TOWN OF EXETER, NEW HAMPSHIRE

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 •FAX 772-4709
www.exeternh.gov

LEGAL NOTICE
EXETER PLANNING BOARD
AGENDA

The Exeter Planning Board will meet on Thursday, July 11, 2024 at 7:00 P.M. in the Nowak Room of the Town Office Building located at 10 Front Street, Exeter, New Hampshire, to consider the following:

APPROVAL OF MINUTES: June 27, 2024

NEW BUSINESS: PUBLIC HEARINGS

The continued public hearing on the application of Meniscus Financial Holdings, LLC for site plan review and Wetlands and Shoreland Conditional Use Permits for the proposed construction of a commercial vehicle storage area, a 22,500 S.F. accessory storage building and associated site improvements on the property located at 127 Portsmouth Avenue. The property is located in the C-2, Highway Commercial zoning district and is identified as Tax Map Parcel #52-112-2. PB Case #24-4.

The application of I. S. Realty Trust for a minor subdivision and Wetlands Conditional Use Permit for the proposed subdivision of an existing 5.58-acre parcel into three (3) residential lots. The subject property is located at 100 Linden Street (and Patricia Avenue) in the R-2, Single Family Residential zoning district. Tax Map Parcel #104-71. PB Case #24-7.

The application of Green & Company for a design review of a proposed mixed-use development on the property at 76 Portsmouth Avenue. The subject property is located in the C-2, Highway Commercial zoning district. Tax Map Parcel #65-118. PB Case #24-8.

OTHER BUSINESS

- Blind Tiger, LLC (Exeter Country Club) – 58 Jady Hill Avenue, PB #23-2
  Request for Extension of Conditional Approval granted July 13, 2023
- Master Plan Discussion
- Land Use Regulations Review
- Field Modifications
- Bond and/or Letter of Credit Reductions and Releases

EXETER PLANNING BOARD
Langdon J. Plumer, Chairman

Posted 6/28/24: Exeter Town Office and Town of Exeter website

TOWN OF EXETER
PLANNING BOARD
NOWAK MEETING ROOM
10 FRONT STREET
JUNE 27, 2024
DRAFT MINUTES
7:00 PM

I. PRELIMINARIES:

BOARD MEMBERS PRESENT BY ROLL CALL: Chair Langdon Plumer, Vice-Chair Aaron Brown, Clerk, John Grueter, Gwen English, Jennifer Martel, and Nancy Belanger Select Board Representative

STAFF PRESENT: Town Planner Dave Sharples

II. CALL TO ORDER: Chair Plumer called the meeting to order at 7:00 PM and introduced the members.

III. OLD BUSINESS

APPROVAL OF MINUTES

May 23, 2024

Mr. Grueter motioned to approve the May 23, 2024 meeting minutes. Ms. Belanger seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.

June 6, 2024 Site Walk

Ms. Belanger noted it was a joint meeting with the Conservation Commission and Keith Whitehouse was present.

Ms. Belanger motioned to approve the June 6, 2024 Site Walk Minutes, as amended. Ms. English seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.

June 13, 2024

Ms. Belanger motioned to approve the June 13, 2024 Minutes. Ms. English seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.

IV. <u>NEW BUSINESS:</u>

A request from the RiverWoods Group for a preliminary site plan consultation for the proposed construction of a new healthcare center intended to consolidate the existing healthcare components of

the three RiverWoods campuses into a centralized facility to be located on the property at the intersection White Oak Drive and NH Route 111 (Kingston Road).
R-1, Low Density Residential zoning district
Tax Map Parcels #97-23
PB Case #24-6

Chair Plumer read the request of the RiverWoods Group out loud.

Mr. Sharples explained that this is for a preliminary consultation and is not formal, non-binding, no action will be taken and no abutters were noticed. He explained that this conceptual review is different from design review not only in the sense that abutters are not noticed, but the discussion should be general and unspecific and not a discussion of specific designs. He indicated to Mr. Saari that a design review could be applied for and then the Planning Board could discuss more specific design details.

Erik Saari of Altus Engineering presented the conceptual site plan consultation on behalf of RiverWoods to construct a 200,00 SF healthcare facility to be centrally located at the intersection of White Oak Drive and NH Route 111 (Kingston Road). Mr. Saari indicated that also present were Erik Harmon, Robbie Woodburn, Julia Clark and Attorney Sharon Somers.

Mr. Saari posted the plan on the screen and showed existing Ridge and Boulders complexes and Campus Crossing on 204 acres of which 130 are encumbered by easements for Conservation, DOT, gas, a use easement and a view easement.

Mr. Saari described the proposed building which would be three floors. He pointed out the existing dog park and pickleball court. He noted a traffic study would be needed and the project would have review by Department of Transportation. Mr. Saari indicated there would be subsurface treatment.

Mr. Saari indicated he would not go into details tonight without a wetland scientist present but noted there would be AoT (state Alteration of Terrain) for the size of the project and Wetlands Conditional Use Permit, state and local for what he described as three degraded wetland areas.

Robbie Woodburn, the landscape architect, indicated on the plan the structures that would remain such as the park, pickleball, and loop but the gazebo would shift over and the shed would move. She did not go into specific detail but indicated there would be native street trees.

Erik Harmon, the architect, indicated the project went before the Zoning Board of Adjustment for variances which were denied. He indicated the building would be designed for assisted living and memory care and wrap around two enclosed courtyards. He indicated the change to Mansur treatment dormer style roof since the height variance was not approved. He noted there would be parking, an elevator and central building entrance and a multipurpose room. He noted the proposal for skilled nursing and rehab on the second floor and showed dining locations and staff training. Mr. Harmon indicated there would be a second phase in about a year and a half to build individual living units.

Chair Plumer opened the discussion to the public for comments.

Karen Prior of Pickpocket Road expressed concerns about the size of the building and the lot merger.

Fred Bird of 84 Kingston Road expressed concerns with impact to the neighborhood, noise from generators and a steady stream of shipping and receiving of food and construction noise. He requested a buffer of spruce, hemlock of fir trees that would not lose their leaves. Mr. Bird expressed concerns with traffic on 111 and the speed limit which we would like to see reduced. He noted the massive building doesn't fit. He noted he would rather see trees than a dog park. He expressed concerns with elderly persons having to cross the busy highway to see their loved ones.

Paul Roberge of 15 Pickpocket Road expressed concerns that when construction happened before there were promises of planting and removing invasives and creating a ditch to keep the water out of his driveway and they were not maintained and water backs up.

Sheila Grinnell of 78 Kingston Road expressed concerns with the water table and underground construction. She noted since Boulders & Ridge, her five-acre backyard is water logged.

Ruth Hooten of 61 Kingston Road discussed the slope above her pond and runoff from the paved parking lot. She expressed concerns about lighting coming into her home, and blasting. She noted this is a rural area not a cityscape.

Laura Davies of Pickpocket Road expressed concerns about the size of the building, in the low density residential district, comparing the size to six YMCAs, three Hampton Inns or three former High School buildings, and Exeter Hospital which is 291,000 SF.. She stated that she did not feel this project was in keeping with the Special Exception approval. She opined that this was bypassing zoning with the lot merger.

Sheila Roberge of 15 Pickpocket Road referenced PEA and how they are a town within a town but have been here for 200 years.

Ms. English stated that she felt Riverwoods was an exceptional facility but expressed concerns with the separation of resident couples. She expressed concerns about traffic and the busy intersection and requested to be provided with the ratio of staff to residents and indicated she would like to see affordable housing for the nursing staff as a solution to the staffing issue because increasing the number of residents would only require more staff and not solve the issue. She indicated she would like to see the master plan, the big picture going forward, because a long time ago they said this is it, we're done. She indicated she would like to see the water issues addressed as she has seen Ms. Hooton's land and it is flooded.

Vice-Chair Brown questioned why there were no residents in attendance.

(unidentified) stated that she has been going through this for three decades and when Boulders and Ridge were built they came on the property to test wells without permission and haven't kept their promises.

Attorney Somers replied that there were no residents present because this is a conceptual discussion and it was premature to have them here now. She noted all permits were done properly and asked to see facts to support the accusation they were not.

Vice-Chair Brown noted there would be AoT for the project and that is a serious state process. The applicant has started the traffic study as part of the process. He noted the Board is sensitive to wetlands impact and also has a landscape expert on the Board. He noted the Board would get involved in lighting and do their best to ensure there are mechanisms in place for maintenance.

Vice-Chair Brown asked if the stuff in the upper left corner of the plan is in the buffer. Attorney Somers noted the pickleball court and dog park were part of the original approval.

Sheila Grinnell asked what body would be responsible for the water impacts underground. Chair Plumer responded that the state would be involved. Ms. Grinnell asked how they are represented here. Chair Plumer noted there would also be a wetland soil scientist and stormwater plan and annual reporting. Traffic is handled by DOT. Ms. Grinnell questioned how well the state did if so many parcels were inundated since Boulders & Ridge.

Mr. Roberge noted that he has backland that is not usable and does sugaring and is afraid his trees will die. He noted Boulders obstructs the natural flow of water and diverts the water to the neighbors.

Mr. Goodenough of 4 Pickpocket Road stated that the Jolly Rand trail is the lowest and there is a culvert under the road. He noted he has to cross to the road to get to his own barn. He noted the building would be 140 times the size of his home.

Ms. Martel agreed she would like to see more detail of the master plan as to future projects and the number of residents.

Ms. Belanger stated she would like to see Riverwoods offer transportation to the residents while it's not in the Board's purview.

Chair Plumer asked how the site was selected, and Mr. Saari stated it was the only available upland site not encumbered by easements. Mr. Harmon noted they wanted to have the healthcare component and not displace residents.

Fred Bird noted that with the nursing stations gone there would be more units built.

Ms. English asked about Campus Crossing and cars parking on the road. Mr. Saari indicated there ware parking issues and their goal is to have surplus parking.

V. OTHER BUSINESS

- Master Plan Discussion

Mr. Grueter indicated they are waiting for the bike and pedestrian plan to be finalized.

- Field Modifications

- Bond and/or Letter of Credit Reductions and Release

Mr. Sharples indicated a bond was returned to the utility for Energy Way and that Ms. McEvoy has been busy releasing another batch of old accounts.

VII. TOWN PLANNER'S ITEMS

VIII. CHAIRPERSON'S ITEMS

Chair Plumer noted the next meeting is on July 11th.

IX. PB REPRESENTATIVE'S REPORT ON "OTHER COMMITTEE ACTIVITY"

Ms. Belanger indicated the All Board's meeting would be rescheduled to sometime in September.

X. ADJOURN

Ms. Belanger motioned to adjourn the meeting at 8:41 PM. Ms. English seconded the motion. A vote was taken, all were in favor, the motion passed unanimously.

Respectfully submitted.

Daniel Hoijer,
Recording Secretary
Via Exeter TV

TOWN OF EXETER

Planning and Building Department

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 •FAX 772-4709

www.exeternh.gov

Date: **July 2, 2024**

To: **Planning Board**

From: **Dave Sharples, Town Planner**

Re: **Meniscus Financial Holdings LLC – 127 Portsmouth Avenue**
PB Case #24-1

The Applicant is seeking a site plan review and Wetlands/Shoreland permits for the proposed construction of a commercial vehicle storage area, a 22,500 S.F. accessory storage building and associated site improvements on the property located at 127 Portsmouth Avenue. The property is located in the C-2, Highway Commercial zoning district and is identified as Tax Map Parcel #52-112-2.

The Applicant met with the Planning Board at the May 23rd, 2024 meeting; action was taken to table further discussion of the application to the June 13th, 2024 meeting to provide adequate time for the Applicant to address the TRC and UEI comments received, and to return to the Conservation Commission for further review.

A joint site walk was conducted on Thursday, June 6th, 2024 with both Planning Board and Conservation Commission members to view the site.

The Applicant was scheduled to meet again with the Conservation Commission at their June 11th, 2024 meeting, however, the Applicant was not prepared to address the UEI comments previously received. The Applicant requested a continuance to the July 9th, 2024 Conservation Commission meeting and to also be continued to the July 11th, 2024 Planning Board meeting.

Revised plans and supporting documents were submitted to our office on July 1, 2024 and staff is still in the process of reviewing those materials. I will update the Board with my review of the revised plans, as well as the recommendations of the Conservation Commission, at the meeting. That said, I did complete a cursory review of the resubmission and a waiver from our architectural standards may be needed but we can discuss that at the meeting.

Planning Board Motions:

Site Plan Motion: I move that the request of Meniscus Financial Holdings LLC (PB Case #24-4) for Site Plan approval be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Conditional Use Permit (Wetlands) Motion: After reviewing the criteria for a Wetlands Conditional Use permit, I move that the request of Meniscus Financial Holdings LLC (PB Case #24-4) for a Conditional Use Permit be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Conditional Use Permit (Shoreland) Motion: After reviewing the criteria for a Shoreland Conditional Use permit, I move that the request of Meniscus Financial Holdings LLC (PB Case #24-4) for a Conditional Use Permit) be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Thank You.

Enclosures

BEALS · ASSOCIATES *PLLC*

70 Portsmouth Avenue
3rd Floor, Suite 2
Stratham, N.H. 03885
603 – 583 - 4860
Fax: 583 - 4863

July 1, 2024

Chairman
Town of Exeter Planning Board
10 Front Street
Exeter, NH 03833

RE: Letter of Explanation
Foss Motors - Proposed Vehicle Storage Area & Accessory Storage Use
Tax Map 0052 Lot #: 112.2

Members of the Board:

The applicant is proposing a commercial vehicle storage area at the front of the lot to increase inventory at 127 Portsmouth Avenue, along with a connecting driveway to the existing Foss Motors vehicle display lot. Additionally, a 22,500 square foot accessory storage use building is proposed towards the rear of the lot to be served by municipal water & sewer. The parcel consists of 6.24-acres which is encumbered by 150-foot and 300-foot municipal Shoreland Protection District (SPD) buffers adjacent to the Exeter Reservoir as well as wetland pockets and associated buffers. Disturbance and impacts associated with the proposed development requires applications for Conditional Use Permits for both the Wetlands Conservation Overlay District and Shoreland Protection District. Wetland and shoreland impacts are shown on the provided plans and applications.

We met with the Planning Board for a preliminary consultation in June 2023 and with the Conservation Commission in July 2023 to review the project and obtain feedback prior to embarking on full engineering design. Since then, we have completed the site design, attended two rounds of Technical Review Committee (TRC) meetings, met with the Planning Board and Conservation Commission, responded to two rounds of comments by the TRC and three rounds of comments by Underwood Engineering, and performed site walks with both the Conservation Commission and Planning Board. Changes associated with these consultations have included the reduction of impervious surfaces, including the removal of a drive aisle around the building and revising the parking area to porous pavement. Additionally, roof runoff is now directed to a stone infiltration trench along the south side of the building.

In terms of stormwater, the entire water quality volume from the proposed parking area and building will be infiltrated into the ground following treatment. In addition to the removal rates associated with an infiltration trench which are 90% of Total Suspended Solids (TSS), 55% of Total Nitrogen (TN), and 60% of Total Phosphorus (60%), a bioretention filter media is provided within the trench to remove an additional 90% of TSS, 65% of TN, and 65% of TP. The porous pavement removal rates are 90% of TSS, 60% of TN, and 65% of TP. These removal efficiencies rates are per the NHDES Stormwater Handbook and meet the Town of

Exeter requirements. All treated stormwater from the parking lot will be discharged downstream of the Exeter Reservoir.

We look forward to presenting this project to you in the near future.

Thank you for your consideration.

Very truly yours,
BEALS ASSOCIATES, PLLC

Christian O Smith

Christian O. Smith P.E.
Principal

BA BEALS ASSOCIATES, PLLC
Land Planning • Civil Engineering
Landscape Architecture • Septic Design & Evaluation
Stratham, NH

Exeter Planning Board, July 1, 2024
David Sharples, Town Planner
Town Planning Office, Town of Exeter
10 Front Street
Exeter, NH 03833

Re: Foss Motors – 127 Portsmouth Avenue – Commercial Site Plan
Response to Third Round of Underwood Engineers Comments

Dear Mr. Chairman & Members of the Board:

We are in receipt of a 3rd review letter from Underwood Engineers, dated May 23, 2024 and we offer the following responses to the noted comments. Each comment is followed by our response in ***italicized bold***.

Site Plan

10. It has been indicated that vehicles may be stored inside the building. No architectural plans have been received. It is unclear how and where the vehicles will be driven into the building.

Beals Latest Response: Elevations and a floor plan have been provided as part of this submission.

The schematic elevations and floor plan indicate an overhead door and a man door on the eastern end of the building. The site plan includes a fire truck turnaround area on that end that does not extend to the overhead door. Since vehicles will be driven into and out of the overhead door, the pavement should be extended, including a turnaround area past the door to prevent backing out onto GTE Road.

Response: The site plans have been coordinated with the latest architectural plans, including overhead and man door locations.

16. The description of the project says the lot will be for display and storage of vehicles. Will the lot be open to customers to view the vehicles? If customers and staff will be walking between the existing Foss Motors lot, across GTE Road, is a crosswalk warranted? If this is the case, the proximity of the crossing to the intersection of Route 108 and GTE Road is concerning for pedestrian safety, and consideration should be given to moving the entrance further away from Route 108.

Beals Latest Response: This will be discussed with the Planning Board.

Our original comment still stands.

Response (from Vanasse & Associates Inc): A crosswalk will be added across the GTE Road east leg of the new driveway intersection, approximately 120 feet east of NH Route 108, which affords sufficient lines of sight for pedestrians and motor vehicles to/from NH Route 108 for an approach speed of greater than 20 mph. It is noted that turning traffic transitioning from NH

Route 108 would be traveling at no more than 15 mph (typical design speed for turning vehicles).

17. If trucks or other vehicles are stacked to make a left-hand turn onto Route 108, visibility of vehicles turning onto GTE Road may be limited for drivers crossing from the existing Foss Motors lot to the new lot.

    Beals Response: This will be discussed with the Planning Board.

    The original comment still stands. We defer further comment to the Planning Board.

    Response (from Vanasse & Associates Inc): Pedestrian crossing warning signs will be installed at and in advance of the crossing, and high visibility pavement markings will be used for the crossing. In addition, "Do Not Block" pavement markings and accompanying signs can also be added on GTE Road at the intersection if so desired by the Town.

New Comments

47. Signs restricting snow storage should be added within the Shoreland Zone. See also related comment below.

Response: "No Snow Storage" signs have been added along the southern end of the parking lot and around the Bioretention Pond.

48. Regarding the bioretention pond:

a. The bioretention pond detail calls for 3:1 slopes, max. It appears there is a 2:1 slope from the parking lot. Please coordinate.

Response: The Bioretention Pond's side slopes are 3:1 and there is some contributing area to the pond with a 2:1 slope. The detail has been revised for clarity.

b. Plow pile storage atop the pond will reduce functionality. The pond is within the Shoreland Zone, so no snow storage from the site is allowed on the pond from the site. However, it is unclear how snow storage is currently handled along GTE Road. Add signs calling for no snow storage on both ends of the pond.

Response: "No Snow Storage" signs have been added along the southern end of the parking lot and around the Bioretention Pond.

c. The bottom width of the bioretention pond should be clear on the detail.

Response: Bioretention Pond width dimensions have been added to the detail.

d. The detail notes the depth as 30", whereas the plan indicates 42" depth. The drainage model storage area should be adjusted as necessary.

Response: The callout has been revised and the drainage model storage area has been verified.

e. The underdrain and the drain manhole are approximately 4' to 5' from the existing sewer line. Insulation is recommended.

Response: Limits of insulation between the sewer pipe and the bioretention pond system have been added to the Grading, Drainage, & Erosion Control Plan (Sheet 3).

49. It is unclear how the void ratios and infiltration rate utilized in the stormwater model/report were derived. Please provide results of infiltration tests.

Response: Typical void ratios of 40% was used for stone, 30% was used for the filter media and sand, and 18% was used for the porous pavement. Infiltration rates have been revised to match Amoozemeter results from Gove Environmental. Those results are included as part of this re-submittal.

50. Provide test pit logs to confirm the bottom of the porous pavement practice maintains 4' above the ESHWT in all locations.

Response: Test pit results performed by Gove Environmental are included as part of this re-submittal. Per Env-Wq 1508.08(i) the filtering practice has a depth of 24 inches and one foot of separation to the ESHWT with the use of underdrains.

51. The intent of pervious surface practices, such as porous pavement, is to encourage infiltration to the native soils. This site appears to be mix of fills and native soils. Nearby sites have marine clay restrictive soils that prohibit any infiltration. The soils report notes part of the site to be poorly drained with a shallow water table, with a perched water table over marine silts. The project proposes additional fills, much of which being the aggregates needed to construct the proposed porous pavement section, requiring the existing soils to be further moved and manipulated to achieve the proposed final grading adjustments of 6" to 6' in places. What measures have the applicant and their consultant researched and evaluated to ensure that the proposed porous pavement will achieve a reasonable amount of infiltration and not merely serve as detention? Add a discussion to the stormwater report to address how well the system will function within these parameters.

Response: Due to the slope of the existing terrain, fill will be required in portions of the parking lot. This fill will be above the native soil which, although slow, does have an infiltration rate as shown in the Gove Environmental tests.

52. We note any storage and pollutant removal capability of the porous pavement is heavily contingent on system maintenance. Clogging of the filter layer over time will reduce storage and pollutant removal capacity. What assurances can be provided to the Town that the system will receive proper and timely maintenance? The maintenance calls for the porous pavement to be vacuumed 2 to 3 times per year on the detail sheet, but 1 to 2 times per year in the I&M Plan.

Response: The porous pavement parking area will be a low use site with very little traffic as opposed to a typical parking lot. Additionally, where a ratio of 5:1 contributing area to pervious surface is allowed, there is very little runoff outside of the porous pavement area that contributes to the pervious surface. This will greatly reduce the amount of potential sediment and clogging of the porous pavement. We have revised the detail sheet to match the I&M plan to vacuum 1 to 2 times per year per UNH recommendations, and records of all maintenance, including vacuuming, will be provided to the Town upon request.

Thank you for your timely and professional review of the submitted plans. We hope the information provided address your concerns. Please feel free to contact our office if you have any additional question and/or comments.

Very Truly Yours,

BEALS ASSOCIATES, PLLC

Christian O. Smith

Christian O. Smith, PE
Principal

COMMERCIAL SITE PLAN
127 PORTSMOUTH AVENUE
(NH ROUTE 108)
TAX MAP 52, LOT 112.2

FEBRUARY 13, 2004

NOT FOR CONSTRUCTION

CIVIL ENGINEERS:

BEALS•ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863

STATE OF NEW HAMPSHIRE
CHRISTIAN O. SMITH
No. 9900
PROFESSIONAL ENGINEER

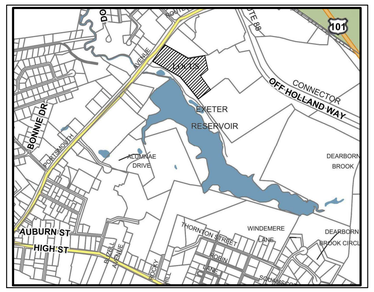
LAND SURVEYORS:

DOUCET SURVEY INC
Serving Your Professional Surveying & Mapping Needs
102 Kent Place, Newmarket, NH 03857-0163
Voice (603) 659-6560, Data (603) 659-4118

WETLAND/SOIL CONSULTANT:

GOVE ENVIRONMENTAL SERVICES INC.
8 CONTINENTAL DRIVE,
BLDG 2 UNIT H
EXETER, NH 03833
1-603-778-0644

LOCATION MAP



SCALE: 1"=600'

DRAWING INDEX

PLAN SET LEGEND

5/8" REBAR	●	VGC	VERTICAL GRANITE CURB
DRILL HOLE	◉	OVERHEAD ELEC. LINE	
CONC. BOUND	⊡	FENCING	x
UTILITY POLE		DRAINAGE LINE	D
DRAIN MANHOLE	Ⓓ	SEWER LINE	S
SEWER MANHOLE	Ⓢ	GAS LINE	
EXISTING LIGHT POLE	☼	WATER LINE	W
EXISTING CATCH BASIN	□	STONE WALL	
PROPOSED CATCH BASIN	⊞	TREE LINE	
WATER GATE	WG	ABUT. PROPERTY LINES	
WATER SHUT OFF		EXIST. PROPERTY LINES	
HYDRANT		BUILDING SETBACK LINES	
PINES, ETC.		EXIST. CONTOUR	100
MAPLES, ETC.		PROP. CONTOUR	100
EXIST. SPOT GRADE	96x69	SOIL LINES	
PROP. SPOT GRADE	96x69		
DOUBLE POST SIGN			
SINGLE POST SIGN			

RECORD OWNER/APPLICANT

MENISCUS FINANCIAL HOLDINGS, LLC
133 PORTSMOUTH AVE.
(NH ROUTE 108)
EXETER, NEW HAMPSHIRE

REQUIRED STATE AND FEDERAL PERMITS

CONSTRUCTION GENERAL PERMIT
NHDES ALTERATION OF TERRAIN PERMIT
NHDES SHORELAND PERMIT
NHDES WETLANDS BUREAU DREDGE AND FILL

PB CASE # 23-7
CHAIRMAN SIGNATURE:

	REVISIONS:	DATE:
1	REVISED PER REVIEW COMMENTS	3/28/24
2	REVISED PER REVIEW COMMENTS	5/15/24
3	REVISED PER REVIEW COMMENTS	6/27/24
4		
5		

NH-1471 PROPOSED SITE PLAN

NOTES:

1. REFERENCE: TAX MAP 52, LOT 112-2
   127 PORTSMOUTH AVE.
   EXETER, NH
2. TOTAL PARCEL AREA: 271,768 SQ. FT. OR 6.24 AC.
3. OWNER OF RECORD & APPLICANT: MENISCUS FINANCIAL HOLDINGS LLC
   131 PORTSMLUTH AVENUE
   EXETER, NH 03833
   603-772-7777
   R.C.R.D. BOOK 6449 PAGE 841
4. FIELD SURVEY PERFORMED BY M.A.W. & C.J.V. (DOUCET SURVEY) DURING OCTOBER 2023 USING A TOTAL STATION AND A SURVEY GRADE GPS WITH A DATA COLLECTOR AND AN AUTO LEVEL LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
5. HORIZONTAL DATUM BASED ON NAD83(2011) NEW HAMPSHIRE STATE PLANE COORDINATE ZONE (2800) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
6. VERTICAL DATUM IS BASED ON APPROXIMATE NAVD88(GEOID18) (±.2') DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
7. JURISDICTIONAL WETLANDS DELINEATED BY GOVE ENVIRONMENTAL SERVICES DURING OCTOBER 2023 USING THE FOLLOWING STANDARDS:
   - REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
   - FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.2. UNITED STATES DEPARTMENT OF AGRICULTURE (2018).
   - NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. 2020 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
   - U.S. ARMY CORPS OF ENGINEERS NATIONAL WETLAND PLANT LIST, VERSION 3.5. (2020)

   ALSO SEE SEPARATE "SITE SPECIFIC SOIL" NOTE ON THIS SHEET.
8. FLOOD HAZARD ZONE:"X", PER FIRM MAP #33015C0406E, DATED 5/17/05.
9. PROPER FIELD PROCEDURES WERE FOLLOWED IN ORDER TO GENERATE CONTOURS AT 2' INTERVALS. ANY MODIFICATION OF THIS INTERVAL WILL DIMINISH THE INTEGRITY OF THE DATA, AND DOUCET SURVEY WILL NOT BE RESPONSIBLE FOR ANY SUCH ALTERATION PERFORMED BY THE USER.
10. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVED PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON-SITE.
11. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES/TYPES IS SUBJECT TO NUMEROUS FIELD CONDITIONS, INCLUDING; THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS, MANHOLE CONFIGURATION, ETC.
12. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT LEGAL DESCRIPTION, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS OF TITLE.
13. ALL UNDERGROUND UTILITIES (ELECTRIC, GAS, TEL. WATER, SEWER DRAIN SERVICES) ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE AT 1-888-DIG-SAFE.
14. THE PARCLE IN IN ZONE C-2 (HIGHWAY COMMERCIAL) AND WITHIN THE WETLAND CONSERVATION AND SHORELAND PROTECTION OVERLAY DISTRICTS.

LEGEND

- EXISTING LOT LINE
- APPROXIMATE ABUTTERS LINE
- EXISTING EASEMENT LINE
- 100 MAJOR CONTOUR LINE
- 98 MINOR CONTOUR LINE
- RETAINING WALL
- POST & RAIL FENCE
- GUARDRAIL
- OHW OVERHEAD WIRE
- D DRAIN LINE
- S SEWER LINE
- G GAS LINE
- C CABLE/INTERNET LINE
- TREE LINE
- SHRUB LINE
- WETLAND BUFFER 40'
- WETLAND BUFFER 75'
- 300' SHORELAND PROTECTION DISTRICT LINE (WATERWORKS POND SETBACK)
- 150' SHORELAND SETBACK (STREAM BUFFER)
- PROTECTED SHORELAND AREA
- EDGE OF DELINEATED WETLAND
- WETLAND AREA
- SOIL LINE-SEE NOTE
- LANDSCAPED AREA
- CRUSHED STONE
- PILE
- BOUND FOUND (BND. FND.)
- DRILL HOLE FOUND (D.H.F.)
- PIPE/ROD FOUND
- 4"X4" GRANITE BOUND SET
- 5/8" REBAR W/ID CAP SET
- UTILITY POLE
- UTILITY POLE & GUY WIRE
- LIGHT POLE W/ARM
- LIGHT POLE (MULTI-ARMS)
- CATCH BASIN
- FES FLARED END SECTION
- SEWER MANHOLE
- FIRE HYDRANT
- WATER GATE VALVE
- HH HAND HOLE
- UNIDENTIFIED UTILITY BOX
- SIGN
- SIGN (TWO POSTS)
- BOLLARD
- DECIDUOUS TREE
- DECIDUOUS BUSH
- WETLAND FLAG
- CONC. CONCRETE
- D.H. DRILL HOLE
- DSWL DASHED SINGLE WHITE LINE
- DYL DOUBLE YELLOW LINE
- EP EDGE OF PAVEMENT
- GRAN. GRANITE
- HDPE HIGH DENSITY POLYETHYLENE PIPE
- HDWL HEADWALL
- I.P.F. IRON PIPE FOUND
- NHHB NEW HAMPSHIRE HIGHWAY BOUND
- PVC POLYVINYL CHLORIDE PIPE
- RET. WALL RETAINING WALL
- SGC SLOPED GRANITE CURB
- SWL SINGLE WHITE LINE
- TOP TOP OF PIPE
- TYP. TYPICAL
- UNK UNKNOWN
- (X) INVERT I.D. CONNECTION UNKNOWN
- (TBR) TREE TO BE REMOVED
- 600B/ffccc SOIL TYPE-SEE NOTE

ADDITIONAL ABUTTERS ACROSS ROUTE 108:

TAX MAP 52 LOT 53
EXETER LUMBER
120 PORTSMOUTH AVE.
EXETER, NH 03833

TAX MAP 52 LOT 52
108 HEIGHTS LLC.
c/o TWO GUYS SELF STORAGE
65 POST RD.
HOOKSETT, NH 03106

TAX MAP 52 LOT 51
SAF REALTY LLC.
c/o STEVES DINNER INC.
100 PORTSMOUTH AVE.
EXETER, NH 03833

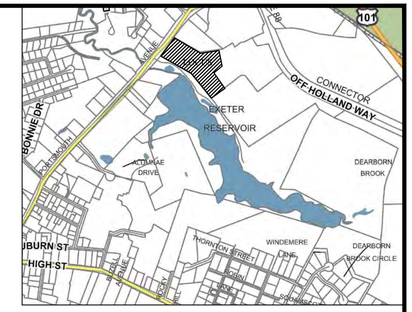
TAX MAP 52 LOT 50
AA FIELD REALTY LLC.
98 PORTSMOUTH AVE.
EXETER, NH 03833

TAX MAP 65 LOT 123
TOWN OF EXETER
10 FRONT ST.
EXETER, NH 03833

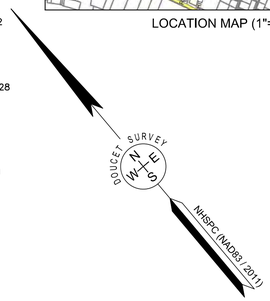
TAX MAP 65 LOT 123-1
EXETER SPORTSMANS CLUB
PO BOX 1936
EXETER, NH 03833

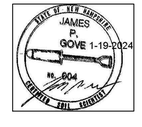
REFERENCE PLANS:

1. "PLAN OF LAND FOR SYLVANIA ELECTRIC PRODUCTS INC EXETER NEW HAMPSHIRE" DATED DECEMBER 1962 BY G. L. DAVIS & ASSOCIATES R.C.R.D. PLAN DRAWER III, SEC. H., PLAN #1.
2. "THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY PLANS PROPOSED FEDERAL AID PROJECT STP-X-5153(005) N.H. PROJECT NO. 10025B NH ROUTE 108 TOWN OF EXETER COUNTY OF ROCKINGHAM" DATED 9/25/02 ON FILE AT THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.
3. "ALTA/NSPS LAND TITLE SURVEY FOR TIGHE & BOND OF OSRAM SYLVANIA INC. ROUTE 108 (PORTSMOUTH AVENUE), HOLLAND WAY & ROUTE 101 EXETER, NEW HAMPSHIRE" DATED OCTOBER 31, 2019 BY DOUCET SURVEY, LLC, NOT RECORDED.
4. "SUBDIVISION PLAN OF OSRAM SYLVANIA INC. ROUTE 108 (PORTSMOUTH AVENUE), ROUTE 88 CONNECTOR (HOLLAND WAY) & ROUTE 101 TAX MAP 51 LOT 17 & TAX MAP 51 LOT 112 EXETER, NEW HAMPSHIRE" DATED OCTOBER 20, 2020 BY DOUCET SURVEY, LLC, R.C.R.D. PLAN D-42514.
5. "CORRECTIVE LOT LINE ADJUSTMENT PLAN (SEE NOTE 11) OF TAX MAP 51 LOT 112 AND TAX MAP 51 LOT 112-1 FOR OSRAM SYLVANIA, INC. ROUTE 108 (PORTSMOUTH AVENUE) & ROUTE 88 CONNECTOR (HOLLAND WAY) EXETER, NEW HAMPSHIRE" DATED JUNE 25, 2021 BY DOUCET SURVEY, LLC, R.C.R.D. PLAN D-42853.
6. "SUBDIVISION PLAN FOR 131 PORTSMOUTH AVENUE, LLC OF TAX MAP 52 LOT 112 131 PORTSMOUTH AVENUE ROUTE 108 (PORTSMOUTH AVENUE) & ROUTE 88 CONNECTOR (HOLLAND WAY) EXETER, NEW HAMPSHIRE" DATE OCTOBER 4, 2022 BY DOUCET SURVEY, R.C.R.D. PLAN D-43579.
7. "STATE OF NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS PLANS OF PROPOSED FEDERAL AID PRIMARY PROJECT F018-2(1) N.H. NO. P-2428 SOUTH SIDE ROAD TOWNS OF EXETER AND STRATHAM COUNTY OF ROCKINGHAM" DATED 4-14-55 ON FILE AT THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.
8. "ALTA/NSPS LAND TITLE SURVEY FOR 131 PORTSMOUTH AVE, LLC" REVISED THROUGH OCTOBER 25, 2022 BY DOUCET SURVEY, INC., NOT RECORDED.
9. "EASEMENT PLAN TO BENEFIT TAX MAP 51 LOT 112 AND TAX MAP 51 LOT 112-1 FOR OSRAM SYLVANIA, INC." DATED APRIL 2021 BY DOUCET SURVEY, R.C.R.D. PLAN D-42854.
10. "EASEMENT PLAN TO BENEFIT TAX MAP 51 LOT 112A & TAX MAP 51 LOT 112B FOR 131 PORTSMOUTH AVE, LLC" REVISED THROUGH SEPTEMBER 14, 2022 BY DOUCET SURVEY, R.C.R.D. PLAN D-43581.



LOCATION MAP (1"=600'+/-)





SITE SPECIFIC SOIL MAPPING STANDARDS (BY GOVE ENVIRONMENTAL SERVICES, INC.):

This map product is within the technical standards of the National Cooperative Soil Survey. It is a special purpose product, intended for infiltration requirements by the NH DES Alteration of Terrain Bureau. It was produced by a professional soil scientist and is not a product of the USDA Natural Resources Conservation Service. There is a report that accompanies this map.
The site specific soil map was produced 1-15-2024, and was prepared by James P. Gove, CSS # 004, Gove Environmental Services, Inc.
SOIL IDENTIFICATION LEGEND

Map Unit Symbol	Map Unit Name	HISS Symbol	Hydrologic Soil Group
33	Scitico silt loam	553	C
24	Agawam fine sandy loam	211	B
500/dfcccUdorthents loamy		363	C
600/ffccc Endoaquents loamy		563	C

SLOPE PHASE:
0-8%=B, 8-15%=C, 15-25%=D, 25%-50%=E

40 0 40 80
SCALE: 1 INCH = 40 FT.

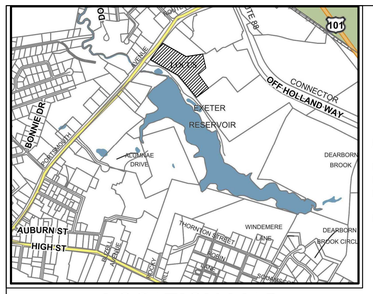
EXISTING CONDITIONS PLAN
FOR
COMMERCIAL SITE
ON
TAX MAP 52, LOT 112-2
127 PORTSMOUTH AVENUE
EXETER, NEW HAMPSHIRE
(PLANNING BOARD CASE #23-7)

NO.	DATE	DESCRIPTION	BY
1	2/7/24	PER SITE PLAN CHECKLIST	SVM

DRAWN BY:	J.R.P.	DATE:	OCTOBER 13, 2023
CHECKED BY:	S.V.M.	DRAWING NO.	8258A
JOB NO.	8258	SHEET	1 OF 1

DOUCET SURVEY LLC
Serving Your Professional Surveying & Mapping Needs
102 Kent Place, Newmarket, NH 03857 (603) 659-6560
Offices in Bedford & Keene, NH and Kennebunk, ME
http://www.doucetsurvey.com

FILE NAME: V:\PROJECTS\8258 CSA\DWG\8258A Topo.dwg LAYOUT NAME: 8258A EC PLOTTED: Monday, April 08, 2024 - 3:44pm



LOCATION MAP
1"=1500'

SITE DATA:

LOCATION:	127 PORTSMOUTH AVENUE, EXETER, NEW HAMPSHIRE
ZONING DISTRICTS:	HIGHWAY COMMERCIAL (C-2) WETLANDS CONSERVATION OVERLAY SHORELAND PROTECTION
EXISTING USE:	ACCESS ROAD & LANDSCAPED AREA
PROPOSED USE:	ACCESS ROAD, VEHICLE STORAGE/DISPLAY, & ACCESSORY USE STORAGE BUILDING

PARKING REQUIREMENTS:

MIN. PARKING SPACE SIZE:	9'x19'
MIN. AISLE WIDTH:	22 FT (90-DEGREE PARKING)
MIN. ADA SPACES:	2 (1 VAN ACCESSIBLE)

REQUIRED PARKING RATIO:
STORAGE/WAREHOUSE = 1 SPACE FOR EACH EMPLOYEE AT MAXIMUM SHIFT
(TOTAL PARKING AREA SHALL NOT BE LESS THAN 25% OF THE BUILDING FLOOR AREA)
REQUIRED = 25% OF 22,500 SF = 5,625 SF OF PARKING
PROVIDED = 33 SPACES (33 SPACES X 9'X19' = 5,643 SF OF PARKING)
EV SPACES = MIN. 2% = 1 SPACE WITH EV CHARGING READINESS

DIMENSIONAL REQUIREMENTS

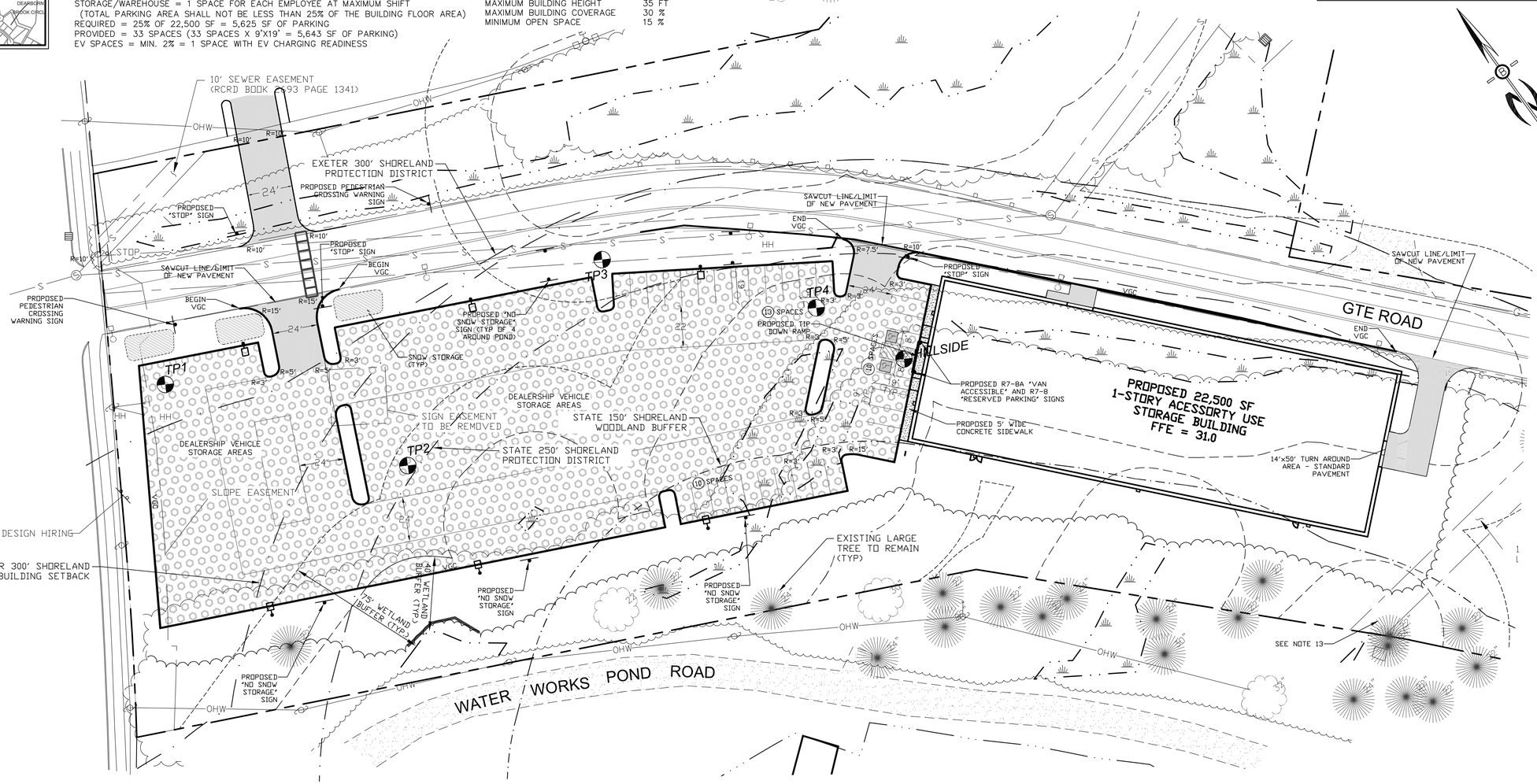
MINIMUM LOT DIMENSIONS	ALLOWED/REQUIRED
LOT AREA	20,000 SF
LOT WIDTH	150 FT
LOT DEPTH	100 FT
FRONTAGE	150 FT
MINIMUM YARD SETBACKS	**ALLOWED/REQUIRED**
FRONT	50 FT
SIDE - ONE/BOTH	20/40 FT
REAR	50 FT
MISCELLANEOUS STANDARDS	
MAXIMUM BUILDING HEIGHT	35 FT
MAXIMUM BUILDING COVERAGE	30 %
MINIMUM OPEN SPACE	15 %

LEGEND
POROUS PAVEMENT
STANDARD PAVEMENT
LARGE TREES TO REMAIN

TOWN NOTES
1. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL WETLANDS REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
2. THE APPLICANT HAS DESIGNED THIS SITE TO SAFELY ACCOMMODATE MAXIMUM SIZE VEHICLES AND TRUCKS, (DESIGN VEHICLE IS THE EXETER LADDER TRUCK OR 35' BOX TRUCK) EITHER DELIVERING TO, OR USING THE PROPERTY.
3. ALL SNOW SHALL BE STORED IN THE AREA(S) DEPICTED ON THIS PLAN AS SNOW STORAGE AREAS. IN THE EVENT THAT THE AREA(S) APPROVED FOR SNOW STORAGE BECOME FULL, THE OWNER SHALL REASONABLY REMOVE EXCESS SNOW FROM THE SITE, AND SHALL NOT ALLOW SNOW TO BE STORED WITHIN TRAVEL AISLES.
4. ALL WASTE MATERIALS AND RECYCLABLE SHALL BE CONTAINED WITHIN THE BUILDING(S) OR APPROVED STORAGE FACILITIES AND SHALL NOT BE OTHERWISE STORED ON THE PROPERTY. REFUSE COLLECTION WILL BE BY DUMPSTER AS NEEDED.
5. ALL WATER, SEWER, ROAD (INCLUDING PARKING LOT), AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.5 GRADING, DRAINAGE, AND EROSION & SEDIMENT CONTROL AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE.

PREPARED FOR:
FOSS MOTORS
133 PORTSMOUTH AVE.
(NH ROUTE 108)
EXETER, NEW HAMPSHIRE

BA BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860,
FAX. 603-583-4863



NOTES:
1. THE PURPOSE OF THIS PLAN IS TO SHOW A 22,500 SF ACCESSORY USE STORAGE BUILDING WITH ASSOCIATED PARKING SPACES AND VEHICLE STORAGE/DISPLAY AREA.
2. ALL CONSTRUCTION SHALL CONFORM TO TOWN OF EXETER STANDARDS AND REGULATIONS.
3. ALL WATER, SEWER, ROAD (INCLUDING PARKING LOT), AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.3 STORMWATER MANAGEMENT STANDARDS, STORMWATER MANAGEMENT PLAN, STORMWATER POLLUTION PREVENTION PLAN, AND EROSION AND SEDIMENT CONTROL STANDARDS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE". SEE SECTION 9.14 ROADWAYS, ACCESS POINTS, AND FIRE LANES AND SECTION 9.13 PARKING AREAS FOR EXCEPTIONS.
4. IN ACCORDANCE WITH SITE PLAN REVIEW & SUBDIVISION REGULATIONS SECTIONS 7.15.10 AND 9.3.4 THE APPLICANT SHALL PROVIDE THE TOWN WITH THREE COPIES OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND ALSO ENSURE THAT ONE COPY REMAINS ON SITE.
5. ALL PROPOSED SIGNAGE SHALL CONFORM WITH THE TOWN ZONING REGULATIONS UNLESS A VARIANCE IS OTHERWISE REQUESTED.
6. TOTAL PROPOSED DISTURBANCE FOR CONSTRUCTION = 2.7± ACRES.
7. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO RELEASE OF BOND, THE APPLICANT SHALL SUBMIT A LETTER TO THE TOWN, SIGNED AND STAMPED BY THE DESIGN ENGINEER, WHO MUST BE A LICENSED PROFESSIONAL ENGINEER IN NH, STATING CONSTRUCTION HAS BEEN COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS.
8. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN LOCATED FROM FIELD OBSERVATIONS AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. BEALS ASSOCIATES OR ANY OF THEIR EMPLOYEES TAKE NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN, THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES OR STRUCTURES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE.
9. THIS PLAN HAS BEEN PREPARED FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
10. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
11. THIS SITE IS NOT LOCATED IN THE 100 YEAR FLOOD ZONE.
12. ALL PROPOSED CURBING SHALL BE VERTICAL GRANITE.
13. WATER MAIN WITHIN THE WATER WORKS EASEMENT SHALL BE MARKED OUT PRIOR TO CONSTRUCTION AND MARKINGS MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION. WATER MAIN SHALL BE PROTECTED DURING CONSTRUCTION.
14. A SPILL RESPONSE KIT SHALL BE MAINTAINED ON SITE.
15. ALL EXCESS CONCRETE FROM SLAB POUR SHALL BE REMOVED FROM THE SITE AND DISPOSED OF ACCORDING TO LOCAL, STATE, AND FEDERAL REGULATIONS.
16. JURISDICTIONAL WETLANDS DELINEATED BY GOVE ENVIRONMENTAL SERVICES DURING OCTOBER 2023 USING THE FOLLOWING STANDARDS:
    - REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0), JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
    - FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.2, UNITED STATES DEPARTMENT OF AGRICULTURE (2018).
    - NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE, 2020 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
    - U.S. ARMY CORPS OF ENGINEERS NATIONAL WETLAND PLANT LIST, VERSION 3.5 (2020).

STATE OF NEW HAMPSHIRE
BRENDAN J. QUIGLEY
No. 249
CERTIFIED WETLAND SCIENTIST

STATE OF NEW HAMPSHIRE
CHRISTIAN O. SMITH
No. 9900
PROFESSIONAL ENGINEER

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

REVISIONS:	DATE:
REVISED PER REVIEW COMMENTS	6/27/24
REVISED PER REVIEW COMMENTS	5/15/24
REVISED PER REVIEW COMMENTS	5/3/24
REVISED PER REVIEW COMMENTS	4/9/24
REVISED PER REVIEW COMMENTS	3/28/24

SITE PLAN

COMMERCIAL DEVELOPMENT
ROUTE 108
EXETER, NH
TAX MAP 52, LOT 112.2

DATE: FEBRUARY 2024	SCALE: 1" = 30'
PROJ. NO: NH-1471	SHEET NO. 2

SITE SPECIFIC SOIL MAPPING STANDARDS:

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR INFILTRATION REQUIREMENTS BY THE NH DES ALTERATION OF TERRAIN BUREAU. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A REPORT THAT ACCOMPANIES THIS MAP. THE SITE SPECIFIC SOIL SURVEY WAS PRODUCED JANUARY 15, 2024, AND WAS PREPARED BY JAMES P. GOVE, CSS #004, GOVE ENVIRONMENTAL SERVICES, INC.

SOIL IDENTIFICATION LEGEND:

MAP UNIT SYMBOL	MAP UNIT NAME	HISS SYMBOL	HYDROLOGIC SOIL GROUP
24	AGAWAM FINE SANDY LOAM	211	B
33	SCITICO SILT LOAM	553	C
500/dfccc	UDORTHENTS LOAMY	363	C
600/ffccc	ENDOAQUENTS LOAMY	563	C

SLOPE PHASE:
0–8% = B, 8–15% = C, 15–25% = D, 25–50% = E, >50% = F

SOIL INFORMATION OUTSIDE OF THE MAPPED AREA WAS OBTAINED FROM USDA NATURAL RESOURCES CONSERVATION SERVICE (NRCS):

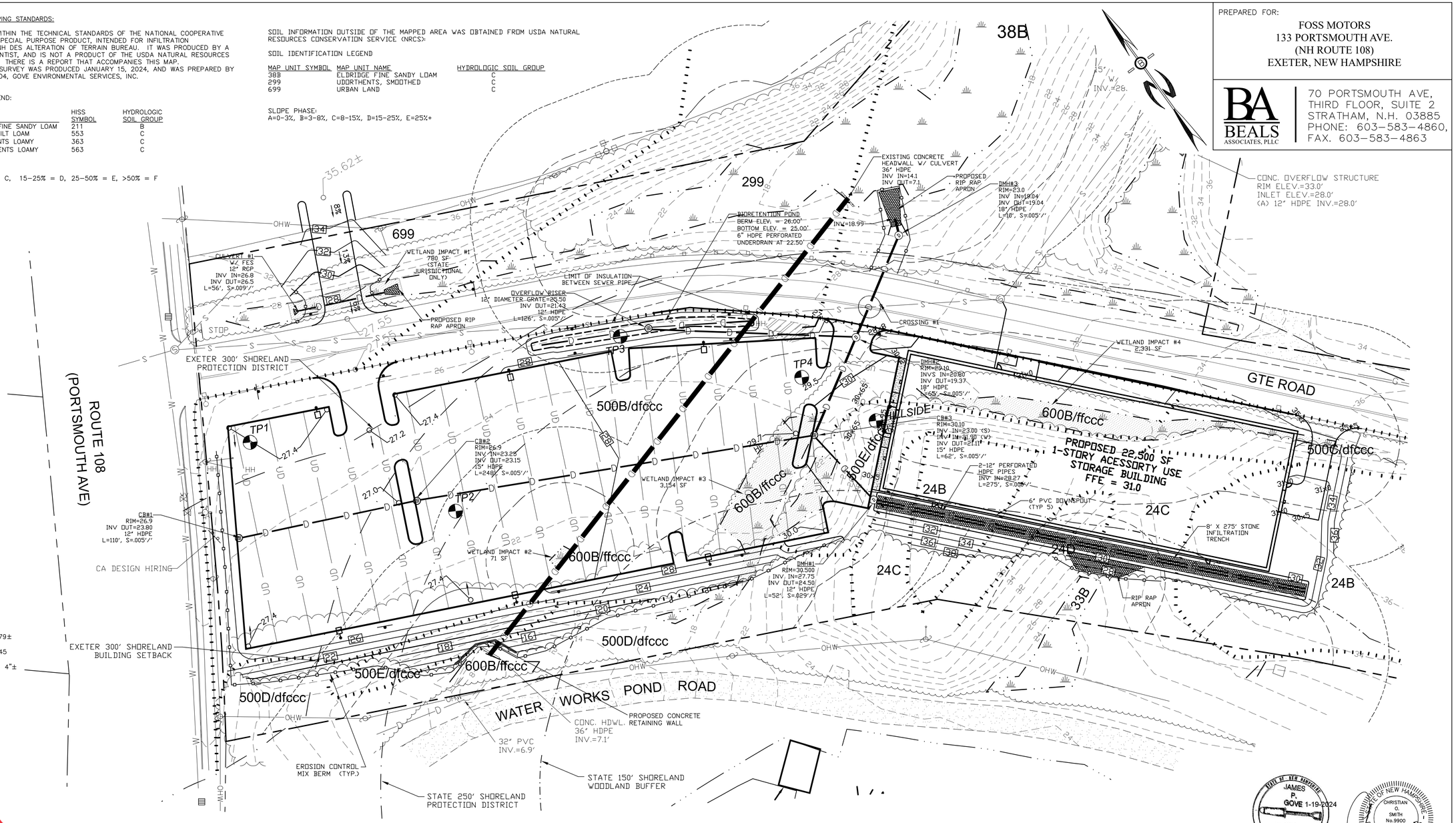
SOIL IDENTIFICATION LEGEND

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP
38B	ELDRIDGE FINE SANDY LOAM	C
299	UDORTHENTS, SMOOTHED	C
699	URBAN LAND	C

SLOPE PHASE:
A=0–3%, B=3–8%, C=8–15%, D=15–25%, E=25%+

PREPARED FOR:
FOSS MOTORS
133 PORTSMOUTH AVE.
(NH ROUTE 108)
EXETER, NEW HAMPSHIRE

BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603–583–4860,
FAX. 603–583–4863



CROSSING #1
SEWER (10")
INV=21.87±
BTM OF PIPE=21.79±
DRAIN (18")
TOP OF PIPE=21.45
INV=19.78
SEPARATION = 0.34' = 4"±

UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER BEALS ASSOCIATES, NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1–888–DIG–SAFE (1–888–344–7233) AND EXETER DPW (603) 773–6157.

NOTES:

1. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION AND AIR AND WATER POLLUTION WILL BE MINIMIZED.
2. STRAW BALES SHALL BE ANCHORED INTO THE SOIL USING 2" X 2" STAKES DRIVEN THROUGH THE BALES AND AT LEAST 18 INCHES IN TO THE SOIL.
3. SEEDING, FERTILIZING, AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS IN THE APPROPRIATED VEGETATIVE BMP.
4. THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL TAKE PRECAUTIONS AND INSTRUCTIONS FROM THE PLANNING DEPARTMENT IN ORDER TO PREVENT, ABATE AND CONTROL THE EMISSION OF FUGITIVE DUST INCLUDING BUT NOT LIMITED TO WETTING, COVERING, SHIELDING, OR VACUUMING.
5. THE NH COMMISSIONER OF AGRICULTURE PROHIBITS THE COLLECTION, POSSESSION, IMPORTATION, TRANSPORTATION, SALE, PROPAGATION, TRANSPLANTATION, OR CULTIVATION OF PLANTS BANNED BY NH LAW RSA 430:53 AND NH CODE ADMINISTRATIVE RULES AGR 3800. THE PROJECT SHALL MEET ALL REQUIREMENTS AND THE INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
6. THE CONSTRUCTION SITE OPERATOR AND OWNER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO USEPA, WASHINGTON, DC, STORMWATER NOTICE PROCESSING CENTER AT LEAST FORTEEN DAYS PRIOR TO COMMENCEMENT OF WORK ON SITE. EPA WILL POST THE NOI AT http://cfpubl.epa.gov/npdes/stormwater/noi/noisearch.cfm. AUTHORIZATION IS GRANTED UNDER THE PERMIT ONCE THE NOI IS SHOWN IN "ACTIVE STATUS".
7. ALL DRAINAGE STRUCTURES AND SWALES SHALL BE BUILT AND STABILIZED PRIOR TO HAVING RUNOFF DIRECTED TO THEM.
8. PRIOR TO THE START OF CONSTRUCTION, THE EXISTING 36–INCH HDPE DRAIN LINE THROUGH THE SITE SHALL BE INSPECTED TO VERIFY CONDITION. RESULTS SHALL BE PROVIDED TO THE DESIGN ENGINEER TO DETERMINE IF ISSUES NEED TO BE RESOLVED.

PERMANENT WETLAND IMPACT =	5,556 SF (TOWN)
PERMANENT WETLAND IMPACT =	6,336 SF (STATE)
TEMPORARY BUFFER IMPACT =	304 SF
PERMANENT BUFFER IMPACT =	45,420 SF
TEMPORARY SHORELAND PROTECTION IMPACT =	19,857 SF
PERMANENT SHORELAND PROTECTION IMPACT =	79,589 SF
SHORELAND PROTECTION IMPERVIOUS AREA =	79,589 SF (44.3%)

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

REVISIONS:	DATE:
REVISED PER REVIEW COMMENTS	6/27/24
REVISED PER REVIEW COMMENTS	5/15/24
REVISED PER REVIEW COMMENTS	5/3/24
REVISED PER REVIEW COMMENTS	4/9/24
REVISED PER REVIEW COMMENTS	3/28/24

STATE OF NEW HAMPSHIRE JAMES P. GOVE 1-19-2024 NO. 004 CERTIFIED SOIL SCIENTIST

STATE OF NEW HAMPSHIRE CHRISTIAN O. SMITH No.9900 PROFESSIONAL ENGINEER

GRADING, DRAINAGE, & EROSION CONTROL PLAN

COMMERCIAL DEVELOPMENT
ROUTE 108
EXETER, NH
TAX MAP 52, LOT 112.2

DATE: FEBRUARY 2024	SCALE: 1" = 30'
PROJ. NO: NH-1471	SHEET NO. 3

PREPARED FOR:

FOSS MOTORS
133 PORTSMOUTH AVE.
(NH ROUTE 108)
EXETER, NEW HAMPSHIRE

BA BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860,
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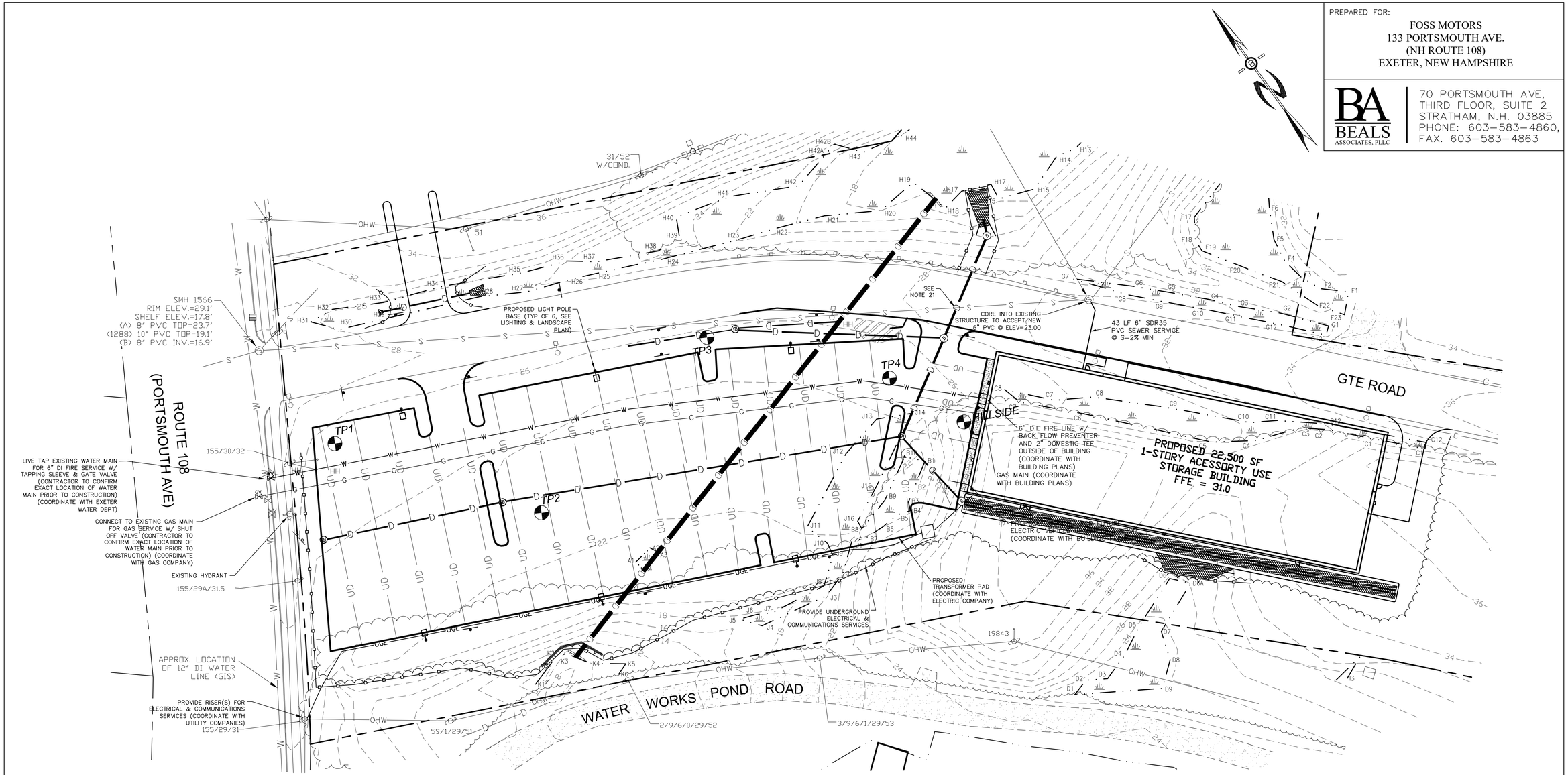

UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER BEALS ASSOCIATES, NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE (1-888-344-7233) AND EXETER DPW (603) 773-6157.

UTILITY NOTES:

1. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES, AND BONDS.
2. THE CONTRACTOR SHALL PROVIDE NOTICE TO ALL COMPANIES AND LOCAL AUTHORITIES OWNING OR HAVING A JURISDICTION OVER UTILITIES RUNNING TO, THROUGH, OR ACROSS PROJECT AREAS PRIOR TO DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
3. THE SPECIFICATIONS FOR PROPOSED PRIVATE UTILITY SERVICES SHALL BE TO THE STANDARDS AND REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES FOR PROPER UTILITY CROSSING REQUIREMENTS PRIOR TO CONSTRUCTION.
4. PRIOR TO THE PRE-CONSTRUCTION MEETING UGE&T PLANS FROM THE UTILITY COMPANIES NEED TO BE REDRAWN ON THIS SHEET. ADDITIONALLY THE CONTRACTOR NEEDS TO HAVE A COMPLETED SWPPP, A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH THE OWNER, ENGINEER, ARCHITECT, CONTRACTOR, LOCAL OFFICIALS, AND ALL UTILITY COMPANIES (PUBLIC AND PRIVATE) PRIOR TO START OF CONSTRUCTION.
5. ALL CONSTRUCTION SHALL CONFORM TO EXETER STANDARDS AND REGULATIONS, UNLESS OTHERWISE SPECIFIED. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR (OSHA) RULES AND REGULATIONS. BUILDINGS ARE TO BE SERVICED BY UNDERGROUND UTILITIES.
6. THE CONTRACTOR IS TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITY STUBS PRIOR TO CONSTRUCTION AND DISCONNECT ALL EXISTING SERVICE CONNECTIONS AT THEIR RESPECTIVE MAINS (IF REQUIRED) IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY'S STANDARDS AND SPECIFICATIONS.
7. WATER LINE SHALL BE INSTALLED UNDER ALL UTILITY LINES WITH A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN UTILITIES AT CROSSINGS.
8. AN AS-BUILT PLAN IS TO BE PREPARED AND SUBMITTED TO DEPARTMENT OF PUBLIC WORKS IN DIGITAL (.DWG AND .PDF) AND MYLAR FORMATS.
9. THE CONTRACTOR IS RESPONSIBLE FOR PAYMENT OF ALL CONNECTION FEES.
10. SANITARY SEWER FLOW CALCULATIONS:
    FACTORY/WAREHOUSE - 10 GPD/PERSON X 10 PEOPLE
    ESTIMATED FLOW AT 10 GPD/PERSON = 100 GPD.
11. ALL WATER AND SANITARY LEADS TO BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLANS AND SHALL BE PROVIDED WITH A TEMPORARY CAP AND WITNESS AT END.
12. THRUST BLOCKS SHALL BE PROVIDED AT ALL WATER LINE BENDS, TEES, AND MECHANICAL JOINTS.
13. CONTRACTOR SHALL MINIMIZE DISRUPTIONS TO EXISTING WATER SERVICES AND ALL REQUIREMENTS OF EXETER WATER DEPARTMENT SHALL BE FOLLOWED REGARDING NOTIFICATION OF INTERRUPTION OF SERVICE (MIN 48 HOURS). TEE INSTALLATION MAY NEED TO BE CONDUCTED AT NIGHT AS DIRECTED BY EXETER WATER DEPT.
14. WATER VALVES ARE TO BE OPERATED ONLY BY MUNICIPAL STAFF.
15. THE INSTALLATION OF SMOKE, HEAT, FIRE, OR CARBON MONOXIDE ALARMS OR SYSTEMS SHALL COMPLY WITH NFPA 72 REQUIREMENTS.
16. ALL SEWER SERVICE BENDS SHALL HAVE CLEANOUTS INSTALLED.
17. ALL WATER, SEWER, ROAD (INCLUDING PARKING LOT), AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.3 STORMWATER MANAGEMENT STANDARDS, STORMWATER MANAGEMENT PLAN, STORMWATER POLLUTION PREVENTION PLAN, AND EROSION AND SEDIMENT CONTROL STANDARDS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE", SEE SECTION 9.14 ROADWAYS, ACCESS POINTS, AND FIRE LANES AND SECTION 9.13 PARKING AREAS FOR EXCEPTIONS.
18. THE CONTRACTOR MUST OBTAIN A VALID UTILITY PIPE INSTALLER'S LICENSE AND THE JOB SUPERVISOR OR FOREMAN MUST BE CERTIFIED BY THE TOWN PRIOR TO WORKING ON ANY WATER, SEWER, OR DRAINAGE PIPES THAT ARE IN A TOWN STREET OR RIGHT OF WAY, OR THAT WILL CONNECT OR MAY BE CONNECTED TO A TOWN WATER, SEWER, OR DRAINAGE SYSTEM. A LICENSED SUPERVISOR OR FOREMAN MUST BE PRESENT AT THE JOB SITE AT ALL TIMES DURING CONSTRUCTION OF THESE UTILITIES.
19. THE DEVELOPER SHALL COORDINATE WITH THE ELECTRIC COMPANY TO ENSURE ANY TREE PLANTINGS ALONG MAIN STREET WILL NOT CONFLICT WITH THE EXISTING OVERHEAD WIRES.
20. THE DEVELOPER SHALL COORDINATE WITH THE ELECTRIC COMPANY TO CONFIRM A DROP POLE ON THE PROPERTY IS NOT REQUIRED.
21. WHERE PROPOSED 18" DRAIN LINE PASSES UNDER EXISTING 10" SEWER LINE IN GRE ROAD, CARE SHALL BE TAKEN TO ENSURE PROPER COMPACTION. AT CROSSING, DRAIN LINE JOINTS SHALL BEING LOCATED AS FAR FROM THE SEWER CROSSING POINT AS POSSIBLE.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

REVISIONS:	DATE:
REVISED PER REVIEW COMMENTS	6/27/24
REVISED PER REVIEW COMMENTS	5/15/24
REVISED PER REVIEW COMMENTS	3/28/24

UTILITY PLAN

COMMERCIAL DEVELOPMENT
ROUTE 108
EXETER, NH
TAX MAP 52, LOT 112.2

DATE: FEBRUARY 2024	SCALE: 1" = 30'
PROJ. NO: NH-1471	SHEET NO. 4

LANDSCAPING NOTES:

1. NO PLANT MATERIALS SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
2. A 4–INCH DEEP SHREDDED PINE BARK SHALL BE INSTALLED UNDER ALL SHRUBS, AND IN ALL PLANTING BEDS, AS DIRECTED BY OWNER.
3. ALL TREES SHALL BE BAILED AND BURLAPPED, UNLESS OTHERWISE NOTED, OR APPROVED BY THE OWNER.
4. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF FINAL ACCEPTANCE.
5. LOAM AND SEED ALL AREAS NOT OTHERWISE NOTED.
6. DO NOT INSTALL LOAM IN AREAS OF EXISTING TREES TO REMAIN.
7. THE LANDSCAPING OF THE SITE DEPICTED ON THIS PLAN IS INTEGRAL TO THE APPROVAL BY THE EXETER PLANNING BOARD AND SHALL BE REASONABLY MAINTAINED AND WHEN DEAD OR REMOVED, MUST BE REASONABLY REPLACED.
8. AFTER 1 YEAR, FERTILIZER MAY NOT BE APPLIED WITHIN 100 FEET OF WATERWORKS POND OR WHEELWRIGHT CREEK. BEYOND 100 FEET, FERTILIZER MUST BE APPLIED PER BEST MANAGEMENT PRACTICES, MUST CONTAIN A MINIMUM OF 50% SLOW RELEASE NITROGEN, MUST BE PHOSPHOROUS FREE (UNLESS SOIL TEST INDICATED A DEFICIENCY WHICH WOULD ALLOW UP TO 2% PHOSPHORUS), AND THE APPLICATION RATE MAY NOT EXCEED 0.5 POUNDS OF TOTAL NITROGEN PER 1,000 SF, WITH AN ANNUAL MAXIMUM APPLICATION OF 1.5 POUNDS OF NITROGEN PER 1,000 SF.

PLANT SCHEDULE

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE
5	GB	Betula populifolia	Gray Birch	2"– 2 1/2" Cal.
4	RM	Acer rubrum	Red Maple	2"– 2 1/2" Cal.
17	VY	Taxus Vermeulen	Vermeulen Yew	3'–4'

PREPARED FOR:

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(NH ROUTE 108)
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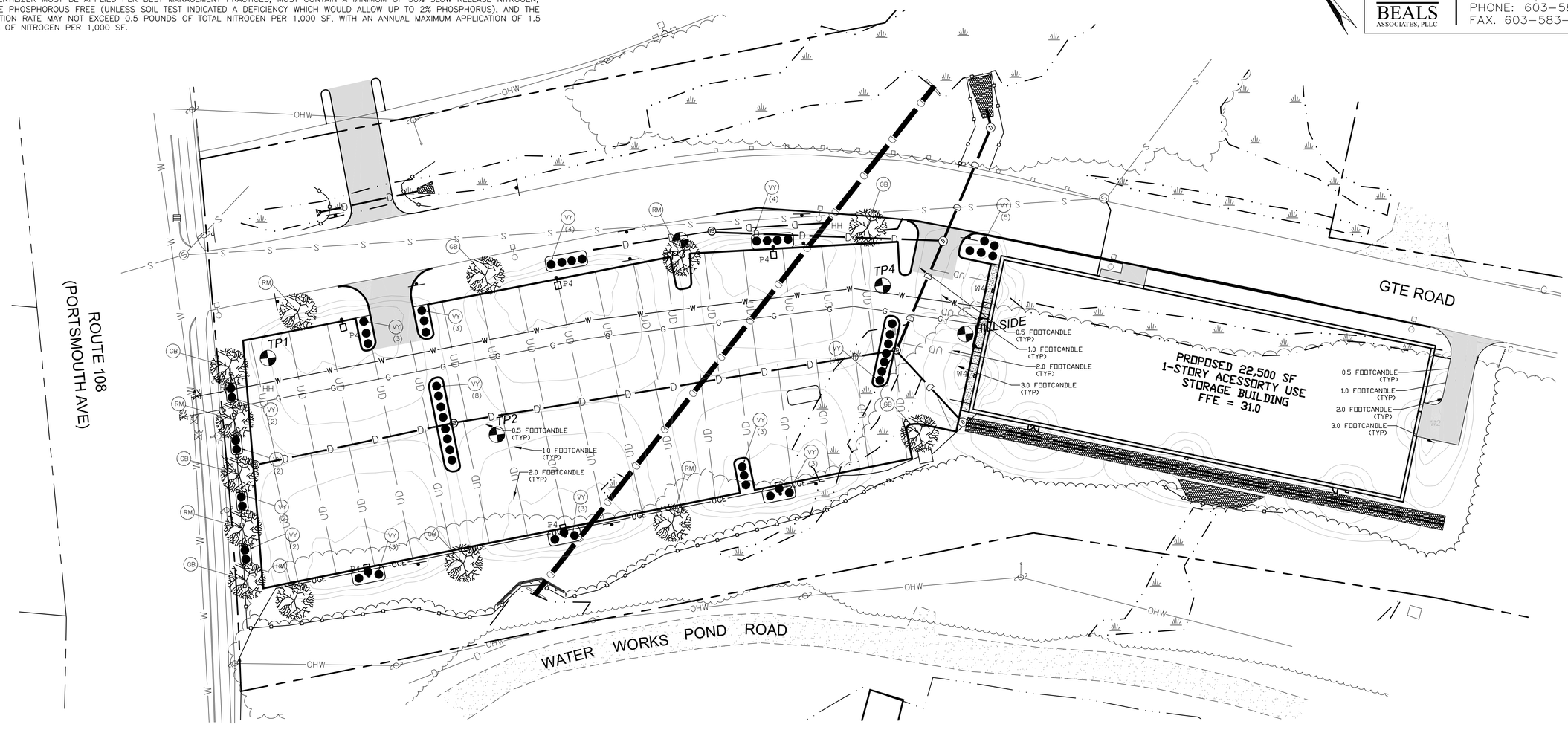


Luminaire Schedule								
Symbol	Qty	Label	Description	Tag	LLF	Luminaire Lumens	Luminaire Watts	Total Watts
	6	P4	COOPER: GALN-SA3D-730-U-T4FT-CXX-HSS	MOUNTED ON 25' VALMONT POLE: DS330-400Q250-D1-FP-COOPER CXX-FBC-AB	0.900	15145	184	1104
	4	W2	COOPER: GWC-SA1B-730-U-T2-CXX	WALL MTD 14' AFG	0.900	5453	44	176
	2	W4	COOPER: GWC-SA1C-730-U-T4FT-CXX	WALL MTD 14' AFG	0.900	6920	59	118

Parking Lot

Illuminance (Fc)
Average = 1.40
Maximum = 3.7
Minimum = 0.4
Avg/Min Ratio = 3.50

LIGHTING NOTES:

1. ALL OUTDOOR LIGHTING SHALL BE SO DIRECTED & SHIELDED THAT NO GLARE WILL SPILL OUT ABUTTING PROPERTIES. PROPERTIES.
2. AFTER 10:00 PM ONLY THAT AMOUNT OF LIGHT NECESSARY FOR THE SECURITY OF THE PREMISES SHALL BE PERMITTED.
3. ALL LIGHTING SHALL BE DOWNCAST SHIELDING TYPE AND DARK SKY COMPLIANT.
4. LIGHTING DESIGN PROVIDED BY CHARRON/REFLEX LIGHTING.

MCGRAW–EDISON GWC GALLEON
WALL MOUNTED
14–FOOT MOUNTING HEIGHT

MCGRAW–EDISON GALN GALLEON II
POLE MOUNTED
25–FOOT MOUNTING HEIGHT

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

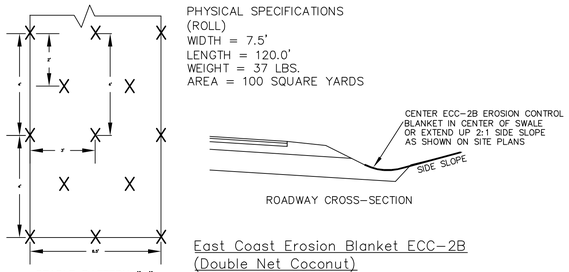
REVISED PER REVIEW COMMENTS	6/27/24
REVISED PER REVIEW COMMENTS	5/15/24
REVISED PER REVIEW COMMENTS	3/28/24
REVISIONS:	DATE:

STATE OF NEW HAMPSHIRE
CHRISTIAN O. SMITH
No. 9900
PROFESSIONAL ENGINEER

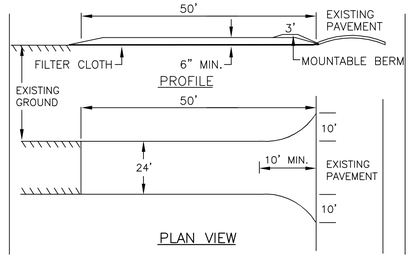
LIGHTING & LANDSCAPE PLAN

COMMERCIAL DEVELOPMENT
ROUTE 108
EXETER, NH
TAX MAP 52, LOT 112.2

DATE: FEBRUARY 2024	SCALE: 1" = 30'
PROJ. NO: NH-1471	SHEET NO. 5

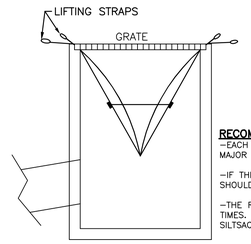


East Coast Erosion Blanket ECC-2B
(Double Net Coconut)
INSTALLATION DETAIL



1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER. 5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

STABILIZED CONSTRUCTION ENTRANCE

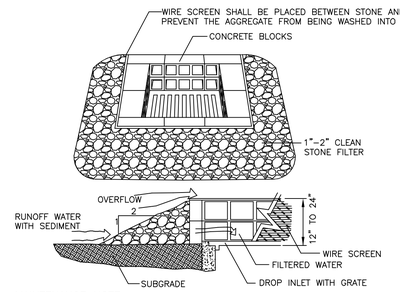


RECOMMENDED MAINTENANCE SCHEDULE
-EACH SILTSACK SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT

-IF THERE HAVE BEEN NO MAJOR EVENTS, SILTSACK SHOULD BE INSPECTED EVERY 2-3 WEEKS

-THE RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF CORD IS COVERED WITH SEDIMENT, THE SILTSACK SHOULD BE EMPTIED.

SILTSACK DETAIL
NOT TO SCALE



MAINTENANCE NOTE:

1. ALL STRUCTURES SHOULD BE INSPECTED AFTER EVERY RAINFALL AND REPAIRS MADE AS NECESSARY. SEDIMENT SHOULD BE REMOVED FROM TRAPPING DEVICES AFTER THE SEDIMENT HAS REACHED A MAXIMUM OF ONE HALF THE DEPTH OF THE TRAP. THE SEDIMENT SHOULD BE DISPOSED IN A SUITABLE UPLAND AREA AND PROTECTED FROM EROSION BY EITHER STRUCTURE OR VEGETATIVE MEANS. THE TEMPORARY TRAPS SHOULD BE REMOVED AND THE AREA REPAIRED AS SOON AS THE CONTRIBUTING DRAINAGE AREA TO THE INLET HAS BEEN COMPLETELY STABILIZED.

TEMPORARY CATCH BASIN INLET PROTECTION
(Block and Gravel Drop Inlet Sediment Filter)
NOT TO SCALE

** WITHIN 50 FEET DISTURBANCE TO ANY WETLAND, A DOUBLE ROW OF EROSION BARRIER (SILT FENCE, SILT SOCK, OR MULCH BERM) SHALL BE INSTALLED.

TEMPORARY EROSION CONTROL MEASURES

1. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT NO MORE THAN 5 ACRES OF LAND SHALL BE EXPOSED BEFORE DISTURBED AREAS ARE STABILIZED*.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED OR DIRECTED BY THE ENGINEER ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS.
3. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDED WITH NOT LESS THAN 1.10 POUNDS OF SEED PER 1000 SQUARE FEET OF AREA. (48 POUNDS PER ACRE) SEE SEED SPECIFICATIONS THIS SHEET.
4. SILT FENCES AND OTHER EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY RAIN EVENT GREATER THAN 0.25" DURING THE LIFE OF THE PROJECT. ALL DAMAGED AREAS SHALL BE REPAIRED, SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
5. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
6. AREAS MUST BE SEEDED AND MULCHED WITHIN 3 DAYS OF FINAL GRADING, PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL.

* AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
- A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
- A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS RIPRAP HAS BEEN INSTALLED.
- EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

CONSTRUCTION SPECIFICATIONS

1. STRUCTURES SHALL BE INSTALLED ACCORDING TO THE DIMENSIONS SHOWN ON THE PLANS AT THE APPROPRIATE SPACING.
2. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION AND AIR AND WATER POLLUTION WILL BE MINIMIZED.
3. WHEN TIMBER STRUCTURES ARE USED, THE TIMBER SHALL EXTEND AT LEAST 18" INTO THE SOIL.
4. STRAW BALES SHALL BE ANCHORED INTO THE SOIL USING 2" X 2" STAKES DRIVEN THROUGH THE BALES AND AT LEAST 18 INCHES IN TO THE SOIL.
5. SEEDING, FERTILIZING, AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS IN THE APPROPRIATED VEGETATIVE BMP.
6. STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS BEEN COMPLETED.
7. THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL TAKE PRECAUTIONS AND INSTRUCTIONS FROM THE PLANNING DEPARTMENT IN ORDER TO PREVENT, ABATE AND CONTROL THE EMISSION OF FUGITIVE DUST INCLUDING BUT NOT LIMITED TO WETTING, COVERING, SHIELDING, OR VACUUMING.
8. THE NH COMMISSIONER OF AGRICULTURE PROHIBITS THE COLLECTION, POSSESSION, IMPORTATION, TRANSPORTATION, SALE, PROPAGATION, TRANSPLANTATION, OR CULTIVATION OF PLANTS BANNED BY NH LAW RSA 430:53 AND NH CODE ADMINISTRATIVE RULES AGR 3800. THE PROJECT SHALL MEET ALL REQUIREMENTS AND THE INTENT OF . RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES
9. THE CONSTRUCTION SITE OPERATOR AND OWNER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO USEPA, WASHINGTON, DC, STORMWATER NOTICE PROCESSING CENTER AT LEAST FORTEEN DAYS PRIOR TO COMMENCEMENT OF WORK ON SITE. EPA WILL POST THE NOI AT http://cfpubl.epa.gov/npdes/stormwater/noi/noisearch.cfm. AUTHORIZATION IS GRANTED UNDER THE PERMIT ONCE THE NOI IS SHOWN IN "ACTIVE STATUS".

CONSTRUCTION SEQUENCE

1. CUT AND REMOVE TREES IN CONSTRUCTION AREAS AS REQUIRED OR DIRECTED.
2. CONSTRUCT AND/OR INSTALL TEMPORARY AND PERMANENT SEDIMENT EROSION AND DETENTION CONTROL FACILITIES AS REQUIRED. EROSION, SEDIMENT AND DETENTION CONTROL FACILITIES SHALL BE INSTALLED AND STABILIZED PRIOR TO ANY EARTH MOVING OPERATION AND PRIOR TO DIRECTING RUNOFF TO THEM.
3. CLEAR, CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES. STUMPS AND DEBRIS ARE TO BE REMOVED FROM SITE AND DISPOSED OF PER STATE AND LOCAL REGULATIONS.
4. EXCAVATE AND STOCKPILE TOPSOIL /LOAM. ALL AREAS SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
5. CONSTRUCT TEMPORARY CULVERTS AS REQUIRED OR DIRECTED.
6. CONSTRUCT THE ROADWAY/DRIVEWAYS AND ITS ASSOCIATED DRAINAGE STRUCTURES. ALL ROADWAYS, PARKING AREAS, AND CUT/FILL SLOPES SHALL BE STABILIZED AND/OR LOAMED AND SEEDED WITHIN 72-HOURS OF ACHIEVING FINISH GRADE AS APPLICABLE.
7. INSTALL PIPE AND CONSTRUCTION ASSOCIATED APPURTENANCES AS REQUIRED OR DIRECTED. ALL DISTURBED AREAS SHALL STABILIZED IMMEDIATELY AFTER GRADING.
8. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES AND DISTURBED AREAS SHALL BE SEEDED OR MULCHED AS REQUIRED, OR DIRECTED.
9. DAILY OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE CHECK DAMS, DITCHES, SEDIMENT TRAPS, ETC. TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ABUTTING WATERS OR PROPERTY.
10. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION
11. COMPLETE PERMANENT SEEDING AND LANDSCAPING
12. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE ESTABLISHED THEMSELVES AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND REVEGETATE ALL DISTURBED AREAS.
13. ALL SWALES AND DRAINAGE STRUCTURES WILL BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUNOFF DIRECTED TO THEM.
14. FINISH PAVING ALL ROADWAYS/DRIVEWAYS.
15. LOT DISTURBANCE OTHER THAN THAT SHOWN ON THE APPROVED PLANS SHALL NOT COMMENCE UNTIL THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.

WINTER MAINTENANCE

1. ALL DISTURBED AREAS THAT DO NOT HAVE AT LEAST 85% VEGETATIVE COVERAGE PRIOR TO OCTOBER 15TH, SHALL BE STABILIZED BY APPLYING MULCH AT A RATE OF 3-4 TONS PER ACRE. ALL SIDE SLOPES, STEEPER THAN 4:1, THAT ARE NOT DIRECTED TO SWALES OR DETENTION BASINS, SHALL BE LINED WITH BIODEGRADABLE/PHOTODEGRADABLE "JUTE MATTING" (EXCELSIOR'S CURLEX II OR EQUAL). ALL OTHER SLOPES SHALL BE MULCHED AND TACKED AT A RATE OF 3-4 TONS PER ACRE. THE APPLICATION OF MULCH AND/OR JUTE MATTING SHALL NOT OCCUR OVER EXISTING SNOW COVER. IF THE SITE IS ACTIVE AFTER OCTOBER 15TH, ANY SNOW THAT ACCUMULATES ON DISTURBED AREAS SHALL BE REMOVED. PRIOR TO SPRING THAW ALL AREAS WILL BE STABILIZED, AS DIRECTED ABOVE.

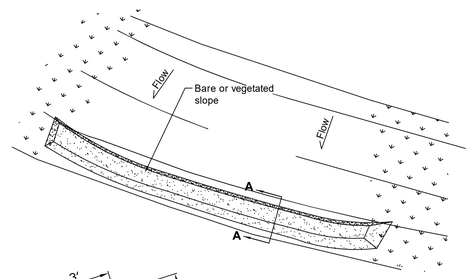
2. ALL SWALES THAT DO NOT HAVE FULLY ESTABLISHED VEGETATION SHALL BE EITHER LINED WITH TEMPORARY JUTE MATTING OR TEMPORARY STONE CHECK DAMS (APPROPRIATELY SPACED). STONE CHECK DAMS WILL BE MAINTAINED THROUGHOUT THE WINTER MONTHS. IF THE SWALES ARE TO BE MATTED WITH PERMANENT LINERS OR RIPRAP WITH ENGINEERING FABRIC, THIS SHALL BE COMPLETED PRIOR TO WINTER SHUTDOWN OR AS SOON AS THEY ARE PROPERLY GRADED AND SHAPED.

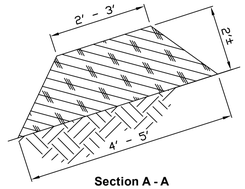
3. PRIOR TO OCT. 15TH ALL ROADWAY AND PARKING AREAS SHALL BE BROUGHT UP TO AND THROUGH THE BANK RUN GRAVEL APPLICATION. IF THESE AREAS' ELEVATIONS ARE PROPOSED TO REMAIN BELOW THE PROPOSED SUBGRADE ELEVATION, THE SUBGRADE MATERIAL SHALL BE ROUGHLY CROWNED AND A 3" LAYER OF CRUSHED GRAVEL SHALL BE PLACED AND COMPACTED. THIS WILL ALLOW THE SUBGRADE TO SHED RUNOFF AND WILL REDUCE ROADWAY EROSION. THIS CRUSHED GRAVEL DOES NOT HAVE TO CONFORM TO NH DOT 304.3, BUT SHALL HAVE BETWEEN 15-25% PASSING THE #200 SIEVE AND THE LARGEST STONE SIZE SHALL BE 2". IF THE SITE IS ACTIVE AFTER NOVEMBER 15TH, ANY ACCUMULATED SNOW SHALL BE REMOVED FROM ALL ROADWAY AND PARKING AREAS.

4. AFTER OCTOBER 15TH, THE END OF NEW HAMPSHIRE'S AVERAGE GROWING SEASON, NO ADDITIONAL LOAM SHALL BE SPREAD ON SIDE SLOPES AND SWALES. THE STOCKPILES THAT WILL BE LEFT UNDISTURBED UNTIL SPRING SHALL BE SEEDED BY THIS DATE. AFTER OCTOBER 15TH, ANY NEW OR DISTURBED PILES SHALL BE MULCHED AT A RATE OF 3-4 TONS PER ACRE. ALL STOCKPILES THAT WILL REMAIN THROUGHOUT THE WINTER SHALL BE SURROUNDED WITH SILT FENCING.

SEEDING SPECIFICATIONS

1. GRADING AND SHAPING
   A. SLOPES SHALL NOT BE STEEPER THAN 2:1;3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
2. SEEDBED PREPARATION
   A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
   B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
3. ESTABLISHING A STAND
   A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. REFER TO LIGHTING & LANDSCAPE PLAN FOR FERTILIZER REQUIREMENTS.
   B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
   C. A NEW ENGLAND NATIVE SEED MIXTURE SHALL BE USED. REFER TO MANUFACTURER'S SPECIFICATIONS FOR RATES OF SEEDING.
   D. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.
4. MULCH
   A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
   B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 SQ. FT.
5. MAINTENANCE TO ESTABLISH A STAND
   A. PLANTED AREA SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
   B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIAL STAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
   C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.





Section A - A

Mix material should consist of 30-50% large (1-3") particles. The organic matter content should be 25%-65%, dry weight basis. The organic matter may originate from a variety of vegetative sources, but needs to be fibrous and elongated. The mix shall be free of silt, clay, fine sand, refuse and contaminants or any material toxic to plant growth. Erosion Control Mix berms are effective filters for overland flow conditions and should not be used to filter concentrated flow such as that found in drainage ditchs, streams, etc.

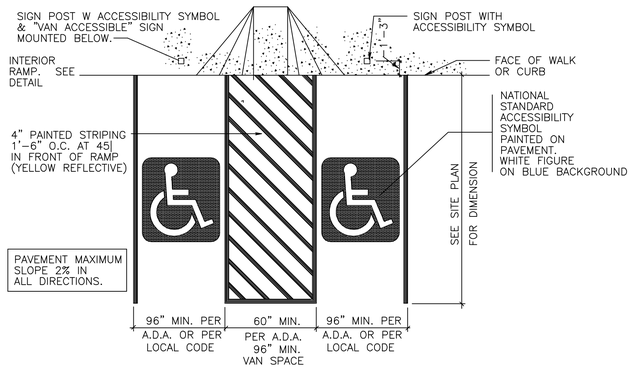
Erosion Control Mix Berm

REVISED PER REVIEW COMMENTS	5/15/24
REVISED PER REVIEW COMMENTS	3/28/24
REVISIONS:	DATE:

EROSION & SEDIMENT CONTROL DETAILS

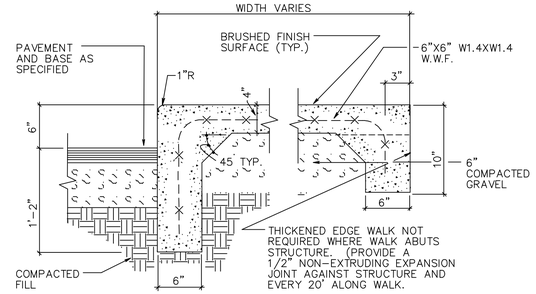
COMMERCIAL DEVELOPMENT
ROUTE 108
EXETER, NH
TAX MAP 52, LOT 112.2

DATE:	FEB, 2024	SCALE:	NTS
PROJ. N0:	NH-1471	SHEET NO.	6



PARKING STALL FOR THE PHYSICALLY CHALLENGED

NOT TO SCALE DEC. 15, 1991



BRUSHED CONCRETE WALK

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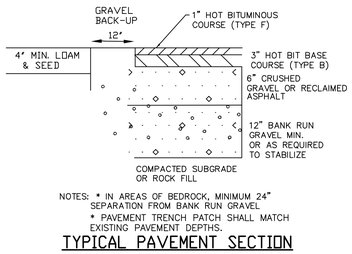
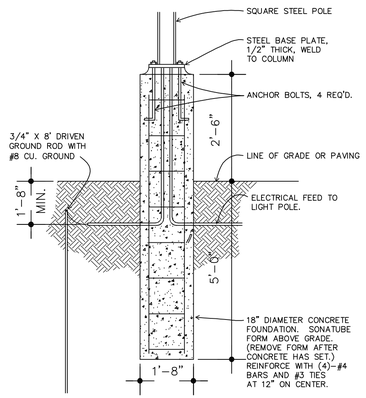


NOTES: * IN AREAS OF BEDROCK, MINIMUM 24" SEPARATION FROM BANK RUN GRAVEL
* PAVEMENT TRENCH PATCH SHALL MATCH EXISTING PAVEMENT DEPTHS.

TYPICAL PAVEMENT SECTION

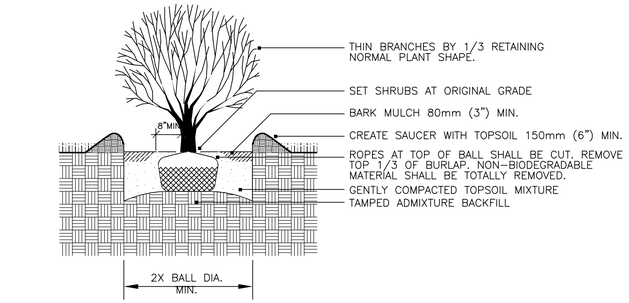
NEW ASPHALT



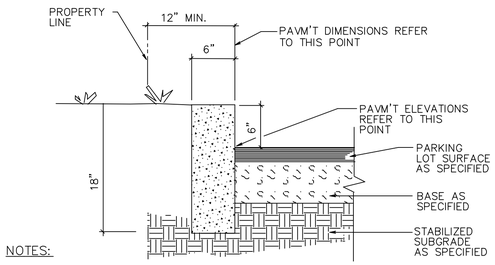
POLE FOUNDATION

LIGHT BASE DETAIL

SCALE: NONE



SHRUB PLANTING - BALL & BURLAP

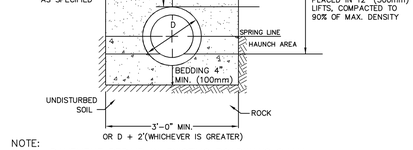


NOTES:

1. EDGING TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.
2. JOINTS BETWEEN STONES SHALL BE MORTARED.

6" VERTICAL GRANITE CURB

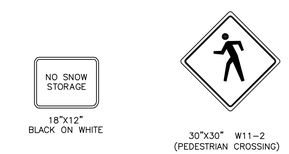
NOT TO SCALE



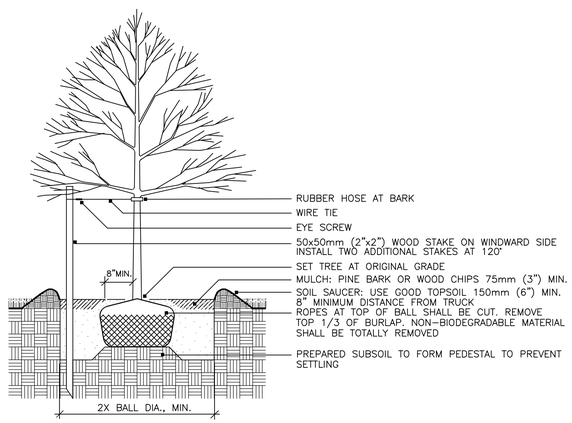
NOTE:

1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPEC'S.

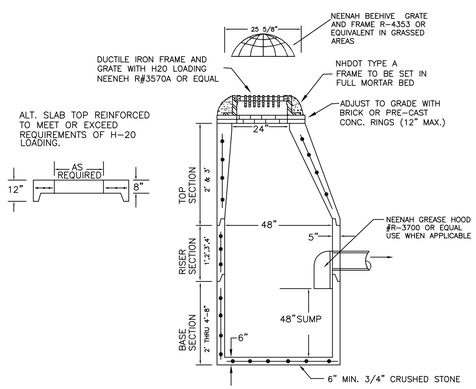
TYPICAL DRAINAGE TRENCH DETAIL



SIGN LEGEND

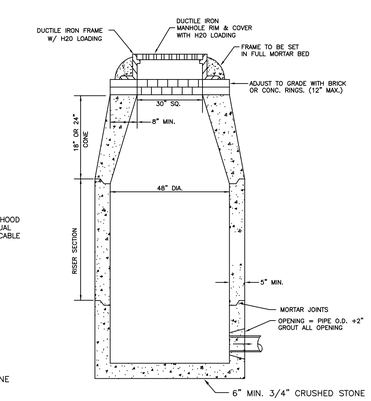


DECIDUOUS TREE PLANTING WITH STAKE AND WIRE TIE - HEAVY DUTY



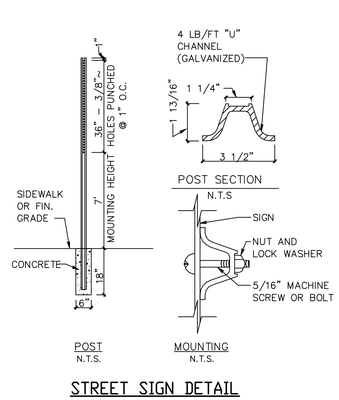
PRECAST CATCH BASIN

NOT TO SCALE



PRECAST DRAIN MANHOLE

NOT TO SCALE



POST N.T.S. MOUNTING N.T.S.

STREET SIGN DETAIL

PREPARED FOR:
FOSS MOTORS
133 PORTSMOUTH AVE.
(NH ROUTE 108)
EXETER, NEW HAMPSHIRE

BA BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860,
FAX. 603-583-4863

CHRISTIAN O. SMITH No.9900 STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER

REVISIONS:	DATE:
REVISED PER REVIEW COMMENTS	6/27/24
REVISED PER REVIEW COMMENTS	5/15/24
REVISED PER REVIEW COMMENTS	3/28/24

CONSTRUCTION DETAILS

COMMERCIAL DEVELOPMENT
ROUTE 108
EXETER, NH
TAX MAP 52, LOT 112.2

DATE:	FEB, 2024	SCALE:	NTS
PROJ. N0:	NH-1471	SHEET NO.	7

CONSTRUCTION SPECIFICATIONS FOR POROUS ASPHALT
THE UNH STORM WATER CENTER

INSTALLATION RECOMMENDATIONS

INSTALLATION
A. PERCOLATION BEDS (REFERS TO NO 57 STONE)
I. OWNER SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO ALL PERCOLATION BED AND POROUS PAVING WORK.
2. SUB GRADE PREPARATION
A. EXISTING SUB GRADE UNDER BED AREAS SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC PRIOR TO STONE BED PLACEMENT.
B. WHERE EROSION OF SUB GRADE HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING, THIS MATERIAL SHALL BE REMOVED WITH LIGHT EQUIPMENT AND THE UNDERLYING SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES WITH A YORK RAKE OR EQUIVALENT AND LIGHT TRACTOR.
C. BRING SUB GRADE OF STONE PERCOLATION BED TO LINE, GRADE, AND ELEVATIONS INDICATED. FILL AND LIGHTLY REGRADE ANY AREAS DAMAGED BY EROSION, PONDING, OR TRAFFIC COMPACTION BEFORE THE PLACING OF STONE. ALL BED BOTTOMS ARE LEVEL GRADE.
3. RECHARGE BED INSTALLATION (REFERS TO NO 3 STONE)
A. UPON COMPLETION OF SUB GRADE WORK, THE ENGINEER SHALL BE NOTIFIED AND SHALL INSPECT AT HIS DISCRETION BEFORE PROCEEDING WITH PERCOLATION BED INSTALLATION.
B. PERCOLATION BED AGGREGATE SHALL BE PLACED IMMEDIATELY AFTER APPROVAL OF SUB GRADE PREPARATION. ANY ACCUMULATION OF DEBRIS OR SEDIMENT WHICH HAS TAKEN PLACE AFTER APPROVAL OF SUB GRADE SHALL BE REMOVED PRIOR TO INSTALLATION OF AGGREGATE AT NO EXTRA COST TO THE OWNER.
C. INSTALL COARSE AGGREGATE NO. 3 (1 1/2" STONE) IN 8–INCH MAXIMUM LIFTS. LIGHTLY COMPACT EACH LAYER WITH EQUIPMENT, KEEPING EQUIPMENT MOVEMENT OVER STORAGE BED SUBGRADES TO A MINIMUM. INSTALL AGGREGATE TO GRADES INDICATED ON THE DRAWINGS.
D. INSTALL 3" LIFT PEA GRAVEL LAYER TO PREVENT MIGRATION OF FINES FROM THE FILTER COARSE (NHDOT 304.1)
E. INSTALL FILTER COARSE (NHDOT 304.1 SAND LESS THAN 2% FINES) IN 2, 4" LIFTS. LIGHTLY COMPACT EACH LAYER WITH EQUIPMENT, KEEPING EQUIPMENT MOVEMENT OVER STORAGE BED SUBGRADES TO A MINIMUM. INSTALL AGGREGATE TO GRADES INDICATED ON THE DRAWINGS.
F. INSTALL CHOKER BASE COURSE (AASHTO # 57 STONE) AGGREGATE EVENLY OVER SURFACE OF STONE BED, SUFFICIENT TO ALLOW PLACEMENT OF PAVEMENT, AND NOTIFY ENGINEER FOR APPROVAL. CHOKER BASE COURSE SHALL BE SUFFICIENT TO ALLOW FOR EVEN PLACEMENT OF ASPHALT BUT NO THICKER THAN 4–INCH IN DEPTH.
4. SURROUNDING AREAS
A. BEFORE THE POROUS PAVEMENT IS INSTALLED, ADJACENT SOIL AREAS SHOULD BE SLOPED AWAY FROM ALL PAVEMENT EDGES, TO PREVENT POTENTIAL SEDIMENT FROM WASHING ONTO THE PAVEMENT SURFACE.
B. TO ACCOMPLISH THIS, A SEQUENCE OF SWALES SHOULD BE EXCAVATED INTO ALL EARTHEN (UNPAVED) AREAS AT LEAST ON THE UPHILL SIDES OF THE PAVEMENT, AND WHERE NECESSARY, TO BELOW THE CURB OR PAVEMENT ELEVATION. ITS SHAPE AND PAINTINGS CAN BE INTEGRATED WITH THE PROJECT'S ARCHITECTURE AND LANDSCAPE, AND DESIGNED TO MAXIMIZE INFILTRATION. SWALE OVERFLOW, WHEN IT OCCURS, CAN BE DISCHARGED FROM ONE SWALE TO ANOTHER BY CONNECTING PIPES UNDER DRIVEWAYS.
C. BUILDING BASEMENTS AND FOUNDATIONS SHOULD BE WATERPROOFED AS NECESSARY, WHERE THE POROUS PAVEMENT ABUTS BUILDINGS.
B. POROUS ASPHALT
1. TRANSPORTING MATERIAL
A. TRANSPORTING OF MIX TO THE SITE SHALL BE IN VEHICLES WITH SMOOTH, CLEAN DUMP BEDS THAT HAVE BEEN SPRAYED WITH A NON–PETROLEUM RELEASE AGENT.
B. THE MIX SHALL BE COVERED DURING TRANSPORT TO CONTROL COOLING.
2. POROUS BITUMINOUS ASPHALT SHALL NOT BE STORED IN EXCESS OF 90 MINUTES BEFORE PLACEMENT.
3. ASPHALT PLACEMENT
A. THE POROUS BITUMINOUS SURFACE COURSE SHALL BE LAID IN ONE LIFT DIRECTLY OVER THE CHOKER COARSE, FILTER COARSE, AND CRUSHED STONE BASE COURSE TO A 4–INCH FINISHED THICKNESS. THE SURFACE CAN BE LAID IN TWO LIFTS IF SECOND LIFT IS DONE WITHIN 10 BUSINESS DAYS AND THE INITIAL COURSE IS CLEAN AND FREE OF SEDIMENT.
B. THE LAYING TEMPERATURE OF THE BITUMINOUS MIX SHALL BE BETWEEN 300 DEGREES FAHRENHEIT AND 350 DEGREES FAHRENHEIT (BASED ON THE RECOMMENDATIONS OF THE ASPHALT SUPPLIER).
C. INSTALLATION SHALL TAKE PLACE WHEN AMBIENT TEMPERATURES ARE 55 DEGREES FAHRENHEIT OR ABOVE, WHEN MEASURED IN THE SHADE AWAY FROM ARTIFICIAL HEAT.
D. THE USE OF A REMIXING MATERIAL TRANSFER DEVICE BETWEEN THE TRUCKS AND THE PAVER IS HIGHLY RECOMMENDED TO ELIMINATE COLD LUMPS IN THE MIX.
E. THE POLYMER–MODIFIED ASPHALT IS VERY DIFFICULT TO RAKE, A WELL–HEATED SCREED SHOULD BE USED TO MINIMIZE THE NEED FOR RAKING.
F. COMPACTION OF THE SURFACE COURSE SHALL TAKE PLACE WHEN THE SURFACE IS COOL ENOUGH TO RESIST A 10–TON ROLLER. (140°F. SURFACE TEMPERATURE) ONE OR TWO PASSES IS ALL THAT IS REQUIRED FOR PROPER COMPACTION. MORE ROLLING COULD CAUSE A REDUCTION IN THE SURFACE POROSITY WHICH IS UNACCEPTABLE.
4. IN THE EVENT CONSTRUCTION SEDIMENT IS INADVERTENTLY DEPOSITED ON THE FINISHED POROUS SURFACE, IT MUST BE IMMEDIATELY REMOVED BY VACUUMING.
5. AFTER FINAL ROLLING, NO VEHICULAR TRAFFIC OF ANY KIND SHALL BE PERMITTED ON THE SURFACE UNTIL COOLING AND HARDENING HAS TAKEN PLACE, AND IN NO CASE WITHIN THE FIRST 48 HOURS. PROVIDE BARRIERS AS NECESSARY AT NO EXTRA COST TO THE OWNER TO PREVENT VEHICULAR USE; REMOVE AT THE DISCRETION OF THE ENGINEER.
6. STRIPING PAINT FOR TRAFFIC LANES AND PARKING BAYS SHALL BE CHLORINATED RUBBER BASE, FACTORY MIXED, NON–BLEEDING, FAST DRYING, BEST QUALITY, WHITE TRAFFIC PAINT WITH A LIFE EXPECTANCY OF TWO YEARS UNDER NORMAL TRAFFIC USE.
A. PAVEMENT–MARKING PAINT; LATEX, WATER–BASE EMULSION, READY–MIXED, COMPLYING WITH FS TT–P–1952.
B. SWEEP AND CLEAN SURFACE TO ELIMINATE LOOSE MATERIAL AND DUST.
C. PAINT 4 INCH WIDE TRAFFIC LANE STRIPING IN ACCORDANCE WITH LAYOUTS OF PLAN. APPLY PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. APPLY IN TWO COATS AT MANUFACTURER'S RECOMMENDED RATES. PROVIDE CLEAR, SHARP LINES USING WHITE TRAFFIC PAINT, INSTALLED IN ACCORDANCE WITH NHDOT SPECIFICATIONS.
6. WORK SHALL BE DONE EXPERTLY THROUGHOUT, WITHOUT STAINING OR INJURY TO OTHER WORK.
TRANSITION TO ADJACENT IMPERVIOUS BITUMINOUS PAVING SHALL BE MERGED NEATLY WITH FLUSH, CLEAN LINE. FINISHED PAVING SHALL BE EVEN, WITHOUT POCKETS, AND GRADED TO ELEVATIONS SHOWN ON DRAWING.
7. POROUS PAVEMENT BEDS SHALL NOT BE USED FOR EQUIPMENT OR MATERIALS STORAGE DURING CONSTRUCTION, AND UNDER NO CIRCUMSTANCES SHALL VEHICLES BE ALLOWED TO DEPOSIT SOIL ON PAVED POROUS SURFACES.
8. REPAIR OF DAMAGED PAVING
A. ANY EXISTING PAVING ON OR ADJACENT TO THE SITE THAT HAS BEEN DAMAGED AS A RESULT OF CONSTRUCTION WORK SHALL HE REPAIRED TO THE SATISFACTION OF THE OWNER WITHOUT ADDITIONAL COST TO THE OWNER.
9. FIELD QUALITY CONTROL
A. THE FULL PERMEABILITY OF THE PAVEMENT SURFACE SHALL BE TESTED BY APPLICATION OF CLEAN WATER AT THE RATE OF AT LEAST 5 GPM OVER THE SURFACE, USING A HOSE OR OTHER DISTRIBUTION DEVISE. WATER USED FOR THE TEST SHALL BE CLEAN, FREE OF SUSPENDED SOLIDS AND DELETERIOUS LIQUIDS AND WILL BE PROVIDED AT NO EXTRA COST TO THE OWNER. ALL APPLIED WATER SHALL INFILTRATE DIRECTLY WITHOUT PUDDLE FORMATION OR SURFACE RUNOFF, AND SHALL BE OBSERVED BY THE ENGINEER AND OWNER.
B. TEST IN–PLACE BASE AND SURFACE COURSE FOR COMPLIANCE WITH REQUIREMENTS FOR THICKNESS AND SURFACE SMOOTHNESS. REPAIR OR REMOVE AND REPLACE UNACCEPTABLE WORK AS DIRECTED BY THE OWNER.
C. SURFACE SMOOTHNESS: TEST FINISHED SURFACE FOR SMOOTHNESS AND EVEN DRAINAGE, USING A TEN–FOOT TO CENTERLINE OF PAVED AREA. SURFACE WILL NOT BE ACCEPTED IF GAPS OR RIDGES EXCEED 3116 OF AN INCH.

MINIMUM COMPACTION REQUIREMENTS

COMPACTION SHALL BE PERFORMED TO NOT LESS THAN NINETY–FIVE PERCENT (95%) MAXIMUM DENSITY AS DETERMINED IN A LABORATORY COMPACTION TEST, PERFORMED UNDER THE SPECIFICATIONS OF ASTM D1557–64T, METHOD "A", (BACK FILL MATERIAL OF A STONY NATURE SHALL BE TESTED UNDER METHOD "C" OR "D" OF THE SAME ASTM DESIGNATION) OR OTHER APPROVED ASTM OR AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) SPECIFICATIONS. SUCH TEXT SHALL ALSO BE USED FOR ESTABLISHING THE OPTIMUM MOISTURE CONTENT OF THE MATERIALS. THE IN–PLACE DRY UNIT WEIGHT OF THE COMPACTED MATERIALS SHALL BE DETERMINED BY METHODS SPECIFIED UNDER ASTM "D" 1556–58T OR OTHER APPROVED ASTM OR AASHTO SPECIFICATIONS. THE IN–PLACE COMPACTION TEST TO BE CONSISTENT WITH THE APPROVED LABORATORY COMPACTION TEST.

TABLE 5. POROUS ASPHALT MIX DESIGN CRITERIA.

SIEVE SIZE (INCH/MM)	PERCENT PASSING (%)
0.75/19	100
0.50/12.5	85–100
0.375/9.5	55–75
NO.4/4.75	10–25
NO.8/2.36	5–10
NO.200/0.075 (#200)	2–4
BINDER CONTENT (AASHTO T164)	6.0–6.5%
AIR VOID CONTENT BY CORELOK (ASTM D6752)*	16.0–20.0%
AIR VOID CONTENT BY PARAFFIN WAX (AASHTO T275)*	18.0–22.0%
DRAINDOWN (ASTM D6390)**	<= 0.3 %
RETAINED TENSILE STRENGTH (AASHTO 283)***	>= 80 %

* EITHER METHOD IS ACCEPTABLE
**CELLULOSE OR MINERAL FIBERS MAY BE USED TO REDUCE DRAINDOWN.
***IF THE TSR (RETAINED TENSILE STRENGTH) VALUES FALL BELOW 80% WHEN TESTED PER NAPA IS 131 (WITH A SINGLE FREEZE THAW CYCLE RATHER THAN 5). STEP 4, THE CONTRACTOR SHALL EMPLOY AN ANTISTRIP ADDITIVE, SUCH AS HYDRATED LIME (ASTM C977) OR A FATTY AMINE, TO RAISE THE TSR VALUE ABOVE 80%.

MIX SUMMARY
POROUS ASPHALT PAVEMENT MIX
THE UNH STORM WATER CENTER

POROUS ASPHALT SHALL BE FOUR INCHES THICK WITH A BITUMINOUS MIX OF 6% TO 6.5% BY WEIGHT DRY AGGREGATE AND AIR VOIDS OF 18–22% IN ACCORDANCE WITH ASTM D6390, DRAIN DOWN OF THE BINDER SHALL BE NO GREATER THAN 0.3%. IF MORE ABSORPTIVE AGGREGATES, SUCH AS LIMESTONE, ARE USED IN THE MIX, THEN THE AMOUNT OF BITUMEN IS TO BE BASED ON THE TESTING PROCEDURES OUTLINED IN THE NATIONAL ASPHALT PAVEMENT ASSOCIATION'S INFORMATION SERIES 131 – "PERVIOUS ASPHALT PAVEMENTS" (2003) OR NHDOT EQUIVALENT. MIX SUPPLIERS MAY HAVE A SUITABLE IN–HOUSE SPECIFICATION FOR OPEN GRADED FRICTION COURSE (OGFC) THAT CAN BE USED.

USE NEAT ASPHALT BINDER MODIFIED WITH AN ELASTOMERIC POLYMER TO PRODUCE A BINDER MEETING THE REQUIREMENTS OF PG 76–22 AS SPECIFIED IN AASHTO MP– 1. THE ELASTOMER POLYMER SHALL BE STYRENE–BUTADIENE–STYRENE (SBS), OR APPROVED EQUAL, APPLIED AT A RATE OF 3% BY WEIGHT OF THE TOTAL BINDER. THE COMPOSITE MATERIALS SHALL BE THOROUGHLY BLENDED AT THE ASPHALT REFINERY OR TERMINAL PRIOR TO BEING LOADED INTO THE TRANSPORT VEHICLE. THE POLYMER MODIFIED ASPHALT BINDER SHALL BE HEAT AND STORAGE STABLE.

AGGREGATE SHALL BE MINIMUM 90% CRUSHED MATERIAL AND HAVE A GRADATION OF:

COMPOSITION OF MIXTURE
SIEVE SIZE (INCH/MM)PERCENT PASSING0.75/191000.50/12.585–1000.375/9.555–75NO.4/4.7510–25NO.8/2.365–10NO.200/0.0752–4TOTAL AGGREGATES93–5–94% ASPHALT OF TOTAL MIX6–6.5
ADD HYDRATED LIME AT A DOSAGE RATE OF 1.0% BY WEIGHT OF THE TOTAL DRY AGGREGATE TO MIXES CONTAINING GRANITE. HYDRATED LIME SHALL MEET THE REQUIREMENTS OF ASTM C 977. THE ADDITIVE MUST BE ABLE TO PREVENT THE SEPARATION OF THE ASPHALT BINDER FROM THE AGGREGATE AND ACHIEVE A REQUIRED TENSILE STRENGTH RATIO (TSR) OF AT LEAST 80% ON THE ASPHALT MIX WHEN TESTED IN ACCORDANCE WITH AASHTO T 283. THE ASPHALTIC MIX SHALL BE TESTED FOR ITS RESISTANCE TO STRIPPING BY WATER IN ACCORDANCE WITH ASTM D–1664. IF THE ESTIMATED COATING AREA IS NOT ABOVE 95 PERCENT, ANTI–STRIPPING AGENTS SHALL BE ADDED TO THE ASPHALT.

NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR HAS SUBMITTED AND THE ENGINEER HAS APPROVED A MIX DESIGN INCLUDING THE PERCENTAGE OF EACH INGREDIENT INCLUDING BINDER, POLYMER, AND THE JOB–MIX FORMULA FROM SUCH A COMBINATION. THE JOB–MIX FORMULA SHALL ESTABLISH A SINGLE PERCENTAGE OF AGGREGATE PASSING SIEVE AND A SINGLE PERCENTAGE OF BITUMINOUS MATERIAL TO BE ADDED TO THE AGGREGATE. NO CHANGE IN THE JOB–MIX FORMULA MAY BE MADE WITHOUT WRITTEN APPROVAL OF THE ENGINEER. THE JOB–MIX FORMULA MUST FALL WIT H THE MASTER RANGE SPECIFIED IN COMPOSITION OF MIXTURE TABLE.

TRANSPORTING MATERIAL: SEE CONSTRUCTION AND INSTALL SPECIFICATIONS

FOR QUESTIONS ON MIX SPECIFICATIONS CONTACT ROBERT ROSEEN, PHD, AT THE UNH STORM WATER CENTER. 603–862–4024.

MAINTENANCE SPECIFICATIONS FOR POROUS ASPHALT PARKING LOT AREAS AND LOW VOLUME ROADS
THE UNH STORM WATER CENTER

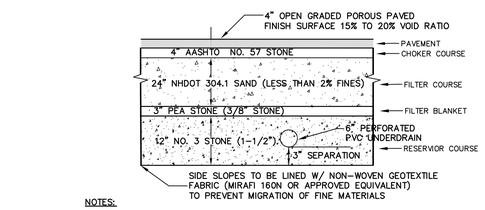
THE FOLLOWING RECOMMENDATIONS WILL HELP ASSURE THAT THE PAVEMENT IS MAINTAINED TO PRESERVE ITS HYDROLOGIC EFFECTIVENESS.

WINTER MAINTENANCE:

1. SANDING FOR WINTER TRACTION IS PROHIBITED. DEICING IS PERMITTED (NAC1, MGC12, OR EQUIVALENT). REDUCED SALT APPLICATION IS POSSIBLE AND CAN BE A COST SAVINGS FOR WINTER MAINTENANCE. NONTOXIC, ORGANIC DEICERS, APPLIED EITHER AS BLENDED, MAGNESIUM CHLORIDE–BASED LIQUID PRODUCTS OR AS PRETREATED SALT, ARE PREFERABLE.
2. PLOWING IS ALLOWED, BLADE SHOULD BE SET APPROXIMATELY 1" ABOVE ROAD SURFACE. ICE AND LIGHT SNOW ACCUMULATION ARE GENERALLY NOT AS PROBLEMATIC AS FOR STANDARD ASPHALT. SNOW WILL ACCUMULATE DURING HEAVIER STORMS AND SHOULD BE PLOWED.

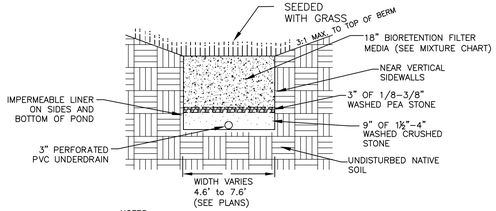
ROUTINE MAINTENANCE;

1. ASPHALT SEAL COATING MUST BE ABSOLUTELY FORBIDDEN. SURFACE SEAL COATING IS NOT REVERSIBLE.
2. THE PAVEMENT SURFACE SHOULD BE VACUUMED 1 OR 2 TIMES PER YEAR, AND AT ANY ADDITIONAL TIMES SEDIMENT IS SPILLED, ERODED, OR TRACKED ONTO THE SURFACE.
3. PLANTED AREAS ADJACENT TO PERVIOUS PAVEMENT SHOULD BE WELL MAINTAINED TO PREVENT SOIL WASHOUT ONTO THE PAVEMENT. IF ANY BARE SPOTS OR ERODED AREAS ARE OBSERVED WITHIN THE PLANTED AREAS, THEY SHOULD BE REPLANTED AND/OR STABILIZED AT ONCE.
4. IMMEDIATELY CLEAN ANY SOIL DEPOSITED ON PAVEMENT. SUPERFICIAL DIRT DOES NOT NECESSARILY CLOG THE PAVEMENT VOIDS. HOWEVER, DIRT THAT IS GROUND IN REPEATEDLY BY TIRES CAN LEAD TO CLOGGING. THEREFORE, TRUCKS OR OTHER HEAVY VEHICLES SHOULD BE PREVENTED FROM TRACKING OR SPILLING DIRT ONTO THE PAVEMENT.
5. DO NOT ALLOW CONSTRUCTION STAGING, SOIL/MULCH STORAGE, ETC. ON UNPROTECTED PAVEMENT SURFACE.
6. REPAIRS: POTHOLES OF LESS THAN 50 SQUARE FEET CAN BE PATCHED BY ANY MEANS SUITABLE WITH STANDARD PAVEMENT OR A PERVIOUS MIX IS PREFERRED. FOR AREAS GREATER THAN 50 SQ. FT. IN NEED OF REPAIR, APPROVAL OF PATCH TYPE SHOULD BE SOUGHT FROM A QUALIFIED ENGINEER. ANY REQUIRED REPAIR OF DRAINAGE STRUCTURES SHOULD BE DONE PROMPTLY TO ENSURE CONTINUED PROPER FUNCTIONING OF THE SYSTEM.
7. WRITTEN AND VERBAL COMMUNICATION TO THE POROUS PAVEMENT'S FUTURE OWNER SHOULD MAKE CLEAR THE PAVEMENT'S SPECIAL PURPOSE AND SPECIAL MAINTENANCE REQUIREMENTS SUCH AS THOSE LISTED HERE.
8. A PERMANENT SIGN SHOULD BE ADDED AT THE ENTRANCE AND END OF THE POROUS ASPHALT AREA TO INFORM RESIDENTS AND MAINTENANCE STAFF OF THE SPECIAL NATURE AND PURPOSE OF THE PAVEMENT, AND ITS SPECIAL MAINTENANCE REQUIREMENTS.



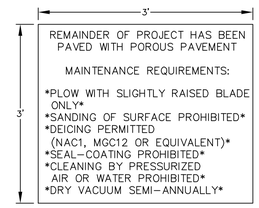
NOTES:
1. 4" FRICTION COARSE CONSISTS OF COARSER AGGREGATE AND STIFFER BINDER. SEE TABLE
2. A WORKING COURSE 4" THICK CONSISTS OF AASHTO NO. 57 STONE.
3. 6" UNDERDRAIN TO BE SET ABOVE CRUSHED GRAVEL BOTTOM TO ALLOW FOR STORAGE AND INFILTRATION.
4. TOP COAT SHOULD BE VACUUMED A MINIMUM OF TWICE A YEAR.
5. ADJACENT AREAS TO POROUS PAVEMENT SHOULD BE GRADED AWAY FROM PAVEMENT TO PREVENT SEDIMENT FROM RUNNING ONTO POROUS AREA AND CLOGGING PORES. ROOF RUNOFF CAN FLOW ONTO PAVEMENT OR INTO SUBBASE MATERIAL.

POROUS PAVEMENT
NOT TO SCALE

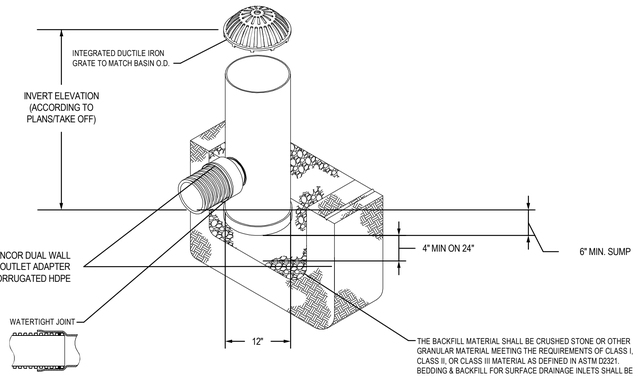


NOTES:
1. THE BIORETENTION MEDIA TO BE SEEDED WITH NE SEMI–SHADE GRASS AND FORBS MIX PROPOSED AT 1–LB PER 1,450 S.F (DROUGHT TOLERANT) OR SIMILAR GRASS SEED PER NHDES.
2. SCARIFY SIDES AND BOTTOM OF BIORETENTION AREA TO FACILITATE NATURAL INFILTRATION RATES.

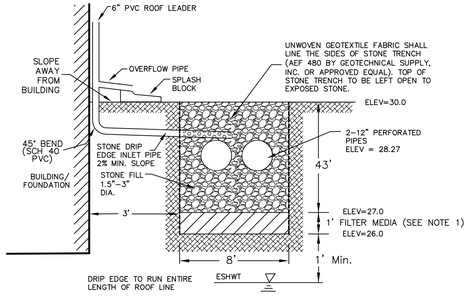
BIORETENTION SECTION
NOT TO SCALE



POROUS PAVEMENT SIGN DETAIL
NOT TO SCALE



12" OVERFLOW RISER WITH DOME GRATE
NOT TO SCALE



NOTES:
1. FILTER MEDIA MIXTURE SHALL BE 20% COMPOST/FINELY SHREDDED BARK OR WOOD MULCH W/<5% PASSING THE #200 SEIVE, 30% LOAMY TOPSOIL, 50% SANDY SOIL (SAND PORTION SHALL BE ASTM C33 FINE AGREGATE).
2. STONE SHALL BE CLEAN AND WASHED.

STONE INFILTRATION TRENCH SECTION
NOT TO SCALE

FILTER MEDIA MIXTURES			
Component Material	Percent of Mixture by Volume	Gradation of material: Sieve No.	Gradation of material: Percent by Weight Passing Standard Sieve
Filter Media Option A			
ASTM C–33 concrete sand	50 to 55		
Loamy sand topsoil, with fines as indicated	20 to 30	200	15 to 25
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5
Filter Media Option B			
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5
Loamy coarse sand	70 to 80	10	85 to 100
		20	70 to 100
		60	15 to 40
		200	8 to 15

PREPARED FOR:
FOSS MOTORS
133 PORTSMOUTH AVE.
(NH ROUTE 108)
EXETER, NEW HAMPSHIRE

BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603–583–4860,
FAX. 603–583–4863

REVISIONS:	DATE:
REVISED PER REVIEW COMMENTS	6/27/24
REVISED PER REVIEW COMMENTS	5/15/24

CONSTRUCTION DETAILS

COMMERCIAL DEVELOPMENT
ROUTE 108
EXETER, NH
TAX MAP 52, LOT 112.2

DATE:	MAY 3, 2024	SCALE:	NTS
PROJ. NO:	NH-1471	SHEET NO.	8

PREPARED FOR:
FOSS MOTORS
133 PORTSMOUTH AVE.
(NH ROUTE 108)
EXETER, NEW HAMPSHIRE

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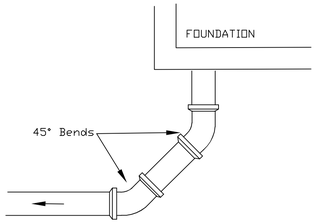
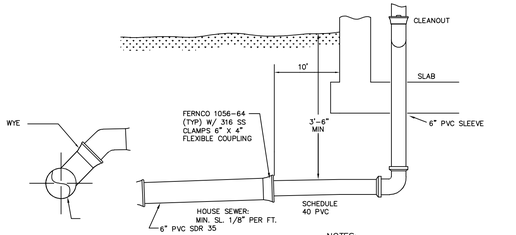


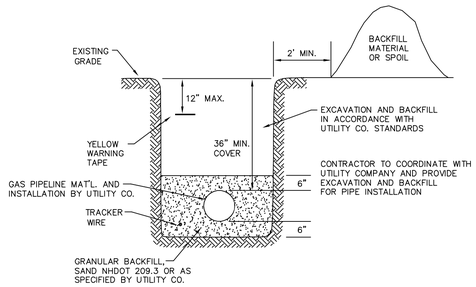
HORIZONTAL DETAIL OF SEWER SERVICE



SITE SEWER TO SMH

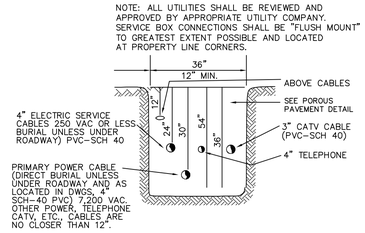
NOTES:
1) SEWER SYSTEM SHALL BE INSTALLED UNDER THIS CONTRACT.
2) PIPE DEPTH AT HOUSE SHALL BE ABOVE THE SEASONAL GROUND WATER LEVEL WHEREVER POSSIBLE.

VERTICAL DETAIL OF SEWER SERVICE



GAS TRENCH DETAIL

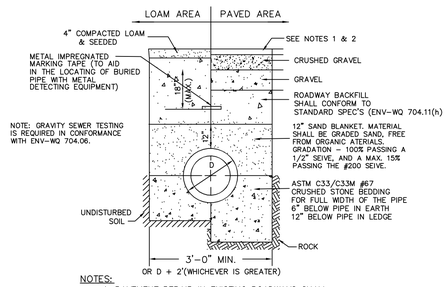
NOTE: ALL UTILITIES SHALL BE REWEWED AND APPROVED BY APPROPRIATE UTILITY COMPANY. SERVICE BOX CONNECTIONS SHALL BE "FLUSH MOUNT" TO GREATEST EXTENT POSSIBLE AND LOCATED AT PROPERTY LINE CORNERS.



UTILITY TRENCH DETAIL

SEWER SERVICE CLEAN OUT

PVC PIPE SHALL CONFORM WITH ASTM D3034 AND ASTM D2412.
PVC JOINTS SEALS SHALL CONFORM WITH ASTM D3212

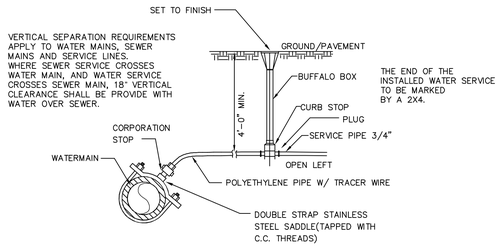


NOTES:
1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO MUNICIPAL SPEC'S.

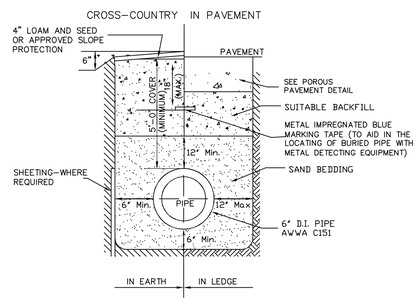
STANDARD BACKFILL SPEC'S.
-NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION EXCLUDING:
1 DEBRIS;
2 PAVEMENT PIECES;
3 ORGANIC MATTER;
4 TOP SOIL;
5 WET OR SPOT MUCK;
6 PEAT OR CLAY;
7 EXCAVATED LEDGE;
8 ROCKS >6" IN LARGEST DIMENSION;
9 ANY MATERIAL NOT APPRVOED BY THE ENGINEER

TYPICAL SEWER TRENCH DETAIL

VERTICAL SEPARATION REQUIREMENTS APPLY TO WATER MAINS, SEWER MAINS AND SERVICE LINES. WHERE SEWER SERVICE CROSSES WATER MAIN, AND WATER SERVICE CROSSES SEWER MAIN, 18" VERTICAL CLEARANCE SHALL BE PROVIDE WITH WATER OVER SEWER.



TYPICAL WATER SERVICE CONNECTION



TYPICAL TRENCH DETAIL
FOR WATER SYSTEM

REVISED PER REVIEW COMMENTS	5/15/24
REVISED PER REVIEW COMMENTS	3/28/24
REVISIONS:	DATE:

UTILITY DETAILS

COMMERCIAL DEVELOPMENT
ROUTE 108
EXETER, NH
TAX MAP 52, LOT 112.2

DATE:	FEB, 2024	SCALE:	NTS
PROJ. N0:	NH-1471	SHEET NO.	9

PREPARED FOR:

FOSS MOTORS
133 PORTSMOUTH AVE.
(NH ROUTE 108)
EXETER, NEW HAMPSHIRE

BA BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVE,
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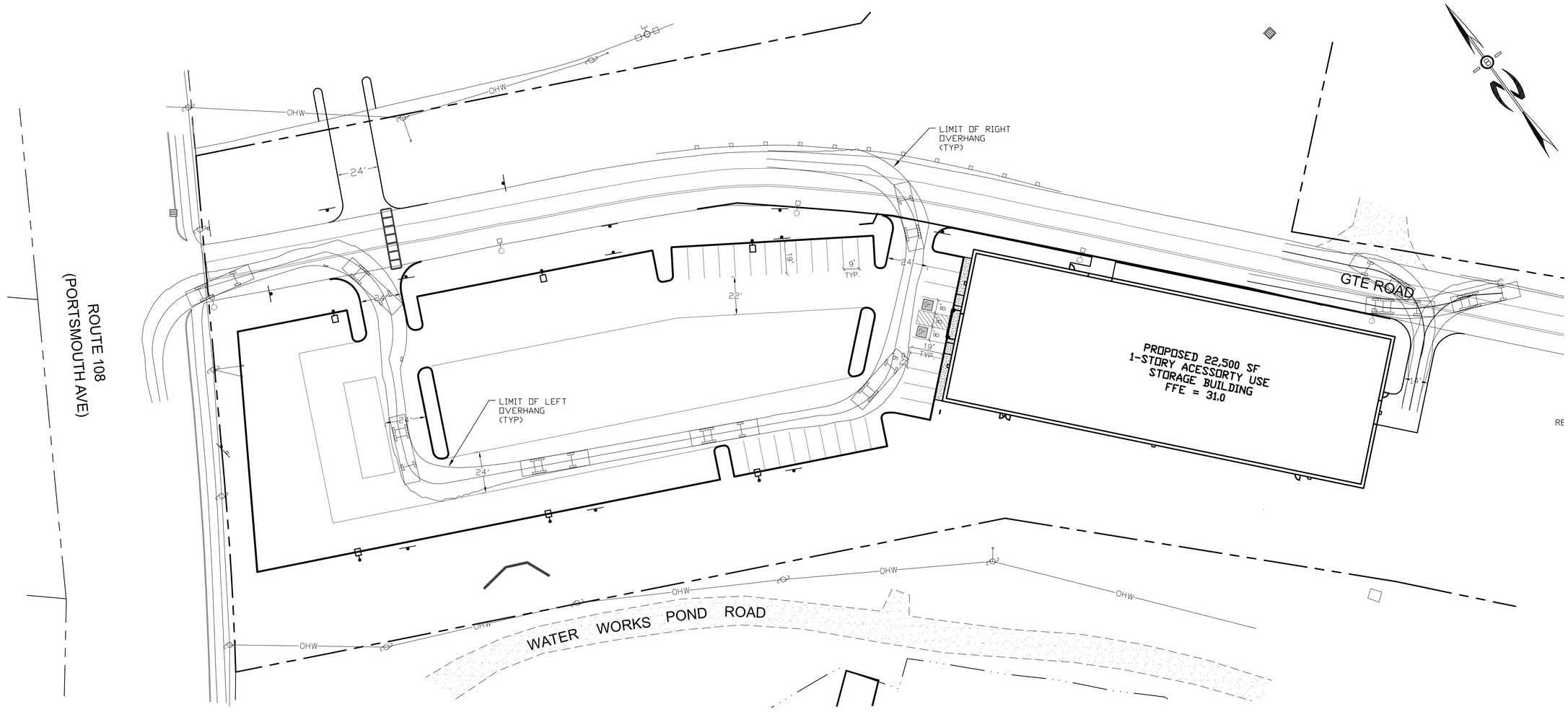
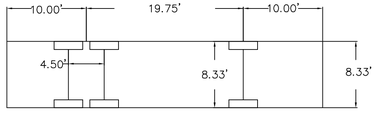


Exeter Aerial Ladder Truck



Tire Diameter: 3.6 FEET

GRAPHIC SCALE

30 0 15 30 60 120

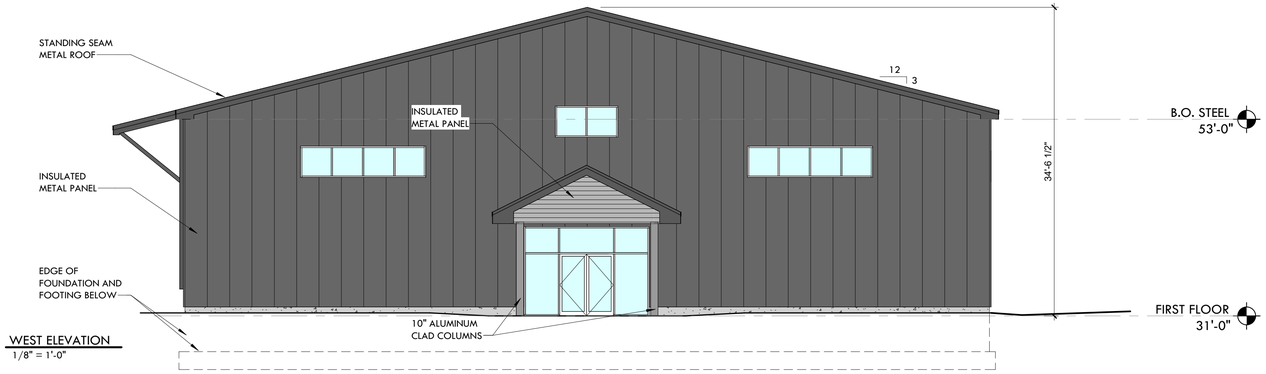
(IN FEET)
1 inch = 30 ft.

REVISED PER REVIEW COMMENTS	5/15/24
ADDED PER REVIEW COMMENTS	3/28/24
REVISIONS:	DATE:

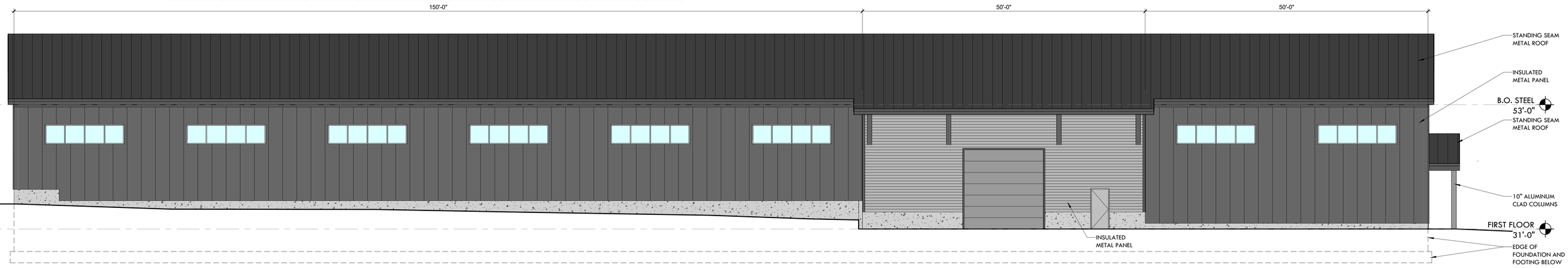
EXETER LADDER TRUCK
MANEUVERING PLAN

COMMERCIAL DEVELOPMENT
ROUTE 108
EXETER, NH
TAX MAP 52, LOT 112.2

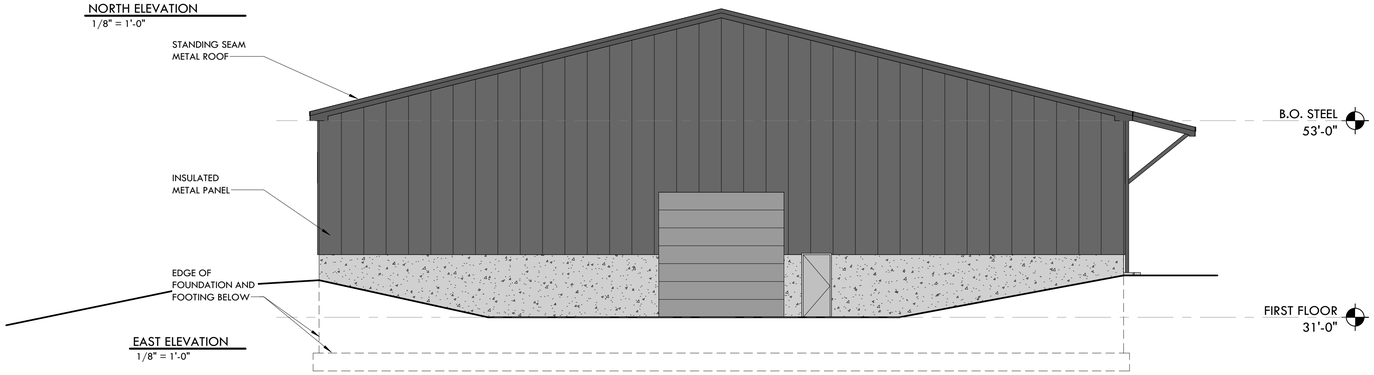
	SCALE: 1" = 30'
PROJ. NO: NH-1471	SHEET NO. 10



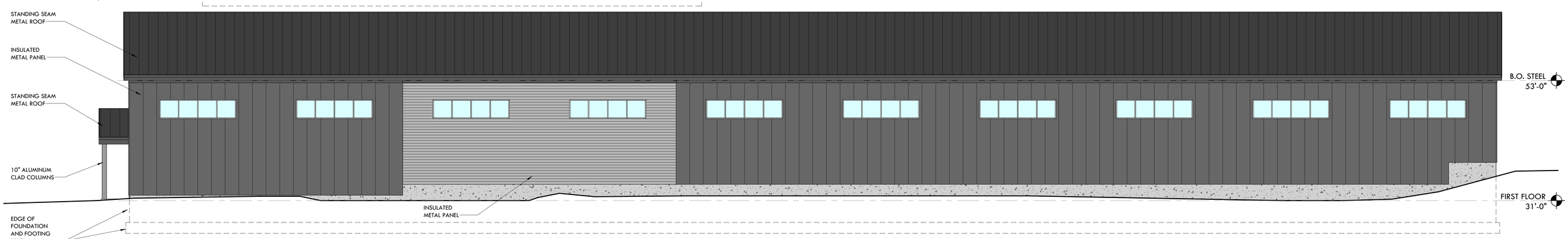
WEST ELEVATION
1/8" = 1'-0"



NORTH ELEVATION
1/8" = 1'-0"



EAST ELEVATION
1/8" = 1'-0"



SOUTH ELEVATION
1/8" = 1'-0"

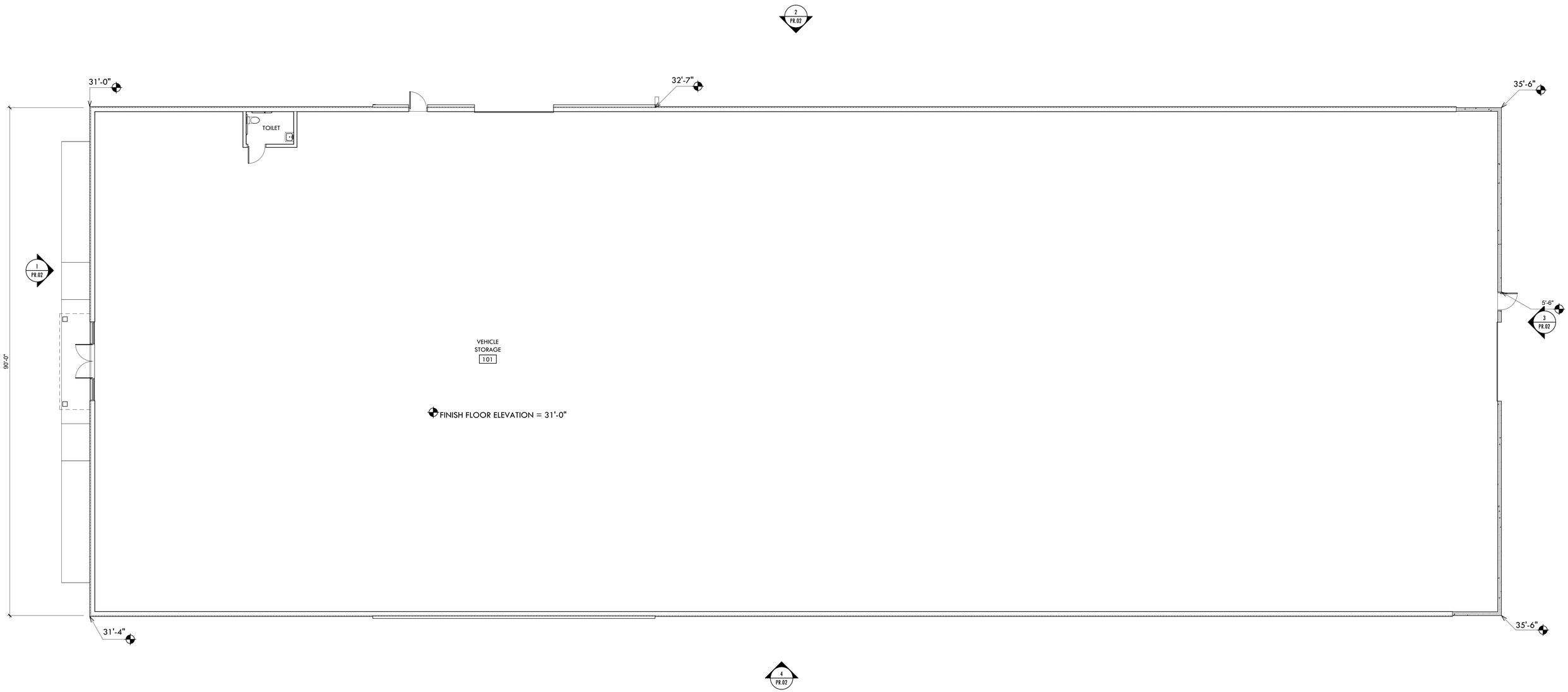
JEWETT

ELEVATIONS

1/8" = 1'-0"

FOSS Motors

June 10, 2024



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

JEWETT

FLOOR PLAN

1/8" = 1'-0"

FOSS Motors

June 10, 2024


JEWETT

DRAINAGE ANALYSIS & SEDIMENT AND EROSION CONTROL PLAN

Prepared for:
FOSS MOTORS
COMMERCIAL SITE PLAN

Prepared by:

BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVENUE
STRATHAM, NH 03885

Project Number:
NH-1471
133 Portsmouth Avenue / NH Route 108
Exeter, New Hampshire
February 13, 2024
Revised July 1, 2024

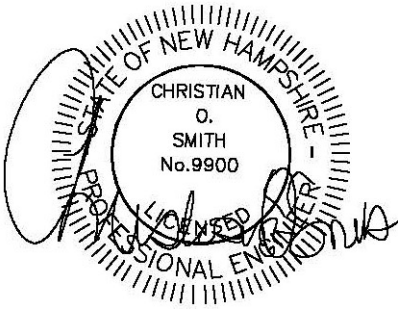


Table of Contents

1.0 ANALYSIS SUMMARY

Foss Motors proposes to construct a commercial site plan to establish a 22,500 sf storage accessory use to the existing car dealership located on the parcel to the north on Portsmouth Avenue (NH Route 108) in Exeter New Hampshire. A drainage analysis of 6.2 acres of the proposed site improvement was conducted for the purpose of estimating the peak rate of stormwater run-off and to subsequently design adequate drainage structures. Two models were compiled: one for the area in its existing (pre-construction) condition and a second for its proposed (post-construction) condition. The analysis was conducted using Extreme Precipitation data provided by Cornell University for the following 24-hour duration storm events, including increasing all 24-hour rainfall data by 15% as required since Exeter is within the designated "coastal region" by NHDES:

Storm Event	Rainfall Depth (inches)
WQV	1.00
2-Year	3.70
10-Year	5.65
25-Year	7.19
50-Year	8.63

These storm events use the USDA SCS TR-20 method within the HydroCAD Stormwater Modeling System environment to model the rainfall and predict stormwater runoff flows and volumes. A Type III storm pattern was used in the model. The purpose of this analysis is to estimate the peak rates of run-off from the site for detention adequacy purposes, and to compare the peak rate of run-off between the existing and proposed conditions.

Peak Rate of Discharge

		Component Peak Rate of Discharge (CFS)				
Analysis Point # Analysis Point Description	**Condition**	**WQV**	**2-Year**	**10-Year**	**25-Year**	**50-Year**
Reach #100 - Southwest	Existing	0.34	4.99	10.59	15.41	20.08
	Proposed	0.32	3.76	8.72	14.66	20.08
Reach #200 - South	Existing	0.00	0.14	0.67	1.27	1.88
	Proposed	0.00	0.07	0.32	0.57	1.85
Reach #300 - Southeast	Existing	0.02	0.16	0.54	0.92	1.34
	Proposed	0.02	0.16	0.54	0.92	1.34

Channel Protection

Analysis Point # Analysis Point Description	Condition	2-Year Storm Volume (Acre-Feet)
Reach #100 - Southwest	Existing Proposed	0.603 0.569
Reach #200 - South	Existing Proposed	0.025 0.010
Reach #300 - Southeast	Existing Proposed	0.025 0.025

As shown above, all post-development storm events either reduce or match the pre-development peak discharge rates. Also, channel protection volumes are either reduced or match when comparing post-development to pre-development.

The proposed storage accessory use includes a paved area for additional vehicle storage and travel ways. Other than the entrances from GTE Road into the site, the parking area consists of porous pavement. The proposed improvement area includes three separate subcatchments. The peak rate of run-off in the proposed conditions is controlled with the addition of the porous pavement, a bioretention pond, and a stone infiltration trench along with altering subcatchments to reduce the runoff. All pavement and roof runoff receives treatment from filter media within the porous pavement, bioretention pond, and stone infiltration trench prior to discharging towards the adjacent wetlands and storage to the north. In addition, the potential for increased erosion and sedimentation is handled by way of silt barriers surrounding the disturbed areas. The use of Best Management Practices per the Rockingham Conservation District / DES Handbook have been applied to the design of these structures and will be observed during all stages of construction. All land disturbed during construction will be stabilized within 30 days of groundbreaking. Existing wetlands and abutters will suffer no adverse effects resulting from this proposed development.

2.0 EXISTING CONDITIONS ANALYSIS

The existing property is located on a parcel consisting of a paved roadway, lawn area, brush, and woodlands with wetlands in and adjacent to the site. The existing topography is such that the site analysis is divided into three subcatchments within the area proposed to be improved. Final Reach #100 flows to the existing wetland and storage area to the northeast of the proposed improvement area and ultimately through the existing 36-inch culvert through the site, Reach #200 flows towards the south towards the Exeter Reservoir, and Reach #300 flows towards the southeast towards the Exeter Reservoir.

Classified by Site-Specific Soil Mapping within the developed areas and NRCS Soil Survey for other contributing areas, the site is composed of relatively flat slopes and soils categorized into the Hydrologic Soil Groups (HSG) B and C.

3.0 PROPOSED CONDITIONS ANALYSIS

The addition of the impervious area, clearing of trees, and re-grading of the site causes an increase in the curve number (Cn) and a decrease in the time of concentration (Tc) which results in a potential increase in peak rates of run-off from the site. To reduce these flows to pre-development conditions, various stormwater management systems will be proposed. Porous pavement is provided within the parking area that includes a pipe network with catchbasins and underdrains. There is also a bioretention pond that captures, treats, and stores runoff from a portion of GTE Road. Additionally, a stone infiltration trench along the southern end of the building captures, treats, and stores runoff from the roof, a portion of GTE Road, and the pavement for the firetruck turnaround and access to the building's rear overhead door. The proposed development divides the site into three similar post-construction subcatchments (Reach #300 being identical to the pre-development condition). The runoff is directed to the points of analysis through HydroCAD "reaches" and "ponds".

During construction, appropriate Best Management Practices (BMP's) will be applied so as to negate the potential for sediment-laden run-off to discharge off-site prior to the final stabilization of the proposed grading. The structures outlined in this proposal provide for adequate treatment of stormwater run-off for sediment control.

4.0 SEDIMENT & EROSION CONTROL PLANS BEST MANAGEMENT PRACTICES (BMP's)

The proposed site development is protected from erosion and the roadways and abutting properties are protected from sediment by the use of Best Management Practices as outlined in the New Hampshire Stormwater Manual. Any area disturbed by construction will be re-stabilized within 30 days, and abutting properties and wetlands will not be adversely affected by this development. All swales and drainage structures will be constructed and stabilized prior to having run-off directed to them.

4.1 Silt Barrier / Construction Fence

The plan set demonstrates the location of silt barriers for sediment control. Sheet E-1, Erosion and Sediment Control Details, has the specifications for installation and maintenance of the silt barriers selected for the site. In areas where the limits of construction need to be emphasized to operators, construction fence for added visibility will be installed. Orange construction fence will be VISI Perimeter Fence by Conwed Plastic Fencing, or approved equal. The four-foot construction fencing is to be installed using six-foot posts buried at least two feet into the ground spaced six to eight feet apart.

4.2 Vegetated Stabilization

All areas that are disturbed during construction will be stabilized with vegetated material within 30 days of disturbance. Construction will be managed in such a manner that erosion is prevented and that no abutter's property will be subjected to any siltation, unless otherwise permitted. All

areas to be planted with grass for long-term cover will follow the specifications on Sheet E-1 using the seeding mixture below:

Mixture C	Pounds per Acre	Pounds per 1,000 sf
Tall Fescue	20	0.45
Creeping Red Fescue	20	0.45
Birdsfoot Trefoil	8	0.20
Total	**48**	**1.10**

4.3 Stabilized Construction Entrance/Exit

A temporary gravel construction entrance/exit provides an area where mud can be dislodged from tires before the vehicle leaves the construction site to reduce the amount of mud and sediment transported onto paved municipal and state roads. The stone size for the gravel pad should be between 1- and 2-inch coarse aggregate and the pad itself constructed to a minimum length of 50' for the full width of the access road. The aggregate should be placed at least six inches thick. Plan and profile view details are shown on Sheet E1 - Sediment and Erosion Control Detail Plan.

4.2 Drainage Swales / Stormwater Conveyance Channels

Drainage swales will be stabilized with vegetation for long term cover as outlined below using seed mixture C. As a general rule, velocities in the swale should not exceed 3.0 feet per second for a vegetated swale although velocities as high as 4.5 FPS are allowed under certain soil conditions.

4.5 Level Spreaders

Level spreaders enable any run-off directed towards them to be spread evenly into sheet flow prior to discharge into wetlands or treatment by a filter strip, thus allowing for better filter strip efficiency and a lesser potential for erosion.

4.6 Vegetated Buffers

Vegetated buffers are areas of land with natural or planted vegetation designed to receive sheet run-off from upgradient development. These natural areas, preferably wooded, are effective in removing sediment and sediment-laden pollutants from such run-off, although their effectiveness is severely diminished when forced to deal with concentrated flow and must therefore be equipped with a level-spreading device. Vegetated buffers should not have a slope exceeding fifteen percent and have a minimum length of seventy-five feet.

4.6 Filter Strips

Filter strips are areas of land with natural or planted vegetation designed to receive sheet run-off from upgradient development. These natural areas, preferably wooded, are effective in removing sediment and sediment-laden pollutants from such run-off, although their effectiveness is severely diminished when forced to deal with concentrated flow and must therefore be equipped with a level-spreading device. Filter strips should not have a slope exceeding fifteen percent and have a minimum length of seventy-five feet.

4.4 Environmental Dust Control

Dust will be controlled on the site using multiple Best Management Practices. Mulching and temporary seeding will be the first line of protection to be utilized where problems occur. If dust problems are not solved by these applications, the use of water and calcium chloride can be applied. Calcium chloride will be applied at a rate that will keep the surface moist but not cause pollution.

4.5 Construction Sequence

1. Cut and remove trees in construction areas as directed or required.
2. Construct and/or install temporary and permanent sediment erosion and detention control facilities, as required. Erosion, sediment, and facilities shall be installed and stabilized prior to any earth moving operation, and prior to directing run-off to them.
3. Clear, cut, grub, and dispose of debris in approved facilities.
4. Excavate and stockpile topsoil / loam. All disturbed areas shall be stabilized immediately after grading.
5. Construct the paved area, underground detention pond with associated drainage structures, and building.
6. Begin permanent and temporary seeding and mulching. All cut and fill slopes and disturbed areas shall be seeded and mulched as required or directed.
7. Daily, or as required, construct temporary berms, drainage ditches, sediment traps, etc. to prevent erosion on the site and prevent any siltation of abutting waters or property.
8. Inspect and maintain all erosion and sediment control measures during construction.
9. Complete permanent seeding and landscaping.
10. Remove temporary erosion control measures after seeding areas have established themselves and site improvements are complete. Smooth and re-vegetate all disturbed areas.
11. All swales and drainage structures will be constructed and stabilized prior to having run-off being directed to them.

4.6 Temporary Erosion Control Measures

1. The smallest practical area of land shall be exposed at any one time.

2. Erosion and sediment control measures shall be installed as shown on the plans and at locations as required, or directed by the engineer.

3. All disturbed areas shall be returned to original grades and elevations. Disturbed areas shall be loamed with a minimum of 4” of loam and seeded with not less than 1.10 pound of seed per 1,000 square feet (48 pounds per acre) of area.

4. Silt barriers shall be inspected periodically and after every rainstorm during the life of the project. All damaged areas shall be repaired and sediment deposits shall periodically be removed and properly disposed of.

5. After all disturbed areas have been stabilized, the temporary erosion control measures are to be removed and the area disturbed by the removal smoothed and revegetated.

6. Areas must be seeded and mulched within 5 days of final grading, permanently stabilized within 15 days of final grading, or temporarily stabilized within 30 days of initial disturbance of soil.

4.7 Inspection and Maintenance Schedule

Silt barriers shall be inspected during and after storm events to ensure that the fence still has integrity and is not allowing sediment to pass.

5.0 CONCLUSION

This proposed site development on Portsmouth Avenue (NH Route 108) in Exeter, NH will have no adverse effect on the abutting property owners by way of stormwater run-off or siltation. Appropriate steps will be taken to eliminate erosion and sedimentation; these will be accomplished through the construction of a drainage system consisting of porous pavement, a bioretention pond, and an stone infiltration trench. The Best Management Practices developed by the State of New Hampshire have been utilized in the design of this system and these applications will be enforced throughout the construction process.

An Alteration of Terrain Permit (RSA 485: A-17) is required for this project due to the area of disturbance being more than 50,000 square feet within a shoreland protection area.

Respectfully Submitted,

BEALS ASSOCIATES, *PLLC.*

Christian O. Smith

Christian O Smith, PE
Principal

Appendix I

Existing Conditions Analysis

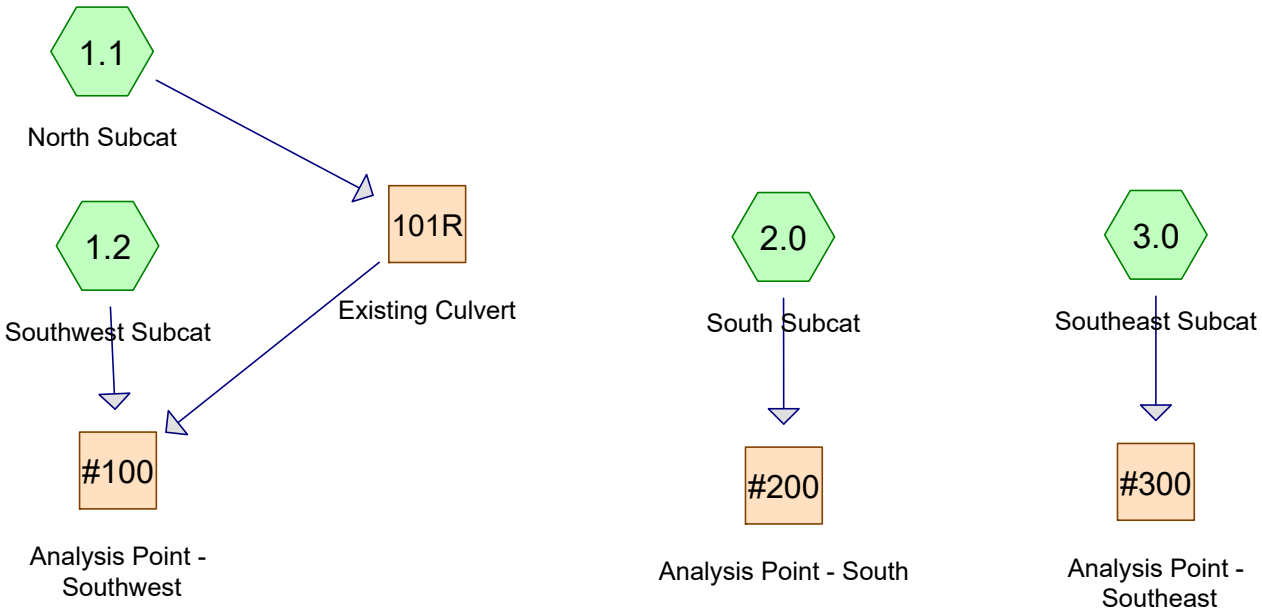
WQV (1-Inch) 24-Hour Summary

2-Year 24-Hour Summary

10-Year 24-Hour Complete

25-Year 24-Hour Summary

50-Year 24-Hour Summary



Subcat Reach Pond Link

Routing Diagram for NH-1471 Existing
Prepared by Beals Associates, PLLC, Printed 5/10/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.023	61	>75% Grass cover, Good, HSG B (3.0)
1.669	74	>75% Grass cover, Good, HSG C (1.1, 1.2, 3.0)
0.011	48	Brush, Good, HSG B (3.0)
0.177	65	Brush, Good, HSG C (1.1, 3.0)
0.580	98	Paved parking, HSG C (1.1, 1.2, 3.0)
1.258	55	Woods, Good, HSG B (1.2, 2.0, 3.0)
2.486	70	Woods, Good, HSG C (1.1, 1.2, 2.0, 3.0)
6.204	**70**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.292	HSG B	1.2, 2.0, 3.0
4.913	HSG C	1.1, 1.2, 2.0, 3.0
0.000	HSG D	
0.000	Other	
6.204		**TOTAL AREA**

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: North Subcat Runoff Area=98,624 sf 14.64% Impervious Runoff Depth=0.12"
Flow Length=451' Tc=11.1 min CN=WQ Runoff=0.23 cfs 0.023 af

Subcatchment 1.2: Southwest Subcat Runoff Area=121,015 sf 7.86% Impervious Runoff Depth=0.08"
Flow Length=726' Tc=24.3 min CN=WQ Runoff=0.12 cfs 0.017 af

Subcatchment 2.0: South Subcat Runoff Area=30,220 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=179' Tc=15.6 min CN=WQ Runoff=0.00 cfs 0.000 af

Subcatchment 3.0: Southeast Subcat Runoff Area=20,396 sf 6.41% Impervious Runoff Depth=0.05"
Flow Length=153' Tc=17.0 min CN=WQ Runoff=0.02 cfs 0.002 af

Reach #100: Analysis Point - Southwest Inflow=0.34 cfs 0.040 af
Outflow=0.34 cfs 0.040 af

Reach #200: Analysis Point - South Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Reach #300: Analysis Point - Southeast Inflow=0.02 cfs 0.002 af
Outflow=0.02 cfs 0.002 af

Reach 101R: Existing Culvert Avg. Flow Depth=0.11' Max Vel=2.78 fps Inflow=0.23 cfs 0.023 af
36.0" Round Pipe n=0.013 L=366.0' S=0.0191 '/' Capacity=92.24 cfs Outflow=0.23 cfs 0.023 af

Total Runoff Area = 6.204 ac Runoff Volume = 0.042 af Average Runoff Depth = 0.08"
90.65% Pervious = 5.624 ac 9.35% Impervious = 0.580 ac

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: North Subcat Runoff Area=98,624 sf 14.64% Impervious Runoff Depth=1.49"
Flow Length=451' Tc=11.1 min CN=WQ Runoff=2.86 cfs 0.281 af

Subcatchment 1.2: Southwest Subcat Runoff Area=121,015 sf 7.86% Impervious Runoff Depth=1.39"
Flow Length=726' Tc=24.3 min CN=WQ Runoff=2.58 cfs 0.322 af

Subcatchment 2.0: South Subcat Runoff Area=30,220 sf 0.00% Impervious Runoff Depth=0.43"
Flow Length=179' Tc=15.6 min CN=WQ Runoff=0.14 cfs 0.025 af

Subcatchment 3.0: Southeast Subcat Runoff Area=20,396 sf 6.41% Impervious Runoff Depth=0.64"
Flow Length=153' Tc=17.0 min CN=WQ Runoff=0.16 cfs 0.025 af

Reach #100: Analysis Point - Southwest Inflow=4.99 cfs 0.603 af
Outflow=4.99 cfs 0.603 af

Reach #200: Analysis Point - South Inflow=0.14 cfs 0.025 af
Outflow=0.14 cfs 0.025 af

Reach #300: Analysis Point - Southeast Inflow=0.16 cfs 0.025 af
Outflow=0.16 cfs 0.025 af

Reach 101R: Existing Culvert Avg. Flow Depth=0.37' Max Vel=5.93 fps Inflow=2.86 cfs 0.281 af
36.0" Round Pipe n=0.013 L=366.0' S=0.0191 '/' Capacity=92.24 cfs Outflow=2.92 cfs 0.281 af

Total Runoff Area = 6.204 ac Runoff Volume = 0.652 af Average Runoff Depth = 1.26"
90.65% Pervious = 5.624 ac 9.35% Impervious = 0.580 ac

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: North Subcat Runoff Area=98,624 sf 14.64% Impervious Runoff Depth=2.97"
Flow Length=451' Tc=11.1 min CN=WQ Runoff=5.95 cfs 0.560 af

Subcatchment 1.2: Southwest Subcat Runoff Area=121,015 sf 7.86% Impervious Runoff Depth=2.85"
Flow Length=726' Tc=24.3 min CN=WQ Runoff=5.58 cfs 0.661 af

Subcatchment 2.0: South Subcat Runoff Area=30,220 sf 0.00% Impervious Runoff Depth=1.34"
Flow Length=179' Tc=15.6 min CN=WQ Runoff=0.67 cfs 0.077 af

Subcatchment 3.0: Southeast Subcat Runoff Area=20,396 sf 6.41% Impervious Runoff Depth=1.63"
Flow Length=153' Tc=17.0 min CN=WQ Runoff=0.54 cfs 0.064 af

Reach #100: Analysis Point - Southwest Inflow=10.59 cfs 1.221 af
Outflow=10.59 cfs 1.221 af

Reach #200: Analysis Point - South Inflow=0.67 cfs 0.077 af
Outflow=0.67 cfs 0.077 af

Reach #300: Analysis Point - Southeast Inflow=0.54 cfs 0.064 af
Outflow=0.54 cfs 0.064 af

Reach 101R: Existing Culvert Avg. Flow Depth=0.52' Max Vel=7.37 fps Inflow=5.95 cfs 0.560 af
36.0" Round Pipe n=0.013 L=366.0' S=0.0191 '/' Capacity=92.24 cfs Outflow=6.05 cfs 0.560 af

Total Runoff Area = 6.204 ac Runoff Volume = 1.362 af Average Runoff Depth = 2.63"
90.65% Pervious = 5.624 ac 9.35% Impervious = 0.580 ac

Summary for Subcatchment 1.1: North Subcat

[49] Hint: Tc<2dt may require smaller dt

Runoff = 5.95 cfs @ 12.17 hrs, Volume= 0.560 af, Depth= 2.97"
Routed to Reach 101R : Existing Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
7,697	65	Brush, Good, HSG C
62,761	70	Woods, Good, HSG C
13,731	74	>75% Grass cover, Good, HSG C
14,435	98	Paved parking, HSG C
98,624		Weighted Average
84,189		85.36% Pervious Area
14,435		14.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.7	50	0.0360	0.18		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 2.92"
3.4	202	0.0198	0.98		**Shallow Concentrated Flow, SCF thru grass** Short Grass Pasture Kv= 7.0 fps
3.0	199	0.0498	1.12		**Shallow Concentrated Flow, SCF thru woods** Woodland Kv= 5.0 fps
11.1	451	Total			

Summary for Subcatchment 1.2: Southwest Subcat

Runoff = 5.58 cfs @ 12.35 hrs, Volume= 0.661 af, Depth= 2.85"
Routed to Reach #100 : Analysis Point - Southwest

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
7,950	55	Woods, Good, HSG B
44,576	70	Woods, Good, HSG C
58,973	74	>75% Grass cover, Good, HSG C
9,516	98	Paved parking, HSG C
121,015		Weighted Average
111,499		92.14% Pervious Area
9,516		7.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	50	0.1060	0.07		**Sheet Flow, Sheet** Woods: Dense underbrush n= 0.800 P2= 2.92"
8.9	378	0.0103	0.71		**Shallow Concentrated Flow, SCF thru grass** Short Grass Pasture Kv= 7.0 fps
3.9	298	0.0637	1.26		**Shallow Concentrated Flow, SCF thru woods** Woodland Kv= 5.0 fps
24.3	726	Total			

Summary for Subcatchment 2.0: South Subcat

Runoff = 0.67 cfs @ 12.26 hrs, Volume= 0.077 af, Depth= 1.34"
Routed to Reach #200 : Analysis Point - South

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
29,826	55	Woods, Good, HSG B
394	70	Woods, Good, HSG C
30,220		Weighted Average
30,220		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0640	0.06		**Sheet Flow, Sheet** Woods: Dense underbrush n= 0.800 P2= 2.92"
1.5	129	0.0868	1.47		**Shallow Concentrated Flow, SCF thru woods** Woodland Kv= 5.0 fps
15.6	179	Total			

Summary for Subcatchment 3.0: Southeast Subcat

Runoff = 0.54 cfs @ 12.27 hrs, Volume= 0.064 af, Depth= 1.63"
Routed to Reach #300 : Analysis Point - Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
475	48	Brush, Good, HSG B
17,025	55	Woods, Good, HSG B
983	61	>75% Grass cover, Good, HSG B
29	65	Brush, Good, HSG C
567	70	Woods, Good, HSG C
9	74	>75% Grass cover, Good, HSG C
1,308	98	Paved parking, HSG C
20,396		Weighted Average
19,088		93.59% Pervious Area
1,308		6.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	50	0.0490	0.05		**Sheet Flow, Sheet** Woods: Dense underbrush n= 0.800 P2= 2.92"
1.3	103	0.0728	1.35		**Shallow Concentrated Flow, SCF thru woods** Woodland Kv= 5.0 fps
17.0	153	Total			

Summary for Reach #100: Analysis Point - Southwest

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 5.042 ac, 10.90% Impervious, Inflow Depth = 2.91" for 10-YR event
Inflow = 10.59 cfs @ 12.23 hrs, Volume= 1.221 af
Outflow = 10.59 cfs @ 12.23 hrs, Volume= 1.221 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Summary for Reach #200: Analysis Point - South

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.694 ac, 0.00% Impervious, Inflow Depth = 1.34" for 10-YR event
Inflow = 0.67 cfs @ 12.26 hrs, Volume= 0.077 af
Outflow = 0.67 cfs @ 12.26 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Summary for Reach #300: Analysis Point - Southeast

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.468 ac, 6.41% Impervious, Inflow Depth = 1.63" for 10-YR event
Inflow = 0.54 cfs @ 12.27 hrs, Volume= 0.064 af
Outflow = 0.54 cfs @ 12.27 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Summary for Reach 101R: Existing Culvert

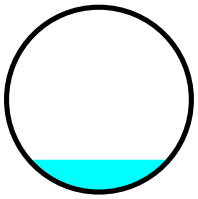
[52] Hint: Inlet/Outlet conditions not evaluated
[90] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 2.264 ac, 14.64% Impervious, Inflow Depth = 2.97" for 10-YR event
Inflow = 5.95 cfs @ 12.17 hrs, Volume= 0.560 af
Outflow = 6.05 cfs @ 12.19 hrs, Volume= 0.560 af, Atten= 0%, Lag= 1.0 min
Routed to Reach #100 : Analysis Point - Southwest

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Max. Velocity= 7.37 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 2.35 fps, Avg. Travel Time= 2.6 min

Peak Storage= 300 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.52' , Surface Width= 2.27'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 92.24 cfs

36.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 366.0' Slope= 0.0191 '/'
Inlet Invert= 14.10', Outlet Invert= 7.10'



Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: North Subcat Runoff Area=98,624 sf 14.64% Impervious Runoff Depth=4.26"
Flow Length=451' Tc=11.1 min CN=WQ Runoff=8.60 cfs 0.804 af

Subcatchment 1.2: Southwest Subcat Runoff Area=121,015 sf 7.86% Impervious Runoff Depth=4.14"
Flow Length=726' Tc=24.3 min CN=WQ Runoff=8.15 cfs 0.958 af

Subcatchment 2.0: South Subcat Runoff Area=30,220 sf 0.00% Impervious Runoff Depth=2.27"
Flow Length=179' Tc=15.6 min CN=WQ Runoff=1.27 cfs 0.131 af

Subcatchment 3.0: Southeast Subcat Runoff Area=20,396 sf 6.41% Impervious Runoff Depth=2.61"
Flow Length=153' Tc=17.0 min CN=WQ Runoff=0.92 cfs 0.102 af

Reach #100: Analysis Point - Southwest Inflow=15.41 cfs 1.761 af
Outflow=15.41 cfs 1.761 af

Reach #200: Analysis Point - South Inflow=1.27 cfs 0.131 af
Outflow=1.27 cfs 0.131 af

Reach #300: Analysis Point - Southeast Inflow=0.92 cfs 0.102 af
Outflow=0.92 cfs 0.102 af

Reach 101R: Existing Culvert Avg. Flow Depth=0.62' Max Vel=8.20 fps Inflow=8.60 cfs 0.804 af
36.0" Round Pipe n=0.013 L=366.0' S=0.0191 '/' Capacity=92.24 cfs Outflow=8.74 cfs 0.804 af

Total Runoff Area = 6.204 ac Runoff Volume = 1.994 af Average Runoff Depth = 3.86"
90.65% Pervious = 5.624 ac 9.35% Impervious = 0.580 ac

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: North Subcat Runoff Area=98,624 sf 14.64% Impervious Runoff Depth=5.53"
Flow Length=451' Tc=11.1 min CN=WQ Runoff=11.16 cfs 1.042 af

Subcatchment 1.2: Southwest Subcat Runoff Area=121,015 sf 7.86% Impervious Runoff Depth=5.39"
Flow Length=726' Tc=24.3 min CN=WQ Runoff=10.65 cfs 1.249 af

Subcatchment 2.0: South Subcat Runoff Area=30,220 sf 0.00% Impervious Runoff Depth=3.25"
Flow Length=179' Tc=15.6 min CN=WQ Runoff=1.88 cfs 0.188 af

Subcatchment 3.0: Southeast Subcat Runoff Area=20,396 sf 6.41% Impervious Runoff Depth=3.62"
Flow Length=153' Tc=17.0 min CN=WQ Runoff=1.34 cfs 0.141 af

Reach #100: Analysis Point - Southwest Inflow=20.08 cfs 2.291 af
Outflow=20.08 cfs 2.291 af

Reach #200: Analysis Point - South Inflow=1.88 cfs 0.188 af
Outflow=1.88 cfs 0.188 af

Reach #300: Analysis Point - Southeast Inflow=1.34 cfs 0.141 af
Outflow=1.34 cfs 0.141 af

Reach 101R: Existing Culvert Avg. Flow Depth=0.71' Max Vel=8.84 fps Inflow=11.16 cfs 1.042 af
36.0" Round Pipe n=0.013 L=366.0' S=0.0191 '/' Capacity=92.24 cfs Outflow=11.33 cfs 1.042 af

Total Runoff Area = 6.204 ac Runoff Volume = 2.620 af Average Runoff Depth = 5.07"
90.65% Pervious = 5.624 ac 9.35% Impervious = 0.580 ac

Appendix II

Proposed Conditions Analysis

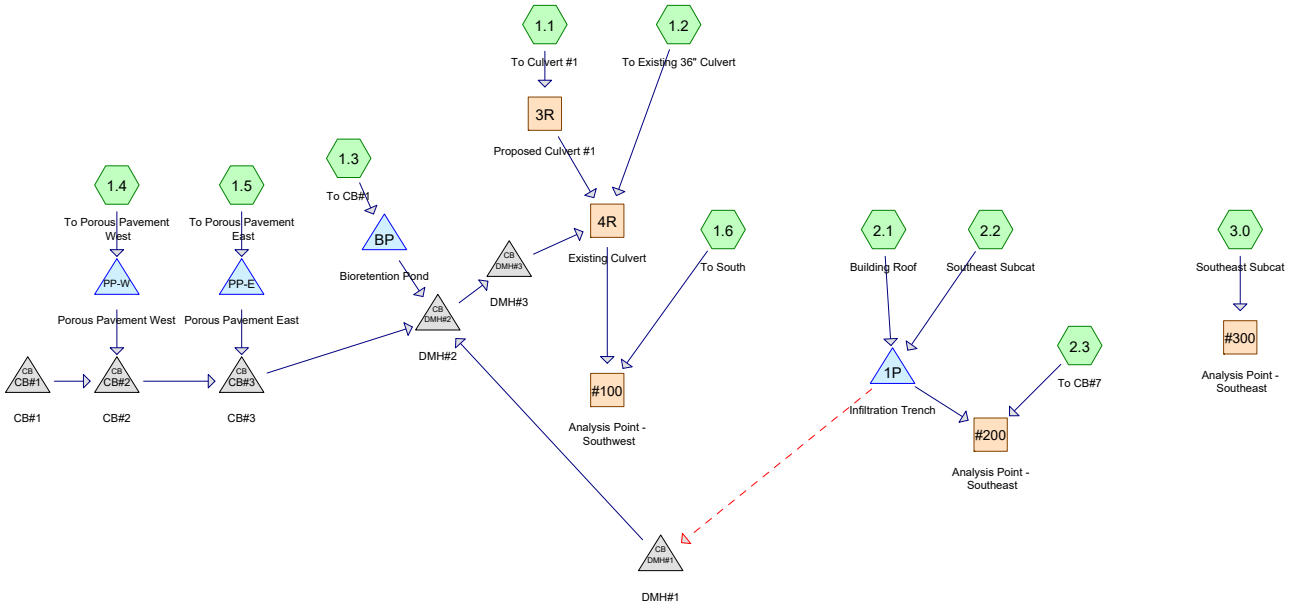
WQV (1-Inch) 24-Hour Summary

2-Year 24-Hour Summary

10-Year 24-Hour Complete

25-Year 24-Hour Summary

50-Year 24-Hour Summary



Subcat Reach Pond Link

Routing Diagram for NH-1471 Proposed
Prepared by Beals Associates, PLLC, Printed 6/28/2024
HydroCAD® 10.20-5a s/n 01754 © 2023 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.157	61	>75% Grass cover, Good, HSG B (2.2, 2.3, 3.0)
0.862	74	>75% Grass cover, Good, HSG C (1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.2, 3.0)
0.011	48	Brush, Good, HSG B (3.0)
0.140	65	Brush, Good, HSG C (1.1, 1.2, 2.2, 3.0)
0.080	98	Paved parking, HSG B (2.2)
1.908	98	Paved parking, HSG C (1.1, 1.2, 1.3, 1.4, 1.5, 2.2, 3.0)
0.288	98	Roofs, HSG B (2.1)
0.229	98	Roofs, HSG C (2.1)
0.756	55	Woods, Good, HSG B (1.6, 2.2, 2.3, 3.0)
1.773	70	Woods, Good, HSG C (1.2, 1.6, 2.2, 2.3, 3.0)
6.204	**80**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.292	HSG B	1.6, 2.1, 2.2, 2.3, 3.0
4.913	HSG C	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 3.0
0.000	HSG D	
0.000	Other	
6.204		**TOTAL AREA**

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: To Culvert #1 Runoff Area=5,470 sf 21.55% Impervious Runoff Depth=0.18"
Tc=6.0 min CN=WQ Runoff=0.02 cfs 0.002 af

Subcatchment 1.2: To Existing 36" Culvert Runoff Area=93,154 sf 17.06% Impervious Runoff Depth=0.14"
Flow Length=397' Tc=8.4 min CN=WQ Runoff=0.28 cfs 0.025 af

Subcatchment 1.3: To CB#1 Runoff Area=15,839 sf 47.86% Impervious Runoff Depth=0.39"
Flow Length=435' Tc=9.9 min CN=WQ Runoff=0.13 cfs 0.012 af

Subcatchment 1.4: To Porous Pavement Runoff Area=19,653 sf 86.94% Impervious Runoff Depth=0.69"
Flow Length=96' Tc=63.7 min CN=WQ Runoff=0.13 cfs 0.026 af

Subcatchment 1.5: To Porous Pavement Runoff Area=39,193 sf 97.78% Impervious Runoff Depth=0.77"
Flow Length=93' Tc=64.6 min CN=WQ Runoff=0.30 cfs 0.058 af

Subcatchment 1.6: To South Runoff Area=26,188 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=311' Tc=16.1 min CN=WQ Runoff=0.00 cfs 0.001 af

Subcatchment 2.1: Building Roof Runoff Area=22,500 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=WQ Runoff=0.43 cfs 0.034 af

Subcatchment 2.2: Southeast Subcat Runoff Area=15,592 sf 33.67% Impervious Runoff Depth=0.27"
Flow Length=186' Tc=9.9 min CN=WQ Runoff=0.09 cfs 0.008 af

Subcatchment 2.3: To CB#7 Runoff Area=12,270 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=170' Tc=11.4 min CN=WQ Runoff=0.00 cfs 0.000 af

Subcatchment 3.0: Southeast Subcat Runoff Area=20,396 sf 6.41% Impervious Runoff Depth=0.05"
Flow Length=153' Tc=17.0 min CN=WQ Runoff=0.02 cfs 0.002 af

Reach #100: Analysis Point - Southwest Inflow=0.32 cfs 0.039 af
Outflow=0.32 cfs 0.039 af

Reach #200: Analysis Point - Southeast Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Reach #300: Analysis Point - Southeast Inflow=0.02 cfs 0.002 af
Outflow=0.02 cfs 0.002 af

Reach 3R: Proposed Culvert #1 Avg. Flow Depth=0.06' Max Vel=1.07 fps Inflow=0.02 cfs 0.002 af
12.0" Round Pipe n=0.012 L=56.0' S=0.0054 '/' Capacity=2.83 cfs Outflow=0.02 cfs 0.002 af

Reach 4R: Existing Culvert Avg. Flow Depth=0.13' Max Vel=3.03 fps Inflow=0.34 cfs 0.039 af
36.0" Round Pipe n=0.013 L=366.0' S=0.0191 '/' Capacity=92.24 cfs Outflow=0.32 cfs 0.039 af

Pond 1P: Infiltration Trench Peak Elev=26.00' Storage=3 cf Inflow=0.51 cfs 0.042 af
Discarded=0.50 cfs 0.042 af Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=0.50 cfs 0.042 af

Pond BP: Bioretention Pond Peak Elev=22.99' Storage=174 cf Inflow=0.13 cfs 0.012 af
Outflow=0.05 cfs 0.012 af

Pond CB#1: CB#1 Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=110.0' S=0.0050 '/' Primary=0.00 cfs 0.000 af

Pond CB#2: CB#2 Peak Elev=23.15' Inflow=0.00 cfs 0.000 af
15.0" Round Culvert n=0.013 L=248.0' S=0.0050 '/' Outflow=0.00 cfs 0.000 af

Pond CB#3: CB#3 Peak Elev=21.11' Inflow=0.00 cfs 0.000 af
15.0" Round Culvert n=0.013 L=62.0' S=0.0050 '/' Outflow=0.00 cfs 0.000 af

Pond DMH#1: DMH#1 Peak Elev=24.50' Inflow=0.00 cfs 0.000 af
15.0" Round Culvert n=0.013 L=52.0' S=0.0288 '/' Outflow=0.00 cfs 0.000 af

Pond DMH#2: DMH#2 Peak Elev=19.49' Inflow=0.05 cfs 0.012 af
18.0" Round Culvert n=0.013 L=65.0' S=0.0051 '/' Outflow=0.05 cfs 0.012 af

Pond DMH#3: DMH#3 Peak Elev=19.16' Inflow=0.05 cfs 0.012 af
18.0" Round Culvert n=0.013 L=10.0' S=0.0050 '/' Outflow=0.05 cfs 0.012 af

Pond PP-E: Porous Pavement East Peak Elev=23.52' Storage=1,120 cf Inflow=0.30 cfs 0.058 af
Discarded=0.04 cfs 0.058 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.058 af

Pond PP-W: Porous Pavement West Peak Elev=23.54' Storage=538 cf Inflow=0.13 cfs 0.026 af
Discarded=0.02 cfs 0.026 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.026 af

Total Runoff Area = 6.204 ac Runoff Volume = 0.167 af Average Runoff Depth = 0.32"
59.62% Pervious = 3.699 ac 40.38% Impervious = 2.505 ac

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: To Culvert #1 Runoff Area=5,470 sf 21.55% Impervious Runoff Depth=1.70"
Tc=6.0 min CN=WQ Runoff=0.22 cfs 0.018 af

Subcatchment 1.2: To Existing 36" Culvert Runoff Area=93,154 sf 17.06% Impervious Runoff Depth=1.55"
Flow Length=397' Tc=8.4 min CN=WQ Runoff=3.09 cfs 0.276 af

Subcatchment 1.3: To CB#1 Runoff Area=15,839 sf 47.86% Impervious Runoff Depth=2.38"
Flow Length=435' Tc=9.9 min CN=WQ Runoff=0.76 cfs 0.072 af

Subcatchment 1.4: To Porous Pavement Runoff Area=19,653 sf 86.94% Impervious Runoff Depth=3.19"
Flow Length=96' Tc=63.7 min CN=WQ Runoff=0.58 cfs 0.120 af

Subcatchment 1.5: To Porous Pavement Runoff Area=39,193 sf 97.78% Impervious Runoff Depth=3.42"
Flow Length=93' Tc=64.6 min CN=WQ Runoff=1.23 cfs 0.256 af

Subcatchment 1.6: To South Runoff Area=26,188 sf 0.00% Impervious Runoff Depth=1.19"
Flow Length=311' Tc=16.1 min CN=WQ Runoff=0.57 cfs 0.059 af

Subcatchment 2.1: Building Roof Runoff Area=22,500 sf 100.00% Impervious Runoff Depth=3.47"
Tc=6.0 min CN=WQ Runoff=1.73 cfs 0.149 af

Subcatchment 2.2: Southeast Subcat Runoff Area=15,592 sf 33.67% Impervious Runoff Depth=1.64"
Flow Length=186' Tc=9.9 min CN=WQ Runoff=0.48 cfs 0.049 af

Subcatchment 2.3: To CB#7 Runoff Area=12,270 sf 0.00% Impervious Runoff Depth=0.45"
Flow Length=170' Tc=11.4 min CN=WQ Runoff=0.07 cfs 0.010 af

Subcatchment 3.0: Southeast Subcat Runoff Area=20,396 sf 6.41% Impervious Runoff Depth=0.64"
Flow Length=153' Tc=17.0 min CN=WQ Runoff=0.16 cfs 0.025 af

Reach #100: Analysis Point - Southwest Inflow=3.76 cfs 0.569 af
Outflow=3.76 cfs 0.569 af

Reach #200: Analysis Point - Southeast Inflow=0.07 cfs 0.010 af
Outflow=0.07 cfs 0.010 af

Reach #300: Analysis Point - Southeast Inflow=0.16 cfs 0.025 af
Outflow=0.16 cfs 0.025 af

Reach 3R: Proposed Culvert #1 Avg. Flow Depth=0.19' Max Vel=2.11 fps Inflow=0.22 cfs 0.018 af
12.0" Round Pipe n=0.012 L=56.0' S=0.0054 '/' Capacity=2.83 cfs Outflow=0.21 cfs 0.018 af

Reach 4R: Existing Culvert Avg. Flow Depth=0.39' Max Vel=6.07 fps Inflow=3.44 cfs 0.510 af
36.0" Round Pipe n=0.013 L=366.0' S=0.0191 '/' Capacity=92.24 cfs Outflow=3.27 cfs 0.510 af

Pond 1P: Infiltration Trench Peak Elev=28.33' Storage=1,833 cf Inflow=2.19 cfs 0.198 af
Discarded=0.51 cfs 0.200 af Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=0.51 cfs 0.200 af

Pond BP: Bioretention Pond Peak Elev=25.34' Storage=1,099 cf Inflow=0.76 cfs 0.072 af
Outflow=0.16 cfs 0.072 af

Pond CB#1: CB#1 Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=110.0' S=0.0050 '/' Primary=0.00 cfs 0.000 af

Pond CB#2: CB#2 Peak Elev=23.46' Inflow=0.35 cfs 0.055 af
15.0" Round Culvert n=0.013 L=248.0' S=0.0050 '/' Outflow=0.35 cfs 0.055 af

Pond CB#3: CB#3 Peak Elev=21.62' Inflow=0.85 cfs 0.144 af
15.0" Round Culvert n=0.013 L=62.0' S=0.0050 '/' Outflow=0.85 cfs 0.144 af

Pond DMH#1: DMH#1 Peak Elev=24.52' Inflow=0.00 cfs 0.000 af
15.0" Round Culvert n=0.013 L=52.0' S=0.0288 '/' Outflow=0.00 cfs 0.000 af

Pond DMH#2: DMH#2 Peak Elev=19.93' Inflow=1.01 cfs 0.216 af
18.0" Round Culvert n=0.013 L=65.0' S=0.0051 '/' Outflow=1.01 cfs 0.216 af

Pond DMH#3: DMH#3 Peak Elev=19.59' Inflow=1.01 cfs 0.216 af
18.0" Round Culvert n=0.013 L=10.0' S=0.0050 '/' Outflow=1.01 cfs 0.216 af

Pond PP-E: Porous Pavement East Peak Elev=23.79' Storage=5,102 cf Inflow=1.23 cfs 0.256 af
Discarded=0.05 cfs 0.167 af Primary=0.53 cfs 0.089 af Outflow=0.58 cfs 0.257 af

Pond PP-W: Porous Pavement West Peak Elev=23.82' Storage=2,114 cf Inflow=0.58 cfs 0.120 af
Discarded=0.02 cfs 0.066 af Primary=0.35 cfs 0.055 af Outflow=0.37 cfs 0.120 af

Total Runoff Area = 6.204 ac Runoff Volume = 1.035 af Average Runoff Depth = 2.00"
59.62% Pervious = 3.699 ac 40.38% Impervious = 2.505 ac

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: To Culvert #1 Runoff Area=5,470 sf 21.55% Impervious Runoff Depth=3.24"
Tc=6.0 min CN=WQ Runoff=0.42 cfs 0.034 af

Subcatchment 1.2: To Existing 36" Culvert Runoff Area=93,154 sf 17.06% Impervious Runoff Depth=3.05"
Flow Length=397' Tc=8.4 min CN=WQ Runoff=6.36 cfs 0.543 af

Subcatchment 1.3: To CB#1 Runoff Area=15,839 sf 47.86% Impervious Runoff Depth=4.10"
Flow Length=435' Tc=9.9 min CN=WQ Runoff=1.32 cfs 0.124 af

Subcatchment 1.4: To Porous Pavement Runoff Area=19,653 sf 86.94% Impervious Runoff Depth=5.08"
Flow Length=96' Tc=63.7 min CN=WQ Runoff=0.92 cfs 0.191 af

Subcatchment 1.5: To Porous Pavement Runoff Area=39,193 sf 97.78% Impervious Runoff Depth=5.36"
Flow Length=93' Tc=64.6 min CN=WQ Runoff=1.90 cfs 0.402 af

Subcatchment 1.6: To South Runoff Area=26,188 sf 0.00% Impervious Runoff Depth=2.60"
Flow Length=311' Tc=16.1 min CN=WQ Runoff=1.31 cfs 0.130 af

Subcatchment 2.1: Building Roof Runoff Area=22,500 sf 100.00% Impervious Runoff Depth=5.41"
Tc=6.0 min CN=WQ Runoff=2.66 cfs 0.233 af

Subcatchment 2.2: Southeast Subcat Runoff Area=15,592 sf 33.67% Impervious Runoff Depth=3.04"
Flow Length=186' Tc=9.9 min CN=WQ Runoff=0.94 cfs 0.091 af

Subcatchment 2.3: To CB#7 Runoff Area=12,270 sf 0.00% Impervious Runoff Depth=1.37"
Flow Length=170' Tc=11.4 min CN=WQ Runoff=0.32 cfs 0.032 af

Subcatchment 3.0: Southeast Subcat Runoff Area=20,396 sf 6.41% Impervious Runoff Depth=1.63"
Flow Length=153' Tc=17.0 min CN=WQ Runoff=0.54 cfs 0.064 af

Reach #100: Analysis Point - Southwest Inflow=8.72 cfs 1.222 af
Outflow=8.72 cfs 1.222 af

Reach #200: Analysis Point - Southeast Inflow=0.32 cfs 0.032 af
Outflow=0.32 cfs 0.032 af

Reach #300: Analysis Point - Southeast Inflow=0.54 cfs 0.064 af
Outflow=0.54 cfs 0.064 af

Reach 3R: Proposed Culvert #1 Avg. Flow Depth=0.26' Max Vel=2.58 fps Inflow=0.42 cfs 0.034 af
12.0" Round Pipe n=0.012 L=56.0' S=0.0054 '/' Capacity=2.83 cfs Outflow=0.42 cfs 0.034 af

Reach 4R: Existing Culvert Avg. Flow Depth=0.58' Max Vel=7.83 fps Inflow=7.29 cfs 1.092 af
36.0" Round Pipe n=0.013 L=366.0' S=0.0191 '/' Capacity=92.24 cfs Outflow=7.44 cfs 1.092 af

Pond 1P: Infiltration Trench Peak Elev=29.20' Storage=2,597 cf Inflow=3.56 cfs 0.324 af
Discarded=0.51 cfs 0.277 af Primary=0.00 cfs 0.000 af Secondary=1.57 cfs 0.048 af Outflow=2.07 cfs 0.324 af

Pond BP: Bioretention Pond Peak Elev=25.68' Storage=1,541 cf Inflow=1.32 cfs 0.124 af
Outflow=0.91 cfs 0.124 af

Pond CB#1: CB#1 Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=110.0' S=0.0050 '/' Primary=0.00 cfs 0.000 af

Pond CB#2: CB#2 Peak Elev=23.61' Inflow=0.75 cfs 0.122 af
15.0" Round Culvert n=0.013 L=248.0' S=0.0050 '/' Outflow=0.75 cfs 0.122 af

Pond CB#3: CB#3 Peak Elev=21.99' Inflow=2.25 cfs 0.344 af
15.0" Round Culvert n=0.013 L=62.0' S=0.0050 '/' Outflow=2.25 cfs 0.344 af

Pond DMH#1: DMH#1 Peak Elev=25.11' Inflow=1.57 cfs 0.048 af
15.0" Round Culvert n=0.013 L=52.0' S=0.0288 '/' Outflow=1.57 cfs 0.048 af

Pond DMH#2: DMH#2 Peak Elev=20.30' Inflow=2.46 cfs 0.516 af
18.0" Round Culvert n=0.013 L=65.0' S=0.0051 '/' Outflow=2.46 cfs 0.516 af

Pond DMH#3: DMH#3 Peak Elev=19.93' Inflow=2.46 cfs 0.516 af
18.0" Round Culvert n=0.013 L=10.0' S=0.0050 '/' Outflow=2.46 cfs 0.516 af

Pond PP-E: Porous Pavement East Peak Elev=23.85' Storage=6,014 cf Inflow=1.90 cfs 0.402 af
Discarded=0.06 cfs 0.179 af Primary=1.50 cfs 0.222 af Outflow=1.56 cfs 0.402 af

Pond PP-W: Porous Pavement West Peak Elev=23.89' Storage=2,518 cf Inflow=0.92 cfs 0.191 af
Discarded=0.02 cfs 0.070 af Primary=0.75 cfs 0.122 af Outflow=0.77 cfs 0.191 af

Total Runoff Area = 6.204 ac Runoff Volume = 1.843 af Average Runoff Depth = 3.57"
59.62% Pervious = 3.699 ac 40.38% Impervious = 2.505 ac

Summary for Subcatchment 1.1: To Culvert #1

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.42 cfs @ 12.10 hrs, Volume= 0.034 af, Depth= 3.24"
Routed to Reach 3R : Proposed Culvert #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
1,384	65	Brush, Good, HSG C
2,907	74	>75% Grass cover, Good, HSG C
1,179	98	Paved parking, HSG C
5,470		Weighted Average
4,291		78.45% Pervious Area
1,179		21.55% Impervious Area

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

Summary for Subcatchment 1.2: To Existing 36" Culvert

[49] Hint: Tc<2dt may require smaller dt

Runoff = 6.36 cfs @ 12.12 hrs, Volume= 0.543 af, Depth= 3.05"
Routed to Reach 4R : Existing Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
3,820	65	Brush, Good, HSG C
62,762	70	Woods, Good, HSG C
10,684	74	>75% Grass cover, Good, HSG C
15,888	98	Paved parking, HSG C
93,154		Weighted Average
77,266		82.94% Pervious Area
15,888		17.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	50	0.1120	0.28		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 2.92"
2.4	148	0.0224	1.05		**Shallow Concentrated Flow, SCF thru grass** Short Grass Pasture Kv= 7.0 fps
3.0	199	0.0498	1.12		**Shallow Concentrated Flow, SCF thru woods** Woodland Kv= 5.0 fps
8.4	397	Total			

Summary for Subcatchment 1.3: To CB#1

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.32 cfs @ 12.14 hrs, Volume= 0.124 af, Depth= 4.10"
Routed to Pond BP : Bioretention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
8,258	74	>75% Grass cover, Good, HSG C
7,581	98	Paved parking, HSG C
15,839		Weighted Average
8,258		52.14% Pervious Area
7,581		47.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	50	0.0150	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Short n= 0.150 P2= 2.92"
3.0	370	0.0100	2.03		**Shallow Concentrated Flow, SCF - Pavement** Paved Kv= 20.3 fps
0.3	15	0.0200	0.99		**Shallow Concentrated Flow, SCF - Grass** Short Grass Pasture Kv= 7.0 fps
9.9	435	Total			

Summary for Subcatchment 1.4: To Porous Pavement West

[47] Hint: Peak is 398% of capacity of segment #3

Runoff = 0.92 cfs @ 12.82 hrs, Volume= 0.191 af, Depth= 5.08"
Routed to Pond PP-W : Porous Pavement West

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
2,567	74	>75% Grass cover, Good, HSG C
17,086	98	Paved parking, HSG C
19,653		Weighted Average
2,567		13.06% Pervious Area
17,086		86.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	31	0.0490	0.18		**Sheet Flow, Sheet Flow - Grass** Grass: Short n= 0.150 P2= 2.92"
60.0					**Direct Entry, Flow through selects**
0.9	65	0.0010	1.17	0.23	**Pipe Channel,** 6.0" Round Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.010 PVC, smooth interior
63.7	96	Total			

Summary for Subcatchment 1.5: To Porous Pavement East

[47] Hint: Peak is 825% of capacity of segment #3

Runoff = 1.90 cfs @ 12.83 hrs, Volume= 0.402 af, Depth= 5.36"
Routed to Pond PP-E : Porous Pavement East

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
869	74	>75% Grass cover, Good, HSG C
38,324	98	Paved parking, HSG C
39,193		Weighted Average
869		2.22% Pervious Area
38,324		97.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	28	0.0200	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Short n= 0.150 P2= 2.92"
60.0					**Direct Entry, Flow through selects**
0.9	65	0.0010	1.17	0.23	**Pipe Channel,** 6.0" Round Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.010 PVC, smooth interior
64.6	93	Total			

Summary for Subcatchment 1.6: To South

Runoff = 1.31 cfs @ 12.23 hrs, Volume= 0.130 af, Depth= 2.60"
Routed to Reach #100 : Analysis Point - Southwest

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
1,964	55	Woods, Good, HSG B
12,987	70	Woods, Good, HSG C
11,237	74	>75% Grass cover, Good, HSG C
26,188		Weighted Average
26,188		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2	50	0.0750	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.92"
2.9	261	0.0910	1.51		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.1	311	Total			

Summary for Subcatchment 2.1: Building Roof

[49] Hint: Tc<2dt may require smaller dt

Runoff = 2.66 cfs @ 12.09 hrs, Volume= 0.233 af, Depth= 5.41"
Routed to Pond 1P : Infiltration Trench

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
12,535	98	Roofs, HSG B
9,965	98	Roofs, HSG C
22,500		Weighted Average
22,500		100.00% Impervious Area

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

Summary for Subcatchment 2.2: Southeast Subcat

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.94 cfs @ 12.14 hrs, Volume= 0.091 af, Depth= 3.04"
Routed to Pond 1P : Infiltration Trench

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
2,457	55	Woods, Good, HSG B
5,460	61	>75% Grass cover, Good, HSG B
3,484	98	Paved parking, HSG B
882	65	Brush, Good, HSG C
529	70	Woods, Good, HSG C
1,014	74	>75% Grass cover, Good, HSG C
1,766	98	Paved parking, HSG C
15,592		Weighted Average
10,342		66.33% Pervious Area
5,250		33.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	50	0.0580	0.10		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 2.92"
1.5	136	0.0449	1.48		**Shallow Concentrated Flow, SCF - Grass** Short Grass Pasture Kv= 7.0 fps
9.9	186	Total			

Summary for Subcatchment 2.3: To CB#7

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.32 cfs @ 12.21 hrs, Volume= 0.032 af, Depth= 1.37"
Routed to Reach #200 : Analysis Point - Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
11,481	55	Woods, Good, HSG B
395	61	>75% Grass cover, Good, HSG B
394	70	Woods, Good, HSG C
12,270		Weighted Average
12,270		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	50	0.0440	0.09		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 2.92"
2.0	120	0.0401	1.00		**Shallow Concentrated Flow, SCF - Woods** Woodland Kv= 5.0 fps
11.4	170	Total			

Summary for Subcatchment 3.0: Southeast Subcat

Runoff = 0.54 cfs @ 12.27 hrs, Volume= 0.064 af, Depth= 1.63"
Routed to Reach #300 : Analysis Point - Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=5.65"

Area (sf)	CN	Description
475	48	Brush, Good, HSG B
17,025	55	Woods, Good, HSG B
983	61	>75% Grass cover, Good, HSG B
29	65	Brush, Good, HSG C
567	70	Woods, Good, HSG C
9	74	>75% Grass cover, Good, HSG C
1,308	98	Paved parking, HSG C
20,396		Weighted Average
19,088		93.59% Pervious Area
1,308		6.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	50	0.0490	0.05		**Sheet Flow, Sheet** Woods: Dense underbrush n= 0.800 P2= 2.92"
1.3	103	0.0728	1.35		**Shallow Concentrated Flow, SCF thru woods** Woodland Kv= 5.0 fps
17.0	153	Total			

Summary for Reach #100: Analysis Point - Southwest

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.580 ac, 40.13% Impervious, Inflow Depth = 3.20" for 10-YR event
Inflow = 8.72 cfs @ 12.20 hrs, Volume= 1.222 af
Outflow = 8.72 cfs @ 12.20 hrs, Volume= 1.222 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Summary for Reach #200: Analysis Point - Southeast

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.156 ac, 55.10% Impervious, Inflow Depth = 0.33" for 10-YR event
Inflow = 0.32 cfs @ 12.21 hrs, Volume= 0.032 af
Outflow = 0.32 cfs @ 12.21 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Summary for Reach #300: Analysis Point - Southeast

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.468 ac, 6.41% Impervious, Inflow Depth = 1.63" for 10-YR event
Inflow = 0.54 cfs @ 12.27 hrs, Volume= 0.064 af
Outflow = 0.54 cfs @ 12.27 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Summary for Reach 3R: Proposed Culvert #1

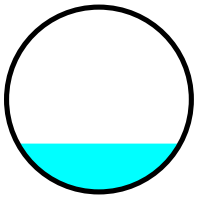
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.126 ac, 21.55% Impervious, Inflow Depth = 3.24" for 10-YR event
Inflow = 0.42 cfs @ 12.10 hrs, Volume= 0.034 af
Outflow = 0.42 cfs @ 12.10 hrs, Volume= 0.034 af, Atten= 1%, Lag= 0.3 min
Routed to Reach 4R : Existing Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Max. Velocity= 2.58 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.81 fps, Avg. Travel Time= 1.2 min

Peak Storage= 9 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.26' , Surface Width= 0.88'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.83 cfs

12.0" Round Pipe
n= 0.012 Concrete pipe, finished
Length= 56.0' Slope= 0.0054 '/'
Inlet Invert= 26.80', Outlet Invert= 26.50'



Summary for Reach 4R: Existing Culvert

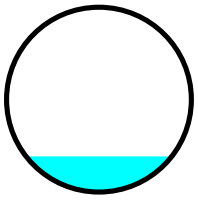
[52] Hint: Inlet/Outlet conditions not evaluated
[90] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 3.979 ac, 46.19% Impervious, Inflow Depth = 3.29" for 10-YR event
Inflow = 7.29 cfs @ 12.18 hrs, Volume= 1.092 af
Outflow = 7.44 cfs @ 12.20 hrs, Volume= 1.092 af, Atten= 0%, Lag= 1.0 min
Routed to Reach #100 : Analysis Point - Southwest

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Max. Velocity= 7.83 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 2.22 fps, Avg. Travel Time= 2.8 min

Peak Storage= 347 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.58' , Surface Width= 2.36'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 92.24 cfs

36.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 366.0' Slope= 0.0191 '/'
Inlet Invert= 14.10', Outlet Invert= 7.10'



Summary for Pond 1P: Infiltration Trench

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=44)

Inflow Area = 0.874 ac, 72.85% Impervious, Inflow Depth = 4.44" for 10-YR event
Inflow = 3.56 cfs @ 12.10 hrs, Volume= 0.324 af
Outflow = 2.07 cfs @ 12.28 hrs, Volume= 0.324 af, Atten= 42%, Lag= 10.7 min
Discarded = 0.51 cfs @ 11.70 hrs, Volume= 0.277 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach #200 : Analysis Point - Southeast
Secondary = 1.57 cfs @ 12.28 hrs, Volume= 0.048 af
Routed to Pond DMH#1 : DMH#1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 29.20' @ 12.28 hrs Surf.Area= 2,200 sf Storage= 2,597 cf
Flood Elev= 31.00' Surf.Area= 2,200 sf Storage= 5,500 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 19.3 min (779.2 - 759.8)

Volume	Invert	Avail.Storage	Storage Description
#1	26.00'	5,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
26.00	2,200	0.0	0	0
27.00	2,200	30.0	660	660
30.00	2,200	40.0	2,640	3,300
31.00	2,200	100.0	2,200	5,500

Device	Routing	Invert	Outlet Devices
#1	Discarded	26.00'	**10.000 in/hr Exfiltration over Surface area**
#2	Primary	30.00'	**50.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#3	Secondary	28.27'	**12.0" Round Culvert X 2.00** L= 275.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.27' / 28.27' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.51 cfs @ 11.70 hrs HW=26.08' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.51 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=26.00' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=1.52 cfs @ 12.28 hrs HW=29.19' TW=25.10' (Dynamic Tailwater)
└**3=Culvert** (Barrel Controls 1.52 cfs @ 1.32 fps)

Summary for Pond BP: Bioretention Pond

Inflow Area = 0.364 ac, 47.86% Impervious, Inflow Depth = 4.10" for 10-YR event
Inflow = 1.32 cfs @ 12.14 hrs, Volume= 0.124 af
Outflow = 0.91 cfs @ 12.33 hrs, Volume= 0.124 af, Atten= 31%, Lag= 11.5 min
Primary = 0.91 cfs @ 12.33 hrs, Volume= 0.124 af
Routed to Pond DMH#2 : DMH#2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 25.68' @ 12.33 hrs Surf.Area= 1,463 sf Storage= 1,541 cf
Flood Elev= 26.50' Surf.Area= 1,790 sf Storage= 2,069 cf

Plug-Flow detention time= 78.7 min calculated for 0.124 af (100% of inflow)
Center-of-Mass det. time= 77.5 min (858.7 - 781.1)

Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	2,069 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
22.50	889	0.0	0	0	889
23.50	889	40.0	356	356	995
25.00	889	30.0	400	756	1,153
26.00	1,790	100.0	1,313	2,069	2,063

Device	Routing	Invert	Outlet Devices
#1	Primary	21.43'	**12.0" Round Culvert** L= 126.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 21.43' / 20.80' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	25.50'	**12.0" Horiz. Orifice/Grate** C= 0.600

Limited to weir flow at low heads

#3	Device 1	22.50'	**3.0" Round Culvert** L= 116.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.50' / 22.50' S= 0.0000 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.05 sf

Primary OutFlow Max=0.85 cfs @ 12.33 hrs HW=25.66' TW=20.25' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.85 cfs of 5.30 cfs potential flow)
  └─**2=Orifice/Grate** (Weir Controls 0.67 cfs @ 1.32 fps)
  └─**3=Culvert** (Barrel Controls 0.17 cfs @ 3.52 fps)

Summary for Pond CB#1: CB#1

[43] Hint: Has no inflow (Outflow=Zero)

Device	Routing	Invert	Outlet Devices
#1	Primary	23.80'	**12.0" Round Culvert** L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 23.80' / 23.25' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' TW=23.15' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Summary for Pond CB#2: CB#2

Inflow Area = 0.451 ac, 86.94% Impervious, Inflow Depth = 3.23" for 10-YR event
Inflow = 0.75 cfs @ 13.09 hrs, Volume= 0.122 af
Outflow = 0.75 cfs @ 13.09 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.0 min
Primary = 0.75 cfs @ 13.09 hrs, Volume= 0.122 af
Routed to Pond CB#3 : CB#3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 23.61' @ 13.09 hrs
Flood Elev= 26.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.15'	**15.0" Round Culvert** L= 248.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 23.15' / 21.90' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.75 cfs @ 13.09 hrs HW=23.61' TW=21.98' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.75 cfs @ 2.71 fps)

Summary for Pond CB#3: CB#3

Inflow Area = 1.351 ac, 94.16% Impervious, Inflow Depth = 3.05" for 10-YR event
Inflow = 2.25 cfs @ 13.14 hrs, Volume= 0.344 af
Outflow = 2.25 cfs @ 13.14 hrs, Volume= 0.344 af, Atten= 0%, Lag= 0.0 min
Primary = 2.25 cfs @ 13.14 hrs, Volume= 0.344 af
Routed to Pond DMH#2 : DMH#2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 21.99' @ 13.14 hrs
Flood Elev= 30.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	21.11'	**15.0" Round Culvert** L= 62.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 21.11' / 20.80' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.23 cfs @ 13.14 hrs HW=21.98' TW=20.30' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.23 cfs @ 3.43 fps)

Summary for Pond DMH#1: DMH#1

Inflow = 1.57 cfs @ 12.28 hrs, Volume= 0.048 af
Outflow = 1.57 cfs @ 12.28 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Primary = 1.57 cfs @ 12.28 hrs, Volume= 0.048 af
Routed to Pond DMH#2 : DMH#2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 25.11' @ 12.28 hrs
Flood Elev= 30.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.50'	**15.0" Round Culvert** L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.50' / 23.00' S= 0.0288 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.52 cfs @ 12.28 hrs HW=25.10' TW=20.21' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.52 cfs @ 2.63 fps)

Summary for Pond DMH#2: DMH#2

Inflow Area = 1.715 ac, 84.34% Impervious, Inflow Depth = 3.61" for 10-YR event
Inflow = 2.46 cfs @ 12.31 hrs, Volume= 0.516 af
Outflow = 2.46 cfs @ 12.31 hrs, Volume= 0.516 af, Atten= 0%, Lag= 0.0 min
Primary = 2.46 cfs @ 12.31 hrs, Volume= 0.516 af
Routed to Pond DMH#3 : DMH#3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Peak Elev= 20.30' @ 13.17 hrs
Flood Elev= 29.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.37'	**18.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.37' / 19.04' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.03 cfs @ 12.31 hrs HW=20.25' TW=19.92' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 2.03 cfs @ 2.72 fps)

Summary for Pond DMH#3: DMH#3

Inflow Area = 1.715 ac, 84.34% Impervious, Inflow Depth = 3.61" for 10-YR event
Inflow = 2.46 cfs @ 12.31 hrs, Volume= 0.516 af
Outflow = 2.46 cfs @ 12.31 hrs, Volume= 0.516 af, Atten= 0%, Lag= 0.0 min
Primary = 2.46 cfs @ 12.31 hrs, Volume= 0.516 af
Routed to Reach 4R : Existing Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 19.93' @ 12.31 hrs
Flood Elev= 23.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.04'	**18.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.04' / 18.99' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.40 cfs @ 12.31 hrs HW=19.92' TW=14.63' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 2.40 cfs @ 3.20 fps)

Summary for Pond PP-E: Porous Pavement East

Inflow Area = 0.900 ac, 97.78% Impervious, Inflow Depth = 5.36" for 10-YR event
Inflow = 1.90 cfs @ 12.83 hrs, Volume= 0.402 af
Outflow = 1.56 cfs @ 13.16 hrs, Volume= 0.402 af, Atten= 18%, Lag= 19.8 min
Discarded = 0.06 cfs @ 13.16 hrs, Volume= 0.179 af
Primary = 1.50 cfs @ 13.16 hrs, Volume= 0.222 af
Routed to Pond CB#3 : CB#3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 23.85' @ 13.16 hrs Surf.Area= 37,695 sf Storage= 6,014 cf
Flood Elev= 27.00' Surf.Area= 37,695 sf Storage= 45,988 cf

Plug-Flow detention time= 362.5 min calculated for 0.401 af (100% of inflow)
Center-of-Mass det. time= 364.2 min (1,165.6 - 801.4)

Volume	Invert	Avail.Storage	Storage Description
#1	23.45'	48,747 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
23.45	37,695	0.0	0	0
24.45	37,695	40.0	15,078	15,078
24.70	37,695	40.0	3,770	18,848
26.70	37,695	30.0	22,617	41,465
27.03	37,695	40.0	4,976	46,440
27.37	37,695	18.0	2,307	48,747

Device	Routing	Invert	Outlet Devices
#1	Discarded	23.45'	**0.048 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 22.33'
#2	Primary	23.70'	**6.0" Round Culvert X 28.00** L= 65.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 23.70' / 23.38' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.06 cfs @ 13.16 hrs HW=23.85' (Free Discharge)
1=Exfiltration (Controls 0.06 cfs)

Primary OutFlow Max=1.49 cfs @ 13.16 hrs HW=23.85' TW=21.98' (Dynamic Tailwater)
2=Culvert (Barrel Controls 1.49 cfs @ 1.64 fps)

Summary for Pond PP-W: Porous Pavement West

Inflow Area = 0.451 ac, 86.94% Impervious, Inflow Depth = 5.08" for 10-YR event
Inflow = 0.92 cfs @ 12.82 hrs, Volume= 0.191 af
Outflow = 0.77 cfs @ 13.09 hrs, Volume= 0.191 af, Atten= 16%, Lag= 16.3 min
Discarded = 0.02 cfs @ 13.12 hrs, Volume= 0.070 af
Primary = 0.75 cfs @ 13.09 hrs, Volume= 0.122 af
Routed to Pond CB#2 : CB#2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 23.89' @ 13.12 hrs Surf.Area= 14,315 sf Storage= 2,518 cf
Flood Elev= 27.00' Surf.Area= 14,315 sf Storage= 17,464 cf

Plug-Flow detention time= 306.4 min calculated for 0.191 af (100% of inflow)
Center-of-Mass det. time= 308.1 min (1,114.0 - 805.9)

Volume	Invert	Avail.Storage	Storage Description
#1	23.45'	18,512 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
23.45	14,315	0.0	0	0
24.45	14,315	40.0	5,726	5,726
24.70	14,315	40.0	1,432	7,158
26.70	14,315	30.0	8,589	15,747
27.03	14,315	40.0	1,890	17,636
27.37	14,315	18.0	876	18,512

Device	Routing	Invert	Outlet Devices
#1	Discarded	23.45'	**0.048 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 22.33'
#2	Primary	23.70'	**6.0" Round Culvert X 10.00** L= 65.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 23.70' / 23.38' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.02 cfs @ 13.12 hrs HW=23.89' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.02 cfs)

Primary OutFlow Max=0.74 cfs @ 13.09 hrs HW=23.89' TW=23.61' (Dynamic Tailwater)
↑—**2=Culvert** (Outlet Controls 0.74 cfs @ 1.62 fps)

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: To Culvert #1 Runoff Area=5,470 sf 21.55% Impervious Runoff Depth=4.56"
Tc=6.0 min CN=WQ Runoff=0.60 cfs 0.048 af

Subcatchment 1.2: To Existing 36" Culvert Runoff Area=93,154 sf 17.06% Impervious Runoff Depth=4.35"
Flow Length=397' Tc=8.4 min CN=WQ Runoff=9.16 cfs 0.775 af

Subcatchment 1.3: To CB#1 Runoff Area=15,839 sf 47.86% Impervious Runoff Depth=5.52"
Flow Length=435' Tc=9.9 min CN=WQ Runoff=1.78 cfs 0.167 af

Subcatchment 1.4: To Porous Pavement Runoff Area=19,653 sf 86.94% Impervious Runoff Depth=6.59"
Flow Length=96' Tc=63.7 min CN=WQ Runoff=1.19 cfs 0.248 af

Subcatchment 1.5: To Porous Pavement Runoff Area=39,193 sf 97.78% Impervious Runoff Depth=6.89"
Flow Length=93' Tc=64.6 min CN=WQ Runoff=2.43 cfs 0.517 af

Subcatchment 1.6: To South Runoff Area=26,188 sf 0.00% Impervious Runoff Depth=3.85"
Flow Length=311' Tc=16.1 min CN=WQ Runoff=1.96 cfs 0.193 af

Subcatchment 2.1: Building Roof Runoff Area=22,500 sf 100.00% Impervious Runoff Depth=6.95"
Tc=6.0 min CN=WQ Runoff=3.39 cfs 0.299 af

Subcatchment 2.2: Southeast Subcat Runoff Area=15,592 sf 33.67% Impervious Runoff Depth=4.27"
Flow Length=186' Tc=9.9 min CN=WQ Runoff=1.35 cfs 0.127 af

Subcatchment 2.3: To CB#7 Runoff Area=12,270 sf 0.00% Impervious Runoff Depth=2.31"
Flow Length=170' Tc=11.4 min CN=WQ Runoff=0.57 cfs 0.054 af

Subcatchment 3.0: Southeast Subcat Runoff Area=20,396 sf 6.41% Impervious Runoff Depth=2.61"
Flow Length=153' Tc=17.0 min CN=WQ Runoff=0.92 cfs 0.102 af

Reach #100: Analysis Point - Southwest Inflow=14.66 cfs 1.786 af
Outflow=14.66 cfs 1.786 af

Reach #200: Analysis Point - Southeast Inflow=0.57 cfs 0.054 af
Outflow=0.57 cfs 0.054 af

Reach #300: Analysis Point - Southeast Inflow=0.92 cfs 0.102 af
Outflow=0.92 cfs 0.102 af

Reach 3R: Proposed Culvert #1 Avg. Flow Depth=0.31' Max Vel=2.85 fps Inflow=0.60 cfs 0.048 af
12.0" Round Pipe n=0.012 L=56.0' S=0.0054 '/' Capacity=2.83 cfs Outflow=0.59 cfs 0.048 af

Reach 4R: Existing Culvert Avg. Flow Depth=0.75' Max Vel=9.16 fps Inflow=12.47 cfs 1.593 af
36.0" Round Pipe n=0.013 L=366.0' S=0.0191 '/' Capacity=92.24 cfs Outflow=12.76 cfs 1.593 af

Pond 1P: Infiltration Trench Peak Elev=29.78' Storage=3,106 cf Inflow=4.69 cfs 0.427 af
Discarded=0.51 cfs 0.333 af Primary=0.00 cfs 0.000 af Secondary=2.78 cfs 0.095 af Outflow=3.29 cfs 0.428 af

Pond BP: Bioretention Pond Peak Elev=25.77' Storage=1,689 cf Inflow=1.78 cfs 0.167 af
Outflow=1.61 cfs 0.167 af

Pond CB#1: CB#1 Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=110.0' S=0.0050 '/' Primary=0.00 cfs 0.000 af

Pond CB#2: CB#2 Peak Elev=23.69' Inflow=1.01 cfs 0.176 af
15.0" Round Culvert n=0.013 L=248.0' S=0.0050 '/' Outflow=1.01 cfs 0.176 af

Pond CB#3: CB#3 Peak Elev=22.20' Inflow=3.17 cfs 0.508 af
15.0" Round Culvert n=0.013 L=62.0' S=0.0050 '/' Outflow=3.17 cfs 0.508 af

Pond DMH#1: DMH#1 Peak Elev=25.35' Inflow=2.78 cfs 0.095 af
15.0" Round Culvert n=0.013 L=52.0' S=0.0288 '/' Outflow=2.78 cfs 0.095 af

Pond DMH#2: DMH#2 Peak Elev=20.72' Inflow=4.66 cfs 0.771 af
18.0" Round Culvert n=0.013 L=65.0' S=0.0051 '/' Outflow=4.66 cfs 0.771 af

Pond DMH#3: DMH#3 Peak Elev=20.35' Inflow=4.66 cfs 0.771 af
18.0" Round Culvert n=0.013 L=10.0' S=0.0050 '/' Outflow=4.66 cfs 0.771 af

Pond PP-E: Porous Pavement East Peak Elev=23.88' Storage=6,476 cf Inflow=2.43 cfs 0.517 af
Discarded=0.06 cfs 0.185 af Primary=2.16 cfs 0.332 af Outflow=2.21 cfs 0.517 af

Pond PP-W: Porous Pavement West Peak Elev=23.93' Storage=2,765 cf Inflow=1.19 cfs 0.248 af
Discarded=0.02 cfs 0.071 af Primary=1.01 cfs 0.176 af Outflow=1.03 cfs 0.248 af

Total Runoff Area = 6.204 ac Runoff Volume = 2.529 af Average Runoff Depth = 4.89"
59.62% Pervious = 3.699 ac 40.38% Impervious = 2.505 ac

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1: To Culvert #1 Runoff Area=5,470 sf 21.55% Impervious Runoff Depth=5.84"
Tc=6.0 min CN=WQ Runoff=0.77 cfs 0.061 af

Subcatchment 1.2: To Existing 36" Culvert Runoff Area=93,154 sf 17.06% Impervious Runoff Depth=5.62"
Flow Length=397' Tc=8.4 min CN=WQ Runoff=11.87 cfs 1.001 af

Subcatchment 1.3: To CB#1 Runoff Area=15,839 sf 47.86% Impervious Runoff Depth=6.88"
Flow Length=435' Tc=9.9 min CN=WQ Runoff=2.22 cfs 0.208 af

Subcatchment 1.4: To Porous Pavement Runoff Area=19,653 sf 86.94% Impervious Runoff Depth=8.01"
Flow Length=96' Tc=63.7 min CN=WQ Runoff=1.44 cfs 0.301 af

Subcatchment 1.5: To Porous Pavement Runoff Area=39,193 sf 97.78% Impervious Runoff Depth=8.33"
Flow Length=93' Tc=64.6 min CN=WQ Runoff=2.93 cfs 0.624 af

Subcatchment 1.6: To South Runoff Area=26,188 sf 0.00% Impervious Runoff Depth=5.08"
Flow Length=311' Tc=16.1 min CN=WQ Runoff=2.59 cfs 0.255 af

Subcatchment 2.1: Building Roof Runoff Area=22,500 sf 100.00% Impervious Runoff Depth=8.39"
Tc=6.0 min CN=WQ Runoff=4.08 cfs 0.361 af

Subcatchment 2.2: Southeast Subcat Runoff Area=15,592 sf 33.67% Impervious Runoff Depth=5.49"
Flow Length=186' Tc=9.9 min CN=WQ Runoff=1.75 cfs 0.164 af

Subcatchment 2.3: To CB#7 Runoff Area=12,270 sf 0.00% Impervious Runoff Depth=3.30"
Flow Length=170' Tc=11.4 min CN=WQ Runoff=0.84 cfs 0.078 af

Subcatchment 3.0: Southeast Subcat Runoff Area=20,396 sf 6.41% Impervious Runoff Depth=3.62"
Flow Length=153' Tc=17.0 min CN=WQ Runoff=1.34 cfs 0.141 af

Reach #100: Analysis Point - Southwest Inflow=20.08 cfs 2.326 af
Outflow=20.08 cfs 2.326 af

Reach #200: Analysis Point - Southeast Inflow=1.85 cfs 0.086 af
Outflow=1.85 cfs 0.086 af

Reach #300: Analysis Point - Southeast Inflow=1.34 cfs 0.141 af
Outflow=1.34 cfs 0.141 af

Reach 3R: Proposed Culvert #1 Avg. Flow Depth=0.35' Max Vel=3.05 fps Inflow=0.77 cfs 0.061 af
12.0" Round Pipe n=0.012 L=56.0' S=0.0054 '/' Capacity=2.83 cfs Outflow=0.76 cfs 0.061 af

Reach 4R: Existing Culvert Avg. Flow Depth=0.89' Max Vel=10.00 fps Inflow=18.25 cfs 2.071 af
36.0" Round Pipe n=0.013 L=366.0' S=0.0191 '/' Capacity=92.24 cfs Outflow=17.64 cfs 2.071 af

Pond 1P: Infiltration Trench Peak Elev=30.04' Storage=3,390 cf Inflow=5.76 cfs 0.525 af
Discarded=0.51 cfs 0.381 af Primary=1.01 cfs 0.008 af Secondary=3.48 cfs 0.136 af Outflow=5.00 cfs 0.525 af

Pond BP: Bioretention Pond Peak Elev=25.82' Storage=1,770 cf Inflow=2.22 cfs 0.208 af
Outflow=2.07 cfs 0.208 af

Pond CB#1: CB#1 Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=110.0' S=0.0050 '/' Primary=0.00 cfs 0.000 af

Pond CB#2: CB#2 Peak Elev=23.75' Inflow=1.23 cfs 0.229 af
15.0" Round Culvert n=0.013 L=248.0' S=0.0050 '/' Outflow=1.23 cfs 0.229 af

Pond CB#3: CB#3 Peak Elev=22.37' Inflow=3.91 cfs 0.665 af
15.0" Round Culvert n=0.013 L=62.0' S=0.0050 '/' Outflow=3.91 cfs 0.665 af

Pond DMH#1: DMH#1 Peak Elev=25.48' Inflow=3.48 cfs 0.136 af
15.0" Round Culvert n=0.013 L=52.0' S=0.0288 '/' Outflow=3.48 cfs 0.136 af

Pond DMH#2: DMH#2 Peak Elev=21.09' Inflow=6.34 cfs 1.009 af
18.0" Round Culvert n=0.013 L=65.0' S=0.0051 '/' Outflow=6.34 cfs 1.009 af

Pond DMH#3: DMH#3 Peak Elev=20.64' Inflow=6.34 cfs 1.009 af
18.0" Round Culvert n=0.013 L=10.0' S=0.0050 '/' Outflow=6.34 cfs 1.009 af

Pond PP-E: Porous Pavement East Peak Elev=23.90' Storage=6,804 cf Inflow=2.93 cfs 0.624 af
Discarded=0.06 cfs 0.188 af Primary=2.68 cfs 0.436 af Outflow=2.74 cfs 0.624 af

Pond PP-W: Porous Pavement West Peak Elev=23.97' Storage=2,975 cf Inflow=1.44 cfs 0.301 af
Discarded=0.02 cfs 0.073 af Primary=1.23 cfs 0.229 af Outflow=1.26 cfs 0.301 af

Total Runoff Area = 6.204 ac Runoff Volume = 3.194 af Average Runoff Depth = 6.18"
59.62% Pervious = 3.699 ac 40.38% Impervious = 2.505 ac

Appendix III

Charts, Graphs, and Calculations

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Metadata for Point

Smoothing	Yes
State	New Hampshire
Location	New Hampshire, United States
Latitude	42.988 degrees North
Longitude	70.933 degrees West
Elevation	0 feet
Date/Time	Mon Nov 06 2023 13:52:49 GMT-0500 (Eastern Standard Time)

Coastal Region (Add 15%)
2-Year = 3.70 in
10-Year = 5.65 in
25-Year = 7.19 in
50-Year = 8.63 in

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.66	0.82	1.04	**1yr**	0.71	0.99	1.22	1.57	2.05	2.68	2.91	**1yr**	2.38	2.80	3.21	3.92	4.55	**1yr**
2yr	0.32	0.50	0.62	0.82	1.02	1.30	**2yr**	0.88	1.18	1.52	1.94	2.50	3.22	3.57	**2yr**	2.85	3.44	3.95	4.69	5.34	**2yr**
5yr	0.37	0.58	0.73	0.98	1.25	1.62	**5yr**	1.08	1.47	1.90	2.45	3.16	4.10	4.60	**5yr**	3.63	4.42	5.06	5.98	6.75	**5yr**
10yr	0.41	0.65	0.83	1.12	1.46	1.90	**10yr**	1.26	1.73	2.25	2.92	3.78	4.91	5.56	**10yr**	4.35	5.35	6.10	7.19	8.07	**10yr**
25yr	0.48	0.77	0.98	1.35	1.79	2.36	**25yr**	1.55	2.15	2.80	3.67	4.79	6.25	7.16	**25yr**	5.53	6.88	7.82	9.18	10.22	**25yr**
50yr	0.54	0.87	1.11	1.56	2.10	2.79	**50yr**	1.81	2.54	3.33	4.38	5.74	7.50	8.67	**50yr**	6.64	8.34	9.44	11.06	12.23	**50yr**
100yr	0.60	0.98	1.26	1.80	2.45	3.30	**100yr**	2.12	3.00	3.96	5.24	6.88	9.00	10.51	**100yr**	7.97	10.10	11.40	13.32	14.63	**100yr**
200yr	0.69	1.12	1.45	2.08	2.87	3.90	**200yr**	2.48	3.55	4.70	6.24	8.23	10.82	12.73	**200yr**	9.57	12.24	13.77	16.05	17.52	**200yr**
500yr	0.82	1.34	1.75	2.54	3.55	4.86	**500yr**	3.06	4.43	5.88	7.86	10.44	13.78	16.41	**500yr**	12.20	15.78	17.68	20.55	22.25	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.60	0.74	0.89	**1yr**	0.64	0.87	0.94	1.26	1.56	2.28	2.54	**1yr**	2.02	2.44	2.89	3.39	4.00	**1yr**
2yr	0.32	0.49	0.60	0.81	1.00	1.19	**2yr**	0.87	1.16	1.37	1.82	2.33	3.11	3.51	**2yr**	2.75	3.37	3.86	4.58	5.14	**2yr**
5yr	0.36	0.55	0.68	0.93	1.19	1.42	**5yr**	1.03	1.39	1.62	2.12	2.74	3.84	4.29	**5yr**	3.40	4.13	4.74	5.63	6.35	**5yr**
10yr	0.39	0.61	0.75	1.05	1.35	1.62	**10yr**	1.17	1.59	1.82	2.40	3.07	4.43	5.00	**10yr**	3.92	4.81	5.52	6.53	7.32	**10yr**
25yr	0.45	0.69	0.86	1.23	1.61	1.94	**25yr**	1.39	1.90	2.12	2.78	3.58	4.90	6.10	**25yr**	4.34	5.87	6.74	7.92	8.87	**25yr**
50yr	0.50	0.76	0.95	1.37	1.84	2.23	**50yr**	1.59	2.18	2.36	3.12	4.01	5.55	7.09	**50yr**	4.91	6.81	7.83	9.19	10.24	**50yr**
100yr	0.56	0.85	1.07	1.54	2.12	2.56	**100yr**	1.83	2.51	2.65	3.48	4.47	6.25	8.21	**100yr**	5.53	7.90	9.10	10.62	11.78	**100yr**
200yr	0.63	0.95	1.20	1.74	2.43	2.94	**200yr**	2.10	2.87	2.95	3.87	4.98	7.02	9.63	**200yr**	6.21	9.26	10.58	12.27	13.58	**200yr**
500yr	0.74	1.10	1.42	2.06	2.93	3.55	**500yr**	2.53	3.47	3.42	4.46	5.78	8.15	11.73	**500yr**	7.21	11.28	12.90	14.79	16.36	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.76	1.06	1.26	1.72	2.18	2.98	3.10	**1yr**	2.63	2.98	3.58	4.31	5.01	**1yr**
2yr	0.33	0.51	0.63	0.86	1.06	1.26	**2yr**	0.91	1.23	1.48	1.95	2.49	3.41	3.66	**2yr**	3.01	3.52	4.05	4.84	5.64	**2yr**
5yr	0.40	0.62	0.77	1.05	1.34	1.62	**5yr**	1.16	1.58	1.87	2.49	3.18	4.37	4.91	**5yr**	3.87	4.72	5.40	6.35	7.17	**5yr**
10yr	0.47	0.73	0.90	1.26	1.63	1.97	**10yr**	1.40	1.93	2.26	3.03	3.83	5.43	6.14	**10yr**	4.81	5.90	6.75	7.89	8.81	**10yr**
25yr	0.58	0.89	1.11	1.58	2.08	2.56	**25yr**	1.79	2.50	2.93	3.94	4.91	7.68	8.28	**25yr**	6.79	7.96	9.04	10.52	11.55	**25yr**
50yr	0.68	1.04	1.30	1.86	2.51	3.11	**50yr**	2.16	3.04	3.56	4.81	5.96	9.62	10.39	**50yr**	8.52	9.99	11.32	13.10	14.21	**50yr**
100yr	0.81	1.22	1.52	2.20	3.02	3.78	**100yr**	2.61	3.70	4.33	5.88	7.24	12.07	13.04	**100yr**	10.68	12.54	14.15	16.36	17.50	**100yr**
200yr	0.94	1.42	1.80	2.61	3.64	4.61	**200yr**	3.14	4.51	5.29	7.19	8.78	15.18	16.24	**200yr**	13.43	15.62	17.73	20.42	21.56	**200yr**
500yr	1.17	1.75	2.25	3.26	4.64	5.97	**500yr**	4.00	5.83	6.86	9.42	11.35	20.58	21.94	**500yr**	18.21	21.09	23.84	27.40	28.47	**500yr**

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Pollutant Removal Efficiencies for Best Management Practices for Use in Pollutant Loading Analysis

Best Management Practice (BMP) removal efficiencies for pollutant loading analysis for total suspended solids (TSS), total nitrogen (TN), and total phosphorus (TP) are presented in the table below. These removal efficiencies were developed by reviewing various literature sources and using best professional judgment based on literature values and general expectation of how values for different BMPS should relate to one another. The intent is to update this information and add BMPs and removal efficiencies for other parameters as more information/data becomes available in the future.

NHDES will consider other BMP removal efficiencies if sufficient documentation is provided.

Please note that all BMPs must be designed in accordance with the specifications in the Alteration of Terrain (AoT) Program Administrative Rules (Env-Wq 1500). If BMPs are not designed in accordance with the AoT Rules, NHDES may require lower removal efficiencies to be used in the analysis.

BMP in Series: When BMPs are placed in series, the BMP with the highest removal efficiency shall be the efficiency used in the model for computing annual loadings. Adding efficiencies together is generally not allowed because removals typically decrease rapidly with decreasing influent concentration and, in the case of primary BMPs (i.e., stormwater ponds, infiltration and filtering practices), pre-treatment is usually part of the design and is therefore, most likely already accounted for in the efficiencies cited for these BMPs.

Pollutant Removal Efficiencies for Best Management Practices for Use in Pollutant Loading Analysis				Values Accepted for Loading Analyses		
BMP Type	**BMP**	**Notes**	**Lit. Ref.**	**TSS**	**TN**	**TP**
Stormwater Ponds	Wet Pond		B, F	70%	35%	45%
	Wet Extended Detention Pond		A, B	80%	55%	68%
	Micropool Extended Detention Pond	TBA				
	Multiple Pond System	TBA				
	Pocket Pond	TBA				
Stormwater Wetlands	Shallow Wetland		A, B, F, I	80%	55%	45%
	Extended Detention Wetland		A, B, F, I	80%	55%	45%
	Pond/Wetland System	TBA				
	Gravel Wetland		H	95%	85%	64%
Infiltration Practices	Infiltration Trench (≥75 ft from surface water)		B, D, I	90%	55%	60%
	Infiltration Trench (<75 ft from surface water)		B, D, I	90%	10%	60%
	Infiltration Basin (≥75 ft from surface water)		A, F, B, D, I	90%	60%	65%
	Infiltration Basin (<75 ft from surface water)		A, F, B, D, I	90%	10%	65%
	Dry Wells			90%	55%	60%
	Drip Edges			90%	55%	60%
Filtering Practices	Aboveground or Underground Sand Filter that infiltrates WQV (≥75 ft from surface water)		A, F, B, D, I	90%	60%	65%
	Aboveground or Underground Sand Filter that infiltrates WQV (<75 ft from surface water)		A, F, B, D, I	90%	10%	65%
	Aboveground or Underground Sand Filter with underdrain		A, I, F, G, H	85%	10%	45%
	Tree Box Filter	TBA				
	Bioretention System		I, G, H	90%	65%	65%
	Permeable Pavement that infiltrates WQV (≥75 ft from surface water)		A, F, B, D, I	90%	60%	65%
	Permeable Pavement that infiltrates WQV (<75 ft from surface water)		A, F, B, D, I	90%	10%	65%
	Permeable Pavement with underdrain		Use TN and TP values for sand filter w/ underdrain and outlet pipe	90%	10%	45%

Pollutant Removal Efficiencies for Best Management Practices for Use in Pollutant Loading Analysis				Values Accepted for Loading Analyses		
BMP Type	**BMP**	**Notes**	**Lit. Ref.**	**TSS**	**TN**	**TP**
Treatment Swales	Flow Through Treatment Swale	TBA				
Vegetated Buffers	Vegetated Buffers		A, B, I	73%	40%	45%
Pre-Treatment Practices	Sediment Forebay	TBA				
	Vegetated Filter Strip		A, B, I	73%	40%	45%
	Vegetated Swale		A, B, C, F, H, I	65%	20%	25%
	Flow-Through Device - Hydrodynamic Separator		A, B, G, H	35%	10%	5%
	Flow-Through Device - ADS Underground Multichamber Water Quality Unit (WQU)		G, H	72%	10%	9%
	Other Flow-Through Devices	TBA				
	Off-line Deep Sump Catch Basin		J, K, L, M	15%	5%	5%

GOVE ENVIRONMENTAL SERVICES, INC

SITE-SPECIFIC SOIL SURVEY REPORT
For
127 Portsmouth Avenue, Exeter, NH
By
GES, Inc.
Project # 2023094
Date: 1-4-2024

1. MAPPING STANDARDS

Site-Specific Soil Mapping Standards for New Hampshire and Vermont. SSSNNE Special Publication No. 3, Version 7.0, July, 2021.

This map product is within the technical standards of the National Cooperative Soil Survey. It is a special purpose product, intended for infiltration requirements by the NH DES Alteration of Terrain Bureau. The soil map was produced by a professional soil scientist and is not a product of the USDA Natural Resources Conservation Service. This report accompanies the soil map.

The site-specific soil map (SSSM) was produced 1`-4-2024; prepared by JP Gove, CSS #004, GES, Inc.

Soils were identified with the New Hampshire State-wide Numerical Soils Legend, USDA NRCS, Durham, NH. Issue # 10, January 2011.

Hydrologic Soil Group was determined using SSSNNE Special Publication No. 5, Ksat Values for New Hampshire Soils, September 2009.

High Intensity Soil Map symbols, based upon SSSNNE Special Publication 1, December 2017, were added to the Soil Legend.

Scale of soil map: Approximately 1” = 40’.

Contours Interval: 2 feet

2. LANDFORMS & EXISTING CONDITIONS:

The site is located on a mostly disturbed area. What remains for natural soil is a hill of glacial outwash and valleys of marine sediments. The disturbed areas are cut faces at the sides of the hill, or graded flat in the valley.

3. DATE SOIL MAP PRODUCED

Date(s) of on-site field work: 1-4-2024

Date(s) of test pits: 1-4-2024

Test pits recorded by: James P. Gove, CSS #004

4. GEOGRAPHIC LOCATION AND SIZE OF SITE

City or town where soil mapping was conducted: Exeter

Location: Tax Map 52, Lot 112-2

Size of area: Approximately 5 acres

Was the map for the entire lot? no

If no, where was the mapping conducted on the parcel: Total lot area is 6.24 acres. Area soil mapped is limited to south of GTE Road.

5. PURPOSE OF THE SOIL MAP

Was the map prepared to meet the requirement of Alteration of Terrain? Yes

If no, what was the purpose of the map? n/a

Who was the map prepared for? Beals Associates, PLLC

6. SOIL IDENTIFICATION LEGEND

Map Unit Symbol	Map Unit Name	HISS Symbol	Hydrologic Soil Group
33	Scitico silt loam	553	C
24	Agawam fine sandy loam	211	B
500/dfccc	Udorthents loamy	363	C
600/ffccc	Endoaquents loamy	563	C

SLOPE PHASE:

0-8%	B	8-15%	C	15-25%	D
25%-50%	E	50%+	F		

7. NARRATIVE MAP UNIT DESCRIPTIONS

SITE-SPECIFIC MAP UNIT: 33

CORRELATED SOIL SERIES: Scitico silt loam

LANDSCAPE SETTING: Valleys

CHARACTERISTIC SURFACE FEATURES: Forested, no surface stones.

DRAINAGE CLASS: Poorly Drained

PARENT MATERIAL: Marine silts

NATURE OF DISSIMILAR INCLUSIONS: Poorly drained Shaker fine sandy loam at borders of wetlands.

ESTIMATED PERCENTAGE OF DISSIMILAR INCLUSIONS: 5%

SOIL PROFILE DESCRIPTIONS- horizon designation, depth, soil texture, Munsell color notation, Munsell color of redox features, soil structure, soil consistence, estimated coarse fragments, estimated seasonal high water table (ESHWT), observed water table (OBSWT), kind of water table (perched, apparent, or both), depth to lithic or paralithic contact:

Ap, 0-6 inches, silt loam, 10YR3/2, 5YR5/6 redox, granular, friable, no coarse fragments, ESHWT at 0 inches, perched.

Cg, 6-20 inches, silty clay loam, 2.5Y5/2, 5YR6/6 redox, blocky, firm, no coarse fragments, OBSWT at 10 inches, perched, no lithic contact.

SITE-SPECIFIC MAP UNIT: 24

CORRELATED SOIL SERIES: Agawam fine sandy loam

LANDSCAPE SETTING: Top of hill

CHARACTERISTIC SURFACE FEATURES: Forested, no surface stones.

DRAINAGE CLASS: Well Drained

PARENT MATERIAL: Glacial Outwash

NATURE OF DISSIMILAR INCLUSIONS: Moderately well drained Eldridge fine sandy loam at the transition from the hill side to the wetland boundary.

ESTIMATED PERCENTAGE OF DISSIMILAR INCLUSIONS: 5%

SOIL PROFILE DESCRIPTIONS- horizon designation, depth, soil texture, Munsell color notation, Munsell color of redox features, soil structure, soil consistence, estimated coarse fragments, estimated seasonal high water table (ESHWT), observed water table (OBSWT), kind of water table (perched, apparent, or both), depth to lithic or paralithic contact:

Ap, 0-6 inches, fine sandy loam, 10YR3/3, granular, friable, no coarse fragments.

Bw, 6-24 inches, fine sandy loam, 10YR5/6, granular, friable, no coarse fragments.

C, 24-45 inches, loamy sand, 2.5Y5/4, no redox, massive, friable, no coarse fragments, no ESHWT, no OBSWT, no lithic contact.

SITE-SPECIFIC MAP UNIT: 500/dfccc

CORRELATED SOIL SERIES: Udorthents, loamy

LANDSCAPE SETTING: Flat graded areas and cut faces.

CHARACTERISTIC SURFACE FEATURES: Grass, no surface stones.

DRAINAGE CLASS: Moderately Well Drained

PARENT MATERIAL: Mixed Fill over Marine silts

NATURE OF DISSIMILAR INCLUSIONS: Moderately well drained Boxford silt loam at borders of graded areas.

ESTIMATED PERCENTAGE OF DISSIMILAR INCLUSIONS: 5%

SOIL PROFILE DESCRIPTIONS- horizon designation, depth, soil texture, Munsell color notation, Munsell color of redox features, soil structure, soil consistence, estimated coarse fragments, estimated seasonal high water table (ESHWT), observed water table (OBSWT), kind of water table (perched, apparent, or both), depth to lithic or paralithic contact:

Fill, 0-20 inches, sandy loam to loamy sand, 10YR4/4, massive, friable, 10% gravel coarse fragments.

Cg, 20-40 inches, silty clay loam, 2.5Y5/2, 5YR5/6 redox, blocky, firm, no coarse fragments, ESHWT at 20 inches, OBSWT at 30 inches, perched, no lithic contact.

SITE-SPECIFIC MAP UNIT: 600/ffccc

CORRELATED SOIL SERIES: Endoaquents, loamy

LANDSCAPE SETTING: Ditches and swales.

CHARACTERISTIC SURFACE FEATURES: Grass or shrub-shrub, no surface stones.

DRAINAGE CLASS: Poorly Drained

PARENT MATERIAL: Marine silts – graded or dredged.

NATURE OF DISSIMILAR INCLUSIONS: Poorly drained Scitico silt loam at borders of graded areas.

ESTIMATED PERCENTAGE OF DISSIMILAR INCLUSIONS: 5%

SOIL PROFILE DESCRIPTIONS- horizon designation, depth, soil texture, Munsell color notation, Munsell color of redox features, soil structure, soil consistence, estimated coarse fragments, estimated seasonal high water table (ESHWT), observed water table (OBSWT), kind of water table (perched, apparent, or both), depth to lithic or paralithic contact:

C, 0-10 inches, silt loam, 2.5Y5/3, 5YR5/6 redox, massive, friable, no coarse fragments, ESHWT at 0 inches, perched.

Cg, 10-30 inches, silty clay loam, 2.5Y5/2, 5YR5/6 redox, blocky, firm, no coarse fragments, OBSWT at 10 inches, perched, no lithic contact.

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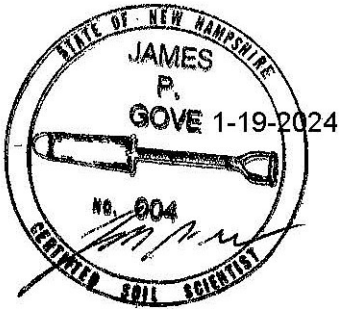
8. RESPONSIBLE SOIL SCIENTIST

Name: James Gove



Certified Soil Scientist Number: 004

9. OTHER DISTINGUISHING FEATURES OF SITE

Is the site in a natural condition? No

If no, what is the nature of the disturbance? Cut faces and flat graded areas. Only natural is remaining forested areas.

GOVE ENVIRONMENTAL SERVICES, INC.

TEST PIT DATA

Project Foss Motors, Exeter, NH
Client Foss Motors
GES Project No. 2023094
MM/DD/YY Staff 06-17-2024 James Gove, CSS#004

Test Pit No.	**01**	Soils Series:	Udorthents
ESHWT::	18”	Landscape:	Graded area
Termination @	64”	Slope:	B
Refusal:	No	Parent Material:	Fill over marine
Obs. Water:	None	Hydrologic Soil Group:	C

Horizon	Color (Munsell)	Texture	Structure-Consistence-Redox
^A 0-4”	10YR3/2	loamy sand	massive-friable-none
^B 4-18”	10YR4/4	loamy sand	massive-friable-none
C1 18-44”	2.5Y4/2	silt loam	massive-firm-5YR5/6
C2 44-64”	2.5Y5/2	silty clay loam	massive -firm- 5YR5/6

Test Pit No.	**02**	Soils Series:	Udorthents
ESHWT::	16”	Landscape:	Graded area
Termination @	61”	Slope:	B
Refusal:	No	Parent Material:	Fill over marine
Obs. Water:	None	Hydrologic Soil Group:	C

Horizon	Color (Munsell)	Texture	Structure-Consistence-Redox
^A 0-8”	10YR3/2	loamy sand	massive-friable-none
^B 8-16”	10YR4/4	loamy sand	massive-friable-none
C1 16-42”	10YR4/4	silt loam	massive-friable-5YR5/6
C2 47-61”	2.5Y5/2	silty clay loam	massive-firm-5YR5/6

8 Continental Dr Bldg 2 Unit H, Exeter, NH 03833-7526
Ph (603) 778 0644 / *Fax* (603) 778 0654
info@gesinc.biz
www.gesinc.biz

Test Pit No.	**03**	Soils Series:	Udorthents
ESHWT::	20”	Landscape:	Graded area
Termination @	69”	Slope:	B
Refusal:	No	Parent Material:	Fill over marine
Obs. Water:	None	Hydrologic Soil Group:	C

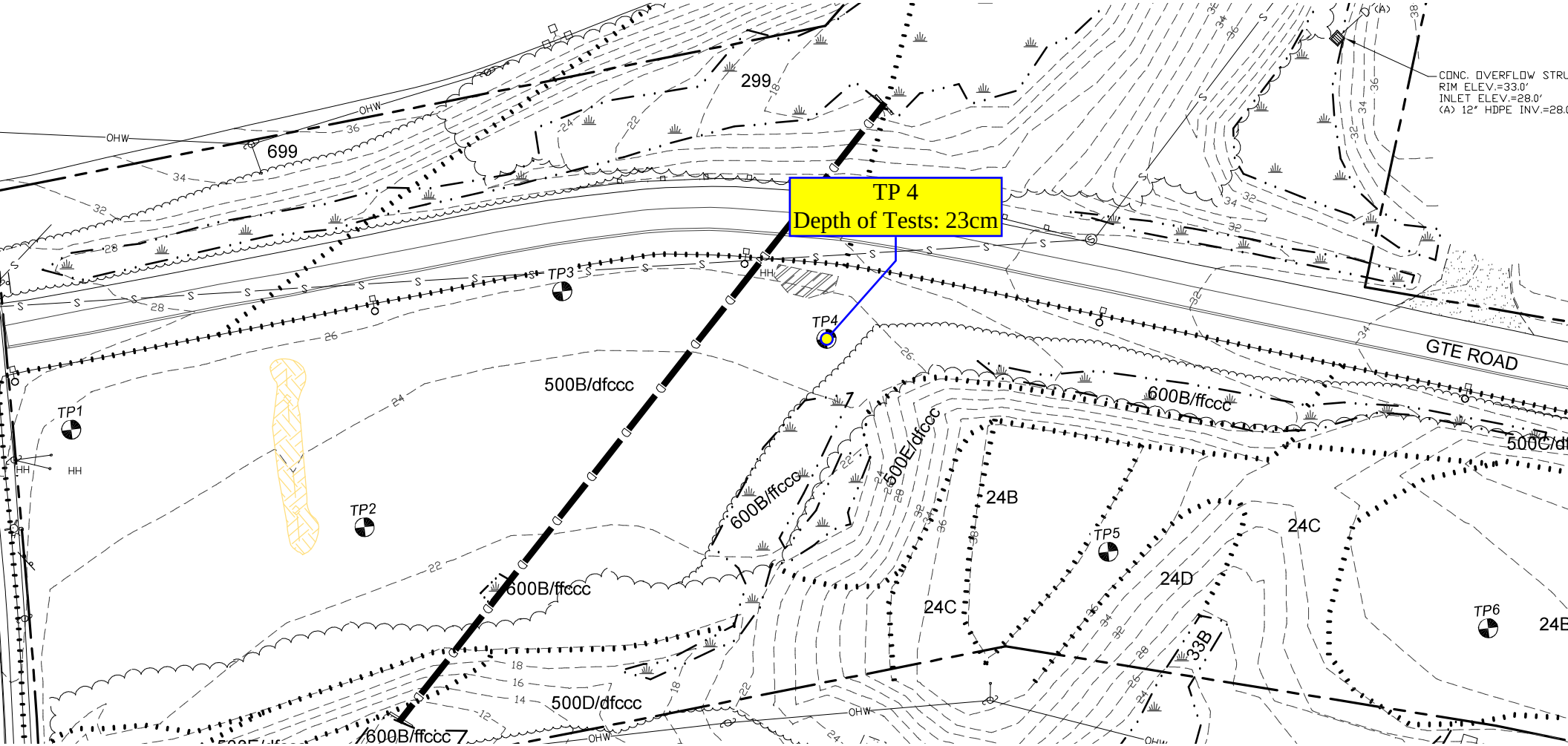
Horizon	Color (Munsell)	Texture	Structure-Consistence-Redox
^A 0-8”	10YR3/2	loamy sand	massive-friable-none
^B 8-20”	10YR4/6	loamy sand	massive-friable-none
C 20-69”	2.5Y5/42	silt loam	massive-firm-5YR5/6

Test Pit No.	**04**	Soils Series:	Udorthents
ESHWT::	32”	Landscape:	Graded area
Termination @	70”	Slope:	B
Refusal:	No	Parent Material:	Fill over marine
Obs. Water:	None	Hydrologic Soil Group:	C

Horizon	Color (Munsell)	Texture	Structure-Consistence-Redox
^A 0-8”	10YR3/2	loamy sand	massive-friable-none
^B 8-32”	10YR4/6	loamy sand	massive-friable-none
C1 32-50”	2.5Y5/4	loamy sand	massive-friable-5YR5/6
C2 50-70”	2.5Y5/3	silt loam	massive-firm - 5YR5/6

Test Pit No.	**Hillside**	Soils Series:	Windsor
ESHWT::	86”	Landscape:	Hillside cut face
Termination @	126”	Slope:	B
Refusal:	No	Parent Material:	Sand over marine
Obs. Water:	None	Hydrologic Soil Group:	B

Horizon	Color (Munsell)	Texture	Structure-Consistence-Redox
A 0-6”	10YR3/3	loamy sand	granular-friable-none
B 6-30”	10YR5/6	loamy sand	granular-friable-none
C1 30-86”	10YR4/6	sand	massive- friable – none
C2 86-126”	2.5Y5/4	silt loam	massive-firm-5YR5/6



Infiltration
Test Location

AMOOZEMETER DATA SHEET

Date : 6/17/24
Location : TP 4-1
Foss Motors Exeter
Map Unit Component (or "Series") :
Pedon Number :
Horizon :

Permeameter # :
Air Temp (°F) initial : 74°F
final : 76°F

"water" source & modifications :
Soil Moisture Content (%) :

Set-Up Calculation

Hole Depth (cm) :	23 cm
Distance from bottom of bubble tube to soil surface (cm) :	+ 10 ?
Desired Water Depth in Hole (cm) :	- 15 ?
= CHT Tube setting (cm) :	18 cm

below Surface

Actual water level in hole (cm)
initial : 15.0 cm
final : 14.8 cm

TP4-1
10 min

Outflow Chamber(s) used : small ("1 on") ____ both ("2 on") X
associated Conversion Factor : (= 20.0 cm²) (= 105.0 cm²)

TP 4-1

Time Elapsed (min)	Water Leval Change (cm)	Chamber Volume (cm3)	min/hr	Q	H (cm)	A	Ksat (cm/hr)	Ksat (in/hr)
10	0.4	105	0.1666667	252	15	0.001056	0.266112	0.104769
20	0.3	105	0.1666667	189	15	0.001056	0.199584	0.078576
30	0.4	105	0.1666667	252	15	0.001056	0.266112	0.104769
						Mean Ksat	0.243936	0.096038
						Std Deviation	0.03841	0.015122

4-32"
3-20"
2-16"
1-18"

AMOOZEMETER DATA SHEET

Date : 6/17/24
Location : TP 4-2
Foss Motors Exeter
Map Unit Component (or "Series") :
Pedon Number :
Horizon :

Permeameter # :
Air Temp (°F) initial : 78°F
final : 79°F

"water" source & modifications :
Soil Moisture Content (%) :

Set-Up Calculation

Hole Depth (cm) :	23 cm
Distance from bottom of bubble tube to soil surface (cm) :	+ 10 ?
Desired Water Depth in Hole (cm) :	- 15 ?
= CHT Tube setting (cm) :	18

Actual water level in hole (cm)
initial : 15.0 cm
final : 14.9 cm

Outflow Chamber(s) used : small ("1 on") ____ both ("2 on") X
associated Conversion Factor : (= 20.0 cm²) (= 105.0 cm²)
↓

TP 4-2								
Time Elapsed (min)	**Water Leval Change (cm)**	**Chamber Volume (cm3)**	**min/hr**	**Q**	**H (cm)**	**A**	**Ksat (cm/hr)**	**Ksat (in/hr)**
10	1	105	0.1666667	630	15	0.001056	0.66528	0.261921
20	0.8	105	0.1666667	504	15	0.001056	0.532224	0.209537
30	0.8	105	0.1666667	504	15	0.001056	0.532224	0.209537
						Mean Ksat	0.576576	0.226998
						Std Deviation	0.07682	0.030244

AMOOZEMETER DATA SHEET

Date : 6/17/24
Location : TP4-3
Foss Motors Exeters
Map Unit Component (or "Series") :
Pedon Number :
Horizon :

Permeameter # :
Air Temp (°F) initial : 80°F
final : 80°F

"water" source & modifications :
Soil Moisture Content (%) :

TP4-3 5min

Set-Up Calculation

Hole Depth (cm) :	23
Distance from bottom of bubble tube to soil surface (cm) :	÷ 10 ?
Desired Water Depth in Hole (cm) :	- 15 ?
= CHT Tube setting (cm) :	18 cm

Actual water level in hole (cm)
initial : 15
final : 15

Outflow Chamber(s) used : small ("1 on") ____ both ("2 on") X
associated Conversion Factor : ↓ (= 20.0 cm²) (= 105.0 cm²)

TP 4-3								
Time Elapsed (min)	**Water Leval Change (cm)**	**Chamber Volume (cm3)**	**min/hr**	**Q**	**H (cm)**	**A**	**Ksat (cm/hr)**	**Ksat (in/hr)**
5	1	105	0.0833333	1260	15	0.001056	1.33056	0.523843
10	0.9	105	0.0833333	1134	15	0.001056	1.197504	0.471458
15	0.9	105	0.0833333	1134	15	0.001056	1.197504	0.471458
						Mean Ksat	1.241856	0.48892
						Std Deviation	0.07682	0.030244

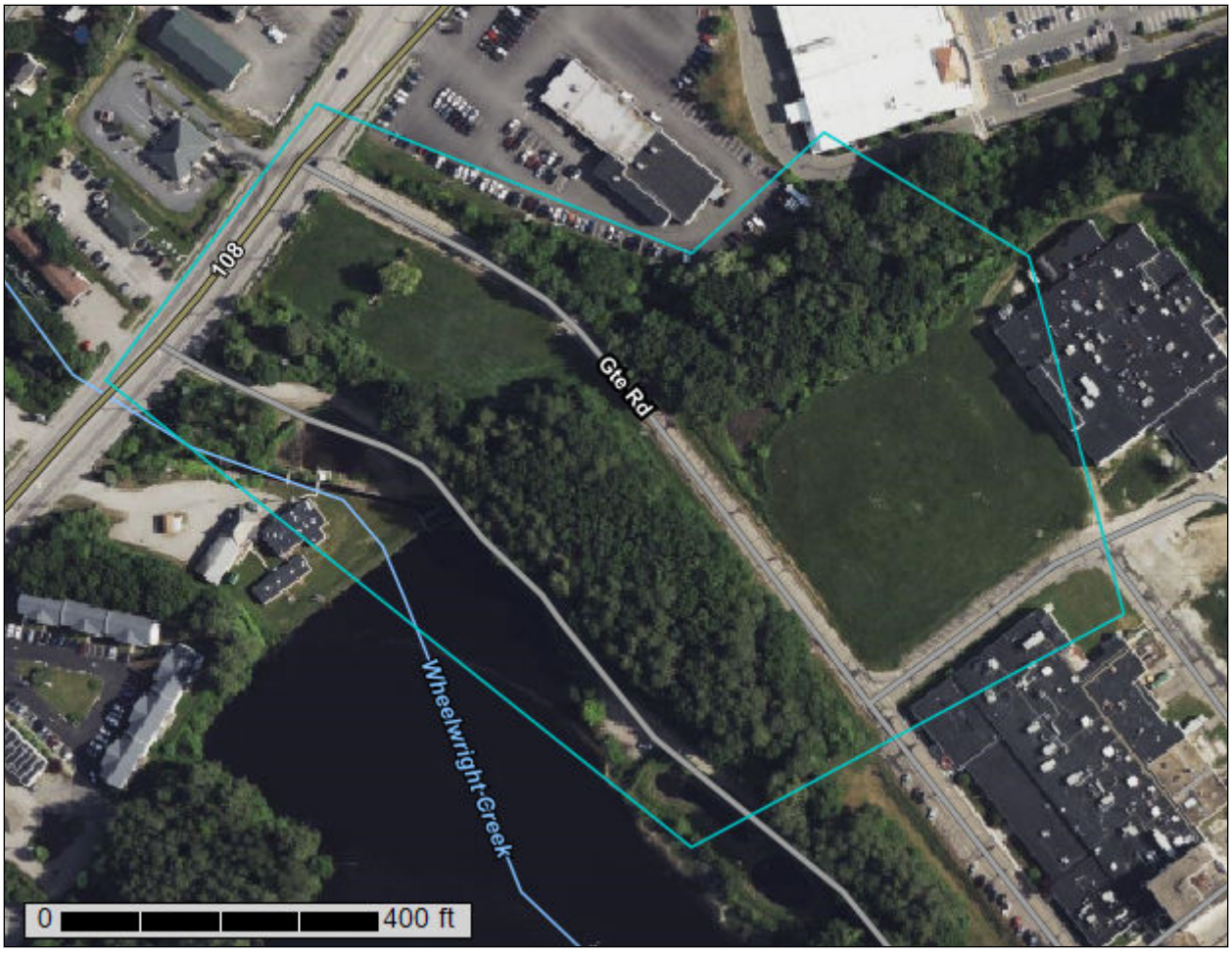
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Rockingham County, New Hampshire



November 6, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 26, Aug 22, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 22, 2022—Jun 5, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
26B	Windsor loamy sand, 3 to 8 percent slopes	0.2	1.2%
38B	Eldridge fine sandy loam, 3 to 8 percent slopes	6.2	37.8%
299	Udorthents, smoothed	7.2	43.4%
699	Urban land	2.1	12.9%
W	Water	0.8	4.7%
Totals for Area of Interest		**16.5**	**100.0%**

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Rockingham County, New Hampshire

26B—Windsor loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2svkf
Elevation: 0 to 1,210 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Farmland of local importance

Map Unit Composition

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

Description of Windsor

Setting

Landform: Outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loose sandy glaciofluvial deposits derived from granite and/or schist and/or gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loamy sand
Bw - 3 to 25 inches: loamy sand
C - 25 to 65 inches: sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F145XY008MA - Dry Outwash
Hydric soil rating: No

Minor Components

Hinckley

Percent of map unit: 10 percent
Landform: Eskers
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F145XY008MA - Dry Outwash
Hydric soil rating: No

Deerfield, loamy sand

Percent of map unit: 5 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

38B—Eldridge fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9cnb
Elevation: 90 to 1,000 feet
Mean annual precipitation: 30 to 55 inches
Mean annual air temperature: 45 to 54 degrees F
Frost-free period: 120 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Eldridge and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Eldridge

Setting

Parent material: Outwash over glaciolacustrine

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 23 inches: loamy fine sand
H3 - 23 to 62 inches: loamy very fine sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

Minor Components

Boxford

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

Well drained inclusion

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

Squamscott

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

Scitico

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

299—Udorthents, smoothed

Map Unit Setting

National map unit symbol: 9cmt
Elevation: 0 to 840 feet
Mean annual precipitation: 44 to 49 inches
Mean annual air temperature: 48 degrees F
Frost-free period: 155 to 165 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Properties and qualities

Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

699—Urban land

Map Unit Composition

Urban land: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Not named

Percent of map unit: 15 percent
Hydric soil rating: No

W—Water

Map Unit Setting

National map unit symbol: 9cq3
Elevation: 200 to 2,610 feet
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

STORMWATER MANAGEMENT / BMP
INSPECTION & MAINTENANCE PLAN

Foss Motors
127 Portsmouth Avenue, Exeter, NH
NH-1471
February 2024
Revised May 15, 2024

Proper construction, inspections, maintenance, and repairs are key elements in maintaining a successful stormwater management program on a developed property. Routine inspections ensure permit compliance and reduce the potential for deterioration of infrastructure or reduced water quality.

For the purpose of this Stormwater Management Program, a significant rainfall event is considered an event of three (3) inches or more in a 24-hour period or at least 0.5 inches in a one-hour period. During construction, inspections should be conducted every two weeks or after a 0.25" rainfall event in a 24-hour period per the EPA NPDES Phase II SWPPP, until the entire disturbed area is fully restabilized. Upon full stabilization of the project and filing of an NOI, inspections need only be conducted after a significant rainfall event as described above or as described in the maintenance guidelines below.

During construction activities Tim Foss with an address of 133 Portsmouth Avenue, Exeter, New Hampshire and a phone of 603.772.7777 or their heirs and/or assigns, shall be responsible for inspections and maintenance activities for the above project site. Foss Motors shall be responsible for *ongoing inspection and maintenance* of the porous pavement, bioretention pond, stone infiltration trench, and related drainage infrastructure. The owner shall document the transfer of responsibility in writing to the NHDES AoT Bureau.

The owner is responsible to ensure that any subsequent owner has copies of the Log Form and Annual Report records and fully understands the responsibilities of this plan. The grantor owner(s) will ensure this document is provided to the grantee owner(s) by duplicating the Ownership Responsibility Sheet which is found toward the back of this document, which will be maintained with the Inspection & Maintenance Logs and provided to the Town of Exeter and/or NHDES Alteration of Terrain Bureau upon request.

Documentation:
A maintenance log (i.e., report) will be kept summarizing inspections, maintenance, and any corrective actions taken. The log will include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task (see Stormwater System Operation and Maintenance Plan Inspection & Maintenance Manual Checklist attached). If a maintenance task

requires the clean-out of any sediments or debris, the location where the sediment and debris was disposed after removal shall be indicated.

Best Management Practices (BMP) Maintenance Guidelines
The following provides a list of recommendations and guidelines for managing the Stormwater facilities. The cited areas, facilities, and measures will be inspected and the identified deficiencies will be corrected. Clean-out must include the removal and legal disposal of any accumulated sediments and debris.

DURING CONSTRUCTION

1. Stabilized Construction Entrance

A temporary gravel construction entrance provides an area where mud can be dislodged from tires before the vehicle leaves the construction site to reduce the amount of mud and sediment transported onto paved municipal and state roads. The stone size for the pad should be between 1 and 2-inch coarse aggregate, and the pad itself constructed to a minimum length of 50' for the full width of the access road. The aggregate should be placed at least six inches thick. A plan view and profile are shown on Sheet E1 - Sediment and Erosion Control Detail Plan.

2. Dust Control

Dust will be controlled on the site using multiple BMPs. Mulching and temporary seeding will be the first line of protection to be utilized where problems occur. If dust problems are not solved by these applications, the use of water and calcium chloride can be applied. Calcium chloride will be applied at a rate that will keep the surface moist but not cause pollution.

3. Temporary Erosion and Sediment Control Devices / Barriers

Function – Temporary erosion and sediment control devices are utilized during construction period to divert, store and filter stormwater from non-stabilized surfaces. These devices include, but are not limited to: silt fences, hay bales, filters, sediment traps, stone check dams, mulch and erosion control blankets.

Maintenance – Temporary erosion and sediment control devices shall be inspected and maintained on a weekly basis and following a significant storm event (>0.5-inch rain event) throughout the construction period to ensure that they still have integrity and are not allowing sediment to pass. Sediment build-up in swales will be removed if it is deeper than six inches. Sediment is to be removed from sumps in the catch basin semi-annually. Refer to the Site Plan drawings for the maintenance of temporary erosion and sediment control devices.

4. Invasive Species

THE NH COMMISSIONER OF AGRICULTURE PROHIBITS THE COLLECTION, POSSESSION, IMPORTATION, TRANSPORTATION, SALE, PROPAGATION, TRANSPLANTATION, OR CULTIVATION OF PLANTS BANNED BY NH LAW RSA

430:53 AND NH CODE ADMINISTRATIVE RULES AGR 3800. THE PROJECT SHALL MEET ALL REQUIREMENTS AND THE INTENT OF. RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.

POST CONSTRUCTION / LONG TERM MAINTENANCE:

5. Catch Basins/Manholes

Inspect catch basins 2 times per year (preferably in spring and fall) to ensure that the catch basins are working in their intended fashion and that they are free of debris. Clean structures when sediment depths reach 12" from invert of outlet. If the basin outlet is designed with a hood to trap floatable materials (i.e. Snout), check to ensure watertight seal is working. Remove floating debris and hydrocarbons at the time of the inspection.

6. Culverts

Inspect culverts 2 times per year (preferably in spring and fall) to ensure that the culverts are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit and to repair any erosion damage at the culvert's inlet and outlet. Repair/replace culvert if it becomes crushed or deteriorated.

7. Vegetated Areas

Inspect slopes and embankments early in the growing season to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows. The facilities will be inspected after major storms and any identified deficiencies will be corrected.

8. Roadways and Paved Surfaces

Clear accumulations of winter sand along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader.

9. Winter Maintenance

The plowing and application of de-icing materials shall be conducted by a certified Green Snow Pro contractor trained in best management practices for road salt/deicing at the expense of the owner. No snow dump shall be allowed onsite. In the event that snow storage areas are inundated in any given winter, snow will be trucked offsite and disposed of in a legal fashion.

10. Stormwater Infiltration Facilities

- Inspect all upstream pre-treatment measures for sediment and floatables accumulation. Remove and dispose of sediments or debris as needed.

- The infiltration facility will be inspected within the first three months after construction.
- After the initial three months, the infiltration facility will be inspected 2 times per year to ensure that the filter is draining within 72 hours of a rain event equivalent to 1/2" or more.
- Failure to drain in 72 hours will require part or all of the top 3 inches of the infiltration area to be removed and replaced with new like material. If the infiltration system does not drain within 72-hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore infiltration function.
- Vegetated infiltration ponds or swales will be mowed at least annually or otherwise maintained to control the growth of woody vegetation and to control the accumulation of sediments in order to maintain the water quality volume. Any woody vegetation or accumulated sediment must be removed.
- The facilities will be inspected after major storms and any identified deficiencies will be corrected.

11. Bioretention Basin

- The perimeter should be mowed at least annually and the embankments periodically.
- Systems should be inspected at least twice annually, and following any rainfall event exceeding 2.5 inches in a 24-hour period, with maintenance or rehabilitation conducted as warranted by such inspection.
- Pretreatment measures should be inspected at least twice annually, and cleaned of accumulated sediment as warranted by inspection, but no less than once annually.
- Trash and debris should be removed at each inspection.
- At least once annually, system should be inspected for drawdown time.
- If bioretention system does not drain within 72-hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore infiltration function, including but not limited to removal of accumulated sediments or reconstruction of the filter media.
- The pre-treatment forebays will need occasional removal of sediment (every 5 years, or when 50% of capacity is lost, whichever occurs first). Inspections should ensure that no sediment is reaching the gravel.
- All structural components, which include, but are not limited to, level spreader, vegetation, pipes, orifice structures, and spillway structures, should be inspected and any deficiencies repaired. This includes a visual inspection of all storm water control structures for damage and/or accumulation of sediment.
- Vegetation should be inspected at least annually, and maintained in healthy condition, including pruning, removal and replacement.
- All dead or dying vegetation within the extents of the basin should be removed, as well as all herbaceous vegetation rootstock when overcrowding is observed and any vegetation that has a negative impact on storm water flowage through the facility. Any invasive vegetation encroaching upon the perimeter of the facility should be pruned or removed. Wetland plantings typically become well established, but occasional replanting to maintain minimum 50% coverage may be needed.

12. Porous Pavement

- Check for standing water remaining on the surface of the pavement after a precipitation event within 30 minutes.
- 1-2 times per year, use a vacuum sweeper to remove sediment from porous pavement. Use of a power washer or compressed air blower at an angle of 30 degrees or less can be effective.
- As part of vacuuming, inspect adjacent vegetated areas to verify no signs of erosion and run-on to permeable pavement. Repair or replace any damaged structural parts if required.
- Check for debris accumulation, particularly in the winter.
- Loose debris such as leaves or trash can be removed using a power/leaf blower or gutter broom.
- Fall and spring cleanup should be accompanied by pavement vacuuming.
- Accumulation of sediment and organic debris on the pavement surface.
- Repairs to damaged pavement should be repaired as they are identified.

13. Invasive Species

Background

Invasive plants are introduced, alien, or non-native plants, which have been moved by people from their native habitat to a new area. Some exotic plants are imported for human use such as landscaping, erosion control, or food crops. They also can arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some exotic plants become invasive and cause harm by:

- Becoming weedy and overgrown;
- Killing established shade trees;
- Obstructing pipes and drainage systems;
- Forming dense beds in water;
- Lowering water levels in lakes, streams, and wetlands;
- Destroying natural communities;
- Promoting erosion on stream banks and hillsides; and
- Resisting control except by hazardous chemical.

During maintenance activities, check for the presence of invasive plants and remove in a safe manner. They should be controlled as described on the following fact sheet prepared by the University of New Hampshire Cooperative Extension entitled Methods for Disposing Non-Native Invasive Plant dated January 2010.

In the event that invasive species are noticed growing in any of the stormwater management practices, the invasive vegetation shall be removed completely to include root matter and disposed of properly. Prior to disposal, the vegetation shall be placed on and completely cover with a plastic tarp for a period of two – three weeks until plants are completely dead. If necessary or to expedite the process, spray only the invasive vegetation and roots with a systemic nonselective herbicide after placement on the tarp (to prevent chemical migration) and then cover.

Annual Report

Description: The owner is responsible to keep an **Inspection & Maintenance Activity Log** that documents inspection, maintenance, and repairs to the storm water management system, and a **Deicing Log** to track the amount and type of deicing material applied to the site. The original owner is responsible to ensure that any subsequent owner (s) have copies of the Stormwater System Operation and Maintenance Plan & Inspection and Maintenance Manual, copies of past logs and check lists. This includes any owner association for potential condominium conversion of the property. The Annual Report will be prepared and submitted to the Town of Exeter DPW upon request.

Disposal Requirements

Disposal of debris, trash, sediment, and other waste materials should be done at suitable disposal/recycling sites and in compliance with all applicable local, state, and federal waste regulations.

STORMWATER SYSTEM OPERATION AND MAINTENANCE PLAN

Inspection & Maintenance Manual Checklist

Commercial Development

Foss Motors – 127 Portsmouth Aveune
Exeter, NH

BMP / System	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
Stabilized Construction Entrance	Weekly	Inspect adjacent roadway for sediment tracking Inspect stone for sediment accumulation	Sweep adjacent roadways as soon as sediment is tracked Top dress with additional stone when necessary to prevent tracking
Sediment Control Devices / Barriers	Weekly	Inspect accumulated sediment level, rips, and tears	Repair or replace damaged lengths Remove and dispose of accumulated sediment once level reaches 1/3 of barrier height
Pavement Sweeping	Spring and Fall	Removal of sand and litter from impervious areas	N/A
Litter/Trash Removal	Routinely	Inspect dumpsters, outdoor waste receptacles area, and yard areas, as well as ponds and swale areas.	Site will be free of litter/trash.
Deicing Agents	N/A	N/A	Use salt as the primary agent for roadway safety during winter.
Landscaping	Maintained as required and mulched each Spring	N/A	Trash/debris and weed removal
Drainage Pipes, Catchbasins & Drain Manholes	Spring and Fall	Check for sediment accumulation & clogging.	More than 2" sediment depth
Bioretention Pond	Spring and Fall and after every	Sediment accumulation.	Remove sediment as needed.

	2.5” or rain or greater in a 24-hour period	Inspect embankments, inlet and outlet structures, and appurtenances. 72-Hour drawdown time evaluation and vegetation evaluation.	Remove trash & debris from system and appurtenances. Mow embankment and remove woody vegetation. Take corrective measures of filtration media if required.
Infiltration Trench	Spring and Fall and after every 2.5” of rain or greater in a 24-hour period	Inspect grass swale vegetation and sediment accumulation. 72-Hour drawdown time evaluation and vegetation evaluation.	Remove dead & diseased vegetation along with all debris; take corrective measures, reseed and repair grass swale if required. Mow grass swale. Restore infiltration by removing accumulated sediments and reconstruction of the infiltration basin as necessary.
Porous Pavement	Spring and Fall	Check for standing water. Check for damaged pavement.	Remove debris from porous pavement and adjacent areas. Vacuum sweep pavement. Repair damaged pavement.
Riprap Outlet Protection/Level Spreaders	Spring and Fall and after every 2.5” of rain or greater in a 24-hour period	Check for sediment buildup and displaced stones. Inspect for torn or visible fabric.	Remove excess sediment and trash/debris. Immediately repair and replace stone and/or fabric as necessary.
Annual Report	1 time per year	Submit Annual Report to Town of Exeter Inspector upon request	

<u>Inspection Notes:</u>

STORMWATER SYSTEM OPERATION AND MAINTENANCE PLAN

Inspection & Maintenance Manual Log Form

Commercial Development

Foss Motors – 127 Portsmouth Aveune
Exeter, NH

BMP / System	Date Inspected	Inspected By	Cleaning/Repair (List Items & Comments)	Date Repaired	Repairs Performed By

CHECKLIST FOR INSPECTION OF BIORETENTION SYSTEM

Location: Inspector:

Date: Time: Site Conditions:

Date Since Last Rain Event:

Inspection Items	Satisfactory (S) or Unsatisfactory (U)	Comments/Corrective Action
1. Initial Inspection After Planting and Mulching		
Plants are stable, roots not exposed:	**S U**	
Surface is at design level, typically 4" below overpass:	**S U**	
Overflow bypass / inlet (if available) is functional:	**S U**	
2. Debris Cleanup (2 times a year minimum, Spring & Fall)		
Litter, leaves, and dead vegetation removed from	**S U**	
Prune perennial vegetation:	**S U**	
3. Standing Water (1 time a year, After large storm events)		
No evidence of standing water after 72 hours:	**S U**	
4. Short Circuiting & Erosion (1 times a year, After large storm events)		
No evidence of animal burrows or other holes:	**S U**	
No evidence of erosion:	**S U**	
5. Drought Conditions (As needed)		
Water plants as needed:	**S U**	
Dead or dying plants:	**S U**	
6. Overflow Bypass / Inlet Inspection (1 times a year, After large storm events)		
No evidence of blockage or accumulated leaves:	**S U**	
Good condition, no need for repair:	**S U**	
7. Vegetation Coverage (once a year)		
50 % coverage established throughout system by first year:	**S U**	
Robust coverage by year 2 or later:	**S U**	
8. Mulch Depth (if applicable, once every 2 years)		
Mulch at original design depth after tilling or replacement:	**S U**	
9. Vegetation Health (once every 3 years)		
Dead or decaying plants removed from the system:	**S U**	
10. Tree Pruning (once every 3 years)		
Prune dead, diseased, or crossing branches:	**S U**	
Corrective Action Needed		**Due Date**
1.		
2.		
3.		

CHECKLIST FOR INSPECTION OF PERMEABLE PAVEMENT

Location:

Inspector:

Date:

Time:

Site Conditions:

Date Since Last Rain Event:

Inspection Items	Satisfactory (S) or Unsatisfactory (U)	Comments/Corrective Action
1. Salt / Deicing (Winter/Spring)		
Use salt only for ice management	S U	
Accumulated salt removed in spring	S U	
2. Debris Cleanup (1-2 times per year minimum, Spring/Fall)		
Remove sediment and organic debris using vacuum street sweeper	S U	
Clean catch basins (if available)	S U	
3. Controlling Run-On		
Adjacent vegetated areas show no signs of erosion and run-on to permeable pavement	S U	
4. Outlet / Catch Basin Inspection (if available) (1-2 times per year, after large storm events)		
No evidence of blockage	S U	
Good condition, no need for cleaning/repair	S U	
5. Poorly Drained Pavement		
Recently cleaned and vacuumed	S U	
6. Pavement Condition		
No evidence of deterioration	S U	
7. Signage / Stockpiling (As Needed)		
No evidence of damage	S U	
Proper signage posted indicating usage for traffic load	S U	
No stockpiling of materials and other unauthorized uses	S U	

Corrective Action Needed	Due Date
1.	
2.	
3.	
Inspector's Signature	Date

Anti-icing Route Data Form

Truck Station:

Date:

Air Temperature	Pavement Temperature	Relative Humidity	Dew Point	Sky

Reason for applying:

Route:

Chemical:

Application Time:

Application Amount:

Observation (first day):

Observation (after event):

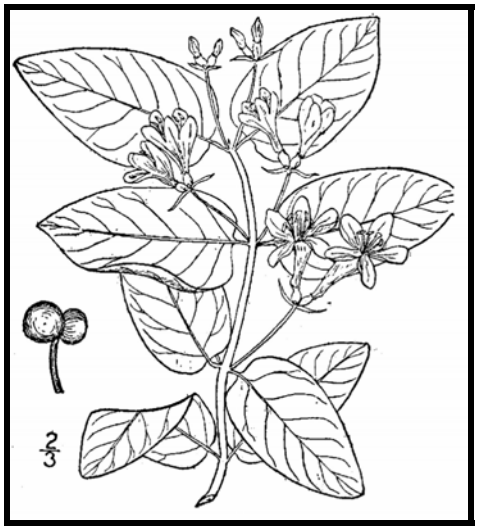
Observation (before next application);

Name:

University of New Hampshire Cooperative Extension

Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle
Lonicera tatarica
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

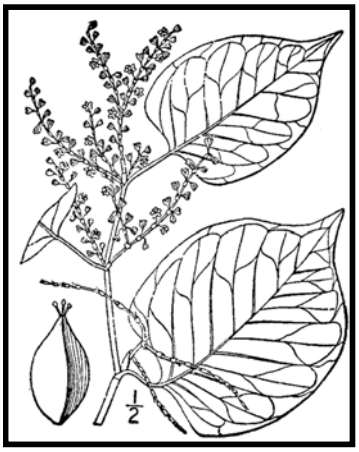
Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag "head first" at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can't be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn't be burned as the seeds may disperse by the hot air created by the fire.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don't reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn't used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don't compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.

Be diligent looking for seedlings for *years* in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

<table>
<tr><th>Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">Norway maple
(Acer platanoides)
European barberry
(Berberis vulgaris)
Japanese barberry
(Berberis thunbergii)
autumn olive
(Elaeagnus umbellata)
burning bush
(Euonymus alatus)
Morrow's honeysuckle
(Lonicera morrowii)
Tatarian honeysuckle
(Lonicera tatarica)
showy bush honeysuckle
(Lonicera x bella)
common buckthorn
(Rhamnus cathartica)
glossy buckthorn
(Frangula alnus)</td><td rowspan="2">Fruit and Seeds
  </td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Use as firewood.
▪ Make a brush pile.
▪ Chip.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip once all fruit has dropped from branches.
▪ Leave resulting chips on site and monitor.</td></tr>
<tr><td rowspan="2">oriental bittersweet
(Celastrus orbiculatus)
multiflora rose
(Rosa multiflora)</td><td rowspan="2">Fruits, Seeds, Plant Fragments
  </td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Make a brush pile.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.</td></tr>
</table>

Non-Woody Plants	Method of Reproducing	Methods of Disposal
garlic mustard *(Alliaria petiolata)* spotted knapweed *(Centaurea maculosa)* ▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling. black swallow-wort *(Cynanchum nigrum)* ▪ May cause skin rash. Wear gloves and long sleeves when handling. pale swallow-wort *(Cynanchum rossicum)* giant hogweed *(Heracleum mantegazzianum)* ▪ Can cause major skin rash. Wear gloves and long sleeves when handling. dame's rocket *(Hesperis matronalis)* perennial pepperweed *(Lepidium latifolium)* purple loosestrife *(Lythrum salicaria)* Japanese stilt grass *(Microstegium vimineum)* mile-a-minute weed *(Polygonum perfoliatum)*	**Fruits and Seeds** 	**Prior to flowering** Depends on scale of infestation Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material. **During and following flowering** Do nothing until the following year or remove flowering heads and bag and let rot. Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material.
common reed (*Phragmites australis*) Japanese knotweed *(Polygonum cuspidatum)* Bohemian knotweed *(Polygonum x bohemicum)*	**Fruits, Seeds, Plant Fragments** Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn't materially influence disposal activities.	**Small infestation** ▪ Bag all plant material and let rot. ▪ Never pile and use resulting material as compost. ▪ Burn. **Large infestation** ▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile. ▪ Monitor and remove any sprouting material. ▪ Pile, let dry, and burn.

January 2010

Appendix IV

Plans

SITE SPECIFIC SOIL MAPPING STANDARDS:

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR INFILTRATION REQUIREMENTS BY THE NH DES ALTERATION OF TERRAIN BUREAU. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A REPORT THAT ACCOMPANIES THIS MAP. THE SITE SPECIFIC SOIL SURVEY WAS PRODUCED JANUARY 15, 2024, AND WAS PREPARED BY JAMES P. GOVE, CSS #004, GOVE ENVIRONMENTAL SERVICES, INC.

SOIL IDENTIFICATION LEGEND:

MAP UNIT SYMBOL	MAP UNIT NAME	HISS SYMBOL	HYDROLOGIC SOIL GROUP
24	AGAWAM FINE SANDY LOAM	211	B
33	SCITICO SILT LOAM	553	C
500/dfccc	UDORTHENTS LOAMY	363	C
600/ffccc	ENDOAQUENTS LOAMY	563	C

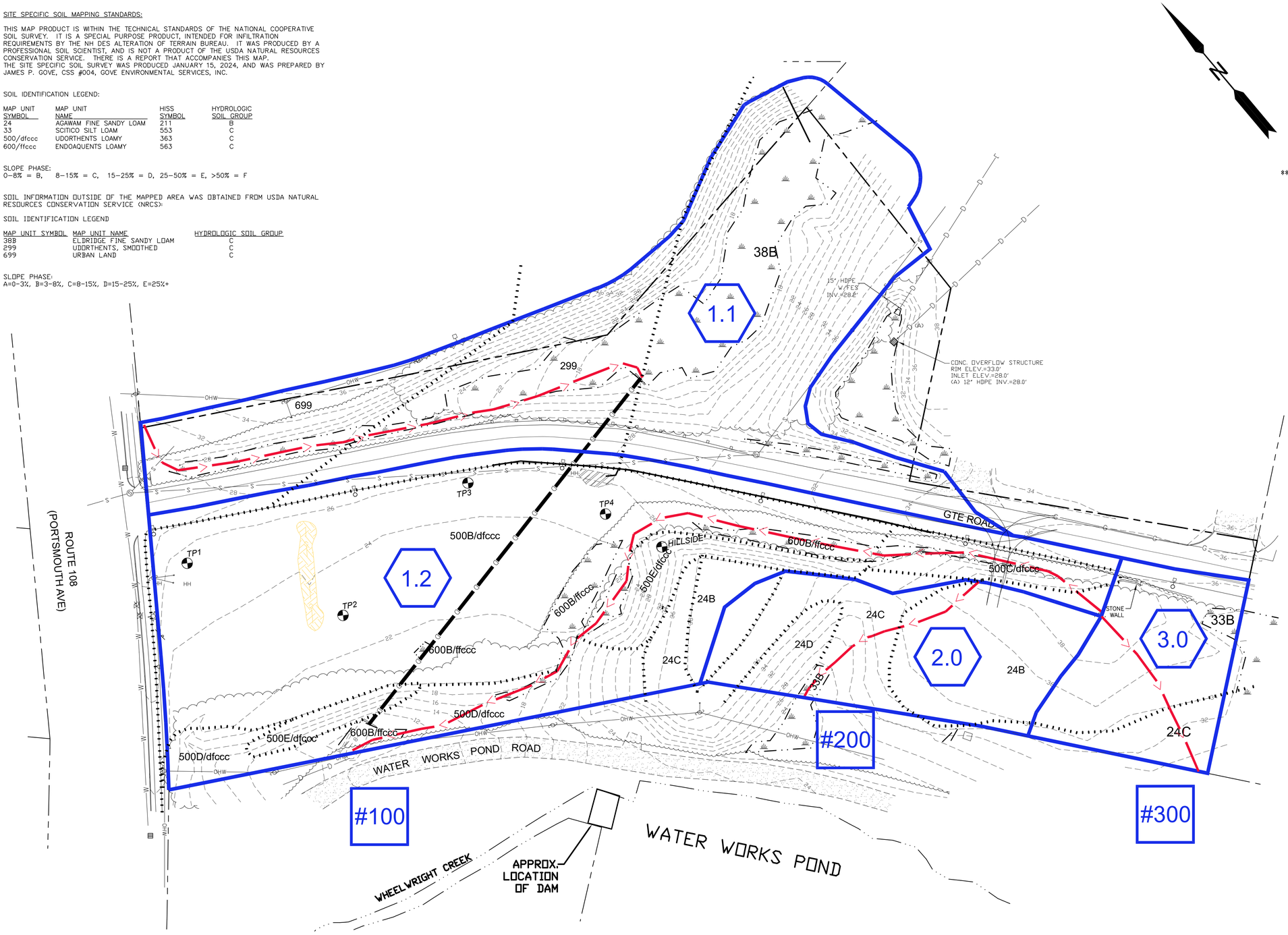
SLOPE PHASE:
0-8% = B, 8-15% = C, 15-25% = D, 25-50% = E, >50% = F

SOIL INFORMATION OUTSIDE OF THE MAPPED AREA WAS OBTAINED FROM USDA NATURAL RESOURCES CONSERVATION SERVICE (NRCS):

SOIL IDENTIFICATION LEGEND

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP
38B	ELDRIDGE FINE SANDY LOAM	C
299	UDORTHENTS, SMOOTHED	C
699	URBAN LAND	C

SLOPE PHASE:
A=0-3%, B=3-8%, C=8-15%, D=15-25%, E=25%+



N

PREPARED FOR:

FOSS MOTORS
133 PORTSMOUTH AVE.
(NH ROUTE 108)
EXETER, NEW HAMPSHIRE

BA BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860
FAX. 603-583-4863

** THIS DRAWING IS FOR DRAINAGE PURPOSES ONLY **

WATERSHED LEGEND

- 4 — SUBCATCHMENT
- 4 — REACH
- 4 — POND
- LIMIT OF SUBCATCHMENT
- FLOW PATH

LEGEND

- UTILITY POLE
- TP#1A — TEST PIT W/ NO.
- SURFACE LEDGE
- STONE WALL
- TREE LINE
- EXISTING CONTOUR – 10'
- EXISTING CONTOUR – 2'
- WETLAND BOUNDARY
- SOILS BOUNDARY LINE
- ABUTTING PROPERTY LINE
- EXISTING PROPERTY LINE

REVISED PER REVIEW COMMENTS	6-27-24
REVISED PER REVIEW COMMENTS	5-15-24
REVISED PER REVIEW COMMENTS	4-9-24
REVISIONS:	DATE:

EXISTING WATERSHED PLAN

COMMERCIAL DEVELOPMENT
ROUTE 108
EXETER, NH
TAX MAP 52, LOT 112.2

DATE:	FEBRUARY 2024	SCALE:	1"=40'
PROJ. N0:	NH-1471	SHEET NO.	WS-1

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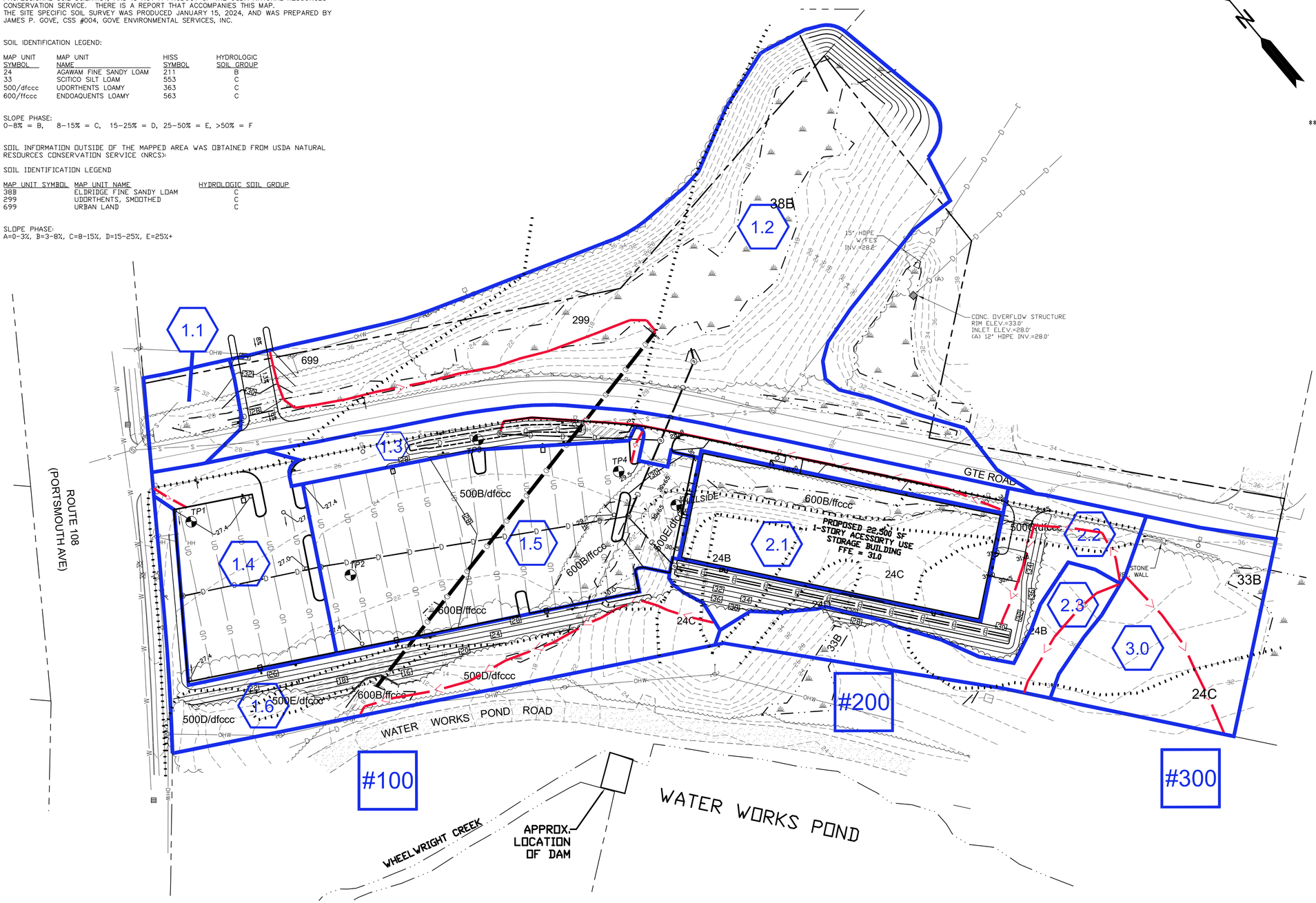

PREPARED FOR:
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- SOILS BOUNDARY LINE
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- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE

0 40 80 120

REVISIONS:	DATE:
REVISED PER REVIEW COMMENTS	6-27-24
REVISED PER REVIEW COMMENTS	5-15-24
REVISED PER REVIEW COMMENTS	4-9-24

PROPOSED WATERSHED PLAN

COMMERCIAL DEVELOPMENT
ROUTE 108
EXETER, NH
TAX MAP 52, LOT 112.2

DATE:	FEBRUARY 2024	SCALE:	1"=40'
PROJ. N0:	NH-1471	SHEET NO.	WS-2

TOWN OF EXETER

Planning and Building Department

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 •FAX 772-4709

www.exeternh.gov

Date: **June 28, 2024**

To: **Planning Board**

From: **Dave Sharples, Town Planner**

Re: **I. S. Realty Trust** **PB Case #24-7**

The Applicant is seeking a minor subdivision and Wetlands Conditional Use Permit for the proposed subdivision of an existing 5.58-acre parcel located at 100 Linden Street (and Patricia Avenue) into three (3) residential lots. The Applicant is proposing to create a 1.96-acre parcel for the existing residence with frontage on Linden Street; and two (2) new residential lots, each with frontage on Patricia Avenue. The subject property is located in the R-2, Single Family Residential zoning district and is identified as Tax Map Parcel #104-71.

The Applicant submitted a minor subdivision application, a Wetlands Conditional Use Permit application, plans and supporting documents, dated June 25th, 2024, which are enclosed for your review.

The Applicant appeared before the Zoning Board of Adjustment at their June 18th, 2024 meeting seeking relief from the minimum lot frontage requirement for two of the proposed lots; the requested variance was granted. A copy of the notice of decision letter and the ZBA meeting minutes are enclosed for your review.

The Applicant is scheduled to present their Wetlands Conditional Use Permit application to the Conservation Commission at their July 9th, 2024 meeting. I will update the Board at the meeting with the Commission's recommendations.

There was no Technical Review Committee meeting, however, the plans were reviewed by staff for compliance with zoning and subdivision regulations.

There are no waivers being requested in conjunction with this application.

I will be prepared with suggested conditions of approval at the meeting in the event the board decides to act on the request.

Planning Board Motions:

Conditional Use Permit (Wetlands) motion: After reviewing the criteria for a Wetlands Conditional Use permit, I move that the request of I.S. Realty Trust (PB Case #24-7) for a Conditional Use Permit be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Minor Subdivision Motion: I move that the request of I. S. Realty Trust (PB Case #24-7) for Minor Subdivision approval be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Thank You.

Enclosures

RECEIVED

JUN 25 2024

EXETER PLANNING OFFICE

PB 7/11/24 PH.

TOWN OF EXETER
MINOR SUBDIVISION, MINOR SITE PLAN, AND/OR LOT LINE ADJUSTMENT APPLICATION

THIS IS AN APPLICATION FOR:

( ) MINOR SITE PLAN
(X) MINOR (3lots or less) SUBDIVISION (3) LOTS

( ) LOT LINE ADJUSTMENT

OFFICE USE ONLY

PB#24-7	APPLICATION
6/25/24	DATE RECEIVED
125.00	APPLICATION FEE
100.00	~~PLAN REVIEW~~ FEE (10 lots)
90.00	ABUTTER FEE
50.00	LEGAL NOTICE FEE
	INSPECTION FEE
$ 365.00	TOTAL FEES
	AMOUNT REFUNDED

pd. ✓ #9601 $365.00 cash

1. **NAME OF LEGAL OWNER OF RECORD:** IS Realty Trust

   ADDRESS: 3 Vintage Drive, Exeter, NH 03833

   TELEPHONE: (603) 793-9698

2. **NAME OF APPLICANT:** Ian Winter

   ADDRESS: 7 Thelma Drive, Exeter, NH 03833

   TELEPHONE: (603)793-9698

3. **RELATIONSHIP OF APPLICANT TO PROPERTY IF OTHER THAN OWNER:** Trustee

   (Written permission from Owner is required, please attach.)

4. **DESCRIPTION OF PROPERTY:**

   ADDRESS: 100 Linden Street and Patricia Avenue

   TAX MAP: 104 **PARCEL #:** 71 **ZONING DISTRICT:** R-2

   AREA OF ENTIRE TRACT: 5.58 AC **PORTION BEING DEVELOPED:** 5.58 AC

5. **EXPLANATION OF PROPOSAL: Create three house lots. Lots 1 and 2 being created and having access on Patricia Avenue. Lot 3 being the existing house with access to Linden Street.**

6. **ARE MUNICIPAL SERVICES AVAILABLE?** (YES/NO) Yes.
IF YES, WATER AND SEWER SUPERINTENDENT MUST GRANT WRITTEN APPROVAL FOR CONNECTION. IF NO, SEPTIC SYSTEM MUST COMPLY WITH W.S.P.C.C. REQUIREMENTS.

7. **LIST ALL MAPS, PLANS AND OTHER ACCOMPANYING MATERIAL SUBMITTED WITH THIS APPLICATION:**

ITEM:	NUMBER OF COPIES
A. Plans – 11x17	10
B. Plans – Full size	5
C. Conditional Use Permit (Wetlands Conservation Overlay)	10
D. Abutters List & Labels	1
E. Application Copies	10
F.	

8. **ANY DEED RESTRICTIONS AND COVENANTS THAT APPLY OR ARE CONTEMPLATED** (YES/NO) No _____ IF YES, ATTACH COPY.

9. **NAME AND PROFESSION OF PERSON DESIGNING PLAN:**

NAME: HenryBoyd, Millennium Engineering Inc
ADDRESS: 13 Hampton Road, Exeter, NH 03833
PROFESSION: Engineer **TELEPHONE: (603) 778-0528**

10. **LIST ALL IMPROVEMENTS AND UTILITIES TO BE INSTALLED: Town water and sewer already in place on property. Two new homes will be connected. Electricity will also be brought to and connected to both units.**

11. **HAVE ANY SPECIAL EXCEPTIONS OR VARIANCES BEEN GRANTED BY THE ZONING BOARDOF ADJUSTMENT TO THIS PROPERTY PREVIOUSLY?**

(Please check with the Planning Department Office to verify) (YES/NO) Y e s _____ IF YES, LIST BELOW AND NOTE ON PLAN.

ZBA Case #24-5 Date June 18, 2024 Granting Relief allowing 2 residential lots with less than required frontage. Article 4 Section 4.3 Schedule II

NOTICE:

I CERTIFY THAT THIS APPLICATION AND THE ACCOMPANYING PLANS AND SUPPORTING INFORMATION HAVE BEEN PREPARED IN CONFORMANCE WITH ALL APPLICABLE TOWN REGULATIONS, INCLUDING BUT NOT LIMITED TO THE "SITE PLAN REVIEW AND SUBDIVISION REGULATION" AND THE ZONING ORDINANCE. FURTHERMORE, IN ACCORDANCE WITH THE REQUIREMENTS OF THE "SITE PLAN REVIEW AND SUBDIVISION REGULATIONS", I AGREE TO PAY ALL COSTS ASSOCIATED WITH THE REVIEW OF THIS APPLICATION.

DATE 6/24/2024_____ APPLICANT'S SIGNATURE _____

ACCORDING TO RSA 676.4.I (c), THE PLANNING BOARD MUST DETERMINE WHETHER THE APPLICATION IS COMPLETE WITHIN 30 DAYS OF SUBMISSION. THE PLANNING BOARD MUST ACT TO EITHER APPROVE, CONDITIONALLY APPROVE, OR DENY AN APPLICATION WITHIN SIXTY FIVE (65) DAYS OF ITS ACCEPTANCE BY THE BOARD AS A COMPLETE APPLICATION. A SEPARATE FORM ALLOWING AN EXTENSION OR WAIVER TO THIS REQUIREMENT MAY BE SUBMITTED BY THE APPLICANT.

CHECK LIST FOR MINOR SITE PLAN REVIEW, MINOR SUBDIVISON AND LOT LINE ADJUSTMENT

APPLICANT	TRC	REQUIRED EXHIBITS, SEE REGULATION 6.6.2.4
✓		a) The name and address of the property owner, authorized agent, the person or firm preparing the plan, and the person or firm preparing any other data to be included in the plan.
✓		b) Title of the site plan, subdivision or lot line adjustment, including Planning Board Case Number.
✓		c) Scale, north arrow, and date prepared.
✓		d) Location of the land/site under consideration together with the names and address of all owners of record of abutting properties and their existing use.
✓		e) Tax map reference for the land/site under consideration, together with those of abutting properties.
✓		f) Zoning (including overlay) district references.
✓		g) A vicinity sketch showing the location of the land/site in relation to the surrounding public street system and other pertinent location features within a distance of 1,000-feet.
✓		h) For minor site plan review only, a description of the existing site and proposed changes thereto, including, but not limited to, buildings and accessory structures, parking and loading areas, signage, lighting, landscaping, and the amount of land to be disturbed.
✓		i) If deemed necessary by the Town Planner, natural features including watercourses and water bodies, tree lines, and other significant vegetative cover, topographic features and any other environmental features which are significant to the site plan review or subdivision design process.
✓		j) If deemed necessary by the Town Planner, existing contours at intervals not to exceed 2-feet with spot elevations provided when the grade is less than 5%. All datum provided shall reference the latest applicable US Coast and Geodetic Survey datum and should be noted on the plan.
✓		k) If deemed necessary by the Town Planner for proposed lots not served by municipal water and sewer utilities, a High Intensity Soil Survey (HISS) of the entire site, or portion thereof. Such soil surveys shall be prepared and stamped by a certified soil scientist in accordance with the standards established by the Rockingham County Conservation District. Any cover letters or explanatory data provided by the certified soil scientist shall also be submitted.
✓		l) State and federal jurisdictional wetlands, including delineation of required setbacks.
✓		m) A note as follows: "The landowner is responsible for complying with all applicable local, State, and Federal wetlands regulations, including any permitting and setback requirements required under these regulations."
✓		n) Surveyed exterior property lines including angles and bearings, distances, monument locations, and size of the entire parcel. A professional land surveyor licensed in New Hampshire must attest to said plan.

NA		o) For minor site plans only, plans are not required to be prepared by a professional engineer or licensed surveyor unless deemed essential by the Town Planner or the TRC.
✓		p) For minor subdivisions and lot line adjustments only, the locations, dimensions, and areas of all existing and proposed lots.
✓		q) The lines of existing abutting streets and driveways locations within 100-feet of the site.
✓		r) The location, elevation, and layout of existing catch basins and other surface drainage features.
✓		s) The footprint location of all existing structures on the site and approximate location of structures within 100-feet of the site.
✓		t) The size and location of all existing public and private utilities.
✓		u) The location of all existing and proposed easements and other encumbrances.
✓		v) All floodplain information, including contours of the 100-year flood elevation, based upon the Flood Insurance Rate Map for Exeter, as prepared by the Federal Emergency Management Agency, dated May 17, 1982.
NA		w) The location of all test pits and the 4,000-square-foot septic reserve areas for each newly created lot, if applicable.
NA		x) The location and dimensions of all property proposed to be set aside for green space, parks, playgrounds, or other public or private reservations. The plan shall describe the purpose of the dedications or reservations, and the accompanying conditions thereof (if any).
✓		y) A notation shall be included which explains the intended purpose of the subdivision. Include the identification and location of all parcels of land proposed to be dedicated to public use and the conditions of such dedications, and a copy of such private deed restriction as are intended to cover part of all of the tract.
TBD		z) Newly created lots shall be consecutively numbered or lettered in alphabetical order. Street address numbers shall be assigned in accordance with Section 9.17 Streets of these regulations.
✓		aa) The following notations shall also be shown: • Explanation of proposed drainage easements, if any • Explanation of proposed utility easement, if any • Explanation of proposed site easement, if any • Explanation of proposed reservations, if any • Signature block for Board approval as follows: Town of Exeter Planning Board _____ _____ Chairman Date

ASSESSOR'S RESEARCH SHEET

CLIENT: PROJECT #: DATE:

PROJECT ADDRESS:

MAP	LOT	NAME / PROPERTY ADDRESS	DEED REFERENCE BOOK	DEED REFERENCE PAGE	LOCUS
104	71	IS Realty Trust	5961	2005	100 Linden St
3 Vintage Dr Exeter, NH 03833			PLAN REFERENCE BOOK	PLAN REFERENCE PLAN	ESMT'S ETC.
NOTES:					

MAP	LOT	NAME / PROPERTY ADDRESS	DEED REFERENCE BOOK	DEED REFERENCE PAGE	LOCUS
104	72	Gary Morrisette	2401	1579	102 Linden St
102 Linden St Exeter, NH 03833			PLAN REFERENCE BOOK	PLAN REFERENCE PLAN	ESMT'S ETC.
NOTES:					

MAP	LOT	NAME / PROPERTY ADDRESS	DEED REFERENCE BOOK	DEED REFERENCE PAGE	LOCUS
104	73	Kathleen Klose	6350	0584	104 Linden St
42 Prospect St Newburyport, MA 01950			PLAN REFERENCE BOOK	PLAN REFERENCE PLAN	ESMT'S ETC.
NOTES:					

MAP	LOT	NAME / PROPERTY ADDRESS	DEED REFERENCE BOOK	DEED REFERENCE PAGE	LOCUS
104	70	Cypress Cir - Condo Main	5972	0041	Cypress Cir
Residences at Linden St			PLAN REFERENCE BOOK	PLAN REFERENCE PLAN	ESMT'S ETC.
56 Central Ave. #1					
NOTES: Newton, MA 02458					

MAP	LOT	NAME / PROPERTY ADDRESS	DEED REFERENCE BOOK	DEED REFERENCE PAGE	LOCUS
104	49	Daniel Doucet	5067	0160	19 Thelma Dr
19 Thelma Dr Exeter, NH 03833			PLAN REFERENCE BOOK	PLAN REFERENCE PLAN	ESMT'S ETC.
NOTES:					

MEI MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM STREET SALISBURY MA. 01952 PHONE: (978) 463-8980

ASSESSOR'S RESEARCH SHEET

CLIENT: PROJECT #: DATE:

PROJECT ADDRESS:

MAP	LOT	NAME / PROPERTY ADDRESS	DEED REFERENCE BOOK	PAGE	LOCUS
104	48	Joyama Realty Trust			1 Patricia Ave
1 Patricia Ave Exeter, NH 03833			5178	1994	
			PLAN REFERENCE		ESMT'S ETC.
NOTES:			BOOK	PLAN	

MAP	LOT	NAME / PROPERTY ADDRESS	DEED REFERENCE BOOK	PAGE	LOCUS
104	28	Hipkiss Family Trust			14 River Bend
14 River Bend Cir Exeter, NH 03833			6437	1689	Cir
			PLAN REFERENCE		ESMT'S ETC.
NOTES:			BOOK	PLAN	

MAP	LOT	NAME / PROPERTY ADDRESS	DEED REFERENCE BOOK	PAGE	LOCUS
104	76	TPJP-Invest LLC			110 Linden St
PO Box 924 Raymond, NH 03077			6413	0521	
			PLAN REFERENCE		ESMT'S ETC.
NOTES:			BOOK	PLAN	

MAP	LOT	NAME / PROPERTY ADDRESS	DEED REFERENCE BOOK	PAGE	LOCUS
			PLAN REFERENCE		ESMT'S ETC.
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www.exeternh.gov

June 20, 2024

I. S. Realty Trust
3 Vintage Drive
Exeter, New Hampshire 03833

Re: Zoning Board of Adjustment Case #24-5 – Variance Request
100 Linden Street & Patricia Avenue, Exeter, N. H.
Tax Map Parcel #104-71

Dear Mr. Winter:

This letter will serve as official confirmation that the Zoning Board of Adjustment, at its June 18th, 2024 meeting, voted to approve your application for a variance from Article 4, Section 4.3 Schedule II: Density and Dimensional Regulations-Residential to permit the subdivision of a 5.58-acre parcel into three (3) residential lots with two of the lots having less than the required minimum lot frontage, as presented, subject to receiving subdivision approval from the Planning Board.

Please be advised that in accordance with Article 12, Section 12.4 of the Town of Exeter Zoning Ordinance entitled "Limits of Approval" that all approvals granted by the Board of Adjustment shall only be valid for a period of three (3) years from the date such approval was granted; therefore, should substantial completion of the improvements, modifications, alterations or changes in the property not occur in this period of time, this approval will expire.

If you should have any questions, please do not hesitate to contact the Building Department office at (603) 773-6112.

Sincerely,

Robert V. Prior

Robert V. Prior
Chairman
Exeter Zoning Board of Adjustment

cc: Henry H. Boyd, Jr., LLS, Millennium Engineering, Inc.
Douglas Eastman, Building Inspector/Code Enforcement Officer
Janet Whitten, Town Assessor
Dave Sharples, Town Planner

RVP: bsm

f:\docs\plan'g & build'g dept\zba cases\zba 24-5 let.docx

Town of Exeter
Zoning Board of Adjustment
June 18, 2024, 7 PM
Town Offices Nowak Room
Draft Minutes

I. Preliminaries

Members Present: Chair Robert Prior, Vice-Chair Esther Olson-Murphy, Clerk Theresa Page, Laura Davies, Laura Montagno - Alternate and Mark Lemos - Alternate
Town Code Enforcement Officer Doug Eastman was also present.

Members Absent: Kevin Baum, Martha Pennell - Alternate

Call to Order: Chair Robert Prior called the meeting to order at 7 PM.

I. New Business

A. The application of I.S. Realty Trust for a variance from Article 4, Section 4.3 Schedule II: Density and Dimensional Regulations - Residential to permit the subdivision of a 5.58-acre parcel into three (3) residential lots with two of the lots having less than the required minimum lot frontage. The subject property is located at 100 Linden Street (and Patricia Avenue) in the R-2, Single Family Residential zoning district. Tax Map Parcel #104-71. ZBA Case #24-5.

Henry Boyd of Millennium Engineering spoke on behalf of the applicant. He said years ago we went before the Planning Board to subdivide this parcel, and it was conditionally approved. That proposal would have subdivided out lot 3, which was called lot 5 at that time. In this plan, Patricia Ave was extended by 400 feet to produce 3 additional lots. The applicant decided not to proceed, partly because of the cost of the construction of the road and also because the applicant's father died of cancer. Their desire now is just to divide the parcel into 2 additional lots. There is an existing dwelling which is accessed from Linden Street. Currently, this property has a well and septic system, which would go away. Water and sewer have been run out here, which is nice because there are adjacent wetlands. The remainder of the parcel would be divided into 2 lots, lots 1 and 2, each of which would have houses built on them. These lots don't have adequate frontage without us producing a very expensive roadway. We only have 50 feet of frontage at the end of Patricia Ave. We're hoping the ZBA will grant a variance and the lots can share a driveway. Under this proposal, there's no need to fill any wetlands. We would be working within the buffer so we'd have to go to the Planning Board and the Conservation Commission. We think the Conservation Commission would be thrilled with this proposal as opposed to the impact of the previous proposal.

Ms. Davies asked if all three parcels would be hooked up to the sewer. Mr. Boyd said yes. When the condo was put into the next lot, they ran the sewer

through this parcel out to it. We would be placing a new sewer line to tie into that existing line.

Mr. Prior asked if this proposal also went to the ZBA when it went to the Planning Board several years ago. Mr. Boyd said he doesn't think that plan needed relief. Mr. Eastman said all the lots had the minimum frontage under that plan. Mr. Boyd showed Mr. Prior the previous plan, and Mr. Prior observed that they were going to put in a cul-de-sac from Patricia Ave.

Ms. Davies asked if the existing dwelling would remain in the family and if the two additional homes will also stay in the family. Mr. Boyd said they would probably sell the existing home, as they have no need for it.

Ms. Page asked what the frontage will be. Mr. Boyd said it's 25 feet for each lot. Mr. Prior said the only frontage is where Patricia Avenue abuts the lot.

Mr. Prior asked if the lot line between lot 3 and lots 1 and 2 is already recorded in the deeds. Mr. Boyd said no, we never finalized that so that would be a new lot line as well. That subdivision needs no relief as it has adequate frontage.

Mr. Prior opened for public comment.

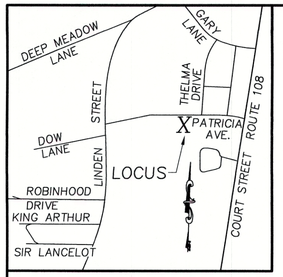
Alan Mayo of 1 Patricia Avenue, which is next to the property in question, said when this came up a couple years ago, there was a question of whether this portion of Patricia Ave was going to be renamed as a circle or if there would be a renumbering of all the homes along Patricia Ave. Mr. Prior said Patricia Avenue won't be extended; there will be a driveway at the end of Patricia. It was intended to be a cul-de-sac but that's no longer the case. Mr. Eastman said when the 5-lot subdivision was going to go in at the end of Patricia, that road would have had a different name. The E911 Committee is responsible for the addressing. We know Patricia Ave is not numbered correctly. We will have to work with the applicant on how to address that to make sure it complies with E911. The numbering should start at Court Street when you turn in, but it starts at the end of the road.

Mr. Prior closed the public session and entered into Board deliberations.

Mr. Prior said this is straightforward. We have no objections from abutters. He doesn't see the need to go through each of the variance criteria. Ms. Davies said this is a low-impact solution. Given that none of the abutters object, she has no objection.

Ms. Page asked if being on municipal water and sewer should be a condition of the approval. Mr. Eastman said they legally would have to because of the size of the lots. They would not be able to do a septic field on the small lots. Mr. Prior said hooking up on lot 3 is an option, should that be a condition? Will the existing leach field end up as part of the lot line adjustment? Mr. Eastman said no, it can't.

Ms. Davies made a motion to approve the application as presented for the 100 Linden Street and Patricia Avenue subdivision. Ms. Olson-Murphy seconded. Ms. Davies, Ms. Olson-Murphy, Ms. Montagno, Ms. Page, and Mr. Prior voted aye. Mr. Lemos did not vote. The motion passed 5-0.



LOCUS MAP
NOT TO SCALE

NOTES:

1) THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT VISIBLE USES OF THE LAND; HOWEVER, THIS DOES NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.
2) THIS PARCEL DOES NOT LIE WITHIN A FLOOD ZONE. SEE F.I.R.M. COMMUNITY PANEL 330130 0404 E EFFECTIVE DATE MAY 17, 2005.
3) THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLANDS REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.

PROPOSED DWELLING NOTE

PROPOSED DWELLINGS AS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL DWELLINGS MAY DIFFER IN SIZE, SHAPE AND LOCATION BUT SHALL COMPLY WITH TOWN OF EXETER ZONING REGULATIONS.

PLAN REFERENCES

"LOT LINE ADJUSTMENT PLAN FOR PAUL MORRISETTE 100 LINDEN STREET EXETER, NH" SCALE: 1"=50' DATE: APRIL 2001 BY: LITTLE RIVER SURVEY COMPANY.
D-29070

"SUBDIVISION OF LAND FOR NELSON J. MORRISETTE IN EXETER, NH" SCALE: 1"=50' DATE: AUG. 1976 BY: PARKER SURVEY ASSOC, INC.
D-6229

"PLAN OF LAND IN EXETER, NH SHOWING A PROPOSED SEWER EASEMENT AT 100 LINDEN STREET AND PATRICIA AVENUE RECORD OWNER I.S. WINTER REALTY TRUST 3 VINTAGE DRIVE EXETER, NH" SCALE: 1"=50' DATE: APRIL 26, 2019 BY: MILLENNIUM ENGINEERING, INC..
D-41465

ZONING DISTRICT

R-2 RESIDENTIAL

MINIMUM REQUIREMENTS

AREA (NO SEWER)	1 ACRE
AREA (SEWER)	15,000 S.F.
LOT WIDTH	100'
LOT DEPTH	100'
BUILDING SETBACKS	
FRONT	25'
SIDE	15'
REAR	25'
HYDRIC B SOILS	40'
BUILDING COVERAGE	
MAXIMUM	25%
OPEN SPACE	
MINIMUM	40%

★ SEE EXETER ZONING BOARD OF ADJUSTMENT ★ CASE #24-5 DATE: JUNE 18, 2024 GRANTING RELIEF ALLOWING 2 RESIDENTIAL LOTS WITH LESS THAN REQUIRED FRONTAGE ARTICLE 4 SECTION 4.3 SCHEDULE II

TOWN OF EXETER PLANNING BOARD

CHAIRMAN DATE

104/71 **RECORD OWNER**
I S REALTY TRUST
C/O S. MITCHELL WINTER, TRUSTEE
3 VINTAGE DRIVE
EXETER, NH 03833
BK. 5961 PG. 2005
243,255 S.F.
5.58 ACRES
AREA PRIOR TO SUBDIVISION

104/70 CONDO MAIN
RESIDENCES AT LNDEN ST
56 CENTRAL AVENUE #1
NEWTON, MA 02458
BK. 5972 PG. 0641

N/F
GARY R. & DEBORAH L. MORRISETTE
102 LINDEN STREET
EXETER, NH 03833
BK. 5348 PG. 0249

50' RIGHT OF WAY

104/73-1

I ROD (TO BE SET)

D-29070

N 62°59'13" W 30.52'
S 79°16'51" E 150.00'
50.00' N 10°43'09" E
172.27'
719.61'
547.34' LOT LINE
S 79°16'51" E

EXISTING DRIVEWAY

* EXISTING SEWER EASEMENT TO BENEFIT SEE PLAN D-41465 104/70

104/72 N/F
GARY R. & DEBORAH L. MORRISETTE
102 LINDEN STREET
EXETER, NH 03833
BK. 2401 PG. 1579

N 16°23'50" E 245.00'

104/49 N/F
DANIEL R. & REBECA L. DOUCET
19 THELMA DRIVE
EXETER, NH 03833
BK. 5067 PG. 0160

28.99' * 25' WIDE
N 19°41'24" W 152.60'
S 19°41'24" E 152.60'
293.24' TO ESMT.
40'
HYDRIC B
C1 C5 C13
I ROD (TO BE SET)
60.98'
174.50'
25.10'
I ROD (TO BE SET)

104/71-2 LOT 2
122,608 S.F.
2.81 ACRES
UPLAND
113,643 S.F.

HYDRIC B
D1 D5 D10 D13
X5 X6 X1
A5 A10
EXISTING WELL
20.00' ESMT.
PROPOSED LOT LINE
BUILDING SETBACK (TYPICAL)
S 85°45'38" E 308.65' 319.62'
N 85°45'38" W
21.86' 149.21'
216.09' N 86°23'16" E
C10
S 86°20'52" E 103.07'
25' WIDE
226.20'
64.56'
N 51°42'11" E
S 86°23'16" W
PROPOSED DRIVEWAY
PROPOSED DWELLING
ACCESS & UTILITY EASEMENT TO BENEFIT LOT 2 SEE EASMENT DETAILS
25.10'
63.32'
S 15°34'40" W
PATRICIA AVENUE ©
I ROD (TO BE SET)

104/71-3 LOT 3
85,581 S.F.
1.96 ACRES
UPLAND
77,396 S.F.

EXISTING DWELLING
299.57'
103.00' ESMT.
WATER/SEWER EASEMENT TO BENEFIT LOT 3
6,283 S.F.
0.14 ACRES
LOT 3 SHALL ALSO ENJOY SEWER AND WATER RIGHTS THROUGH EASEMENT ON PLAN D-41465

A1 A14 B1 B5
319.85' N 79°47'00" W
I ROD (TO BE SET)

263.35' PROPOSED LOT LINE
N 51°42'11" E
PROPOSED DWELLING
104/71-1 LOT 1
35,066 S.F.
0.81 ACRES
BUILDING SETBACK (TYPICAL)
824.41'
S 22°20'40" W 87.00'
36.89' S 23°02'00" W
I ROD (TO BE SET)

104/48 N/F
JOYAMA REALTY TRUST
L. JILL MAYO & ALAN J. MAYO, JR.
1 PATRICIA AVENUE
EXETER, NH 03833
BK. 5178 PG. 1994

104/76 TPJP INVEST LLC
P.O. BOX 924
RAYMOND, NH 03077
BK. 6413 PG. 0521

I.P. FND.

WETLANDS DELINEATION BY
WEST ENVIRONMENTAL
48 STEVENS HILL ROAD
NOTTINGHAM, NH 03290

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS' RECORDS.

I CERTIFY:

THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN DECEMBER OF 2018 AND MARCH OF 2019.

THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.

THAT THIS SURVEY CONFORMS TO THE REQUIREMENTS FOR ACCURACY FOR N.H. URBAN SURVEY.

STATE OF NEW HAMPSHIRE — No. 904 HENRY H. BOYD, JR. — LICENSED LAND SURVEYOR

SIGNATURE 05-20-2024

LICENSED LAND SURVEYOR DATE

* EXISTING SEWER EASEMENT TO BENEFIT SEE PLAN D-41465 104/70

28.99' * 25' WIDE N 19°41'24" W 152.60' S 19°41'24" E 152.60'

EASEMENT AREA ON 104/71-2 LOT 2
6,806 S.F.

59.39' ON LOT 2
N 86°23'16" E 216.09'
102.96' ON LOT 2
53.73' ON LOT 1
226.20'
140.55' ON LOT 1
S 86°23'16" W 85.65' ON LOT 2
25' WIDE
149.21'
7.68' ON LOT 1
18.80' ON LOT 2

EASEMENT AREA ON 104/71-1 LOT 1
2,956 S.F.

SEWER EASEMENT DETAIL

104/71-2 LOT 2
104/71-1 LOT 1
25.10'
S 86°20'52" E 103.07'
N 51°42'11" E 64.56'
147.08'
S 86°23'16" W
25.10'
S 15°34'40" W
PATRICIA AVENUE
ACCESS & UTILITY EASEMENT TO BENEFIT LOT 2
3,968 S.F.
0.09 ACRES

ACCESS & UTILITY EASEMENT DETAIL

104/28 N/F
HIPKISS FAMILY REV. TRUST
SENECA L. HIPKISS
JENAPHER L. HIPKISS
14 RIVER BEND CIRCLE
EXETER, NH 03833
BK. 5881 PG. 2628
BK. 6437 PG. 1689

LEGEND

○ I.P.	IRON PIPE
D.H.	DRILL HOLE
● I ROD	IRON ROD FND. UNLESS NOTED OTHERWISE
FND.	FOUND
0/00	ASSESSORS MAP AND PARCEL
	WET FLAG
	WETLANDS
Ⓢ	SEWER MANHOLE

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 INCH = 50'

NO.	DATE	DESCRIPTION	BY

PLANNING BOARD CASE NUMBER 24-XX

PLAN OF LAND
IN
EXETER, NH

SHOWING
A SUBDIVISION AT
100 LINDEN STREET AND PATRICIA AVENUE

PREPARED FOR
I S REALTY TRUST
3 VINTAGE DRIVE EXETER, NH 03833

MILLENNIUM ENGINEERING INC.
ENGINEERS AND LAND SURVEYORS
P.O. BOX 745 13 HAMPTON ROAD EXETER, NH 03833
PHONE: (603) 778-0528 FAX: (603) 772-0689

SCALE: 1"=50'	DRWN. BY: H.H.B.	PROJECT: E182237
DATE: JUNE 20, 2024	CHKD. BY: R.S.G.	

Town of Exeter

Planning Board Application for Conditional Use Permit: Wetlands Conservation Overlay District

July 2023

Town of Exeter Planning Board Application

Conditional Use Permit: Wetland Conservation Overlay District
in accordance with Zoning Ordinance Article: 9.1

SUBMITTAL REQUIREMENTS:

1. Refer to the Land Use Board Meeting Schedule and Deadlines for Submission Requirements.
2. Plans Must Include:

   Existing Conditions

   a. Property Boundaries
   b. Edge of Wetland and associated Buffer (Wetlands Conservation Overlay District – WCOD)
      --Prime wetland: 100'
      --Vernal Pool (>200 SF): 75'
      --Exemplary Wetland: 50'
      --Very Poorly Drained: 50'
      --Poorly Drained: 40'
      --Inland Stream: 25'
   c. Structures, roads/access ways, parking, drainage systems, utilities, wells and wastewater disposal systems and other site improvements

   Proposed Conditions

   a. Edge of Wetlands and Wetland Buffers and distances to the following:
      i. Edge of Disturbance
      ii. Structures, roads/access ways, parking, drainage systems, utilities, wells and wastewater disposal systems and other site improvements
   b. Name and phone number of all individuals whose professional seal appears on the plan
3. If applicant and/or agent is not the owner, a letter of authorization must accompany this application
4. Supporting documents i.e. Letters from the Department of Environmental Services, Standard Dredge and Fill Application and Photos of the property
5. A Town of Exeter Assessors list of names and mailing addresses of all abutters

Required Fees:
Planning Board Fee: **$50.00** Abutter Fee: **$10.00** Recording Fee (if applicable): **$25.00**

The Planning Office must receive the completed application, plans and fees on the day indicated on the Planning Board Schedule of Deadlines and Public Hearings.

APPLICANT	Name: IS Realty Trust
	Address: 3 Vintage Drive
	Email Address: ianwinter82@gmail.com
	Phone: 603-793-9698
PROPOSAL	Address: 100 Linden Street and Patricia Avenue
	Tax Map #104_____ Lot#___71___ Zoning District: R-2_____
	Owner of Record: IS Realty Trust
Person/Business performing work outlined in proposal	Name: Mike Buxton (tentatively)
	Address: 36 Stagecoach Rd Epping NH 03042
	Phone: 603-775-3392
Professional that delineated wetlands	Name: West Environmental
	Address: 48 Stevens Hill Road Nottingham, NH
	Phone: 603-734-4298

Town of Exeter
Planning Board Application
Conditional Use Permit: Wetland Conservation Overlay District

Detailed Proposal including intent, project description, and use of property: (Use additional sheet as needed)
Minor subdivision of 100 Linden Street. Current house at 100 Linden will remain as is with access to Linden Street. Two new house lots with partially shared driveway will have access via Patricia Avenue.

Wetland Conservation Overlay District Impact (in square footage):				
Temporary Impact	Wetland:	(SQ FT.)	Buffer:	(SQ FT.)
	☐ Prime Wetlands	0	☐ Prime Wetlands	0
	☐ Exemplary Wetlands	0	☐ Exemplary Wetlands	0
	☐ Vernal Pools (>200SF)	0	☐ Vernal Pools (>200SF)	0
	☐ VPD	0	☐ VPD	0
	☐ PD	0	☒ PD	1007
	☐ Inland Stream	0	☐ Inland Stream	0
Permanent Impact	Wetland:		Buffer:	
	☐ Prime Wetlands	0	☐ Prime Wetlands	0
	☐ Exemplary Wetlands	0	☐ Exemplary Wetlands	0
	☐ Vernal Pools (>200SF)	0	☐ Vernal Pools (>200SF)	0
	☐ VPD	0	☐ VPD	0
	☐ PD	0	☒ PD	531
	☐ Inland Stream	0	☐ Inland Stream	0

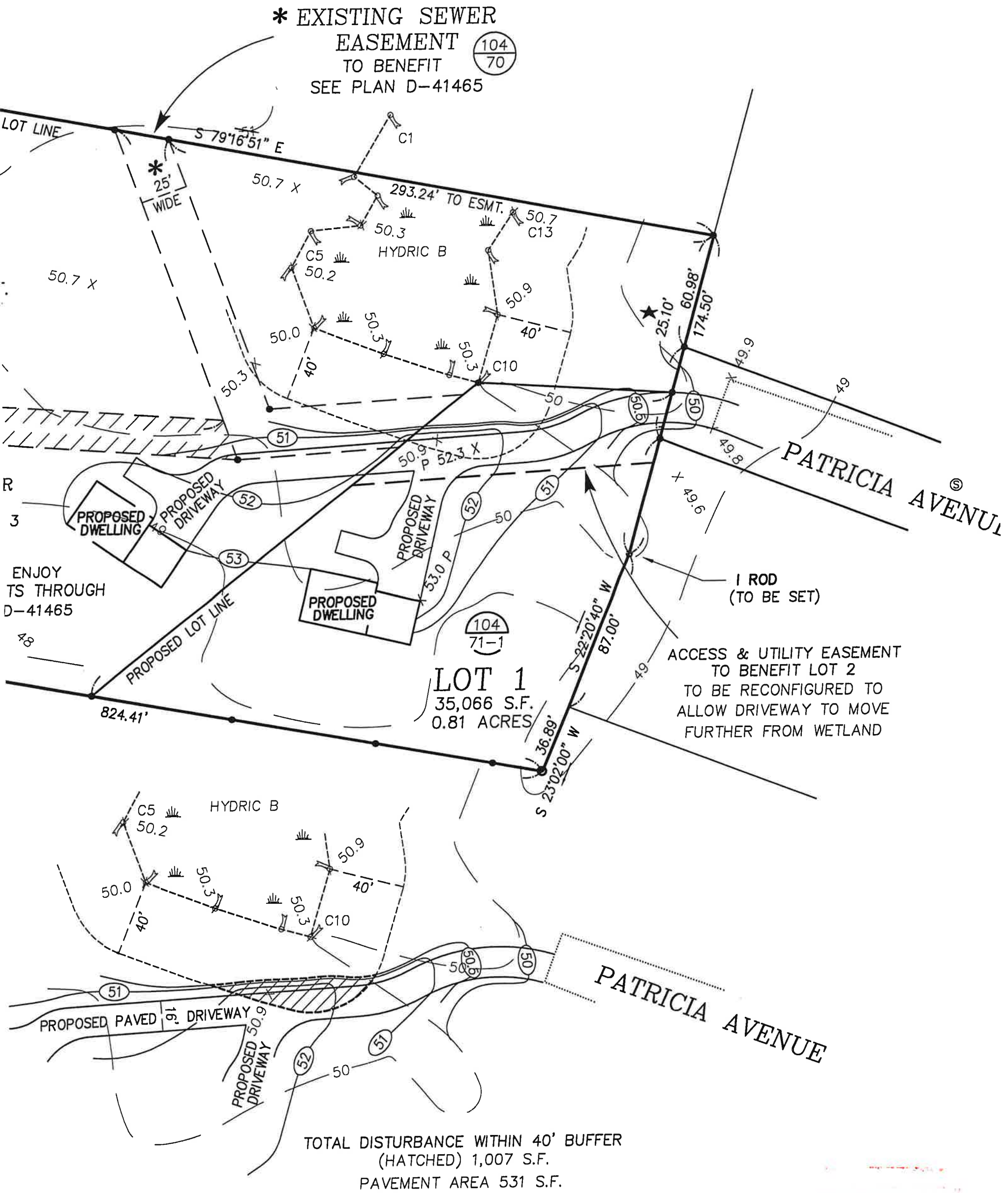
List any variances/special exceptions granted by Zoning Board of Adjustment including dates:
ZBA Case 24-5 (June 18, 2024) – ZBA granted relief allowing two lots with less than required frontage.

Describe how the proposal meets conditions in **Article 9.1.6.B** of the Zoning Ordinance (attached for reference). Written justification for each criterion must be provided to be deemed administratively complete.
Similar application for the same parcel and wetlands was approved in 2019; difference being that this application is for a partially shared driveway for two lots as opposed to the previous plan of four house lots on town road.
1. R-2 permits. 2. Only access is this parcel. 3. West Environmental completed this for the larger project in 2019. 4. Yes. 5. Yes. 6. If required, yes. 7. Yes. 8. Yes, as necessary.
Thank you.

9.1.6.B. Prior to issuance of a conditional use permit, the Planning Board shall conclude and make a part of the record, compliance with the following criteria:

1. That the proposed use is permitted in the underlying zoning district;
2. No alternative design which does not impact a wetland or wetland buffer or which has less detrimental impact on the wetland or wetland buffer is feasible;
3. A wetland scientist has provided an impact evaluation that includes the "functions and values" of the wetland(s), an assessment of the potential project-related impacts and concluded to the extent feasible, the proposed impact is not detrimental to the value and function of the wetland(s) or the greater hydrologic system.
4. That the design, construction and maintenance of the proposed use will, to the extent feasible, minimize detrimental impact on the wetland or wetland buffer;
5. That the proposed use will not create a hazard to individual or public health, safety and welfare due to the loss of wetland, the contamination of groundwater, or other reasons;
6. The applicant may propose an increase in wetland buffers elsewhere on the site that surround a wetland of equal or greater size, and of equal or greater functional value than the impacted wetland
7. In cases where the proposed use is temporary or where construction activity disturbs areas adjacent to the immediate use, the applicant has included a restoration proposal revegetating any disturbed area within the buffer with the goal to restore the site as nearly as possible to its original grade and condition following construction.
8. That all required permits shall be obtained from the New Hampshire Department of Environmental Services Water Supply and Pollution Control Division under NH RSA §485-A: 17, the New Hampshire Wetlands Board under NH RSA §483-A, and the United States Army Corps of Engineers under Section 404 of the Clean Water Act.;

DRIVEWAY IMPACT SKETCH



TOTAL DISTURBANCE WITHIN 40' BUFFER
(HATCHED) 1,007 S.F.
PAVEMENT AREA 531 S.F.

TOWN OF EXETER

Planning and Building Department

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 •FAX 772-4709

www.exeternh.gov

Date: **June 28, 2024**

To: **Planning Board**

From: **Dave Sharples, Town Planner**

Re: **PB Case #24-8** **Green & Company**

The Applicant has applied for design review of a proposal for a Mixed-Use Neighborhood Development (MUND) on the property located at 76 Portsmouth Avenue (current site of Federated Auto Parts store). The proposed development will include three 4-story buildings with a total of 121 (2-bedroom) apartments, a 4,680 square foot commercial space within the building closest to Portsmouth Avenue, and one separate triplex to be located on Haven Lane. The subject property is located in the C-2, Highway Commercial zoning district and is identified as Tax Map Parcel #65-118.

Please note that this is only a design review application and not a formal application to the board. Design review is covered under NHRSA 676:4 that allows the Planning Board and the applicant to engage in a *non-binding* discussion of the proposal. As this is design review and abutters have been notified, the Board can discuss matters beyond general and conceptual discussions which can involve specific engineering details and design. At the same time, this is not a formal submission so staff will provide a complete review through the Technical Review Committee process once a formal application is submitted.

In the event the Board determines that the Design Review process has ended, I would suggest the Board make that determination with a vote. If the Board determines that additional review is needed, I would ask that the Board table the item until a date certain. I have provided motions below for your convenience.

Design Review has ended Motion: I move that the Design Review process for Green & Company (PB Case #24-8) has concluded and instruct the Town Planner to notify the applicant in writing in accordance with NHRSA 676:4.

Design Review Table Motion: I move that the Design Review application for Green & Company (PB Case #24-8) is **Tabled** until the ***(date)*** Planning Board meeting at 7pm.

Thank you.

JONES & BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

June 20, 2024

Exeter Planning Board
Attn. Langdon Plumer, Chair
10 Front Street
Exeter, NH 03833

RE: Design Review Application
76 Portsmouth Avenue, Exeter, NH
Tax Map 65, Lot 118
JBE Project No. 24029

Dear Mr. Plumer,

On behalf of our client, Green & Company, we respectfully submit a Design Review Application for the above-mentioned property. The intent of this application is to propose a Mixed-Use Neighborhood Development (MUND) within the C2 zoning district consisting of three 4-story buildings with a total of (121) 2-bedroom apartments, a 4,680 S.F. commercial space within the building closest to Portsmouth Avenue and one separate triplex on Haven Lane. Parking for the buildings will be in the basement of each building as well as outside.

The front portion of this property currently consists of the existing Fisher Auto Parts store and associated parking while the rear of the property is wooded. Haven Lane is proposed to be extended within the existing right of way in order to access the proposed triplex and a fire truck turnaround is proposed. The proposed development will be accessed from Portsmouth Avenue and will have a second access onto Haven Lane.

There are wetlands on the west and east sides of the property, and two ditches that run across the property which have been determined to be man-made wetlands that were constructed for drainage purposes. A large culvert from Portsmouth Avenue outlets into one of the man-made ditches just behind the Fisher Auto Parts parking lot, from which runoff eventually flows to the wetland on the west side of the property. A crossing is proposed for this wetland which will result in wetland impacts as well as some additional impacts to the man-made wetland to the north, which will be relocated so that it continues to allow drainage. Wetland buffer impacts are also proposed as part of the project. We will be attending the July 9th Conservation Commission meeting to discuss the preliminary wetland buffer impacts with them.

Seven (7) copies of the following are included with this application:

1. Completed Design Review Application.
2. Fee Check.
3. Signed Letters of Authorization.
4. Current Deed.
5. Abutters List & 3 Sets of Mailing Labels.
6. Tax Map.
7. Seven (7) Full Size Plan Sets.
8. Fifteen (15) Half Size Plan Sets.

If you have any questions or need any additional information, please feel free to contact our office. Thank you very much for your time.

Very truly yours,
JONES & BEACH ENGINEERS, INC.

Paige Libbey, P.E.
Associate Principal

cc: Jenna Green, Green & Company (via email)
Michael Green, Green & Company (via email)
John O'Neill (via email)
Jim Gove, Gove Environmental Services (via email)

TOWN OF EXETER, NH
APPLICATION FOR SITE PLAN REVIEW

OFFICE USE ONLY

	APPLICATION #
	DATE RECEIVED
	APPLICATION FEE
	PLAN REVIEW FEE
	ABUTTERS FEE
	LEGAL NOTICE FEE
	TOTAL FEES

	INSPECTION FEE
	INSPECTION COST
	REFUND (IF ANY)

THIS IS AN APPLICATION FOR:

X - DESIGN REVIEW

( ) **COMMERCIAL SITE PLAN REVIEW**
( ) **INDUSTRIAL SITE PLAN REVIEW**
( ) **MULTI-FAMILY SITE PLAN REVIEW**
( ) **MINOR SITE PLAN REVIEW**
( ) **INSTITUTIONAL/NON-PROFIT SPR**

1. **NAME OF LEGAL OWNER OF RECORD:** RAP Realty Manchester, LLC, Attn. R. Weisnev

   TELEPHONE: ( )

   ADDRESS: 50 Atlantic Avenue, Seabrook, NH 03874

2. **NAME OF APPLICANT:** Green & Company

   ADDRESS: 11 Lafayette Road, Po Box 1297, North Hampton, NH 03862

   TELEPHONE: (603) 501-8455

3. **RELATIONSHIP OF APPLICANT TO PROPERTY IF OTHER THAN OWNER:**

   Developer

   (Written permission from Owner is required, please attach.)

4. **DESCRIPTION OF PROPERTY:** Auto Parts Store

   ADDRESS: 76 Portsmouth Avenue

   TAX MAP: 65 **PARCEL #:** 118 **ZONING DISTRICT:** C-2

   AREA OF ENTIRE TRACT: 6.7 Acres **PORTION BEING DEVELOPED:**

5. **ESTIMATED TOTAL SITE DEVELOPMENT COST $** _____

6. **EXPLANATION OF PROPOSAL:** The intent of this project is to show a mixed use neighborhood development consisting of three buildings with 121 apartments and 4,680 S.F. of commercial space and one separate triplex on Haven Lane.

7. **ARE MUNICIPAL SERVICES AVAILABLE?** (YES/NO) Yes

If yes, Water and Sewer Superintendent must grant written approval for connection.
If no, septic system must comply with W.S.P.C.C. requirements.

8. **LIST ALL MAPS, PLANS AND OTHER ACCOMPANYING MATERIAL SUBMITTED WITH THIS APPLICATION:**

	ITEM:	NUMBER OF COPIES
A.	See Cover Letter	
B.		
C.		
D.		
E.		
F.		

9. **ANY DEED RESTRICTIONS AND COVENANTS THAT APPLY OR ARE CONTEMPLATED** (YES/NO) No IF YES, ATTACH COPY.

10. **NAME AND PROFESSION OF PERSON DESIGNING PLAN:**

NAME: Paige Libbey, P.E., Jones & Beach Engineers, Inc.

ADDRESS: PO Box 219, Stratham, NH 03885

PROFESSION: Civil Engineer **TELEPHONE:** (603) 772-4746

11. **LIST ALL IMPROVEMENTS AND UTILITIES TO BE INSTALLED:**

See Plan

12. **HAVE ANY SPECIAL EXCEPTIONS OR VARIANCES BEEN GRANTED BY THE ZONING BOARD OF ADJUSTMENT TO THIS PROPERTY PREVIOUSLY?**

IF YES, DESCRIBE BELOW. (Please check with the Planning Department Office to verify)

Unknown

13. **WILL THE PROPOSED PROJECT INVOLVE DEMOLITION OF ANY EXISTING BUILDINGS OR APPURTENANCES?** IF YES, DESCRIBE BELOW.
(Please note that any proposed demolition may require review by the Exeter Heritage Commission in accordance with Article 5, Section 5.3.5 of the Exeter Zoning Ordinance).

Yes

14. **WILL THE PROPOSED PROJECT REQUIRE A "NOTICE OF INTENT TO EXCAVATE" (State of NH Form PA-38)? IF YES, DESCRIBE BELOW.**

No

NOTICE: I CERTIFY THAT THIS APPLICATION AND THE ACCOMPANYING PLANS AND SUPPORTING INFORMATION HAVE BEEN PREPARED IN CONFORMANCE WITH ALL APPLICABLE REGULATIONS; INCLUDING BUT NOT LIMITED TO THE "SITE PLAN REVIEW AND SUBDIVISION REGULATIONS" AND THE ZONING ORDINANCE. FURTHERMORE, IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 15.2 OF THE "SITE PLAN REVIEW AND SUBDIVISION REGULATIONS", I AGREE TO PAY ALL COSTS ASSOCIATED WITH THE REVIEW OF THIS APPLICATION.

DATE 6/20/24 OWNER'S SIGNATURE (ASAgent)

ACCORDING TO RSA 676.4.I (c), THE PLANNING BOARD MUST DETERMINE WHETHER THE APPLICATION IS COMPLETE WITHIN 30 DAYS OF SUBMISSION. THE PLANNING BOARD MUST ACT TO APPROVE, CONDITIONALLY APPROVE, OR DENY AN APPLICATION WITHIN SIXTY FIVE (65) DAYS OF ITS ACCEPTANCE BY THE BOARD AS A COMPLETE APPLICATION. A SEPARATE FORM ALLOWING AN EXTENSION OR WAIVER TO THIS REQUIREMENT MAY BE SUBMITTED BY THE APPLICANT.

Letter of Authorization

I, Jenna Green, Green & Company, 11 Lafayette Road, PO Box 1297, North Hampton, NH 03862, developer of property located in Exeter, NH, known as Tax Map 65, Lot 118, do hereby authorize Jones & Beach Engineers, Inc., PO Box 219, Stratham, NH, to act on my behalf concerning the previously mentioned property. The parcel is located on 76 Portsmouth Avenue in Exeter, NH.

I hereby appoint Jones & Beach Engineers, Inc., as my agent to act on my behalf in the review process, to include any required signatures.

Witness

Jenna Green
Green & Company

June 20th, 2024
Date

Letter Of Authorization

I, Robert J. Weisner, RAP Realty Manchester, LLC, 50 Atlantic Avenue, Seabrook, NH 03874, owner of property located in Exeter, NH, known as Tax Map 65, Lot 118, do hereby authorize Jones & Beach Engineers, Inc., PO Box 219, Stratham, NH, to act on my behalf concerning the previously mentioned property. The parcel is located on 76 Portsmouth Avenue in Exeter, NH.

I hereby appoint Jones & Beach Engineers, Inc., as my agent to act on my behalf in the review process, to include any required signatures.

Judith Weisner
Witness

Owner: Robert J. Weisner
RAP Realty Manchester, LLC

6-20-2024
Date

1 of 4

For recorder's use:
Tax Stamp: $ 10,125.00
Recording Fee: $ 20.44
[illegible]e: $ 25.00
Return to: Acct. No.: D7
Devine, Millimet & Branch, P.A.
111 Amherst Street
Manchester, NH 03101

MAIL TO

C/H
L-CHIP
ROA037313

STATE OF NEW HAMPSHIRE
DEPARTMENT OF REVENUE ADMINISTRATION
REAL ESTATE TRANSFER TAX
10 THOUSAND 1 HUNDRED AND 25 DOLLARS
062209 872364 $10125.00
VOID IF ALTERED

2009 JUN 22 AM 8:50 029878

ROCKINGHAM COUNTY
REGISTRY OF DEEDS

WARRANTY DEED

BLJ, INC., formerly known as Robbins Auto Parts, Inc., a corporation organized and existing under the laws of the State of New Hampshire, with an address of 110-116 Washington Street, Dover, New Hampshire 03820, for consideration paid, grants to **RAP REALTY MANCHESTER, LLC,** a limited liability company organized under the laws of the State of New Hampshire, with an address of 116 Washington Street, Dover, New Hampshire 03820, with WARRANTY COVENANTS:

A certain tract or parcel of land, with the buildings and improvements thereon, situated on the northerly side of Portsmouth Avenue, so-called, in Exeter, Rockingham County, New Hampshire, bounded and described as follows:

Beginning on the northerly sideline of Portsmouth Avenue at the southwesterly corner of land now or formerly of Pouliotte; thence running southwesterly along said Portsmouth Avenue 225 feet to the southeasterly corner of land now or formerly of Walsh; thence turning at a right angle and running northwesterly along land of said Walsh 200 feet, more or less, to an iron pin at the northeasterly corner of land of said Walsh; thence turning at a right angle and running 300 feet along the northerly sideline of said Walsh and land of Culick and Baker to an iron pin at land now or formerly of Pendergast; thence turning at a right angle and running northwesterly 16 feet to an iron pipe set in the ground at the northeast corner of said Pendergast land; thence turning at a right angle and running southwesterly 374.6 feet along said Pendergast land to an iron pin at land now or formerly of Rogalski; thence turning at a right angle and running northwesterly along land of Rogalski 60 feet, more or less, to corner of land now or formerly of Tellier; thence turning and running northeasterly 640 feet, more or less, and parallel to Bonnie Drive along land of Tellier and various other land owners including land now or formerly of Cadieux to the southwest corner of land now or formerly of Johnson; thence turning and running northeasterly along the southerly sideline of said Johnson land 60 feet, more or less, to the southeasterly corner of land of Johnson; thence turning at a right angle and running northwesterly along the easterly sideline of said Johnson land 90 feet to the southerly sideline of Haven Lane extension; thence turning at a right angle and running along the southerly sideline of said Haven Lane extension 50 feet to the northeast corner of land now or formerly conveyed to Milner; thence turning at a right angle and running southeasterly along said Milner land 90 feet to a point; thence turning at a

right angle and running 200 feet along the southerly sideline of said Milner land to a point; thence turning at a right angle and running northwesterly along said Milner land 90 feet to the southerly sideline of said Haven Lane extension; thence turning at a right angle and running along the southerly sideline of said Haven Lane extension 125 feet, more or less, to a point; thence turning at a right angle and running northwesterly 40 feet to the northerly sideline of said Haven Lane extension; thence turning at a right angle and running North 70° 37' E 240 feet, more or less, to the northwesterly corner of land now or formerly of Avenue Motor Sales, Inc.; thence turning and running southeasterly along land of Avenue Motor Sales, Inc. 140 feet, more or less, to a point at land now or formerly of Burnham; thence turning at a right angle and running southwesterly 375 feet along land now or formerly of said Burnham and land of said Pouliotte to an iron pin at the northwesterly corner of land of said Pouliotte; thence turning at a right angle and running 200 feet, more or less, along land of Pouliotte to the northerly sideline of said Portsmouth Avenue to the point begun at.

EXCLUDING therefrom a certain parcel of land conveyed by Bert Simon to the Indian Head National Bank by deed dated May 22, 1972 and recorded at Book 2140, Page 324 of the Rockingham County Registry of Deeds.

SUBJECT TO the Drainage Easement granted by Robbins Auto Parts, Inc. to Exeter Health Resources, Inc. and First Development Corp. dated May 5, 1988 and recorded with said Registry of Deeds at Book 2741, Page 718 and as depicted on the plan entitled "Plan of Drainage Easement, Exeter, NH", dated March 28, 1988 prepared for Exeter Hospital by Kimball Chase, Civil Environmental Engineers and recorded with said Registry of Deeds as Plan No. D-18012.

Being the same premises conveyed to Robbins Auto Parts, Inc. by deed of Baron Investment Corporation dated July 19, 1979 and recorded at Book 2345, Page 1044 of the Rockingham County Registry of Deeds.

Executed as of the 12 day of June, 2009.

BLJ, Inc., formerly known as Robbins Auto Parts, Inc.

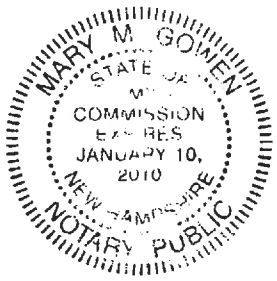
Witness

By: _____
Richard L. Robbins, its President
Duly Authorized

State of New Hampshire
County of Strafford

The foregoing instrument was acknowledged before me this 12 day of June, 2009, by Richard L. Robbins, President of BLJ, Inc., formerly known as Robbins Auto Parts, Inc., a corporation organized under the laws of the State of New Hampshire, on behalf of said corporation.

Mary M Gowen
Justice of the Peace / Notary Public
My Commission Expires: 1-10-2010
Seal or Stamp:



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ABUTTERS LIST (DIRECT)
AS OF
JUNE 20, 2024
FOR
76 PORTSMOUTH AVENUE, EXETER, NH
JBE PROJECT No. 24029

OWNER OF RECORD:

TAX MAP 65/LOT 118
RAP REALTY MANCHESTER LLC
ATTN. R. WEISNEV
50 ATLANTIC AVE
SEABROOK, NH 03874
BK 5023/PG 2926 (06/22/09)

APPLICANT:

GREEN & COMPANY
11 LAFAYETTE RD
PO BOX 1297
NORTH HAMPTON, NH 03862

ABUTTERS:

52/12
TOWN OF EXETER
10 FRONT STREET
EXETER, NH 03833

52/42
SHANE LAMKIN
29 DOUGLASS WAY
EXETER, NH 03833
5632/1000 (06/30/15)

65/37
DANIEL HEFFERNAN
32 HAVEN LANE
EXETER, NH 03833
5562/1813 (09/22/14)

65/38
ZACHARY DAVID SHELTRA
34 HAVEN LANE
EXETER, NH 03833
6344/0288 (10/21/21)

65/39
LUIS & MARTHA FRANCESCHI
36 HAVEN LANE
EXETER, NH 03833
6236/2825 (02/12/21)

65/40
JOAN ELLEN HAYES
37 HAVEN LANE
EXETER, NH 03833
2647/1678 (12/09/86)

65/41
EFREN & JENEFER BOAC
35 HAVEN LANE
EXETER, NH 03833
5106/2552 (04/29/10)

65/42
MICHAEL & DANIELLE HAUCK
31 HAVEN LANE
EXETER, NH 03833
5738/2947 (07/29/16)

65/43-1
CRAIG & KATHERINE BOUDREAU
11 BONNIE DR
EXETER, NH 03833
4409/0282 (12/10/04)

65/44
MATTHEW CARDAMONE
9 BONNIE DR
EXETER, NH 03833
5882/2140 (06/14/17)

65/114
BANK OF AMERICA
CORP REAL ESTATE ASSESSMENTS
PO BOX 32547
CHARLOTTE, NC 28232
4574/0707 (08/08/05)

65/115
JAMES FOY
5 BLACK ALDER DR
KINGSTON, NH 03848
2613/2514 (07/02/86)

65/116
ARANOSIAN OIL CO
557 NO STATE ST
CONCORD, NH 03301
1691/0034 (10/07/63)

65/117
ISERNIA OF NEW HAMSPHIRE LLC
LOCASCIO OF NEW HAMSPHIRE LLC
116-11 14TH RD
BEECHHURST, NY 11357
4888/2934 (02/22/08)

65/119
82 PORTSMOUTH AVE
C/O PATER RE MANAGEMENT CO INC
1 VERANI WAY
LONDONDERRY, NH 03053
6068/0609 (12/17/19)

65/120
GARY BLAKE 2001 REV TR
C/O NORTHEAST CREDIT UNION A/P
PO BOX 1240
PORTSMOUTH, NH 03833
3661/1058 (10/18/01)

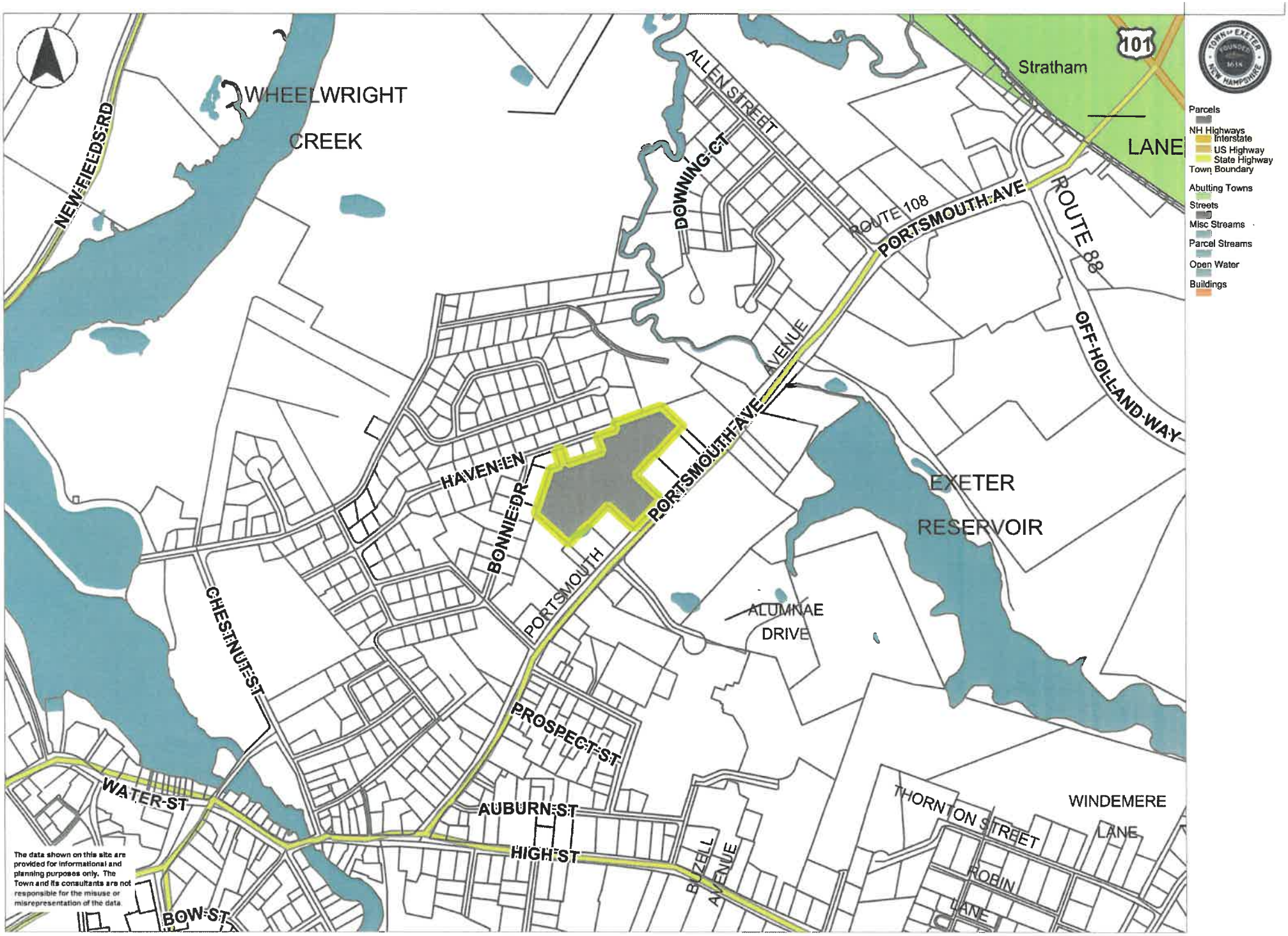
65/121
88 PORTSMOUTH AVE LLC
C/O CARRIE UPTON
76 EXETER RD
NORTH HAMPTON, NH 03862
6349/1360 (11/01/21)

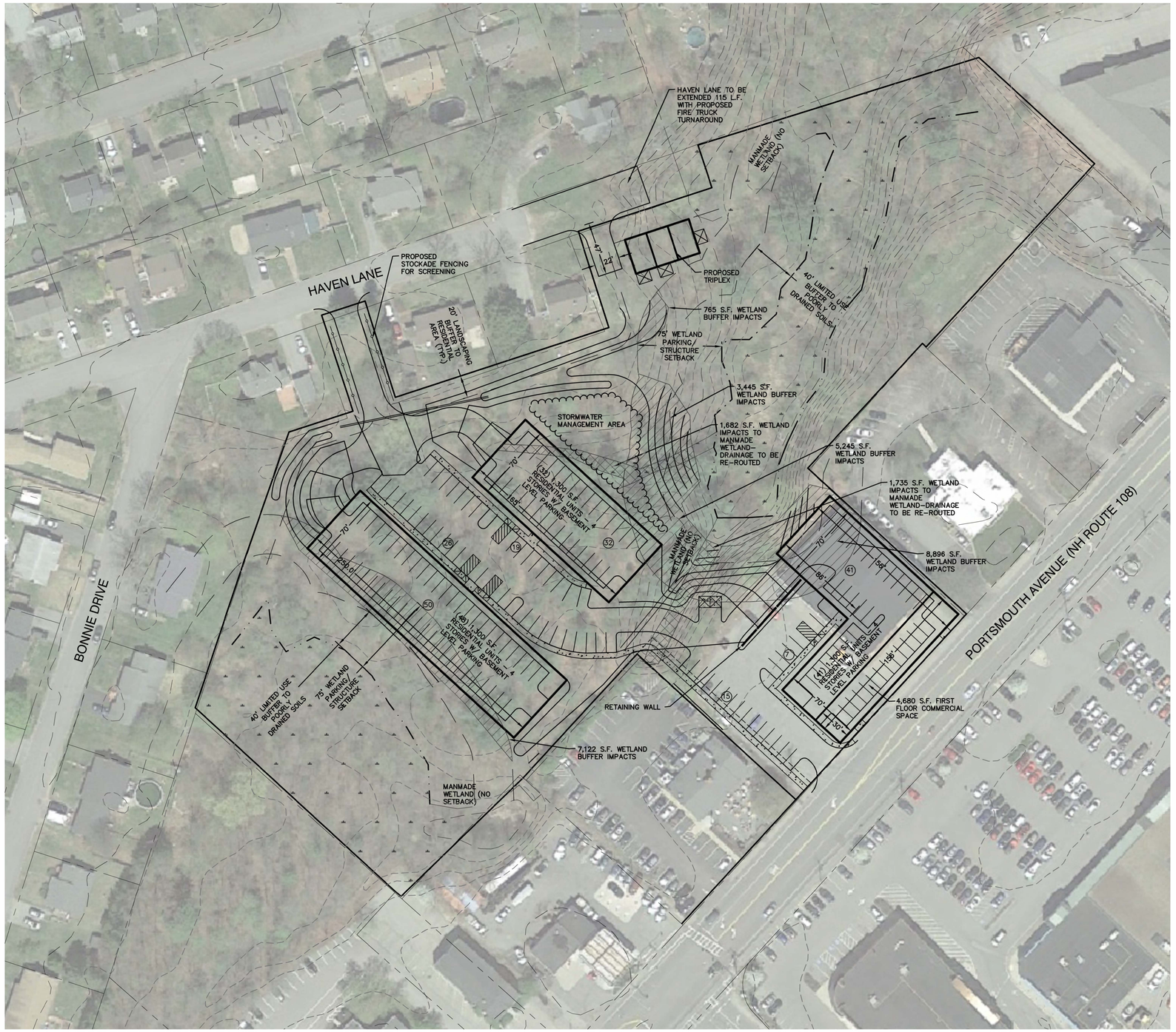
65/122
EXETER PLAZA REALTY TRUST
PETER & SOTIRIA KAZANTIDIS TRUSTEES
7 HERTIAGE WAY
EXETER, NH 03833
3237/0852 (09/10/97)

65/127
R E L COMMONS LLC
C/O WJP DEVELOPMENT LLC
8 GREENLEAF WOODS DR, STE 200
PORTSMOUTH, NH 03801
4446/2615 (03/04/05)

ENGINEERS/SURVEYORS:

JONES & BEACH ENGINEERS, INC.
ATTN: PAIGE LIBBEY
PO BOX 219
STRATHAM, NH 03885


WHEELWRIGHT
CREEK
NEWFIELDS RD
ALLEN STREET
DOWNING CT
Stratham
101
LANE
ROUTE 108
PORTSMOUTH AVE
ROUTE 88
OFF HOLLAND WAY
AVENUE
HAVEN LN
BONNIE DR
PORTSMOUTH AVE
EXETER
RESERVOIR
PORTSMOUTH
ALUMNAE
DRIVE
CHESTNUT ST
PROSPECT ST
WATER ST
AUBURN ST
HIGH ST
BUZZELL
AVENUE
THORNTON STREET
WINDEMERE
LANE
ROBIN
LANE
BOW ST
Parcels
NH Highways
Interstate
US Highway
State Highway
Town Boundary
Abutting Towns
Streets
Misc Streams
Parcel Streams
Open Water
Buildings
The data shown on this site are provided for informational and planning purposes only. The Town and its consultants are not responsible for the misuse or misrepresentation of the data.
0
930
1860 ft
Printed on 06/20/2024 at 09:22 AM
Exeter MapsOnline



REFERENCE

NOTES:

1. THE INTENT OF THIS PLAN IS TO SHOW A MIXED USE NEIGHBORHOOD DEVELOPMENT (MUND) CONSISTING OF THREE BUILDINGS WITH (121) APARTMENTS AND 4,680 S.F. OF COMMERCIAL SPACE, AND (1) SEPARATE TRIPLEX ON HAVEN LANE.

2. ZONING DISTRICT: C2
   - LOT AREA MINIMUM = 5,000 SF
   - LOT WIDTH MINIMUM = 50'
   - LOT DEPTH MINIMUM = 100'
   - MINIMUM LOT AREA/ DWELLING UNIT = 3,500 S.F.
   - BUILDING SETBACKS (MINIMUM):
     - FRONT SETBACK = 10'
     - SIDE SETBACK = SIDE YARD OF ABUTTING PROPERTY OR 10', WHICHEVER IS LESS
     - REAR SETBACK = 20'
   - MAX. BUILDING HEIGHT = 35'
   - MAX. BUILDING COVERAGE = 75%
   - MIN. OPEN SPACE = 5%
   - TOWN WETLAND BUFFER = 40' LIMITED USE BUFFER TO P.D. SOILS, 75' PARKING AND STRUCTURE SETBACK

   ZONING DISTRICT: MUND
   - MINIMUM LOT AREA/ DWELLING UNIT = NONE
   - FRONT SETBACK = 0' MINIMUM, 25' MAXIMUM
   - MAX. BUILDING HEIGHT = 50'/ 4 STORIES ABOVE GRADE

3. PARKING CALCULATIONS
   - MIXED USE NEIGHBORHOOD DISTRICT (MUND) PARKING REQUIREMENTS = 1 SPACE/RESIDENTIAL UNIT + COMMERCIAL PARKING AT 50% OF TOWN OF EXETER SITE PLAN REGULATIONS
   - REQUIRED PARKING = 1 SPACE/300 S.F. COMMERCIAL SPACE X 50%=7.8 SPACES REQUIRED
   - 1 SPACE/ RESIDENTIAL UNIT = 121 SPACES REQUIRED
   - TOTAL REQUIRED PARKING = 128.8 SPACES
   - PARKING PROVIDED = 190 SPACES (1.5 SPACES/UNIT + 8.5 SPACES FOR COMMERCIAL)

4. THE LIMITS OF JURISDICTIONAL WETLANDS WERE DELINEATED BY JIM GOVE, GOVE ENVIRONMENTAL SERVICES, DURING SPRING, 2024 IN ACCORDANCE WITH THE FOLLOWING GUIDANCE DOCUMENTS:
   a. THE CORPS OF ENGINEERS FEDERAL MANUAL FOR IDENTIFYING AND DELINEATING JURISDICTIONAL WETLANDS.
   b. THE NORTH CENTRAL & NORTHEAST REGIONAL SUPPLEMENT TO THE FEDERAL MANUAL.
   c. THE CURRENT VERSION OF THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, AS PUBLISHED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION AND/OR THE CURRENT VERSION OF THE FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, AS PUBLISHED BY THE USDA, NRCS, AS APPROPRIATE.
   d. THE CURRENT NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS, AS PUBLISHED BY THE US FISH AND WILDLIFE SERVICE.

5. THIS PLAN SET HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC., FOR CONCEPTUAL PURPOSES ONLY BASED ON DATA OBTAINED FROM AERIAL PHOTOGRAPHY, LIDAR TOPOGRAPHY, GIS AND TAX MAP DATA, RECORDED PLAN REFERENCES AND LIMITED ON-SITE FIELD SURVEY. COMPLETE FIELD SURVEY HAS NOT BEEN PERFORMED BY THIS OFFICE AT THIS TIME AND DATA ON THIS PLAN IS TO BE CONSIDERED APPROXIMATE ONLY.

6. WETLAND IMPACTS = 3,417 S.F.
   WETLAND BUFFER IMPACTS = 24,708 S.F.

GRAPHIC SCALE

−50 0 25 50 100 200

(IN FEET)
1" = 50'

PROJECT PARCEL
TOWN OF EXETER
TAX MAP 65, LOT 118

APPLICANT
GREEN & COMPANY
11 LAFAYETTE RD
PO BOX 1297
NORTH HAMPTON, NH 03862

TOTAL LOT AREA
291,852± SQ. FT.
6.7 ACRES

Design: MLS	Draft: GDR	Date: 3/15/24
Checked: WGM	Scale: 1"=50'	Project No.: 24029
Drawing Name: 24029-EX-CONDITIONS.dwg		

REV.	DATE	REVISION	BY
1	6/6/24	REVISED PER CLIENT	PSL
0	4/11/24	ISSUED FOR REVIEW	PSL

Designed and Produced in NH
Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	CONCEPTUAL SITE PLAN
Project:	NAME OF PROJECT 76 PORTSMOUTH AVE, EXETER, NH
Owner of Record:	RAP REALTY MANCHESTER LLC 50 ATLANTIC AVE, SEABROOK, NH

DRAWING No.
C1
SHEET 1 OF 1
JBE PROJECT NO. 24029

Town of Exeter

Barbara Mcevoy <bmcevoy@exeternh.gov>

Planning Board

1 message

Jenapher Hipkiss <jlh100706@yahoo.com> Mon, Jul 8, 2024 at 4:54 PM
To: "bmcevoy@exeternh.gov" <bmcevoy@exeternh.gov>

Hello,
I am writing in regards to the proposed development at 76 Portsmouth Avenue. I have reviewed the plans online and am incredibly concerned with the entire proposal.

1. When the ballot last March talked about mixed-use development on Portsmouth Ave I don't believe people were voting yes in order to completely change the look and feel of existing neighborhoods. From my understanding the mixed use was specific to Portsmouth Ave. This proposal will change Haven Ave and ALL of the Jady Hill neighborhood area. 4 story buildings literally right behind these single family homes, 120, 2 bedroom apartments could bring 240 cars to this area. It appears as if there is no way to add a light on Portsmouth Ave to ease the traffic, which it appears the developer understands, hence the reason they created a through road to come onto Haven Ave. I believe responsible growth is important to any township. I also believe we as a township should not be setting a precedence with developers that we are willing to sacrifice the home value and life of preexisting owners in order to pack in more housing. This proposal is way too big for the 7 acre parcel.

2. The plan discusses a "Man-made wetlands". Exeter is WET. It seems as though every proposal that comes to the planning board is looking for easement from wetlands. There is only so much wetlands we can develop before our entire town is under water. Every time trees get clear cut that water that they soaked up has to go somewhere. I have spoken with numerous towns people who live near new developments, and it does impact the existing houses.

3. Exeter has been developing at an incredibly rapid pace. We have so many new housing projects in the works at large scales. The 200 + units at The Gateway to Exeter. The Rose Farm development, the new downtown condos (with NO parking included), the development that Stratham is working on passing right up the road on Portsmouth Ave to name a few. This feels like the kind of growth that could greatly impact schools, police, hospitals, fire, road crews in a short time frame. Then pushing new budget items on already burdened taxpayers.

4. As a 14 year resident of Exeter the more people I talk to who have been here more than 5 years are not happy with the direction our town is headed. We are a quaint, know your neighbor kind of town. It feels as though we are quickly moving into trying to become a city. Is this the vision the residents have? Everyone I know who is trying to move to Exeter is looking for affordable single family homes. It seems like all that is being developed is overpriced condos/apartments.

5. Another major consideration as we develop is how it will impact your main areas of town with traffic. Exeter's downtown area can not increase traffic flow by adding more lanes or changing traffic patterns. It simply is a small quaint downtown with no where for more traffic to flow.. The traffic has been increasingly challenging and at times now backs up on Water St due to a Portsmouth Ave backup at the first light at the Walgreens. What will happen if 120 apartments are added so close to the downtown zone?

I hope you consider this application of the developer very carefully and keep the town of Exeter and its existing residents in the forefront of your mind. Developers don't control how our town grows. That is in the palm of your hands. Every decision you make in regards to variances impacts the entire town and people who have invested their hard-earned money for a piece of homeownership here. I would be devastated to be a resident of Haven Ave right now and think that everything these community members have worked so hard for will be changed drastically for a developer's greed of what they can do with 7 acre parcel. I truly believe when voters agreed to the mixed-use development it was not with the idea that we would be coming off from Portsmouth Ave into back neighborhoods, this part of the plan alone is a stop it in its tracks for me.

Thank you for your time,
Jenapher Hipkiss
14 River Bend Circle

Town of Exeter

Barbara Mcevoy <bmcevoy@exeternh.gov>

Concerns; 76 Portsmouth Ave Proposal

1 message

Megan Kirichenko <m.e.hurlbert@gmail.com> Mon, Jul 8, 2024 at 5:01 PM
To: bmcevoy@exeternh.gov

To whom it may concern;
My name is Megan Kirichenko, I live at 22 Haven Lane, Exeter, NH 03833 with my husband, two kids and two dogs. We have lived here for 10 years now. We fell in love with the neighborhood right away, for its quiet streets and family friendliness.
This proposal to build 121 apartments plus retail, a cut through road and more will ruin this part of Exeter forever. Here are just a few of my concerns…
1. This is 121 apartments this means at least two cars each that's 242 new cars causing traffic. More traffic in this small town will increase pollution and accidents. Not to mention the safety of my children and neighborhood children who play in the these currently safe streets. This also affects the safety of residents who use these quiet side streets to walk, exercise, walk dogs, ride bikes and more.
2. This will affect the wildlife and ecosystem around us. Not to mention the water table and drainage that could be catastrophic for current residents who basements are already flooded every spring and/or heavy rain.
3. This will affect property value not in a good way, this neighborhood will be less desirable with apartments being integrated into a single family home neighborhood.
Please, do not let this happen. Exeter is a small town, with good people and safe streets. We do not need to turn this beautiful little town into a Dover or Rochester.
Thank you kindly,
The Kirichenko Family of 22 Haven Lane

Town of Exeter

Barbara Mcevoy <bmcevoy@exeternh.gov>

Concerns; 76 Portsmouth Ave Proposal

1 message

Alexey Kirichenko <alexeykir84@gmail.com> Mon, Jul 8, 2024 at 5:07 PM
To: bmcevoy@exeternh.gov

> To whom it may concern;
> My name is Alexey Kirichenko, I live at 22 Haven Lane, Exeter, NH 03833 with my wife, two kids and two dogs. We have lived here for 10 years now. We fell in love with the neighborhood right away, for its quiet streets and family friendliness.
> This proposal to build 121 apartments plus retail, a cut through road and more will ruin this part of Exeter forever. Here are just a few of my concerns…
> 1. This is 121 apartments this means at least two cars each that's 242 new cars causing traffic. More traffic in this small town will increase pollution and accidents. Not to mention the safety of my children and neighborhood children who play in the these currently safe streets. This also affects the safety of residents who use these quiet side streets to walk, exercise, walk dogs, ride bikes and more.
> 2. This will affect the wildlife and ecosystem around us. Not to mention the water table and drainage that could be catastrophic for current residents who basements are already flooded every spring and/or heavy rain.
> 3. This will affect property value not in a good way, this neighborhood will be less desirable with apartments being integrated into a single family home neighborhood.
> Please, do not let this happen. Exeter is a small town, with good people and safe streets. We do not need to turn this beautiful little town into a Dover or Rochester.
> Thank you kindly,
> The Kirichenko Family of 22 Haven Lane

Town of Exeter

Barbara Mcevoy <bmcevoy@exeternh.gov>

(no subject)

1 message

Sheri Dion <sheridion@gmail.com> Mon, Jul 8, 2024 at 5:20 PM
To: "bmcevoy@exeternh.gov" <bmcevoy@exeternh.gov>
Cc: cpdion <cpdion@gmail.com>

Dear Barbara,

I hope this email finds you well.

I am writing to express extreme concern about the Jones & Beach Engineers Inc proposal to upend the 6.7 acre Jady Hill neighborhood section of Portsmouth Ave. My concerns include the already high-density section of Portsmouth Ave being overwhelmed, the removal of wildlife and forestry in this area, disruption to wetlands, traffic, hospital and local area industry and restaurants, and the destruction of the existing neighborhood and surrounding areas. The creation of a 121-unit complex would demolish a vibrant portion of town and would be deleterious to our community.

I can be reached at 86 Court Street, Exeter NH. (603) 303-3835. Thank you, the Conservation Committee, and the Planning Board for your time and consideration on behalf of our community.

Very best,

Sheri Dion

--
Sheri Dion, Ph.D. (*she/her/hers*)
Harvard T.H. Chan School of Public Health
sdion@hsph.harvard.edu

Town of Exeter

Barbara Mcevoy <bmcevoy@exeternh.gov>

Portsmouth Ave Proposal

1 message

Shane Hochstetler <shane.hochstetler@gmail.com> Mon, Jul 8, 2024 at 8:01 PM
To: bmcevoy@exeternh.gov

Good evening,

Recently I heard about a proposal to add 121 units of housing near the thirty moose on Portsmouth Ave.

One of the things I love about our town is that there are NOT high rise buildings everywhere. It's a charming New England town even along the busy Portsmouth Ave. Even the Fairfield suites and McClane Manor is only 3 stories.

Portsmouth Ave is already congested with traffic on a regular basis. Especially at the High Street and Portsmouth Ave intersection. Additionally, the traffic and parking lot at the thirsty moose is dangerous enough as it is. without the additional traffic from the 121 units.

The plan to open the unit into the the Haven Lane is, in my opinion, irresponsible. The quaint neighborhood full of children will be inundated with traffic trying to avoid Portsmouth Ave.

I am additionally concerned about the water runoff from the area after displacing a significant size wooded lot. During construction this will be clear cut with new trees brought in after the development is complete. The benefit from those limited trees will be small in comparison to the trees there now. They will create retention ponds and such, but those become habitats for mosquitoes over time.

Lastly is the school system. Can the existing school system handle a potential sizable influx of students? CMS was only recently expanded due to lack of space. If additional housing of this type is added, how will the schools keep up?

Thank you for your consideration of concerns.

William S. Hochstetler
8 Exeter Farms Rd
Exeter, NH

Sent from my iPhone

Town of Exeter

Barbara Mcevoy <bmcevoy@exeternh.gov>

Opposition to 76 Portsmouth Ave

1 message

Deanna Graham <healthychoiceseveryday@gmail.com> Mon, Jul 8, 2024 at 9:46 PM
To: bmcevoy@exeternh.gov

> Good evening Barbara,
>
> I am Deanna Graham, the homeowner at 5 Douglass Way in Exeter.
>
> I am writing to respectfully express my opposition to the proposed development at 76 Portsmouth Ave, particularly concerning the road that would directly impact the Haven Lane and Jady Hill neighborhoods.
>
> My primary concerns revolve around increased traffic and potential privacy issues. Haven Lane is a quiet dead-end street, offering a true sense of community and safety away from heavy traffic flow. The Jady Hill area already experiences traffic as a shortcut to downtown, and I fear the added impact this development could have on both traffic congestion and neighborhood privacy.
>
> Having been a resident of Exeter since the age of 4 and growing up at 31 Haven Lane, I deeply value the small-town charm that Exeter embodies. When homeowners choose to live in neighborhoods away from main roads, it is with the intention of creating a secure and tranquil living environment. In our case, we specifically chose to reside in this neighborhood, the one I grew up in, for these reasons.
>
> Sincerely,
> Deanna Graham
> 603-686-3666
> 5 Douglass Way, Exeter, NH

Town of Exeter

Barbara Mcevoy <bmcevoy@exeternh.gov>

76 Porthsmouth Ave Proposed Developement

1 message

Ryan O'Brien <ryan@functionalart.us> Mon, Jul 8, 2024 at 10:03 PM
To: bmcevoy@exeternh.gov
Cc: Jennifer <jouellet@comcast.net>

Barbara,

It has come to my attention as well as the attention of many of my neighbors about a proposed 124 Unit development connecting 76 Portsmouth Ave to Haven Lane in the Jady Hill neighborhood. It would be greatly appreciated if you could review the attached document I prepared and get it in the hands of the Planning Board for Thursdays meeting. I know myself as well as many from the neighborhood will be attending that meeting as we have serious concerns about the proposed design by Jones & Beach for Green & Company.

Your service to Exeter is greatly appreciated. Thank you for everything you do.

--

Ryan O'Brien
20 Haven Land
Exeter, NH 03833
ryan@functionalart.us
603-477-9968

76_Portsmouth_Ave_Development_20240708_w_exhibits.pdf
1437K

Date: July 8, 2024

To: Exeter, NH Conservation Commission & Planning Board

Re: 76 Portsmouth Avenue Exeter, NH Proposed 124 Unit Development

Conceptual Site Plan Drawn by Jones & Beach Engineering, Inc.
for Green & Company Dated June 6, 2024 (see Exhibit A)

Dear Board,

My name is Ryan O'Brien and I live at 20 Haven Lane. It has come to my attention there is a proposed 124 unit development project located at 76 Portsmouth Avenue. First off I'd like to say I'm not opposed to development in town, nor am I opposed to development at 76 Portsmouth Avenue. I do, however, find 4 unacceptable problems with the proposed development plan as currently drawn (see Exhibit A):

1. It would destroy the natural water and animal flow to Wheelwright Creek (a Squamscott River tributary) by creating a ground water dam between Portsmouth Ave and Haven Lane on top of poorly drained soils (see Exhibit C) and blocking storm sewer discharge (see Exhibit C). There is an extremely high water table in this area. The current vegatated area of the development site is a natural catch basin and filter for all the ground and surface water flowing down through the Jady Hill residential neighborhood and off the impervious surfaces along Portsmouth Ave as well as a storm sewer discharge area. A lot of the houses in this neighborhood have sump pumps that run 7-12 months a year to keep our basements dry and the houses along Bonnie Drive are known to have flooding issues already due to the water in this area. The proposed building configuration creates an unacceptable water drainage issue.
2. It creates a significant traffic and safety problem by dumping 124 units of cars plus Portsmouth Ave cut through cars onto Haven Lane.
3. It would destroy the natural buffer that currently exists between the Portsmouth Ave Commercial Zone (C-2) and the Jady Hill Neighborhood Residential Zone (R-3).
4. It is trying to build too much in too small a "buildable area" (assuming there is in fact buildable area between the wetlands sandwiched by Jady Hill neighborhood and Portsmouth Ave which is ALL poorly drained soil and a lot of wetlands - see Exhibit C).

In the interest of addressing these 4 problems I offer the following design modifications (see Exhibit B)**:**

1. Eliminate the access road to Haven Lane. This solves the safety issues due to traffic ingress and exit through Haven Lane. Most high density housing in Exeter only has one access road so this connection is clearly not required. Examples: Ray Farm, Meeting House, Brookside Dr, McKay Dr, Earnest Ave, Acadia Ln, Stonewall Way.
2. Eliminate the 32 Unit & 3 Unit buildings to reduce infringment on wetlands, reduce scope to allow for a reconfiguration of site and a reduction of site density.

3. If a building is allowed on the poorly drained soil area (see Exhibit C)... Rotate the 48 unit buiding (see Exhibit B, Area B) 90 degrees and move it towards the Portsmouth Ave side allowing for more natural water migration around the building... else eliminate the 48 unit building.
4. If 48 unit building (see Exhibit B, Area B) is allowed after environmental review, create a new swail / water mitigation area between the 48 unit building and the Jady Hill neighborhood. This will help make basement level parking a more viable option and help maintain natural water flow through the entire property towards the Wheelwright Creek.
5. Create a permanent conservation easement for the remainder of the property which maintains a wide natural buffer between R-3 and C-2 allowing water and animal flow, and to protect this delicate area from future development.

In summary, and after extensive research, it is my opinion no buildings or impervious surfaces should be built on the poorly drained soils area indicated on Exhibit C in keeping with the Exeter Zoning Board Ordinance article 9.1.1 Naturual Resource Protection sections A-D & G and article 10.1.1 Growth Management Ordinance sections D & F. This will preserve an area that is critical to maintain water quality and migration before entering the Squamscott River system. If buildings are allowed to be built in this area, then the scope must be significantly reduced, a water and conservation corridor including a significant natural buffer must be maintained between the building(s) and the Jady Hill neighborhood, and no through street should connect to Haven Lane (see Exhibit B for proposed design changes).

Ryan O'Brien
20 Haven Lane
Exeter, NH 03833

Exeter 2024 Zoning Ordinance References:

R-3 SINGLE FAMILY RESIDENTIAL (Article 4.2)

- Permitted Use: One-family detached dwellings. Public elementary and high schools. Recreation facilities. Open space development. Residential conversions and accessory dwelling units (See Notes #1 and #2 at the end of this article).
- Accessory Use: Home occupations. Private garages and parking. Other accessory uses customarily incidental to the principal use.
- Special Exceptions: Child day care. Churches and similar places of worship. Essential services. Libraries, museums. Multi-family Open Space Development (See Article 7.6). Community Buildings.

C-2 HIGHWAY COMMERCIAL (Article 4.2)

- Permitted Use: Retail services, business offices, professional offices and medical offices. Hotels/motels. Bed and Breakfast. Child day care. Community buildings, social halls, clubs, lodges and fraternal organizations. Essential services. Mixed Use Neighborhood Development. Automobile repair shops and washing

establishments. New and used car dealers. Amusement Centers. Wholesale establishments. Landscape services and garden supply establishments. Animal hospitals and veterinarians, animal boarding/ kennels. Boat sales and services. Access to Healthcare District. Access to the R-4 multifamily district. Residential conversions (See Note #2 at the end of this article).

- Accessory Use: Off-street parking. Other accessory uses customarily incidental to the principal use. Home occupations.
- Special Exceptions: Gasoline and/or services stations. Rooming and boarding houses by conversion only. Heliports. Multi-use.

NATURAL RESOURCE PROTECTION (Article 9.1.1)

- A. Prevent the development of structures and land uses on wetlands and wetland areas of very poorly drained soils and poorly drained soils and/or their buffers which will contribute to pollution of surface and groundwater by sewage or toxic substances, excess nutrients or sedimentation;
- B. Prevent the destruction of, or significant changes to, those wetland areas, related water bodies, and adjoining land which provide flood protection;
- C. Protect wetland systems that provide filtration of water flowing into ponds and streams, augment stream flow during dry periods and which connect to the ground or surface water supply;
- D. Protect wildlife habitats, maintain ecological function and support other public purposes such as those cited in NH RSA §482-A:1 and as amended from time to time;
- G. Prevent damage to structures and properties caused by inappropriate development in wetlands.

GROWTH MANAGEMENT ORDINANCE (Article 10.1.1)

- D. To Protect the health, safety, convenience, property and general welfare of its inhabitants;
- F. To promote development harmonious with land capabilities within the Town;

OTHER NOTES:

- There is no parking allocated for the 3 Unit bldg (fire truck turn around can not be used for parking) nor is there any regrading indicated around it when regrading would most certainly be required.
- There is no open space / lawn indicated around the 3, 32, & 48 unit bldgs. Not sure if this is required or allowed near wetland but buildings usually have open space around them for safety and human space and certainly these would need space as well but none are shown. This additional space would further encroach on the wetlands.
- The height and scale of these buildings make them visible from the Jady Hill neighborhood, especially if the natural vegitation buffer is removed as proposed. This is not in keeping with the neighborhood scale.

Exhibit A: Proposed 76 Portsmouth Ave Development

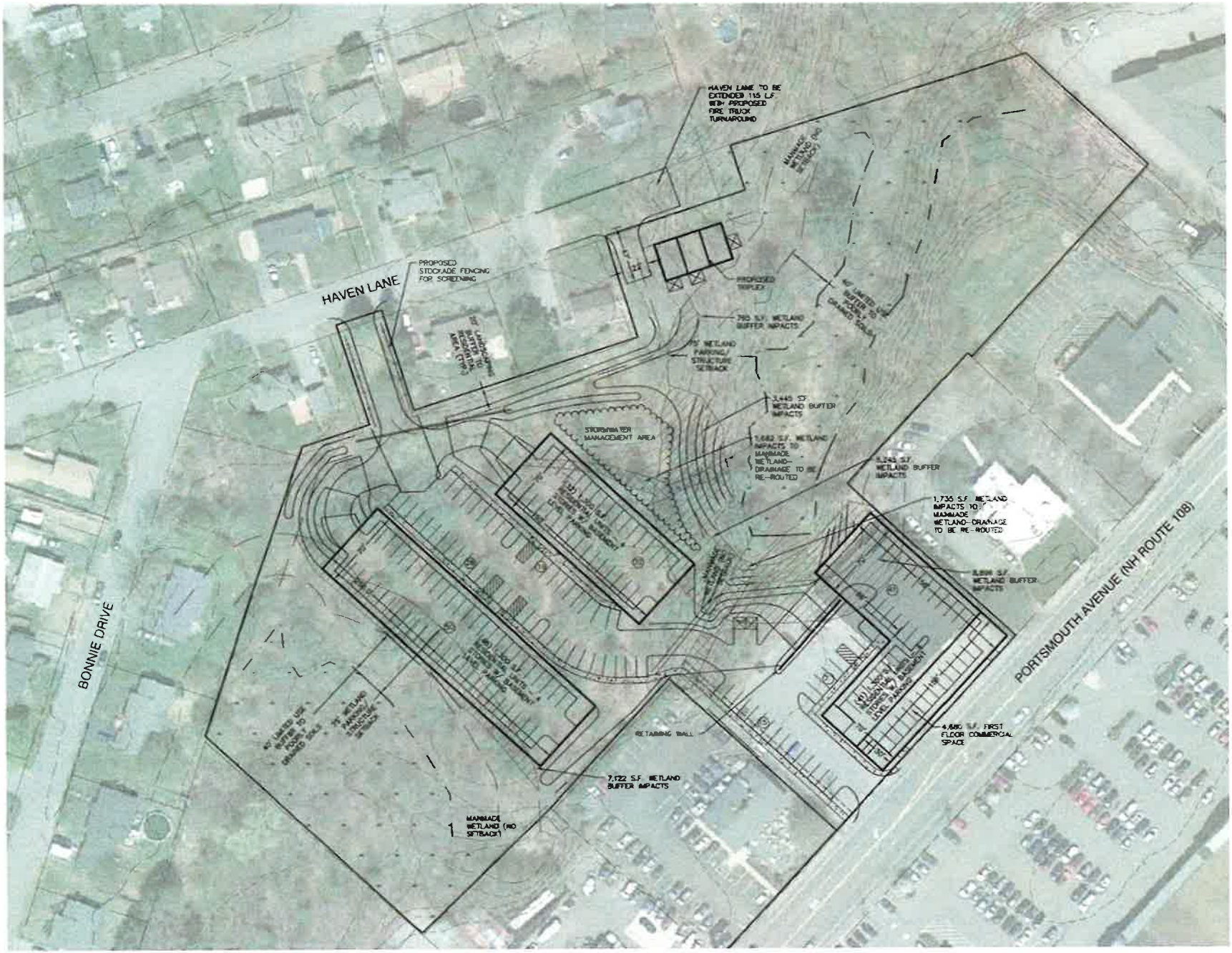


Exhibit B: Proposed Changes To 76 Portsmouth Ave Development

(Remove Driveway to Haven Ln, Reduce scope by removing 32 Unit & 3 Unit Bldgs, Add Drainage Swail, Add Conservation Easement)

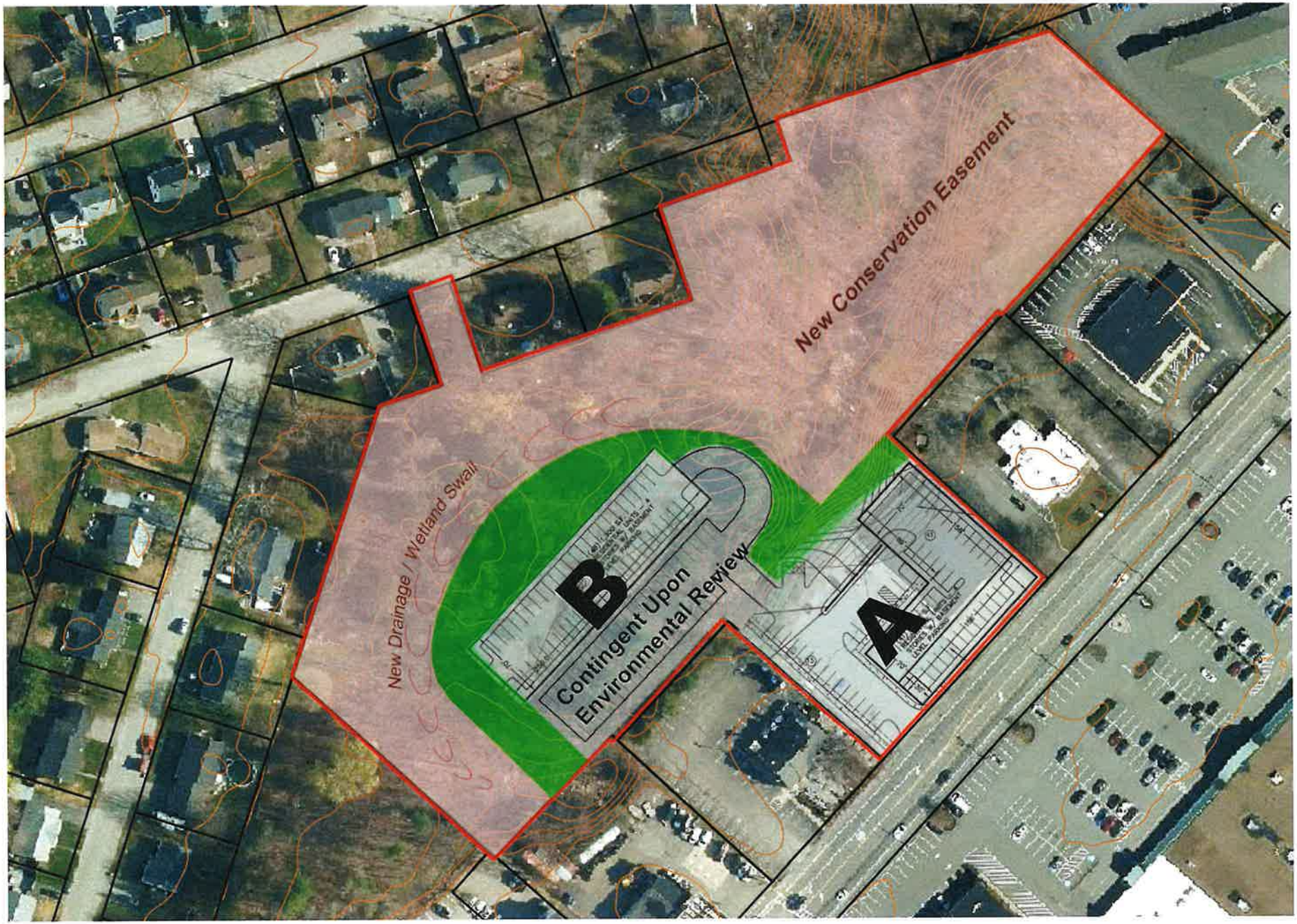
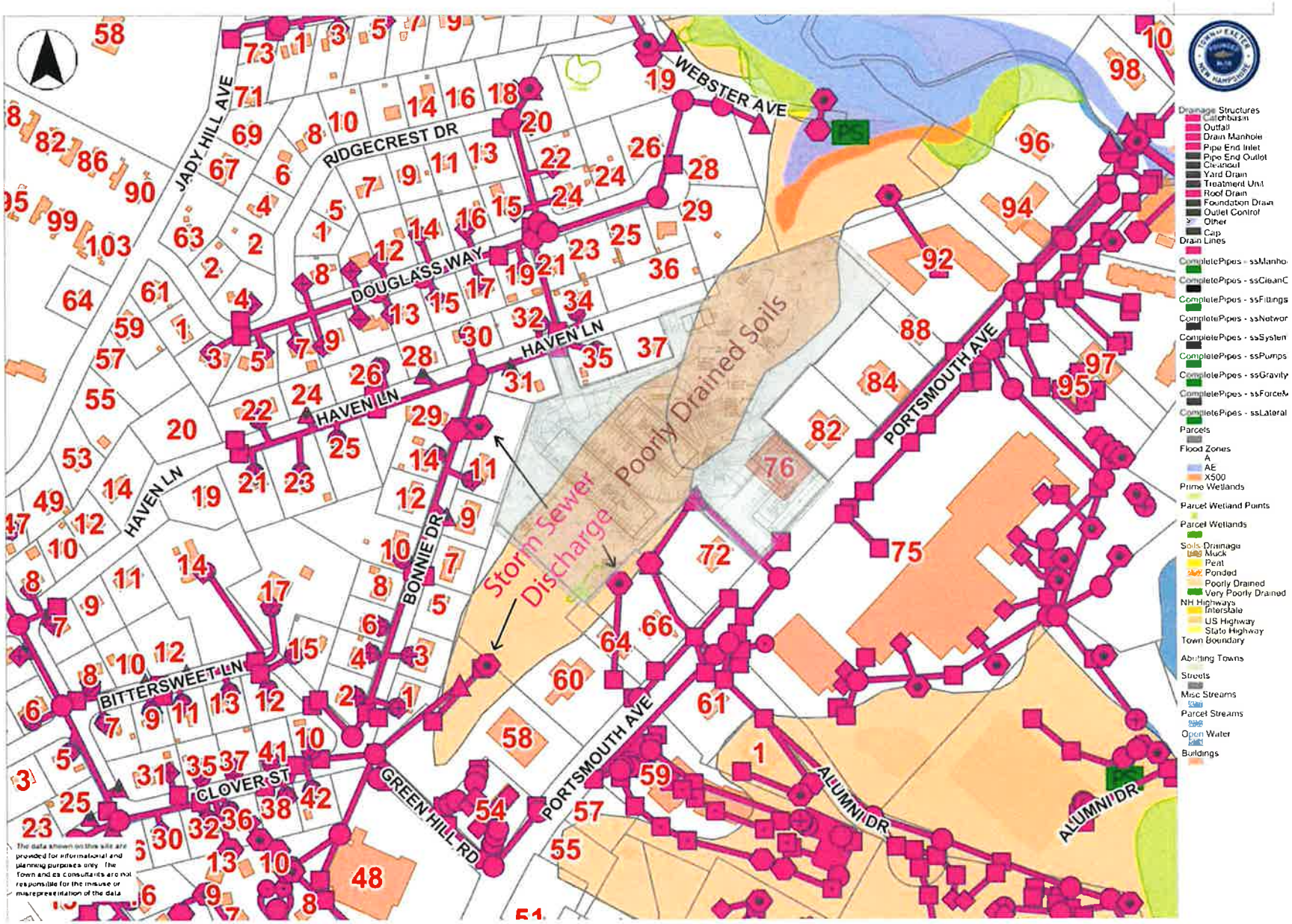


Exhibit C: Poorly Drained Soils & Storm Sewer Discharge



Printed on 07/06/2024 at 03:54 PM

Exeter MapsOnline

Town of Exeter

Barbara Mcevoy <bmcevoy@exeternh.gov>

No new development!

1 message

April Hurl very <prettyponies4u@yahoo.com> Tue, Jul 9, 2024 at 7:18 PM
To: bmcevoy@exeternh.gov

Hello,
As a long time resident of Exeter, Kensington and now Brentwood 38+ years this proposal concerns me.
Already so developments have happened in 03833 area!
This area is becoming so over crowded and streets are becoming unsafe. Traffic is out out of control, not enough downtown parking.
Wildlife and the eco system are being affected.
Is this what we want to leave our children and grandchildren?
Please preserve what's left of this area and do not succumb to greed.
Sincerely,
April Hurlbert
17 Dudley Rd
Brentwood and owner of 24 Haven Lane Exeter

Sent from my iPhone

Town of Exeter

Barbara Mcevoy <bmcevoy@exeternh.gov>

Planning Board Meeting 7/11

1 message

Teresa Kolb <teresamkolb@gmail.com> Wed, Jul 10, 2024 at 7:34 PM
To: bmcevoy@exeternh.gov

To the Planning Board,

I am unable to attend the Planning Board meeting on 7/11/24 in person but wanted to voice my concern on the agenda item for the proposed development at 76 Portsmouth Ave. I understand based on the agenda packet that this is a design review and not a formal application to the board but I still think it is important for residents of the town to share feedback on proposed designs/plans.

As a resident of this town, I do not understand how this design could benefit anyone in town. Portsmouth Ave is a highly traveled road, and the influx of residents in the Seacoast area has only made this worse over the past five years. We've all sat at the lights on that road and know it is a pain point. Building a huge apartment complex that will bring even more cars and traffic to the area is the last thing any resident of this town would want. The current design as is would increase traffic on Portsmouth Ave at a location that doesn't have a traffic light, so I am very concerned about cars attempting to take a left out of that parking lot and holding up the thru traffic. I am a customer of Robbins and know better than to try to take a left out of there, but I doubt any new residents to town would realize that and it will cause traffic headaches everyday. We also do not need to build a new building to add commercial space to town when there is an existing commercial business using the property/building as is. Therefore I can't see a benefit of adding commercial space when there is already a business I frequent operating at that location.

The design also includes increasing traffic to the Haven Lane and Bonnie Drive roads which would be a terrible shame for the property owners who bought their property on a dead end road for a reason. Increasing the daily traffic in a neighborhood for people to use it as a cut through would be a huge mistake and significantly impacts the property owners in that area of town.

This proposed plan is not a good fit for the location and should not be accepted as is.

Thank you for your time,
Teresa Kolb and Travis Sawyer
10 Cross Rd Exeter NH

Sent from my iPhone

Town of Exeter

Barbara Mcevoy <bmcevoy@exeternh.gov>

76 Portsmouth Ave

1 message

G Long <glong14@gmail.com> Thu, Jul 11, 2024 at 7:08 PM
To: "bmcevoy@exeternh.gov" <bmcevoy@exeternh.gov>

Hello,

I got a mailer talking about this Jones & Beach Engineers Inc proposition. I'm not too happy about it. Not really sure how these things work, but I vote "nay".

Thanks,
Geoffrey Long

EMANUEL
ENGINEERING

June 20, 2024

Exeter Planning Board
Town of Exeter
10 Front Street
Exeter, NH 03833

RE: Request for Extension of Notice of Decision - Exeter Country Club Project (58 Jady Hill Avenue, Exeter, NH)

Members of the Exeter Planning Board,

This letter is submitted by Emanuel Engineering, Inc. on behalf of Blind Tiger, LLC to request an extension of the Notice of Decision (NOD) granted for the project located at 58 Jady Hill Avenue, Exeter, NH (Exeter Country Club).

The original NOD was granted on July 13, 2023. We are requesting an extension due to unforeseen financial circumstances. Upon recent discussions with the project contractor, construction costs are estimated to be significantly higher than originally anticipated. Blind Tiger, LLC is actively exploring cost-saving measures to ensure the project's financial viability.

We kindly request an extension of one year to allow Blind Tiger, LLC to finalize the project budget and secure necessary funding. We are committed to this project and will work diligently to address the cost concerns within the requested timeframe.

We appreciate your understanding and look forward to your favorable consideration of this extension request. Please do not hesitate to contact us at (603)772-4400 or jmacbride@emanuelengineering.com if you require any additional information.

Sincerely,

JJ MacBride, PE
Civil Engineer