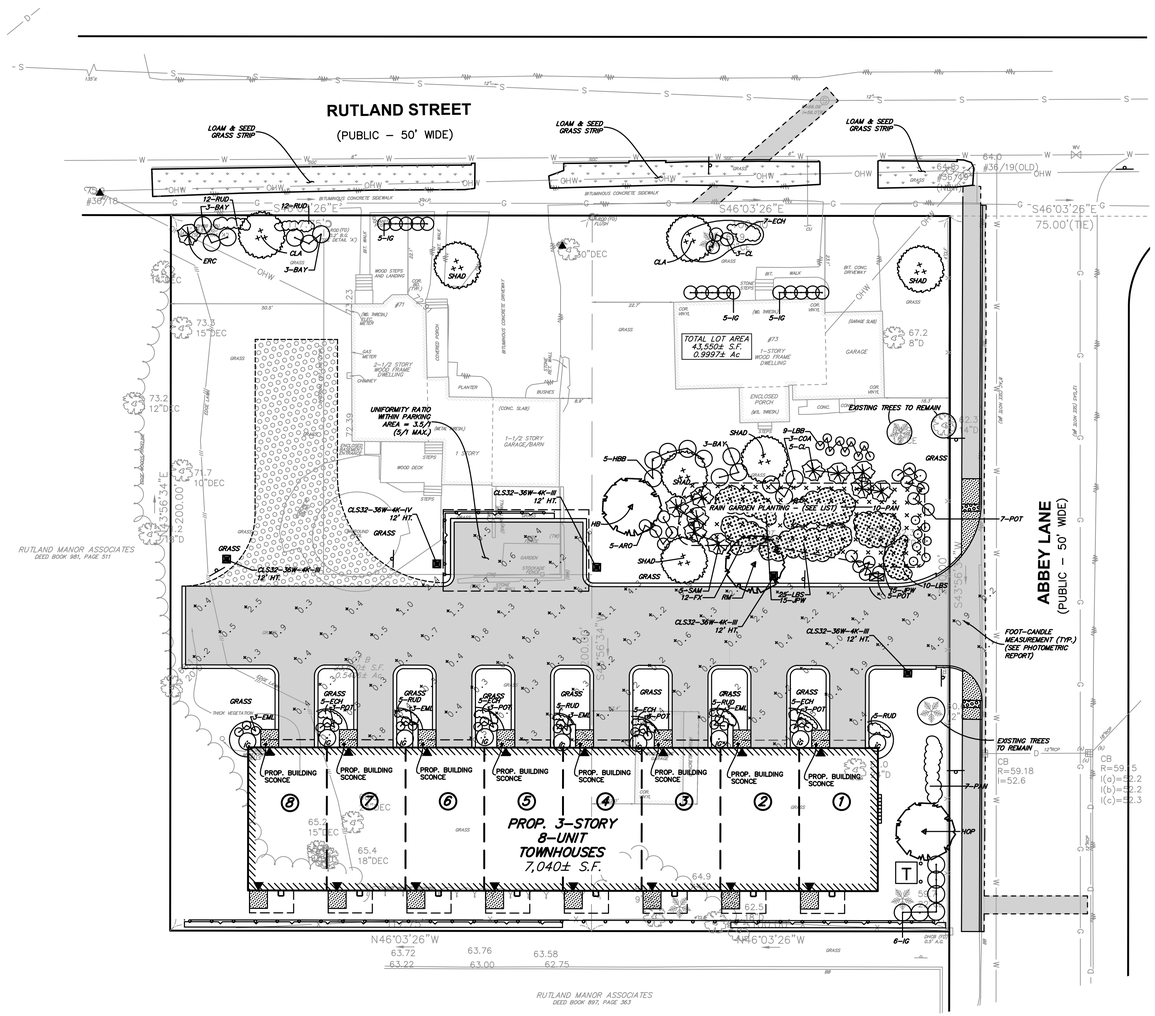
5618 E. Washington Blvd. Commerce, CA 90040 | www.echolighting.com

DECORATIVE BASES

1-PIECE HEAVY WALL CAST ALUMINUM



Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	Luminaire Lumens	Luminaire Watts	Total Watts	Mounting Height	S/P Ratio
	1	CLS32-36W-4K-IV	Single	CLASSIC II -36W-4K-iV	2821	41.2	41.2	12	1.00
	4	CLS32-36W-4K-III	Single	CLASSIC II -36W-4K-III	3233	39.6	158.4	12	1.00
	8	LTN WALL MOUNT 5W 4K	Single	LTN 5W 4K SMT-V-OA	659	5.5	44	6	1.00



Plant Schedule

Qty	Key	Botanical Name	Common Name	Size
TREES:				
2	CLA	Cladrastis kentuckea	Yellowwood	3"
1	HB	Betula nigra	River Birch	10-12"
1	HOP	Ostrya virginiana	American Hophornbeam	3"
1	RM	Acer rubrum 'Red Sunset'	Red Sunset Maple	3"
5	SHAD	Amelanchier canadensis	Downy Shadblow	8-10"
SHRUBS:				
5	ARO	Aronia arbutifolia	Chokeberry	#3pot
9	BAY	Myrica pensylvanicum	Northern Bayberry	#3pot
8	CL	Clethra alnifolia	Sweet Pepper	#3pot
3	COA	Cornus amomum	Silky Dogwood	#3pot
12	EML	Kalmia angustifolia	Sheep Laurel	2'h
1	ERC	Juniperus virginiana	Eastern Red Cedar	7-8'
17	HBB	Vaccinium corymbosum	Highbush Blueberry	#3pot
30	IG	Ilex glabra 'Shamrock'	Shamrock Inkberry	#3pot
16	LBB	Vaccinium angustifolium	Low Bush Blueberry	#3pot
24	POT	Potentilla 'Abbotswood'	Abbotswood Potentilla	#3pot
5	SAM	Sambucus canadensis	American Elderberry	#3pot
GRASSES & PERENNIALS:				
27	ECH	Echinacea purpurea	Purple Coneflower	#1pot
12	FX	Carex vulpinoidea	Fox Sedge	#1pot
30	JPW	Eupatorium maculatum	Joe Pye Weed	#1pot
35	LBS	Schizachyrium scoparium	Little Bluestem	#1pot
17	PAN	Panicum virgatum	Switchgrass	#1pot
44	RUD	Rudbeckia fulgida	Black Eyed Susan	#1pot

PLAN REFERENCE:

1. EXISTING CONDITIONS TAKEN FROM A PLAN TITLED "EXISTING CONDITIONS PLAN OF LAND IN DOVER, NH", DATED MARCH 12, 2020 AND LAST REVISED ON MARCH 24, 2020. PLAN WAS PREPARED BY HANCOCK ASSOCIATES.
2. PROPOSED BUILDING FOOTPRINT DESIGNED BASED ON THE PLAN TITLED "FIRST FLOOR CONCEPT", DATED 03/16/21, PREPARED BY KOAL ARCHITECTURE, PLLC.

LEGEND

- PROP. CONTOUR
- SPOT GRADE
- PROP. FENCE
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- PROP. CURBING
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- PROP. SEWER
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- PROP. TELEVISION
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- PROP. SEWER MANHOLE
- FES PROP. FLARED END SECTION W/RIP RAP
- TC/BC TOP OF CURB/BOTTOM OF CURB
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- VGC VERTICAL GRANITE CURB
- PROP. FLOW ARROW
- PROP. HYDRANT
- TEST PIT
- ECHO CLS32-36W-4K-III & -IV LIGHT POLE

NOTES:

1. LANDSCAPE DESIGN BY JAMES K. EMMANUEL ASSOCIATES OF MARBLEHEAD, MA.
2. SITE LIGHTING DESIGN BY HURRY ASSOCIATES OF HINGHAM, MA. FOR MORE INFORMATION REGARDING LIGHT FIXTURES AND LIGHTING, PLEASE REFER TO THE PHOTOMETRIC REPORT.

GRAPHIC SCALE" 1 INCH = 20 FEET
0 10 20 40 80

PERMIT SITE PLAN

'Stonington Drive'
71 & 73 Rutland Street
Dover, New Hampshire 03820

ASSESSORS:
PARCEL ID:
#14017 (LOT B)
#14017-A (LOT A)

PREPARED FOR:

Diamond Capital, LLC

170 Commerce Way, Suite 200
Portsmouth, New Hampshire 03801

HANCOCK ASSOCIATES
Civil Engineers
Land Surveyors
Wetland Scientists
10 FERRY STREET, SUITE 406, CONCORD, NH 03301
VOICE (603) 223-1950, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	EJR	JDP	03/25/22	2nd TRC COMMENTS
1	EJR	JDP	01/07/22	TRC COMMENTS

DATE:	09/10/21
SCALE:	1" = 10'
APPRVD. BY:	JDP
DESIGN BY:	EJR
DRAWN BY:	EJR
CHECK BY:	AD

LANDSCAPE & LIGHTING PLAN

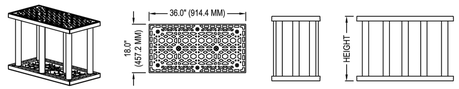
PLOT DATE: Mar 25, 2022 10:22 am
PATH: G:\24 3D Projects\23800 - Diamond Cap - Dover, NH\Dwg\DWG\23800 - Diamond Cap\23800 - Diamond Ca...

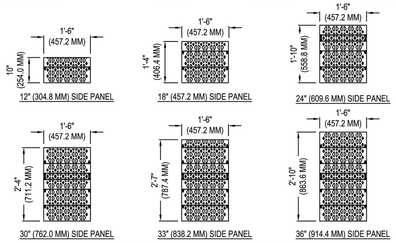
DWG: 23800sp5.dwg
LAYOUT: Landscape
SHEET: 6 OF 11

C-5

PLANNING FILE No. : P21-64

STORMTANK (BRENTWOOD INDUSTRIES)
621 BRENTWOOD DRIVE
READING, PA 19611
PHONE: (610) 374-5109
www.stormtank.com





- SIDE PANELS TO BE INSTALLED ALONG SYSTEM PERIMETER, UNLESS OTHERWISE SPECIFIED.
- ALL HEIGHTS TO BE CUT FROM A 36" (914.4 MM) SIDE PANEL AT PRE-SCRIBED LOCATIONS, EXCEPT 33" (838.2 MM) & 12" (304.8 MM) SIDE PANEL.

25 SERIES MODULE				
MODEL	HEIGHT (MM)	CAPACITY (M³)	NOMINAL VOID	NOMINAL WEIGHT (KG)
2612	12" (304.8)	4.316 CF (0.1401)	93.70%	17.65 LBS. (7.950)
2618	18" (457.2)	6.436 CF (0.1824)	95.65%	23.70 LBS. (10.29)
2524	24" (609.6)	8.656 CF (0.2454)	96.00%	26.30 LBS. (11.92)
2530	30" (762.0)	10.876 CF (0.3084)	96.50%	29.50 LBS. (13.39)
2533	33" (838.2)	11.986 CF (0.3390)	96.80%	29.82 LBS. (13.53)
2536	36" (914.4)	13.096 CF (0.3714)	97.00%	33.10 LBS. (15.01)

MANUFACTURER NOTES:
1. REFERENCE CURRENT INSTALLATION INSTRUCTIONS FOR PROPER INSTALLATION PRACTICES.

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 4907-008

STORMTANK MODULE
25 SERIES DETAIL

4907-008 REVISION DATE 14/05/2020

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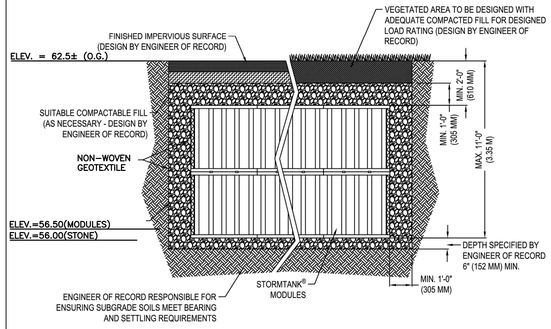
STORMTANK (BRENTWOOD INDUSTRIES)
621 BRENTWOOD DRIVE
READING, PA 19611
PHONE: (610) 374-5109
www.stormtank.com



CROSS SECTION

INFILTRATION SYSTEM 1

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 4907-022.

STORMTANK MODULE
DOUBLE-STACK INFILTRATION BASIN CROSS-SECTION DETAIL

4907-022 REVISION DATE 17/01/2019

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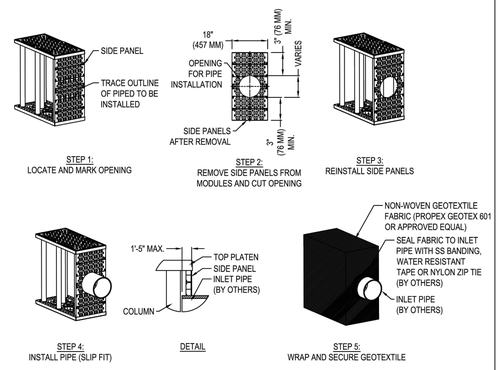
621 BRENTWOOD DRIVE
READING, PA 19611
PHONE: (610) 374-5109
www.stormtank.com



NOTES:
1. SIDE PANELS TO BE INSTALLED ALONG SYSTEM PERIMETER, UNLESS OTHERWISE SPECIFIED.
2. ALL HEIGHTS TO BE CUT FROM A 36" (914 MM) SIDE PANEL AT PRE-SCRIBED LOCATIONS.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. DO NOT SCALE DRAWING.
5. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
6. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
7. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 4907-018.

STORMTANK MODULE
SMALL DIAMETER PIPE CONNECTION DETAIL

4907-018 REVISION DATE 17/01/2019

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621 BRENTWOOD DRIVE
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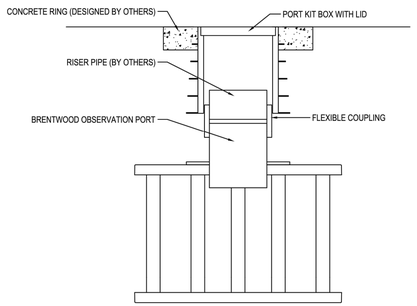

SECTION

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 4907-009.

STORMTANK MODULE
OBSERVATION PORT DETAIL

4907-009 REVISION DATE 17/01/2019

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STORMTANK (BRENTWOOD INDUSTRIES)
621 BRENTWOOD DRIVE
READING, PA 19611
PHONE: (610) 374-5109
www.stormtank.com

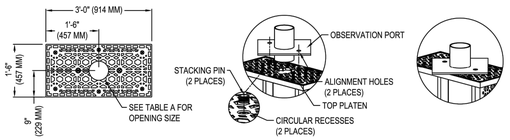

TABLE A: OBSERVATION PORT DIMENSION		
PORT SIZE	OPEN SIZE	RISER PIPE DIA
6" (152 MM)	7" (178 MM)	6" (152 MM)
8" (203 MM)	9" (229 MM)	8" (203 MM)
10" (254 MM)	11" (279 MM)	10" (254 MM)

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 4907-010.

STORMTANK MODULE
OBSERVATION PORT INSTALLATION DETAIL

4907-010 REVISION DATE 17/01/2019

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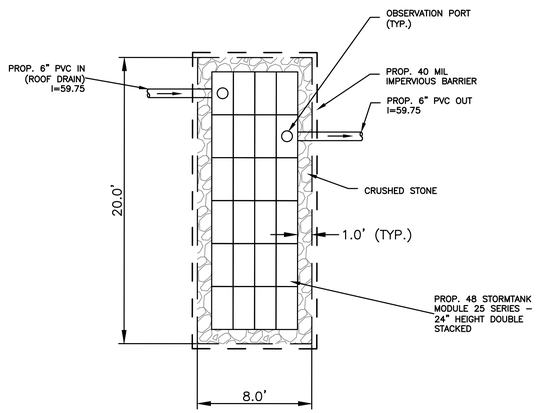


PROP. INFILTRATION SYSTEM 1
(NOT TO SCALE)

PERMIT SITE PLAN

'Stonington Drive'
71 & 73 Rutland Street
Dover, New Hampshire 03820

ASSESSORS:
PARCEL ID:
#14017 (LOT B)
#14017-A (LOT A)

PREPARED FOR:

Diamond Capital, LLC

170 Commerce Way, Suite 200
Portsmouth, New Hampshire 03801

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

10 FERRY STREET, SUITE 406, CONCORD, NH 03301
VOICE (603) 223-1950, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

STATE OF NEW HAMPSHIRE
JOSEPH D. PIEZIKOLA
No. 10276
LICENSED PROFESSIONAL ENGINEER

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	EJR	JDP	03/25/22	2nd TRC COMMENTS
1	EJR	JDP	01/07/22	TRC COMMENTS

DATE:	09/10/21	DESIGN BY:	EJR
SCALE:	AS INDICATED	DRAWN BY:	EJR
APPRVD. BY:	JDP	CHECK BY:	AD

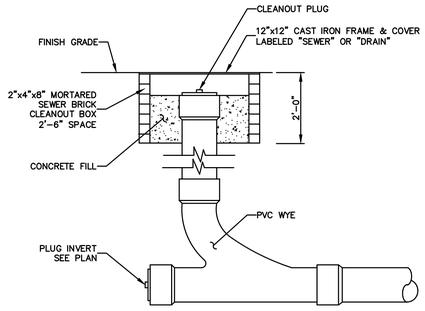
DETAILS - 1

PLOT DATE: Mar 25, 2022 10:23 am
PATH: O:\JOB 30 Projects\23800 - Diamond Cap - Dover, NH\Dgn\2907\23800 - Diamond Cap\23800 - Diamond Cap

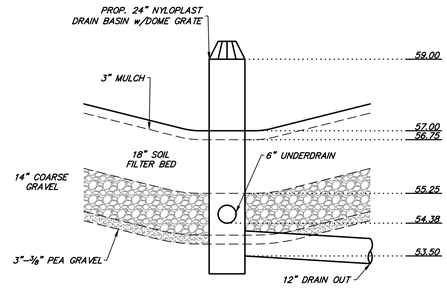
DWG: *23800sp5.dwg*
LAYOUT: *Details – 1*
SHEET: 7 OF 11

C-6

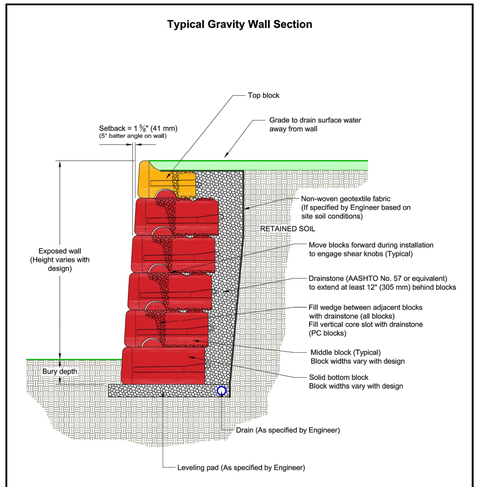
PLANNING FILE No. : P21–64



CLEANOUT
(NOT TO SCALE)



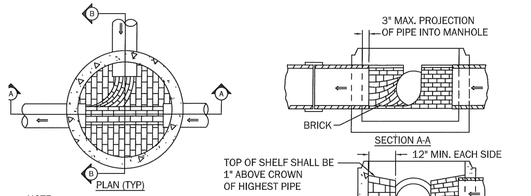
RAIN GARDEN CROSS SECTION
(NOT TO SCALE)



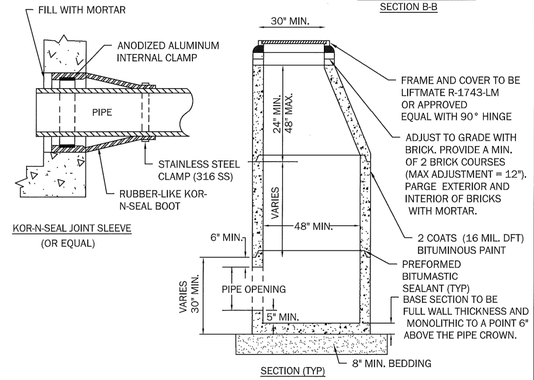
This drawing is for reference only. Determination of the suitability and/or manner of use of any details contained in this document is the sole responsibility of the design engineer of record. Final project designs, including all construction details, shall be prepared by a licensed professional engineer using the actual conditions of the proposed site.

DRAWN BY:	JRJ	TITLE: Typical Gravity Wall Detail	REDI-ROCK 09481 US 31 SOUTH, CHARLEVOIX, MI 49720 (866) 222-8400 ext 3010 engineering@redi-rock.com www.redi-rock.com
APPROVED BY:	JRJ		
DATE:	17MAR2016		
SHEET:	1 of 1	FILE: 1 Typical Gravity Wall Detail 031716.dwg	

NOTE: FINAL DESIGN BY MANUFACTURER



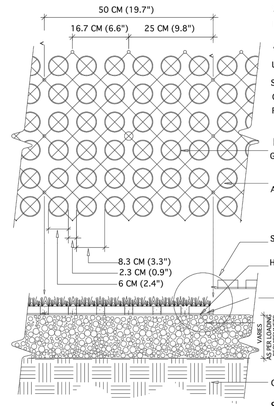
NOTE:
CORINGS TO BE SEPARATED BY 6" (MIN) OF MONOLITHIC SECTION.



CITY OF DOVER - SEWER MANHOLE
NOT TO SCALE

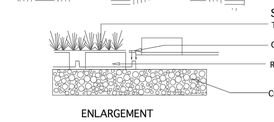
TYPICAL GRASSPAVE2 DETAIL

CHOOSE THIS PRODUCT FOR REINFORCING GRASS WEARING SURFACES



SPECIFICATIONS
UNIT SIZE - 50 CM X 50 CM X 2.5 CM OR 1 M X 1 M X 2.5 CM (20" X 20" X 1" OR 40" X 40" X 1")
AVAILABLE IN 9 STANDARD ROLL SIZES
UNIT WEIGHT - 510 GRAMS (18 OZ.) OR 2.0 KG (4.5 POUNDS)
STRENGTH - 1121 KG/CM ²(15,940 PSI)
COLOR - BLACK
RESIN - 100% RECYCLED HDPE

PLAN
GRASSPAVE2 SQUARES
ADJACENT GRASSPAVE2 UNITS



ENLARGEMENT

NOTE: GRASS/PLANT TYPES SHALL BE SPECIFIED BY A LANDSCAPE ARCHITECT OR LANDSCAPE DESIGNER.

NOT TO SCALE

1
1 OF 1

GRASSPAVE² BY INVISIBLE STRUCTURES™
Invisible Structures, Inc.
GPDET1B.DWG

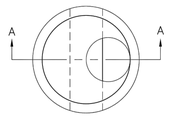
INVISIBLE STRUCTURES
303-233-8383
www.invisiblestructures.com
V4.1

PROP. GRASS PAVERS
(NOT TO SCALE)

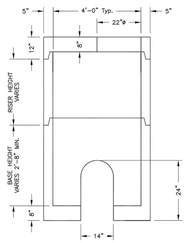
Oldcastle Precast®

WATER

4'-0" Dog House Manhole
Model: 4DH MH



PLAN



SECTION A-A

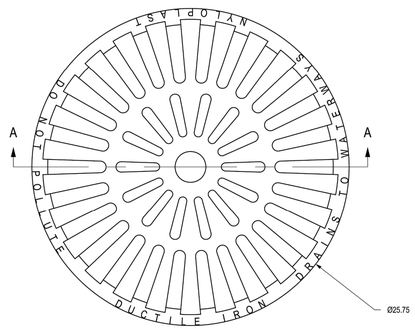
GENERAL NOTES:
1. Concrete: 28 Day Compressive Strength f'c = 4,000psi.
2. Steel Reinforcement: ASTM A-615, Grade 60, ASTM A-185.

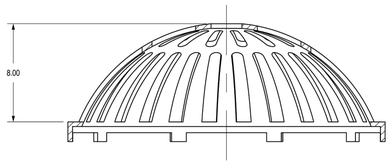
Mid Atlantic Region	*For more information about our products please visit us on the web at:* **oldcastleprecast.com** © 2013 Oldcastle Precast, Inc. W-MH-6	**888-9 Oldcastle** ***(888-965-3227)***

PROP. DOGHOUSE DRAIN MANHOLE
(NOT TO SCALE)

2499CGD

APPROX. DRAIN AREA = 270.64 SQ IN
APPROX. WEIGHT = 53.00 LBS





SECTION A-A

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST

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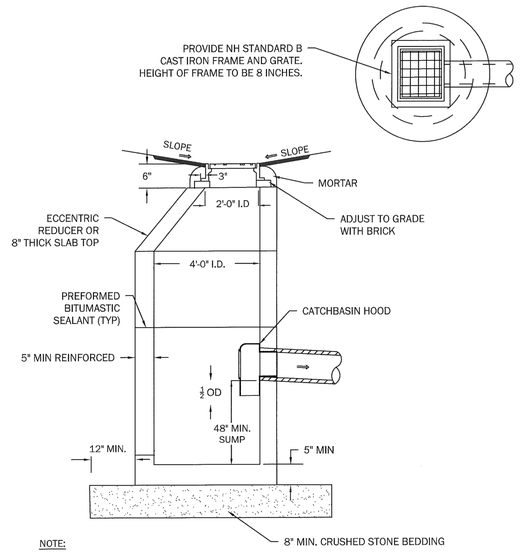
DRAWN BY	EBC	MATERIAL	DUCTILE IRON	Nyloplast	3130 VERONA AVE BUFORD, GA. 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE	3-8-06				
REVISED BY	EBC	PROJECT NO./NAME		TITLE	24 IN DOME GRATE
DATE	3-24-11				
DWG SIZE	A	SCALE 1:6	SHEET 1 OF 1	DWG NO.	7001-110-219 REV D

CITY OF DOVER - CATCHBASIN (DEEP SUMP)
(NOT TO SCALE)



NOTE:
ENTIRE STRUCTURE SHALL BE CAPABLE OF WITHSTANDING AN H - 20 LOAD
DETAILS OF REINFORCEMENT TO BE FURNISHED BY MANUFACTURER

PERMIT SITE PLAN

'Stonington Drive'
71 & 73 Rutland Street
Dover, New Hampshire 03820

ASSESSORS:
PARCEL ID:
#14017 (LOT B)
#14017-A (LOT A)

PREPARED FOR:

Diamond Capital, LLC

170 Commerce Way, Suite 200
Portsmouth, New Hampshire 03801

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

10 FERRY STREET, SUITE 406, CONCORD, NH 03301
VOICE (603) 223-1950, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

STATE OF NEW HAMPSHIRE
JOSEPH D. PIEZIOCLA
No. 10270
LICENSED PROFESSIONAL ENGINEER

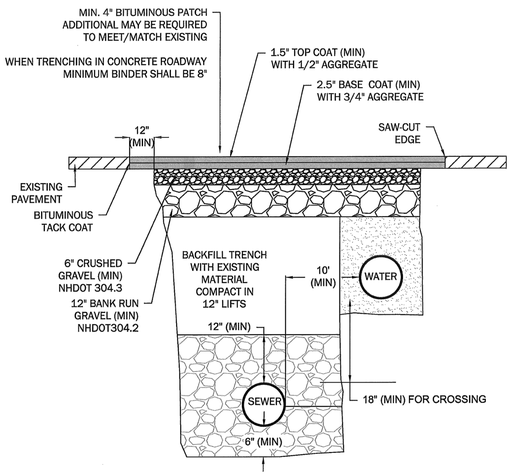
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	EJR	JDP	03/25/22	2nd TRC COMMENTS
1	EJR	JDP	01/07/22	TRC COMMENTS

DATE:	09/10/21	DESIGN BY:	EJR
SCALE:		DRAWN BY:	EJR
APPRVD. BY:	JDP	CHECK BY:	AD

DETAILS - 2

PLOT DATE: Mar 25, 2022 10:23 am
PATH: O:\Civil 3D Projects\23800 - Diamond Cap – Dover, NH\Dwg\24X\23800 – Diamond Cap\23800 – Diamond Ca...

DWG: *23800sp5.dwg*	C-7
LAYOUT: *Details – 2*	
SHEET: 8 OF 11	
PLANNING FILE No. :	P21–64

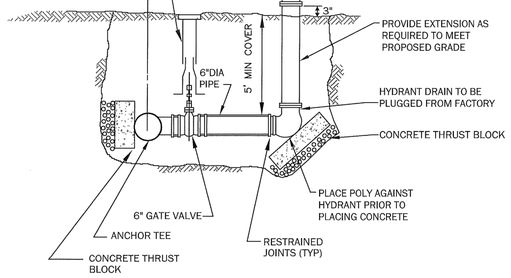


NOTES:

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

CITY OF DOVER - TYPICAL TRENCH DETAIL

NOT TO SCALE

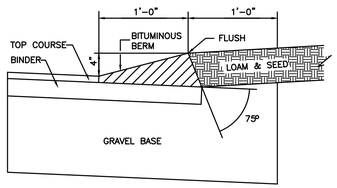


NOTES:

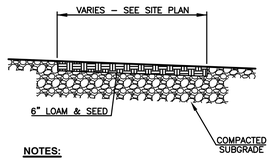
1. FIRE HYDRANT TO BE EDDY 2641.
2. HYDRANT TO BE PAINTED RED.
3. HYDRANT SHALL OPEN LEFT.

CITY OF DOVER - HYDRANT

NOT TO SCALE



BITUMINOUS BERM
(NOT TO SCALE)

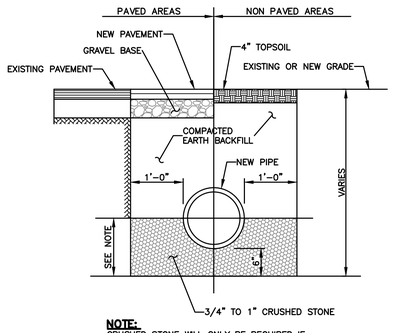


NOTES:

1.) SEED TO BE PREMIUM SUN–SHADE MIX.

2.) LOAM TO COMPLY WITH LANDSCAPE ARCHITECT'S SPECIFICATION.

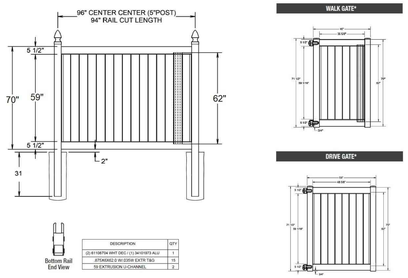
LOAM & SEED
(NOT TO SCALE)



NOTE:
CRUSHED STONE WILL ONLY BE REQUIRED IF UNSUITABLE MATERIALS ARE ENCOUNTERED OR IF PIPE IS BEING LAID WITHIN GROUND WATER TABLE, OTHERWISE, PIPE MAY BE PLACED ON BOTTOM OF TRENCH AND EARTH BACKFILLED.

EXCAVATION & BACKFILL DETAIL FOR DRAIN AND WATER PIPES
(NOT TO SCALE)

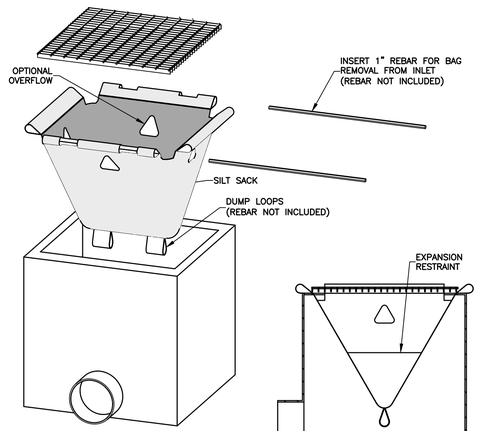
BuyDirectVinylFence.com
Quality. Integrity. Experience.



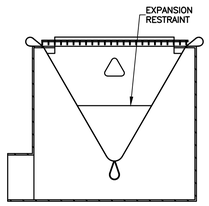
6' H x 8' W ∘ 1¾" X 5½" RAIL SOLID PRIVACY
(70" HIGH)

All Measurements are approximate and subject to change.
Copyright © 2014 BuyDirectVinylFence.com

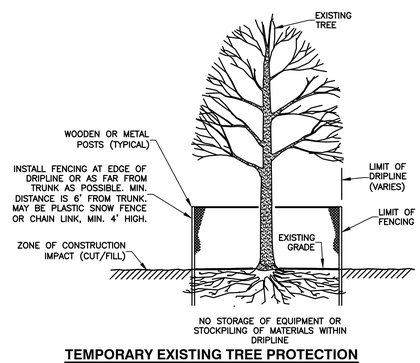
6'-HT. WHITE VINYL PRIVACY FENCE
(NOT TO SCALE)
NOTE: FINAL DESIGN BY MANUFACTURER



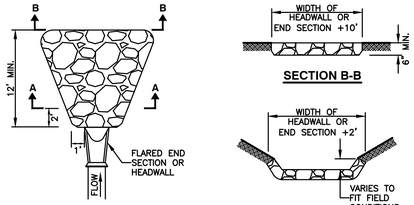
SILT SACK DETAIL
(NOT TO SCALE)



SECTION



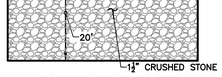
TEMPORARY EXISTING TREE PROTECTION
(NOT TO SCALE)



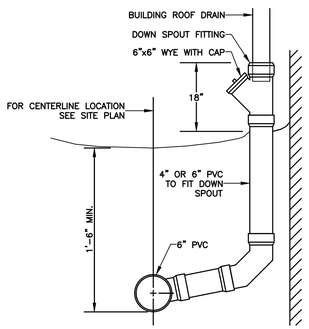
PLAN

SECTION A-A

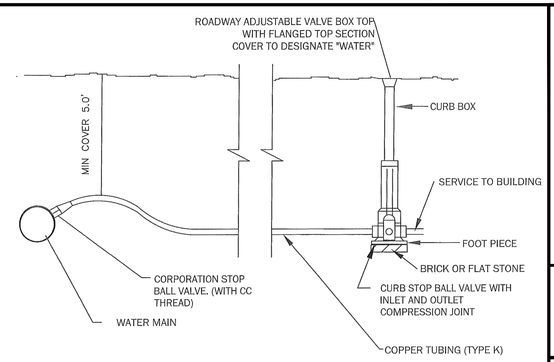
FLARED END SECTION AND RIP-RAP
(NOT TO SCALE)



CONSTRUCTION ACCESS CRUSHED STONE APRON
(NOT TO SCALE)



ROOF DRAIN CONNECTION DETAIL WITH CLEANOUT
(NOT TO SCALE)



NOTE:

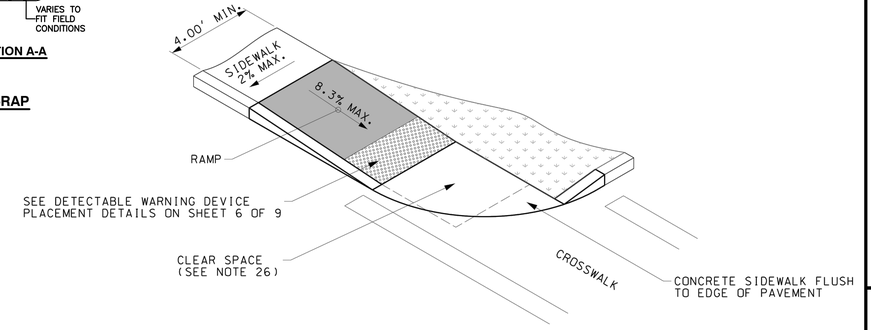
1.ALL WATER LINES 4" OR GREATER SHALL BE DUCTILE IRON WITH AN 8 MIL POLYETHYLENE WRAP. CONTRACTOR MAY FORGO WRAPPING PIPE IF THE DUCTILE IRON PIPE IS ZINC-COATED, TEES AND OTHER CONNECTIONS WILL STILL NEED TO BE WRAPPED.

2. WATER SERVICE LINES SHALL BE COPPER TUBING (TYPE K) BETWEEN MAIN AND CURB STOP.

3. SERVICE BETWEEN CURB STOP AND BUILDING MAY BE SDR 9 CTS (BLUE) PLASTIC POLYETHYLENE RATED FOR 250 psi.

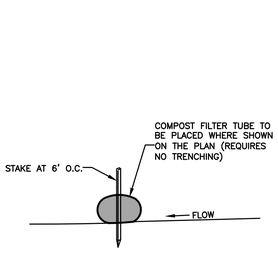
CITY OF DOVER - WATER SERVICE CONNECTION

NOT TO SCALE

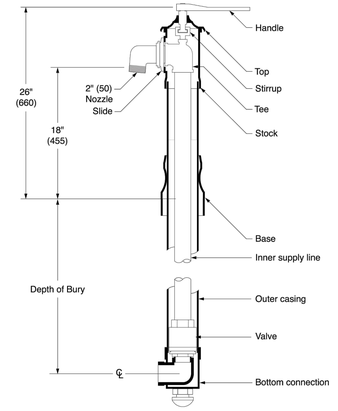


TYPE 1

NHDOT CURB RAMP CONFIGURATION
(NOT TO SCALE)
NOTE: FOLLOW NHDOT SIDEWALK CURB RAMP DETAILS FOR DESIGN



COMPOST FILTER TUBE
(NOT TO SCALE)



POST HYDRANT
(NOT TO SCALE)
NOTE: MANUFACTURED BY JAY R. SMITH MFG. CO. OR EQUIVALENT TO MEET CITY OF DOVER STANDARD

PERMIT SITE PLAN

'Stonington Drive'
71 & 73 Rutland Street
Dover, New Hampshire 03820

ASSESSORS:
PARCEL ID:
#14017 (LOT B)
#14017-A (LOT A)

PREPARED FOR:

Diamond Capital, LLC

170 Commerce Way, Suite 200
Portsmouth, New Hampshire 03801

HANCOCK ASSOCIATES

Civil Engineers
Land Surveyors
Wetland Scientists

10 FERRY STREET, SUITE 406, CONCORD, NH 03301
VOICE (603) 223-1950, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

STATE OF NEW HAMPSHIRE
JOSEPH D. PIECZKOLA
No. 10270
LICENSED PROFESSIONAL ENGINEER

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	EJR	JDP	03/25/22	2nd TRC COMMENTS
1	EJR	JDP	01/07/22	TRC COMMENTS

DATE:	09/10/21	DESIGN BY:	EJR
SCALE:	AS INDICATED	DRAWN BY:	EJR
APPRVD. BY:	JDP	CHECK BY:	AD

DETAILS - 3

PLOT DATE: Mar 25, 2022 10:23 am
PATH: D:\Civil 3D Projects\23800 - Diamond Cap - Dover, NH\Dwg\24972\23800 - Diamond Cap\23800 - Diamond Cap

DWG: *23800sp5.dwg*
LAYOUT: *Details – 3*
SHEET: 9 OF 11

C-8

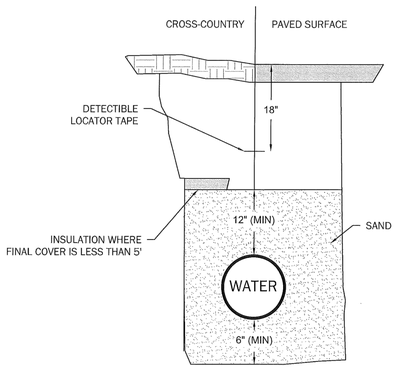
PLANNING FILE No. : P21–64

NOTES:

1. SIGN SHALL HAVE BLACK LETTERS ON A WHITE BACKGROUND

CITY OF DOVER - CONSTRUCTION SIGN

NOT TO SCALE

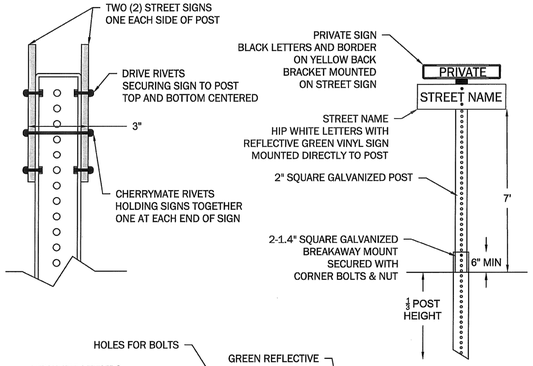


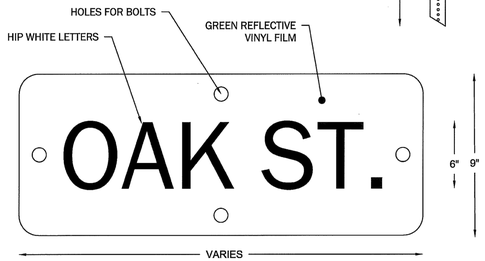
NOTE:

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

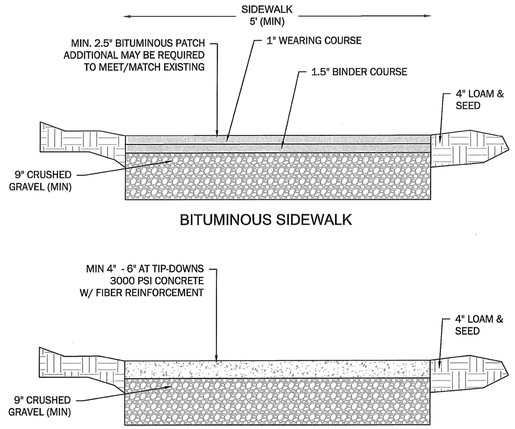
NOT TO SCALE





CITY OF DOVER - STREET SIGN

NOT TO SCALE

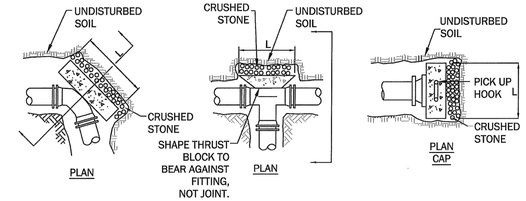


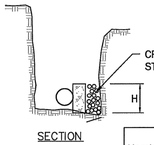
NOTES:

1. MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF DOVER STANDARDS SPECIFICATIONS.
2. SIDEWALK AND DRIVEWAY WIDTHS SHALL BE EQUAL TO EXISTING WIDTHS OR AS APPROVED AND SHALL SLOPE TO MATCH EXISTING ELEVATIONS.
3. BASE FOR THE SIDEWALKS AND DRIVEWAYS SHALL BE 9-INCHES OF CRUSHED GRAVEL.
4. DETECTABLE WARNING STRIPS SHALL BE CAST IRON.

CITY OF DOVER - STANDARD SIDEWALK DETAILS

NOT TO SCALE





THRUST BLOCK SCHEDULE

MINIMUM BEARING AREA (SQUARE FEET)

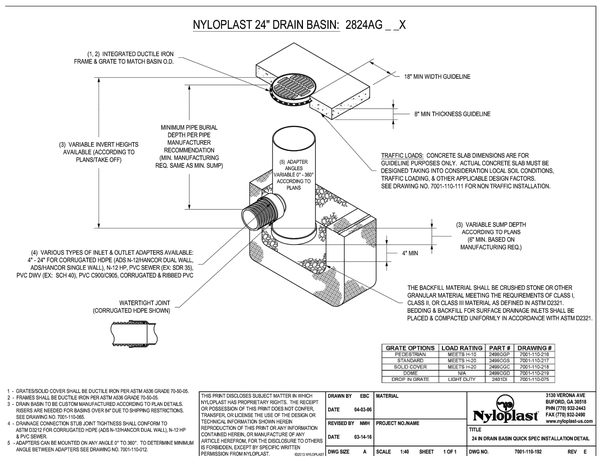
Nominal Dia. (in)	PIPE SIZE 4	6	8	10	12	16
Tees, Caps, Plugs, & Tapping Sleeves	1.05	2.32	4.15	6.37	9.15	16.23
90 Degree Bends	1.48	3.29	5.86	9.01	12.93	22.96
45 Degree Bends	0.80	1.78	3.17	4.88	7.00	12.42
22-1/2 Degree Bends	0.41	0.91	1.62	2.49	3.57	6.33
11-1/4 Degree Bends	0.21	0.46	0.81	1.25	1.79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

CITY OF DOVER - PRECAST CONCRETE THRUST BLOCK & ANCHOR

NOT TO SCALE



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	2480GSP	7001-110-216
STANDARD	MEETS H-20	2480GSS	7001-110-217
SOLID COVER	MEETS H-20	2480GSC	7001-110-218
SOLID COVER	N/A	2480GSD	7001-110-219
GROP IN GRATE	LIGHT DUTY	2424SS	7001-110-075

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN OR THE REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

DRAWN BY: EBC | DATE: 04-03-06 | MATERIAL
REVISED BY: MMH | DATE: 03-14-16 | PROJECT NO./NAME
DWG SIZE: A | SCALE: 1:48 | SHEET: 1 OF 1

Nyloplast
2120 VERONA AVE
BUFORD, GA 30518
PH (770) 932-2401
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: 24 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL
DWG NO. 7001-110-102 REV E

NYLOPLAST 24" DRAIN BASIN - FOR RAIN GARDEN

(NOT TO SCALE)

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

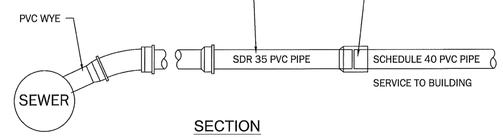
NOT TO SCALE

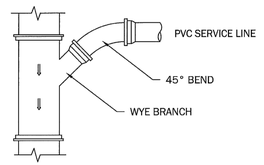
NOTES:

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

NOT TO SCALE





CITY OF DOVER - SEWER SERVICE

NOT TO SCALE

PERMIT SITE PLAN

'Stonington Drive'
71 & 73 Rutland Street
Dover, New Hampshire 03820

ASSESSORS:

PARCEL ID:
#14017 (LOT B)
#14017-A (LOT A)

PREPARED FOR:

Diamond Capital, LLC

170 Commerce Way, Suite 200
Portsmouth, New Hampshire 03801

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

10 FERRY STREET, SUITE 406, CONCORD, NH 03301
VOICE (603) 223-1950, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

STATE OF NEW HAMPSHIRE — JOSEPH D. PIZZICOLA No. 10370 LICENSED PROFESSIONAL ENGINEER

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	EJR	JDP	03/25/22	2nd TRC COMMENTS
1	EJR	JDP	01/07/22	TRC COMMENTS

DATE:	09/10/21	DESIGN BY:	EJR
SCALE:	AS INDICATED	DRAWN BY:	EJR
APPRVD. BY:	JDP	CHECK BY:	AD

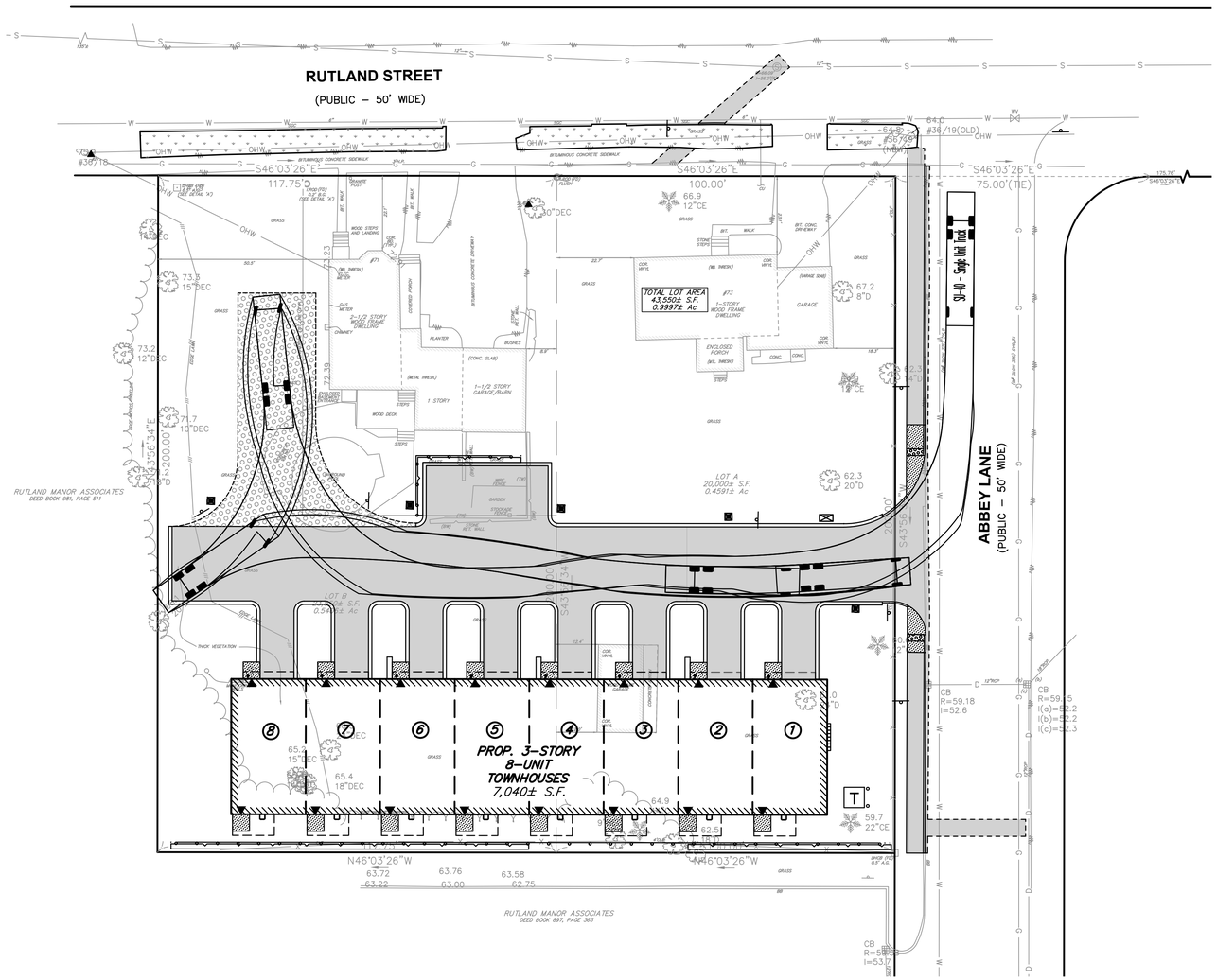
DETAILS - 4

PLOT DATE: Mar 25, 2022 10:24 am
PATH: D:\Jobs 3D Projects\23800 - Diamond Cap - Dover, NH\Civil\23800 - Diamond Cap\23800 - Diamond Cap.

DWG: 23800sp5.dwg
LAYOUT: Details – 4
SHEET: 10 OF 11

C-9

PLANNING FILE No. : P21–64



DESIGN VEHICLE: SU-40

SINGLE UNIT TRUCK (PER AASHTO DESIGN MANUAL)

LEGEND

- PROP. CONTOUR
- SPOT GRADE
- PROP. FENCE
- PROP. BITUMINOUS PAVEMENT
- PROP. CONCRETE CEMENT
- PROP. RETAINING WALL
- PROP. CURBING
- SD — PROP. DRAIN
- RD — PROP. ROOF DRAIN
- W — W — PROP. WATER LINE
- G — G — PROP. GAS LINE
- SS — SS — PROP. SEWER
- ETC — PROP. ELECTRIC, CABLE, & TELE.
- T — PROP. TELEVISION
- PROP. EROSION CONTROL
- PROP. CATCH BASIN
- PROP. OUTLET CONTROL STRUCTURE
- PROP. SEWER MANHOLE
- FES — PROP. FLARED END SECTION W/RIP RAP
- TC/BC — TOP OF CURB/BOTTOM OF CURB
- TW/BW — TOP OF WALL/BOTTOM OF WALL
- CO — PROP. CLEANOUT
- HDPE — HIGH–DENSITY POLYETHYLENE
- PVC — POLYVINYL CHLORIDE
- BB — PROP. BITUMINOUS BERM
- VGC — VERTICAL GRANITE CURB
- PROP. FLOW ARROW
- PROP. HYDRANT
- TEST PIT
- ECHO CLS32–36W–4K–III & –IV LIGHT POLE

GRAPHIC SCALE" 1 INCH = 20 FEET

0 10 20 40 80

PLAN REFERENCE:

1. EXISTING CONDITIONS TAKEN FROM A PLAN TITLED "EXISTING CONDITIONS PLAN OF LAND IN DOVER, NH", DATED MARCH 12, 2020 AND LAST REVISED ON MARCH 24, 2020. PLAN WAS PREPARED BY HANCOCK ASSOCIATES.
2. PROPOSED BUILDING FOOTPRINT DESIGNED BASED ON THE PLAN TITLED "FIRST FLOOR CONCEPT", DATED 03/16/21, PREPARED BY KOAL ARCHITECTURE, PLLC.

PERMIT SITE PLAN

'Stonington Drive'
71 & 73 Rutland Street
Dover, New Hampshire 03820

ASSESSORS:

PARCEL ID:
#14017 (LOT B)
#14017-A (LOT A)

PREPARED FOR:

Diamond Capital, LLC

170 Commerce Way, Suite 200
Portsmouth, New Hampshire 03801

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

10 FERRY STREET, SUITE 406, CONCORD, NH 03301
VOICE (603) 223-1950, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

STATE OF NEW HAMPSHIRE
JOSEPH D. PIEZZOLA
No. 10276
LICENSED
PROFESSIONAL ENGINEER

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	EJR	JDP	03/25/22	2nd TRC COMMENTS
1	EJR	JDP	01/07/22	TRC COMMENTS

DATE:	09/10/21	DESIGN BY:	EJR
SCALE:	1" = 20'	DRAWN BY:	EJR
APPRVD. BY:	JDP	CHECK BY:	AD

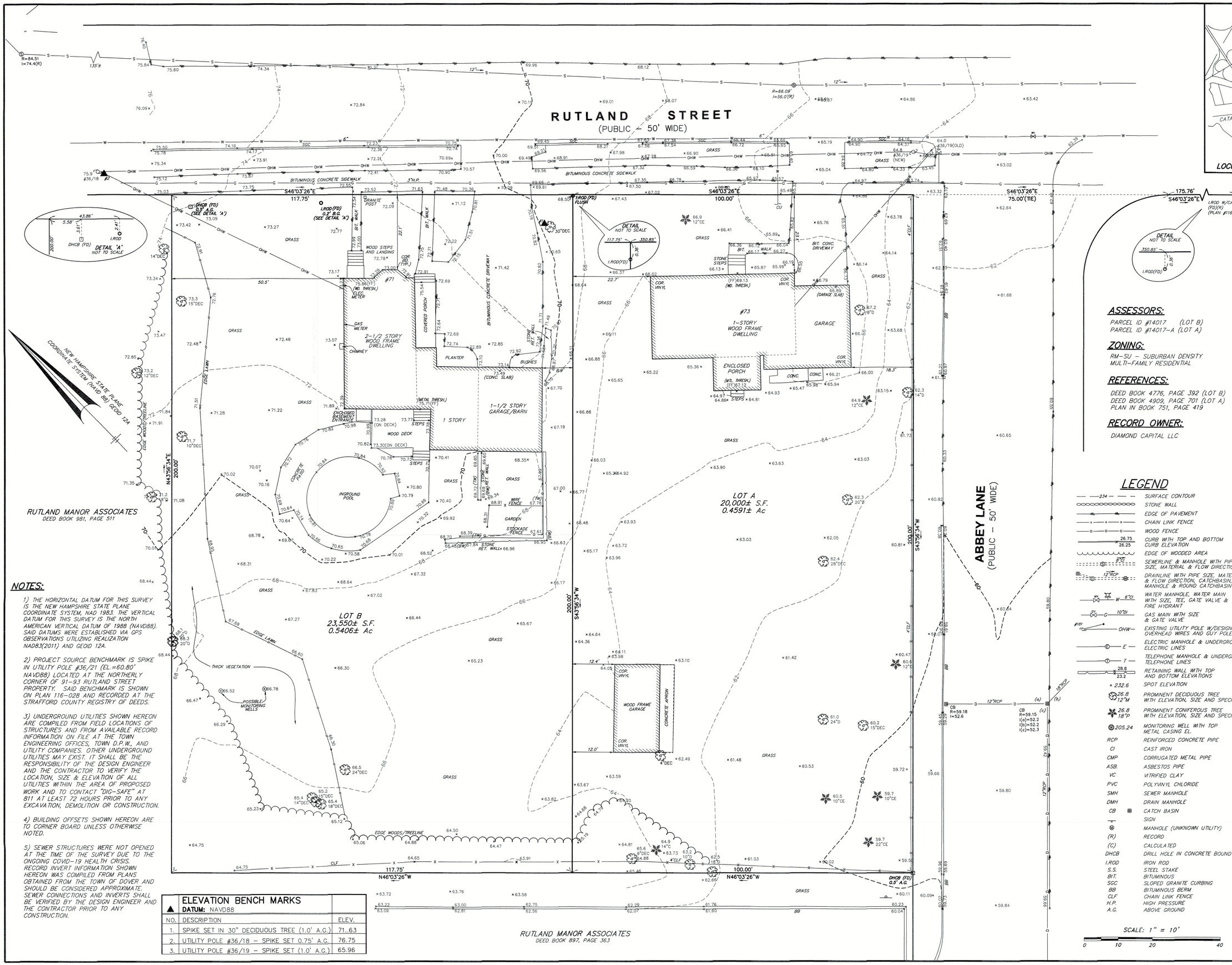
EMERGENCY VEHICLE SWEPT PATH ANALYSIS

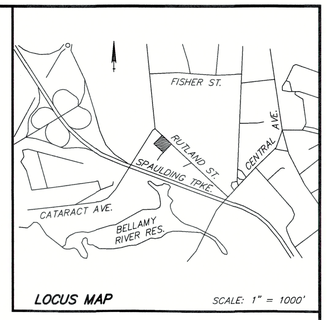
PLOT DATE: Mar 25, 2022 10:24 am
PATH: G:\Job 30 Projects\23800 - Diamond Cap - Dover, NH\Dwg\2WO\23800 - Diamond Cap\23800 - Diamond Cap

DWG: *23800sp5.dwg*
LAYOUT: *TM*
SHEET: 11 OF 11

C-10

PLANNING FILE No. : **P21–64**





LOCUS MAP SCALE: 1" = 1000'

NOTES:

1) THE HORIZONTAL DATUM FOR THIS SURVEY IS THE NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM, NAD 1983. THE VERTICAL DATUM FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). SAID DATUMS WERE ESTABLISHED VIA GPS OBSERVATIONS UTILIZING REALIZATION NAD83(2011) AND GEOID 12A.

2) PROJECT SOURCE BENCHMARK IS SPIKE IN UTILITY POLE #36/21 (EL.=60.80' NAVD88) LOCATED AT THE NORTHERLY CORNER OF 91–93 RUTLAND STREET PROPERTY. SAID BENCHMARK IS SHOWN ON PLAN 116–028 AND RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS.

3) UNDERGROUND UTILITIES SHOWN HEREON ARE COMPILED FROM FIELD LOCATIONS OF STRUCTURES AND FROM AVAILABLE RECORD INFORMATION ON FILE AT THE TOWN ENGINEERING OFFICES, TOWN D.P.W., AND UTILITY COMPANIES. OTHER UNDERGROUND UTILITIES MAY EXIST. IT SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER AND THE CONTACTOR TO VERIFY THE LOCATION, SIZE & ELEVATION OF ALL UTILITIES WITHIN THE AREA OF PROPOSED WORK AND TO CONTACT "DIG–SAFE" AT 811 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION OR CONSTRUCTION.

4) BUILDING OFFSETS SHOWN HEREON ARE TO CORNER BOARD UNLESS OTHERWISE NOTED.

5) SEWER STRUCTURES WERE NOT OPENED AT THE TIME OF THE SURVEY DUE TO THE ONGOING COVID–19 HEALTH CRISIS. RECORD INVERT INFORMATION SHOWN HEREON WAS COMPILED FROM PLANS OBTAINED FROM THE TOWN OF DOVER AND SHOULD BE CONSIDERED APPROXIMATE. SEWER CONNECTIONS AND INVERTS SHALL BE VERIFIED BY THE DESIGN ENGINEER AND THE CONTRACTOR PRIOR TO ANY CONSTRUCTION.

ELEVATION BENCH MARKS
▲ **DATUM:** NAVD88

NO.	DESCRIPTION	ELEV.
1.	SPIKE SET IN 30" DECIDUOUS TREE (1.0' A.G.)	71..63
2.	UTILITY POLE #36/18 – SPIKE SET 0.75' A.G.	76.75
3.	UTILITY POLE #36/19 – SPIKE SET (1.0' A.G.)	65.96

ASSESSORS:
PARCEL ID #14017 (LOT B)
PARCEL ID #14017–A (LOT A)

ZONING:
RM–SU – SUBURBAN DENSITY MULTI–FAMILY RESIDENTIAL

REFERENCES:
DEED BOOK 4776, PAGE 392 (LOT B)
DEED BOOK 4909, PAGE 701 (LOT A)
PLAN IN BOOK 751, PAGE 419

RECORD OWNER:
DIAMOND CAPITAL LLC

LEGEND

234	SURFACE CONTOUR
	STONE WALL
	EDGE OF PAVEMENT
	CHAIN LINK FENCE
	WOOD FENCE
26.75 / 26.25	CURB WITH TOP AND BOTTOM CURB ELEVATION
	EDGE OF WOODED AREA
8"CI	SEWERLINE & MANHOLE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION
12"RCP	DRAINLINE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION, CATCHBASIN, MANHOLE & ROUND CATCHBASIN
W 6"DI	WATER MANHOLE, WATER MAIN WITH SIZE, TEE, GATE VALVE & FIRE HYDRANT
G 10"DI	GAS MAIN WITH SIZE & GATE VALVE
#181 OHW	EXISTING UTILITY POLE W/DESIGNATION OVERHEAD WIRES AND GUY POLE
E	ELECTRIC MANHOLE & UNDERGROUND ELECTRIC LINES
T	TELEPHONE MANHOLE & UNDERGROUND TELEPHONE LINES
28.8 / 23.2	RETAINING WALL WITH TOP AND BOTTOM ELEVATIONS
× 232.6	SPOT ELEVATION
26.8 12"M	PROMINENT DECIDUOUS TREE WITH ELEVATION, SIZE AND SPECIES
26.8 18"P	PROMINENT CONIFEROUS TREE WITH ELEVATION, SIZE AND SPECIES
MW 205.24	MONITORING WELL WITH TOP METAL CASING EL.
RCP	REINFORCED CONCRETE PIPE
CI	CAST IRON
CMP	CORRUGATED METAL PIPE
ASB.	ASBESTOS PIPE
VC	VITRIFIED CLAY
PVC	POLYVINYL CHLORIDE
SMH	SEWER MANHOLE
DMH	DRAIN MANHOLE
CB	CATCH BASIN
	SIGN
W	MANHOLE (UNKNOWN UTILITY)
(R)	RECORD
(C)	CALCULATED
DHCB	DRILL HOLE IN CONCRETE BOUND
I.ROD	IRON ROD
S.S.	STEEL STAKE
BIT.	BITUMINOUS
SGC	SLOPED GRANITE CURBING
BB	BITUMINOUS BERM
CLF	CHAIN LINK FENCE
H.P.	HIGH PRESSURE
A.G.	ABOVE GROUND

SCALE: 1" = 10'
0 10 20 40

#71 & 73 Rutland Street

Dover, New Hampshire

PREPARED FOR:

Diamond Capital LLC
170 Commerce Way, Suite 200
Portsmouth, New Hampshire 03801

HANCOCK ASSOCIATES
Civil Engineers
Land Surveyors
Wetland Scientists
185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777–3050, FAX (978) 774–7816
WWW.HANCOCKASSOCIATES.COM

STATE OF NEW HAMPSHIRE No. 861 WAYNE C. JALBERT LICENSED LAND SURVEYOR
07/01/21

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
1	JML	WCJ	08/24/21	ADDED DRAINAGE/TREE LOC.

DATE: 6/10/21 DRAWN BY: JAE/JML
SCALE: 1"=10' CHECK BY: WCJ

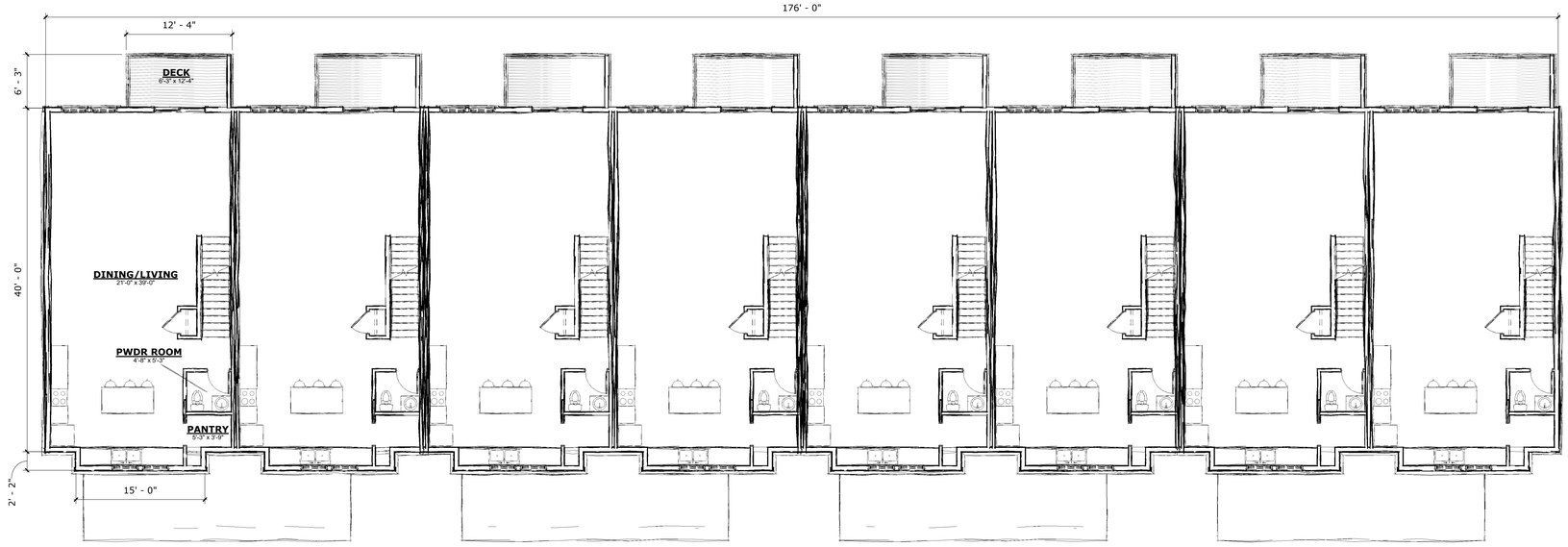
EXISTING CONDITIONS PLAN OF LAND IN DOVER, NH

PLOT DATE: Sep 08, 2021 9:31 am
PATH: G:\Civil 3D Projects\23800 – Diamond Cap – Dover, NH\DWG\

DWG: 23800ec2.dwg
LAYOUT: EC
SHEET: 1 OF 1

PROJECT NO.: 23800

PLANNING FILE No. : P21–64



LEVEL 2
1/8" = 1'-0"

LEVEL 1
1/8" = 1'-0"

0' 4' 8' 16'

PLANNING FILE NO.: P21-64

PROGRESS PRINT
NOT FOR
CONSTRUCTION

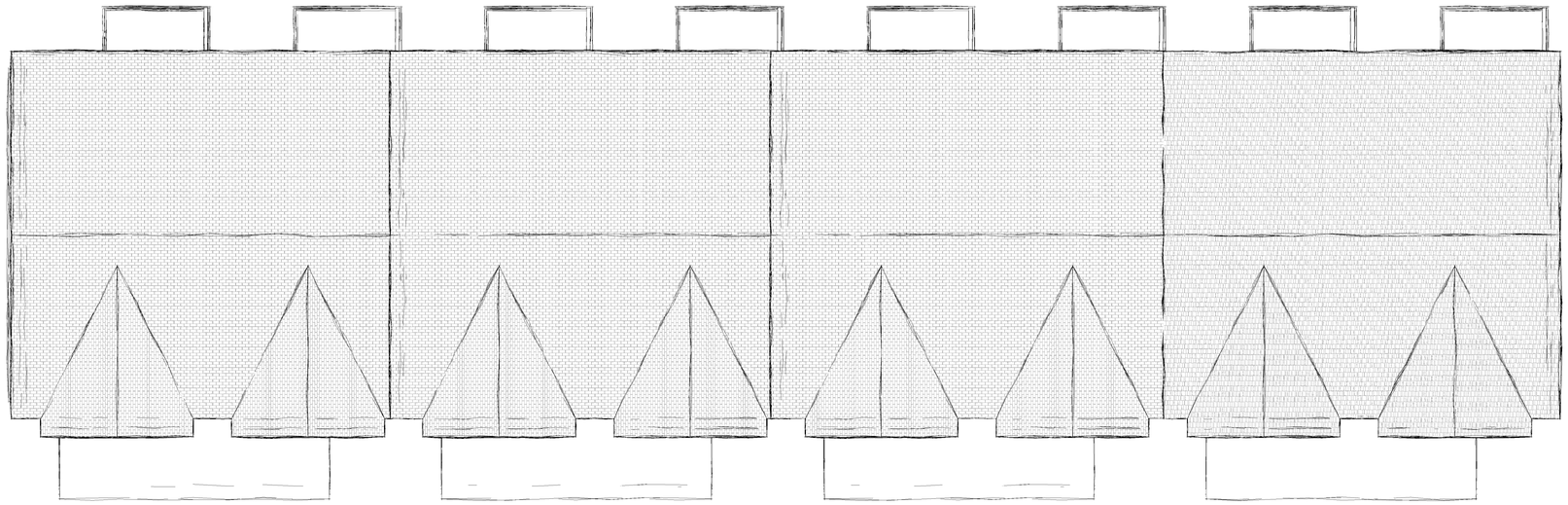
71 & 73 Rutland Street

Dover, New Hampshire 03820

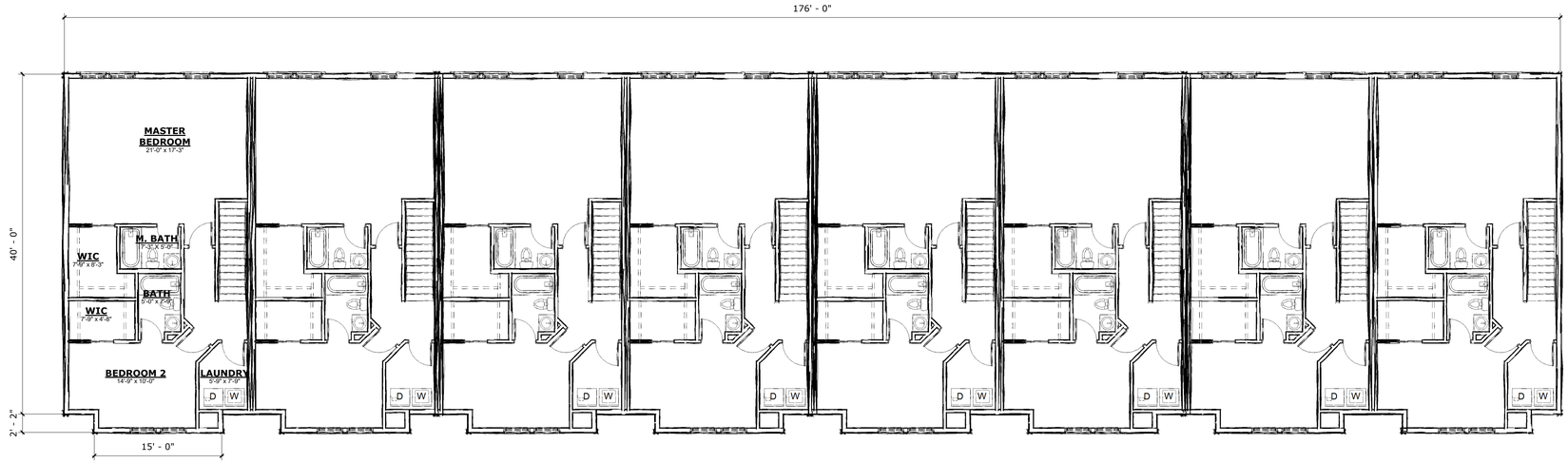
3/01/2022

LICENSED ARCHITECT
DONALD W. BLAJDA
No. 2760
THE STATE OF NEW HAMPSHIRE

KOAL PLLC ARCHITECTURE
42 GILFORD E. DR., STE. 4, GILFORD, NH 03249



ROOF PLAN
1/8" = 1'-0"



LEVEL 3
1/8" = 1'-0"

0' 4' 8' 16'

PLANNING FILE NO.: P21-64

PROGRESS PRINT
NOT FOR
CONSTRUCTION

71 & 73 Rutland Street

Dover, New Hampshire 03820

3/01/2022

LICENSED ARCHITECT
DONALD W. BLAJDA
No. 2760
THE STATE OF NEW HAMPSHIRE

KOAL PLLC ARCHITECTURE
42 GILFORD E. DR., STE. 4, GILFORD, NH 03249

1 FRONT STREET VIEW

NOTE: PRIVACY FENCE TO BE INSTALLED ALONG NORTHWEST PROPERTY LINE AS INDICATED ON CIVIL DRAWINGS.

PLANNING FILE NO.: P21-64

PROGRESS PRINT
NOT FOR
CONSTRUCTION

71 & 73 Rutland Street

Dover, New Hampshire 03820

3/01/2022

LICENSED ARCHITECT
DONALD W. BLAJDA
No. 2760
THE STATE OF NEW HAMPSHIRE

KOAL PLLC ARCHITECTURE
42 GILFORD E. DR., STE. 4, GILFORD, NH 03249

1 FRONT DRIVEWAY VIEW

2 FRONT YARD VIEW

3 FRONT CLOSE-UP VIEW

PLANNING FILE NO.: P21-64

PROGRESS PRINT
NOT FOR
CONSTRUCTION

71 & 73 Rutland Street

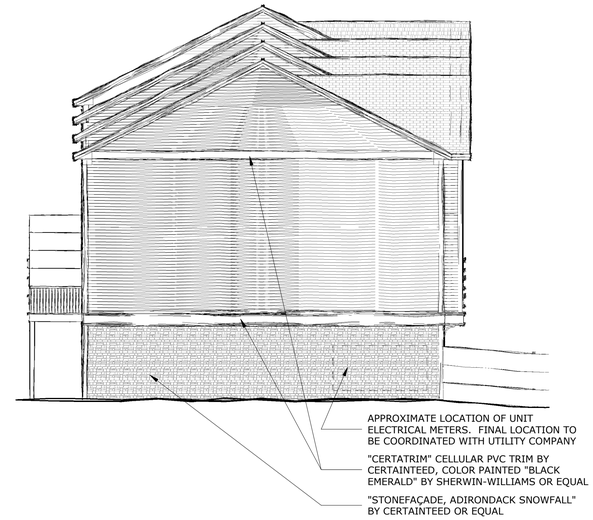
Dover, New Hampshire 03820

3/01/2022

LICENSED ARCHITECT
DONALD W. BLAJDA
No. 2760
THE STATE OF NEW HAMPSHIRE

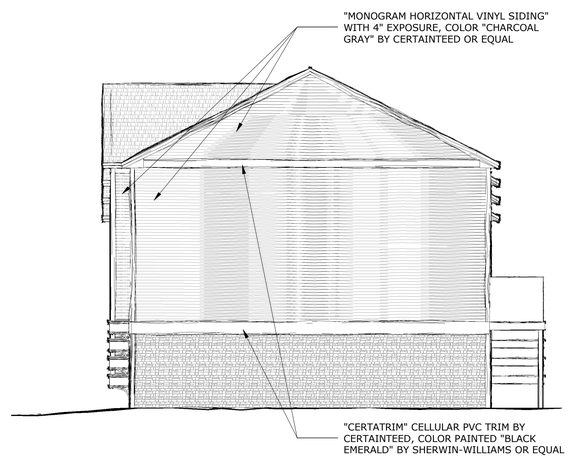
KOAL PLLC ARCHITECTURE
42 GILFORD E. DR., STE. 4, GILFORD, NH 03249

SOUTH ELEVATION
1/8" = 1'-0"



EAST ELEVATION
1/8" = 1'-0"

NORTH ELEVATION
1/8" = 1'-0"



WEST ELEVATION
1/8" = 1'-0"

0' 4' 8' 16'

PLANNING FILE NO.: P21-64

PROGRESS PRINT
NOT FOR
CONSTRUCTION

71 & 73 Rutland Street

Dover, New Hampshire 03820

3/01/2022

LICENSED ARCHITECT
DONALD W. BLAJDA No. 2760
THE STATE OF NEW HAMPSHIRE

KOAL PLLC ARCHITECTURE
42 GILFORD E. DR., STE. 4, GILFORD, NH 03249

City of Dover, New Hampshire
SITE REVIEW APPLICATION

[Revision Date: July 1, 2021]

Office Use Only	Project #: P22-25	Date Received: RECEIVED Planning Office
	Amount Paid:	Time Received: APR 01 2022

Dover, New Hampshire

APPLICANT AND OWNER INFORMATION

Name of Applicant: City of Dover Recreation Telephone # 516-6410

Address of Applicant: 61 Locust St. Dover, NH 03820

E-Mail Address: g.bannon@dover.nh.gov

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

Address of Property Owner: _____

PROPERTY INFORMATION

Address of Property: 150 Portland Ave

Assessor's Map # 26 Lot(s) # 2

Zoning District(s) RM-U Overlay District(s) _____

Size of Parcel: _____ sq. ft. 39 ac. Property Deed: Book _____ Page: _____

Existing Use of Property: Public Recreation Parcel ID # 26002-000000

SITE PLAN INFORMATION

Describe Proposed Use: Adding a Skatepark to the Parcel

Area of Parcel to be Developed: 12,000 sq. ft.

If Multi-family Residential: Number of Units _____ & Buildings Proposed _____

If lodging: Number of Units _____ & number of Buildings _____

Number of Parking Spaces: Existing 87 Proposed _____

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

Number of Employees Total: _____ In Maximum Shift: _____

Disposition of Parcel:

Building Footprint _____ sq. ft.

Total Building Area _____ sq. ft.

Paved Area _____ sq. ft.

Building Setbacks:

Front Yard _____ ft.

Rear Yard _____ ft.

Side Yard: Right____ ft. Left_____ ft.

City Water? ✓ Yes ___ No How far is city water from the property? _____

City Sewer? ✓ Yes ___ No How far is city sewer from the property? _____

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

Type of TRANSFER OF DEVELOPMENT RIGHT REQUEST (Check All That Apply):

□ Residential □ Residential (reduced size) □ Industrial | □ Purchase □ Land Preservation

Relief sought (Check All That Apply):

□ Lot Size □ Frontage □ Setback □ 30' Buffer □ Increase by _____ units

Describe Proposed Use or Activity that requires TDR; describe any impacts and document mitigation:

_____

_____

_____

BUILDING INFORMATION

Type of Building to be Built: N A

Height of Building: _____ Finished Floor Elevation: _____

Number of Seats (where applicable) _____

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

WAIVER REQUESTS

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

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

_____

_____

_____

_____

_____

_____

_____

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Tri tech Engineering

Address 755 Central Ave Dover, NH 03820 Telephone #: 603-742-8107

Professional License #: _____ E-mail address: rjs@tritecheng.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Tritech Engineering, Robert Stowell

Address 755 Central Ave Dover, NH 03820 Telephone #: 603-742-8107

Professional License #: _____ E-mail address: rjse tritecheng.com

ARCHITECT INFORMATION + Skatepark Engineer

Name of Architect and Company (Licensed in N.H.) Pillar Design Studios/Artism Skateparks

Address 4600 Tamarack Dr. Kitty Hawk NC 27949 Telephone #: 480-285-6787 AZ 252-202-1333 NC

Professional License #: _____ E-mail address: bradepillardesignstudios.com

Brad Siedlecki

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) _____

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) John Turner Consulting

Address 19 Dover St. Dover, NH, 03820 Telephone #: 603-749-1841

Professional License #: _____ E-mail address: slanne@consultjtc.com

Stephen Lanne

CONSERVATION EASEMENT HOLDER

Name of Easement Holder: _____ 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: _____

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: _____

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: _____

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: _____

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

CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS

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

Owner: Parcel ID# 26003-000000

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
		City of Dover	288 Central Ave

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Gary Bannon	Dover Recreation Dept.	61 Locust St Dover, NH 03820

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Brad Siedlecki	Artisan/Pillar Design	4600 Tamarack Dr. Kitty Hawk NC 2794

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

PLANNING BOARD FEE SCHEDULE/INVOICE

(Revised July 1, 2021)

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+ $100.00 x # __ per dwelling unit =$_____
- ☐ SITE REVIEW – NON-RESIDENTIAL Application fee $200.00 + (not to exceed $10,000)
  - o New construction $.15 sq. ft. x # _____ sq. ft.= $_____
  - o 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)
  - o Existing floor spaces $.10 per sq. ft. x # _____ sq. ft. = $_____
- ☐ CONDITIONAL USE PERMIT Application fee $200.00 x # _____ per Application = $_____
- ☐ GRAVEL PIT/ EXCAVATIONS
  - o Application fee $50.00= $_____
  - o 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 = $_____

2. TOTAL IMPERVIOUS PAVED AREA (for new development, roadways or additions to existing parking lots, (not to exceed $10,000)) Application fee of $200.00 is N/A if it is part of a Site Review or Subdivision Plan. $200.00 + $.07 per sq. ft. x # _____ sq. ft. = $_____

SUBTOTAL PLAN REVIEW FEE (A) = $_____

AND

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 review the list for accuracy and provide to us 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
  - o 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= $_____

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

SUBTOTAL NOTICE FEE (B & C) = $_____

TOTAL INVOICE AMOUNT (A, B & C) = $_____

PLAN REVIEW FEE COLLECTED/PAID = $ _____

BALANCE DUE = $ _____

The balance due must be paid 28 hours prior to the Planning Board Meeting, to be heard.

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: City of Dover File Number: _____

PROJECT TITLE: Skatepark Construction

PROPERTY LOCATION: 150 Portland Ave Tax Map: ____ Lot: ____ ID# 36003 - 000000

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

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access	Diagrammatics	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	N/A	
Existing and proposed topographic information at two foot intervals	✓	
Existing and proposed buildings and structure locations	✓	
Minimum building setbacks or build to lines on all lots	N/A	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	N/A	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	N/A	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	N/A	
Existing and proposed stormwater lines and facilities	N/A	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	✓	
Location of Flood Hazard Zone	N/A	
Location of all bodies of water and watercourses	N/A	
Location of wetlands and buffers	N/A	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	N/A	
Existing natural features and/or significant vegetation on property	✓	
Depict existing contours up to 100 ft. beyond project limits	N/A	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	N/A	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	Not changing existing	
Location, material and size of existing and proposed pavement area	N/A	
Location of proposed fire lanes	✓	
Specify finished floor elevations of buildings	N/A	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	N/A	
Depict all service, storage, loading bays and utility areas	Will provide.	
All applicable Dover Common Site Plan notes		
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis		
Stormwater Management System Operation and Maintenance Plan		
Letter to Serve from Public and Private Utilities		
Erosion and Sedimentation Control Plan		
Landscape Operation and Maintenance Plan		
Proposed restrictive covenants or homeowners association documents		
Dates and permit numbers of all required state and federal permits		
If wetland buffer, indicate placards locations, as applicable		
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs		
Location of proposed drive-in facilities		
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required		

REVIEWED BY: _____ DATE_____ TRC DATE_____

CITY OF DOVER PLANNING DEPARTMENT
Revised August 10, 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. NVD 1988 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:

Dover Skatepark – Phase I

RECEIVED
Planning Office
APR 01 2022
Dover, New Hampshire

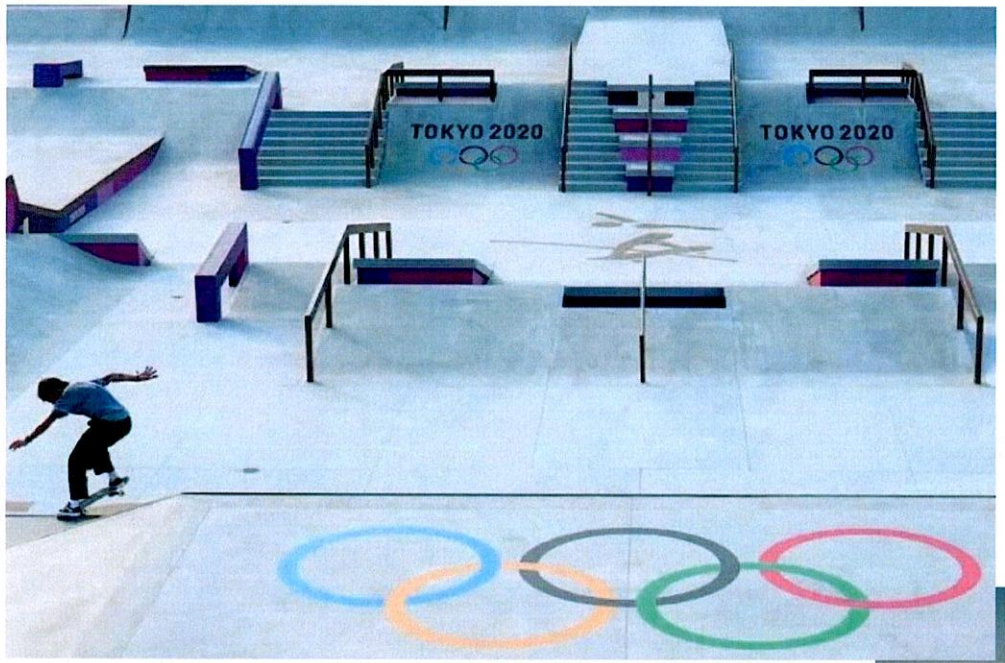
Phase I

Dover Skatepark

Phase I – 10,700 sq.ft.

- **Wide array of features to accommodate all skill levels**
- **State of the art layout and construction techniques (virtually maintenance-free)**
- **Layout maximized line-of-sight for increased safety**

Dover Skatepark

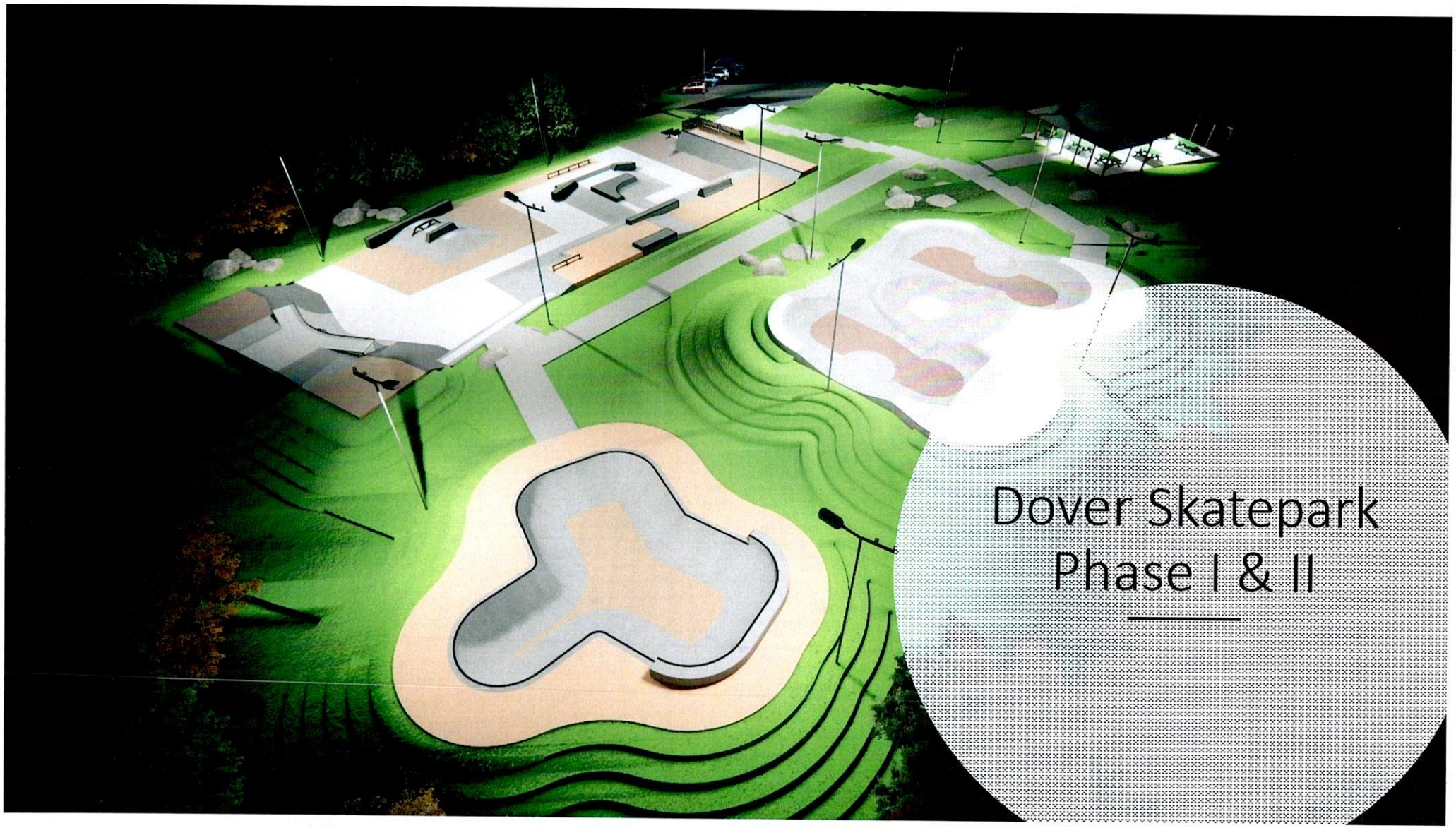


Phase I – 10,700 sq.ft.

- **Olympic-caliber skatepark design**
  - **Compliments Olympic aquatics (Jenny Thompson and Jessica Parratto)**
- **Opportunity to be first Olympic-caliber skatepark in greater Seacoast**

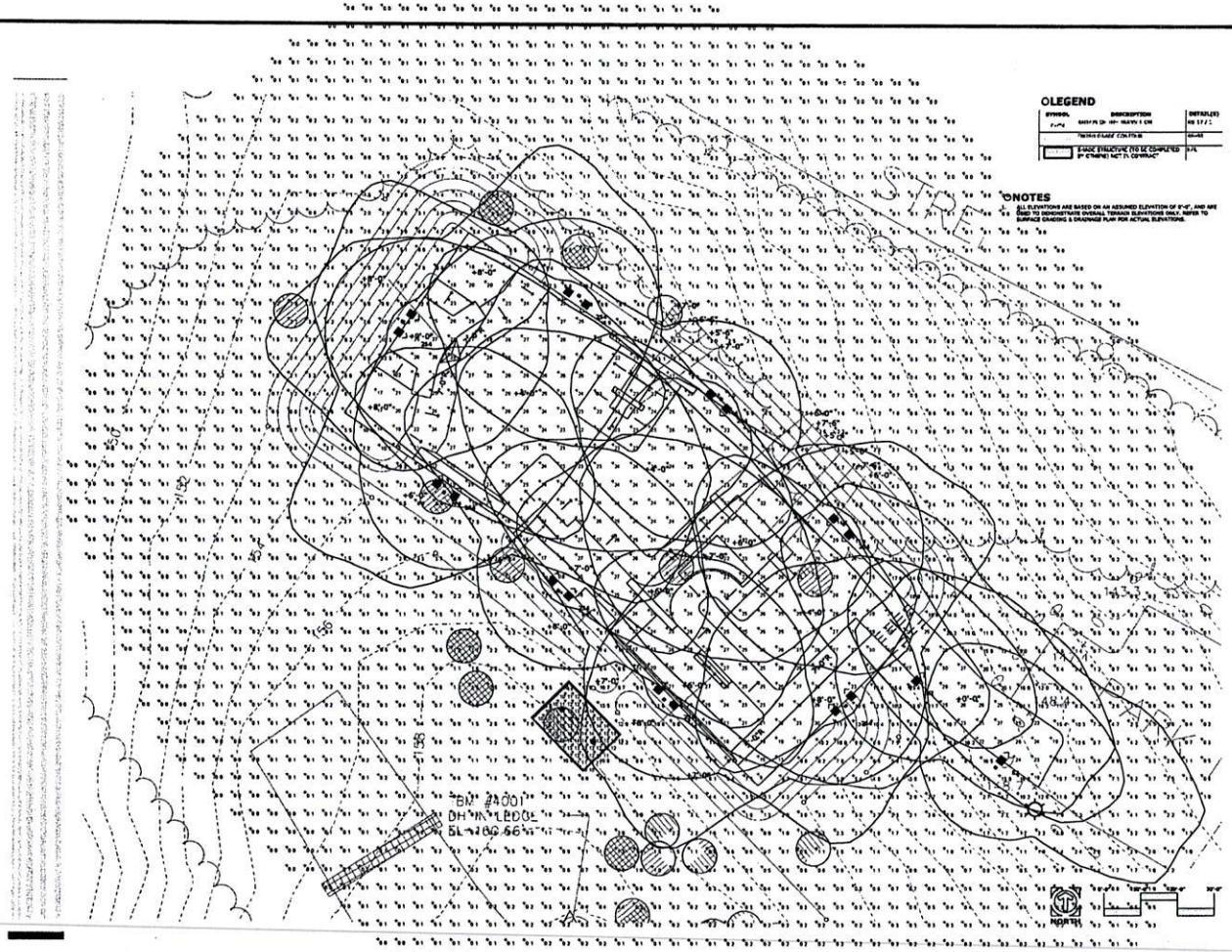
Dover Skatepark

Dover Skatepark


Dover Skatepark
Phase I & II

Phase II

- **Phase I & II– 17,000 sq.ft.**



Schedule

Symbol	Label	Image	QTY	Manufacturer	Catalog Number	Description	Lamp	Filename	Lumens per Lamp	LLF	Efficiency	Distribution	Polar Plot
	2S4		8	Lithonia Lighting	RSX2 LED P6 40K R4 MVOLT SPA HS DDBXD on SSS 20 4C	RSX Area Fixture Size 2 P6 Lumen Package 4000K CCT Type R4 Distribution with HS Shield; mounted at 23ft (20ft pole on 3ft base)	LED	RSX2_LED_P6_40K_R4__HS.ies	21351	21351.16	100%	TYPE IV, SHORT, BUG RATING: B2 - U0 - G4	
	S2		2	Lithonia Lighting	RSX2 LED P6 40K R2 MVOLT SPA HS DDBXD on SSS 20 4C	RSX Area Luminaire Size 2 P6 Lumen Package 4000K CCT Type R2 Distribution; mounted at 23ft (20ft pole on 3t base)	LED	RSX2_LED__P6_40K_R2.ies	30374	30374.22	100%	TYPE II, SHORT, BUG RATING: B3 - U0 - G2	
	C		2	Lithonia Lighting	VCPG LED P4 40K TSM MVOLT UPL2 SRM DDBXD	VCPG LED WITH P4 - PERFORMANCE PACKAGE, 4000K, TSM OPTIC TYPE, UP-LIGHT 2 PACKAGE; mounted at 11ft	LED	VCPG_LED_P4_40K_TSM_MVOLT_UPL2.ies	8673	8672.7	100%	TYPE VS, BUG RATING: B3 - U4 - G2	

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Outside of Skate Park	+	1.8 fc	23.7 fc	0.0 fc	N/A	N/A
Shelter	+	12 fc	15 fc	10 fc	1.5:1	1.2:1
Skate Park	+	24 fc	31 fc	9 fc	3.4:1	2.7:1

04 OF 18
AS-04
SKATE PARK
DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
MASTER PLAN

VISUAL

DOVER SKATE PARK
Site Lighting Layout

Designer
Heidi G. Connors
Visible Light, Inc.
24 Stickney Terrace
Suite 6
Hampton, NH 03842
Date
12/13/2021
Scale
1"=16'
Drawing No.
Summary

2 of 2

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APR 01 2022
Dover, New Hampshire

Catalog Number:	Date:	Project:

OVERVIEW

The nLight ECLYPSE™ system controller connects an nLight® lighting network to support connectivity and management over an IP network, control and device setting adjustment, integration with building management, integration with demand response, and more.

FEATURES

- Communicates over IP, allowing the system controller and connected lighting controls devices to be accessed and configured across a local area network
- Each system controller supports up to 750 nLight and nLight AIR devices. Additional controllers can connect and scale a system of lighting controls to a maximum of 20,000 devices
- BACnet Testing Laboratories (BTL) listed as a BACnet Building Controller (B-BC)
- Can be discovered and managed through free SensorView software and through an onboard web GUI
- Provides time-of-day and astronomical time clock capabilities for scheduled lighting control events
- Manages forwarding of global control channels and system profiles to affect devices on multiple controllers at the same time
- Enhanced security through toggleable HTTP or HTTPS connections, a FIPS 140-2, Level 1 compliant security interface, SSO or Radius Server capabilities, and more
- Optional demand response client allows activation of configurable load shed dimming levels by utility DRAS through OpenADR 2.0a

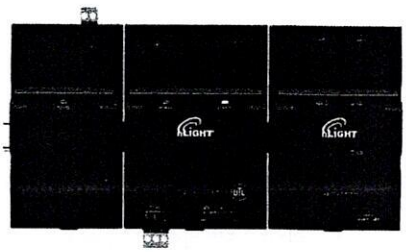
Warranty
Five-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

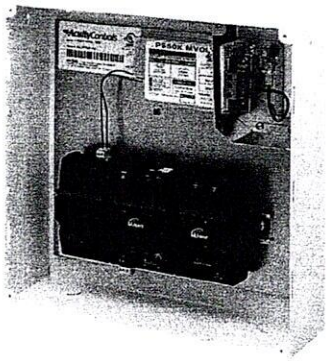
Note: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

BACnet is a registered trademark of ASHRAE.
ASHRAE does not endorse, approve or test products for compliance with ASHRAE standards. Compliance of listed products to the requirements of ASHRAE Standard 135 is the responsibility of BACnet International (BI). BTL is a registered trademark of BI.

Patents:
- US9819544B2
- US1007342382
- EP3250970B1
- US9608538B2
- EP3139697B1
- CA2971061A1
- US9924243B2

nLight ECLYPSE™
System Controller





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ORDERING INFORMATION

NECY				Example: NECY MVOLT BAC ENC
Series	**Voltage**	**BACnet**	**AutoDR**	**Visualization Software**
nECY nLight ECLYPSE	MVOLT 120-277VAC 347 120-277VAC, 347VAC	[blank] Not Enabled BAC BACnet/IP & MS/TP Enabled	[blank] Not Enabled ADR Open ADR VEN	[blank] Not Enabled SVS[1] Envysion

Cellular Modem	**Enclosure**	**Wi-Fi Adapter**	**Options**
[blank] No Cellular Modem REM[6] Prewired CLAIRITY™ Link router with cellular SIM REMR[2,6] Prewired CLAIRITY™ Link router with cellular SIM and cloud-toggleable relay	ENC NEMA Type 1 metal enclosure	[blank] Includes Wi-Fi Adapter NW No Wi-FI Adapter Included	[blank] None SEP Single Ethernet Port GFXK[3] Touchscreen interface (model nGWY2 GFX, mounted separately), PS 150 power supply, CAT5 cable AIR[4] Includes NECYD NLTAIR G2

ACCESSORIES	
nECY ENC	NEMA 1 Enclosure and pre-mounted 120-277VAC input, 24VDC output (Max 50W) power supply
nECYD NLTAIR G2	nLight AIR wireless adapter
nECYREPL INTF	nLight Interface module (introduces 750 device limit if added to an ECLYPSE with AIR option)
nECYUPG SVEA[5]	nLight ECLYPSE License, adds support of up to 5 MODBUS devices

Notes

1. Requires BACnet option.
2. Cloud-toggleable relay is prewired and intended to powercycle the nLight ECLYPSE remotely.
3. If 347 voltage option is selected, includes PS150 347.
4. AIR option supports 150 devices. RJ45 ports for connecting nLight wired devices are not available with the AIR option. GFXK option is not available with AIR option.
5. SVEA license requires SVS and BAC licenses as prerequisites. See nLight ECLYPSE Replacement Parts Guide for more information.
6. 347 option is required for cellular connectivity in Canada. MVOLT versions will support connectivity in the United States and Mexico only. Active connectivity plan required for cellular connectivity. All routers ship with 12-months Ethernet connectivity enabled. See CLAIRITY Link router specification sheet for more information.
7. Cellular connectivity performance may be affected by carrier coverage and antenna placement. Coverage by supported carriers should be verified prior to purchase.
8. See the Specifications section for a list of all supported carriers per country.
9. Use of default SIM included with hardware is required for REMCONN CELL connectivity plan. REMCONN ETH does not require use of a cellular SIM but is required for connectivity with the portal using a non-standard, third-party SIM, provided by, paid for, and maintained by others. Compatibility with non-default, third party SIMs is not guaranteed or warranted.

CONNECTIVITY PLANS

Remote support via the CLAIRITY Link solution is enabled through a connectivity plan (REMCONN). Purchase of a CLAIRITY Link router includes an initial 12-month Ethernet connectivity plan that begins upon shipment of hardware from the factory. For extended periods of connectivity, or for cellular connectivity, supplementary plans can be purchased. Flexible plans are offered in 3-month to 24-month durations and can be purchased at any time.

FEATURES

- Flexible connectivity periods offer affordable, connected assistance from nLight technical experts
- With no hidden fees and no continuous costs, CLAIRITY Link connectivity is an on-demand service that can be purchased at any time
- On-premise systems continue to operate when a connectivity plan is inactive
- Optional service plans affordably supplement the ability to remotely connect, adding comprehensive programming, sustainment, and preventative maintenance options

			Example: REMCONN ETH 24MO CAR1
Series	**Connection Type**	**Service Length**	**Supported Countries**
REMCONN Connectivity plan to enable remote access by factory representatives	ETH Uses Ethernet connection to a customer-provided network with Internet access for communication with the CLAIRITY Link portal CELL[7,8,9] Includes a cellular plan to supplement or replace Ethernet connectivity for communication with the CLAIRITY Link portal	3MO 3-month length 6MO 6-month length 9MO 9-month length 12MO 12-month length 18MO 18-month length 24MO 24-month length	CAR1 US, Mexico, and Canada

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SPECIFICATIONS

Control Module

Size:	4.74" H x 3.57" W x 2.31" D (12.03 cm x 9.07 cm x 5.86 cm)
Mounting:	DIN rail mounted
nLight ECLYPSE Assembly Size:	4.74" H x 14.76" W x 2.43" D (12.03 cm x 37.5 cm x 6.16 cm)
Ports:	Ethernet: (2) switched RJ-45 Ethernet ports USB Connections: 2 x USB 2.0 ports RS-485 Serial Communications: Screw terminals (Used for either BACnet MS/TP Subnet: RJ-45
Real Time Clock (RTC):	Real Time Clock with rechargeable battery. Supports SNTP network time synchronization
RTC Battery:	20 hours charge time, 20 days discharge time. Up to 500 charge / discharge cycles
Enclosure:	FR/ABS UL94-V0 flammability rating
Environmental:	Operating Temperature: 32°F to 122°F (0 to 50°C) Storage Temperature: -22°F to 158°F (-30 to 70°C) Relative Humidity: 0 to 90% non-condensing Ingress Protection Rating: IP20
Security:	FIPS Publication 140-2, Level 1 Compliant Complies with California Civil Code Title 1.81.26, Security of Connected Devices, approved under Senate Bill No. 327 (2018)

nLight Network Interface Module

Size:	4.74" H x 3.20" W x 2.31" D (12.03 cm x 8.12 cm x 5.86 cm)
Mounting:	DIN rail mounted
Ports:	3 nLight bus ports (RJ-45)
nLight Bus Power Output:	0mA per port

Power Supply Module (24V)

Size:	24V: 4.74" H x 2.85" W x 2.31" D (12.03 cm x 7.24 cm x 5.86 cm)
Operating Voltage:	24V: 24VAC/DC; ±15%; Class 2
Output Voltage, Rated Current & Power:	24V: 18VDC regulated, 0-1.6A, 30W max

Enclosure

Type:	NEMA 1 rated surface mount screw cover
Size:	14.25"H x 14.25"W x 4.00"D (36.20cm x 36.20cm x 10.16cm)
Rating:	UL 2043 (Plenum) Rated

CLAIRITY Link Router

Size:	2.92"H x 3.27"W x 0.99"D (74mm x 83mm x 25mm)
Power Consumption:	< 6.5W
Input Voltage Range:	9-30VDC
Mobile:	4G LTE - up to 150Mbps 3G - up to 42Mbps 2G - up to 236.8kbps United States - ATT, T-Mobile/Sprint, US Cellular, Alaska Wireless Mexico - Telefonica Canada - Tellus, Bell, SaskTel[6]
Ethernet:	WAN - 10/100Mbps; connects to an owner-provided, Internet-connected network. May be used for nLight ECLYPSE controller discovery on the same network. LAN-10/100Mbps; used for discovery of nLight ECLYPSE controllers that are connected to a network without Internet connectivity Wireless Mode - IEEE 802.11b/g/n Security - WPA2-Enterprise Wi-Fi Hotspot - used for modem and SIM diagnostics Wi-Fi Client - not supported
Environmental:	Operating temperature - -40C to 75C Operating humidity - 10% to 90% non-condensing Storage temperature - -45C to 75C
Security:	Firewall - pre-configured firewall Attack Prevention - DDOS prevention, port scan prevention WEB filter - whitelist for specifying allowed sites only Access control - control of TCP, UDP, ICMP packets, MAC address filter Complies with California Civil Code Title 1.81.26, Security of Connected Devices, approved under Senate Bill No. 327 (2018)
Ingress Protection	IP30
Regulatory	FCC, IC/ISED, EAC, RCM, PTCRB, RoHS, CE/RED, WEEE, Wi-Fi Certified, CCC, Anatel, GCF, REACH, Thailand NBTC, Ukraine UCRF, SDPPI (POSTEL)
Antennas:	Mobile - 698-960/1710-2690 MHz, SMA male connector Wi-Fi - 2400-2483.5 MHz, SMA male connector
Input/Output	Input - 1x digital, non-isolated input (on 4 pin power connector) Output - 1 x digital, open collector output (30 V, 300 mA, on 4 pin power connector)
SIM	1 x SIM slot (Mini SIM – 2FF), 1.8V/3V, external SIM holder
Dimensions	83 x 25 x 74 mm

COMMUNICATION

Ethernet Connection Speed:	10/100 Mbps
Addressing:	IPv4 or Hostname
BACnet Profile:	BACnet Building Controller (B-BC)
BACnet Listing:	BTL, B-BC
BACnet Interconnectivity:	BBMD forwarding capabilities BACnet/IP to BACnet MS/TP routing
BACnet Transport Layer:	MS/TP & IP (optional)
Web Server Protocol:	HTML5
Web Server Application Interface:	REST API

Supported BACnet MS/TP and Modbus RTU Connectivity:

- BACnet MS/TP OR Modbus RTU 1 × RS-485 serial communications ports
- Each RS-485 port supports one communication protocol at a time
- RS-485 Wiring – 1-pair + Common/shield
- RS-485 EOL Resistor – Built-in
- RS-485 Baud Rates – 9600, 19200, 38400, or 76800 bps
- RS-485 Addressing – Controller's Web Configuration Interface

Supported Wireless Connectivity:

- Wireless Adapter – USB Port Connection
- Wi-Fi Communication Protocol – IEEE 802.11b/g/n
- Wi-Fi Network Types – Client, Access Point, Hotspot

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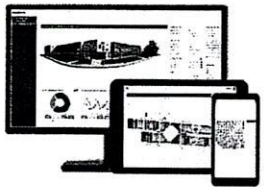
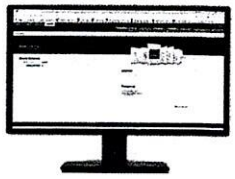
SYSTEM ARCHITECTURE

The nLight ECLYPSE serves as the backbone for nLight and nLight AIR digital lighting networks. The nLight ECLYPSE provides networked devices with schedule management and remote software programming via SensorView web-based software. The backbone also provides support for system-wide controls such as master override switches, automated demand response, and BACnet integration. One nLight ECLYPSE is capable of handling up to 750 total devices and up to 128 global channels for the entire network. The nLight ECLYPSE is also compatible with other Distech ECLYPSE products, offering a full suite of BAS capabilities.

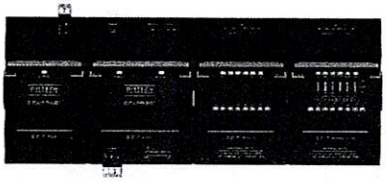


ENVYSION
Lighting Control and Visualization

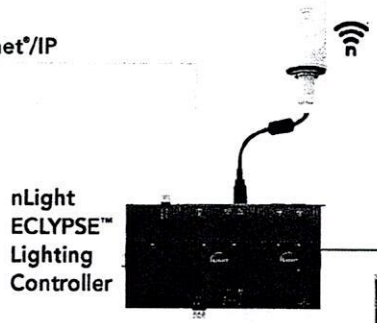
Space Utilization
Edge Application

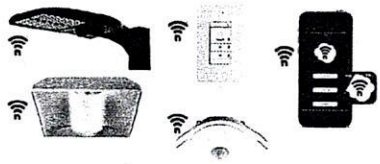


SensorView
Lighting Configuration

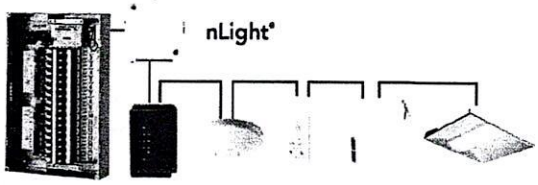


Distech ECLYPSE®
BMS/HVAC Controller





nLight® AIR Wireless Controls



nLight network connects to nECY via onboard nLight port.
nLight AIR network connects to nECY via nECYD NLTAIR G2 adapter (connected to nECY USB port).

HVAC Integration with ECLYPSE and Third Party Controllers

Lighting Management and Control Through Web Applications

Connection with nLight Wired and nLight AIR Devices

EXAMPLE NLIGHT ECLYPSE NOMENCLATURE AND OPTIONS

Example Nomenclature	Connection to Wired Devices	Maximum of 150 Wireless Devices	Maximum of 750 Wireless Devices	All License Options Available (BAC, SVS, SVEA)
NECY MVOLT ENC	✓	No AIR Adapter	No AIR Adapter	✓
NECY MVOLT ENC + NECYD NLTAIR G2	✓	Not Limited at 150	✓	✓
NECY MVOLT ENC AIR	No Wired Interface Module	✓	Reduced Capability	✓
NECY MVOLT ENC AIR + NECYREPLY INTF	✓	Not Limited at 150	✓	✓

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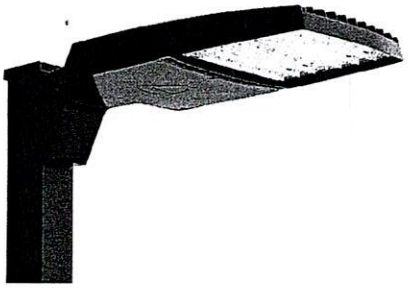


RSX2 LED
Area Luminaire

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

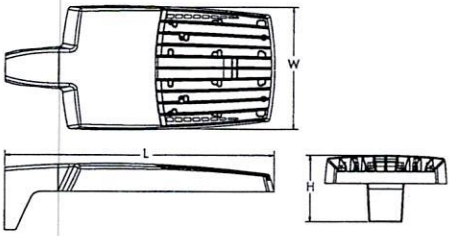
Introduction

The new RSX LED Area family delivers maximum value by providing significant energy savings, long life and outstanding photometric performance at an affordable price. The RSX2 delivers 11,000 to 31,000 lumens allowing it to replace 250W to 1000W HID luminaires.

The RSX features an integral universal mounting mechanism that allows the luminaire to be mounted on most existing drill hole patterns. This "no-drill" solution provides significant labor savings. An easy-access door on the bottom of mounting arm allows for wiring without opening the electrical compartment. A mast arm adaptor, adjustable integral slipfitter and other mounting configurations are available.

Specifications

EPA (ft²@0°):	0.69 ft² (0.06 m²)
Length:	29.3" (74.4 cm) (SPA mount)
Width:	13.4" (34.0 cm)
Height:	3.0" (7.6 cm) Main Body 7.2" (18.3 cm) Arm
Weight: (SPA mount)	30.0 lbs (13.6 kg)



Ordering Information

EXAMPLE: RSX2 LED P6 40K R3 MVOLT SPA DDBXD

RSX2 LED

Series	Performance Package	Color Temperature	Distribution	Voltage	Mounting
RSX2 LED	P1	30K 3000K	R2 Type 2 Wide	MVOLT (120V-277V) [2]	SPA Square pole mounting (3.0" min. SQ pole for 1 at 90°, 3.5" min. SQ pole for 2, 3, 4 at 90°)
	P2	40K 4000K	R3 Type 3 Wide	HVOLT (347V-480V) [3]	RPA Round pole mounting (3.2" min. dia. RND pole for 2, 3, 4 at 90°, 3.0" min. dia. RND pole for 1 at 90°, 2 at 180°, 3 at 120°)
	P3	50K 5000K	R3S Type 3 Short	XVOLT (277V-480V) [4]	MA Mast arm adaptor (fits 2-3/8" OD horizontal tenon)
	P4		R4 Type 4 Wide	**(use specific voltage for options as noted)**	IS Adjustable slipfitter (fits 2-3/8" OD tenon) [6]
	P5		R4S Type 4 Short	120 [3] 277 [5]	WBA Wall bracket [1]
	P6		R5 Type 5 Wide [1]	208 [3] 347 [5]	WBASC Wall bracket with surface conduit box
			R5S Type 5 Short [1]	240 [3] 480 [5]	AASP Adjustable tilt arm square pole mounting [6]
			AFR Automotive Front Row		AARP Adjustable tilt arm round pole mounting [6]
			AFRR90 Automotive Front Row Right Rotated		AAWB Adjustable tilt arm with wall bracket [6]
			AFRL90 Automotive Front Row Left Rotated		AAWSC Adjustable tilt arm wall bracket and surface conduit box [6]

Options

Shipped Installed

HS	House-side shield [7]
PE	Photocontrol, button style [8,9]
PEX	Photocontrol external threaded, adjustable [9,10]
PER7	Seven-wire twist-lock receptacle only (no controls) [9,11,12,13]
CE34	Conduit entry 3/4" NPT (Qty 2)
SF	Single fuse (120, 277, 347) [5]
DF	Double fuse (208, 240, 480) [5]
SPD20KV	20KV Surge pack (10KV standard)
FAO	Field adjustable output [9,13]
DMG	0-10V dimming extend out back of housing for external control (control ordered separate) [9,13]
DS	Dual switching [9,14]

Shipped Installed

***Standalone and Networked Sensors/Controls (factory default settings, see table page 9)**

NLTAIR2	nLight AIR generation 2 [13,15,16]
PIRHN	Networked, Bi-Level motion/ambient sensor (for use with NLTAIR2) [13,16,17]
BAA	Buy America(n) Act Compliant

***Note: PIRHN with nLight Air can be used as a standalone dimming sensor with out-of-box settings or as a wireless networked solution. See factory default settings table. Sensor coverage pattern is affected when luminaire is tilted.**

Shipped Separately (requires some field assembly)

EGS	External glare shield [6]
EGFV	External glare full visor (360° around light aperture) [7]
BS	Bird spikes [18]

Finish

DDBXD	Dark Bronze
DBLXD	Black
DNAXD	Natural Aluminum
DWHXD	White
DDBTXD	Textured Dark Bronze
DBLBXD	Textured Black
DNATXD	Textured Natural Aluminum
DWHGXD	Textured White

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Ordering Information

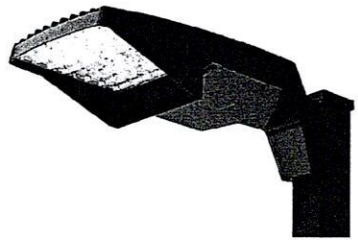
Accessories
Ordered and shipped separately.

RSX2HS	RSX2 House side shield (includes 2 shields)
RSX2EGS (FINISH) U	External glare shield (specify finish)
RSX2HSAFRR (FINISH) U	RSX2 House side shields for AFR rotated optics (includes 2 shields)
RSX2EGFV (FINISH) U	External glare full visor (specify finish)
RSXRPA (FINISH) U	RSX Universal round pole adaptor plate (specify finish)
RSXWBA (FINISH) U	RSX WBA wall bracket (specify finish) [1]
RSXSCB (FINISH) U	RSX Surface conduit box (specify finish, for use with WBA, WBA not included)
DLL127F 1.5 JU	Photocell -SSL twist-lock (120-277V) [19]
DLL347F 1.5 CUL JU	Photocell -SSL twist-lock (347V) [19]
DLL480F 1.5 CUL JU	Photocell -SSL twist-lock (480V) [19]
DSHORT SBK U	Shorting cap [19]

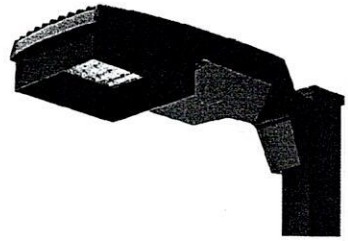
NOTES
1. Any Type 5 distribution, is not available with WBA.
2. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
3. HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
4. XVOLT driver not available with P1. XVOLT driver operates on any line voltage from 277V-480V (50/60 Hz). XVOLT not available with fusing (SF or DF) and not available with PE or PEX.
5. Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
6. Maximum tilt is 90° above horizontal.
7. It may be ordered as an accessory.
8. Requires MVOLT or 347V.
9. Not available in combination with other light sensing control options (following options cannot be combined: PE, PEX, PER7, FAO, DMG, DS, PIRHN).
10. Requires 120V, 208V, 240V, or 277V.
11. Twistlock photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included. Dimming leads capped for future use.
12. For units with option PER7, the mounting must be restricted to +/- 45° from horizontal aim per ANSI C136.10-2010.
13. Two or more of the following options cannot be combined including DMG, DS, PER7, FAO and PIRHN.
14. DS only available on performance package P5 and P6.
15. Must be ordered with PIRHN.
16. Requires MVOLT or HVOLT.
17. Must be ordered with NLTAIR2. For additional information on PIRHN visit here.
18. Must be ordered with fixture for factory pre-drilling.
19. Requires luminaire to be specified with PER7 option. Ordered and shipped as a separate line item from Acuity Brands Controls.

External Shields

House Side Shield



External Glare Shield

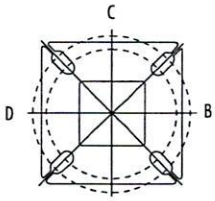


External 360 Full Visor

Pole/Mounting Informatiion

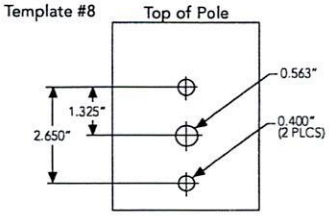
Accessories including bullhorns, cross arms and other adpaters are available under the accessories tab at Lithonia's Outdoor Poles and Arms product page. Click here to visit Accessories.

HANDHOLE ORIENTATION

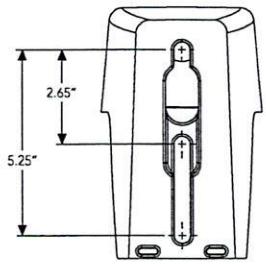


Handhole

RSX POLE DRILLING



RSX STANDARD ARM & ADJUSTABLE ARM



Round Tenon Mount - Pole Top Slipfitters

Tenon O.D.	RSX Mounting	Single	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2 - 3/8"	RPA, AARP	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 320	AS3-5 390	AS3-5 490
2 - 7/8"	RPA, AARP	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	RPA, AARP	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Drill/Side Location by Configuration Type

Drilling Template	Mounting Option	Single	2 @ 180	2 @ 90	3 @ 120	3 @ 90	4 @ 90
	Head Location	Side B	Side B & D	Side B & C	Round Pole Only	Side B, C & D	Side A, B, C & D
#8	Drill Nomenclature	DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS

RSX2 - Luminaire EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration		Single	2 @ 90	2 @ 180	3 @ 90	3 @ 120	4 @ 90	2 Side by Side	3 Side by Side	4 Side by Side
Mounting Type	Tilt									
SPA - Square Pole Adaptor	0°	0.69	1.22	1.27	1.8	1.61	2.39	1.37	2.06	2.74
RPA - Round Pole Adaptor		0.74	1.27	1.37	1.9	1.71	2.49	1.42	2.16	2.84
MA - Mast Arm Adaptor		0.61	1.14	1.11	1.64	1.45	2.23	1.29	1.9	2.58
IS - Integral Slipfitter AASP/AARP - Adjustable Arm Square/Round Pole	0°	0.69	1.22	1.27	1.8	1.61	2.39	1.37	2.06	2.74
	10°	0.53	1.06	1.05	1.58	1.37	2.08	1.06	1.59	2.12
	20°	0.52	1.02	1.03	1.52	1.33	2.02	1.03	1.55	2.07
	30°	0.64	1.11	1.18	1.63	1.45	2.21	1.27	1.91	2.54
	40°	0.81	1.21	1.35	1.74	1.65	2.39	1.62	2.43	3.23
	45°	0.91	1.25	1.5	1.81	1.75	2.48	1.82	2.73	3.64
	50°	1.34	1.83	2.17	2.61	2.56	3.62	2.68	4.02	5.36
	60°	2.2	2.97	3.57	4.24	4.17	5.89	4.41	6.61	8.82
	70°	2.86	4.13	4.7	5.89	5.71	8.21	5.71	8.57	11.42
	80°	3.4	5.13	5.67	7.34	7.09	10.21	6.79	10.19	13.59
	90°	3.85	5.96	6.55	8.58	8.31	11.88	7.70	11.56	15.41

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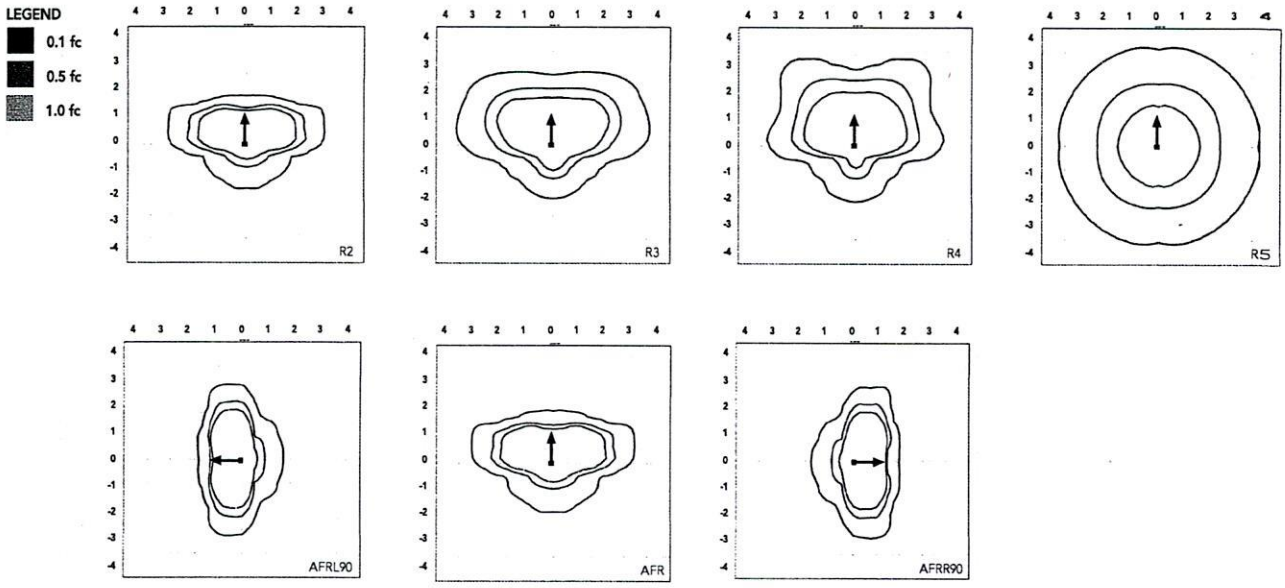
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's RSX Area homepage.

Isofootcandle plots for the RSX2 LED P6 40K. Distances are in units of mounting height (30').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-50°C (32-122°F).

Ambient	Ambient	Lumen Multiplier
0°C	32°F	1.05
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97
45°C	113°F	0.96
50°C	122°F	0.95

Electrical Load

		Current (A)					
Performance Package	System Watts (W)	120V	208V	240V	277V	347V	480V
P1	71W	0.59	0.34	0.30	0.26	0.20	0.15
P2	111W	0.93	0.53	0.46	0.40	0.32	0.23
P3	147W	1.23	0.70	0.61	0.53	0.42	0.31
P4	187W	1.55	0.90	0.78	0.68	0.53	0.38
P5	210W	1.75	1.01	0.87	0.76	0.60	0.44
P6	244W	2.03	1.17	1.01	0.88	0.70	0.51

Projected LED Lumen Maintenance

Operating Hours	50,000	75,000	100,000
Lumen Maintenance Factor	>0.97	>0.95	>0.92

Values calculated according to IESNA TM-21-11 methodology and valid up to 40°C.

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Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
			Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P1	71W	R2	10,040	2	0	1	139	11,031	2	0	1	153	11,031	2	0	1	153
		R3	10,005	2	0	2	141	10,992	2	0	2	155	10,992	2	0	2	155
		R3S	10,271	2	0	2	143	11,285	2	0	2	157	11,285	2	0	2	157
		R4	10,136	2	0	2	143	11,136	2	0	2	157	11,136	2	0	2	157
		R4S	9,779	2	0	2	138	10,744	2	0	2	151	10,744	2	0	2	151
		R5	10,271	4	0	2	145	11,285	4	0	2	159	11,285	4	0	2	159
		R5S	10,544	3	0	1	149	11,585	3	0	2	163	11,585	3	0	2	163
		AFR	10,026	2	0	1	141	11,016	2	0	1	155	11,016	2	0	1	155
		AFRR90	10,122	3	0	2	140	11,121	3	0	2	154	11,121	3	0	2	154
		AFRL90	10,164	3	0	2	141	11,167	3	0	2	155	11,167	3	0	2	155
P2	111W	R2	15,712	2	0	2	138	17,263	2	0	2	151	17,263	2	0	2	151
		R3	15,657	2	0	3	141	17,202	3	0	3	155	17,202	3	0	3	155
		R3S	16,075	2	0	2	141	17,661	2	0	2	155	17,661	2	0	2	155
		R4	15,862	2	0	3	143	17,427	2	0	3	157	17,427	2	0	3	157
		R4S	15,304	2	0	2	138	16,815	2	0	2	151	16,815	2	0	2	151
		R5	16,075	4	0	2	145	17,661	5	0	3	159	17,661	5	0	3	159
		R5S	16,502	4	0	2	149	18,130	4	0	2	163	18,130	4	0	2	163
		AFR	15,691	2	0	2	141	17,240	2	0	2	155	17,240	2	0	2	155
		AFRR90	15,841	3	0	3	139	17,404	4	0	3	153	17,404	4	0	3	153
		AFRL90	15,907	3	0	3	139	17,477	4	0	3	153	17,477	4	0	3	153
P3	147W	R2	19,855	3	0	2	132	21,814	3	0	2	145	21,814	3	0	2	145
		R3	19,785	3	0	3	135	21,737	3	0	4	148	21,737	3	0	4	148
		R3S	20,312	3	0	3	135	22,317	3	0	3	149	22,317	3	0	3	149
		R4	20,044	3	0	3	136	22,022	3	0	4	150	22,022	3	0	4	150
		R4S	19,339	3	0	3	132	21,247	3	0	3	145	21,247	3	0	3	145
		R5	20,313	5	0	3	138	22,317	5	0	3	152	22,317	5	0	3	152
		R5S	20,852	4	0	2	142	22,910	4	0	2	156	22,910	4	0	2	156
		AFR	19,828	3	0	2	135	21,785	3	0	2	148	21,785	3	0	2	148
		AFRR90	20,017	4	0	3	133	21,992	4	0	3	147	21,992	4	0	3	147
		AFRL90	20,101	4	0	3	134	22,084	4	0	3	147	22,084	4	0	3	147
P4	187W	R2	22,836	3	0	2	120	25,090	3	0	2	132	25,090	3	0	2	132
		R3	22,756	3	0	4	122	25,002	3	0	4	134	25,002	3	0	4	134
		R3S	23,363	3	0	3	123	25,668	3	0	3	135	25,668	3	0	3	135
		R4	23,054	3	0	4	123	25,329	3	0	4	135	25,329	3	0	4	135
		R4S	22,243	3	0	3	119	25,059	3	0	3	134	25,059	3	0	3	134
		R5	23,363	5	0	3	125	25,669	5	0	4	137	25,669	5	0	4	137
		R5S	23,983	4	0	2	128	26,350	4	0	2	141	26,350	4	0	2	141
		AFR	22,806	3	0	2	122	25,056	3	0	2	134	25,056	3	0	2	134
		AFRR90	23,023	4	0	3	121	25,295	4	0	3	133	25,295	4	0	3	133
		AFRL90	23,120	4	0	3	122	25,401	4	0	3	134	25,401	4	0	3	134
P5	210W	R2	26,141	3	0	2	122	28,721	3	0	2	135	28,721	3	0	2	135
		R3	26,049	3	0	4	124	28,620	3	0	4	136	28,620	3	0	4	136
		R3S	26,744	3	0	3	125	29,383	3	0	4	138	29,383	3	0	4	138
		R4	26,390	3	0	4	126	28,994	3	0	4	138	28,994	3	0	4	138
		R4S	25,462	3	0	3	121	27,974	3	0	3	133	27,974	3	0	3	133
		R5	26,744	5	0	4	127	29,383	5	0	4	140	29,383	5	0	4	140
		R5S	27,454	4	0	2	131	30,163	4	0	2	144	30,163	4	0	2	144
		AFR	26,106	3	0	2	124	28,682	3	0	2	137	28,682	3	0	2	137
		AFRR90	26,354	4	0	3	123	28,955	5	0	3	136	28,955	5	0	3	136
		AFRL90	26,465	4	0	3	124	29,077	5	0	3	136	29,077	5	0	3	136
P6	244W	R2	27,646	3	0	2	112	30,374	3	0	2	123	30,374	3	0	2	123
		R3	27,549	3	0	4	113	30,267	3	0	4	124	30,267	3	0	4	124
		R3S	28,283	3	0	3	115	31,075	3	0	4	126	31,075	3	0	4	126
		R4	27,909	3	0	4	114	30,663	3	0	4	126	30,663	3	0	4	126
		R4S	26,928	3	0	3	110	29,585	3	0	3	121	29,585	3	0	3	121
		R5	28,284	5	0	4	116	31,075	5	0	4	127	31,075	5	0	4	127
		R5S	29,035	4	0	2	119	31,900	5	0	3	131	31,900	5	0	3	131
		AFR	27,608	3	0	2	112	30,332	3	0	2	123	30,332	3	0	2	123
		AFRR90	27,872	4	0	3	113	30,622	5	0	3	124	30,622	5	0	3	124
		AFRL90	27,989	4	0	3	113	30,751	5	0	3	125	30,751	5	0	3	125

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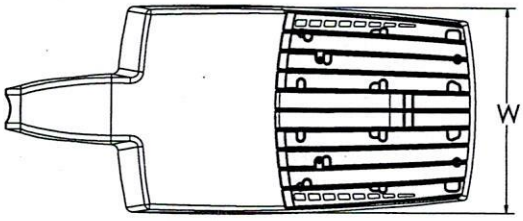
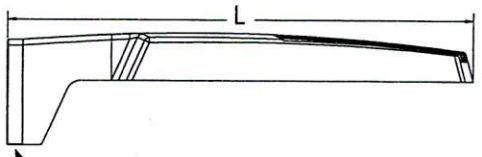
Dimensions & Weights

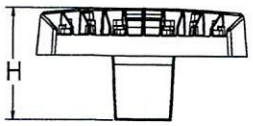
Luminaire Weight by Mounting Type

Mounting Configuration	Total Luminaire Weight
SPA	30 lbs
RPA	32 lbs
MA	30 lbs
WBA	33 lbs
WBASC	36 lbs
IS	33 lbs
AASP	33 lbs
AARP	35 lbs
AAWB	36 lbs
AAWSC	39 lbs

RSX2 with Round Pole Adapter (RPA)



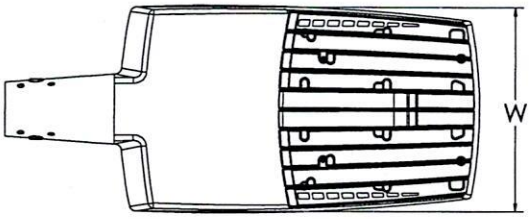


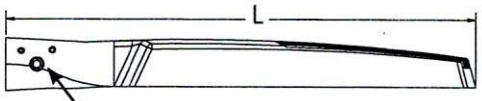


Length: 30.3" (77.0 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.2" (18.3 cm) Arm

Note: RPA — Round Pole mount can also be used to mount on square poles by omitting the round pole adapter plate shown here.

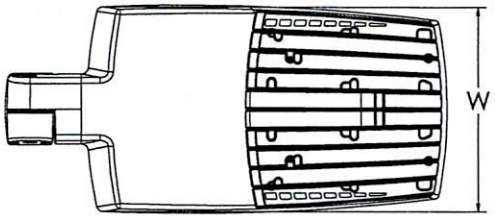
RSX2 with Mast Arm Adapter (MA)

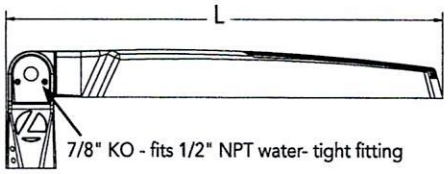


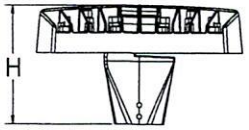


Length: 30.6" (77.7 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
3.5" (8.9 cm) Arm

RSX2 with Adjustable Slipfitter (IS)







Length: 28.3" (71.9 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.6" (19.3 cm) Arm

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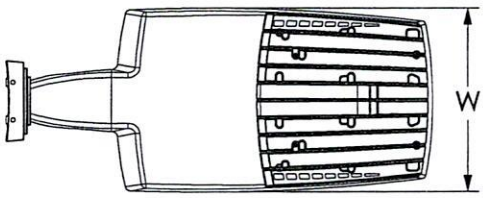
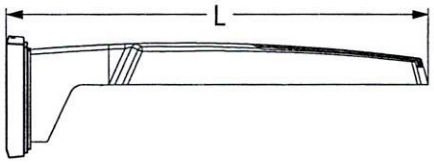
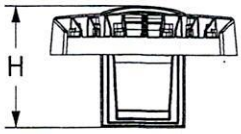
Dimensions

RSX2 with Wall Bracket (WBA)

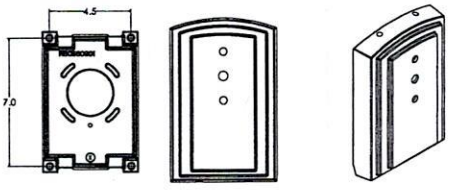




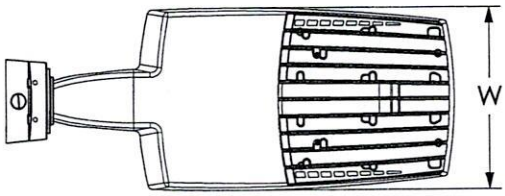


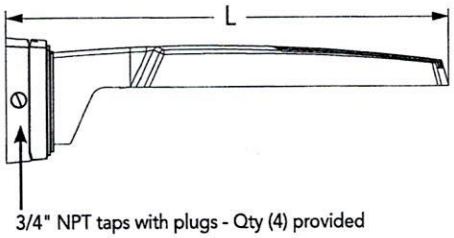
Length: 31.2" (79.2 cm)
Width: 13.4" (41.7 cm)
Height: 3.0" (7.6 cm) Main Body
8.9" (22.6 cm) Arm

Wall Bracket (WBA) Mounting Detail

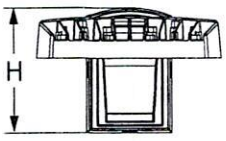


RSX2 with Wall Bracket with Surface Conduit Box (WBASC)



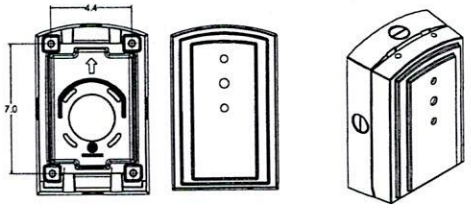


3/4" NPT taps with plugs - Qty (4) provided



Length: 32.8" (83.3 cm)
Width: 13.4" (41.7 cm)
Height: 3.0" (7.6 cm) Main Body
9.2" (23.4 cm) Arm

Surface Conduit Box (SCB) Mounting Detail



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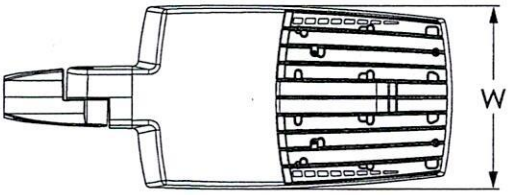
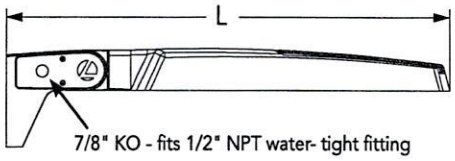
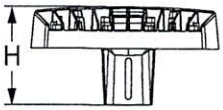
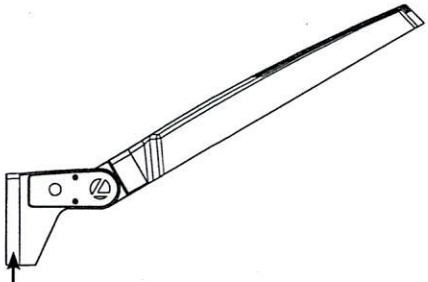
Dimensions

RSX2 with Adjustable Tilt Arm - Square or Round Pole (AASP or AARP)







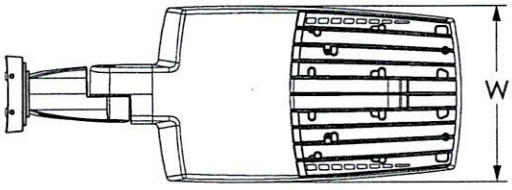


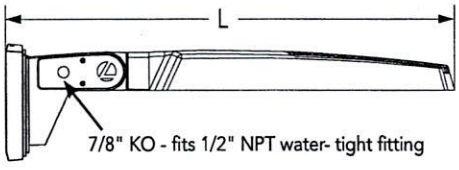
Length: 32.8" (83.3 cm) **AASP**
33.8" (85.9 cm) **AARP**
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.2" (18.2 cm) Arm

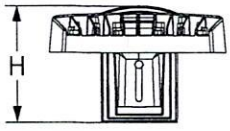
NOTE:
RPA - Round Pole mount can also be used to mount on square poles by omitting the round pole adapter plate shown here.

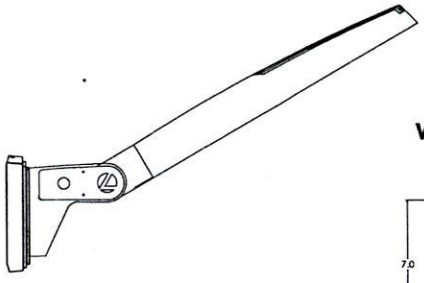
Notes
AASP: Requires 3.0" min. square pole for 1 at 90°. Requires 3.5" min. square pole for mounting 2, 3, 4 at 90°.
AARP: Requires 3.2" min. dia. round pole for 2, 3, 4 at 90°. Requires 3.0" min. dia. round pole for mounting 1 at 90°, 2 at 180°, 3 at 120°.

RSX2 with Adjustable Tilt Arm with Wall Bracket (AAWB)



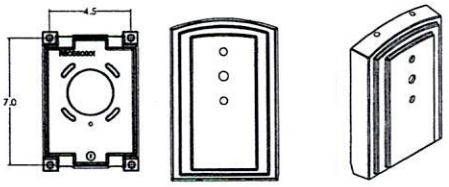






Length: 34.7" (88.0 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
8.9" (22.6 cm) Arm

Wall Bracket (WBA) Mounting Detail



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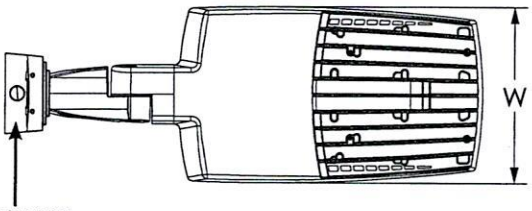
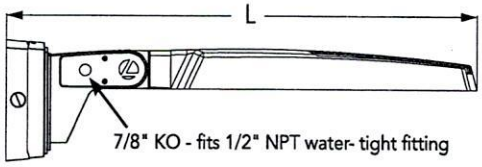
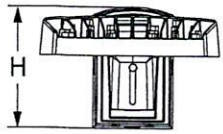
Dimensions

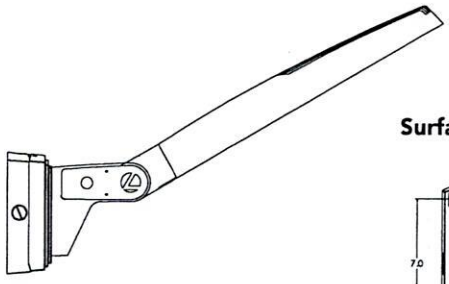
RSX2 with Adjustable Tilt Arm with Wall Bracket and Surface Conduit Box (AAWSC)





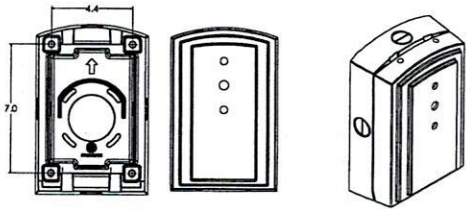


3/4" NPT taps
with plugs - Qty (4)
provided

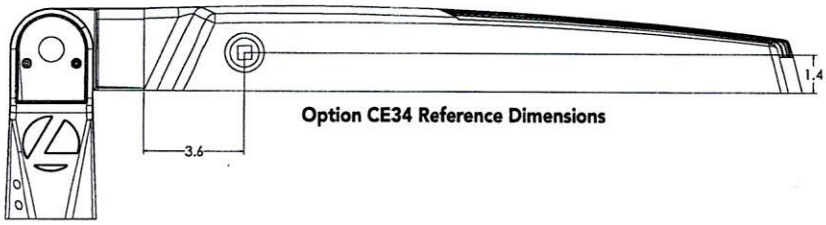


Length: 36.2" (91.9 cm)
Width: 13.4" (40.0 cm)
Height: 3.0" (7.6 cm) Main Body
9.2" (23.4 cm) Arm

Surface Conduit Box (SCB) Mounting Detail

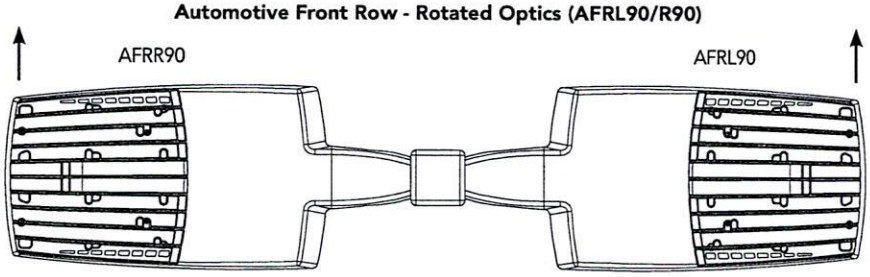


Additional Reference Drawings



Option CE34 Reference Dimensions

Automotive Front Row - Rotated Optics (AFRL90/R90)



(Example: 2@180 - arrows indicate direction of light exiting the luminaire)

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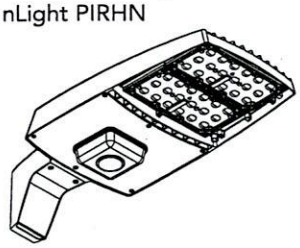
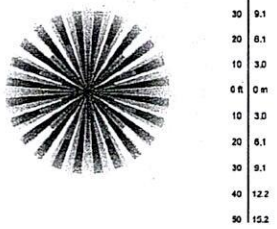
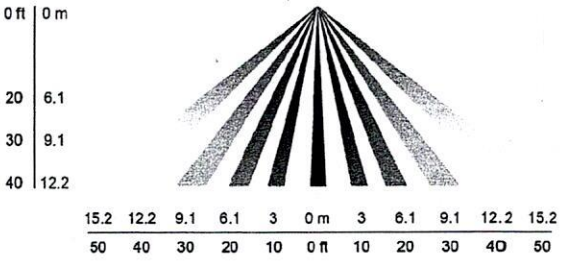
nLight Control - Sensor Coverage and Settings

NLTAIR2 PIRHN nLight
Sensor Coverage Pattern
nLight PIRHN





Top



Side

Motion Sensor Default Settings - Option PIRHN						
Option	Dimmed State (unoccupied)	High Level (when occupied)	Photocell Operation	Dwell Time (occupancy time delay)	Ramp-up Time (from unoccupied to occupied)	Ramp-down Time (from occupied to unoccupied)
NLTAIR2 PIRHN	Approx. 30% Output	100% Output	Enabled @ 1.5FC	7.5 minutes	3 seconds	5 minutes

*Note: NLTAIR2 PIRHN default settings including photocell set-point, high/low dim rates, and occupancy sensor time delay are all configurable using the Clairity Pro App. Sensor coverage pattern shown with luminaire at 0°. Sensor coverage pattern is affected when luminaire is titled.

FEATURES & SPECIFICATIONS

INTENDED USE
The RSX LED area family is designed to provide a long-lasting, energy-efficient solution for the one-for-one replacement of existing metal halide or high pressure sodium lighting. The RSX2 delivers 11,000 to 31,000 lumens and is ideal for replacing 250W to 1000W HID pole-mounted luminaires in parking lots and other area lighting applications.

CONSTRUCTION AND DESIGN
The RSX LED area luminaire features a rugged die-cast aluminum main body that uses heat-dissipating fins and flow-through venting to provide optimal thermal management that both enhances LED performance and extends component life. Integral "no drill" mounting arm allows the luminaire to be mounted on existing pole drillings, greatly reducing installation labor. The light engines and housing are sealed against moisture and environmental contaminants to IP66. The low-profile design results in a low EPA, allowing pole optimization. Vibration rated per ANSI C136.31: 3G Mountings: Include SPA, RPA, MA, IS, AASP, AARP rated for 3G vibration. 1.5G Mountings: Include WBA, WBASC, AAWB and AAWSC rated for 1.5G vibration.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures superior adhesion as well as a minimum finish thickness of 3 mils. The result is a high-quality finish that is warrantied not to crack or peel.

OPTICS
Precision acrylic refractive lenses are engineered for superior application efficiency, distributing the light to where it is needed most. Available in short and wide pattern distributions including Type 2, Type 3, Type 3S, Type 4, Type 4S, Type 5, Type 5S, AFR (Automotive Front Row) and AFR rotated AFRR90 and ARFL90.

ELECTRICAL
Light engine(s) configurations consist of high-efficacy LEDs mounted on metal-core circuit boards and aluminum heat sinks to maximize heat dissipation. Light engines are IP66 rated. LED lumen maintenance is >L92/100,000 hours. CCT's of 3000K, 4000K and 5000K (minimum 70 CRI) are available. Class 1 electronic drivers ensure system power factor >90% and THD <20%. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS
The RSX LED area luminaire has a wide assortment of control options. Dusk to dawn controls include MVOLT and 347V button-type photocells and NEMA twist-lock photocell receptacles.

nLIGHT AIR CONTROLS
The RSX LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing with photocontrol functionality and is suitable for mounting heights up to 40 feet. No commissioning is required when using factory default settings that provide basic stand-alone motion occupancy dimming that is switched on and off with a built-in photocell. See chart above for motion sensor default out-of-box settings. For more advanced wireless functionality, such as group dimming, nLight AIR can be commissioned using a smartphone and the easy-to-use CLAIRITY app. nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION
Integral "no-drill" mounting arm allows for fast, easy mounting using existing pole drillings. Select the "SPA" option for square poles and the "RPA" option to mount to round poles. Note, the RPA mount can also be used for mounting to square poles by omitting the RPA adapter plate. Select the "MA" option to attach the luminaire to a 2 3/8" horizontal mast arm or the "IS" option for an adjustable slipfitter that mounts on a 2 3/8" OD tenon. The adjustable slipfitter has an integral junction box and offers easy installation. Can be tilted up to 90° above horizontal. Additional mountings are available including a wall bracket, adjustable tilt arm for direct-to-pole and wall and a surface conduit box for wall mount applications.

LISTINGS
CSA Certified to meet U.S. and Canadian standards. Suitable for wet locations. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only. US Patent No. D882, 146S

BUY AMERICAN
Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

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VCPG LED
Parking Garage

Buy American

Catalog Number

Notes

Type

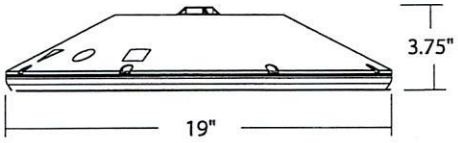
Hit the Tab key or mouse over the page to see all interactive elements

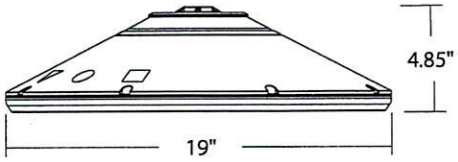
Specifications

Diameter: 19"

Height: 3.75" (4.85" with Up-Light)

Weight (max, with no options): 18 lbs





A+ Capable options indicated by this color background.

Introduction

The all new VCPG LED (Visually Comfortable Parking Garage) luminaire is designed to bring glare control, optical performance and energy savings into one package. The recessed lens design of VCPG LED minimizes high angle glare, while its precision molded acrylic lens eliminates LED pixilation and delivers the required minimums, verticals and uniformity. The dedicated up-light module option reduces the contrast between the luminaire and the ceiling creating a more visually comfortable environment.

The VCPG LED delivers up to 87% in energy savings when replacing 175W metal halide luminaires. With over 100,000 hour life expectancy (12+ years of 24/7 continuous operation), the VCPG LED luminaire provides significant maintenance savings over traditional luminaires.

Ordering Information

EXAMPLE: VCPG LED V4 P4 40K 70CRI T5M MVOLT SRM DNAXD

VCPG LED

Series	LED Light Engines	Package	Color temperature	Color Rendering Index	Distribution	Voltage		Mounting
VCPG LED	V4[1] 4 Light Engines V8[1] 8 Light Engines	P1[1] P2[1] P3[1] P4[1] P5[1] P6[1] P7[1]	30K 3000 K 35K 3500 K 40K 4000 K 50K 5000 K	70CRI 80CRI	T5M Type V, medium T5R[2] Type V, rectangular T5W Type V, wide T5E Type V entry LANE[2] Drive lane	MVOLT 347 480	For ordering with fuse 120 208 240 277 347 480	**Shipped included** PM Pendant mount standard (24-inch length supply leads) SRM Surface mount (24-inch length supply leads) ARM Arm mount (use RSXWBA accessory to mount to a wall) **Shipped separately** YK Yoke/trunnion mount[3]

Options

Shipped installed

UPL1	Up-Light: 500 lumens
UPL2	Up-Light: 700 lumens
E8WC	Emergency battery backup, Certified in CA Title 20 MAEDBS (8W, -20°C min)[4,5,6]
E10WH	Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 5°C min)[4,5,6]
HA	High ambient (50°C, only P1-P4)
SF	Single fuse (120V, 277V, 347V)
DF	Double fuse (208V, 240V, 480V)
SPD10KV	10KV Surge Pack
LDS36	36in (3ft) lead length
LDS72	72in (6ft) lead length
LDS108	108in (9ft) lead length
DMG	External 0-10V leads (no controls)[7]

Shipped Separately

WG	Wire Guard
BDS	Bird Shroud[8]
HS	House Side Shield

Standalone Sensors/Controls[2]

PIR	Motion/ambient sensor for 8-15' mounting heights
PIRH	Motion/ambient sensor for 15-30' mounting heights
PIR3FC3V	Motion/ambient sensor for 8-15' mounting heights, pre programmed to 3fc and 35% light output
PIRH3FC3V	Motion/ambient sensor for 15-30' mounting heights, pre programmed to 3fc and 35% light output
PIR3FC3V924	UL924 Listed motion/ambient sensor for emergency circuit for 8-15' mounting heights, pre programmed to 3fc and 35% light output[9]
PIRH3FC3V924	UL924 Listed motion/ambient sensor for emergency circuit for 15-30' mounting heights, pre programmed to 3fc and 35% light output[9]

Networked Sensors/Controls[2]

NLTAIR2 PIR	nLIGHT AIR Wireless enabled motion/ambient sensor for 8-15' mounting heights
NLTAIR2 PIRH	nLIGHT AIR Wireless enabled motion/ambient sensor for 15'-30' mounting heights
NLTAIR2 PIR924	nLIGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 8-15' mounting heights[10]
NLTAIR2 PIRH924	nLIGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 15-30' mounting heights[10]

Finish

DWHXD	White
DNAXD	Natural aluminum
DDBXD	Dark bronze
DBLXD	Black

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Ordering Information Cont.

Accessories

Ordered and shipped separately.

VCPGBDS DWHXD U	Bird shroud for PM (specify finish)
VCPGBDS YK DWHXD U	Bird shroud for YK (specify finish)
VCPGUBDS DWHXD U	Bird shroud for PM with Up-Light (specify finish)
VCPGUBDS YK DWHXD U	Bird shroud for YK with Up-Light (specify finish)
VCPGSRM U	Surface mount kit, with no Up-Light
VCPGUSRM U	Surface mount kit, with Up-Light
VCPGWG U	Wire guard
SLVSQ	Quick mount pendant swivel kit, square
SLVRD	Quick mount pendant swivel kit, round
VCPG YK DWHXD U	Yoke mount kit (specify finish)
RSXWBA DWHXD U	RSX WBA wall bracket (specify finish)

NOTES

1 P1-P6 not available with V8. P7 not available with V4.
2 Not available with P7.
3 Only vertical height adjustment. No angle adjustment. Use PM and SLVSQ or SLVRD for mounting to angled ceiling or canopies.
4 Not available with 347V or 480V.
5 E8WC and E10WH only rated up to 35°C ambient.
6 E8WC & E10WH only available with P1-P4 packages.
7 DMG option not available with standalone or networked sensors/controls.
8 BDS not available with UPL1 or UPL2.
9 Power interruption delay >30 milliseconds required for operation. Refer sequence of operations on page 4 for more details.
10 Not available with P6 & P7. Power interruption delay >200 milliseconds required for operation. Refer sequence of operations on page 4 for more details.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	Watts	Distribution Type	30K (3000K, 70 CRI)		35K (3500K, 70 CRI)		40K (4000K, 70 CRI)		50K (5000K, 70 CRI)	
			Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
P1	27W	T5E	3,581	135	3,670	138	3,815	144	3,876	146
		T5M	3,620	136	3,710	140	3,856	145	3,917	147
		T5W	3,592	135	3,681	139	3,827	144	3,888	146
		T5R	3,464	130	3,550	134	3,690	139	3,749	141
		LANE	3,507	132	3,594	135	3,736	141	3,796	143
P2	34W	T5E	4,577	135	4,691	138	4,876	144	4,954	146
		T5M	4,626	136	4,741	140	4,928	145	5,007	147
		T5W	4,591	135	4,705	139	4,891	144	4,968	146
		T5R	4,427	130	4,537	134	4,716	139	4,791	141
		LANE	4,482	132	4,594	135	4,775	141	4,851	143
P3	43W	T5E	5,808	134	5,952	137	6,187	143	6,286	145
		T5M	5,870	135	6,015	139	6,253	144	6,353	146
		T5W	5,825	134	5,970	138	6,205	143	6,304	145
		T5R	5,617	130	5,757	133	5,984	138	6,079	140
		LANE	5,688	131	5,829	134	6,059	140	6,155	142
P4	56W	T5E	7,391	131	7,575	135	7,874	140	7,999	142
		T5M	7,470	133	7,656	136	7,958	141	8,085	144
		T5W	7,414	132	7,597	135	7,898	140	8,023	143
		T5R	7,149	127	7,326	130	7,615	135	7,737	137
		LANE	7,238	129	7,418	132	7,711	137	7,834	139
P5	82W	T5E	10,189	124	10,442	127	10,854	132	11,027	134
		T5M	10,298	125	10,553	128	10,970	134	11,145	136
		T5W	10,220	124	10,473	128	10,887	133	11,060	135
		T5R	9,855	120	10,099	123	10,498	128	10,665	130
		LANE	9,978	121	10,226	124	10,629	129	10,799	131
P6	108W	T5E	12,878	120	13,197	123	13,719	127	13,937	129
		T5M	13,015	121	13,338	124	13,865	129	14,086	131
		T5W	12,917	120	13,237	123	13,760	128	13,979	130
		T5R	12,455	116	12,764	119	13,268	123	13,480	125
		LANE	12,611	117	12,924	120	13,435	125	13,649	127
P7	122W	T5E	15,503	125	15,887	128	16,515	133	16,778	135
		T5M	15,668	126	16,057	129	16,691	135	16,957	137
		T5W	15,549	125	15,935	129	16,564	134	16,828	136

Up-light Lumen Output

Up-light Option	Watts	Lumens
UPL1	6.5W	519
UPL2	8.5W	715

Lumen Multiplier for 80CRI

CCT	Multiplier
30K	0.926
35K	0.945
40K	0.967
50K	0.965

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1
30°C	86°F	0.99
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.97	0.94	0.89

Electrical Load

Power Package	System Watts	Current (A)					
		120V	208V	240V	277V	347V	480V
P1	27W	0.22	0.13	0.12	0.10	0.08	0.06
P2	34W	0.28	0.16	0.14	0.13	0.10	0.08
P3	43W	0.37	0.21	0.18	0.16	0.13	0.09
P4	56W	0.48	0.28	0.24	0.21	0.16	0.12
P5	82W	0.68	0.40	0.35	0.30	0.24	0.18
P6	108W	0.91	0.52	0.45	0.39	0.32	0.23
P7	124W	1.03	0.59	0.51	0.44	0.37	0.27

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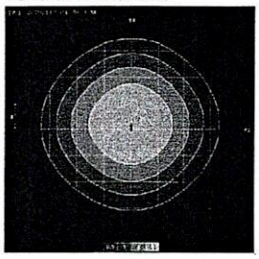
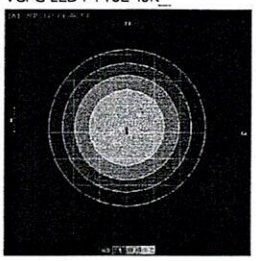
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting VCPG LED homepage.
Tested in accordance with IESNA LM-79 and LM-80 standards

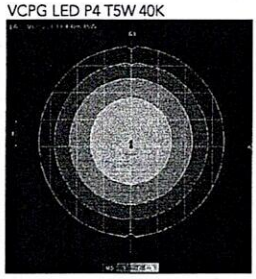
VCPG LED P4 T5M 40K



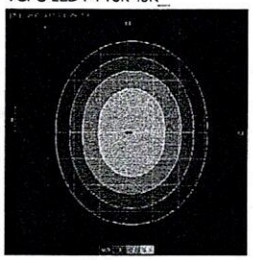
VCPG LED P4 T5E 40K



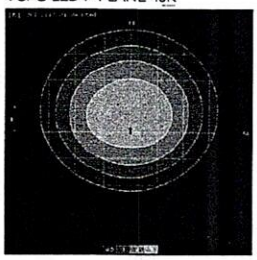
VCPG LED P4 T5W 40K



VCPG LED P4 T5R 40K



VCPG LED P4 LANE 40K



Control/Sensor Options

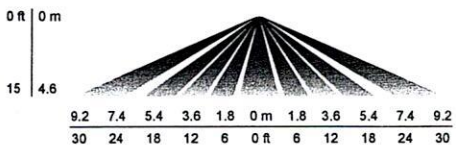
Motion/Ambient Sensor (PIR_, PIRH)

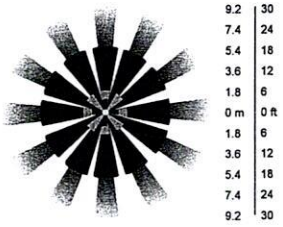
Motion/Ambeint sensor (Sensor Switch MSOD) is integrated into the luminaire. The sensor provides both Motion and Daylight based dimming of the luminaire. For motion detection, the sensor utilizes 100% Digital Passive Infrared (PIR) technology that is tuned for walking size motion while preventing false tripping from the environment. The integrated photocell enables additional energy savings during daytime periods when there is sufficient daylight. Optimize sensor coverage by either selecting PIR or PIRH option. PIR option comes with a sensor lens that is optimized to provide maximum coverage for mounting heights between 8-15ft, while PIRH is optimized for 15-40ft mounting height.

Networked Control (NLTAIR2)

nLight® AIR is a wireless lighting controls platform that allows for seamless integration of both indoor and outdoor luminaires. Five-tier security architecture, 900 MHz wireless communication and app (CLAIRITY™ Pro) based configurability combined together make nLight® AIR a secure, reliable and easy to use platform.

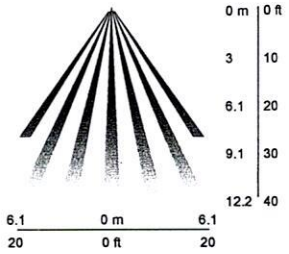
PIR **HIGH VIEW**



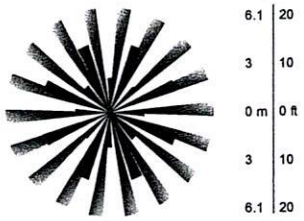


PIRH

SIDE VIEW



TOP VIEW



Motion/Ambient Sensor Default Settings

Option	Dim Level	High Level (when triggered)	Photocell Operation	Motion Time Delay	Ramp-down Time	Ramp-up Time
PIR or PIRH	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
PIR3FC3V or PIRH3FC3V	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 3fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec

Sequence of Operations for UL924 Listed Controls/Sensors (PIR3FC3V924, PIRH3FC3V924, XAD924, NLTAIR2 PIR924, NLTAIR2 PIRH924)

The UL924 listed control/sensor ("device") is designed to provide full light output for 90 minutes following power loss ("Egress Mode"), ignoring both manual and automatic dimming/occupancy/daylight control signals during this time. The sequence of operations is as follows:

- Normal condition: device can dim and turn off the luminaire as normal, in response to automatic and manual control.
- Utility power fails, and luminaire loses power.
- Backup power source activates, transfer switch moves the emergency circuit powering the luminaire onto the backup source, and luminaire regains power.
- The device detects this power interruption, if it is >30ms (for PIR3FC3V924, PIRH3FC3V924, XAD924) or >200ms (for NLTAIR2 PIR924, NLTAIR2 PIRH924).
- The device ignores all dimming commands and controls the driver to full light output for 90 minutes.
- The device resumes normal dimming controls after 90 minutes.

These UL924 listed controls/sensors are not intended for use with Non-interruptible central emergency power systems. The power interruption, when transferring from normal utility power to emergency backup power, is required for the controller to activate its Egress Mode and provide full light output.

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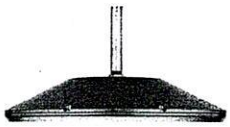
Mounting, Options & Accessories



PM – Pendant Mount
(compatible with ¾ NPT, pendant stem provided by others)

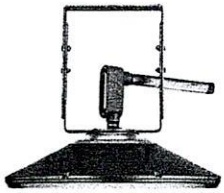
D = 19"
H = 4.1"

SRM – Surface Mount

D = 19"
H = 4.1"

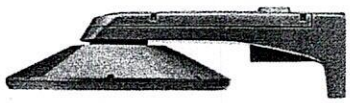
SRM – Surface Mount with Up-Light

D = 19"
H = 5.3"



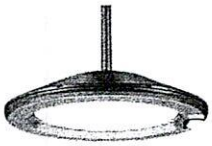
YK – Yoke/Trunnion Mount

D = 19"
H (Yoke) = 10"-18"



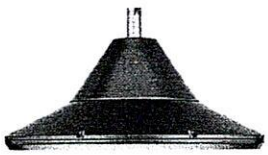
ARM – Arm Mount

L = 28"
W = 19"
H = 8"



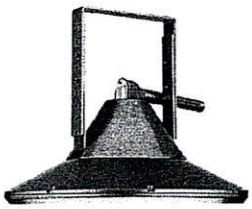
PIR & PIRH – Motion/ Ambient sensor

D = 19"
H = 4.6" (no up-light)
or 5.6" (with up-light)



BDS – Bird shroud for pendant mount

D = 19"
H = 8"

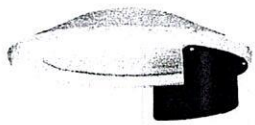


BDS – Bird shroud for yoke mount

D = 19"
H (Yoke) = 10"-18"

WG – Wire guard

D = 19"
H = 4.9" (no uplight)
or 5.9" (with up-light)



HS – House side shield

D = 19"
H = 7.1" (no up-light) or
8.1" (with up-light)

FEATURES & SPECIFICATIONS

INTENDED USE
The visually comfortable optics, energy savings, and long life of the VCPG LED Parking Garage luminaire make it an ideal choice for new commercial installations and retrofit parking garage opportunities. It is designed to meet or exceed recommended illuminance criteria when installed as a direct replacement of most HID parking garage luminaires. Its modern dayform and aesthetics also make it appealing for indoor low-bay applications.

CONSTRUCTION
Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. The LED driver is separated from the heat generating light engines and mounted in direct contact with the casting to promote low operating temperatures, higher lumen maintenance and long life. The housing is completely sealed against moisture and environmental contaminants (IP66) and is suitable for hose-down application.

FINISH
Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling.

OPTICS
Light guide technology provides a diffused light source, reducing glare from direct view of the LEDs. The light source is recessed into the luminaire, further reducing the high angle glare from the luminaire. A combination of precision molded micro prismatic acrylic lenses and back reflectors provide five different photometric distributions tailored specifically to parking garage applications. Up-light option comes with a dedicated light engine and custom optic designed to efficiently spread light on to the ceiling, thus reducing the cave effect.

ELECTRICAL
Light engine consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L89/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%, and a minimum 6.0 KV surge rating. When ordering the SPD10KV option, a separate 10kV (5kA) surge protection device is installed within the luminaire which meets a minimum Category C low operation (per ANSI/IEEE C62.41.2). Luminaire is 0-10V dimmable down to 10% or lower.

INSTALLATION
Standard configuration accepts a rigid or free-swinging 3/4" NPT stem for pendant mounting. The surface mount option attaches to a 4x4" recessed or surface mount outlet box using a quick-mount kit (included); kit contains galvanized steel luminaire and outlet box plates and a full pad gasket. Kit has an integral mounting support that allows the luminaire to hinge down for easy electrical connections. Luminaire and plates are secured with set screws. Also, available with a yoke/trunnion mount option with 3/4" NPT provision for flexible conduit entry (conduit by others); height can be adjusted from 10-18". Supply leads are 24" in length as standard. Longer supply leads are available as additional options. Design can withstand up to a 3.0 G vibration load rating per ANSI C136.31.

LISTINGS
CSA certified to U.S. and Canadian standards. IP66 rated for outdoor applications. PIR options are rated for wet location. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN
This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FARS, DFARS and DOT. Please refer to www.acuitybrands.com/resources/buy-american for additional information.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

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LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE — These specifications are for USA standards only. Square Straight Steel is a general purpose light pole for up to 39-foot mounting heights. This pole provides a robust yet cost effective option for mounting area lights and floodlights.

CONSTRUCTION — Pole Shaft: The pole shaft is of uniform dimension and wall thickness and is made of a weldable-grade, hot-rolled, commercial-quality steel tubing with a minimum yield of 55 KSI (11-gauge, .1196"), or 50 KSI (7-gauge, .1793"). Shaft is one-piece with a full-length longitudinal high-frequency electric resistance weld. Uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft widths are 4", 5" and 6".

Pole Top: A flush non-metalic black top cap is provided for all poles that will receive drilling patterns for side-mount luminaire arm assemblies or when ordered with PT option.

Handhole: A reinforced handhole with grounding provision is provided at 18" from the base on side A. Positioning the handhole lower may not be possible and requires engineering review; consult Tech Support-Outdoor for further information. Every handhole includes a cover and cover attachment hardware. The handhole has a nominal dimension of 2.5" x 5".

Base Cover: A durable ABS plastic two-piece full base cover, finished to match the pole, is provided with each pole assembly. Additional base cover options are available upon request.

Anchor Base/ Bolts: Anchor base is fabricated from steel that meets ASTM A36 standards and can be altered to match existing foundations; consult factory for modifications. Anchor bolts are manufactured to ASTM F1554 Standards grade 55, (55 KSI minimum yield strength and tensile strength of 75-95 KSI). Top threaded portion (nominal 12") is hot-dipped galvanized per ASTM A-153.

HARDWARE – All structural fasteners are high-strength galvanized carbon steel. All non-structural fasteners are galvanized or zinc-plated carbon steel or stainless steel.

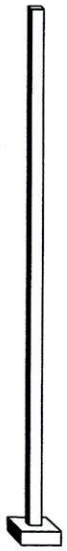
FINISH – Extra durable standard powder-coat finishes include Dark Bronze, White, Black, Medium Bronze and Natural Aluminum colors. Classic finishes include Sandstone, Charcoal Gray, Tennis Green, Bright Red and Steel Blue colors. Architectural Colors and Special Finishes are available by quote and include, but are not limited to Hot-dipped Galvanized, Paint over Hot-dipped Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes. Factory-applied primer paint finish is available for customer field-paint applications.

BUY AMERICAN – Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

INSTALLATION – Do not erect poles without having fixtures installed. Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates. If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage. Lithonia Lighting is not responsible for the foundation design.

WARRANTY — 1-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.



Anchor Base Poles

SSS

SQUARE STRAIGHT STEEL

Buy American

See footnotes next page.

SSS Square Straight Steel Poles

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** SSS 20 5C DM19 DDB

SSS						
Series	**Nominal fixture mounting height**	**Nominal shaft base size/wall thickness[2]**	**Mounting[3]**		**Options**	**Finish[11]**
SSS[1]	10'-39' (for 1/2 ft increments, add -6 to the pole height. Ex: 20-6 equals 20ft 6in.) See technical information table for complete ordering information.)	4C 4" 11g (.1196") 4G 4" 7g (.1793") 5C 5" 11g (.1196") 5G 5" 7g (.1793") 6G 6" 7g (.1793") See technical information table for complete ordering information.)	Tenon mounting PT Open top (includes top cap) T20 2-3/8" O.D. (2" NPS) T25 2-7/8" O.D. (2-1/2" NPS) T30 3-1/2" O.D. (3" NPS) T35 4" O.D. (3-1/2" NPS) KAC/KAD/KSE/KSF/KVR/KVF Drill mounting DM19 1 at 90° DM28 2 at 180° DM28 PL 2 at 180° with one side plugged DM29 2 at 90° DM39 3 at 90° DM49 4 at 90° CSX/DSX/RSX/AERIS™/OMERO™/ HLA/KAX Drill mounting DM19AS 1 at 90° DM28AS 2 at 180° DM29AS 2 at 90° DM39AS 3 at 90° DM49AS 4 at 90° RAD drill mounting DM19RAD 1 at 90° DM28RAD 2 at 180° DM29RAD 2 at 90° DM39RAD 3 at 90° DM49RAD 4 at 90° ESX Drill mounting DM19ESX 1 at 90° DM28ESX 2 at 180° DM29ESX 2 at 90° DM39ESX 3 at 90° DM49ESX 4 at 90°	AERIS™ Suspend drill mounting[4,5] DM19AST_ 1 at 90° DM28AST_ 2 at 180° DM29AST_ 2 at 90° DM39AST_ 3 at 90° DM49AST_ 4 at 90° OMERO™ Suspend drill mounting[4,5] DM19MRT_ 1 at 90° DM28MRT_ 2 at 180° DM29MRT_ 2 at 90° DM39MRT_ 3 at 90° DM49MRT_ 4 at 90°	Shipped installed VD Vibration damper HAxy Horizontal arm bracket (1 fixture)[6,7] FDLxy Festoon outlet less electrical[6] CPL12/xy 1/2" coupling[6] CPL34/xy 3/4" coupling[6] CPL1/xy 1" coupling[6] NPL12/xy 1/2" threaded nipple[6] NPL34/xy 3/4" threaded nipple[6] NPL1/xy 1" threaded nipple[6] EHHxy Extra handhole[6,8] NEC NEC 410.30 compliant gasketed handhole (Not UL Labeled) IC Interior coating[9] L/AB Less anchor bolts (Include when anchor bolts are not needed) TP Tamper resistant handhole cover fasteners UL UL listed with label (Includes NEC compliant cover) BAA Buy America(n) Act Compliant[10]	Standard colors DDBXD Dark bronze DWHXD White DBLXD Black DMBXD Medium bronze DNAXD Natural aluminum Classic colors DSS Sandstone DGC Charcoal gray DTG Tennis green DBR Bright red DSB Steel blue Architectural Colors and Special Finishes Galvanized, Paint over Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes available.

NOTES:

1. Handhole covers (HHC), full base covers (FBC) and top caps (TC) shipped separately. No need to call out in nomenclature. For additional parts please order as replacements.
2. Wall thickness will be signified with a "C" (11 Gauge) or a "G" (7-Gauge) in nomenclature. "C" - 0.1196" | "G" - 0.1793".
3. PT open top poles include top cap. When ordering tenon mounting and drill mounting for the same pole, follow this example: DM28/T20. The combination includes a required extra handhole.
4. Refer to the fixture spec sheet for the correct drilling template pattern and orientation compatibility.
5. Insert "1" or "2" to designate fixture size; e.g. DM19AST2.
6. Specify location and orientation when ordering option.
   For "x": Specify the height above the base of pole in feet or feet and inches; separate feet and inches with a "-".
   Example: 5ft = 5 and 20ft 3in = 20-3
   For "y": Specify orientation from handhole (A,B,C,D)
   Refer to the Handhole Orientation diagram below.
   Example: 1/2" coupling at 5'8", orientation C = CPL12/5-8C
7. Horizontal arm is 18" x 2-3/8" O.D. tenon standard, with radius curve providing 12" rise and 2-3/8" O.D. if ordering two horizontal arm at the same height, specify with HAxyy. Example: HA20BD.
8. Combination of tenon-top and drill mount includes extra handhole. EHH does not include cover, order replacement part if needed.
9. Provides enhanced corrosion resistance.
10. Use when mill certifications are required.
11. Additional colors available; see www.lithonia.com/archcolors or Architectural Colors brochure (Form No. 794.3). Available by formal quote only, consult factory for details.

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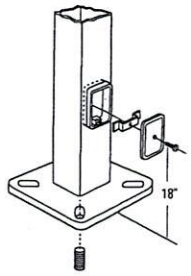
SSS Square Straight Steel Poles

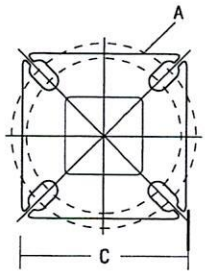
TECHNICAL INFORMATION — EPA (ft2) with 1.3 gust													
Catalog Number	Nominal Shaft Length (ft.)*	Pole Shaft Size (Base in. x Top in. x ft.)	Wall thick (in)	Gauge	EPA (ft^2) with 1.3 gust						Bolt circle (in)	Bolt size (in. x in. x in.)	Approximate ship weight (lbs.)
					80 MPH	Max. weight	90 MPH	Max. weight	100 MPH	Max. weight			
SSS 10 4C	10	4.0 x 10.0	0.1196	11	30.6	765	23.8	595	18.9	473	8--9	3/4 x 18 x 3	75
SSS 12 4C	12	4.0 x 12.0	0.1196	11	24.4	610	18.8	470	14.8	370	8--9	3/4 x 18 x 3	90
SSS 14 4C	14	4.0 x 14.0	0.1196	11	19.9	498	15.1	378	11.7	293	8--9	3/4 x 18 x 3	100
SSS 16 4C	16	4.0 x 16.0	0.1196	11	15.9	398	11.8	295	8.9	223	8--9	3/4 x 18 x 3	115
SSS 18 4C	18	4.0 x 18.0	0.1196	11	12.6	315	9.2	230	6.7	168	8--9	3/4 x 18 x 3	125
SSS 20 4C	20	4.0 x 20.0	0.1196	11	9.6	240	6.7	167	4.5	150	8--9	3/4 x 18 x 3	140
SSS 20 4G	20	4.0 x 20.0	0.1793	7	14	350	11	275	8	200	8--9	3/4 x 30 x 3	198
SSS 20 5C	20	5.0 x 20.0	0.1196	11	17.7	443	12.7	343	9.4	235	10--12	1 x 36 x 4	185
SSS 20 5G	20	5.0 x 20.0	0.1793	7	28.1	703	21.4	535	16.2	405	10--12	1 x 36 x 4	265
SSS 25 4C	25	4.0 x 25.0	0.1196	11	4.8	150	2.6	100	1	50	8--9	3/4 x 18 x 3	170
SSS 25 4G	25	4.0 x 25.0	0.1793	7	10.8	270	7.7	188	5.4	135	8--9	3/4 x 30 x 3	245
SSS 25 5C	25	5.0 x 25.0	0.1196	11	9.8	245	6.3	157	3.7	150	10--12	1 x 36 x 4	225
SSS 25 5G	25	5.0 x 25.0	0.1793	7	18.5	463	13.3	333	9.5	238	10--12	1 x 36 x 4	360
SSS 30 4G	30	4.0 x 30.0	0.1793	7	6.7	168	4.4	110	2.6	65	8--9	3/4 x 30 x 3	295
SSS 30 5C	30	5.0 x 30.0	0.1196	11	4.7	150	2	50	--	--	10--12	1 x 36 x 4	265
SSS 30 5G	30	5.0 x 30.0	0.1793	7	10.7	267	6.7	167	3.9	100	10--12	1 x 36 x 4	380
SSS 30 6G	30	6.0 x 30.0	0.1793	7	19	475	13.2	330	9	225	11--13	1 x 36 x 4	520
SSS 35 5G	35	5.0 x 35.0	0.1793	7	5.9	150	2.5	100	--	--	10--12	1 x 36 x 4	440
SSS 35 6G	35	6.0 x 35.0	0.1793	7	12.4	310	7.6	190	4.2	105	11--13	1 x 36 x 4	540
SSS 39 6G	39	6.0 x 39.0	0.1793	7	7.2	180	3	75	--	--	11--13	1 x 36 x 4	605

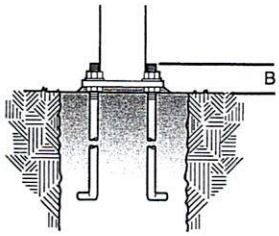
* EPA values are based ASCE 7-93 wind map. For 1/2 ft increments, add -6 to the pole height. Ex: 20-6 equals 20ft 6in.

BASE DETAIL

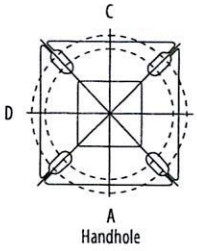


POLE DATA								
Shaft base size	Bolt circle A	Bolt projection B	Base diameter C	Base plate thickness	Template description	Anchor bolt description	Anchor bolt and template number	Anchor bolt description
4"C	8" – 9"	3.25"- 3.75"	8"- 8.25"	0.75"	ABTEMPLATE PJ50004	AB18-0	ABSSS-4C	3/4"x18"x3"
4"G	8" – 9"	3.38"- 3.75"	8"- 8.25"	0.875"	ABTEMPLATE PJ50004	AB30-0	ABSSS-4G	3/4"x30"x3"
5"	10" – 12"	3.5"- 4"	11"	1"	ABTEMPLATE PJ50010	AB36-0	ABSSS-5	1"x36"x4"
6"	11" – 13"	4"- 4.50"	12.5"	1"	ABTEMPLATE PJ50011	AB36-0	N/A	1"x36"x4"





HANDHOLE ORIENTATION



Default DM19 is on side B.

IMPORTANT INSTALLATION NOTES:

- **Do not** erect poles without having fixtures installed.
- Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates.
- If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage.
- Lithonia Lighting is not responsible for the foundation design.

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Fifthroom.com™
home • garden • leisure
5410 Route 8 Gibsonia, PA 15044
1-888-293-2339 / FAX: 1-724-444-5301

Quote #: 3038163 - H
Date: 2/22/22
Good Until: 3/8/22

Name: Robert Imbrogno
Phone: 888-293-2339 x246
Fax: 724-444-5301
Email: Robert.Imbrogno@fifthroom.com

Ref #:
Job Name:
PO #:

Quantity	Product & Description	Unit Price	Total
1	14' x 18' Treated Pine Gable Ramada	$12,599.00	$12,599.00
1	Walnut Tone Stain/Sealer - Color Confirmed	$1,599.00	$1,599.00
1	Rustic Cedar Asphalt Shingles - Color Confirmed	$0.00	$0.00
1	8 ft 5"x5" Straight Laminated Posts	$0.00	$0.00
1	16" High Post Trim	$0.00	$0.00
1	Open Gable	$0.00	$0.00
1	6/12 Roof Pitch	$0.00	$0.00
1	Engineered Drawings, with Stamp; Drawing State: NH; Permit to be acquired by Customer	$1,599.00	$1,599.00
0	Excluded: Ceiling, Cupola, Privacy Panel, Deck, Fan		

Subtotal	$15,797.00
Municipal Discount 5%	($709.90)
Shipping	$1,940.00
Pre-Tax Total	$17,027.10
Sales Tax	$0.00
TOTAL	$17,027.10

Billing Details

Company: Dover Rotary Club
Name: Gary Bannon
Address: PO Box 1801
City: Dover
State: New Hampshire
Zip Code: 03821-1801
Phone: 603-516-6410
Email: g.bannon@dover.nh.gov

Shipping Details

Company: Guppey Park - City of Dover
Name: Gary Bannon
Address: 150 Portland Ave
City: Dover
State: New Hampshire
Zip Code: 03820
Phone: 603-516-6410
Email: g.bannon@dover.nh.gov

Shipping Notes

Shipping As a kit
Method: Motor Freight
Estimated shipping 9-11 Weeks after Drawing Approval.
Estimated transit time 2-3 days.

Payment Terms

50% down payment to start production.
Balance due prior to shipping

Notes

*Production will not begin until Stamped Engineered Drawings are Approved
*Stamped Engineered Drawings are currently taking 3-4 weeks to Complete

• Size or number of members, types of fastener and other design items could be affected by engineering or local ordinances. Fifthroom.com reserves the right to adjust pricing based on Engineering and local code compliance.
• Fasteners: All Fasteners Included

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DOVER SKATEPARK
DOVER, NEW HAMPSHIRE

90% SUBMITTAL

GENERAL NOTES

1. NOTIFY THE ACTION SPORTS DESIGNER IMMEDIATELY OF ANY DISCREPANCIES WITHIN THE CONSTRUCTION DOCUMENTS AND/OR WRITTEN SPECIFICATIONS.

2. THE METRIC EQUIVALENT "[ ]" DIMENSIONS ARE SHOWN FOR REFERENCE ONLY.

3. PERFORM ALL WORK IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND/OR NATIONAL BUILDING CODES AND REQUIREMENTS.

4. THE CONTRACTOR SHALL WARRANTY ALL OF THEIR WORK DURING CONSTRUCTION AND A MINIMUM OF ONE YEAR AFTER THE PROJECT IS COMPLETED.

STEEL SHAPES CHART

ROUND		SQUARE		RECTANGULAR	
NOMINAL	HSS	NOMINAL	HSS	NOMINAL	HSS
2"	2.375 x 0.1875 6.03cm x 4.76mm	2"x2"	2.00 x 2.00 x 0.1875 5.08cm x 5.08cm x 4.76mm	2"x6"	2.00 x 6.00 x 0.1875 5.08cm x 15.24cm x 4.76mm
2-1/2"	2.875 x 0.1875 7.30cm x 4.76mm	2-1/2"x2-1/2"	2.50 x 2.50 x 0.1875 7.30cm x 7.30cm x 4.76mm	2"x8"	2.00 x 8.00 x 0.1875 5.08cm x 20.32cm x 4.76mm
3"	3.50 x 0.1875 8.89cm x 4.76mm	3"x3"	3.00 x 3.00 x 0.1875 7.62cm x 7.62cm x 4.76mm	2-1/2"x4"	2.50 x 4.00 x 0.1875 6.35cm x 10.16cm x 4.76mm
3-1/2"	4.00 x 0.1875 10.16cm x 4.76mm	3-1/2"x3-1/2"	3.50 x 3.50 x 0.1875 8.89cm x 8.89cm x 4.76mm	2-1/2"x5"	2.50 x 5.00 x 0.1875 6.35cm x 12.70cm x 4.76mm
4"	4.50 x 0.1875 11.43cm x 4.76mm	4"x4"	4.00 x 4.00 x 0.1875 10.16cm x 10.16cm x 4.76mm	3"x5"	3.00 x 5.00 x 0.1875 7.62cm x 12.70cm x 4.76mm

NOTES:
1. ALL HOLLOW STRUCTURAL SECTIONS (HSS) TO BE ASTM A-500 GRADE B STEEL.

REBAR DEVELOPMENT LENGTHS

NORMAL WEIGHT CONCRETE							
REBAR SIZE		3000 P.S.I.			4000 P.S.I.		
ENGLISH	METRIC	TOP BARS ld	BOT. BARS ld	ldh	TOP BARS ld	BOT. BARS ld	ldh
#3	#10	21" [53.34cm]	16" [40.64cm]	8" [20.32cm]	18" [45.72cm]	14" [35.56cm]	7" [17.78cm]
#4	#13	28" [71.12cm]	22" [55.88cm]	11" [27.94cm]	25" [63.50cm]	19" [48.26cm]	9" [22.86cm]
#5	#16	36" [91.44cm]	27" [68.58cm]	14" [35.56cm]	31" [78.74cm]	24" [60.96cm]	12" [30.48cm]
#6	#19	43" [109.22cm]	33" [83.82cm]	16" [40.64cm]	37" [93.98cm]	28" [71.12cm]	14" [35.56cm]
#7	#22	62" [157.48cm]	48" [121.92cm]	19" [48.26cm]	54" [137.16cm]	42" [106.68cm]	17" [43.18cm]
#8	#25	71" [180.34cm]	55" [139.70cm]	22" [55.88cm]	62" [157.48cm]	47" [119.38cm]	19" [48.26cm]
#9	#29	80" [203.20cm]	62" [157.48cm]	25" [63.50cm]	69" [175.26cm]	53" [134.62cm]	21" [53.34cm]
#10	#32	89" [226.06cm]	68" [172.72cm]	27" [68.58cm]	77" [195.58cm]	59" [149.86cm]	24" [60.96cm]
#11	#36	98" [248.92cm]	75" [190.50cm]	30" [76.20cm]	85" [215.90cm]	65" [165.10cm]	26" [66.04cm]

NOTES:
1. THESE LENGTHS APPLY TYPICALLY UNLESS OTHERWISE NOTED.
2. CLEAR SPACING BETWEEN PARALLEL BARS MUST BE AT LEAST ONE BAR DIAMETER BUT NOT LESS THAN 1" [2.54cm].
3. TOP BARS: HORIZONTAL BARS SO PLACED THAT MORE THAN 12" [30.48cm] OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW.
4. LIGHTWEIGHT CONCRETE: MULTIPLY VALUES IN TABLE BY 1.3.
5. CLASS B SPLICE: LD X 1.3 LAP LENGTH. STAGGER SPLICES MIN. OF 24" [60.96cm].

CONSTRUCTION DISCLAIMER

ALL MEASUREMENTS, DISTANCES AND RADII TO BE VERIFIED IN THE FIELD.

STRUCTURAL NOTES

1. DESIGN CRITERIA
DESIGN CRITERIA:

2015 EDITION OF THE INTERNATIONAL BUILDING CODE, WITH LOCAL AMENDMENTS.

LOADS:

WIND DESIGN: BASIC WIND SPEED = 90 MPH (3 SECOND GUST). Iw = 1.0. EXPOSURE C.

SEISMIC DESIGN: Ie = 1.0. Ss = 0.172 S1 = 0.051 SEISMIC SITE CLASS = D.
Sds = 0.183 SD1 = 0.081 SEISMIC DESIGN CATEGORY B.

GENERAL:

1. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDA.

2. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT. FOR BIDDING PURPOSES, WHERE ANY MEMBER IS SHOWN BUT NOT CALLED OUT, THE LARGEST SIMILAR MEMBER SHALL BE UTILIZED.

3. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.

CONCRETE AND SHOTCRETE:

1. ALL CONCRETE WORK SHALL CONFORM WITH THE REQUIREMENTS OF ACI 301 AND ACI 318. CEMENT PER ASTM C150, TYPE II. AGGREGATE PER ASTM C33. LIGHTWEIGHT AGGREGATE PER ASTM C330. CONCRETE SHALL BE READY MIXED IN ACCORDANCE WITH ASTM C94 AND SHALL BE DESIGNED FOR A MINIMUM 28 DAY COMPRESSIVE STRENGTH AS FOLLOWS:

FLAT SLABS, WALLS ----------4,000 PSI
SLABS ON GRADE ----------4,000 PSI
FOUNDATIONS ----------4,000 PSI

2. ALL SHOTCRETE WORK SHALL CONFORM WITH THE REQUIREMENTS OF ACI 506, LATEST EDITION, "SPECIFICATION FOR MATERIALS, PROPORTIONING AND APPLICATION OF SHOTCRETE" AND ACI 506.2, LATEST EDITION, "RECOMMENDED PRACTICES FOR SHOTCRETE." AGGREGATE PER ASTM C33.

3. SHOTCRETE MIX DESIGNS SHALL BE DESIGNED FOR A MINIMUM 28 DAY COMPRESSIVE STRENGTH AS FOLLOWS:

FLAT SLABS, WALLS ----------4,000 PSI
SLABS ON GRADE ----------4,000 PSI

4. SHOTCRETE SURFACE PREPARATION: EXPOSED EXISTING CONCRETE SHALL BE SANDBLASTED CLEAN. SURFACES SHALL BE FOLLOWED BY WETTING AND DAMP DRYING JUST PRIOR TO SHOTCRETE APPLICATION.

5. ANY REBOUND OR ACCUMULATED LOOSE AGGREGATE SHALL BE REMOVED FROM THE SURFACES TO BE COVERED PRIOR TO PLACING THE INITIAL OR ANY SUCCEEDING LAYERS OF SHOTCRETE, REBOUND SHALL NOT BE REUSED AS AGGREGATE.

6. JOINTS IN WALL POURS ARE PERMISSIBLE. AT JOINTS, SHOTCRETE SHALL BE SLOPED TO A THIN EDGE. BEFORE PLACING ADDITIONAL MATERIAL, ALL SURFACES SHALL BE THOROUGHLY CLEANED AND WETTED AND ALL REINFORCING STEEL SHALL BE BRUSHED FREE OF LATENT SHOTCRETE MATERIAL.

7. THE CONTRACTOR SHALL FIX ALL CRACKS AND DISPLACEMENTS LARGER THAN 1/8".

CONTACTS

CLIENT	CITY OF DOVER, NH GARY BANNON 61 LOCUST ST. DOVER, NH 03820 [t] 603.516.6410 [f] 603.516.6431
DESIGNER	PILLAR DESIGN STUDIOS BRAD SIEDLECKI 1960 W. HAWK CT. CHANDLER, ARIZONA 85286 [t] 888.880.5112 [f] 888.841.2569
SPECIALTY CONTRACTOR	ARTISAN SKATEPARKS ANDY DUCK 4600 TAMARACK DRIVE KITTY HAWK, NORTH CAROLINA 27949 [t] 252.202.1333

SHEET INDEX

SHEET	DESCRIPTION
AS-01	COVER SHEET
AS-02	EXISTING CONDITIONS PLAN
AS-03	ROUGH GRADING PLAN
AS-04	MASTER PLAN
AS-05	3 DIMENSIONAL GRAPHIC
AS-06	HORIZONTAL CONTROL PLAN
AS-07	HORIZONTAL CONTROL POINTS
AS-08	SURFACE GRADING & DRAINAGE PLAN
AS-09	COPING PLAN
AS-10	CONCRETE PLAN
AS-11	JOINTING PLAN
AS-12	CROSS SECTIONS
AS-13	CROSS SECTIONS
AS-14	CONSTRUCTION DETAILS
AS-15	CONSTRUCTION DETAILS
AS-16	CONSTRUCTION DETAILS
AS-17	CONSTRUCTION DETAILS

STRUCTURAL NOTES

REINFORCING STEEL:

1. REINFORCING STEEL SHALL CONFORM TO ASTM A615 (Fy = 60 KSI) DEFORMED BARS FOR ALL BARS #3 AND LARGER. ALL REINFORCING TO BE WELDED SHALL BE ASTM A706. WELDED WIRE FABRIC PER ASTM A185, WIRE PER ASTM A82. LATEST ACI CODE AND DETAILING MANUAL APPLY.

2. ACCURATELY PLACE OR SUPPORT ALL REINFORCING, INCLUDING WELDED WIRE FABRIC, WITH GALVANIZED METAL CHAIRS, SPACERS OR HANGERS FOR THE FOLLOWING CLEAR CONCRETE COVERAGES:
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ------- 3"
EXPOSED TO EARTH OR WEATHER
#6 OR LARGER ---------- 2"
#5 AND SMALLER ---------- 1 1/2"
COLUMNS (TO TIES) ---------- 1 1/2"
BEAMS (TO STIRRUPS) ---------- 1 1/2"
FLAT SLAB ---------- 3/4"
ALL OTHER PER LATEST EDITION OF ACI 318.

STRUCTURAL STEEL:

1. ALL STEEL CONSTRUCTION SHALL CONFORM WITH THE LATEST AISC HANDBOOK.
ALL RECTANGULAR TS/HSS SHALL BE ASTM A500, GRADE B (Fy = 46 KSI).
ALL PIPE STEEL SHALL BE ASTM A53, GRADE B (Fy = 35 KSI). ALL OTHER STRUCTURAL SHAPES AND PLATES SHALL BE ASTM A36 (Fy = 36 KSI). PAINT ALL STEEL SURFACES WITH FABRICATOR'S STANDARD RUST-INHIBITING PRIMER EXCEPT AT SURFACES ENCASED IN CONCRETE.

CONSTRUCTION DETAIL NOTES

1. "BASE COURSE" SHALL CONSIST OF A 4" [10.16cm] LAYER OF COMPACTED 1" [2.54cm] CRUSHED ROCK; "COMPACTED SUBGRADE" SHALL CONSIST OF THE UPPER MOST 1'-0" [30.48cm] OF NATIVE SOIL AND/OR ENGINEERED FILL COMPACTED TO 95% STANDARD PROCTOR. IF THESE GUIDELINES CONFLICT WITH THE GEO-TECHNICAL REPORT, THE CONTRACTOR TO FOLLOW THE MORE STRINGENT OF THE TWO GUIDELINES

2. GRIND SMOOTH ALL EXPOSED COPING AND RAIL WELDS. APPLY END CAPS TO ALL EXPOSED COPING AND RAIL ENDS, OPEN STEEL ENDS OR CONCRETE FILLED CAPS ARE UNACCEPTABLE.

3. HOOK ANCHORS OR HEX BOLTS MAY BE USED IN-LIEU OF NELSON STUDS TO SECURE COPING AND PROTECTIVE PLATES IN PLACE PROVIDED THEY ARE THE SAME NOMINAL SIZE.

4. ALL RAIL POSTS SHALL BE PLACED 3" [7.62cm] MINIMUM CLEAR OF ALL CONCRETE AND/OR SHOTCRETE FACES.

5. SOME REINFORCEMENT MEMBERS MAY BE SHOWN OUT OF SCALE AND/OR POSITION FOR CLARITY ONLY. AT A MINIMUM ALL REINFORCEMENT SHALL BE PLACED CLEAR OF ALL CONCRETE AND/OR SHOTCRETE FACES AS NOTED BELOW:
- WELDED WIRE FABRIC: 2" [5.08cm]
- SPEED DOWELS: 3" [7.62cm]
- REBAR IN FLATWORK, BANKS, BOWLS, WATERFALLS AND TURNDOWN WALLS: 2" [5.08cm] OR 3" [7.62cm] IF PERMANENTLY EXPOSED TO EARTH
- REBAR IN FORMED LEDGES, EXTENSIONS AND RETAINING WALLS: 3" [7.62cm]

6. ALL CONCRETE AND SHOTCRETE SHALL HAVE A SMOOTH TROWEL FINISH UNLESS OTHERWISE NOTED.

7. ALL EXPOSED OUTSIDE CONCRETE CORNERS SHALL RECEIVE A 1/2" [12.70mm] CHAMFER UNLESS OTHERWISE NOTED.

8. CAP ALL EXPOSED ENDS, FILL ALL VOIDS AND GRIND ALL WELDS SMOOTH.

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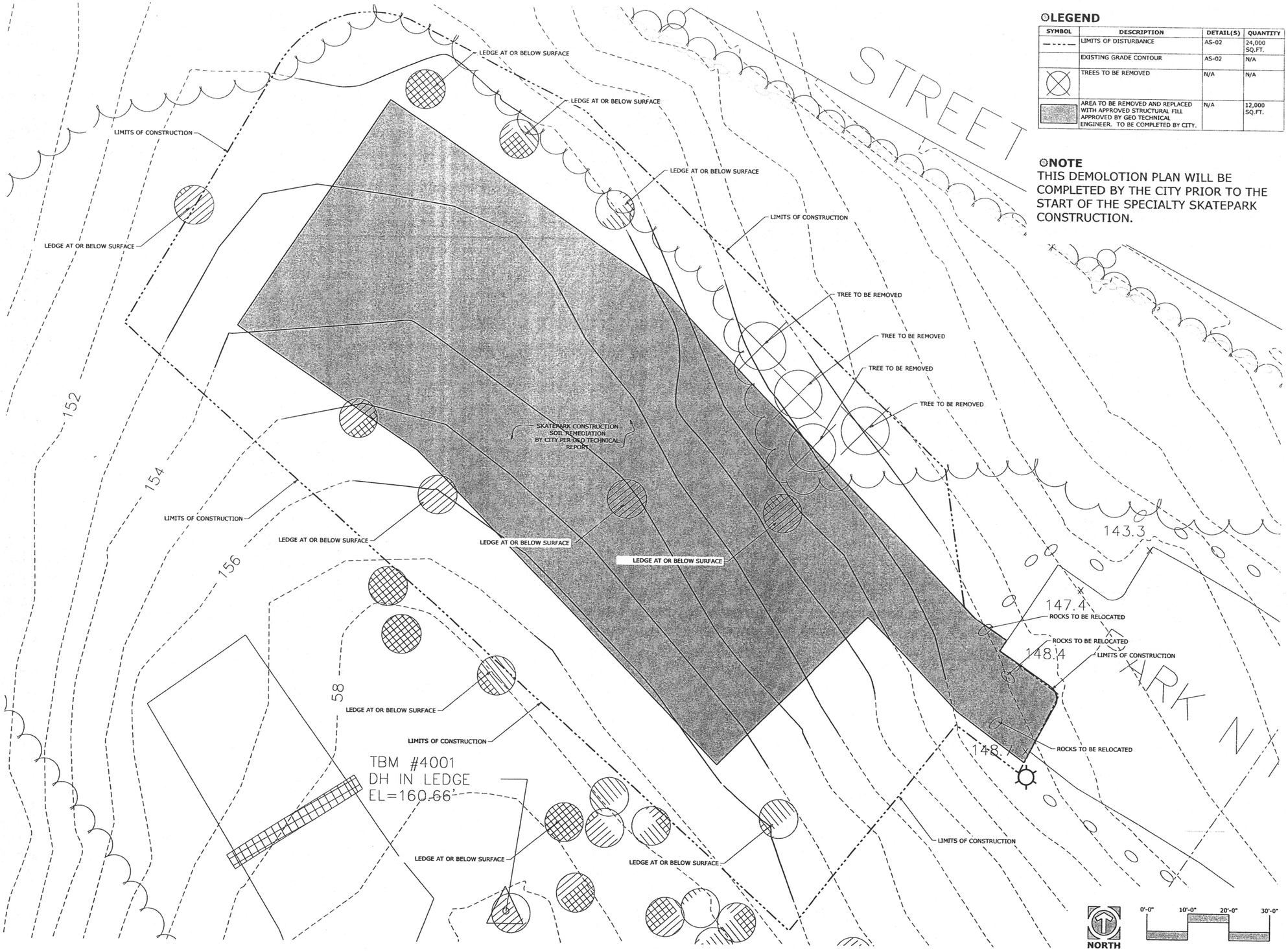
DRAWN: PILLAR/ARTISAN TEAM
PROJECT #: 20-27
DATE: 09/28/21

PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: COVER SHEET

SHEET: 01 OF 18
AS-01
SKATEPARK



LEGEND

SYMBOL	DESCRIPTION	DETAIL(S)	QUANTITY
- - - - -	LIMITS OF DISTURBANCE	AS-02	24,000 SQ.FT.
	EXISTING GRADE CONTOUR	AS-02	N/A
	TREES TO BE REMOVED	N/A	N/A
	AREA TO BE REMOVED AND REPLACED WITH APPROVED STRUCTURAL FILL APPROVED BY GEO TECHNICAL ENGINEER. TO BE COMPLETED BY CITY.	N/A	12,000 SQ.FT.

NOTE

THIS DEMOLOTION PLAN WILL BE COMPLETED BY THE CITY PRIOR TO THE START OF THE SPECIALTY SKATEPARK CONSTRUCTION.

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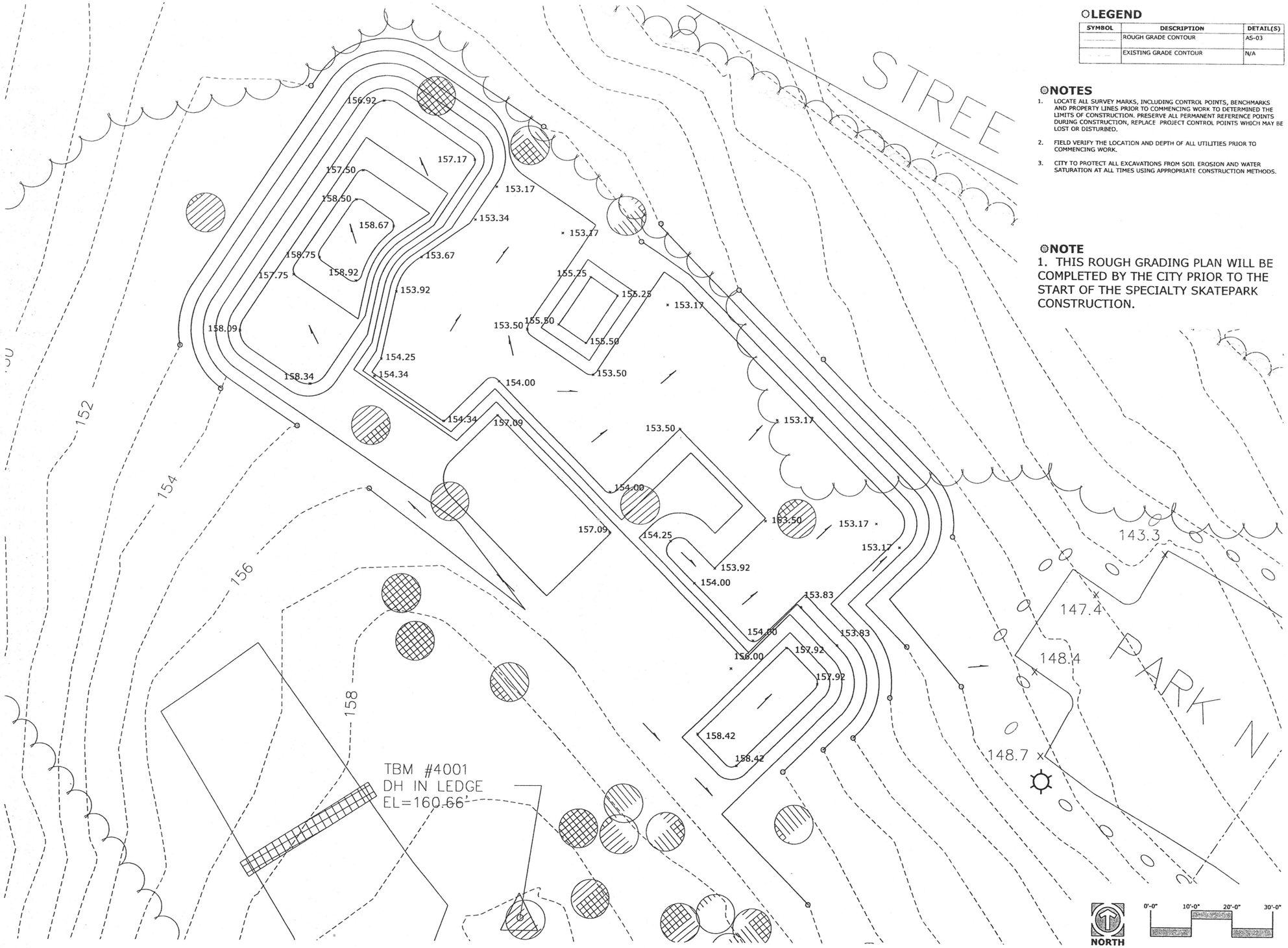
PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: EXISTING CONDITIONS-DEMOLITION PLAN

SHEET #: 02 OF 18
AS-02
SKATE PARK



LEGEND

SYMBOL	DESCRIPTION	DETAIL(S)
	ROUGH GRADE CONTOUR	AS-03
	EXISTING GRADE CONTOUR	N/A

NOTES

1. LOCATE ALL SURVEY MARKS, INCLUDING CONTROL POINTS, BENCHMARKS AND PROPERTY LINES PRIOR TO COMMENCING WORK TO DETERMINED THE LIMITS OF CONSTRUCTION. PRESERVE ALL PERMANENT REFERENCE POINTS DURING CONSTRUCTION, REPLACE PROJECT CONTROL POINTS WHICH MAY BE LOST OR DISTURBED.
2. FIELD VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO COMMENCING WORK.
3. CITY TO PROTECT ALL EXCAVATIONS FROM SOIL EROSION AND WATER SATURATION AT ALL TIMES USING APPROPRIATE CONSTRUCTION METHODS.

NOTE

1. THIS ROUGH GRADING PLAN WILL BE COMPLETED BY THE CITY PRIOR TO THE START OF THE SPECIALTY SKATEPARK CONSTRUCTION.

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PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: ROUGH GRADING PLAN

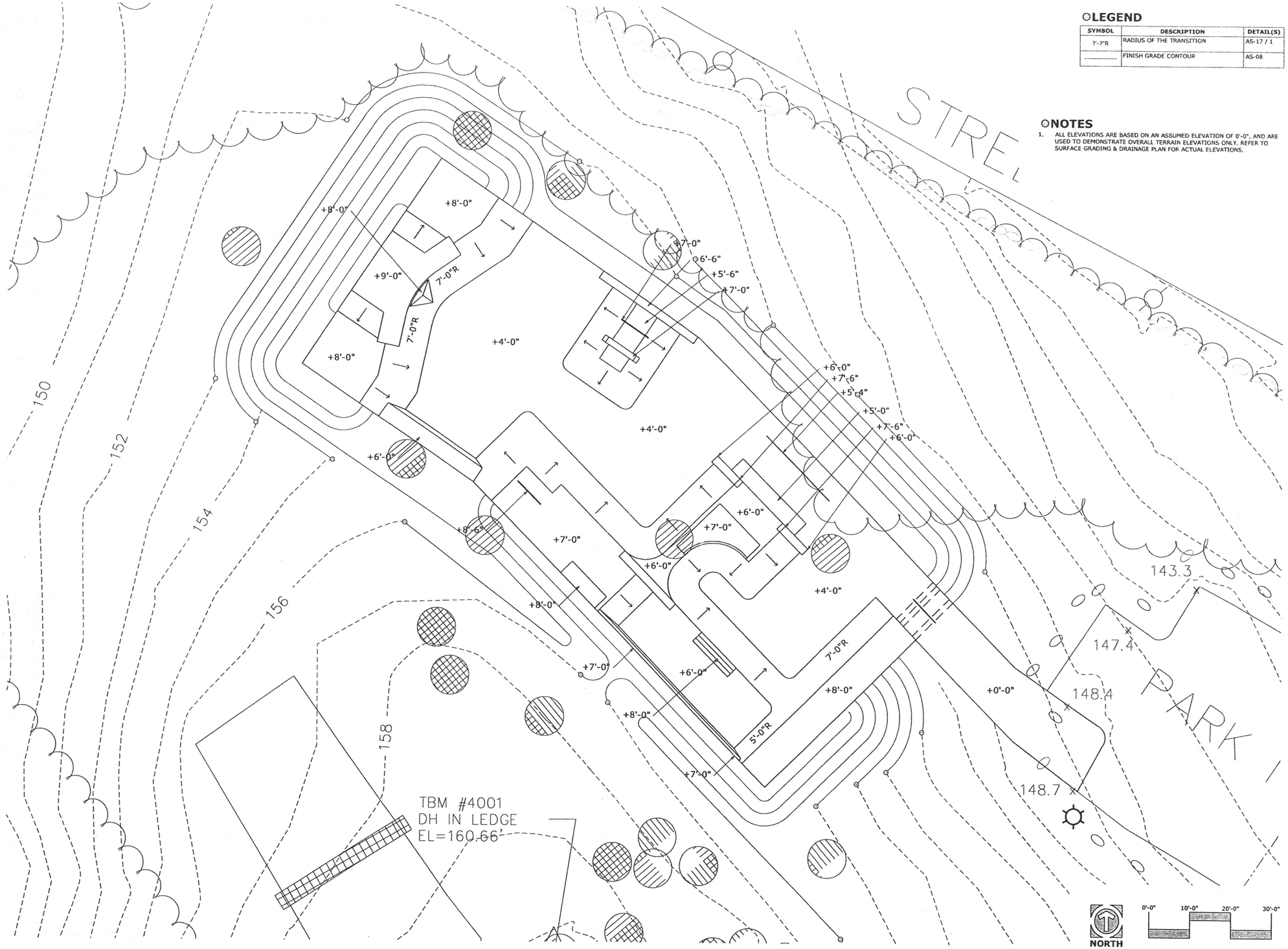
SHEET: AS-03
03 OF 18
SKATE PARK

LEGEND

SYMBOL	DESCRIPTION	DETAIL(S)
?'-?"R	RADIUS OF THE TRANSITION	AS-17 / 1
———	FINISH GRADE CONTOUR	AS-08

NOTES

1. ALL ELEVATIONS ARE BASED ON AN ASSUMED ELEVATION OF 0'-0", AND ARE USED TO DEMONSTRATE OVERALL TERRAIN ELEVATIONS ONLY. REFER TO SURFACE GRADING & DRAINAGE PLAN FOR ACTUAL ELEVATIONS.



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PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: MASTER PLAN

SHEET: AS-04
04 OF 18
SKATE PARK

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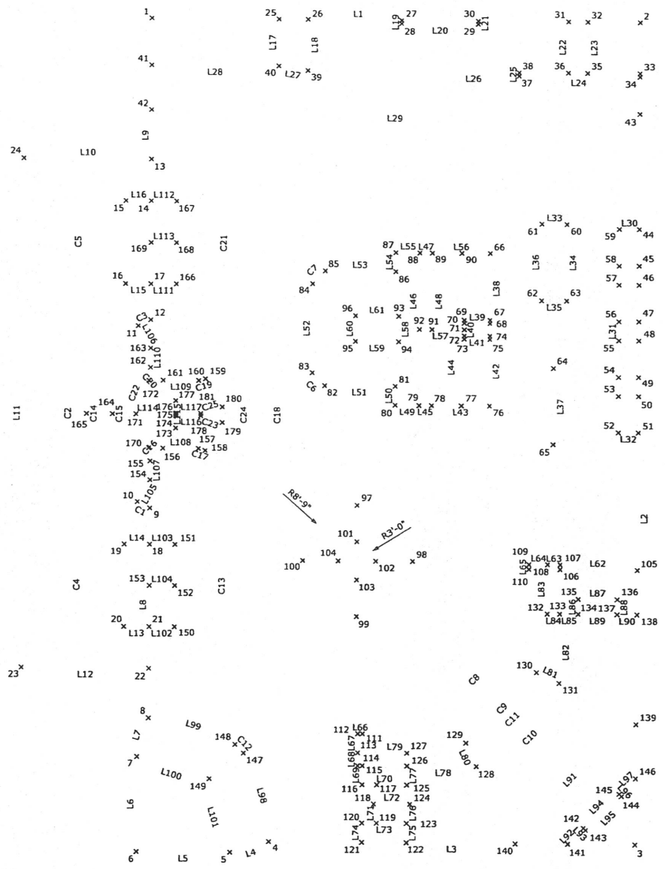
DATE: 09/28/21

SHEET: 05 OF 18
AS-05
SKATE PARK

PROJECT:
DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE:
3-DIMENSIONAL IMAGES



NOTES

1. COORDINATE VALUES SHOWN ARE INTENDED FOR HORIZONTAL POSITIONING AND DIMENSION CLARIFICATION ONLY. ALL POINTS SET IN THE FIELD FROM THESE VALUES SHALL FIRST BE CHECKED BY THE CONTRACTOR TO ENSURE THAT THE LOCATION IS CONSISTENT WITH THE DIMENSIONS AND GRAPHIC LOCATIONS SHOWN WITHIN THE APPROVED CONSTRUCTION DOCUMENTS. IN THE CASE OF A DISCREPANCY WITH ANY COORDINATE VALUE SHOWN, THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY THE ACTION SPORTS DESIGNER PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITY THAT MAY BE AFFECTED.

2. UPON REQUEST PILLAR DESIGN STUDIOS WILL PROVIDE THE CONTRACTOR/ SURVEYOR WITH A DIGITAL FILE CONTAINING THE POINT INFORMATION FOR THIS PROJECT.

3. ALL COORDINATES SHOWN AT THE BOTTOM OF ALL BANKS/ TRANSITIONS ARE LOCATED AT THE TANGENT.

4. BECAUSE OF THE SCALE OF THIS DRAWING AND PROXIMITY OF FEATURES TO EACH OTHER, THE LOCATION OF SOME OF THE POINTS MAY BE OBSCURED. REFER TO THE POINT TABLE(S) FOR THE ACTUAL LOCATIONS FOR ALL POINTS.

PROGRESS SUBMITTAL

THIS PLAN IS INCOMPLETE AND SHALL BE FINALIZED FOR THE NEXT SUBMITTAL.

NORTH

0'-0" 10'-0" 20'-0" 30'-0"

SCALE: 1" = 10'-0"

Pillar Design Studios

A DESIGN / BUILD COLLABORATION

Artesan Skateparks

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DESIGNED: PILLAR/ARTISAN TEAM

DRAWN: PILLAR TEAM

PROJECT #: 20-27

DATE: 09/28/21

PROJECT: DOVER SKATEPARK

DOVER, NEW HAMPSHIRE

SHEET TITLE: HORIZONTAL CONTROL PLAN

SHEET: 06 OF 18

AS-06

SKATEPARK

POINT TABLE		
POINT	NORTHING	EASTING
1	2916655.1143	793671.2255
2	2916707.0767	793728.0489
3	2916611.8790	793815.1029
4	2916572.8631	793772.4372
5	2916567.4506	793769.1549
6	2916557.4028	793758.1671
7	2916568.3906	793748.1194
8	2916574.0743	793745.3329
9	2916598.3609	793723.1238
10	2916597.7369	793720.9881
11	2916618.1826	793702.2876
12	2916620.2526	793703.1049
13	2916638.8254	793686.1209
14	2916634.0028	793690.5310
15	2916631.3034	793687.5791
16	2916621.7320	793696.3317
17	2916624.4314	793699.2836
18	2916594.1821	793726.9452
19	2916591.4828	793723.9933
20	2916581.9113	793732.7460
21	2916584.6107	793735.6978
22	2916579.7881	793740.1079
23	2916566.2913	793725.3485
24	2916625.3287	793671.3616
25	2916668.6110	793685.9848
26	2916671.7018	793689.3647
27	2916681.7703	793700.3752
28	2916681.4014	793700.7126
29	2916689.4994	793709.5682
30	2916689.8684	793709.2308
31	2916699.5725	793719.8427
32	2916701.6780	793722.1452
33	2916701.1730	793733.4476
34	2916700.8040	793733.7850
35	2916695.7743	793727.5439
36	2916693.6688	793725.2414
37	2916687.9821	793719.7637
38	2916688.3511	793719.4262
39	2916665.7980	793694.7634
40	2916663.2017	793690.9314
41	2916649.7050	793676.1720
42	2916644.5392	793680.8959
43	2916696.5017	793737.7193
44	2916683.2183	793749.8664
45	2916678.9750	793753.7467
46	2916676.7611	793755.7712
47	2916672.5178	793759.6515
48	2916670.3039	793761.6761
49	2916666.0605	793765.5564
50	2916663.8466	793767.5809
51	2916659.6033	793771.4612
52	2916657.5788	793769.2473
53	2916661.8221	793765.3670
54	2916664.0360	793763.3425
55	2916668.2793	793759.4622
56	2916670.4932	793757.4376
57	2916674.7365	793753.5573
58	2916676.9504	793751.5328
59	2916681.1938	793747.6525
60	2916676.1023	793741.1290
61	2916673.4030	793738.1771
62	2916664.5474	793746.2752
63	2916667.2467	793749.2271
64	2916658.0414	793754.9348
65	2916649.1858	793763.0328
66	2916664.4077	793735.2235
67	2916656.6591	793742.3093
68	2916656.2901	793742.6467
69	2916653.9597	793739.3575
70	2916653.5907	793739.6949
71	2916652.8528	793740.3697
72	2916652.1148	793741.0445
73	2916651.7458	793741.3820
74	2916654.8142	793743.9964
75	2916654.4452	793744.3338
76	2916646.6965	793751.4196
77	2916643.7441	793748.1910
78	2916640.6230	793744.7779
79	2916639.2733	793743.3020
80	2916636.7427	793740.5346
81	2916638.9566	793738.5101
82	2916631.3647	793730.2080
83	2916631.4909	793727.3824
84	2916641.8225	793717.9347
85	2916644.6481	793718.0609
86	2916652.2400	793726.3630
87	2916654.4539	793724.3385
88	2916656.9845	793727.1059
89	2916658.3342	793728.5818
90	2916661.4553	793731.9949
91	2916649.4786	793736.6799
92	2916648.1289	793735.2039
93	2916647.4116	793731.4559
94	2916644.4598	793734.1552
95	2916639.9046	793729.1740
96	2916642.8565	793726.4746
97	2916621.1198	793746.9040
98	2916620.5674	793759.2661
99	2916608.2054	793758.7137
100	2916608.7577	793746.3517
101	2916616.8765	793750.7844
102	2916616.6871	793755.0228
103	2916612.4487	793754.8334
104	2916612.6381	793750.5950
105	2916643.6116	793786.0849

POINT TABLE		
POINT	NORTHING	EASTING
106	2916635.5135	793777.2293
107	2916636.0670	793776.7232
108	2916634.7173	793775.2472
109	2916632.6928	793773.0333
110	2916632.1394	793773.5395
111	2916595.4104	793771.9020
112	2916594.9005	793771.3445
113	2916592.6864	793773.3691
114	2916591.2105	793774.7188
115	2916591.7166	793775.2723
116	2916589.5027	793777.2968
117	2916591.0684	793779.0089
118	2916588.5170	793780.6644
119	2916586.6406	793783.0579
120	2916585.0749	793781.3458
121	2916582.8610	793783.3703
122	2916587.5849	793788.5361
123	2916589.7988	793786.5116
124	2916592.3501	793784.8561
125	2916594.2266	793782.4626
126	2916596.4405	793780.4381
127	2916597.9164	793779.0884
128	2916603.7484	793788.4296
129	2916605.3288	793784.7550
130	2916621.1099	793785.4602
131	2916622.3563	793789.2610
132	2916628.9981	793780.4772
133	2916630.3478	793781.9532
134	2916632.3723	793784.1671
135	2916634.0991	793782.5880
136	2916638.1482	793787.0158
137	2916636.4213	793788.5949
138	2916638.4458	793790.8088
139	2916625.7738	793802.3968
140	2916599.1729	793801.2082
141	2916604.8991	793807.4700
142	2916608.3956	793807.6262
143	2916608.3733	793808.1257
144	2916615.9931	793808.4662
145	2916616.0154	793807.9667
146	2916619.5119	793808.1230
147	2916580.3134	793760.1515
148	2916580.3991	793758.2341
149	2916573.6729	793758.8942
150	2916587.3100	793738.6497
151	2916596.8815	793729.8971
152	2916592.0957	793734.2734
153	2916589.3964	793731.3215
154	2916601.6376	793720.1275
155	2916603.8679	793718.0879
156	2916606.6935	793718.2142
157	2916610.5002	793722.3769
158	2916610.9917	793723.3676
159	2916619.3688	793715.7072
160	2916618.4259	793715.1292
161	2916614.6193	793710.9665
162	2916614.7456	793708.1408
163	2916616.9759	793706.1013
164	2916605.2577	793708.6866
165	2916602.5584	793705.7347
166	2916627.1307	793702.2355
167	2916636.7021	793693.4828
168	2916631.9164	793697.8592
169	2916629.2171	793694.9073
170	2916605.2291	793716.5387
171	2916607.7884	793711.4540
172	2916613.0811	793709.3584
173	2916610.4047	793717.5307
174	2916611.8806	793716.1810
175	2916612.0061	793716.0663
176	2916612.1315	793715.9515
177	2916613.6075	793714.6019
178	2916614.5800	793719.1329
179	2916616.0968	793722.3682
180	2916617.9181	793720.7027
181	2916614.8309	793718.9034

LINE TABLE		
LINE	LENGTH	BEARING
L1	77.00'	S47°33'31"W
L2	129.00'	N42°26'29"W
L3	57.82'	N47°33'31"E
L4	6.33'	N31°14'01"E
L5	14.89'	N47°33'31"E
L6	14.89'	S42°26'29"E
L7	6.33'	S26°07'00"E
L8	32.91'	S42°26'29"E
L9	47.24'	S42°26'29"E
L10	20.00'	S47°33'31"W
L11	80.00'	S42°26'29"E
L12	20.00'	S47°33'31"W
L13	4.00'	S47°33'31"W
L14	4.00'	S47°33'31"W
L15	4.00'	S47°33'31"W
L16	4.00'	S47°33'31"W
L17	7.33'	N42°26'29"W
L18	8.00'	N42°26'29"W
L19	0.50'	N42°26'29"W
L20	12.00'	S47°33'31"W
L21	0.50'	N42°26'29"W
L22	8.00'	S42°26'29"E
L23	8.00'	S42°26'29"E
L24	19.00'	N47°33'31"E
L25	0.50'	N42°26'29"W
L26	52.42'	N47°33'31"E
L27	4.63'	S55°52'52"W
L28	20.00'	N42°33'31"E
L29	77.00'	N47°33'31"E
L30	3.00'	S47°33'31"W
L31	32.00'	S42°26'29"E
L32	3.00'	S47°33'31"W
L33	4.00'	S47°33'31"W
L34	12.00'	N42°26'29"W
L35	4.00'	N47°33'31"E
L36	12.00'	N42°26'29"W
L37	12.00'	N42°26'29"W
L38	11.00'	S42°26'29"E
L39	4.00'	S47°33'31"W
L40	2.00'	S42°26'29"E
L41	4.00'	S47°33'31"W
L42	11.00'	S42°26'29"E
L43	9.00'	S47°33'31"W
L44	24.00'	S42°26'29"E
L45	2.00'	S47°33'31"W
L46	24.00'	S42°26'29"E
L47	2.00'	S47°33'31"W
L48	24.00'	S42°26'29"E
L49	3.75'	S47°33'31"W
L50	3.00'	S42°26'29"E
L51	11.25'	S47°33'31"W
L52	14.00'	S42°26'29"E
L53	11.25'	S47°33'31"W
L54	3.00'	S42°26'29"E
L55	3.75'	S47°33'31"W
L56	9.00'	S47°33'31"W
L57	5.00'	S47°33'31"W
L58	4.00'	S42°26'29"E
L59	6.75'	S47°33'31"W
L60	4.00'	S42°26'29"E
L61	6.75'	S47°33'31"W
L62	12.00'	S47°33'31"W
L63	2.00'	S47°33'31"W
L64	3.00'	S47°33'31"W
L65	0.75'	N42°26'29"W
L66	0.76'	S47°33'31"W
L67	3.00'	N42°26'29"W
L68	2.00'	N42°26'29"W
L69	3.00'	S42°26'29"E
L70	7.00'	S47°33'31"W
L71	6.00'	N42°26'29"W
L72	5.68'	N47°33'31"E
L73	7.00'	S47°33'31"W
L74	3.00'	S42°26'29"E
L75	3.00'	S42°26'29"E
L76	6.00'	N42°26'29"W
L77	3.00'	S42°26'29"E
L78	18.58'	S47°33'31"W
L79	7.75'	S47°33'31"W
L80	4.00'	N66°43'37"W
L81	4.00'	S71°50'38"W
L82	18.58'	S42°26'29"E
L83	7.75'	N42°26'29"W
L84	2.00'	S47°33'31"W
L85	3.00'	S47°33'31"W
L86	2.34'	S42°26'29"E
L87	6.00'	N47°33'31"E
L88	2.34'	S42°26'29"E
L89	6.00'	N47°33'31"E
L90	3.00'	S47°33'31"W
L91	26.63'	N02°33'31"E
L92	3.50'	N02°33'31"E
L93	0.50'	N87°26'29"W
L94	7.63'	S02°33'31"W
L95	7.63'	N02°33'31"E
L96	0.50'	N87°26'29"W
L97	3.50'	N02°33'31"E
L98	14.37'	S58°45'59"E
L99	14.37'	S63°53'00"W
L100	12.00'	S63°53'00"W
L101	12.00'	S58°45'59"E
L102	4.00'	S47°33'31"W
L103	4.00'	N47°33'31"E
L104	4.00'	S47°33'31"W
L105	4.00'	S12°26'29"E

LINE TABLE		
LINE	LENGTH	BEARING
L106	4.00'	N72°26'29"W
L107	3.02'	S42°26'29"E
L108	5.64'	S47°33'31"W
L109	5.64'	S47°33'31"W
L110	3.02'	S42°26'29"E
L111	4.00'	N47°33'31"E
L112	4.00'	N47°33'31"E
L113	4.00'	S47°33'31"W
L114	6.25'	S47°33'31"W
L115	4.34'	S42°26'29"E
L116	4.00'	S47°33'31"W
L117	4.00'	S47°33'31"W

CURVE TABLE						
CURVE	DELTA ANGLE	TANGENT	RADIUS	LENGTH	CORD	CORD BEARING
C1	8°27'03"	1.12'	15.10'	2.23'	2.23'	N73°42'42"E
C2	143°16'19"	43.98'	14.60'	36.51'	27.71'	S42°26'29"E
C3	7°58'32"	1.12'	16.00'	2.23'	2.23'	S21°32'47"W
C4	180°00'00"	INFINITE	6.49'	20.37'	12.97'	S42°26'29"E
C5	180°00'00"	INFINITE	6.49'	20.37'	12.97'	S42°26'29"E
C6	90°00'00"	2.00'	2.00'	3.14'	2.83'	S87°26'29"E
C7	90°00'00"	2.00'	2.00'	3.14'	2.83'	S02°33'31"W
C8	85°22'12"	25.01'	27.11'	40.40'	36.77'	N02°33'09"E
C9	90°00'00"	22.00'	22.00'	34.56'	31.11'	N02°33'31"E
C10	41°25'45"	9.96'	26.33'	19.04'	18.63'	N02°33'31"E
C11	41°25'45"	8.44'	22.33'	16.15'	15.80'	N02°33'31"E
C12	57°21'00"	1.09'	2.00'	2.00'	1.92'	N87°26'29"W
C13	180°00'00"	INFINITE	6.48'	20.37'	12.97'	N42°26'29"W
C14	120°00'00"	27.71'	16.00'	33.51'	27.71'	S42°26'29"E
C15	120°00'00"	20.78'	12.00'	25.13'	20.78'	S42°26'29"E
C16	90°00'00"	2.00'	2.00'	3.14'	2.83'	S02°33'31"W
C17	32°05'58"	0.58'	2.00'	1.12'	1.11'	S63°36'30"W
C18	244°11'56"	10.68'	6.70'	28.56'	11.35'	N42°26'29"W
C19	32°05'58"	0.58'	2.00'	1.12'	1.11'	N31°30'31"E
C20	90°00'00"	2.00'	2.00'	3.14'	2.83'	S87°26'29"E
C21	180°00'00"	INFINITE	6.49'	20.37'	12.97'	N42°26'29"W
C22	83°21'53"	7.12'	8.00'	11.64'	10.64'	S42°26'29"E
C23	34°38'51"	1.87'	6.00'	3.63'	3.57'	S64°52'56"W
C24	249°17'41"	2.17'	1.50'	6.53'	2.47'	N42°26'29"W
C25	34°38'51"	1.87'	6.00'	3.63'	3.57'	N30°14'05"E

PROGRESS SUBMITTAL

THIS PLAN IS INCOMPLETE AND SHALL BE FINALIZED FOR THE NEXT SUBMITTAL.

Pillar Design Studios

A DESIGN / BUILD COLLABORATION

Artisan Skateparks

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DESIGNED: PILLAR/ARTISAN TEAM
DRAWN BY: PILLAR TEAM
PROJECT #: 20-27
DATE: 09/29/21

PROJECT NO: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: HORIZONTAL CONTROL POINTS

SHEET #: 07 OF 18
AS-07
SKATE PARK

LEGEND

SYMBOL	DESCRIPTION	DETAIL(S)
	FINISH GRADE CONTOUR	N/A
+100.00	TOP OF CONCRETE SPOT ELEVATION	N/A
	DIRECTION OF SURFACE FLOW, 1.00% MINIMUM SLOPE	N/A

NOTES

1. FINE GRADE ALL AREAS DISTURBED BY CONSTRUCTION OPERATIONS.
2. ALL SPOT ELEVATIONS ARE TOP OF CONCRETE UNLESS OTHERWISE NOTED.
3. MINIMUM SLOPE FOR ALL TOP DECK AND FLATBOTTOM SLABS SHALL BE 1/8" [3.18mm] PER 1'-0" [30.48cm] = 1.00%.
4. THE TOP OF ALL ROUND COPING SHALL BE 3/8" [9.53mm] ABOVE THE TOP OF CONCRETE ELEVATIONS.

TBM #4001
DH IN LEDGE
EL=160.66'

M.E.G.

NORTH

0'-0" 10'-0" 20'-0" 30'-0"

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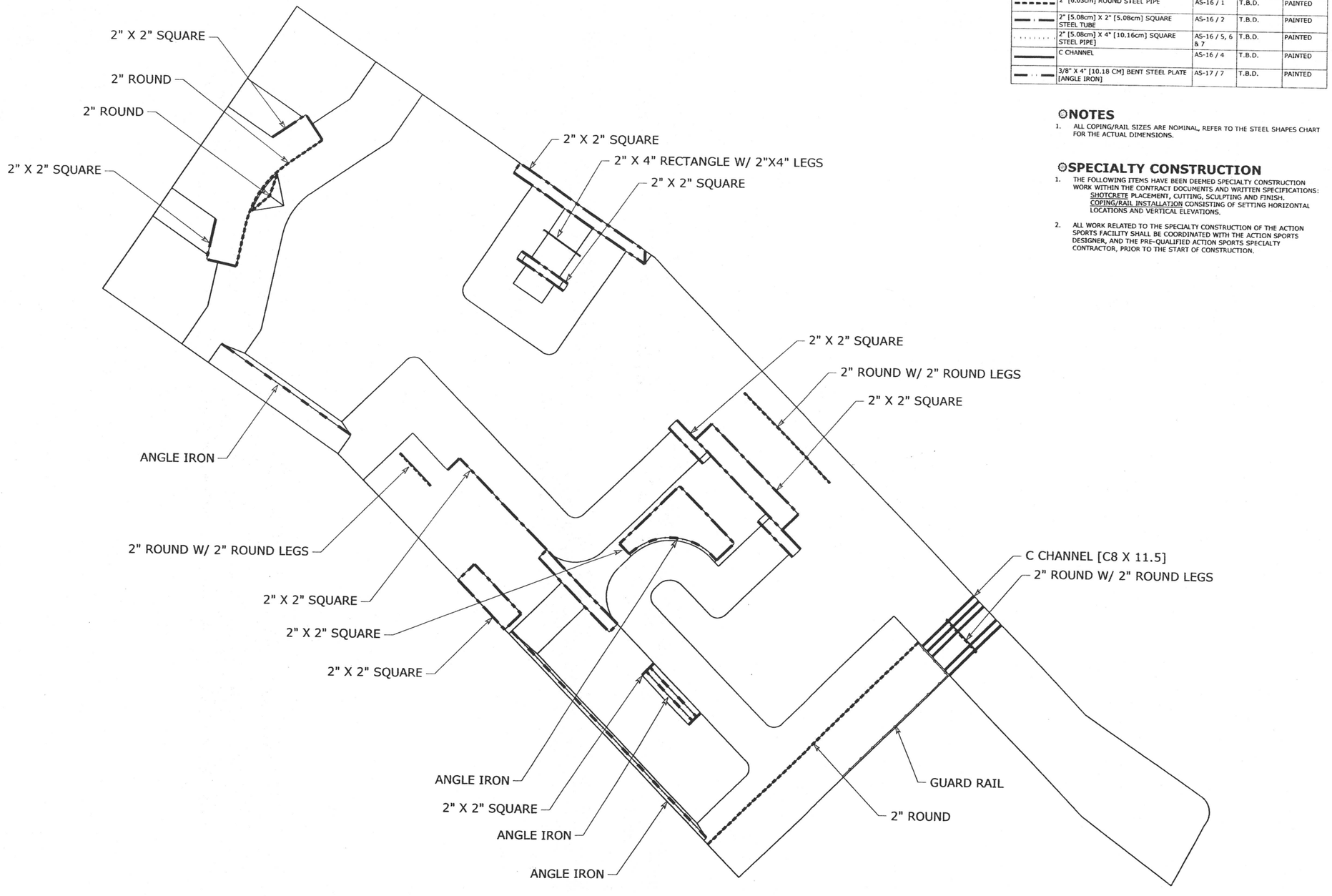
Pillar Design Studios
A DESIGN / BUILD COLLABORATION
Artisan Skateparks

DESIGNED BY: PILLAR/ARTISAN TEAM
DRAWN: PILLAR/ARTISAN TEAM
PROJECT #: 20-27
DATE: 09/28/21

PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: SURFACE GRADING & DRAINAGE PLAN

SHEET: 08 OF 18
AS-08
SKATE PARK



LEGEND

SYMBOL	DESCRIPTION	DETAIL(S)	COLOR	FINISH
- - - - - -	2" [6.03cm] ROUND STEEL PIPE	AS-16 / 1	T.B.D.	PAINTED
— · —	2" [5.08cm] X 2" [5.08cm] SQUARE STEEL TUBE	AS-16 / 2	T.B.D.	PAINTED
. . . . .	2" [5.08cm] X 4" [10.16cm] SQUARE STEEL PIPE]	AS-16 / 5, 6 & 7	T.B.D.	PAINTED
———	C CHANNEL	AS-16 / 4	T.B.D.	PAINTED
— · · —	3/8" X 4" [10.18 CM] BENT STEEL PLATE [ANGLE IRON]	AS-17 / 7	T.B.D.	PAINTED

NOTES

1. ALL COPING/RAIL SIZES ARE NOMINAL, REFER TO THE STEEL SHAPES CHART FOR THE ACTUAL DIMENSIONS.

SPECIALTY CONSTRUCTION

1. THE FOLLOWING ITEMS HAVE BEEN DEEMED SPECIALTY CONSTRUCTION WORK WITHIN THE CONTRACT DOCUMENTS AND WRITTEN SPECIFICATIONS:
   SHOTCRETE PLACEMENT, CUTTING, SCULPTING AND FINISH.
   COPING/RAIL INSTALLATION CONSISTING OF SETTING HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS.
2. ALL WORK RELATED TO THE SPECIALTY CONSTRUCTION OF THE ACTION SPORTS FACILITY SHALL BE COORDINATED WITH THE ACTION SPORTS DESIGNER, AND THE PRE-QUALIFIED ACTION SPORTS SPECIALTY CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION.

NORTH

0'-0" 8'-0" 16'-0" 24'-0"

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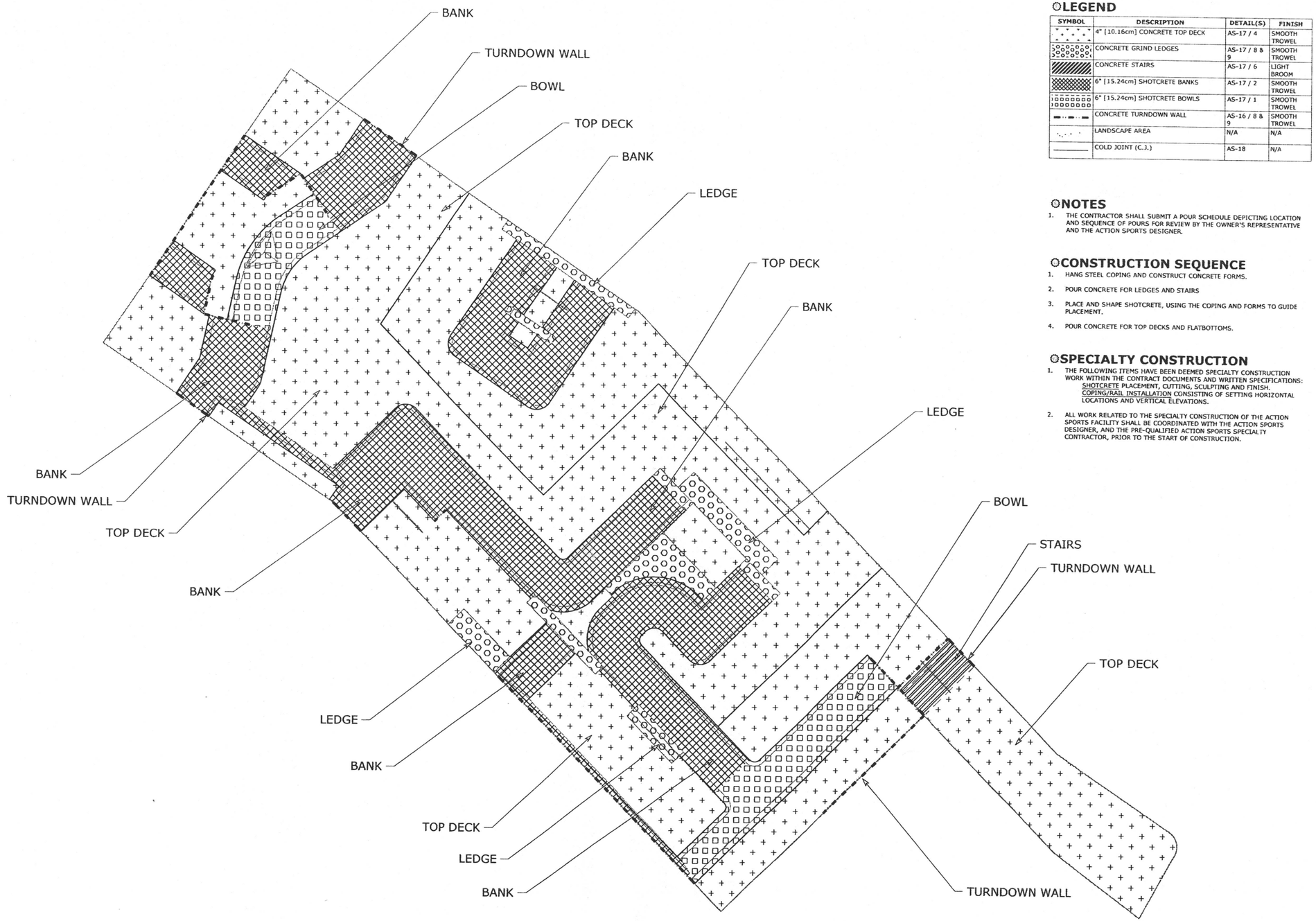
DESIGNED: PILLAR/ARTISAN TEAM
DRAWN: PILLAR TEAM
PROJECT #: 20-27
DATE: 09/28/21

PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: COPING PLAN

SHEET: 09 OF 18
AS-09
SKATE PARK



LEGEND

SYMBOL	DESCRIPTION	DETAIL(S)	FINISH
	4" [10.16cm] CONCRETE TOP DECK	AS-17 / 4	SMOOTH TROWEL
	CONCRETE GRIND LEDGES	AS-17 / 8 & 9	SMOOTH TROWEL
	CONCRETE STAIRS	AS-17 / 6	LIGHT BROOM
	6" [15.24cm] SHOTCRETE BANKS	AS-17 / 2	SMOOTH TROWEL
	6" [15.24cm] SHOTCRETE BOWLS	AS-17 / 1	SMOOTH TROWEL
	CONCRETE TURNDOWN WALL	AS-16 / 8 & 9	SMOOTH TROWEL
	LANDSCAPE AREA	N/A	N/A
	COLD JOINT (C.J.)	AS-18	N/A

NOTES

1. THE CONTRACTOR SHALL SUBMIT A POUR SCHEDULE DEPICTING LOCATION AND SEQUENCE OF POURS FOR REVIEW BY THE OWNER'S REPRESENTATIVE AND THE ACTION SPORTS DESIGNER.

CONSTRUCTION SEQUENCE

1. HANG STEEL COPING AND CONSTRUCT CONCRETE FORMS.
2. POUR CONCRETE FOR LEDGES AND STAIRS
3. PLACE AND SHAPE SHOTCRETE, USING THE COPING AND FORMS TO GUIDE PLACEMENT.
4. POUR CONCRETE FOR TOP DECKS AND FLATBOTTOMS.

SPECIALTY CONSTRUCTION

1. THE FOLLOWING ITEMS HAVE BEEN DEEMED SPECIALTY CONSTRUCTION WORK WITHIN THE CONTRACT DOCUMENTS AND WRITTEN SPECIFICATIONS:
   SHOTCRETE PLACEMENT, CUTTING, SCULPTING AND FINISH.
   COPING/RAIL INSTALLATION CONSISTING OF SETTING HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS.
2. ALL WORK RELATED TO THE SPECIALTY CONSTRUCTION OF THE ACTION SPORTS FACILITY SHALL BE COORDINATED WITH THE ACTION SPORTS DESIGNER, AND THE PRE-QUALIFIED ACTION SPORTS SPECIALTY CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION.

NORTH

0'-0" 8'-0" 16'-0" 24'-0"

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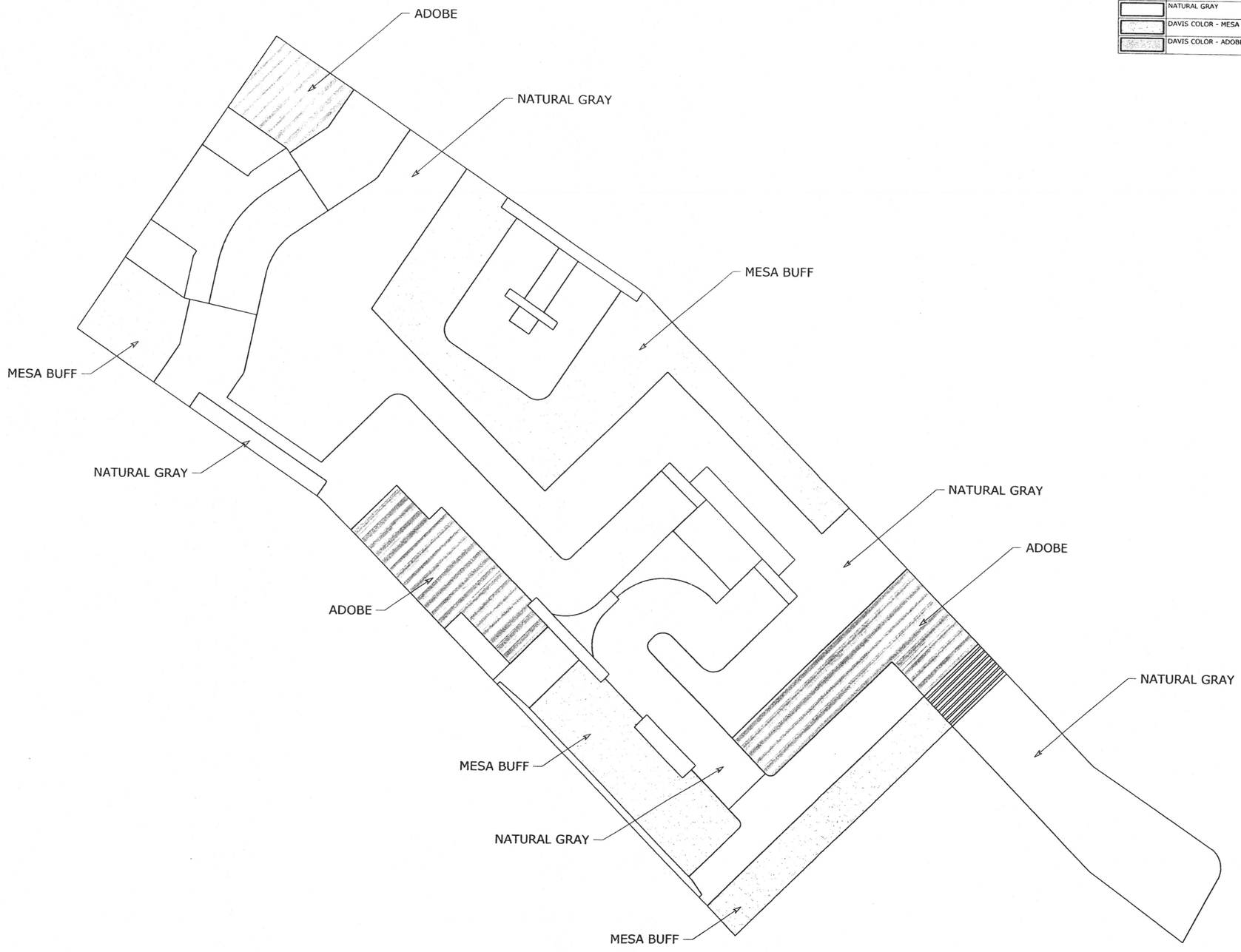
DESIGNED: PILLAR/ARTISAN TEAM
DRAWN: PILLAR TEAM
PROJECT #: 20-27
DATE: 09/28/21

PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: CONCRETE PLAN

SHEET: 10 OF 18
AS-10
SKATE PARK

LEGEND

SYMBOL	COLOR	FINISH
	NATURAL GRAY	SMOOTH TROWEL
	DAVIS COLOR - MESA BUFF 2 LBS 5447	SMOOTH TROWEL
	DAVIS COLOR - ADOBE 4 LBS 61078	SMOOTH TROWEL



NORTH

0'-0" 8'-0" 16'-0" 24'-0"

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DRAWN: PILLAR TEAM
PROJECT #: 20-27
DATE: 09/28/21

PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: COLORED CONCRETE PLAN

SHEET #: 11 OF 18
AS-11
SKATE PARK

LEGEND

SYMBOL	DESCRIPTION	DETAIL(S)
———	COLD JOINT (C.J.)	AS-18 / 1, 2, 3 & 4
— · — · —	EXPANSION JOINT (E.J.)	AS-18 / 5 & 6
– – – – –	SAWCUT JOINT (S.J.)	AS-18 / 7 & 8

NOTES

1. THE JOINTING PLAN IS DIAGRAMMATIC ONLY.

NORTH

0'-0" 8'-0" 16'-0" 24'-0"

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DESIGNED:: PILLAR/ARTISAN TEAM

DRAWN:: PILLAR TEAM

PROJECT #:: 20-27

DATE:: 09/28/21

SHEET #: 12 OF 18

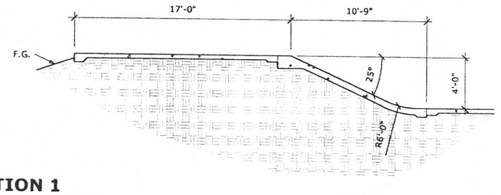
PROJECT:: DOVER SKATEPARK

DOVER, NEW HAMPSHIRE

SHEET TITLE: JOINTING PLAN

AS-12

SKATE PARK



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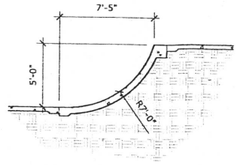

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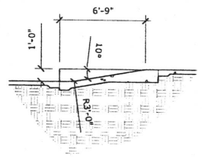

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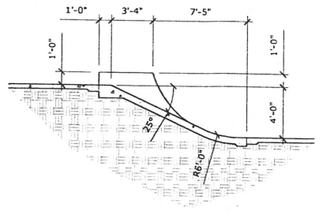

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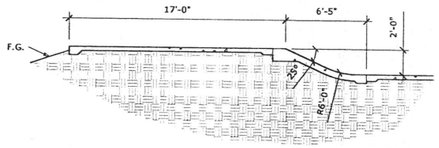

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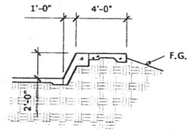

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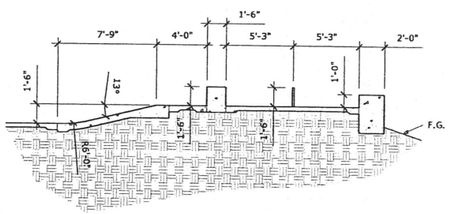

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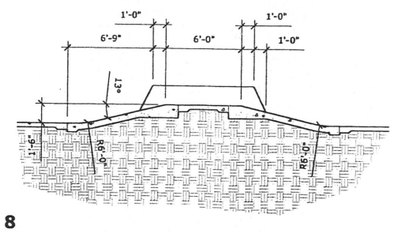

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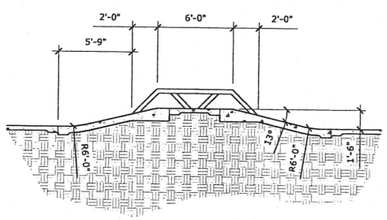

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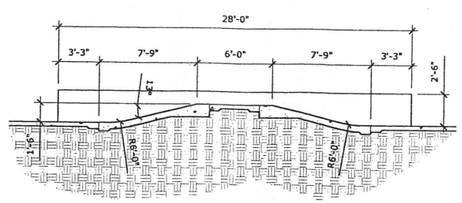


SECTION 10

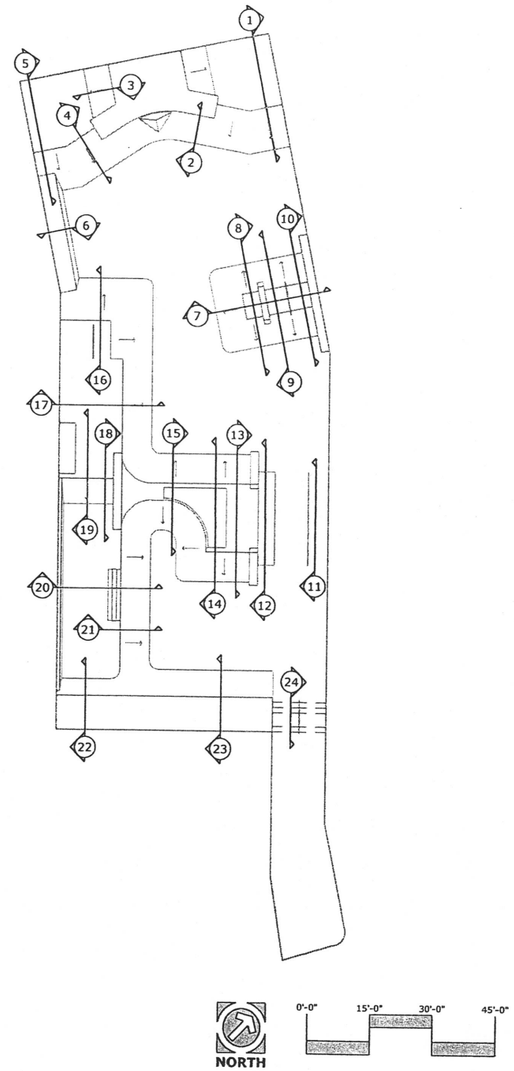
LEGEND

SYMBOL	DESCRIPTION	DETAIL(S)
	CONCRETE/SHOTCRETE	N/A
	SUBGRADE	N/A
F.G.	FINISH GRADE	N/A

NOTES

1. REFER TO THE COPING PLAN FOR EDGE TREATMENT LOCATION AND TYPE
2. REFER TO THE HORIZONTAL CONTROL PLAN FOR ACTUAL HORIZONTAL LOCATIONS.
3. REFER TO THE SURFACE GRADING AND DRAINAGE PLAN FOR ACTUAL VERTICAL ELEVATIONS.

KEY MAP



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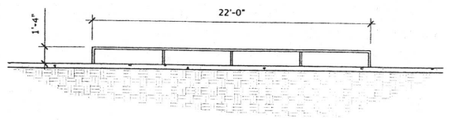
DRAWN: PILLAR TEAM
PROJECT #: 20-27
DATE: 09/28/21

PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: CROSS SECTIONS

SHEET: 13 OF 18
AS-13
SKATE PARK



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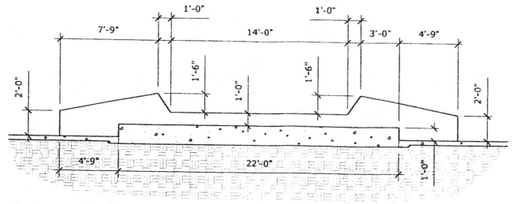

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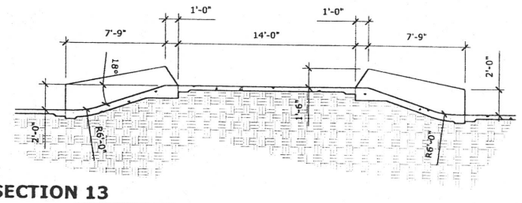

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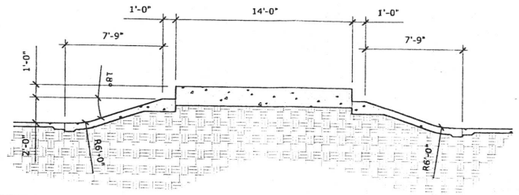

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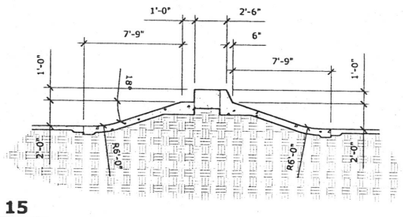

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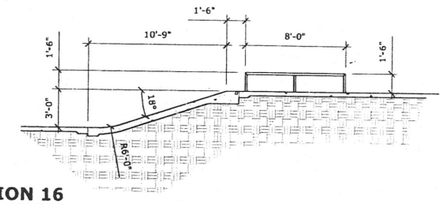

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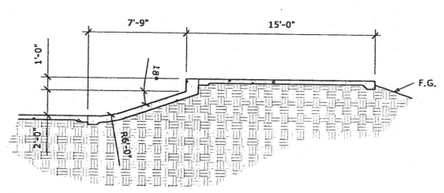

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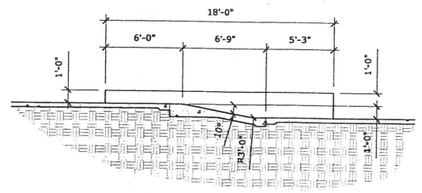

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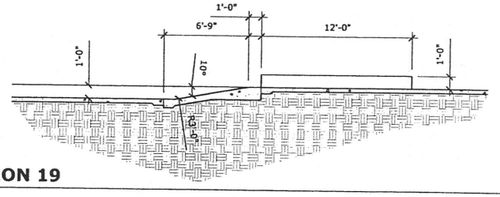

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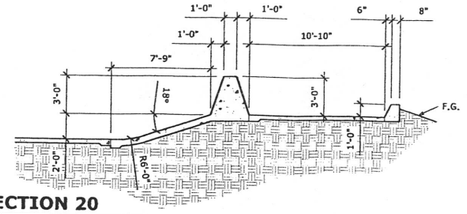


SECTION 20

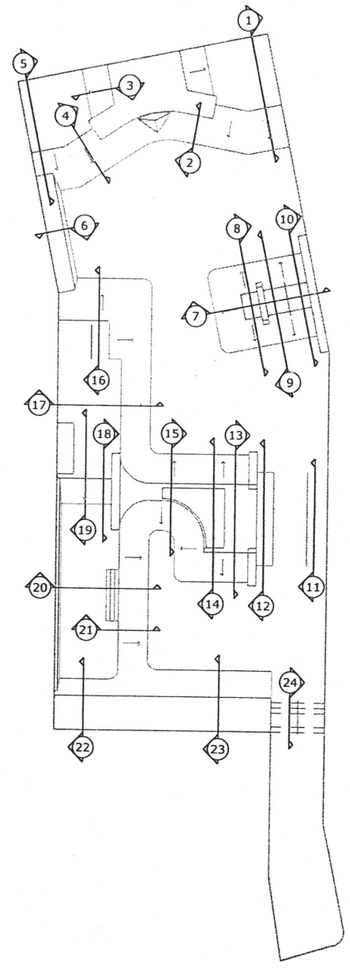
LEGEND

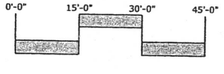
SYMBOL	DESCRIPTION	DETAIL(S)
	CONCRETE/SHOTCRETE	N/A
	SUBGRADE	N/A
F.G.	FINISH GRADE	N/A

NOTES

1. REFER TO THE COPING PLAN FOR EDGE TREATMENT LOCATION AND TYPE
2. REFER TO THE HORIZONTAL CONTROL PLAN FOR ACTUAL HORIZONTAL LOCATIONS.
3. REFER TO THE SURFACE GRADING AND DRAINAGE PLAN FOR ACTUAL VERTICAL ELEVATIONS.

KEY MAP





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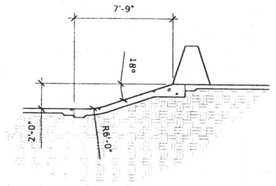
DESIGNED: PILLAR/ARTISAN TEAM
DRAWN: PILLAR/ARTISAN TEAM
PROJECT #: 20-27
DATE: 09/28/21

PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: CROSS SECTIONS

SHEET: 14 OF 18

AS-14

SKATE PARK



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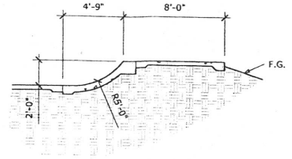

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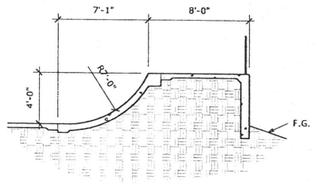

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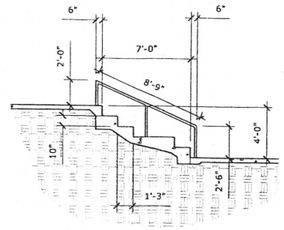


SECTION 24

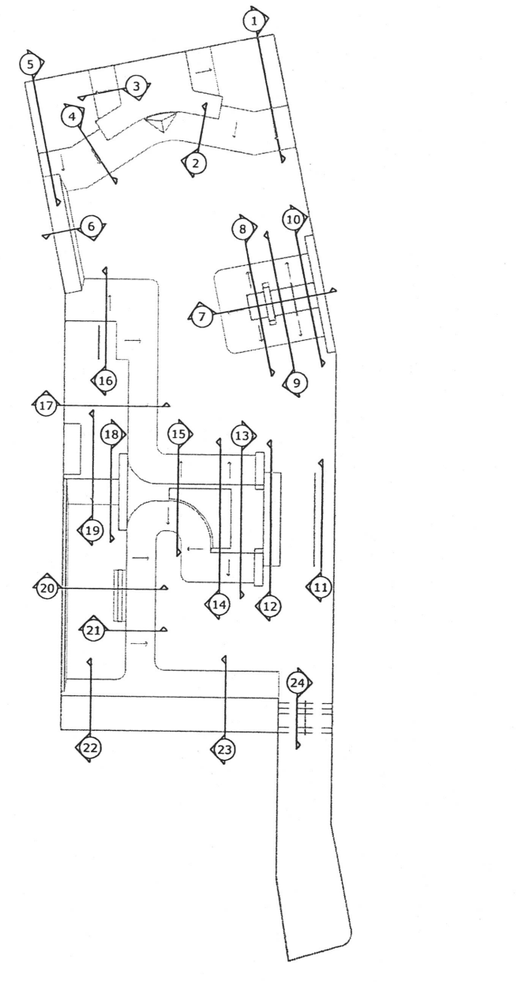
LEGEND

SYMBOL	DESCRIPTION	DETAIL(S)
	CONCRETE/SHOTCRETE	N/A
	SUBGRADE	N/A
F.G.	FINISH GRADE	N/A

NOTES

1. REFER TO THE COPING PLAN FOR EDGE TREATMENT LOCATION AND TYPE
2. REFER TO THE HORIZONTAL CONTROL PLAN FOR ACTUAL HORIZONTAL LOCATIONS.
3. REFER TO THE SURFACE GRADING AND DRAINAGE PLAN FOR ACTUAL VERTICAL ELEVATIONS.

KEY MAP



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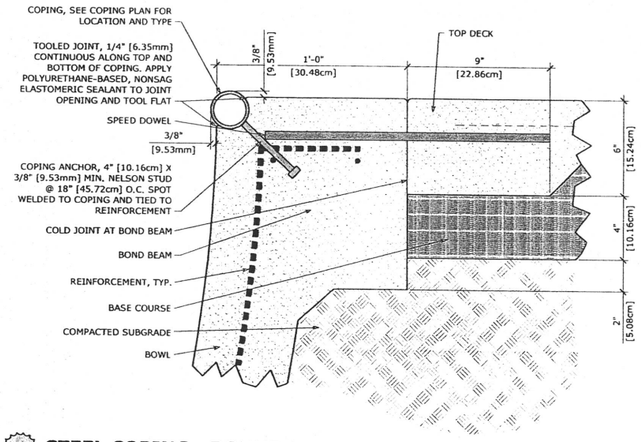
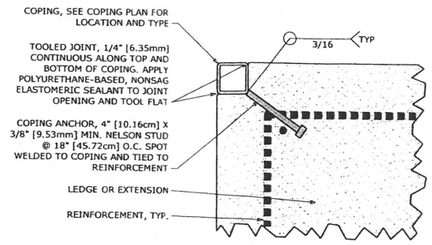
DESIGNED: PILLAR/ARTISAN TEAM
DRAWN: PILLAR/TEAM
PROJECT #: 20-27
DATE: 09/28/22

SHEET #: 15 OF 18
AS-15
SKATE PARK

PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: CROSS SECTIONS



1 STEEL COPING - ROUND
SCALE: 3" = 1'-0"



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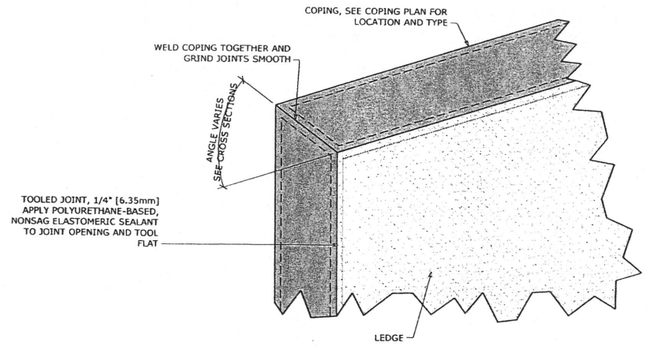
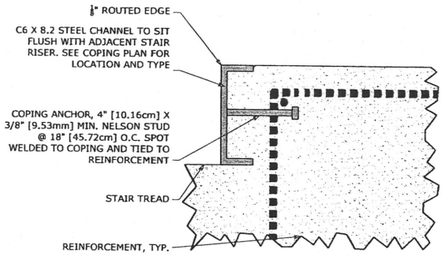
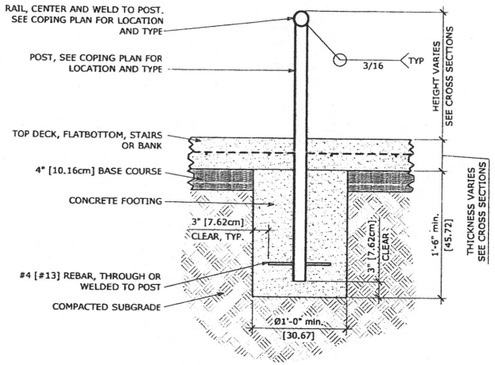


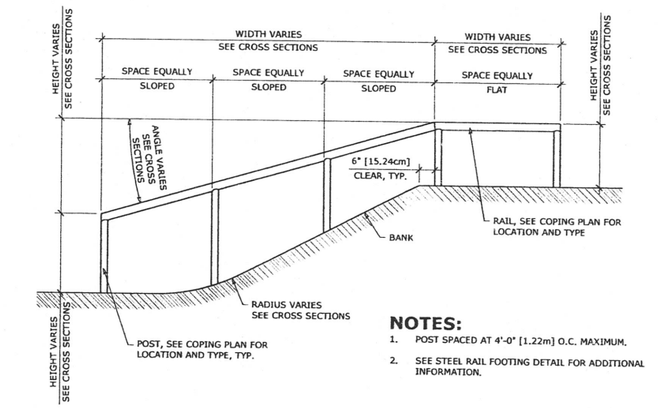
3 HUBBA LEDGE COPING
SCALE: 6" = 1'-0"



4 STAIR COPING - C6 X 8.2 STEEL CHANNEL
SCALE: 3" = 1'-0"

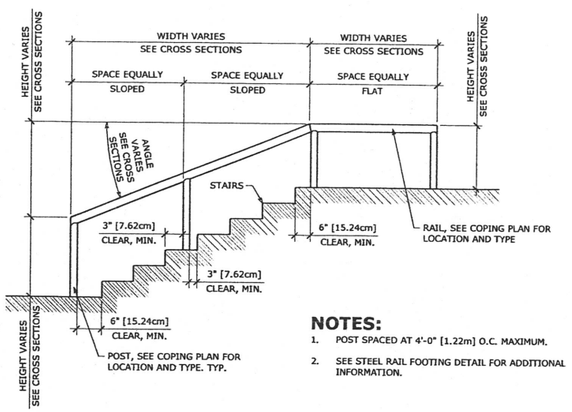


5 STEEL RAIL FOOTING
SCALE: 1" = 1'-0"



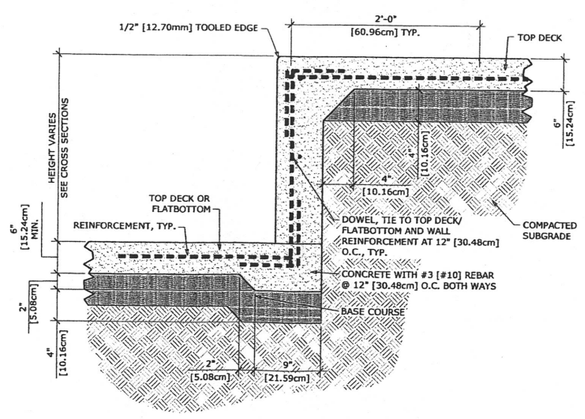
6 STEEL RAIL IN BANK
SCALE: 1/2" = 1'-0"

NOTES:
1. POST SPACED AT 4'-0" [1.22m] O.C. MAXIMUM.
2. SEE STEEL RAIL FOOTING DETAIL FOR ADDITIONAL INFORMATION.

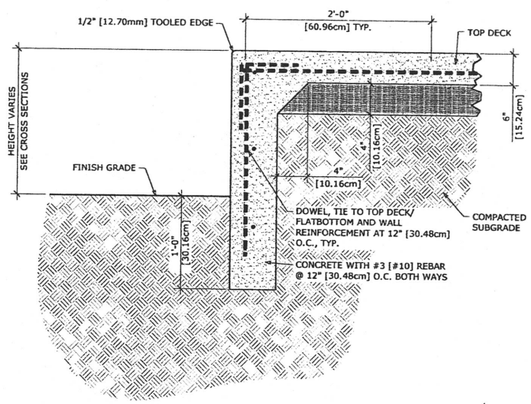


NOTES:
1. POST SPACED AT 4'-0" [1.22m] O.C. MAXIMUM.
2. SEE STEEL RAIL FOOTING DETAIL FOR ADDITIONAL INFORMATION.

7 STEEL RAIL IN STAIRS
SCALE: 1/2" = 1'-0"



8 CONCRETE TURNDOWN WALL INTERIOR SKATEPARK
SCALE: 1-1/2" = 1'-0"



9 CONCRETE TURNDOWN WALL AT EXERIOR EDGE OF SKATEPARK
SCALE: 1-1/2" = 1'-0"

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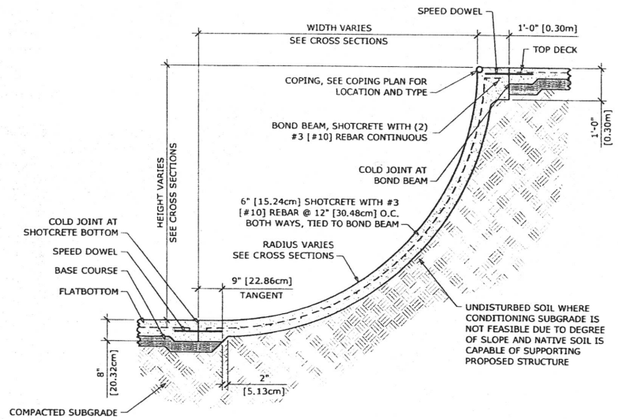
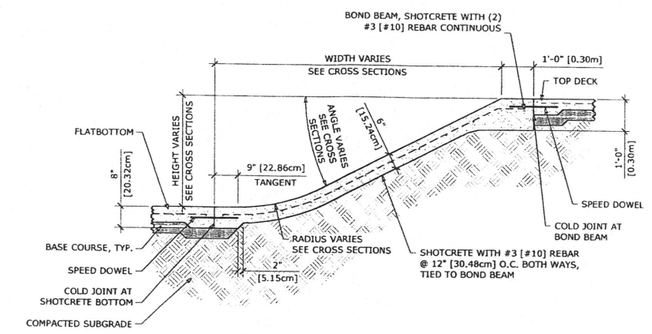
DESIGNED: PILLAR/ARTISAN TEAM
DRAWN: PILLAR/TEAM
PROJECT #: 20-27
DATE: 09/28/21

PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: CONSTRUCTION DETAILS

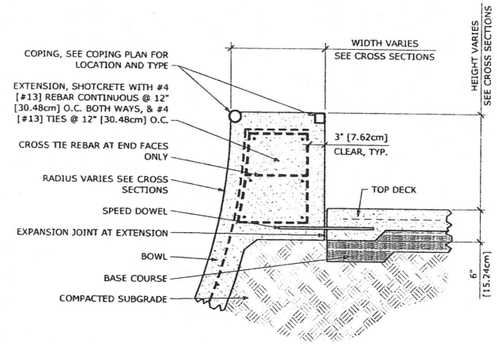
SHEET: 16 OF 18
AS-16
SKATE PARK



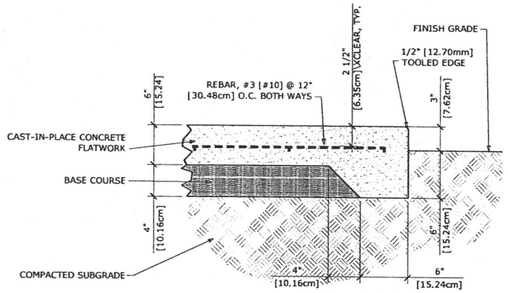
1 **SHOTCRETE BOWL**
SCALE: 1/2" = 1'-0"



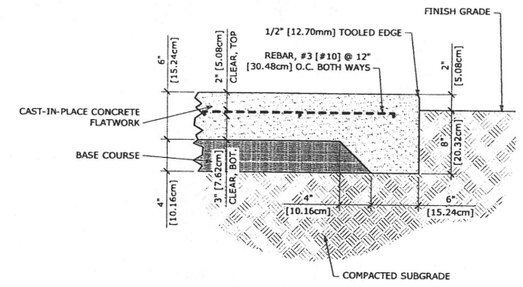
2 **SHOTCRETE BANK**
SCALE: 1/2" = 1'-0"



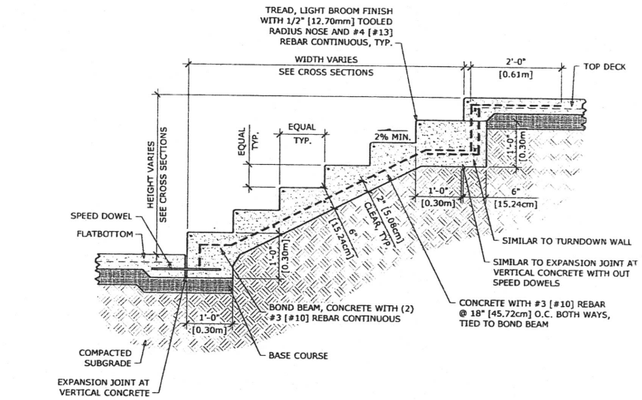
3 **SHOTCRETE EXTENSION**
SCALE: 1" = 1'-0"



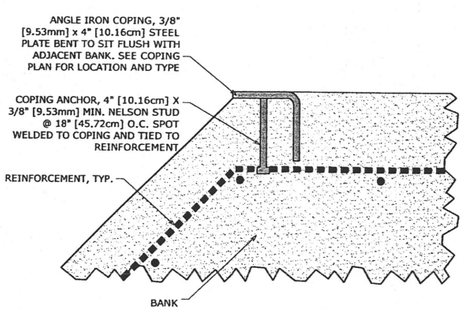
4 **CONCRETE TOP DECK SECTION**
SCALE: 1-1/2" = 1'-0"



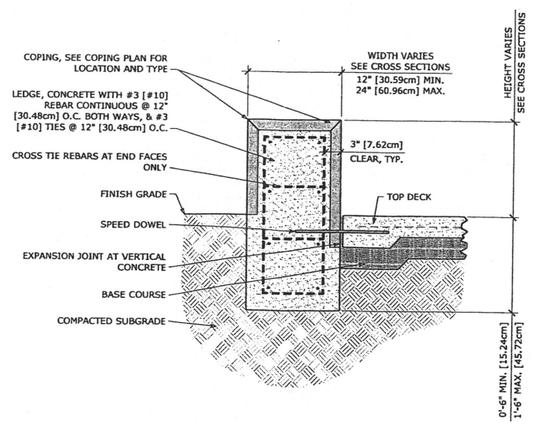
5 **CONCRETE FLATBOTTOM SECTION**
SCALE: 1-1/2" = 1'-0"



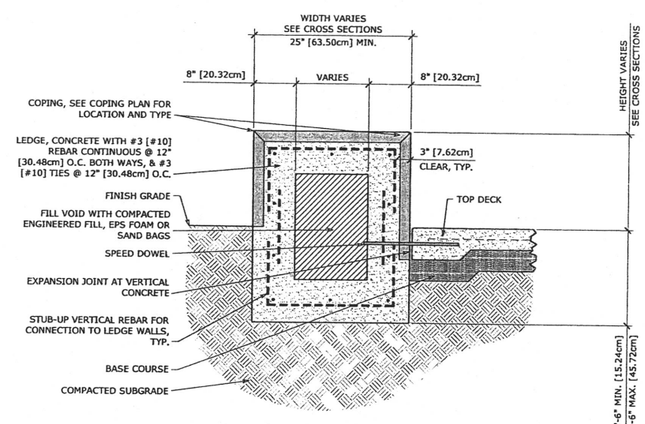
6 **CONCRETE STAIRS**
SCALE: 1" = 1'-0"



7 **STEEL COPING - ANGLE IRON**
SCALE: 1" = 1'-0"



8 **CONCRETE GRIND LEDGE - MEDIUM**
SCALE: 1" = 1'-0"



9 **CONCRETE GRIND LEDGE - LARGE**
SCALE: 1" = 1'-0"

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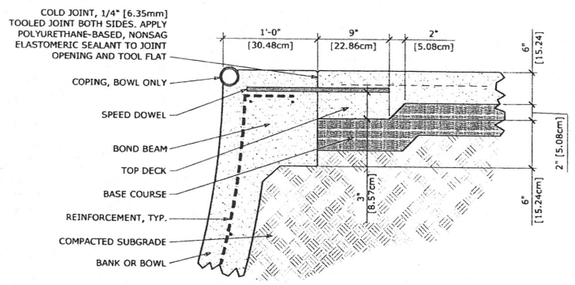
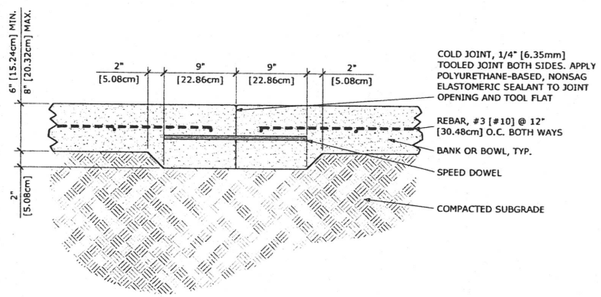
DESIGNED: PILLAR/ARTISAN TEAM
DRAWN: PILLAR TEAM
PROJECT #: 20-27
DATE: 09/28/21

PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: CONSTRUCTION DETAILS

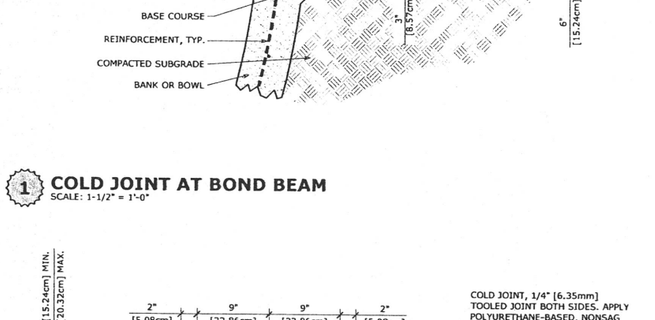
SHEET: 17 OF 18
AS-17
SKATE PARK



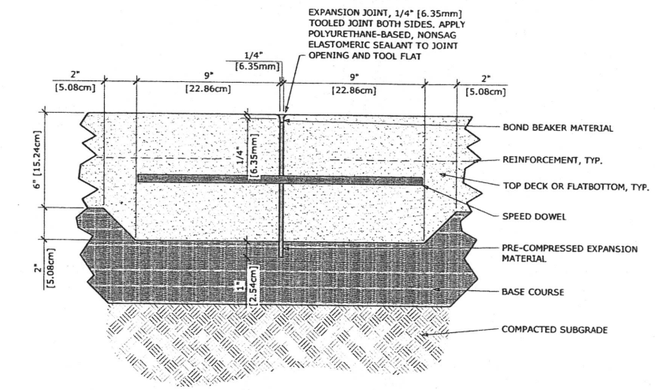
1 COLD JOINT AT BOND BEAM
SCALE: 1-1/2" = 1'-0"



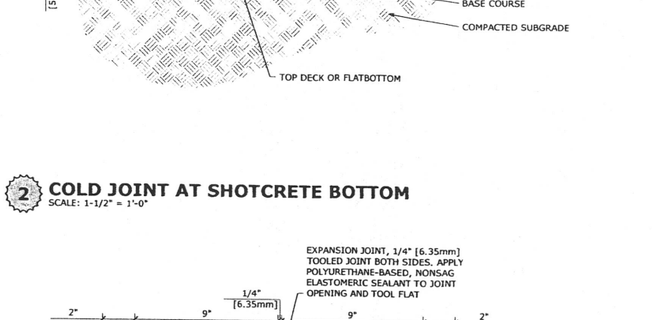
4 COLD JOINT AT MID SHOTCRETE
SCALE: 1-1/2" = 1'-0"



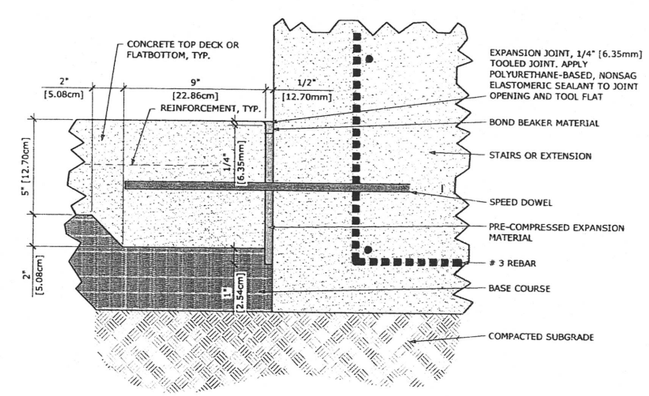
7 SAWCUT JOINT AT MID CONCRETE
SCALE: 3" = 1'-0"



5 EXPANSION JOINT AT MID CONCRETE
SCALE: 3" = 1'-0"

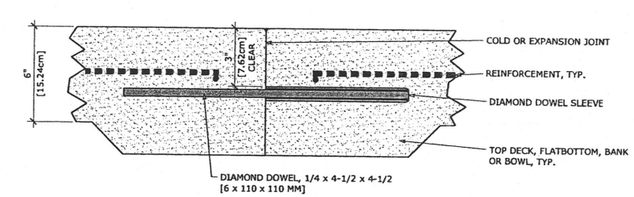


8 SAWCUT JOINT AT MID SHOTCRETE
SCALE: 3" = 1'-0"



3 COLD JOINT AT MID CONCRETE
SCALE: 1-1/2" = 1'-0"

6 EXPANSION JOINT AT VERTICAL CONCRETE
SCALE: 3" = 1'-0"



9 SPEED DOWEL
SCALE: 3" = 1'-0"

NOTES:
1. SPEED DOWELS SHALL BE LOCATED AT 1'-6" [0.46m] O.C. ALONG JOINT.

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DESIGNED BY: PILLAR/ARTISAN TEAM
DRAWN BY: PILLAR/TEAM
PROJECT #: 20-22
DATE: 09/28/21

PROJECT: DOVER SKATEPARK
DOVER, NEW HAMPSHIRE
SHEET TITLE: CONSTRUCTION DETAILS
SHEET #: 18 OF 18
AS-18
SKATE PARK

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