TOWN OF EXETER, NEW HAMPSHIRE

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LEGAL NOTICE
EXETER PLANNING BOARD
AGENDA

The Exeter Planning Board will meet on Thursday, September 11, 2025 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: August 14 and August 28, 2025

NEW BUSINESS: PUBLIC HEARINGS

The continued public hearing on the application of Caley Associates for site plan review and a Shoreland Conditional Use Permit for the proposed redevelopment of the property at 97 Portsmouth Avenue. The developer is proposing to demolish the existing Blue Ribbon Dry Cleaners building on the site and construct a multi-use building to include commercial space, amenities, and 14 residential units with parking and associated site improvements. The property is located in the C-2, Highway Commercial zoning district and is identified as Tax Map Parcel #65-125. PB Case #25-3.

The application of the Exeter Presbyterian Church for site plan review of the proposed construction of an additional building, parking and associated site improvements on the property located at 73 Winter Street. The subject property is located in the C-1, Central Area Commercial zoning district. Tax Map Parcel #73-143. PB Case #25-6.

OTHER BUSINESS

- 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 08/29/25: Exeter Town Office and Town of Exeter website

TOWN OF EXETER
PLANNING BOARD
NOWAK ROOM
10 FRONT STREET
AUGUST 14, 2025
DRAFT MINUTES
7:00 PM

I. PRELIMINARIES:

BOARD MEMBERS PRESENT BY ROLL CALL: Chair Langdon Plumer, Gwen English, Nancy Belanger, Select Board Representative, Alternate Marty Kennedy, Alternate Dean Hubbard, and Alternate Sam MacLeod.

STAFF PRESENT: Interim Town Planner Carol Ogilvie, Assistant Town Manager Melissa Roy

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

III. NEW BUSINESS:

1. Public hearing on the 2026-2030 Capital Improvements Program (CIP) projects as presented by the Town Departments. Copies of the proposed document(s) will be available at the Planning Department Office prior to the meeting.

Library Building Fund $75,000 (page 5)

Library Director Judy Lanter presented the request for $75,000 to establish the building fund. She indicated there were anticipated plumbing repairs to replace the pipe to the main line which frequently backs up, the elevator is 38 years old and began leaking oil, there are eight original custom doors with casings that need to be replaced, the HVAC unit has four pumps that need replacing. She will talk to the elevator company about getting estimates for replacement due to the age of the unit, however the current issues are fixable. The doors are approximately $8,000. Ms. Roy noted these are not part of the maintenance budget.

Mr. Kennedy asked the process to ask for more when the fund needed to be replenished. Ms. Roy noted the funds would be replenished with a warrant article through the CIP process and the Library Trustees would be the agents to expend.

Pairpoint Park $35,000 (page 10)

Steven Jones, Chair of the Pairpoint Park Committee, presented the request for $35,000 of the anticipated $40,000 cost of the engineering design for Pairpoint Park. He noted plans to raise $5,000. Mr. Jones noted the Committee consists of 9-12 people and Jen Martel, who is a landscape architect, is a

member of the Committee and the Planning Board. He explained that the park parcel on Water Street was donated and originally had buildings that burned down and there are concerns about what is under the turf. The parcel is unimproved. Surveys were sent out to the residents and the first received 750 responses and three designs were proposed. The second survey yielded 500 responses, and the Select Board approved the design concept. He noted these funds would be applied to the design only and they are looking for grants, donations and other fundraising to offset the cost. Ms. Martel looked at other similar projects and estimated the cost.

Parks & Recreation

Parks & Recreation Director Greg Bisson presented the CIP requests for Parks & Recreation.

Parks & Recreation Improvement Fund – pg. 6

Mr. Bisson noted the fund was established six years ago and helped with several projects.

Brickyard Park

Mr. Bisson noted the irrigation system needs to be modified for the green space that currently serves soccer and field hockey. It used to serve baseball, so the system is not down deep enough.

Skate Park - Guardrail Replacement

Mr. Bisson noted this project would make the park more ADA accessible and update the path.

Ms. Belanger recommended a water fountain in the future.

Pool Building Restoration

Mr. Bisson noted this would be the third phase of the restoration and include replacing the floor, ADA accessibility, repainting, a new roof, and windows.

Park Street Common – Gilman Park

Mr. Bisson noted benches would be replaced with plastic benches on cement pads. The electricity would be updated to allow for use by the robot mowers.

Ms. Belanger recommended if digging for the electricity, to consider installing a conduit for future electric vehicle charging stations.

Hampton Road

Mr. Bisson noted the ADA pathway from 4 Hampton Road to 10 Hampton Road would be extended.

DPW Director Steve Cronin and Water/Sewer Supervisor Stephen Dalton presented the requests for:

Surface Water Treatment Plant $2 million (pg. 23)

Mr. Cronin noted the funding in 2024 and the drinking water SRF application was submitted. The current plant is outdated, and they are identifying other properties in the general vicinity. The existing plant is in the 100-year flood plain and downstream from the dam. He noted this is for design work.

Ms. English noted there is a program in Colorado which recharges the groundwater supply by re-using water. Mr. Cronin noted this had been discussed at the conceptual level.

Great Bay Total Nitrogen (pg. 21)

Mr. Cronin explained the five-year permit and reduction of non-source point pollution. In the past they looked at septic systems and fertilizer. They are proposing enhanced street sweeping and would like to replace the street sweeper at a cost of $400,000. It has a 6–8-year life cycle. He explained the percentage of Clean Water SRF funding and that this was a less expensive way to keep the permit rather then costly upgrades to the treatment plant. The Enhanced Sweeping Program, estimated at $12,000, would be 100% funded if approved.

High Street Cross City Sewer Rehab (pg. 30) $4.3 million

Mr. Cronin noted sewer capacity issues from High Street to Gilman to Drinkwater Road. He indicated 2,600' of pipe would be rehabilitated and $2,500' of pipe replaced. He applied to the Clean Water SRF and hasn't heard yet. He showed the location of the pipes on the plan and a section where 12" pipe would be upgraded to 15."

Lead Service Line Inventory (pg. 33) $173,000

Mr. Cronin explained the EPA regulations and compliance date of 2034 to identify locations. They will do 149 customer side visual inspections and 69 system side inspections with pothole excavations annually.

Chair Plumer asked if the inspections would be done by the department or contractors and Mr. Cronin indicated a hybrid of both.

Surface Water Treatment Plant Residual Disposal (pg. 34) $500,000

Mr. Cronin explained the by-product of treatment that needs to be trucked away until the plant is replaced.

Vehicle Replacement – Dump Truck #52 (pg. 58) - $85,000

Mr. Cronin showed a photo of the truck to be replaced with a Ford F550. He noted an equipment schedule on page 60.

ADA Improvement Capital Reserve Fund (pg. 8) $25,000

Ms. Roy presented the request for funding the reserve fund. She indicated there is work around town to improve accessibility. There was a study done to identify potential improvements She noted that Planet Playground has ADA accessible spaces. Ms. Belanger noted that Pairpoint Park will have them as well.

Pedestrian Improvement (pg. 12) $266,000

Ms. Roy presented the request for matching funds for the proposed $1 million improvements to sidewalks and crosswalks. She noted there is a Transportation Alternative Program grant which would cover 80%. The project would only move forward if the grant is approved.

Space Needs Assessment (pg. 11) $50,000

Ms. Roy explained assessment of town building functionality. The assessment would require a $50,000 warrant article. The assessment would consult on how to best use spaces. She noted the move to 10 Hampton Road from Court Street as one example and the Police Fire Substation as another. She noted that police and fire had held off on any requests this year to thank residents for support of the substation.

IV. OLD BUSINESS

APPROVAL OF MINUTES

June 12, 2025 – ***Tabled***

Mr. Kennedy recommended having Vice-Chair Brown review the conditions of approval to make sure the approval letter that went out matched.

Ms. English motioned to table approval of the June 12, 2025 minutes. Ms. Belanger seconded the motion. A vote was taken, all were in favor, the motion passed unanimously.

July 10, 2025

Ms. English and Ms. Belanger recommended edits.

Mr. Kennedy motioned to approve the July 10, 2025 minutes, as amended. Ms. Belanger seconded the motion. A vote was taken, all were in favor, the motion passed unanimously.

V. OTHER BUSINESS

- Master Plan Discussion
- Field Modifications
- Bond and/or Letter of Credit Reductions and Release

VI. TOWN PLANNER'S ITEMS

VII. CHAIRPERSON'S ITEMS

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

IX. ADJOURN

Ms. English motioned to adjourn the meeting at 8:30 PM. Ms. Belanger 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 BOARD
NOWAK ROOM
10 FRONT STREET
AUGUST 28, 2025
DRAFT MINUTES
6:30 PM

I. PRELIMINARIES:

BOARD MEMBERS PRESENT BY ROLL CALL: Acting Chair Aaron Brown, Gwen English, John Grueter, Nancy Belanger, Select Board Representative, Alternate Marty Kennedy, Alternate Dean Hubbard, and Alternate Sam MacLeod.

STAFF PRESENT: Interim Town Planner Carol Ogilvie, Assistant Town Manager Melissa Roy

II. CALL TO ORDER: Acting Chair Brown called the meeting to order at 6:30 PM, introduced the members, and activated the three Alternates.

III. NEW BUSINESS:

1. Second Public hearing on the 2026-2031 Capital Improvements Program (CIP) projects as presented by the Town Departments. Copies of the proposed document(s) will be available at the Planning Department Office prior to the meeting.

Interim Town Manager Mellisa Roy noted that the Board could ask additional questions or vote to move the CIP forward to the final phase.

Ms. English motioned to recommend the draft CIP for fiscal 2026-2031, as drafted, without any changes, be moved to the Budget Recommendations Committee and Select Board. Mr. Grueter seconded the motion. A vote was taken, Ms. Belanger abstained, the motion passed 6-0-1.

2. The continued public hearing on the application of Caley Associates for site plan review and a Shoreland Conditional Use Permit for the proposed redevelopment of the property at 97 Portsmouth Avenue. The developer is proposing to demolish the existing Blue Ribbon Dry Cleaners building on the site and construct a multi-use building to include commercial space, amenities, and 14 residential units with parking and associated site improvements.
C-2, Highway Commercial zoning district
Tax Map Parcel #65-125
Planning Board Case #25-3

Acting Chair Brown read the public hearing notice out loud.

Interim Town Planner Carol Ogilvie submitted a memo dated August 20, 2025 in which she noted the applicant submitted new plans on August 18, 2025 relevant to the handicap parking space and another additional space added, moving the sidewalk, sewer line to the proposed coffee bar, lighting plan, planting plan. She noted one of the 14 proposed residential units would be required to be affordable and will require a condition of approval. The applicant is requesting two waivers as outlined in their June 24, 2025 letter. The applicant presented their Shoreland CUP to the Conservation Commission on July 8, 2025 (see Memo dated 7/10/25).

Attorney Josh Lanzetta indicated that Christian Smith was on his way up.

Vice-Chair Brown opened public comment.

Attorney Chris Hilson of DTC Lawyers noted he represented REL and had a number of concerns. He stated that the intensity of use proposed for the undersized lot, traffic flow, pedestrian flow, and traffic as proposed would require offsite parking at BankProv and REL's strip mall. There is a cross-parking easement from 1964. He noted this parcel had been chopped up after being one lot, putting a lot in between so that it is not adjoining. He argued that the intent of the easement was not for permanent or overnight parking and that people are not going to walk down Portsmouth Avenue, they're going to drive. He argued that they were not going to create a neighborhood on this lot and that it will overburden the easement. He noted his client's rights under the easement and argued it would render his rights under the easement useless. He argued that not having enough parking would harm someone elses's property rights and asked the Board to deny approval. He argued that a small undersized lot was grabbing a bunch of parking spots for its exclusive use and that is not what the cross easement is designed to do. Attorney Hilson argued that as configured, it doesn't create a walkable, cyclable neighborhood.

Acting Chair Brown asked the Board if everyone got the letter from BankProv and noted it was challenging for the Board to get a letter like this less than 24 hours before the hearing.

Attorney Todd Fahey of Upton and Hatfield stated that he wrote the letter and questioned the regulations of site plan review. He stated that he shared in Attorney Hilson's view on behalf of the bank relate to the scope and size of the project. He argued there would be traffic and pedestrian safety issues with too much on a very small lot. He argued there would be 28 cars for 14 residential units and that common sense couldn't be checked about what's really going to happen. He argued there would be snow issues which will leave parking spaces unusable. He noted BankProv joined on the views on the easement and would like an explanation of traffic flow and parking once the plan is presented.

Jeff Gilbert noted he was an attorney and one of the owners of the REL plaza for 20 years and felt that 6-7 parking spaces were being stolen and expressed concerns with safety. He expressed concerns with intensity and utilizing his parking spaces. He recommended ten units so that parking could be on site and that no use of reciprocal easements be allowed to satisfy parking requirements. He noted public safety issues are very real. Mr. Gilbert stated that the spaces are for occasional use and not intended to be permanent or become the property of the development. He stated that they will park in our lots and cross drive lanes. Mr. Grueter asked if the intent was written in the easement. Attorney Hillson read

"adjoining premises of the grantor" and noted the drycleaner was created in 1965 and DOT wants shared entrances. In 1971 it was taken from his client and put back on record in 1993. Acting Chair Brown asked if his client could deny the applicants from utilizing the parking and he indicated it was overburdening the easement and not for overnight parking but for mobilized patrons.

Mr. Kennedy asked about the document and whether the bank could put signs up. Ms. English noted there would be issues monitoring with signs. Ms. Belanger noted she had not seen the document and Mr. Smith noted it was sent in June after the Technical Review Committee meeting.

Ms. Belanger noted the parking lot is not municipal, but private.

Mr. McLeod noted the number of spaces used by Margaritas on a Friday/Saturday night.

Acting Chair Brown asked the applicant to address the easement. Attorney Josh Lanzetta noted he submitted the easement language in the packet and questioned if Margaritas redeveloped it violates the rights of the other parcel. He noted the easement language is intentionally broad and the benefit works both ways as a property right that runs with the land. He noted the easement was re-established and re-asserted and the title chain. He noted the condition of the BankProv property which has a mulch bed and is not utilizing parking they could be using on their lot. He felt that there should have been an access and maintenance agreement. He noted the footprint was not changing, it is the same as the drycleaners. He noted the hours of the coffee bar would be complimentary to Margarita's lunch and dinner and have a morning crowd. He noted there is plenty of unused parking at both Margaritas and BankProv.

Attorney Josh Lanzetta noted that he was unsure how the intensity argument is going to quash any parking right in New Hampshire. The easement allows parking for all of these properties. BankProv customers can park at the drycleaners, Margartias can park on the BankProv property, it is reciprocal. There is nothing in the easement that says that it can't. He noted he worked with the Planning Department to utilize MUND specifically and that the town is trying to make the area more walkable and that it is only 2-3 blocks to the hospital. He stated that occasional use isn't in the easement language, temporary use isn't in the easement language. He noted safety is a word that gets batted around a lot in order to stop action in his experience. There is a way to stripe and sign the three lots to create pedestrian ingress and egress in a safe manner. He did not think blending parking and safety go together, they are separate issues. He noted all assigned parking is on site, on the property. There is nothing stopping patrons from Margaritas from parking overnight. The idea of temporary or occasional does not exist and if the owners wanted that to exist, they should have negotiated it or written a new easement and have had chances to do that. The document is recorded at the Registry of Deeds. He noted the smaller residences NH is trying to develop and in the Town. One car per unit is the new standard and there is no case law challenging that yet so talking about another standard just as asserting they have a property right, we are asserting that we have a property right and are able to use this easement as it has been established. Just because it wasn't utilized in this way before, over time, means nothing. Things do change and the law would allow this to happen. He noted 14 residential units all have designated spots in the rear of the property with four more temporary spots for business/commercial spaces out front. He noted they will reduce the seat count of the coffee bar to 18

to remove the need for four temporary spots or offsite parking. Mr. Kennedy asked if the spots in back will be posted and Mr. Smith noted no signs are planned.

Mr. Smith explained the variance from the Zoning Board of Adjustment for encroachment on building setbacks. He noted the residential parking requirements in the Mixed-Use Neighborhood Development are for one space per unit. He couldn't envision the residents parking in the REL parking lot overnight. Ms. English noted MUND must facilitate comfortable pedestrian travel and accommodate safety for pedestrians and bicycles. Mr. Smith noted the rear of the building has all the parkin and then in front of the dry cleaner 7 perpendicular stalls, 14 spaces are designated to residents and there are additional spaces that one should anticipate should be open overnight.

Ms. Belanger noted that it was brought up at the site walk (August 13, 2025) that the coffee bar might be an office. Mr. Smith noted it was unknown; it would probably be retail.

Mr. Grueter asked if the coffee bar could be eliminated for more parking. Mr. Smith noted it would be up to the developer and noted he received a review letter from Underwood Engineering the town's reviewing consultant and submitted his response at the end of the day today. The catch basin may need to be vacuumed out at the end of the project and added a note. He discussed tying into the sewer and line to the existing catch basin. He conferred with the Sater and Sewer Superintendent and there is no capacity issue. He noted some minor spill over of lumens in the lighting plan which would be washed by the other lights in the parking lot that are not dark sky compliant on other properties. Ms. English asked If he could work to reduce that to zero.

Ms. English questioned the traffic flow in the back and questioned if the Manor blocked that. Mr. Smith noted traffic could go around the bank or through the Manor property. Mr. Grueter asked if that were part of the easement. Mr. Smith noted Manor traffic goes through the subject property. Mr. Kennedy questioned if the easement prohibited the Manor from blocking it off and Attorney Josh L. indicated it cannot be obstructed and has been used for a long time.

Mr. Smith presented the plan revisions. He noted that a stall was added in front, the sidewalk was eliminated on the north side of the property, a retaining wall now extends around and there is a new sidewalk along the parking and access/exit tying into Portsmouth Avenue with handicapped access. He noted sidewalk along Portsmouth Avenue providing a connection to that parking near the sidewalk and to the other easement using that sidewalk.

Mr. Smith reviewed the CUP in the Shoreland zone and reduction in impervious surface which is another reason for lack of pavement out front.

Attorney Fahey stated that the easements require reasonable use and pointed to a property line encroachment on the plan. Mr. Smith noted it was landscaping in the painted pedestrian walkway adjacent to the drycleaner on the bank's property. Attorney Fahey stated that treated snow cannot be in the shoreland protection area and four spaces are not available for housing snow. He argued that more snow equals less parking, and they can't plow into the Manor or BankProv lots.

Leann Corning, Senior VP of Client Experience at BankProv questioned signs not being followed and noted that while they don't currently use their back lot, they have an agreement to be acquired at the end of the year so there is no guarantee the new owner won't use those spots for employees. She noted the flow of traffic concerns with the drive through and stop sign. Ms. English asked where most people entered the bank on Margarita's side or the dry cleaner and Acting Chair Brown stated that he always enters closer to Margartias.

Janet Spinelli stated that the Manor is no longer part of the easement and referenced the July 10 minutes.

Attorney Hillson questioned if it would be in the condominium by-laws to confine parking to that lot. Acting Chair Brown stated that they did not say that at all, they were not going to utilize their rights but on a temporary basis.

Acting Chair Brown closed public comment at 8:28 PM.

Ms. Belanger noted she would like to see the UEI memo and response, discuss sidewalks and traffic flow.

Ms. English expressed concerns with overflow of light, correcting the landscape plan and tree on Portsmouth Avenue frontage, making sure to use native species and wanted to know more about the easement with the Manor. She asked about the trees coming out when the building is demolished and indicated no replacement is proposed now.

Mr. Mcleod noted that someone who doesn't drive could have a real need filled with access to restaurants and shopping. He was not fully comfortable with pedestrian traffic.

Mr. Hubbard noted there are seven spaces in front and 13 in back.

Mr. Kennedy questioned snow removal/plowing.

Acting Chair Brown understood the coffee shop is someone's vision and if it works it works. More time on access would be helpful and clarification with the Manor easement. Mr. Smith noted the easement includes all four parcels and will forward it to Barbara McEvoy.

Ms. Belanger moved to continue Planning Board Case #25-3 to the Planning Board's September 11, 2025 meeting at 7 PM at the Nowak Room. Ms. English seconded the motion. A vote was taken, all were in favor, the motion passed 7-0-0.

Ms. Ogilvie indicated 65 days were up on the 13th so if continued make an agreeable extension.

3. The application of Sonny Iannacone for a Wetlands Conditional Use Permit (CUP) for the proposed construction of a 25' x 30' addition to the rear of the existing residence located at 18 Ashbrook Road. R R-2, Single Family Residential zoning district

Tax Map Parcel #90-30
Planning Board Case #25-5.

Acting Chair Brown read the public hearing notice out loud and asked Ms. Ogilvie if the case were ready to be heard and she indicated yes.

Ms. Belanger motioned to open Planning Board Case #25-5. Ms. English seconded the motion. A vote was taken, all were in favor, the motion passed 7-0-0.

Mr. Iannacone indicated he purchased his small home in 2023 and has a narrow hall to a small bathroom and wanted a 25'x30' addition.

Acting Chair Brown noted he has been to the Conservation Commission and referenced Ms. Murphy's memo recommending approval with conditions that the temporary disturbance area be reseeded and to stabilize soils. He noted the fertilizer requirements. Ms. English noted fertilizer could be used to get started but he should reach out to Kristen Murphy.

Ms. Belanger motioned after reviewing the criteria for a wetlands conditional use permit that the request of Mr. Iannacone, Planning Board Case #25-5 be approved with the conditions in the Conservation Commission memo of Kristen Murphy dated August 4, 2025 to reseed disturbed areas and stabilize the soil. Mr. Hubbard seconded the motion. A vote was taken, all were in favor, the motion passed 7-0-0.

IV. OLD BUSINESS

APPROVAL OF MINUTES

June 12, 2025 – ***Tabled***

August 14, 2025 - ***Tabled***

Ms. Belanger motioned to table approval of the minutes of June 12, 2025 and August 14, 2025 to the Planning Board's next meeting on September 11, 2025. Ms. English seconded the motion. A vote was taken, all were in favor, the motion passed 7-0-0.

V. OTHER BUSINESS

- Master Plan Discussion

Acting Chair Brown urged members of the Oversight Committee to get back on schedule with meetings. He noted connectivity is one of the items on the to do list and referenced the Bike & Pedestrian Master Plan.

Acting Chair Brown noted that typically Mr. Sharples would guide the Board with vetting potential changes to the ordinance.

- Field Modifications

- Bond and/or Letter of Credit Reductions and Release

Ms. Ogilvie noted she would have more information on a request for $14,000 bond reduction from the HOA at 78 Linden Street for three items which the developer never did.

VI. TOWN PLANNER'S ITEMS

VII. CHAIRPERSON'S ITEMS

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

IX. ADJOURN

Mr. Grueter motioned to adjourn the meeting at 9:16 PM. Acting Chair Brown 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

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www.exeternh.gov

Date: **September 4, 2025**

To: **Planning Board**

From: **Carol Ogilvie, MRI, Interim Town Planner**

Re: **J. Caley Associates 97 Portsmouth Avenue PB Case #25-3**

The Applicant has submitted site plan review and Shoreland Conditional Use Permit (CUP) applications for the proposed redevelopment of the property at 97 Portsmouth Avenue. The developer is proposing to demolish the existing Blue Ribbon Dry Cleaners building on the site and construct a four-story building with commercial on the first floor and 14 residential units in the top three floors, a three-season espresso bar in the front of the lot, and a paved patio between the two structures. The property is located in the C-2, Highway Commercial zoning district and is identified as Tax Map Parcel #65-125.

The Applicant presented their plans to the Planning Board at the July 10, 2025 meeting, a site walk was conducted on August 13th, 2025; the Applicant returned to the Board at the August 28th meeting and the Board subsequently voted to continue discussion of the application to the September 11th, 2025 meeting.

Revised plans and supporting documents, dated 9/3/25, have been submitted for your review. Included among these are responses to staff comments of 8/20/25 and to the UEI letter of 8/26/25, in both cases some of the comments involve plan changes and some of which are explanatory.

The Applicant is requesting two waivers from the Board's Site Plan Review and Subdivision Regulations as outlined in the waiver letters from Beals Associates, PLLC dated June 24, 2025 previously provided to the Board.

The Applicant presented their Shoreland Conditional Use Permit application to the Conservation Commission at their July 8th, 2025 meeting. The Commission voted unanimously to recommend approval of the Shoreland CUP with conditions. A memo from our Conservation & Sustainability Planner Kristen Murphy, dated 710/25, has previously been provided for review.

Following are draft motions for the two waiver requests, for the Shoreland Conditional Use Permit, and for the MUND Site Plan Review. I will have conditions of approval prepared for the meeting, should the Board decide to act on the application.

Waiver Motions:

Grading within 5 feet of exterior property line waiver motion: After reviewing the criteria for granting waivers, I move that the request of J. Caley Associates (PB #25-3) for a waiver from Section 9.3.6.4. of the Site Plan Review and Subdivision Regulations regarding grading within 5 feet of an exterior property line be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Sidewalk waiver motion: After reviewing the criteria for granting waivers, I move that the request of J. Caley Associates (PB Case #25-3) for a waiver from Section 6.19.5.E.3. of the Zoning Ordinance (MUND Design Standards – Property Frontage) to permit the proposed sidewalk to be less than eight-feet (8') in width be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Planning Board Motions:

Table /Continuance Motion: I move that the application of J. Caley Associates (PB Case #25-3) be CONTINUED to the (date/time/place) Planning Board meeting and revised plans/documents shall be submitted to the Planning Office at least eight (8) days prior to the meeting or the application may remain on the table to a future meeting.

Conditional Use Permit (Shoreland) Motion: After reviewing the criteria for a Shoreland Conditional Use permit, I move that the request of J. Caley Associates (PB Case #25-3) for a Conditional Use Permit be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Mixed Use Neighborhood Development (MUND) Site Plan Motion: I move that the request of J. Caley Associates (PB Case #25-3) for Site Plan approval of the proposed MUND project be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Thank You.

Enclosures

TOWN OF EXETER

Planning and Building Department

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

www.exeternh.gov

Date: **August 20, 2025**

To: **Planning Board**

From: **Carol Ogilvie, MRI, Interim Town Planner**

Re: **J. Caley Associates 97 Portsmouth Avenue PB Case #25-3**

The Applicant has submitted site plan review and Shoreland Conditional Use Permit (CUP) applications for the proposed redevelopment of the property at 97 Portsmouth Avenue. The developer is proposing to demolish the existing Blue Ribbon Dry Cleaners building on the site and construct a four-story building with commercial on the first floor and 14 residential units in the top three floors, a three-season espresso bar in the front of the lot, and a paved patio between the two structures. The property is located in the C-2, Highway Commercial zoning district and is identified as Tax Map Parcel #65-125.

The Applicant presented their plans, dated 6/24/25, to the Planning Board at the July 10, 2025 meeting. The Board opened the public hearing for abutter comment, scheduled a site walk for August 13th at 8:00 AM, and voted to continue further discussion of the application to the August 28th Planning Board meeting.

At the August 13th site walk, attended by representatives from the abutting bank and shopping plaza, questions were raised about parking, traffic circulation, and snow storage. The applicant submitted new plans on August 18, 2025 with the following revisions.

1. Site Plan - Sheet #4:
    a. One of the 10 spaces in the rear of the building is a dedicated handicap parking space.
    b. One parking space has been added to the six spaces behind the coffee bar.
    c. The sidewalk to the coffee bar has been moved from the front to the side.
2. Utility Plan – Sheet #6 identifies a new sewer line to the coffee bar, and labels the existing water line.
3. Lighting Plan – Sheet #7 provides details on the lumens, on and off the site. Section 9.20.5.5 of the Site Plan Review Regulations requires that lighting shall not direct onto neighboring properties. This plan shows that there is some light spillage at the property lines.

    Lighting is not directed to adjacent parcels as all luminaires are down cast as required. All light spillage on the abutting parcels is into existing parking/travel lanes. Additionally, the minimal fractions of a foot candle that crosses parcel boundaries will be eclipsed by

existing light poles on the abutting properties (see attached – ex light poles are circled in red).

4. Planting Plan – Sheet #8 shows new plantings at the rear of the parcel, and slightly revised plantings in the two "teardrop" areas adjacent to the bank. A portion of these two areas, however, appear to extend over the property line.

   This is not an issue, in fact currently portions of parking stalls, sidewalk, etc. and connected landscape islands overlap the parcels. The current existing exit lane serving the bank and dry cleaner is nearly entirely on the subject parcel.

Based on the review and information received to date, following is a summary of points for the Planning Board's consideration:

1. Parking. The applicant has submitted documentation regarding parking easements that are in place that provide for shared parking between this property, the bank, and the shopping plaza. Both abutters raised the potential for customers and/or residents of 97 Portsmouth Avenue to use their spaces due to convenience. There is also a general view that the site is being overdeveloped and even with easements, the parking will not be sufficient or efficient.

   We understand this opinion and testimony from the abutters. We respectfully disagree. The espresso bar will in all likelihood be utilized primarily by the residents. No prohibition for public use is proposed. The applicant is in ongoing discussion with the bank regarding how to best deal with this concern.

2. Regarding traffic circulation, the bank expressed concerns that people intending to park at the rear of either the subject parcel or the abutting lot could potentially conflict with the bank's drive-thru traffic pattern.

   It seems, based on the minimal traffic anticipated for this area, traffic flow conflict should not be an issue. driver visibility from the bank drive through lanes and from the proposed rear parking lot is completely unimpeded & should facilitate reasonable pass/repass as is legally protected by easement for the properties.

3. Pedestrian traffic. Given that there is limited parking adjacent to the multi-use building, it is reasonable to assume that some people will be parking in the abutting parking spaces and walking to the subject parcel; if so, there is no identified pedestrian traffic plan that indicates how one walks safely to and from those parking spaces in the rear on the abutting parcel.

   This is not correct, a crosswalk (painted) is proposed from the banks' sidewalk to the sidewalk adjacent to the proposed building which connects to the front patio of the locus development. This is in virtually the same location as the existing painted crosswalk. There is also a sidewalk proposed from the rear parking area to the front patio.

4. A question was raised at the site visit about snow storage, and how that would be handled prior to removal, and the response was that snow would be piled on the patio in between the two structures. That patio is indicated to have some plantings, as well as being constructed on pervious pavers. It does not seem like a good idea to pile plowed snow over pervious pavers, or on an area that has landscaping. In fact, the pervious parking

spaces in the rear are indicated to have a sign that says “Snow storage not allowed on porous pavement.”

There is no contemplation of snow storage on the patios themselves, the response was that it can be stored in the green space at the end of the parking stalls (grass) between the patios until the stalls can not be kept clear, then it would need to be legally trucked away and disposed of as noted on the plans.

5. Inclusionary Housing. Section 6.19.4 requires a certain number of affordable (based on HUD calculations) be provided. Using the formula in this section, 14 units would result in one (1) unit that is affordable to a renter or owner pursuant to Section 6.19.4. B. 3 & 4. Should this application be approved, this will be a condition of approval, subject to review by Town Counsel.

   This is understood.

The Applicant is requesting two waivers from the Board’s Site Plan Review and Subdivision Regulations as outlined in the waiver letters from Beals Associates, PLLC dated June 24, 2025 previously provided to the Board.

The Applicant presented their Shoreland Conditional Use Permit application to the Conservation Commission at their July 8th, 2025 meeting. The Commission voted unanimously to recommend approval of the Shoreland CUP with conditions. Please see the attached memo from Conservation & Sustainability Planner Kristen Murphy, dated 710/25.

Following are draft motions for the two waiver requests, for the Shoreland Conditional Use Permit, and for the MUND Site Plan Review. These may be prematurely in this memo, considering the review process; if so, these may be ignored until the Board is ready to vote. When that time comes, however, pursuant to state law, the Board needs to include Findings of Fact in its decision that support its decision – whether approval or denial. I think one finding the Board could make is whether this proposal meets the eligibility criteria of the MUND. This ordinance does not have a purpose statement, but it does contain language that describes what the ordinance is intended to accomplish (Section 6.19.1).

Waiver Motions:

Grading within 5 feet of exterior property line waiver motion: After reviewing the criteria for granting waivers, I move that the request of J. Caley Associates (PB #25-3) for a waiver from Section 9.3.6.4. of the Site Plan Review and Subdivision Regulations regarding grading within 5 feet of an exterior property line be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Sidewalk waiver motion: After reviewing the criteria for granting waivers, I move that the request of J. Caley Associates (PB Case #25-3) for a waiver from Section 6.19.5.E.3. of the Zoning Ordinance (MUND Design Standards – Property Frontage) to permit the proposed sidewalk to be less than eight-feet (8’) in width be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Planning Board Motions:

Table /Continuance Motion: I move that the application of J. Caley Associates (PB Case #25-3) be CONTINUED to the (date/time/place) Planning Board meeting and revised plans/documents shall be submitted to the Planning Office at least eight (8) days prior to the meeting or the application may remain on the table to a future meeting.

Conditional Use Permit (Shoreland) Motion: After reviewing the criteria for a Shoreland Conditional Use permit, I move that the request of J. Caley Associates (PB Case #25-3) for a Conditional Use Permit be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Mixed Use Neighborhood Development (MUND) Site Plan Motion: I move that the request of J. Caley Associates (PB Case #25-3) for Site Plan approval of the proposed MUND project be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Thank You.

Enclosures

Underwood Engineers

3146.00

August 26, 2025

Mr. David Sharples, Town Planner
Town Planning Office, Town of Exeter
10 Front Street
Exeter, NH 03833

Re: *97 Portsmouth Avenue Residential Development*
Design Review Engineering Services
Exeter, New Hampshire

Site Information:

Review No. 3

Tax Map/Lot#:	65 / 125
Address:	97 Portsmouth Avenue
Lot Area:	0.40 ac
Zoning District:	C2 Highway Commercial
Proposed Use:	MUND – commercial and residential
Water:	Municipal
Sewer:	Municipal
Applicant:	J. Caley Associates
Design Engineer:	Beals Associates

Documents Reviewed:

Please Note: On August 21, Underwood was notified of a resubmittal package provided to the Town on June 24. Underwood Engineers was initially omitted from the resubmitted package and did not receive it for review until August 21.

- Site plan set entitled "Mixed Use Site Plan 97 Portsmouth Avenue" last revised 8/18/2025, prepared by Beals Associates
- "Drainage Analysis & Sediment and Erosion Control Plan" last revised 6/24/2025, prepared by Beals Associates

Dear Mr. Sharples:

Based on our review of the above information, we offer the following in accordance with the Town of Exeter Regulations and standard engineering practice.

Mr. Sharples
August 26, 2025

Please note any comments no longer listed have either been adequately addressed or are no longer applicable.

Existing Conditions and Demolition Plan Sheets

2. The wetland notes state the delineation was performed in 2010. The notes refer to references that are more recent than 2010. Please clarify. The delineation needs to be reasonably current.

   Beals Response: The typo stating 2010 has been corrected. The wetland/soil scientist report is attached for confirmation.

   UE Response: The note now states the delineation was performed in 2014, over ten years ago. The wetland/soil scientist report was not received by UE. We defer further comment to the Conservation Commission.

   The review was conducted in '2024 & the note has been updated by Berry Survey (see sheets 1 & 2).

Site Plan Sheets

13. The new concrete sidewalk along Portsmouth Avenue must be 8-feet width minimum per 6.19.5.E. Provide a tipdown and truncated dome for ADA compliance. In addition, provide a textured or raised pedestrian crossing at the driveway entrance per 6.19.5.D

    Beals Response: The tipdown and raised warning device have been added. The sidewalk width waiver is attached herewith. It would be odd for an 8' sidewalk to lead to the existing 5' sidewalk along Ports. Ave.

    UE Response: Further discussion regarding the requirements of the MUND regulations along the front of the site for pedestrian movements is deferred to the Planning Board.

    Coord. w/.PB

23. Show foundation and roof drain lines.

    Beals Response: The requested information is depicted on the architectural plans.

    UE Response: The architectural plans note the drain lines are still TBD. However, as long as their flow is accounted for in the storm drainage calculations, UE is satisfied with waiting for the final plan sets and has no further comment on the drain line locations.

    The runoff is accounted for in the drainage model, no response required.

28. Confirm the existing sewer line has sufficient capacity to handle the proposed flow.

    Beals Response: We understand the sewer line has the necessary capacity.

    UE Response: Item not addressed, and the concern still applies. UE feels strongly that the capacity and condition of the pipe should be evaluated as part of the design effort before construction activities.

    We have received existing sewer manhole data from the surveyor, and added to the plan. Sheet 6 depicts the 4" line from the espresso bar tying into the 6" line from the new building with a tee eliminating the acute angle in the former manhole connection. We have confirmed with the Exeter Sewer/Water superintendent that there are no capacity issues in the area of the proposed project in the existing mains.

Mr. Sharples
August 26, 2025

Drainage Analysis

38. UE notes the drainage model has a Tc of 210 Minutes for drainage areas being directed/treated via porous pavement. UE understands that extended Tc's can be utilized in modeling the flow through porous pavement, however the drainage area is a mix of conventional and porous pavement sections all modelled as impervious (CN98) and all directed to porous pavement "ponds" resulting in additional attenuation. UE understands that these are relatively small areas on the site, however the designer should confirm with HydroCAD how best to handle this modelling and reduce the potential of double counting the attenuation.

    Beals Response: The Tc is identical to a recently approved project, and developed with NHDES AoT specific to pervious pavement modelling. While we understand this project will not require AoT permitting, it seems appropriate to use this method.

    UE Response: Response received; however UE has no information regarding the "recently approved project" by DES and therefore cannot make a determination as to whether the specifics of two project are comparable. We remain concerned that the unusually large Tc when combined with the porous pavement reservoir course is being interpreted by the model as the runoff is unrealistically delayed in its conveyance such that the run-off has sufficient time (20 minutes/inch perc rate) to be discarded, when in reality, the porous reservoir courses may become overwhelmed.

    NHDES AoT mandated 10 min/in through the entire previous cross-section be utilized & added into the delivering sub-catchment . Edits have been made based on the depth of pervious features and the filtration media & the update 50-YR

New Comments report for the site (unchanged) and summaries of the ponds is attached (all have >1' unsaturated depth)

39. It remains unclear to UE if the parking requirements have been met. The number of outside seats shown differ between the Civil and the Architectural plans on both patios and along the espresso bar. Although the MUND requires only 1 parking spot per residential unit, it is likely that some of the units will have more than one car. Please confirm the agreements in place for parking on the abutting lots will support overflow parking. We defer further discussion to the Planning Board. Please note our prior comment about the temporary loss of parking spots in the winter due to snow storage still stands. Actively discussing this with the PB

40. If the retaining wall will be 4' high or more in places, it must be designed and stamped by a NH Professional Engineer. However, if it will be under 4' high along the entire length, provide appropriate retaining wall details. Please consider this an amendment to our previous comment about details. Will add wall detail

41. The outside envelope of the main building appears to encroach into the building setback.
    The ZBA allowed the building to be constructed on the existing footprint.

42. We note the design engineer is still waiting for information on the existing water, sewer pipes and structures. The sewer service line from the espresso bar may need to be rerouted, as designed it appears to enter the existing sewer manhole on the abutting parcel at a backwards angle.

    Sheet 6 depicts the 4" line from the espresso bar tying into the 6" line from the new building with a tee eliminating the acute angle in the former manhole connection.

Mr. Sharples
August 26, 2025

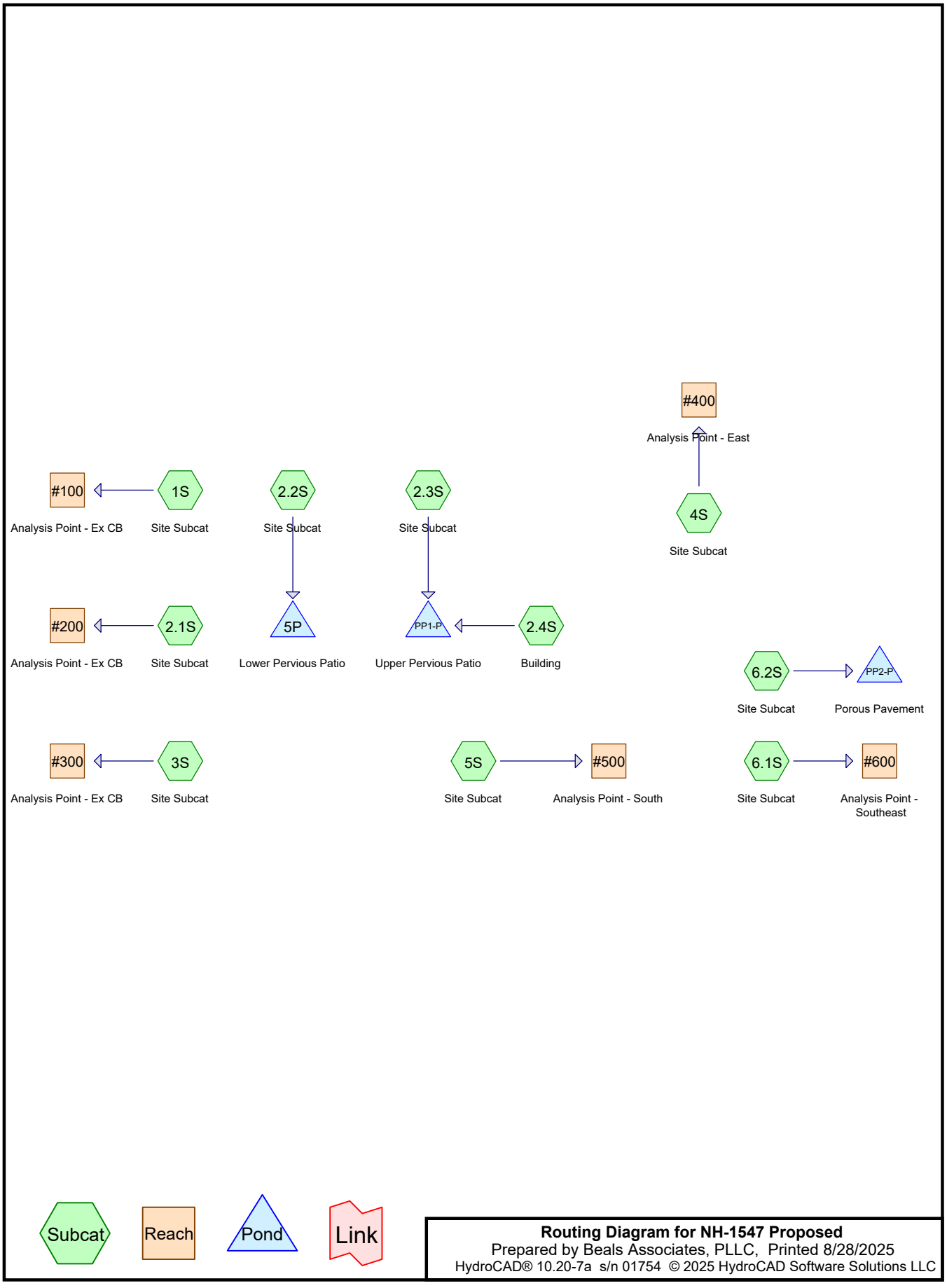
43. Note, the Contractor may be required to clean out the two catch basins in Portsmouth Avenue prior to bond release. Please amend the Erosion Control Plan accordingly.
Note 15 has been added to the construction sequence specifying this.

A written response is required to facilitate future reviews. Please contact us if you have any questions.

Very truly yours,
UNDERWOOD ENGINEERS, INC.

Allison M. Rees, P.E. (NH)
Project Manager

Robert J. Saunders, P.E. (NH, ME, VT, PA)
Project Manager



Routing Diagram for NH-1547 Proposed
Prepared by Beals Associates, PLLC, Printed 8/28/2025

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	50-YR	Type III 24-hr		Default	24.00	1	7.49	2

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

Subcatchment1S: Site Subcat Runoff Area=295 sf 1.69% Impervious Runoff Depth=5.18"
Tc=6.0 min CN=WQ Runoff=0.04 cfs 0.003 af

Subcatchment2.1S: Site Subcat Runoff Area=980 sf 41.12% Impervious Runoff Depth=6.01"
Tc=6.0 min CN=WQ Runoff=0.14 cfs 0.011 af

Subcatchment2.2S: Site Subcat Runoff Area=2,245 sf 53.23% Impervious Runoff Depth=6.27"
Tc=180.0 min CN=WQ Runoff=0.07 cfs 0.027 af

Subcatchment2.3S: Site Subcat Runoff Area=1,236 sf 100.00% Impervious Runoff Depth=7.25"
Tc=180.0 min CN=WQ Runoff=0.04 cfs 0.017 af

Subcatchment2.4S: Building Runoff Area=3,430 sf 100.00% Impervious Runoff Depth=7.25"
Tc=6.0 min CN=WQ Runoff=0.54 cfs 0.048 af

Subcatchment3S: Site Subcat Runoff Area=6,195 sf 80.77% Impervious Runoff Depth=6.85"
Tc=6.0 min CN=WQ Runoff=0.94 cfs 0.081 af

Subcatchment4S: Site Subcat Runoff Area=3,777 sf 70.48% Impervious Runoff Depth=6.63"
Tc=6.0 min CN=WQ Runoff=0.56 cfs 0.048 af

Subcatchment5S: Site Subcat Runoff Area=2,494 sf 90.42% Impervious Runoff Depth=7.05"
Tc=6.0 min CN=WQ Runoff=0.38 cfs 0.034 af

Subcatchment6.1S: Site Subcat Runoff Area=2,464 sf 65.26% Impervious Runoff Depth=6.52"
Tc=6.0 min CN=WQ Runoff=0.36 cfs 0.031 af

Subcatchment6.2S: Site Subcat Runoff Area=1,619 sf 92.53% Impervious Runoff Depth=7.09"
Tc=192.0 min CN=WQ Runoff=0.05 cfs 0.022 af

Reach#100: AnalysisPoint - Ex CB Inflow=0.04 cfs 0.003 af
Outflow=0.04 cfs 0.003 af

Reach#200: AnalysisPoint - Ex CB Inflow=0.14 cfs 0.011 af
Outflow=0.14 cfs 0.011 af

Reach#300: AnalysisPoint - Ex CB Inflow=0.94 cfs 0.081 af
Outflow=0.94 cfs 0.081 af

Reach#400: AnalysisPoint - East Inflow=0.56 cfs 0.048 af
Outflow=0.56 cfs 0.048 af

Reach#500: AnalysisPoint - South Inflow=0.38 cfs 0.034 af
Outflow=0.38 cfs 0.034 af

Reach#600: AnalysisPoint - Southeast Inflow=0.36 cfs 0.031 af
Outflow=0.36 cfs 0.031 af

Pond 5P: Lower Pervious Patio Peak Elev=28.37' Storage=133 cf Inflow=0.07 cfs 0.027 af
Outflow=0.05 cfs 0.027 af

Pond PP1-P: Upper Pervious Patio Peak Elev=34.84' Storage=474 cf Inflow=0.55 cfs 0.065 af
Outflow=0.16 cfs 0.065 af

Pond PP2-P: Porous Pavement Peak Elev=31.40' Storage=13 cf Inflow=0.05 cfs 0.022 af
Outflow=0.05 cfs 0.022 af

Total Runoff Area = 0.568 ac Runoff Volume = 0.321 af Average Runoff Depth = 6.79"
21.99% Pervious = 0.125 ac 78.01% Impervious = 0.443 ac

Summary for Pond 5P: Lower Pervious Patio

Inflow Area = 0.052 ac, 53.23% Impervious, Inflow Depth = 6.27" for 50-YR event
Inflow = 0.07 cfs @ 14.24 hrs, Volume= 0.027 af
Outflow = 0.05 cfs @ 15.28 hrs, Volume= 0.027 af, Atten= 22%, Lag= 62.2 min
Discarded = 0.05 cfs @ 15.28 hrs, Volume= 0.027 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 28.37' @ 15.28 hrs Surf.Area= 411 sf Storage= 133 cf
Flood Elev= 29.80' Surf.Area= 411 sf Storage= 276 cf

Plug-Flow detention time=(not calculated: outflow precedes inflow)
Center-of-Mass det. time=20.0 min (947.7 - 927.7)

Volume	Invert	Avail.Storage	Storage Description
#1	27.29'	276 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
27.29	411	0.0	0	0
29.29	411	30.0	247	247
29.46	411	40.0	28	275
29.80	411	1.0	1	276

Device	Routing	Invert	Outlet Devices
#1	Discarded	27.29'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 26.00' Phase-In= 0.01'

Discarded OutFlow Max=0.05 cfs @ 15.28 hrs HW=28.37' (Free Discharge)
↑**1=Exfiltration** (Controls 0.05 cfs)

Summary for Pond PP1-P: Upper Pervious Patio

Inflow Area = 0.107 ac, 100.00% Impervious, Inflow Depth = 7.25" for 50-YR event
Inflow = 0.55 cfs @ 12.09 hrs, Volume= 0.065 af
Outflow = 0.16 cfs @ 12.46 hrs, Volume= 0.065 af, Atten= 72%, Lag= 21.8 min
Discarded = 0.16 cfs @ 12.46 hrs, Volume= 0.065 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 34.84' @ 12.46 hrs Surf.Area= 1,182 sf Storage= 474 cf
Flood Elev= 36.00' Surf.Area= 1,182 sf Storage= 793 cf

Plug-Flow detention time=17.6 min calculated for 0.065 af (100% of inflow)
Center-of-Mass det. time=17.6 min (802.4 - 784.8)

Volume	Invert	Avail.Storage	Storage Description
#1	33.50'	793 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.50	1,182	0.0	0	0
35.50	1,182	30.0	709	709
35.67	1,182	40.0	80	790
36.00	1,182	1.0	4	793

Device	Routing	Invert	Outlet Devices
#1	Discarded	33.50'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 32.00' Phase-In= 0.01'

Discarded OutFlow Max=0.15 cfs @ 12.46 hrs HW=34.83' (Free Discharge)
1=Exfiltration (Controls 0.15 cfs)

Summary for Pond PP2-P: Porous Pavement

Inflow Area = 0.037 ac, 92.53% Impervious, Inflow Depth = 7.09" for 50-YR event
Inflow = 0.05 cfs @ 14.39 hrs, Volume= 0.022 af
Outflow = 0.05 cfs @ 14.95 hrs, Volume= 0.022 af, Atten= 6%, Lag= 33.7 min
Discarded = 0.05 cfs @ 14.95 hrs, Volume= 0.022 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 31.40' @ 14.95 hrs Surf.Area= 655 sf Storage= 13 cf
Flood Elev= 34.00' Surf.Area= 655 sf Storage= 520 cf

Plug-Flow detention time= 1.4 min calculated for 0.022 af (100% of inflow)
Center-of-Mass det. time= 1.4 min (919.9 - 918.5)

Volume	Invert	Avail.Storage	Storage Description
#1	31.33'	520 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.33	655	0.0	0	0
33.33	655	30.0	393	393
33.66	655	40.0	86	479
34.00	655	18.0	40	520

Device	Routing	Invert	Outlet Devices
#1	Discarded	31.33'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 30.00' Phase-In= 0.01'

Discarded OutFlow Max=0.05 cfs @ 14.95 hrs HW=31.40' (Free Discharge)
1=Exfiltration (Controls 0.05 cfs)

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

June 24, 2025
Chairman
Town of Exeter Planning Board
10 Front Street
Exeter, NH 03833

RE: Proposed Residential Development at 97 Portsmouth Avenue – Waiver Request
Tax Map 65 Lot #: 125

Dear Members of the Board:

This is written to formalize a request for two waivers specific to the design for the referenced subdivision application.

1. We respectfully request a waiver to the Town of Exeter's Site Plan Review and Subdivision Regulations Section 9.3.6.4 which restricts grading within 5 feet of any exterior property line.

   We feel the waiver is justified as:

   13.7.1 The proposed design provides adequate space to work between the proposed disturbance and the property line, therefore granting of the waiver will not be detrimental to public safety, health, or welfare, nor could it be deemed injurious to other property.

   13.7.2 The conditions upon which this request is made expressly due to the fact that the proposed building being proposed in the same location as the existing, which is closer to the property line that 5'. The existing building, driveway, etc. are all within 5' of exiting parcel boundaries, and this is unique to the parcel/proposal and not generally applicable to other properties.

   13.7.3 Due to the location of the existing features as referenced above, it would be impossible to improve this site without such encroachment. This would result in a hardship if the strict letter of the regulations is carried out as it would be illogical to implement this rule based on the current layout of the parcel. Care will be taken to ensure no disturbance to the abutting property (unless authorized by the abutting property owner(s)).

   13.7.4 The waiver would not be contrary to the spirit and intent of the regulations as the proposed development will result in adequate width for construction to take place without causing harm to abutting property.

   13.7.5 The proposed waiver does not propose to vary the provisions of the Zoning Ordinance or Master Plan. This is demonstrated by the facts cited above, as well as the fact that no structures are to be located within 5-feet of the property line.

Thank you for your consideration.
Very truly yours,
BEALS ASSOCIATES, PLLC

Christian O Smith

Christian O. Smith, PE
Principal

BA BEALS ASSOCIATES, PLLC

Land Planning • Civil Engineering
Landscape Architecture • Septic Design & Evaluation
Stratham, NH

June 24, 2025
Chairman
Town of Exeter Planning Board
10 Front Street
Exeter, NH 03833

RE: Proposed Residential Development at 97 Portsmouth Avenue – Waiver Requests
Tax Map 65 Lot #: 125

Dear Members of the Board:

This is written to formalize a request for a waiver specific to the design for the referenced subdivision application.

Your petitioner seeks the following relief:

3. We respectfully request a waiver to the Town of Exeter's Site Plan Review and Subdivision Regulations which required 8' wide sidewalks for MUND development projects.

We feel the waiver is justified as:

13.7.1 The existing sidewalk on Portsmouth Avenue is 5' in width, and we are proposing to connect to that sidewalk. We are proposing 5' sidewalks on the parcel which will match the existing width. Therefore, granting of the waiver will not be detrimental to public safety, health, or welfare, nor could it be deemed injurious to other property.

13.7.2 The conditions upon which this request is made is unique to the property as the proposed development will mirror the existing sidewalk width. This will provide the same pedestrian access as is utilized now on Portsmouth Avenue. This is unique to the parcel/proposal and not generally applicable to other properties (e.g. other areas of Town may have wider sidewalks for connection).

13.7.3 The proposed walkways will provide safe and accessible pedestrian travel ways to and from Portsmouth Avenue, matches the existing sidewalk & therefore, a denial of the waiver request would result in a hardship requiring the increased impervious area which is not desirable for stormwater mitigation.

13.7.4 The waiver would not be contrary to the spirit and intent of the regulations as the proposed development and resulting sidewalks will be identical in width to the existing sidewalk they are proposed to connect to.

13.7.5 The proposed waiver does not propose to vary the provisions of the Zoning Ordinance or Master Plan. This is demonstrated by the facts cited above, along with the absence of such language from the Zoning Ordinance or Master Plan.

Thank you for your consideration.
Very truly yours,
BEALS ASSOCIATES, PLLC

Christian O Smith

Christian O. Smith, PE
Principal

MIXED–USE SITE PLAN
97 PORTSMOUTH AVE.
(NH ROUTE 108)
TAX MAP 65, LOT 125

APRIL 29, 2025

NOT FOR CONSTRUCTION

CIVIL ENGINEERS:

BA BEALS ASSOCIATES, PLLC

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

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

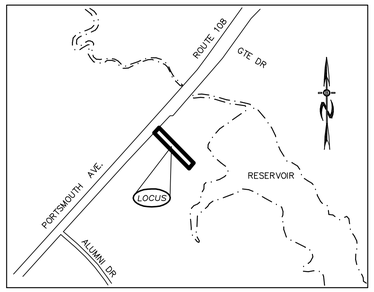
LAND SURVEYORS:

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
603-332-2863

WETLAND/SOIL CONSULTANT:

JOHN P. HAYES, CSS CWS
7 LIMESTONE WAY
N. HAMPTON, NH 03862
603-205-4396
JOHNPHAYES@COMCAST.NET

LOCATION MAP



SCALE: 1"=500'

DRAWING INDEX

SHEET #	TITLE
	COVER SHEET
1-2	EXISTING CONDITION PLANS (BERRY SURVEY)
3	DEMOLITION PLAN
4	SITE PLAN
5	GRADING, DRAINAGE, & EROSION CONTROL PLAN
6	UTILITY PLAN
7	LIGHTING PLAN
8	PLANTING PLAN
9	EROSION & SEDIMENT CONTROL DETAILS
10-11	CONSTRUCTION DETAILS

PLAN SET LEGEND

5/8" REBAR	●	VGC	VERTICAL GRANITE CURB
DRILL HOLE	◉	OVERHEAD ELEC. LINE	
CONC. BOUND	⊡	FENCING	
UTILITY POLE		DRAINAGE LINE	
DRAIN MANHOLE	Ⓓ	SEWER LINE	
SEWER MANHOLE	Ⓢ	GAS LINE	
EXISTING LIGHT POLE	☼	WATER LINE	
EXISTING CATCH BASIN	□	STONE WALL	
PROPOSED CATCH BASIN	⊞	TREE LINE	
WATER GATE	WV	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

BLUE FIELDS PROPERTY
97 PORTSMOUTH AVE.
EXETER, NEW HAMPSHIRE

RECORD APPLICANT

JEFF CALEY ASSOCIATES
11 TAYLOR COURT
STRATHAM, NEW HAMPSHIRE

REQUIRED PERMITS

NHDES SEWER CONNECTION
NHDES WATER CONNECTION

PB CASE # 25–3
CHAIRMAN SIGNATURE:

	REVISIONS:	DATE:
1	REVISED OVERALL LAYOUT	06/06/25
2	REVISED PER TRC REVIEW	06/19/25
3	REVISED PER PB REVIEW & INPUT	08/18/25
4	REVISED PER ENGINEERING REVIEW	08/27/25
5	REVISED PER PB REVIEW	09/03/25

NH-1547 PROPOSED MIXED-USE SITE PLAN

PLAN REFERENCES:

1.) "PLAN OF LAND FOR SYLVANIA ELECTRIC PRODUCTS INC. EXETER NEW HAMPSHIRE"
BY: G.L. DAVIS
DATED: DECEMBER 1962
R.C.R.D. FOLDER #1, PLAN #1

2.) "LAND EXETER, N.H. WAYNE M. COLBY TO EXETER REALTY CORP."
BY: JOHN W. DURGIN CIVIL ENGINEERS
DATED: APRIL, 1955
R.C.R.D. BOOK #1279, PAGE #161

3.) "POLE LINE OVER LAND OF EXETER REALTY CORPORATION"
BY: EXETER & HAMPTON ELEC. CO.
DATED: MARCH 28, 1962
R.C.R.D. BOOK #1623, PAGE #156

4.) "SUBDIVISION OF LAND LAND OF BENJAMIN J. & JOAN E. DAGOSTINO OPTIONED BY HARRY F. MCLAINE EXETER, N.H."
BY: MCKENNA ASSOCIATES
DATED: JULY 1, 1971
R.C.R.D. PLAN #D-2540

5.) "SUBDIVISION PLAN OF LAND IN EXETER, NEW HAMPSHIRE FOR FIRST DEVELOPMENT CORP. OF GORHAM, N.H."
BY: SOMERVILLE ENGINEERING INC.
DATED: NOVEMBER 14, 1972
R.C.R.D. PLAN #D-3445

6.) "SUBDIVISION OF LAND OF TOWN OF EXETER FOR JOHN FLYNN IN EXETER, N.H."
BY: PARKER SURVEY ASSOC., INC.
DATED: APRIL, 1981
R.C.R.D. PLAN #D-10196

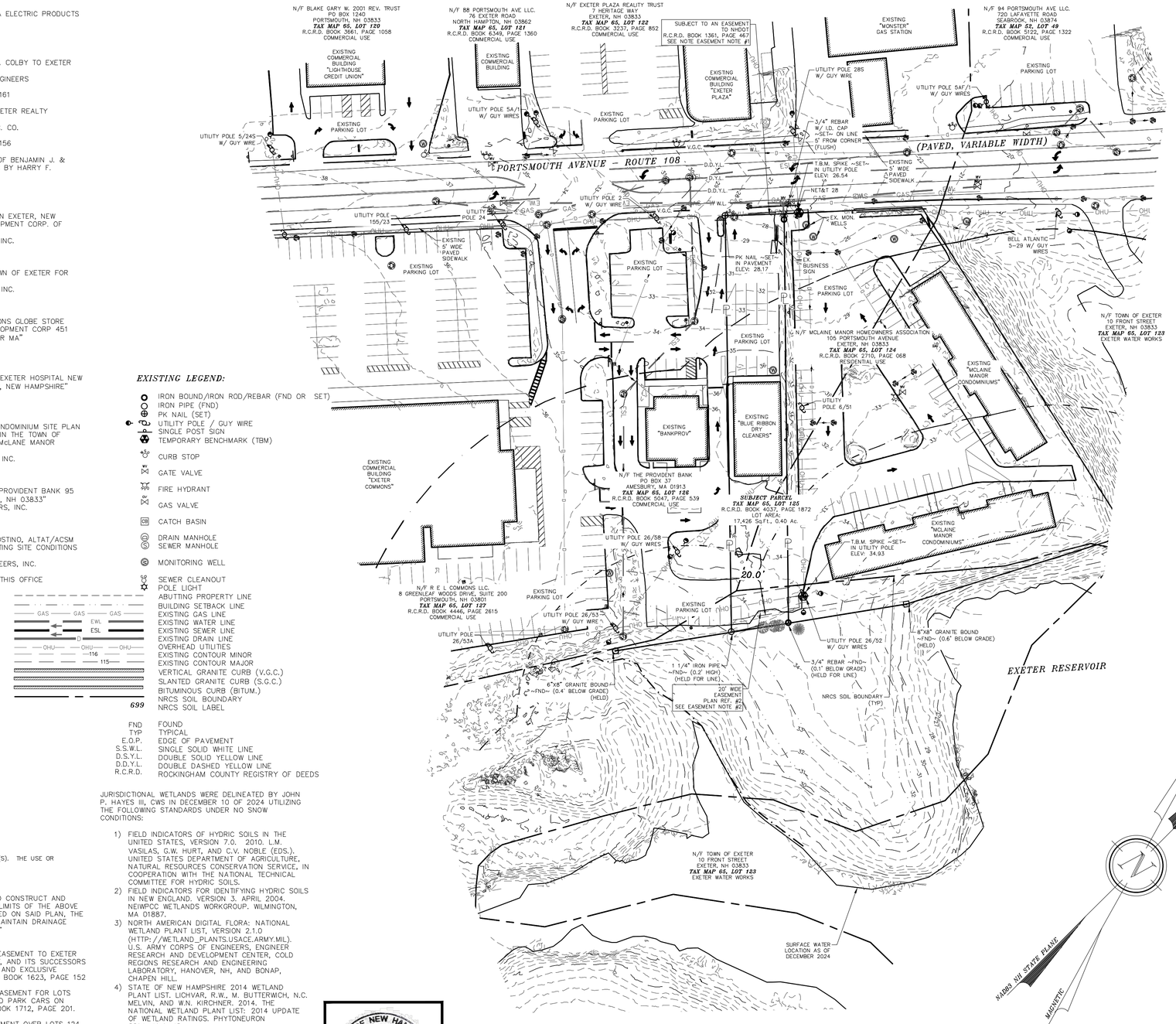
7.) "SITE PLAN PROPOSED ADDITIONS GLOBE STORE EXETER N.H. FOR FIRST DEVELOPMENT CORP 451 ANDOVER STREET NO. ANDOVER MA"
BY: GREAT BAY ENGINEERING
DATED: AUGUST, 1987
R.C.R.D. PLAN #D-20867

8.) "LOT LINE ADJUSTMENT PLAN EXETER HOSPITAL NEW HEALTH CARE CENTER EXETER, NEW HAMPSHIRE"
BY: KIMBALL CHASE
DATED: AUGUST 21, 1991
R.C.R.D. PLAN #D-21261

9.) "A SURVEY AND PLAT OF A CONDOMINIUM SITE PLAN OF McLANE MANOR SITUATED IN THE TOWN OF EXETER, N.H. PREPARED FOR McLANE MANOR CONDOMINIUM ASSOC."
BY: R.S.L. LAYOUT & DESIGN, INC.
DATED: OCTOBER 13, 1997
R.C.R.D. PLAN #D-25840

10.) "SEWER EASEMENT PLAN THE PROVIDENT BANK 95 PORTSMOUTH AVENUE, EXETER, NH 03833"
BY: JONES & BEACH ENGINEERS, INC.
DATED: MAY 25, 2010
R.C.R.D. PLAN #D-36632

11.) "BENJAMIN J. & JOHN E. DAGOSTINO, ALTAT/ACSM LAND TITLE SURVEY FOR EXISTING SITE CONDITIONS PLAN"
BY: JONES AND BEACH ENGINEERS, INC.
DATED: APRIL 25, 1997
NOT RECORDED. ON FILE AT THIS OFFICE



EXISTING LEGEND:

- IRON BOUND/IRON ROD/REBAR (FND OR SET)
- IRON PIPE (FND)
- PK NAIL (SET)
- UTILITY POLE / GUY WIRE
- SINGLE POST SIGN
- TEMPORARY BENCHMARK (TBM)
- CURB STOP
- GATE VALVE
- FIRE HYDRANT
- GAS VALVE
- CATCH BASIN
- DRAIN MANHOLE
- SEWER MANHOLE
- MONITORING WELL
- SEWER CLEANOUT
- POLE LIGHT
- ABUTTING PROPERTY LINE
- BUILDING SETBACK LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING DRAIN LINE
- OVERHEAD UTILITIES
- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- VERTICAL GRANITE CURB (V.G.C.)
- SLANTED GRANITE CURB (S.G.C.)
- BITUMINOUS CURB (BITUM.)
- NRCS SOIL BOUNDARY
- NRCS SOIL SYMBOL

FND	FOUND
TYP	TYPICAL
E.O.P.	EDGE OF PAVEMENT
S.S.W.L.	SINGLE SOLID WHITE LINE
D.S.Y.L.	DOUBLE SOLID YELLOW LINE
D.D.Y.L.	DOUBLE DASHED YELLOW LINE
R.C.R.D.	ROCKINGHAM COUNTY REGISTRY OF DEEDS

JURISDICTIONAL WETLANDS WERE DELINEATED BY JOHN P. HAYES III, CWS IN DECEMBER 10 OF 2024 UTILIZING THE FOLLOWING STANDARDS UNDER NO SNOW CONDITIONS:

1) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0. 2010. L.M. VASILAS, G.W. HURT, AND C.V. NOBLE (EDS.). UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS.
2) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 3. APRIL 2004. NEIWPCC WETLANDS WORKGROUP. WILMINGTON, MA 01887.
3) NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, VERSION 2.1.0 (HTTP://WETLAND_PLANTS.USACE.ARMY.MIL). U.S. ARMY CORPS OF ENGINEERS, ENGINEER RESEARCH AND DEVELOPMENT CENTER, COLD REGIONS RESEARCH AND ENGINEERING LABORATORY, HANOVER, NH, AND BONAP, CHAPEN HILL.
4) STATE OF NEW HAMPSHIRE 2014 WETLAND PLANT LIST. LICHVAR, R.W., M. BUTTERWICH, N.C. MELVIN, AND W.N. KIRCHNER. 2014. THE NATIONAL WETLAND PLANT LIST: 2014 UPDATE OF WETLAND RATINGS. PHYTONEURON 2014-41:1-42.
5) CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL. JANUARY 1987. WETLANDS RESEARCH PROGRAM TECHNICAL REPORT Y-87-1.
6) REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION. JANUARY 2012, VERSION 2. U.S. ARMY CORPS OF ENGINEERS. ENVIRONMENTAL LABORATORY ERDC/EL TR-12-1.
7) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. DECEMBER 1979. L. COWARDIN, V. CARTER, F. GOLET, AND E. LAROE. US DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE. FWS/OBS-79/31.

MONITORING WELLS:

THE PROPERTY CONTAINS MONITORING WELL(S). THE USE OR FUNCTIONS OF THESE WELLS ARE UNKNOWN.

EASEMENT NOTES:

#1 "CONVEYING HEREBY THE RIGHT TO CONSTRUCT AND MAINTAIN SLOPES BEYOND THE LIMITS OF THE ABOVE DESCRIBED PARCEL, AS INDICATED ON SAID PLAN. THE RIGHT TO CONSTRUCTION AND MAINTAIN DRAINAGE ALSO INDICATED ON SAID PLAN."
R.C.R.D. BOOK 1361, PAGE 467

#2 THE PARCEL IS SUBJECT TO AN EASEMENT TO EXETER & HAMPTON ELECTRIC COMPANY, AND ITS SUCCESSORS AND ASSIGNS TO A PERPETUAL AND EXCLUSIVE EASEMENT AS NOTED IN R.C.R.D BOOK 1623, PAGE 152

#3 TOGETHER WITH THE BLANKET EASEMENT FOR LOTS 124, 125 & 126 TO ACCESS AND PARK CARS ON ABUTTING LOT 127. R.C.R.D. BOOK 1712, PAGE 201.

SUBJECT TO THE BLANKET EASEMENT OVER LOTS 124, 125, 126 ALLOWING ACCESS AND THE PARKING OF CARS FOR LOT 127. R.C.R.D. BOOK 1712, PAGE 201

#4 RELEASE OF ACCESS AND PARKING RIGHTS FOUND IN R.C.R.D. BOOK 2091, PAGE 41 & BOOK 2091, PAGE 42 (AFFECTS LOT 127)

#5 RESTORATION OF RIGHTS OF EASEMENT TO FIRST DEVELOPMENT CORPORATION. R.C.R.D. BOOK 2970, PAGE 1211

#6 SEE LEASE AGREEMENT R.C.R.D. BOOK 1879, PAGE 110 (NOT A MATTER OF SURVEY)

SOILS:

699 – URBAN LAND
299 – UDORTHENTS, SMOOTHED
38B – ELDRIDGE FINE SANDY LOAM, 3 TO 8% SLOPES

SEE: USDA/NRCS WEBSOIL

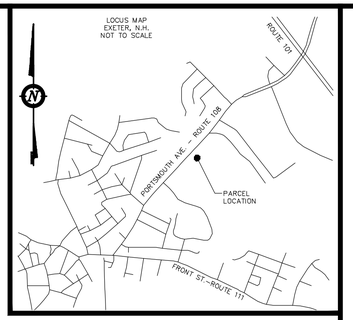
JOHN P. HAYES III, CWS #18

UTILITY NOTE:

THE UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR NOR THE ENGINEER MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.

GRAPHIC SCALE

50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.



NOTES:

1.) OWNER: BLUE FIELDS PROPERTY MANAGEMENT, LLC
97 PORTSMOUTH AVENUE
EXETER, NH 03833

1A.) APPLICANT: J.CALEY ASSOCIATES
11 TAYLOR COURT
STRATHAM, NH 03885

2.) TAX MAP 65, LOT 125
PROJECT ADDRESS: 97 PORTSMOUTH AVE.

3.) R.C.R.D. BOOK 4037, PAGE 1872
SEE R.C.R.D. BOOK 2540, PAGE 2971

4.) LOT AREA: 17,426 Sq.Ft., 0.40 Ac.

5.) ZONING: C-2, HIGHWAY COMMERCIAL DISTRICT

MIN. LOT SIZE: 20,000 Sq.Ft.
MIN. LOT WIDTH: 150'
MIN LOT DEPTH: 100'
MAX. BUILDING HEIGHT: 35'
50' PERMITTED BY SPECIAL EXCEPTION
FRONT BUILDING SETBACK: 50'
SIDE BUILDING SETBACK: 20'
REAR BUILDING SETBACK: 50'
20' PERMITTED BY SPECIAL EXCEPTION
MAX. BUILDING COVERAGE: 30%
MIN. OPEN SPACE: 15%

WETLANDS CONSERVATION DISTRICT

LIMITED USE BUFFER: 40'
PARKING AND STRUCTURE BUFFER: 75'

EXETER SHORE LAND PROTECTION OVERLAY

SHORE LAND PROTECTION ZONE: 300'
BUILDING SETBACK: 150'
VEGETATIVE BUFFER: 75'

6.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, THIS PARCEL DOES NOT FALL WITHIN THE FLOOD PLAIN. FLOOD HAZARD REFERENCE: FEMA, COMMUNITY # – 330130, MAP # – 33015C0406E, DATED: MAY 17, 2005.

7.) VERTICAL DATUM BASED ON USGS NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS. TOPOGRAPHY PROVIDED BY BS&E AT A 1' CONTOUR INTERVAL UTILIZING, CONVENTIONAL SURVEY METHODS, RTK SURVEY GRADE GPS, AND PENTA-RETURN LIDAR OBTAINED FROM AN RTK ENABLED SURVEY GRADE DRONE, WITH FIELD VERIFICATION.

8.) THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF EXETER TAX MAP 65, LOT 125 AS OF THE DATE OF THE SURVEY: DECEMBER 2024.

9.) THE LOT IS SERVICED BY MUNICIPAL WATER AND SEWER.

10.) A DILIGENT RESEARCH EFFORT FOUND SEVERAL EASEMENTS ENCUMBERING THE PROJECT SITE, AND FOUND THAT THE SITE IS BENEFITED BY EASEMENTS. THERE MAY BE RECORDED AND UNRECORDED RIGHTS THAT WERE NOT FOUND DURING THE RESEARCH EFFORT. SEE EASEMENT NOTES SECTION OF THIS PLAN.

11.) THERE WERE NO CEMETERIES FOUND ONSITE DURING THE GROUND SURVEY PERFORMED UNDER NO SNOW CONDITIONS IN DECEMBER OF 2024. NO CEMETERIES ARE MENTIONED IN THE SUBJECT PARCELS CHAIN OF TITLE.

THIS PLAN IS NOT SUITABLE FOR RECORDING UNDER THE RECORDING LAWS OF THE STATE OF NEW HAMPSHIRE.

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

KENNETH A. BERRY L.L.S. 805 8-27-25
KENNETH A. BERRY L.L.S. 805 DATE

REVISION	DATE	DESCRIPTION
#2	8-27-25	REVISED PER TRC REQUEST
#1	6-20-25	REVISED PER TRC REQUEST

OVERVIEW EXISTING CONDITIONS PLAN
LAND OF
BLUE FIELDS PROPERTY MANAGEMENT LLC
97 PORTSMOUTH AVENUE
EXETER, N.H.
TAX MAP 65, LOT 125

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 50 FT.
DATE : DECEMBER 12, 2024
FILE NO. : DB 2024 – 140

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

JOHN P. HAYES III, CWS #18

JURISDICTIONAL WETLANDS WERE DELINEATED BY JOHN P. HAYES III, CWS IN DECEMBER 10 OF 2024 UTILIZING THE FOLLOWING STANDARDS UNDER NO SNOW CONDITIONS:

1) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0. 2010. L.M. VASILAS, G.W. HURT, AND C.V. NOBLE (EDS.). UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS.
2) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. VERSION 3. APRIL 2004. NEIWPCC WETLANDS WORKGROUP. WILMINGTON, MA 01887.
3) NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, VERSION 2.1.0 (HTTP://WETLAND_PLANTS.USACE.ARMY.MIL). U.S. ARMY CORPS OF ENGINEERS, ENGINEER RESEARCH AND DEVELOPMENT CENTER, COLD REGIONS RESEARCH AND ENGINEERING LABORATORY, HANOVER, NH, AND BONAP, CHAPEN HILL.
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- IRON PIPE (FND)
- PK NAIL (SET)
- UTILITY POLE / GUY WIRE
- SINGLE POST SIGN
- TEMPORARY BENCHMARK (TBM)
- CURB STOP
- GATE VALVE
- FIRE HYDRANT
- GAS VALVE
- CATCH BASIN
- DRAIN MANHOLE
- SEWER MANHOLE
- MONITORING WELL
- POLE LIGHT
- ABUTTING PROPERTY LINE
- BUILDING SETBACK LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING DRAIN LINE
- OVERHEAD UTILITIES
- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- VERTICAL GRANITE CURB (V.G.C.)
- SLANTED GRANITE CURB (S.G.C.)
- BITUMINOUS CURB (BITUM.)
- 300' EXETER SHORE LAND PROTECTION LINE
- 150' EXETER SHORE LAND BUILDING SETBACK
- NRCS SOIL BOUNDARY
- NRCS SOIL LABEL
- SPOT ELEVATION

FND FOUND
TYP TYPICAL
E.O.P. EDGE OF PAVEMENT
S.S.W.L. SINGLE SOLID WHITE LINE
D.S.Y.L. DOUBLE SOLID YELLOW LINE
D.D.Y.L. DOUBLE DASHED YELLOW LINE
R.C.R.D. ROCKINGHAM COUNTY REGISTRY OF DEEDS

EASEMENT NOTES:

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#6 SEE LEASE AGREEMENT R.C.R.D. BOOK 1879, PAGE 110 (NOT A MATTER OF SURVEY)

NOTES (Cont.):

6.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, THIS PARCEL DOES NOT FALL WITHIN THE FLOOD PLAIN. FLOOD HAZARD REFERENCE: FEMA, COMMUNITY # - 330130, MAP # - 33015C0406E, DATED: MAY 17, 2005.

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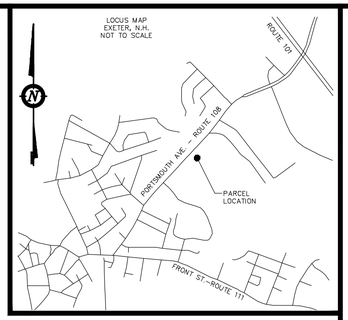
8.) THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF EXETER TAX MAP 65, LOT 125 AS OF THE DATE OF THE SURVEY: DECEMBER 2024.

9.) THE LOT IS SERVICED BY MUNICIPAL WATER AND SEWER.

10.) SEE OVERVIEW EXISTING CONDITIONS PAGE FOR COMPLETE NOTES AND ABUTTERS.



NOTES:

1.) OWNER: BLUE FIELDS PROPERTY MANAGEMENT, LLC
97 PORTSMOUTH AVENUE
EXETER, NH 03833

1A.) APPLICANT: J.CALEY ASSOCIATES
11 TAYLOR COURT
STRATHAM, NH 03885

2.) TAX MAP 65, LOT 125
PROJECT ADDRESS: 97 PORTSMOUTH AVE.

3.) R.C.R.D. BOOK 4037, PAGE 1872
SEE R.C.R.D. BOOK 2540, PAGE 2971

4.) LOT AREA: 17,426 Sq.Ft., 0.40 Ac.

5.) ZONING: C-2, HIGHWAY COMMERCIAL DISTRICT

MIN. LOT SIZE: 20,000 Sq.Ft.
MIN. LOT WIDTH: 150'
MIN LOT DEPTH: 100'
MAX. BUILDING HEIGHT: 35'
50' PERMITTED BY SPECIAL EXCEPTION
FRONT BUILDING SETBACK: 50'
SIDE BUILDING SETBACK: 20'
REAR BUILDING SETBACK: 50'
20' PERMITTED BY SPECIAL EXCEPTION
MAX. BUILDING COVERAGE: 30%
MIN. OPEN SPACE: 15%

WETLANDS CONSERVATION DISTRICT

LIMITED USE BUFFER: 40'
PARKING AND STRUCTURE BUFFER: 75'

EXETER SHORE LAND PROTECTION OVERLAY

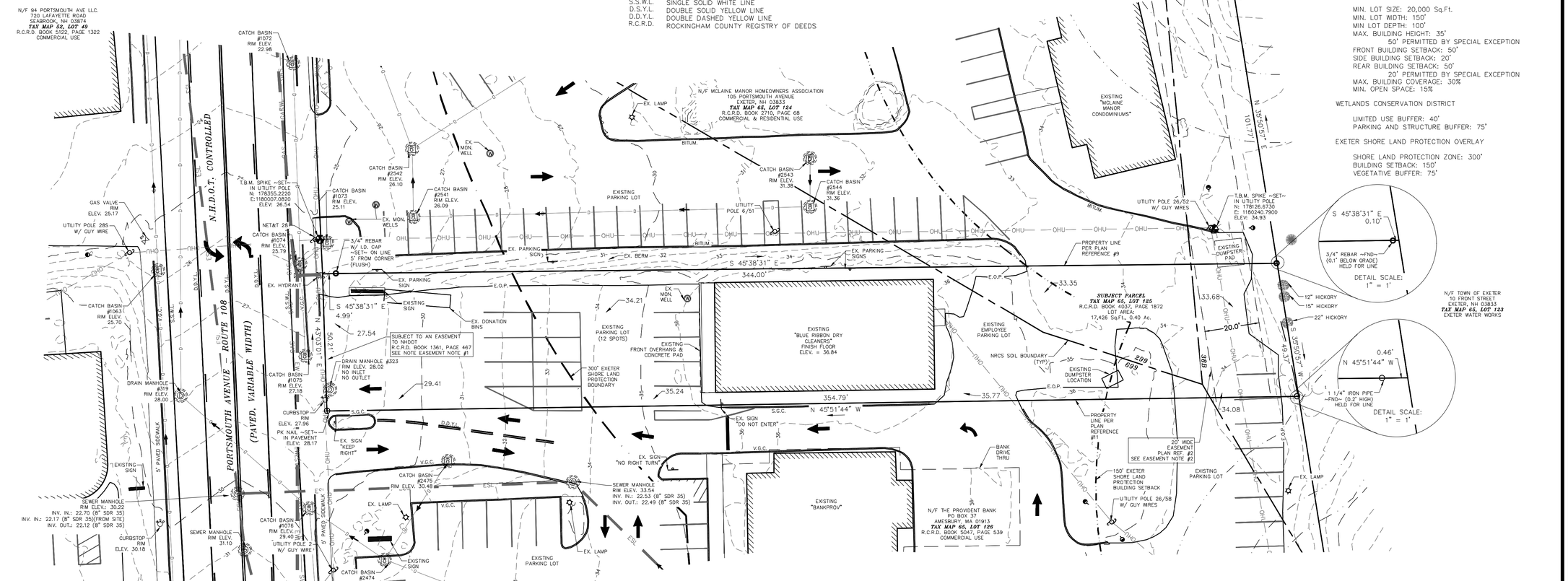
SHORE LAND PROTECTION ZONE: 300'
BUILDING SETBACK: 150'
VEGETATIVE BUFFER: 75'

REVISION	DATE	DESCRIPTION
#2	8-27-25	REVISED PER TRC REQUEST
#1	6-20-25	REVISED PER TRC REQUEST

EXISTING CONDITIONS PLAN
LAND OF
BLUE FIELDS PROPERTY MANAGEMENT LLC
97 PORTSMOUTH AVENUE
EXETER, N.H.
TAX MAP 65, LOT 125

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : DECEMBER 12, 2024
FILE NO. : DB 2024 - 140



SOILS:

699 - URBAN LAND
299 - UDORTHENTS, SMOOTHED
38B - ELDRIDGE FINE SANDY LOAM, 3 TO 8% SLOPES

SEE: USDA/NRCS WEBSOIL

UTILITY NOTE:

THE UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR NOR THE ENGINEER MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

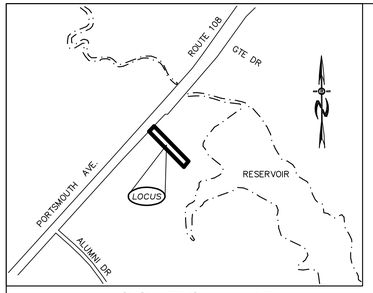
THIS PLAN IS NOT SUITABLE FOR RECORDING UNDER THE RECORDING LAWS OF THE STATE OF NEW HAMPSHIRE.

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

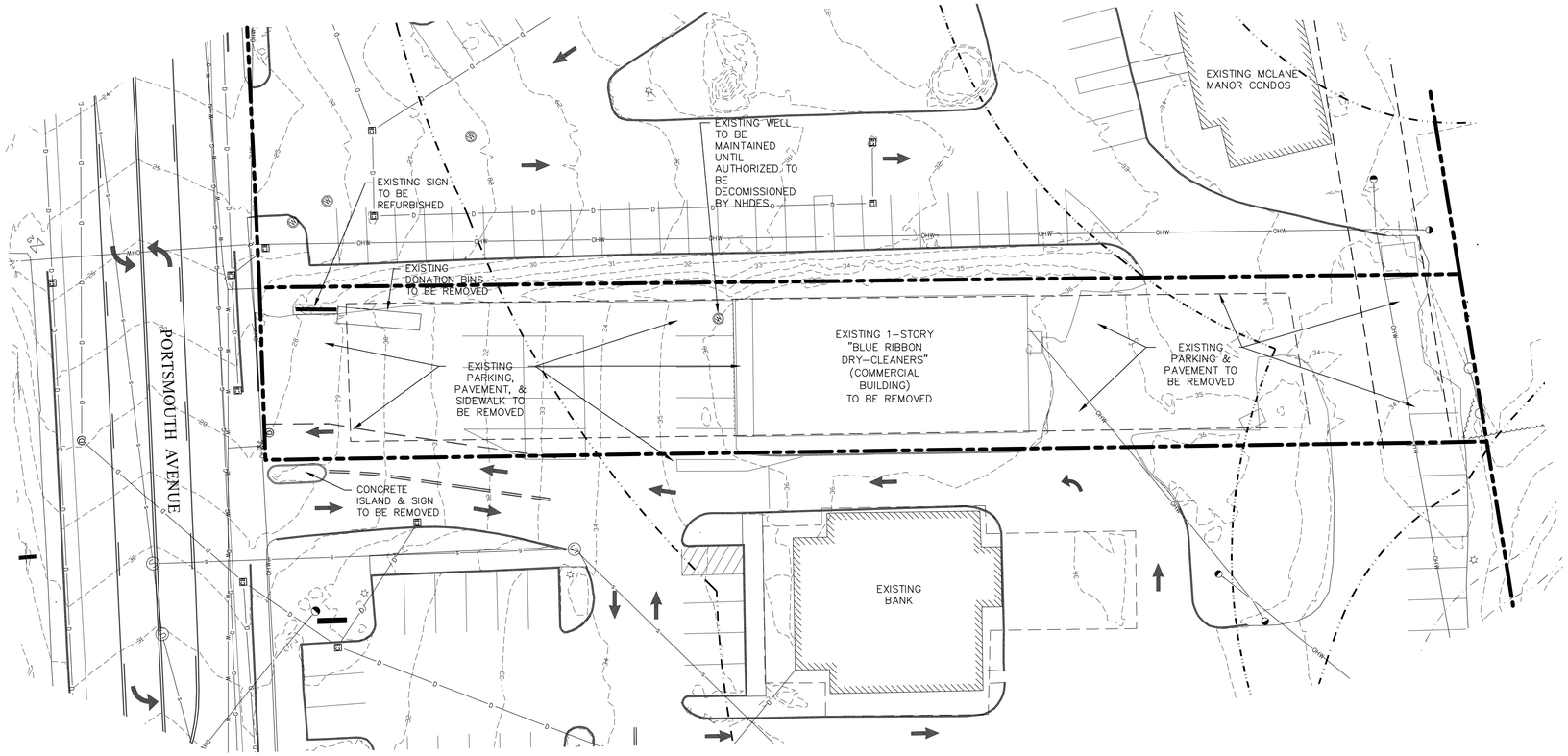
8-27-25

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

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



LOCATION MAP
1"=500'



PREPARED FOR:
J CALEY ASSOCIATES
11 TAYLOR COURT
STRATHAM NH 03885

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

NOTES

1. ALL EXISTING STRUCTURES IN THE CONSTRUCTION AREA SHALL BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS, UNLESS NOTED TO REMAIN ON THE SITE PLANS. ANY BURNING ON-SITE SHALL BE SUBJECT TO LOCAL ORDINANCES.
2. ALL EXISTING UTILITIES SHALL BE TERMINATED AT THE PROPERTY LINE, OR AS SHOWN ON THE DESIGN PLANS, IN CONFORMANCE WITH LOCAL, STATE, AND UTILITY COMPANY STANDARDS, SPECIFICATIONS, AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES PRIOR TO THE START OF WORK.
3. EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSTALLED PRIOR TO ANY EARTH MOVING ACTIVITIES.
4. THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES.
5. EXISTING SEWER SERVICE AND APPURTENANCES TO BE REMOVED AND DISPOSED OF PER TOWN AND STATE REQUIREMENTS. NEW SERVICES FOR EACH UNIT TO BE INSTALLED & CONNECTED PER TOWN SPECIFICATIONS. SEQUENCING AND SCHEDULING: (SEE DETAIL SHEETS FOR COMPLETE CONSTRUCTION SEQUENCE AND EROSION CONTROL SPECIFICATION.)
6. DEMOLITION REQUIREMENTS: CONDUCT DEMOLITION TO MINIMIZE INTERFERENCE WITH THE ADJACENT AND OCCUPIED BUILDING AREAS, IN COMPLIANCE WITH THE GOVERNING LAWS. PRIME CONSIDERATION SHALL BE GIVEN TO THE SAFETY, PROTECTION AND CONVENIENCE OF THE PUBLIC AND OWNER'S PERSONNEL.
7. LEAVE SITE IN CLEAN CONDITION.
8. TEMPORARY EARTH MATERIAL STOCKPILES TO BE IN UPLAND AREAS AND COMPLETELY IMPOUNDED BY SILT FENCE/HAYBALE EROSION CONTROLS.
9. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
10. ALL WATER, SEWER, ROAD (INCLUDING DRIVEWAY), 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.
11. 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.

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

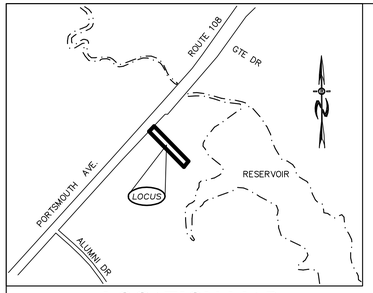
GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

REVISIONS:	DATE:
REVISED PER TRC REVIEW	06/19/25
REVISED OVERALL LAYOUT	06/06/25

DEMOLITION PLAN

MIXED-USE DEVELOPMENT
97 PORTSMOUTH AVENUE
EXETER, NH
TAX MAP 65, LOT 125

DATE: APRIL 29, 2025	SCALE: 1" = 20'
PROJ. NO: NH-1547	SHEET NO. 3



LOCATION MAP
1"=500'

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.

ZONING REQUIREMENTS:
ZONING DISTRICT – HIGHWAY COMMERCIAL (C2)
MINIMUM LOT SIZE – 20,000 S.F.
MINIMUM LOT WIDTH – 150 FT.
MINIMUM LOT DEPTH – 100 FT.

BUILDING SETBACKS
FRONT 50 FT.
SIDE 20 FT.
REAR 50 FT.
BUILDING HEIGHT 35 FT.
(50' BY SPECIAL EXCEPTION)
MAXIMUM BUILDING COVERAGE = 30%
EXISTING–18.4%, PROPOSED–18.4%
MINIMUM OPEN SPACE = 15%
EXISTING–12.4%, PROPOSED–21%

PARKING SPACES
EXISTING–12
REQUIRED:
14 RES UNITS x1/PER (MUND) = 14
COFFEE SHOP/ESPRESSO BAR 18 SEATS/1/3–SEATS = 6
TOTAL REQUIRED = 20
PROPOSED–20

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STRATHAM NH 03885

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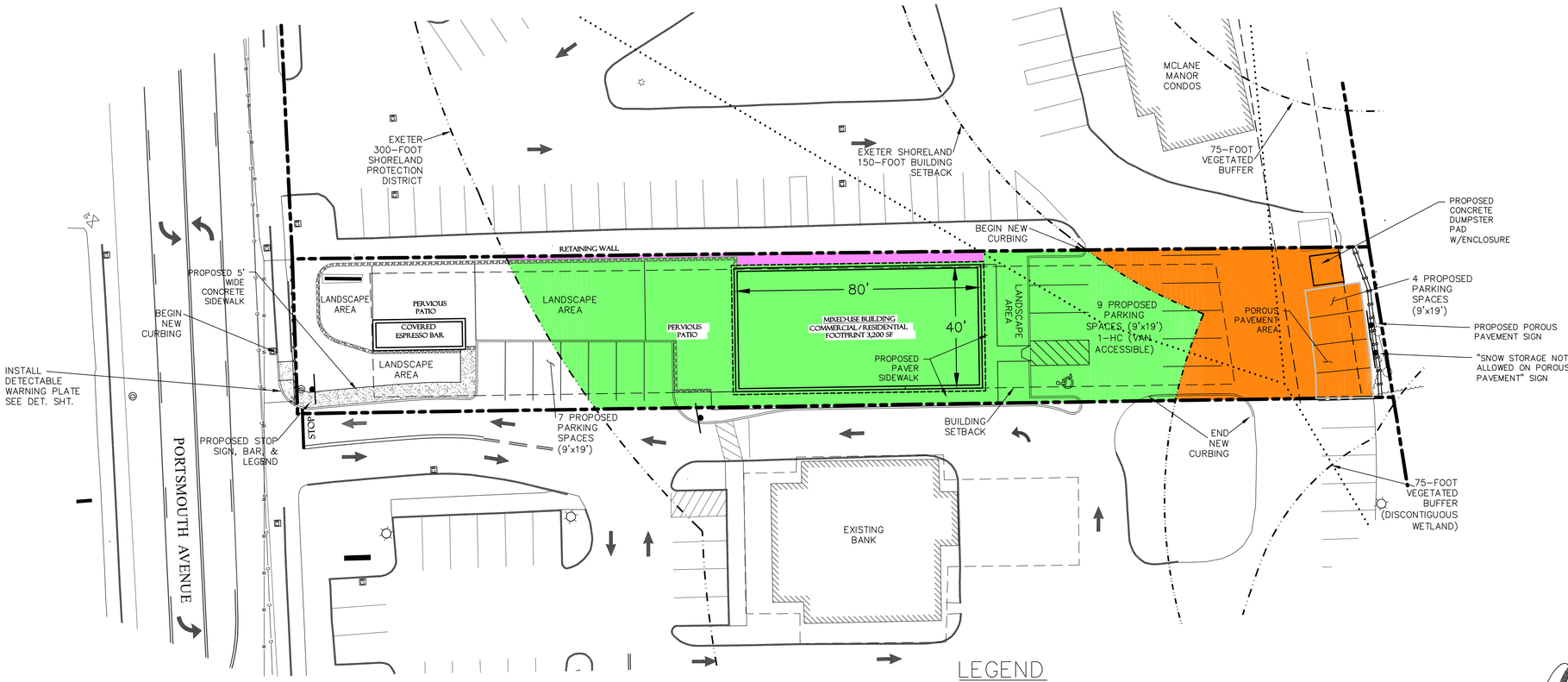

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW TWO 4–STORY BUILDINGS (1 MIXED USE AND 1 RESIDENTIAL) WITH ASSOCIATED PARKING SPACES.
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 = 0.4± 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 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.

SHORELAND IMPACT SUMMARY

	0–150 FOOT	150–300 FOOT
TEMPORARY IMPACTS	121 SF	189 SF
PERMANENT IMPACTS	3,106 SF	10,326 SF

TOTAL PARCEL AREA IN EXETER SHORELAND SETBACK = 13,334 SF

	EXISTING	PROPOSED
SF IMPERVIOUS	10,595 SF	9,400 SF
% IMPERVIOUS	79.5%	70.5%

LEGEND

- PERMANENT SHORELAND IMPACT (150'–300')
- TEMPORARY SHORELAND IMPACT (150'–300')
- PERMANENT SHORELAND IMPACT (0'–150')

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

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

REVISIONS:	DATE:
REVISED PER PB REVIEW & INPUT	08/18/25
REVISED PER TRC REVIEW	06/19/25
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SITE PLAN

MIXED-USE DEVELOPMENT
97 PORTSMOUTH AVENUE
EXETER, NH
TAX MAP 65, LOT 125

DATE:	APRIL 29, 2025	SCALE:	1" = 20'
PROJ. NO:	NH-1547	SHEET NO.	4

SOIL INFORMATION 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/D
299	UDORTHENTS, SMOOTHED	
699	URBAN LAND	

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

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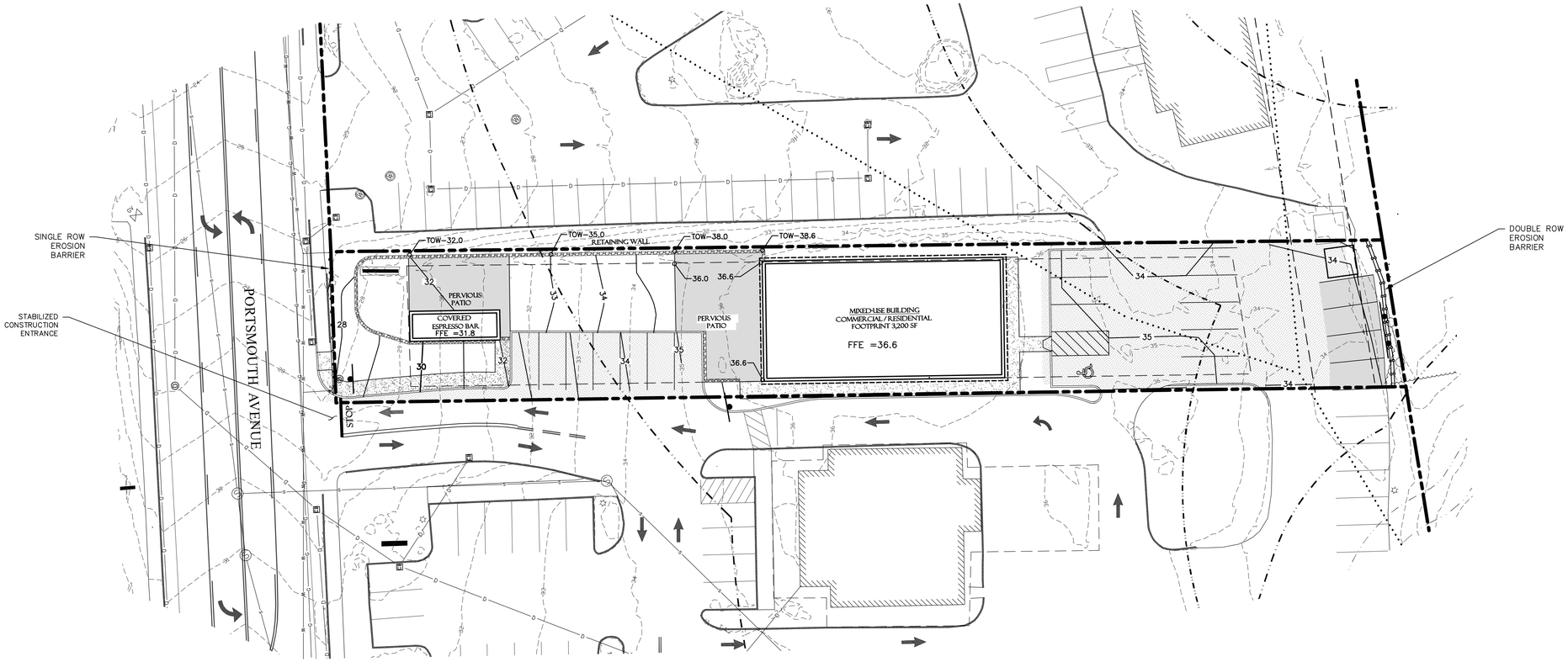

UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER BEALS ASSOCIATES, NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN THAT MAY EXIST. 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.

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.

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

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

REVISIONS:	DATE:
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REVISED OVERALL LAYOUT	06/06/25

GRADING, DRAINAGE, & EROSION CONTROL PLAN

MIXED-USE DEVELOPMENT
97 PORTSMOUTH AVENUE
EXETER, NH
TAX MAP 65, LOT 125

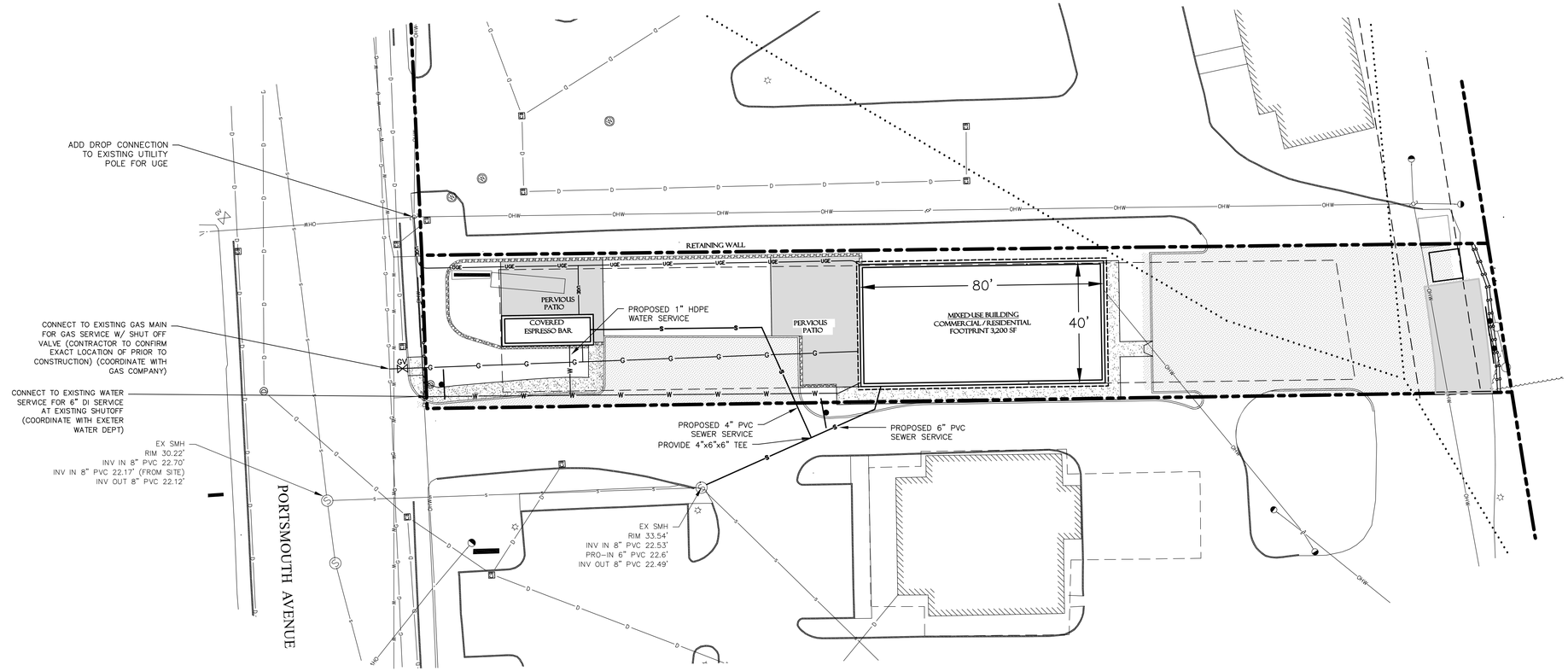
DATE:	APRIL 29, 2025	SCALE:	1" = 20'
PROJ. NO:	NH-1547	SHEET NO.	5

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:
    24 UNITS AT 2 BEDROOMS EACH= 48 BEDROOMS
    ESTIMATED FLOW AT 150 GPD/BEDROOM= 7,200 GPD

    FOOD SERVICE WITH 70 SEATS AND 3 EMPLOYEES
    ESTIMATED FLOW AT 40 GPD/SEAT = 2,800 GPD + 20 GPD/EMPLOYEE = 60 GPD = 2,860 GPD

    TOTAL ESTIMATED FLOW = 10,060 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.



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GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

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

REVISIONS:	DATE:
REVISED OVERALL LAYOUT	06/06/25
REVISED PER TRC REVIEW	06/19/25
REVISED PER PB REVIEW & INPUT	08/18/25
REVISED PER ENGINEERING REVIEW	08-27-25

UTILITY PLAN

MIXED-USE DEVELOPMENT
97 PORTSMOUTH AVENUE
EXETER, NH
TAX MAP 65, LOT 125

DATE:	APRIL 29, 2025	SCALE:	1" = 20'
PROJ. NO:	NH-1547	SHEET NO.	6

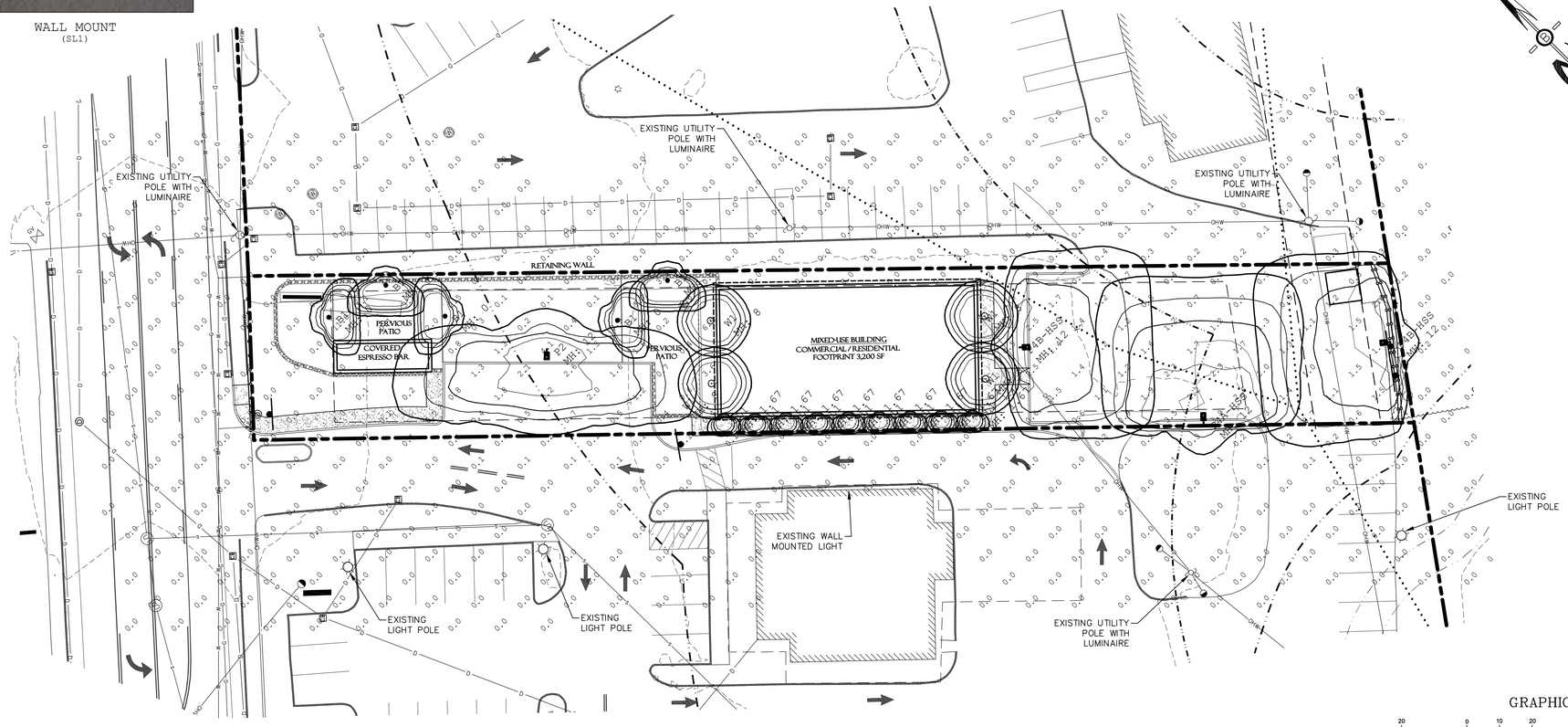
POLE MOUNT
(P4A, P4B, P2)

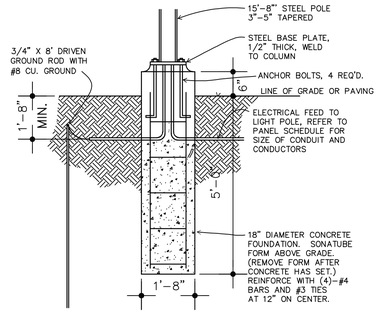
WALL MOUNT
(SL1)

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Description	Tag	LLF	Luminaire Lumens
	5	B1	Single	COOPER: BRT6-A2-830-U-T3-36-CXX		0.900	854
	1	P4A-HSS	Single	COOPER: GALN-SA1C-830-U-T4FT-CXX-HSS	MTD 12' AFG ON 12' COOPER POLE: SSS-12-4-11-AB-N1-CXX	0.900	4071
	2	P4B-HSS	Single	COOPER: GALN-SA1A-830-U-T4FT-CXX-HSS	MTD 12' AFG ON 12' COOPER POLE: SSS-12-4-11-AB-N1-CXX	0.900	2648
	1	P2	Single	COOPER: GALN-SA1A-830-U-SL2-CXX	MTD 12' AFG ON 12' COOPER POLE: SSS-12-4-11-AB-N1-CXX	0.900	3670
	9	SL1	Single	BRUCK: EXT-PZ1-30K-80-UNV-CXX	WALL MTD 20 INCHES AFG	0.900	130
	4	W1	Single	TMS: 10W-O-15LED-30K-VXX-WM-CXX-DIML-W12	WALL MTD 8' AFG	0.900	1090

WALL MOUNT
(W1)

BOLLARD MOUNT
(B1)





POLE FOUNDATION

LIGHT BASE DETAIL
SCALE: NONE

LIGHTING NOTES:

1. ALL OUTDOOR LIGHTING SHALL BE SO DIRECTED & SHIELDED THAT NO GLARE WILL SPILL OUT ONTO RESIDENTIALLY ZONED ABUTTERS

2. AFTER 10:00 PM ONLY THAT AMOUNT OF LIGHT NECESSARY FOR THE SECURITY OF THE PREMISES SHALL BE PERMITTED.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

REVISED PER PB REVIEW	09/03/25
REVISED PER PB REVIEW & INPUT	08/18/25
REVISED PER TRC REVIEW	06/19/25
REVISED OVERALL LAYOUT	06/06/25
REVISIONS:	DATE:

LIGHTING PLAN

MIXED-USE DEVELOPMENT
97 PORTSMOUTH AVENUE
EXETER, NH
TAX MAP 65, LOT 125

DATE:	APRIL 29, 2025	SCALE:	1" = 20'
PROJ. N0:	NH-1547	SHEET NO.	7

PREPARED FOR:
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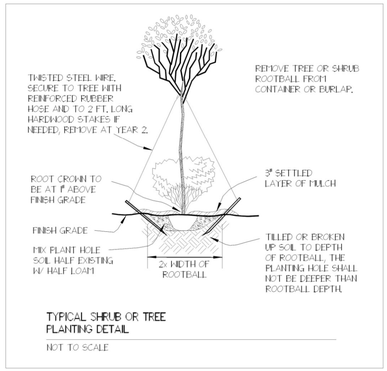
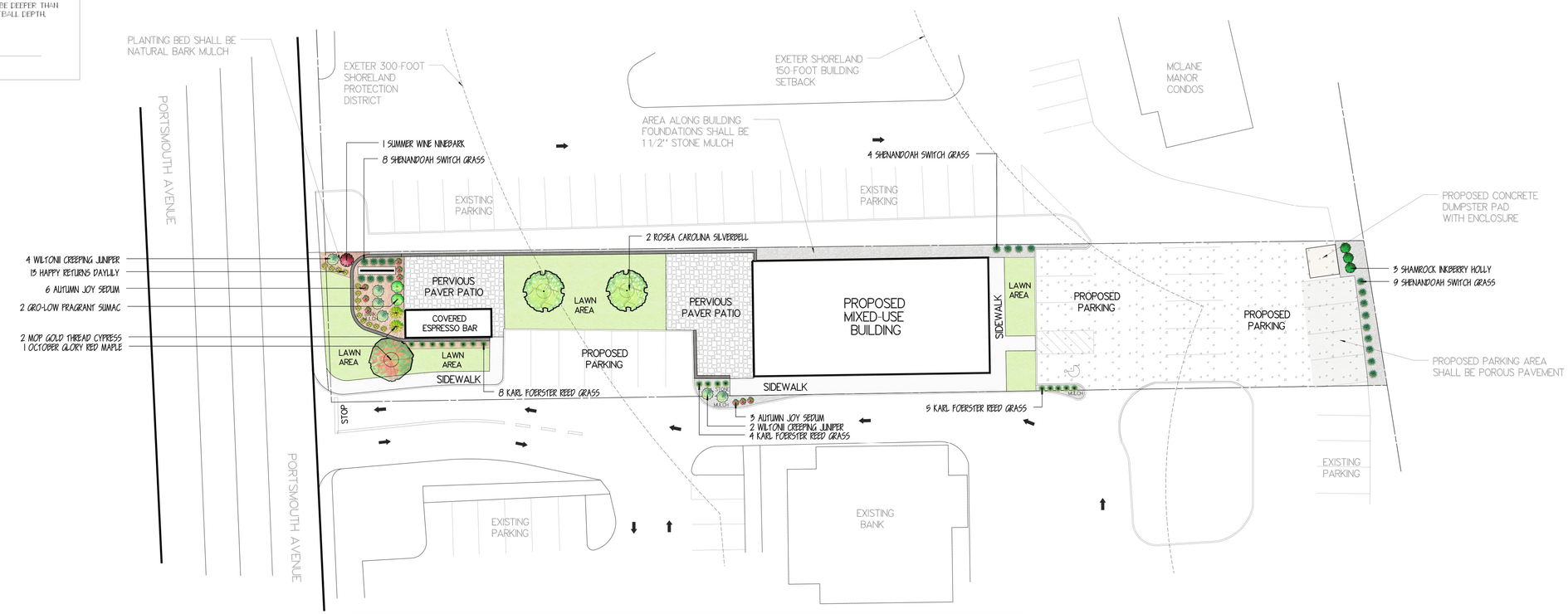


TYPICAL SHRUB OR TREE PLANTING DETAIL

NOT TO SCALE



PLANTING NOTES:

THE LANDSCAPE INSTALLATION CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITIES PRIOR TO STARTING WORK.

THE CONTRACTOR SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

THE DEVELOPER SHALL PLANT A MINIMUM OF THE AMOUNT OF SHRUBS AND TREES SHOWN ON THE PLANT LIST, BUT EXACT SPECIES MAY VARY BASED ON AVAILABILITY. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR FOR ONE FULL YEAR FROM THE TIME OF OWNER ACCEPTANCE.

ALL PLANT MATERIAL SHALL BE WATERED THOROUGHLY DURING THE FIRST 24 HOUR PERIOD AFTER PLANTED. PLANTS SHALL BE WATERED WEEKLY OR MORE AS NECESSARY DURING THE FIRST GROWING YEAR.

ALL TREES, SHRUBS AND PERENNIALS SHALL BE PLANTED IN MULCH BEDS EXCEPT WHERE SPECIFIED ON THE PLAN. ALL MULCH AREAS SHALL RECEIVE A 3 INCH LAYER OF NATURAL BARK MULCH OVER A CONSTRUCTION GRADE WEED MAT BARRIER.

THE CONTRACTOR SHALL REMOVE WEEDS, ROCKS, CONSTRUCTION DEBRIE, ETC. FROM ANY LANDSCAPE AREA UNLESS DESIGNATED TO REMAIN.

ALL DISTURBED AREAS TO BE LANDSCAPED SHALL BE REPLACED WITH SUITABLE TOPSOIL.

THE BUILDING FOUNDATIONS WILL HAVE STONE MULCH BORDER EXTENDING OUT 18 INCHES FROM FOUNDATION AS DRIP EDGE. THE STONE MULCH SHALL BE 3 INCH DEPTH OVER A CONSTRUCTION GRADE WEED MAT BARRIER.

THIS PLAN SHEET IS INTENDED FOR LANDSCAPING PURPOSES ONLY. REFER TO CIVIL AND SITE SHEETS FOR ALL OTHER SITE CONSTRUCTION INFORMATION.

ALL PLANTING SHALL CONFORM TO THE TOWN OF EXETER, NEW HAMPSHIRE'S SITE PLAN REVIEW REGULATIONS PLANTING REQUIREMENTS.

Qty	Botanical Name	Common Name	Size/Condition
Trees			
1	Acer rubrum 'October Glory'	OCTOBER GLORY RED MAPLE	3" Caliper B&B
2	Halesia tetraptera 'Rosea'	ROSEA CAROLINA SILVERBELL	2" Caliper B&B
Shrubs			
2	Chamaecyparis pisifera 'Mop'	MOP GOLD THREAD CYPRESS	5 Gallon
3	Ilex glabra 'Shamrock'	SHAMROCK INKBERRY HOLLY	5 Gallon
6	Juniperus horizontalis 'Wiltonii'	WILTONII CREEPING JUNIPER	3 Gallon
1	Physocarpus opulifolius 'Seward'	SUMMER WINE NINEBARK	5 Gallon
2	Rhus aromatica 'Gro-low'	GRO-LOW FRAGRANT SUMAC	3 Gallon
Ornamental Grasses			
17	Calamagrostis x acutiflora 'Karl Foerster'	KARL FOERSTER REED GRASS	2 Gallon
21	Panicum virgatum 'Shenandoah'	SHENANDOAH SWITCH GRASS	2 Gallon
Perennials			
13	Hemerocallis 'Happy Returns'	HAPPY RETURNS DAYLILY	1 Gallon
9	Sedum 'Autumn Joy'	AUTUMN JOY SEDUM	1 Gallon

NOTE: PLANT CONTAINER SIZES MAY VARY BASED ON AVAILABILITY.

GRAPHIC SCALE

0 5 10 20 30 50 100

(IN FEET)
1 INCH = 20 FEET

PREPARED FOR:
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11 TAYLOR COURT
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AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS

REVISIONS:	DATE:
REVISED PER COMMENTS	08/18/2025
REVISED OVERALL LAYOUT	06/06/2025

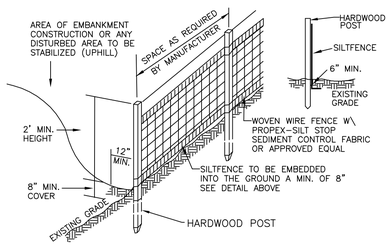
PLANTING PLAN

MIXED-USE DEVELOPMENT
97 PORTSMOUTH AVENUE
EXETER, NH
TAX MAP 65, LOT 125

DATE:	APRIL 29, 2025	SCALE:	1" = 20'
PROJ. NO:	NH-1547	SHEET NO.	8

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 AND ITS ASSOCIATED DRAINAGE STRUCTURES.
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 RE-VEGETATE 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 DRIVEWAYS.
15. CONTRACTOR TO BE AWARE CLEANING OF EXISTING CATCH BASINS MAY BE REQUIRED PRIOR TO BOND RELEASE AS DETERMINED BY THE EXETER DPW.



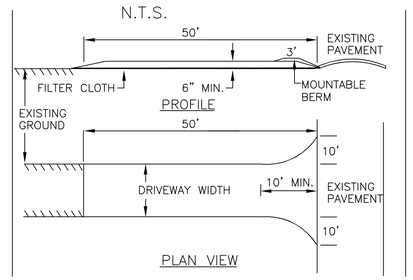
SILT FENCE CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES AND FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP MID AND BOTTOM SECTIONS AND BE EMBEDDED INTO GROUND A MINIMUM OF 8" THE FENCE POSTS SHALL BE A MINIMUM 48" LONG, SPACED A
2. MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER,
3. THE ENDS OF THE FABRIC SHALL BE OVERLAPPED BY SIX INCHES, FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BYPASSING MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT
4. REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE AND PROPERLY DISPOSED OF PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE
5. FOR SEDIMENT STORAGE SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND
6. THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND RE-VEGETATED

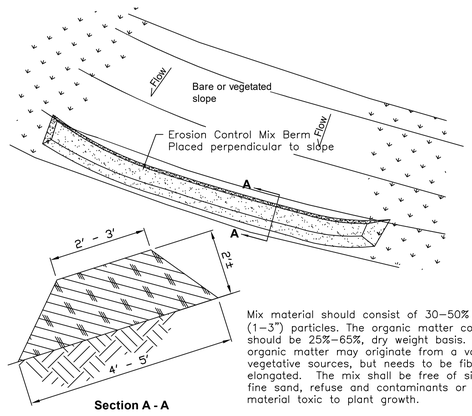
SILT FENCE MAINTENANCE

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME
2. INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT.
3. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE
4. FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

STABILIZED CONSTRUCTION ENTRANCE



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,
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.
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.



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.

SEEDING RATES

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR		
FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDS FOOT TREFOIL	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREEPING RED FESCUE 1/	50	1.15
KENTUCKY BLUEGRASS 1/	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

TEMPORARY EROSION CONTROL MEASURES

1. NO MORE THAN 1.58 ACRES OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
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 0.5" 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.

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. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:

   AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS PER 1,000 SQ. FT..

   NITROGEN(N), 50 LBS PER ACRE OR 1. 1 LBS PER 1,000 SQ.FT.

   PHOSPHATE(P205), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.

   POTASH(K20), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.

   (NOTE: THIS IS THE EQUIVALENT OF 500 LBS PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS PER ACRE OF 5-10-10.)

Erosion Control Mix Berm

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. REFER TO TABLE(G-E1 THIS SHEET) FOR APPROPRIATE SEED MIXTURES AND TABLE(H-E1 THIS SHEET) FOR RATES OF SEEDING. ALL LEGUMES (CROWN VETCH, BIRDS FOOT TREFOIL, AND FLAT PEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT.

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.

SEEDING GUIDE

USE	SEEDING MIXTURE*	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	FAIR	GOOD	EXCELLENT
	E	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	FAIR	GOOD	GOOD	EXCELLENT
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	F	FAIR	EXCELLENT	EXCELLENT	**
	G	FAIR	EXCELLENT	EXCELLENT	**

RECOMMENDED

GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.

* REFER TO SEEDING MIXTURES AND RATES IN TABLE 7-36.
** POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAY AREAS OR ATHLETIC FIELDS.

NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCT. 15, IF PERMANENT SEEDING NOT YET COMPLETE.

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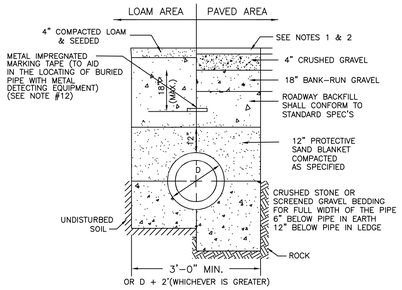
REVISED PER ENGINEERING REVIEW	08-27-25
REVISED PER TRC REVIEW	06-19-25
REVISIONS:	DATE:

EROSION & SEDIMENT CONTROL DETAILS

MIXED-USE DEVELOPMENT
97 PORTSMOUTH AVENUE
EXETER, NH
TAX MAP 65, LOT 125

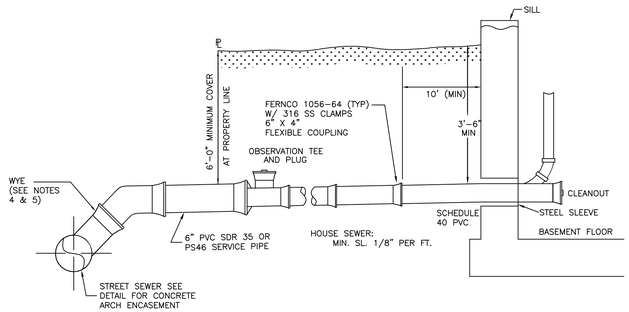
DATE:	APRIL 29, 2025	SCALE:	NTS'
PROJ. NO:	NH-1547	SHEET NO.	9



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

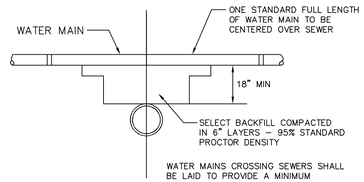
TYPICAL SEWER TRENCH DETAIL

NOT TO SCALE



NOTES:
1) SEWER SERVICE FROM PROPERTY LINE TO 10' OUTSIDE OF BUILDING SHALL BE INSTALLED UNDER THIS CONTRACT ONLY WHEN OUTSIDE THE TRENCH DEWATERING OR LEDGE EXCAVATION IS REQUIRED.
2) PIPE DEPTH AT HOUSE SHALL BE ABOVE THE SEASONAL GROUND WATER LEVEL.
3) SEWER SHALL BE BELOW SLAB ONLY WHEN BASEMENT TOILETS EXIST.
4) JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AST AT THE STREET SEWER WYE OR, AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED
5) WYES: WHERE WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE FOLLOWING MANUFACTURERS INSTRUCTIONS USING A BOLTED, CLAMPED, OR EPOXY-CEMENTED SADDLE, TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING IN THE SEWER.

DETAIL OF HOUSE SEWER SERVICE

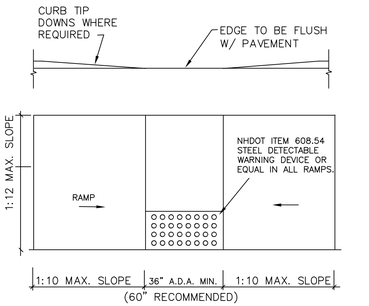


WATER MAINS CROSSING SEWERS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN PIPES. WATER MAIN JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER JOINTS

SEPARATION NOTES:

SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES (460 MM) BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE.

WATER/SEWER MAIN CROSSING

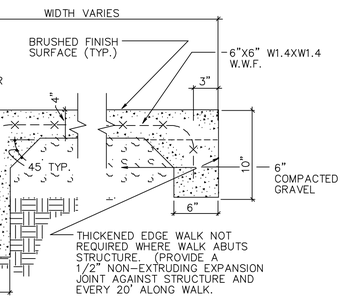


SIDEWALK RAMP DETAIL

NOT TO SCALE

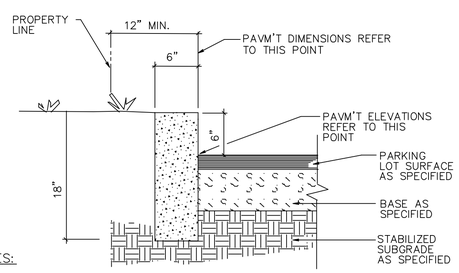
PARKING STALL FOR THE PHYSICALLY CHALLENGED

NOT TO SCALE



BRUSHED CONCRETE WALK

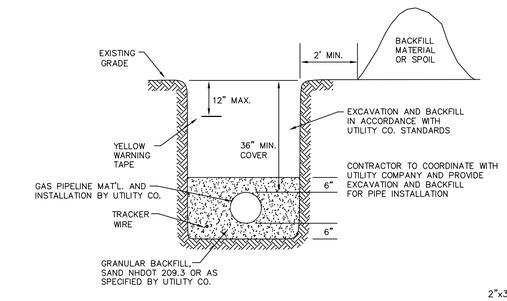
NOT TO SCALE JULY 15,1986



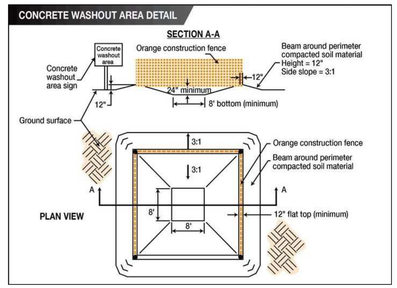
NOTES:
1. EDGING TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.
2. JOINTS BETWEEN STONES SHALL BE MORTARED.

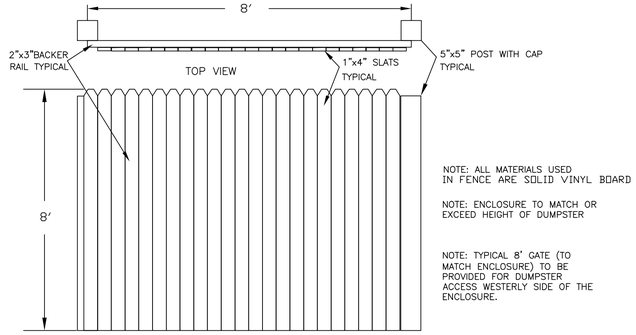
6" VERTICAL GRANITE CURB

NOT TO SCALE



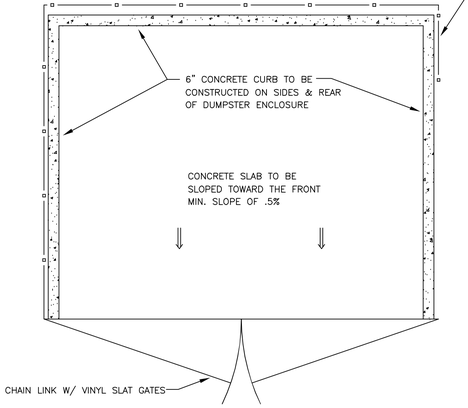
GAS TRENCH DETAIL





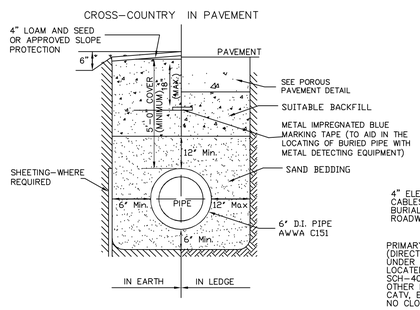
STOCKADE FENCE DETAIL

N.T.S.

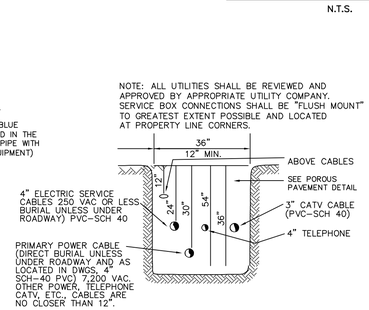


DUMPSTER SLAB DETAILS

N.T.S.



TYPICAL TRENCH DETAIL FOR WATER SYSTEM



UTILITY TRENCH DETAIL

PREPARED FOR:
J CALEY ASSOCIATES
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STRATHAM NH 03885

BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
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REVISED PER TRC REVIEW	06/19/25
REVISED OVERALL LAYOUT	06/06/25
REVISIONS:	DATE:

CONSTRUCTION DETAILS

MIXED-USE DEVELOPMENT
97 PORTSMOUTH AVENUE
EXETER, NH
TAX MAP 65, LOT 125

DATE:	APRIL 29, 2025	SCALE:	NTS
PROJ. N0:	NH-1547	SHEET NO.	10

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 DRAWNGS.
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 PS 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– I. 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

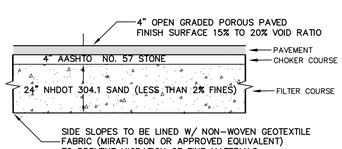
THE FOLLOWING RECOMMENDATIONS WILL HELP ASSURE THAT THE PAVEMENT IS MAINTAINED TO PRESERVE ITS HYDROLOGIC EFFECTIVENESS.

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.

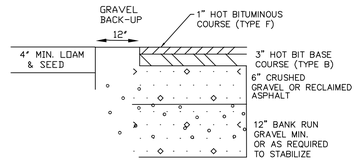
ROUTINE MAINTENANCE;

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. TOP COAT SHOULD BE VACUUMED A MINIMUM OF TWICE A YEAR.
4. ROOF RUNOFF CAN FLOW ONTO PAVEMENT OR INTO SUBBASE MATERIAL.

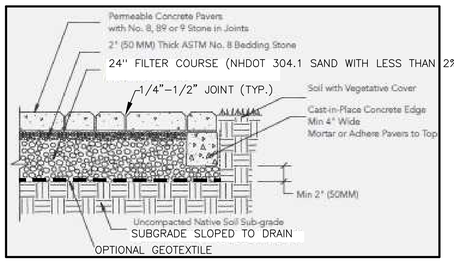
POROUS PAVEMENT
NOT TO SCALE



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

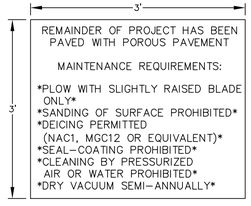
1. THE DEVELOPER SHALL INSPECT THE CROSS–SECTION OF THE CURRENT DRIVEWAY FOR CONFORMANCE TO THE MUNICIPAL REQUIREMENTS. IF ADDITIONAL SELECT GRAVELS, ETC. ARE NEEDED, THE DRIVE SHALL BE BUILT TO TOWN SPECIFICATIONS.
2. IF ADDITIONAL CRUSHED OR BANK RUN GRAVEL IS NEEDED, THE DEVELOPER RESERVES THE RIGHT TO UTILIZED RECLAIMED GRAVEL PROCESSED FROM ON SITE MATERIALS.



ROUTINE MAINTENANCE: VISUAL INSPECTION OF THE PERVIOUS PAVERS TO ENSURE THAT THEY ARE CLEAN OF DEBRIS AND SEDIMENTS. ROUTINE CLEANING PROCEDURES WOULD INCLUDE BLOWING (WITH LEAF BLOWER OR SIMILAR) IN FALL, TRUCK–SWEEPING AND/OR DRY VACUUMING. ADD STONE TO REFILL JOINT SPACE AFTER SWEEPING/VACUUMING IF NEEDED.

PERVIOUS PAVER DETAIL
TO BE "TREMRON" OR APPROVED EQUAL

NOT TO SCALE



POROUS PAVEMENT SIGN DETAIL
NOT TO SCALE

PREPARED FOR:
J CALEY ASSOCIATES
11 TAYLOR COURT
STRATHAM NH 03885

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

REVISED PER TRC REVIEW	06/19/25
REVISIONS:	DATE:

CONSTRUCTION DETAILS

MIXED–USE DEVELOPMENT
97 PORTSMOUTH AVENUE
EXETER, NH
TAX MAP 65, LOT 125

DATE:	APRIL 29, 2025	SCALE:	NTS
PROJ. NO:	NH–1547	SHEET NO.	11

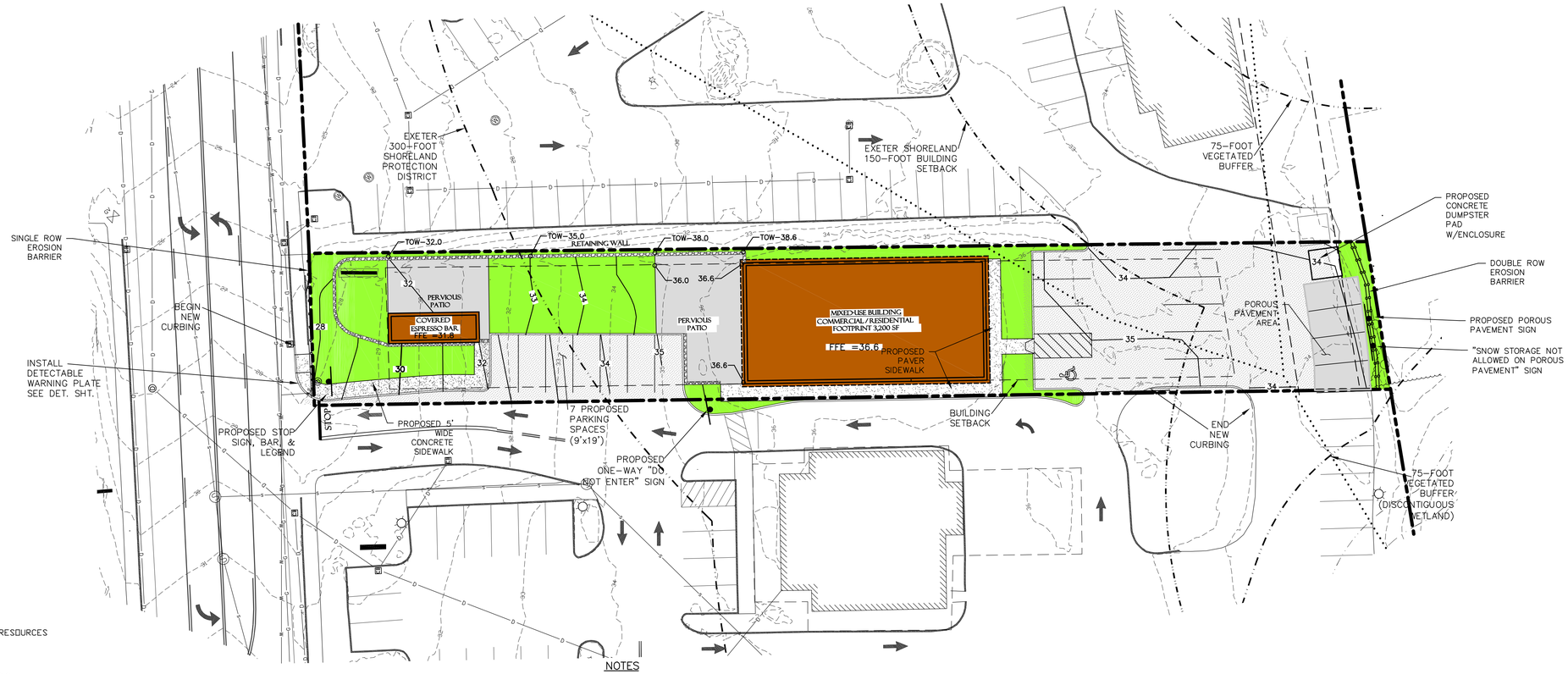
TOWN NOTES

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.

ZONING REQUIREMENTS:
ZONING DISTRICT – HIGHWAY COMMERCIAL (C2)
MINIMUM LOT SIZE – 20,000 S.F.
MINIMUM LOT WIDTH – 150 FT.
MINIMUM LOT DEPTH – 100 FT.

BUILDING SETBACKS
FRONT 50 FT.
SIDE 20 FT.
REAR 50 FT.
BUILDING HEIGHT 35 FT.
(50' BY SPECIAL EXCEPTION)
MAXIMUM BUILDING COVERAGE = 30%
EXISTING–18.4%, PROPOSED–18.4%
MINIMUM OPEN SPACE = 15%
EXISTING–12.4%, PROPOSED–21%

PARKING SPACES
EXISTING–12
REQUIRED:
14 RES UNITS x1/PER (MUND) = 14
COFFEE SHOP/ESPRESSO BAR 18 SEATS/1/3–SEATS = 6
TOTAL REQUIRED = 20
PROPOSED–20



SOIL INFORMATION 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/D
299	UDORTHENTS, SMOOTHED	
699	URBAN LAND	

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

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.

CONSTRUCTION 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.

NOTES

1. ALL EXISTING STRUCTURES IN THE CONSTRUCTION AREA SHALL BE REMOVED AND DISPOSED OF OFF–SITE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS, UNLESS NOTED TO REMAIN ON THE SITE PLANS. ANY BURNING ON–SITE SHALL BE SUBJECT TO LOCAL ORDINANCES.
2. ALL EXISTING UTILITIES SHALL BE TERMINATED AT THE PROPERTY LINE, OR AS SHOWN ON THE DESIGN PLANS, IN CONFORMANCE WITH LOCAL, STATE, AND UTILITY COMPANY STANDARDS, SPECIFICATIONS, AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES PRIOR TO THE START OF WORK.
3. EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSTALLED PRIOR TO ANY EARTH MOVING ACTIVITIES.
4. THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES.
5. EXISTING SEWER SERVICE AND APPURTENANCES TO BE REMOVED AND DISPOSED OF PER TOWN AND STATE REQUIREMENTS. NEW SERVICES FOR EACH UNIT TO BE INSTALLED & CONNECTED PER TOWN SPECIFICATIONS. SEQUENCING AND SCHEDULING: (SEE DETAIL SHEETS FOR COMPLETE CONSTRUCTION SEQUENCE AND EROSION CONTROL SPECIFICATION.)
6. DEMOLITION REQUIREMENTS: CONDUCT DEMOLITION TO MINIMIZE INTERFERENCE WITH THE ADJACENT AND OCCUPIED BUILDING AREAS, IN COMPLIANCE WITH THE GOVERNING LAWS. PRIME CONSIDERATION SHALL BE GIVEN TO THE SAFETY, PROTECTION AND CONVENIENCE OF THE PUBLIC AND OWNER'S PERSONNEL.
7. LEAVE SITE IN CLEAN CONDITION.
8. TEMPORARY EARTH MATERIAL STOCKPILES TO BE IN UPLAND AREAS AND COMPLETELY IMPOUNDED BY SILT FENCE/HAYBALE EROSION CONTROLS.
9. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
10. ALL WATER, SEWER, ROAD (INCLUDING DRIVEWAY), 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.
11. 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.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

PREPARED FOR:
J CALEY ASSOCIATES
11 TAYLOR COURT
STRATHAM NH 03885

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

PRESENTATION PLAN

MIXED-USE DEVELOPMENT
97 PORTSMOUTH AVENUE
EXETER, NH
TAX MAP 65, LOT 125

DATE:	APRIL 29, 2025	SCALE:	1" = 20'
PROJ. N0:	NH-1547	SHEET NO.	1 OF 1

TOWN OF EXETER

Planning and Building Department

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

www.exeternh.gov

Date: **September 4, 2025**

To: **Planning Board**

From: **Carol Ogilvie, MRI, Interim Planner**

Re: **PB Case #25-6 Exeter Presbyterian Church**

The Applicant is seeking approval of a site plan for the proposed construction of 5,400 square foot addition to the existing church building, along with a parking lot expansion and associated site improvements on the property located at 73 Winter Street. The subject property is 0.86 acres in area, located in C-1, Central Area Commercial zoning district and is identified as Tax Map Parcel #73-143.

Attached please find an application, plans and supporting documents, dated 7/15/25 for your review. A Technical Review Committee (TRC) was conducted on August 7, 2025. A copy of the UEI comment letter, 8/18/25 is enclosed for your review.

Revised plans and supporting documents, dated 8/28/25 were submitted following the TRC and are enclosed for your review. I have reviewed the letter from Jones & Beach responding to the TRC comments and found that all items have been addressed.

The Applicant is requesting waivers from the following two sections of the Board's Site Plan Review & Subdivision Regulations:

1. From Section 7.4.10 for the requirement to provide a High Intensity Soils Survey (HISS) of the entire site, or appropriate portion thereof. Please see the enclosed waiver request letter from Jones & Beach Engineers, Inc, dated 7/15/25.

2. Section 9.3.6 that prohibits grading within five (5) feet of a property line. Please see the attached waiver request letter from Jones & Beach Engineers, Inc., dated 8/28/25.

The waiver for Section 7.4.10 relates to a completed application. Before the Board votes on accepting the application for hearing, it should first vote on whether to grant this waiver (see motion below). Aside from this waiver request, I find the application to be otherwise complete and ready for public hearing. At this stage, the Board can also decide whether a site visit is in order.

Waiver motion:

High Intensity Soils Survey (HISS) waiver motion: After reviewing the criteria for granting waivers, I move that the request of Exeter Presbyterian Church for a waiver from Section 7.4.10 of the Site Plan Review and Subdivision Regulations to provide High Intensity Soil Survey information on the Site Plan be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

The second waiver request relates to the actual plan, and would be voted on during the Board's deliberations (see motion below).

Waiver motion:

Erosion and Sediment Control Standards waiver motion: After reviewing the criteria for granting waivers, I move that the request of Exeter Presbyterian Church for a waiver from Section 9.3.6 of the Site Plan Review and Subdivision Regulations to allow grading within five (5) feet of a property line be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Following is language for two motions, depending on how the Board proceeds: one to table the application in the event the Board elects to conduct a site visit; and one for the final decision on the application.

Planning Board motions:

Table Motion: I move that the application of Exeter Presbyterian Church, PB Case #25-6 be TABLED to the (date/time/place) Planning Board meeting and revised plans/documents shall be submitted to the Planning Office at least eight (8) days prior to the meeting or the application may remain on the table to a future meeting.

Site Plan Motion: I move that the request of Exeter Presbyterian Church, PB Case #25-6 for Site Plan approval be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Thank You.

Enclosures

JONES & BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

July 15, 2025

Exeter Planning Board
Attn. Langdon Plumer, Chair
10 Front Street
Exeter, NH 03833

RE: Site Plan Application
73 Winter Street, Exeter, NH
Tax Map 73, Lot 143
JBE Project No. 05241.1

Dear Mr. Plumer,

On behalf of our client, Exeter Presbyterian Church, we respectfully submit a Site Plan Application for the above-mentioned property. The intent of this application is to propose a new building & associated site improvements located behind the existing church building. The proposed building consists of a new sanctuary as well as an entrance hall to connect the two buildings. The entrance hall will include restrooms and a handicap accessible entrance. The existing fire escape to the rear of the existing building will be modified and a new doorway installed to connect the existing structure to the proposed structure. Currently, the main floor of the church building is used both as a sanctuary as well as a multi-use fellowship hall, resulting in frequent rearranging of the space to accommodate these various uses. With a new, permanent sanctuary proposed to be constructed, the existing structure can be used as a permanent multi-use fellowship space. The new structure will make the uses safer and much more efficient & convenient. The new structure is proposed to be serviced by new water and sewer services, separate from the existing structure. This will accommodate the installation of a sprinkler system in the proposed building as required by code.

The new building results in additional parking needs which will be added to the rear of the site since some spaces will be eliminated where the proposed building will be constructed. Currently, there is an existing encroachment at the rear of the property from the abutting property, Tax Map 73 Lot 147 (Shooters Pub). The church has had a longstanding agreement allowing Shooters Pub use of this rear portion of the church property. The Site Plan regulations allow for alternative parking calculations as provided per Section 5.6.5(A). For the reason stated above, the proposed parking on site does not meet the required parking per the Site Plan regulations. However, utilizing the agreed upon parking easement with Shooters Pub for overflow parking, there is ample parking provided to meet those parking requirements. There is also public parking across Winter Street that is sometimes used during church services.

Some of the proposed parking spaces will be constructed with porous pavers with a filtration course in order to treat and infiltrate stormwater in accordance with Section 9.3.2 of the Site Plan Regulations. Additional lighting and landscaping will be added to the property for safety and to meet code.

Seven (7) copies of the following are included with this application:

1. Completed Site Plan Application.
2. Waiver Request

3. Draft Parking Easement Agreement.
4. Fee Check in the Amount of $711.42.
5. Signed Letter of Authorization.
6. Current Deed.
7. Abutters List & 3 Sets of Mailing Labels.
8. Tax Map.
9. Two (2) Drainage Analysis.
10. Architectural Plans.
11. Seven (7) Full Size Plan Sets.
12. Fifteen (15) Half Size Plan Sets.

We look forward to discussing this project with the Board. 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: Doug Greene, Port City Design (via email)
Skip Phelps, Exeter Presbyterian Church (via email)
Allison Rees, Underwood Engineers (via email & U.S. Mail)

Letter of Authorization

I, Exeter Presbyterian Church, 73 Winter Street, Exeter, NH 03833, owner of property located in Exeter, NH, known as Tax Map 73, Lot 143, 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 73 Winter Street 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.

Carolyce D. Magee
Witness

Exeter Presbyterian Church

7/12/2025
Date

Town of Exeter

Planning Board Application for Site Plan Review

October 2019

SITE PLAN REVIEW APPLICATION CHECKLIST

A COMPLETED APPLICATION FOR SITE PLAN REVIEW MUST CONTAIN THE FOLLOWING

1. Application for Hearing (x)
2. Abutter's List Keyed to Tax Map (x)
   (including the name and business address of every engineer, architect, land surveyor, or soils scientist whose professional seal appears on any plan submitted to the Board)
3. Completed- " Checklist for Site Plan Review" (x)
4. Letter of Explanation (x)
5. Written Request for Waiver (s) from " Site Plan Review and Subdivision Regulations" (if applicable) (x)
6. Completed "Preliminary Application to Connect and /or Discharge to Town of Exeter- Sewer, Water or Storm Water Drainage System(s)"(if applicable) (x)
7. Planning Board Fees (x)
8. Seven (7) full-sized copies of Site Plan (x)
9. Fifteen (15) 11"x17" copies of the final plan to be submitted **TEN DAYS PRIOR** to the public hearing date. (x)
10. Three (3) pre-printed 1"x 2 5/8" labels for each abutter, the applicant and all consultants. (x)

NOTES: All required submittals must be presented to the Planning Department office for distribution to other Town departments. Any material submitted directly to other departments will not be considered.

TOWN OF EXETER, NH
APPLICATION FOR SITE PLAN REVIEW

THIS IS AN APPLICATION FOR:

( ) COMMERCIAL SITE PLAN REVIEW
( ) INDUSTRIAL SITE PLAN REVIEW
( ) MULTI-FAMILY SITE PLAN REVIEW
( ) MINOR SITE PLAN REVIEW
(x) INSTITUTIONAL/NON-PROFIT SPR

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)

1. **NAME OF LEGAL OWNER OF RECORD:** Exeter Presbyterian Church

   Attn. Skip Phelps **TELEPHONE:** ( )

   ADDRESS: 73 Winter Street, Exeter, NH 03833

2. **NAME OF APPLICANT:** Same as Owner

   ADDRESS:

   TELEPHONE:

3. **RELATIONSHIP OF APPLICANT TO PROPERTY IF OTHER THAN OWNER:**

   (Written permission from Owner is required, please attach.)

4. **DESCRIPTION OF PROPERTY:** Church

   ADDRESS: 73 Winter Street

   TAX MAP: 73 **PARCEL #:** 143 **ZONING DISTRICT:** C-1

   AREA OF ENTIRE TRACT: 0.86 acres **PORTION BEING DEVELOPED:** 30,200 S.F.

5. **ESTIMATED TOTAL SITE DEVELOPMENT COST $** Undetermined

6. **EXPLANATION OF PROPOSAL:** The intent of this project is to construct a new building attached to the existing building and parking expansion

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)

None

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).

No

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 7/14/25 OWNER'S SIGNATURE (as agent)

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.

SITE PLAN REQUIREMENTS

7.4 Existing Site Conditions Plan

Submission of this plan will not be applicable in all cases. The applicability of such a plan will be considered by the TRC during its review process as outlined in Section 6.5 Technical Review Committee (TRC) of these regulations. The purpose of this plan is to provide general information on the site, its existing conditions, and to provide the base data from which the site plan or subdivision will be designed. The plan shall show the following:

APPLICANT	TRC	REQUIRED EXHIBITS
[x]	[ ]	7.4.1 Names, addresses, and telephone numbers of the owner, applicant, and person(s) or firm(s) preparing the plan.
[x]	[ ]	7.4.2 Location of the site under consideration, together with the current names and addresses of owners of record, of abutting properties and their existing land use.
[x]	[ ]	7.4.3 Title, date, north arrow, scale, and Planning Board Case Number.
[x]	[ ]	7.4.4 Tax map reference for the site under consideration, together with those of abutting properties.
[x]	[ ]	7.4.5 Zoning (including overlay) district references.
[x]	[ ]	7.4.6 A vicinity sketch or aerial photo showing the location of the land/site in relation to the surrounding public street system and other pertinent location features within a distance of 2,000-feet, or larger area if deemed necessary by the Town Planner.
[x]	[ ]	7.4.7 Natural features including watercourses and water bodies, tree lines, significant trees (20-inches or greater in diameter at breast height) and other significant vegetative cover, topographic features, and any other environmental features that are important to the site design process.
[x]	[ ]	7.4.8 Man-made features such as, but not limited to, existing roads, structures, and stonewalls. The plan shall also indicate which features are to be retained and which are to be removed or altered.
[x]	[ ]	7.4.9 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.
Waiver [ ]	[ ]	7.4.10 A High Intensity Soil Survey (HISS) of the entire site, or appropriate portion thereof. Such soil surveys shall be prepared 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.

N/A	☐	☐	7.4.11 State and Federally designated wetlands, setback information, total wetlands proposed to be filled, other pertinent information and the following wetlands note: "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."
	☒	☐	7.4.12 Surveyed 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.
	☒	☐	7.4.13 The lines of existing abutting streets and driveway locations within 200-feet of the site.
	☒	☐	7.4.14 The location, elevation, and layout of existing catch basins and other surface drainage features.
	☒	☐	7.4.15 The shape, size, height, location, and use of all existing structures on the site and approximate location of structures within 200-feet of the site.
	☒	☐	7.4.16 The size and location of all existing public and private utilities, including off-site utilities to which connection is planned.
	☒	☐	7.4.17 The location of all existing easements, rights-of-way, and other encumbrances.
	☒	☐	7.4.18 All floodplain information, including the 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.
	☒	☐	7.4.19 All other features which would fully explain the existing conditions of the site.
	☒	☐	7.4.20 Name of the site plan or subdivision.

7.5 Proposed Site Conditions Plan (Pertains to Site Plans Only)

The purpose of this plan is to illustrate and fully explain the proposed changes taking place within the site. The proposed site conditions plan shall depict the following:

	APPLICANT	TRC	REQUIRED EXHIBITS
	X	☐	7.5.1 Proposed grades and topographic contours at intervals not to exceed 2-feet with spot elevations where 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.
	X	☐	7.5.2 The location and layout of proposed drainage systems and structures including elevations for catch basins.
	X	☐	7.5.3 The shape, size, height, and location of all proposed structures, including expansion of existing structures on the site and first floor elevation(s). Building elevation(s) and a rendering of the proposed structure(s).
Waiver	☐	☐	7.5.4 High Intensity Soil Survey (HISS) information for the site, including the total area of wetlands proposed to be filled.
N/A	☐	☐	7.5.5 State and Federally designated wetlands, setback information, total wetlands proposed to be filled, other pertinent information and the following wetlands note: "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."
	X	☐	7.5.6 Location and timing patterns of proposed traffic control devices.
	X	☐	7.5.7 The location, width, curbing and paving of all existing and proposed streets, street rights-of-way, easements, alleys, driveways, sidewalks and other public ways. The plan shall indicate the direction of travel for one-way streets. See Section 9.14 – Roadways, Access Points, and Fire Lanes for further guidance.
	X	☐	7.5.8 The location, size and layout of off-street parking, including loading zones. The plan shall indicate the calculations used to determine the number of parking spaces required and provided. See Section 9.13 – Parking Areas for further guidance.
	X	☐	7.5.9 The size and location of all proposed public and private utilities, including but not limited to: water lines, sewage disposal facilities, gas lines, power lines, telephone lines, cable lines, fire alarm connection, and other utilities.
	X	☐	7.5.10 The location, type, and size of all proposed landscaping, screening, green space, and open space areas.
	X	☐	7.5.11 The location and type of all site lighting, including the cone(s) of illumination to a measurement of 0.5-foot-candle.
	X	☐	7.5.12 The location, size, and exterior design of all proposed signs to be located on the site.
	X	☐	7.5.13 The type and location of all solid waste disposal facilities and accompanying screening.

X	☐	7.5.14 Location of proposed on-site snow storage.
X	☐	7.5.15 Location and description of all existing and proposed easement(s) and/or right-of-way.
X	☐	7.5.16 A note indicating that: "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". See Section 9.14 Roadways, Access Points, and Fire Lanes and Section 9.13 Parking Areas for exceptions.
X	☐	7.5.17 Signature block for Board approval

OTHER PLAN REQUIREMENTS (See Section indicated)

- ☒ 7.7 Construction plan
- ☒ 7.8 Utilities plan
- ☒ 7.9 Grading, drainage and erosion & sediment control plan
- ☒ 7.10 Landscape plan
- ☒ 7.11 Drainage Improvements and Storm Water Management Plan
- N/A ☐ 7.12 Natural Resources Plan
- N/A ☐ 7.13 Yield Plan

ABUTTERS LIST (DIRECT)
AS OF
JULY 7, 2025
FOR
73 WINTER STREET, EXETER, NH
JBE PROJECT No. 05241.1

OWNER OF RECORD/APPLICANT:

TAX MAP 73/ LOT 143
EXETER PRESBYTERIAN CHURCH
ATTN. SKIP PHELPS
73 WINTER ST
EXETER, NH 03833
BK 4675/PG 0982 (06/28/06)

ABUTTERS:

73/142
BEVERLY VINCENT
81 WINTER ST
EXETER, NH 03833
3555/0316 (03/19/01)

73/144
HILARY CODER
69 WINTER ST
EXETER, NH 03833
5342/2685 (08/02/12)

73/146
HAI HO
TRANG HUA
4 COLUMBUS AVE
EXETER, NH 03833
5003/0710 (04/23/09)

73/147
GENERAL RECREATION REALTY TR
ROBERT FICARA TRUSTEE
6 COLUMBUS AVE
EXETER, NH 03833
2633/1105 (09/29/86)

73/187
PRESCOTT FAMILY TRUST
RUSSELL & SUSAN ANN PRESCOTT TRUSTEES
50 LITTLE RIVER RD
KINGSTON, NH 03848
6347/0698 (10/28/21)

73/188
TOWN OF EXETER CEMETERY
10 FRONT ST
EXETER, NH 03833

ENGINEERS/SURVEYORS:

JONES & BEACH ENGINEERS, INC.
ATTN: PAIGE LIBBEY, P.E.
PO BOX 219
STRATHAM, NH 03885

ARCHITECT:

PORT CITY DESIGN
ATTN. DOUG GREENE
953 ISLINGTON ST, STE. 23F
PORTSMOUTH, NH 03801

EXETER PRESBYTERIAN CHURCH
ATTN. SKIP PHELPS
73 WINTER ST
EXETER, NH 03833

BEVERLY VINCENT
81 WINTER ST
EXETER, NH 03833

HILARY CODER
69 WINTER ST
EXETER, NH 03833

HAI HO
TRANG HUA
4 COLUMBUS AVE
EXETER, NH 03833

GENERAL RECREATION REALTY TR
ROBERT FICARA TRUSTEE
6 COLUMBUS AVE
EXETER, NH 03833

PRESCOTT FAMILY TRUST
RUSSELL & SUSAN ANN PRESCOTT TRUSTEES
50 LITTLE RIVER RD
KINGSTON, NH 03848

TOWN OF EXETER CEMETERY
10 FRONT ST
EXETER, NH 03833

JONES & BEACH ENGINEERS, INC.
ATTN: PAIGE LIBBEY, P.E.
PO BOX 219
STRATHAM, NH 03885

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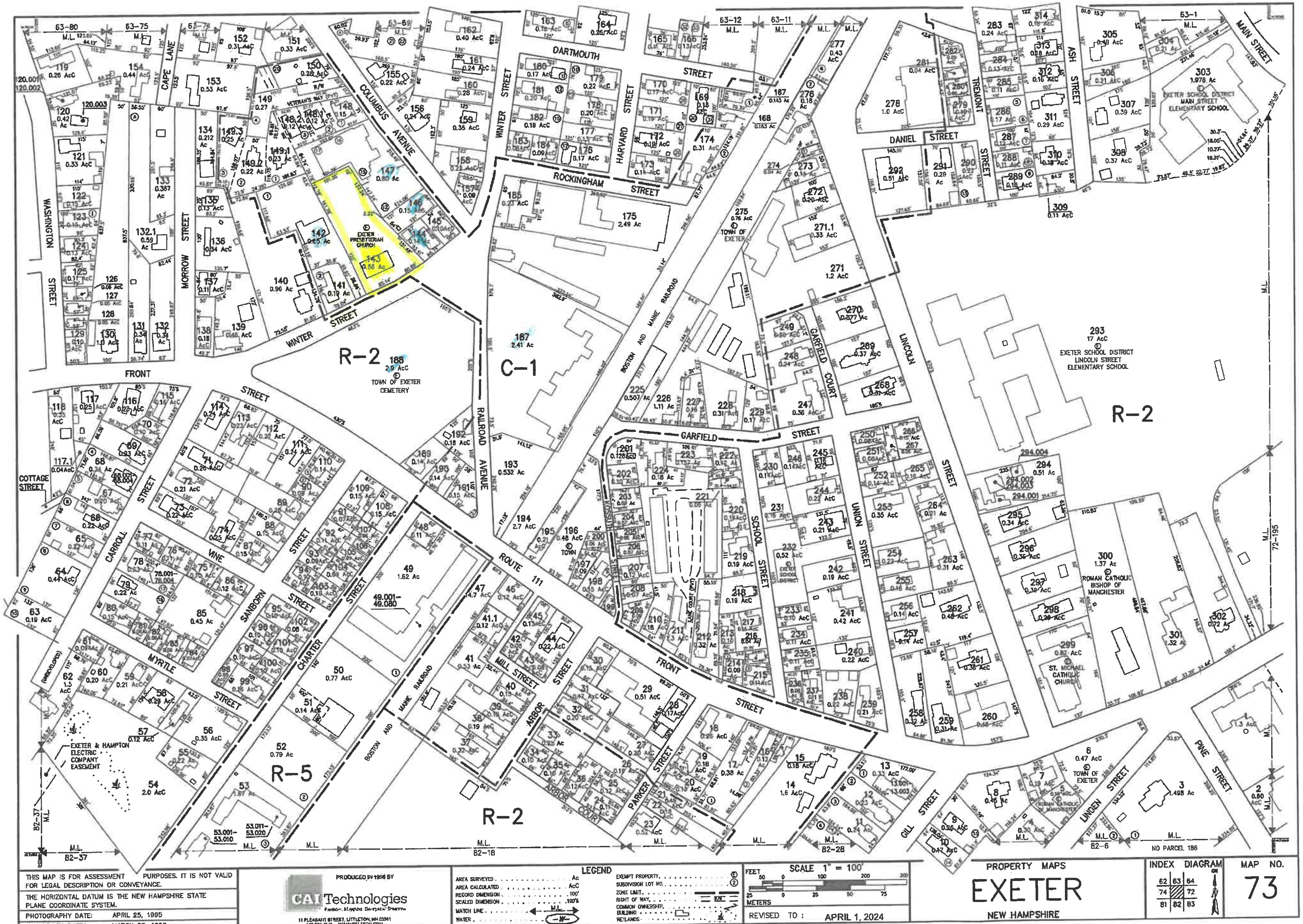

PROPERTY MAPS
EXETER
NEW HAMPSHIRE
MAP NO. 73
INDEX DIAGRAM
SCALE 1" = 100'
REVISED TO : APRIL 1, 2024
THIS MAP IS FOR ASSESSMENT PURPOSES. IT IS NOT VALID FOR LEGAL DESCRIPTION OR CONVEYANCE.
THE HORIZONTAL DATUM IS THE NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM.
PHOTOGRAPHY DATE: APRIL 25, 1995
COMPLETION DATE: MARCH 29, 1996
PRODUCED BY
CAI Technologies
LEGEND
WASHINGTON STREET
CAPE LANE
MORROW STREET
COLUMBUS AVENUE
WINTER STREET
DARTMOUTH STREET
HARVARD STREET
ROCKINGHAM STREET
DANIEL STREET
TREMONT STREET
ASH STREET
MAIN STREET
FRONT STREET
RAILROAD AVENUE
BOSTON AND MAINE RAILROAD
GARFIELD COURT
GARFIELD STREET
LINCOLN STREET
SCHOOL STREET
UNION STREET
COTTAGE STREET
CARROLL STREET
VINE STREET
SANBORN STREET
CHARTER STREET
MYRTLE STREET
ROUTE 111
MILL STREET
ARBOR STREET
ARBOR COURT
PARKER STREET
GILL STREET
LINDEN STREET
PINE STREET
EXETER PRESBYTERIAN CHURCH
TOWN OF EXETER CEMETERY
EXETER SCHOOL DISTRICT MAIN STREET ELEMENTARY SCHOOL
EXETER SCHOOL DISTRICT LINCOLN STREET ELEMENTARY SCHOOL
ROMAN CATHOLIC BISHOP OF MANCHESTER
ST. MICHAEL CATHOLIC CHURCH
EXETER & HAMPTON ELECTRIC COMPANY EASEMENT
NO PARCEL 186
R-2
C-1
R-5

TOWN OF EXETER PLANNING DEPARTMENT
PLANNING AND ZONING FEE SCHEDULE
EFFECTIVE JANUARY 2018

(changes adopted by the Select Board – January 2018)

PUBLICATIONS		
ZONING ORDINANCE	$ 15.00	
MASTER PLAN	$ 35.00	
CAPITAL IMPROVEMENTS PROGRAM	$ 15.00	
SUBDIVISION & SITE PLAN REVIEW REGS	$ 15.00	
PUBLIC WORKS SPECIFICATIONS (at DPW)	$ 20.00	
HDC PRESERVATION GUIDELILNES	$ 10.00	
POSTAGE	$ 5.00 (per publication)	
BOARD OF ADJUSTMENT		
VARIANCE APPLICATION	$ 100.00	
SPECIAL EXCEPTION APPLICATION	$ 100.00	
APPEAL FROM ADMINISTRATIVE DECISION	$ 100.00	
ABUTTER NOTICE	$ 10.00 (per abutter)	
LEGAL NOTICE FEE	$ 50.00	
PLANNING BOARD		
LOT LINE ADJUSTMENT	$ 60.00	
SUBDIVISION		
• APPLICATION (includes Open Space Dev.)	$ 125.00	
• PER LOT OR OPEN SPACE UNIT FEE	$ 50.00 per lot (up to 3 new lots) $ 100.00 per lot (for 4 or more new lots)	
NON-RESIDENTIAL SITE PLAN REVIEW		
• APPLICATION	Minor - $100.00 Major - $ 250.00	$250.00
• PLAN REVIEW	$ 60.00/1,000 s.f. of total building floor area (Example: 30,000 SF building = $ 1,800. review fee) With no building, $5./$1,000. on the cost of site improvements 5,357 S.F =	$321.42
MULTI-FAMILY SITE PLAN REVIEW	Same as N/R Site Plan Review	
LEGAL NOTICE	$ 50.00	$50.00
ABUTTER NOTICE	$ 10.00 (per abutter) x 9	$90.00

SITE INSPECTION SERVICE – Fee to be based upon a reasonable estimate of the cost of anticipated site inspections (typically 1-3% of the estimated construction costs for the project). Additional funds to be collected as needed; any unexpended fees to be returned to the Applicant upon completion of all site improvements.

HISTORIC DISTRICT COMMISSION	
APPLICATION & PLAN REVIEW	No fees
ABUTTER NOTICE	$ 10.00 (if applicable)
MISCELLANEOUS	
• SIGN PERMITS	$ 25.00 (per sign)
• HOME OCCUPATION USE PERMITS	$ 25.00
• COPIES	$ .50 (per page)
• TRAIL MAPS	$ 1.00/each
• WETLAND MARKERS	$ 1.00/each

TOTAL = $711.42

TOWN OF EXETER, NEW HAMPSHIRE

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

DATE: January 1, 2024

TO: Applicants

FROM: Planning & Building Department

RE: Preliminary Application to Connect and/or Discharge to Town of Exeter Sewer, Water and/or Storm Drainage System(s)

Attached is the "Preliminary Application to Connect and/or Discharge to Town of Exeter Sewer, Water or Storm Water Drainage System(s)". This Application form must be completed by the applicant or the applicant's authorized agent for projects that are subject to Planning Board approval or for a change of use. It is a prerequisite for submission of the "Applications for Sewer Service, Water Service and Storm Drainage Work." All of the application forms referenced above must be completed and approved prior to the issuance of a building permit. This application is intended to address a number of different scenarios and therefore, all sections may not be applicable to your particular situation. Please read the application carefully and fill out as completely as possible. If there are any questions, please feel free to contact the Planning and Building Department Offices. All forms must be submitted to the Planning and Building Department Office for review and distribution.

Please Note: Any approval(s) granted in conjunction with this application will be valid for a period of one (1) year from the date of such approvals(s).

TOWN OF EXETER - DEPARTMENT OF PUBLIC WORKS

PRELIMINARY APPLICATION TO CONNECT AND/OR DISCHARGE TO TOWN OF EXETER SEWER, WATER, AND/OR STORMWATER DRAINAGE SYSTEM(S)

Project Name	Exeter Presbyterian Church
Project Location	73 Winter Street
Applicant/Owner Name	Exeter Presbyterian Church, Attn. Skip Phelps
Mailing Address	73 Winter Street, Exeter, NH 03833
Phone Number	_____ email sphelps@hcna-llc.com
Project Engineer	Paige Libbey, P.E., Jones & Beach Engineers, Inc.
Mailing Address	PO Box 219, Stratham, NH 03885
Phone Number	603-772-4746 email plibbey@jonesandbeach.com

Type of Discharge/Connection ☐ Sewer ☐ Water ☐ Stormwater

Application completed by

Name Paige Libbey, P.E.

Signature _____ Date 7/14/25

Reviewed and verified by Planning & Building Department _____

DESIGN FLOWS

The water and sewer design flow shall be based upon the New Hampshire Code of Administrative Rules, Env-Wq 1000 Subdivisions; Individual Sewage Disposal Systems, Table 1008-1 Unit Design Flow Figures (current version) or other methodology which may be deemed acceptable by the Town of Exeter. The minimum fee for a single-family residential unit is based on the design flow for two (2) bedrooms. Existing water and sewer flows may be based on meter readings for the current use.

If the proposed discharge is non-residential or is residential but exceeds 5,000 gallons per day (gpd), Section C must be completed. Certain water and sewer discharges must be approved by the State of New Hampshire Department of Environmental Services by way of permit and plan submittals. It is the responsibility of the applicant to ensure submittals are made to the state through the town is necessary. Final town approval cannot be made without the state's approval if required.

Stormwater design flows are based on the drainage analysis prepared by the applicant using the most current published precipitation data available.

APPROVALS ARE VALID FOR PERIOD OF ONE (1) YEAR FROM DATE OF APPROVAL

SECTION A: PROPOSED NEW CONNECTIONS OR MODIFICATION OF EXISTING CONNECTIONS

SANITARY SEWER

Description of work: To construct a new building attached to the existing building

Title of plan: C4

Total design flow (gpd): 600 GPD

**For any non-residential discharge or residential discharge exceeding 5,000 GPS, or for a change of use, complete Section C of this form.*

Approved _____ Date _____

Water & Sewer Managing Engineer

WATER

Description of work: To construct a new building attached to the existing building

Title of plan: C4

Total design flow (gpd): 600 GPD

Approved _____ Date _____

Water & Sewer Managing Engineer

STORMWATER

Description of work: N/A

Title of plan: .

Total design flow (10-year storm, CFS): .

Approved _____ Date _____

Highway Superintendent

APPROVALS ARE VALID FOR PERIOD OF ONE (1) YEAR FROM DATE OF APPROVAL

SECTION B: IMPACT FEES

Provide the following information to determine if a water and/or sewer impact fee will be required for a new development or a change or increase in use.

Current/prior Use(s)

Describe current use(s) Church

Use	Unit Flow (gpd)	Total Existing Flow
Church	3gpd/per seat	600 gpd

Total existing flow 600 gpd

Proposed Use(s)

Describe proposed use(s) Church

Use	Unit Design Flow (gpd)	Total Design Flow
No new seats		0 gpd

Total proposed flow

Impact Fees (80% of the design flow)

Change in flow rate (gpd) ____ x 0.8 = Impact Fee flow rate (gpd) ____

If there is a decrease in flow rates, no water or sewer impact fee will be charged. If there is an increase in flow rates, a water and/or sewer impact fee will be charged using the following formula:

Sewer Impact Fee: Flow increase (gpd) ____ x $1.81= N/A

Water Impact Fee: Flow increase (gpd) ____ X $3.74 = N/A

Approved by Town of Exeter

Town Planner _____ Date _____

Water & Sewer Managing Engineer _____ Date _____

APPROVALS ARE VALID FOR PERIOD OF ONE (1) YEAR FROM DATE OF APPROVAL

SECTION C: SANITARY SEWER CLASSIFICATION AND BASELINE MONITORING

(NON-RESIDENTIAL DISCHARGES OR RESIDENTIAL DISCHARGE OVER 5,000 GPD)

In accordance with Title 40 of the Code of Federal Regulations, Part 403 Section 403.14, information provided herein shall be available to the public without restriction except as specified in 40 CFR Part 2. A discharge permit will be issued on the basis of the information provided in this section.

In accordance with all terms and conditions of the Town of Exeter, New Hampshire Ordinances Chapter 15, all persons discharging wastewater into the town's facilities shall comply with all applicable federal, state, and local Industrial Pre-treatment rules.

PART I - USER INFORMATION

Property Owner Name: Exeter Presbyterian Church

Owner's Representative: Skip Phelps

Address: 73 Winter Street, Exeter, NH 03833

Phone: _____ email: sphelps@hcna-llc.com

Tenant Name: Same as Owner

Address: _____

Phone: _____ email: _____

PART II - PRODUCT OR SERVICE INFORMATION

Products Manufactured: N/A

Services Provided: _____

SIC Code(s): _____ Building Area (SF): _____

Number of Employees: _____ Days/week of operation: _____ Shifts per day: _____

PART III - CATEGORY OF SEWER DISCHARGE

Type of Discharge ☐ Septic ■ Proposed ■ Existing ☐ Change of Use

Water Use (gpd): 600 (from Section A)

Check all that apply:

- ■ Domestic waste only (toilets & sinks)
- ☐ Domestic waste plus some process wastewater
- ☐ Federal pre-treatment standards (40 CFR) applies

PART IV - CLASSIFICATION DETERMINATION *(to be completed by Town staff)*

CLASS 1 - SIGNIFICANT OR CATEGORICAL INDUSTRIAL USER _____

CLASS 2 - MINOR INDUSTRIAL OR COMMERCIAL USER _____

CLASS 3 - INSIGNIFICANT INDUSTRIAL OR COMMERCIAL USER _____

CLASS 4 - NON-SYSTEM USER, OR DISCONTINUED SERVICE _____

See attached sheet for the basis of the determination.

Determined by _____ Title _____ Date _____

Approved _____ Date _____

Water & Sewer Managing Engineer

PART V - CERTIFICATION

I have personally examined and am familiar with the information submitted in this section for the above name use. The information provided is true, accurate and complete. I am aware that there are significant penalties from federal, state and/or town regulatory agencies for submitting false information, including the possibility of fine and/or imprisonment.

I acknowledge and agree to pay all charges incurred for monitoring, testing and subsequent analysis performed on the Town of Exeter sewer, water and/or stormwater drainage system(s), in the course of determining the town's ability to serve the project. Further, I acknowledge and agree that failure to accurately declare said flow requirements shall be sufficient cause to deny access to the Town of Exeter sewer, water and/or stormwater drainage system(s).

Signature of Applicant _____ Date 7/14/25

Name of Property Owner Exeter Presbyterian Church

APPROVALS ARE VALID FOR PERIOD OF ONE (1) YEAR FROM DATE OF APPROVAL

USER CLASSIFICATION SYSTEM FOR INDUSTRIAL DISCHARGE

CLASS 1: SIGNIFICANT INDUSTRIAL USER

Any industry and/or commercial establishment that:

- Is subject to National Pre-treatment standards as outlined in 40 CFR (Code of Federal Regulations) 403.5 (a) (b).
- Discharges a non-domestic waste stream of 5,000 GPD, or more.
- Contributes a non-domestic waste stream totaling 5% or more of the average dry weather hydraulic or organic (BOD<TSS< etc.) capacity of the Town of Exeter Sewer Treatment Facility.
- Has the reasonable potential, in the opinion of the POT Supervisor, to adversely affect the treatment plant, its workers, or the collection system by reason of inhibition, pass- through pollutants, or sludge contamination.

CLASS 2: MINOR INDUSTRIAL USERS

Small industries and commercial establishments (e.g. restaurants, auto repair shops, cleaners, etc.) whose individual discharges do not significantly impact the Town of Exeter Sewer Treatment Facility or systems, degrade receiving water quality or contaminate the sludge. Industries that have the potential to discharge a non-domestic or process waste stream, but at the present time discharge only sanitary waste, may also be included in this class. However, this class shall not include any categorical industries. Industries and commercial establishments in this classification will require a permit and be subject to all inspection, compliance monitoring, enforcement, and reporting requirements of the pretreatment program.

CLASS 3: INSIGNIFICANT INDUSTRIAL USERS

Users which will be eliminated from participation in Exeter's Pretreatment Program. These include industries and/or commercial establishments that discharge only domestic waste (toilets and sinks only) into the municipal sewer system or do not have any reasonable chance of discharging a non-domestic waste stream to the POTW. Class 3 users will be required to notify the Exeter Sewer Division of any change in discharge quantity or character.

CLASS 4: NON-SYSTEM USER

Any industry, business or commercial establishment identified in the Master List of Industrial Users that are not connected to the Exeter Sewer system or which has ceased to discharge to the system.

Industries and/or commercial establishments classified as Class 1 or Class 2 users will be regulated individually and have specific effluent limitations (including conventional pollutants, where necessary) in the discharge permit. All Class 1 and Class 2 users will require a State Discharge Permit, and be subject to all inspection, compliance monitoring, and enforcement and reporting requirements of the pretreatment program.

JONES & BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

July 15, 2025

Exeter Planning Board
Attn. Langdon Plumer, Chair
10 Front Street
Exeter, NH 03833

RE: Waiver Request Letter
73 Winter Street, Exeter, NH
Tax Map 73, Lot 143
JBE Project No. 05241.1

Dear Mr. Plumer,

On behalf of the owner, Exeter Presbyterian Church, Jones & Beach Engineers, Inc. respectfully requests a waiver from the Town of Exeter Site Plan Regulations for the following:

Site Plan Regulations – Section 7.4.10 - High Intensity Soil Survey (HISS) of the entire site, or appropriate portion thereof

Jones & Beach Engineers request a waiver from this section because Site Specific soil mapping is unnecessary for this design and application. The intention of Site Specific soil mapping is to determine Hydrologic Soil Group (HSG) for the purposes of drainage modeling, as well as depth to water table and infiltration capacity of the soils. In this case, the majority of the site is already covered by impervious surfaces, in which case the surface is modeled in the drainage analysis as the same Curve Number (CN) regardless of which HSG it is. Additionally, test pits were dug to get the seasonal high water table and infiltration capacity of the soils in the area where infiltration systems are proposed, and that data was used in the drainage analysis. Therefore, the Site Specific soil mapping would not change the results of the model or the design.

We look forward to discussing the Application and waiver request at the Planning Board Hearing. Thank you very much for your time.

Very truly yours,
JONES & BEACH ENGINEERS, INC.

Paige Libbey, P.E.
Associate Principal

REAL ESTATE
PARKING EASEMENT AGREEMENT

THIS AGREEMENT is made by and between Exeter Presbyterian Church (hereinafter the "Church") and General Recreation Realty Trust (hereinafter the "Trust").

WHEREAS, the Church is the owner of certain real property located at 73 Winter Street, Exeter, NH 03833; and

WHEREAS, the Trust is the owner of certain real property located at 6 Columbus Avenue, Exeter, NH 03833; and

WHEREAS, the Church from time to time requires parking capacity beyond that provided on its property and desires to acquire certain easement rights in the Trust's property.

NOW, THEREFORE, in consideration of the mutual undertakings set forth herein, the parties hereto agree as follows:

1. Grant of Easement
The Trust hereby grants to the Church an easement to use a portion of the Trust's adjacent parking area shown on the plans attached hereto as Exhibit "A" for overflow parking during peak services attendance and special events defined as but not limited to: Sunday Worship Service, Christmas and Easter Services, special events i.e. scheduled meetings of the Northern New England Presbytery, etc. (the "Church's Easement").

2. Duration
The Church's Easement granted herein shall begin as of the date of substantial completion of the new sanctuary and will continue unless terminated under Paragraph 6 hereof.

3. Exclusivity
The Church's Easement and all rights and privileges granted hereunder are exclusive to the Church, and the Trust covenants not to use its property in any way or to convey any other easement or property rights that may conflict with the Church's rights hereunder.

4. Grantor's Rights
Each party shall continue to enjoy all rights in their respective property that do not interfere with or prevent the exercise of the Church's Easement granted hereunder.

5. Binding Effect
This Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors and assigns.

6. Termination
The Church's Easement granted hereunder may be terminated by a written agreement executed by the Church and the Trust. The Church's Easement may also be terminated if the purposes of

the Church's Easement cease to exist, are abandoned by the Church or become impossible to perform.

7. Notices

All notices and other communications hereunder shall be in writing and shall be deemed to have been duly given on the third business day after mailing by certified or registered mail with postage prepaid:

(a) If to the Church:

Exeter Presbyterian Church
73 Winter Street
Exeter, NH 03833
Attention: Stephen Leavitt, Clerk of Session

(b) If to the Trust

General Recreation Realty Trust
6 Columbus Avenue
Exeter, NH 03833
Attention: Robert M. Ficara, Trustee

8. Governing Law

This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of New Hampshire.

9. Entire Agreement

This Agreement represents the entire agreement between the parties hereto, and there are no other agreements, contracts or understandings between the parties hereto with respect to the subject matter of this Agreement.

Executed this ____ day of ____, 2025.

Exeter Presbyterian Church

By: _____, Stephen Leavitt, Clerk of Session
Duly Authorized

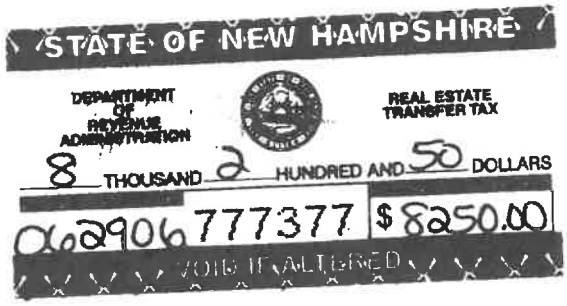
General Recreation Realty Trust
85

By: _____, Robert M. Ficara, Trustee
Duly Authorized

Exhibit "A"

Jones & Beach Engineers Inc.,85 Portsmouth Avenue, Stratham, NH 03885
Drawing Name: 05241.1-Plan.dwg (dated 07/10/2025
Site Plan: Exeter Presbyterian Church, 73 Winter Street, Exeter, NH 03833
Drawing No. "C2" Sheet 5 of 14, Revision "0" dated 06/23/25. (J&B insert latest version prior to submission?)

Jones & Beach Engineers Inc.,85 Portsmouth Avenue, Stratham, NH 03885
Drawing Name: 05241.1-Plan.dwg (dated 07/10/2025
Easement Plan: Exeter Presbyterian Church, 73 Winter Street, Exeter, NH 03833
Drawing No. "A1" Sheet 12 of 14, Revision "0" dated 06/23/25. (J&B insert latest version and date prior to submission?)



WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, that **The Roman Catholic Bishop of Manchester**, a Corporation Sole, for St. Michael Parish, with a principal address of 153 Ash Street, P.O. Box 310, Manchester, County of Hillsborough, New Hampshire 03104,

FOR CONSIDERATION PAID, grants to the **Exeter Presbyterian Church,** a non profit corporation organized under the laws of the State of New Hampshire, with a mailing address of PO Box 715, Exeter, County of Rockingham, New Hampshire 03833,

WITH WARRANTY COVENANTS, the following described premises:

A certain tract or parcel of land, with the buildings thereon, situated in Exeter, County of Rockingham, State of New Hampshire, on the Southerly side of Winter Street, so called, and being more particularly bounded and described as follows:

Commencing on said Winter Street at land now or formerly of William O. Beane and Ora T. Beane, and thence running Northerly by said Beane land about 300 feet to a point at land now or formerly of Fred A. Wentworth and Florence L. Wentworth; thence turning and running in an Easterly direction by said Wentworth land about 128 feet to a point at other land now or formerly of said land of Fred A. Wentworth; thence turning and running in a Southerly direction by said land of Fred A. Wentworth, land of the heirs of Frank E. Wentworth and land now or formerly of Deborah M. French to said Winter Street; thence turning and running in a Westerly direction by said Winter Street to said Beane land at the point of beginning.

Meaning and intending to convey the same premises conveyed to The Roman Catholic Bishop of Manchester, a Corporation Sole For St. Michael Parish by Warranty Deed of the

Casey Association dated September 30, 1997, and recorded in the Rockingham County Registry of Deeds at Book 3241, Page 795.

Subject to the terms of a Boundary Line Agreement by and between The General Recreation Realty Trust and the Roman Catholic Bishop of Manchester recorded in the Rockingham County Registry of Deeds on April 29, 2005, at Book 4472 Page 1490.

The above property is also conveyed subject to any and all easements, restrictions, covenants, conditions, limitations, rights, reservations, plans, encroachments and/or encumbrances of record or otherwise to the extent the same may be in force and applicable (if any).

This is not homestead property.

IN WITNESS WHEREOF, the undersigned has hereunto set their hands on this 28th day of June, 2006.

The Roman Catholic Bishop of Manchester,
A Corporation Sole

Witness

By: Most Reverend John B. McCormack,
Bishop

STATE OF NEW HAMPSHIRE
HILLSBOROUGH COUNTY

On this 28th day of June, 2006, personally appeared Most Reverend John B. McCormack, Roman Catholic Bishop of Manchester, known to me, or satisfactorily proven, to be the person whose name is subscribed to the foregoing instrument and acknowledged that he executed the foregoing instrument on behalf of The Roman Catholic Bishop of Manchester, A Corporation Sole, for St. Michael Parish, for the purposes therein contained, being duly authorized to do so, as his voluntary act and deed.

Notary Public ~~Justice of the Peace~~
My Commission Expires:

FRANCEEN M. MORASSE, Notary Public
My Commission Expires March 10, 2009

JONES & BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

August 28, 2025

Exeter Planning Board
Attn. Langdon Plumer, Chair
10 Front Street
Exeter, NH 03833

RE: Response Letter
73 Winter Street, Exeter, NH
Tax Map 73, Lot 143
JBE Project: 05241.1

Dear Mr. Plumer,

We are in receipt of comments from David Cedarholm, P.E., Underwood Engineers, dated August 18, 2025. Original comments are below with our responses in bold.
H
PROPOSED SITE PLANS

Demolition Plan (Sheet DM):

1. *Will there be any removal or trimming of vegetation along the west side of the property where fence replacement is proposed? It is unclear if the existing vegetation is to be protected, trimmed or removed, please clarify.*
   Response: Existing vegetation along the west side of the property will be trimmed back if deemed necessary. The existing treeline and a note has been added to Sheet DM.

2. *Add a note directing the Contractor to install a concrete washout pit prior to any concrete pours.*
   Response: The information has been provided under Note #17 on Sheet C3.

Site Plan (Sheet C2, Sheet 5 of 15):

3. *Please update the layout of the proposed building addition to match the architectural plans, or vice versa.*

   Response: The layout of the proposed building has been revised to match the architectural plans.

4. *Please clarify pedestrian flow/access to the wheelchair accessible lift/enclosure and stairs on the west side of the existing building.*
   Response: The wheelchair accessible lift/enclosure and stairs will remain on site but will no longer be used by the public for access at the completion of this development. The notes on Sheet DM and Sheet C2 have been revised to state this intent.

5. *Confirm the proposed location(s) for the stop sign(s). A stop sign detail is provided on Sheet D1.*
   Response: The proposed locations for the stop signs has been added to Sheet C2.

6. *There does not appear to be traffic circulation pattern defined anywhere on the Plan set, however the truck turning plan suggests that the proposed traffic pattern is one-way in and one-way out in a counterclockwise configuration. Please clarify and provide appropriate signage and/or pavement markings indicating the proposed traffic pattern, as appropriate.*
   Response: Pavement markings have been added to the site plan to clearly show the intended traffic circulation.

7. *It appears that only 1 handicapped accessible parking space is being proposed out of the 57 total parking spaces including the 19 parking spaces provided on the abutting bowling facility property. In accordance with ADA Standards, a minimum of 3 handicapped accessible parking spaces is required for between 51 and 75 total parking spaces and at least one of the 3 spaces shall be van accessible. Given the proposed use, additional ADA spaces may be prudent.*
   Response: Three accessible parking spaces are now proposed, 2 of which are van accessible.

8. *The areas identified for snow storage on the Site Plan are depicted as planting beds on the Landscaping plan. Coordination is needed.*
   Response: The snow storage locations have been revised to not interfere with proposed and existing landscaping.

9. *Is a truncated dome proposed for the sidewalk along Winter Street?*
   Response: Truncated domes have been added to the sidewalk along Winter Street.

10. *If applicable, show the location of the dumpster pad and enclosure.*
    Response: The dumpster is shared with the abutting parcel on which it is located and can now be seen on the plans. This is part of a current agreement with the abutting property owner.

11. *Move the first parking stall so it is completely out of the Town right-of-way.*
    Response: The parking lot has been revised so that it is completely out of the right-of-way.

Grading & Drainage Plan (Seet C3, 6 of 15):

12. *Please note grading is not allowed within 5' of a property line without a waiver.*
    Response: A waiver has been requested to allow grading within 5' of the property line.

13. *Show all existing and proposed drainage pipes from the building, including roof gutters, foundation drains, and sump pump lines.*
    Response: One gutter exists on the front face of the existing building that discharges above grade and into the existing landscaped area. This gutter is now shown on the plans. There are no known drainage pipes, sump pumps, or floor drains currently discharging from the building

14. *UE is concerned with the potential for run-off from the site to affect abutters. It does not appear that any form of curbing is proposed around the pavement perimeter to contain run-off within the subject parcel.*
    Response: Curbing is not needed as there is a man-made berms along the property line that will not allow stormwater generated onsite to flow onto abutting properties. Photos of the property line showing this berm has been attached to this letter. The paver sections have also been designed such that they slope to a low point where an overflow grate is located, further confirming that abutting properties will not be negatively impacted.

15. *Based on the information on Sheet C3 and the Permeable Concrete Paver Detail on Sheet D3, it appears the porous paver sections are proposed to have the maximum infiltration bed depth of between 10" and 22.5", excluding the pavers and 1.5" bedding coarse. This places the base elevation of the infiltration bed at 3' or more above the frost line. There are also no underdrains being proposed. This results in a high risk that the system could freeze in the winter causing stormwater to pond, freeze and/or flow off-site. How is the excess stormwater runoff proposed to be managed when the volume of the infiltration bed reservoir is exceeded? How is this system expected to function in the winter when the subsurface soils are frozen, and the infiltration bed has no outlet other than the parking lot surface?*
    Response: An overflow grate and underdrain have been added to each of the paver systems in the scenario that the parking lot freezes. In freezing conditions, runoff will now be able to enter into the overflow grate and infiltrate via the use of the perforated underdrain.

16. *Without an underdrain, the porous concrete paver sections are prone to clogging from the accumulation of particulate from the parking lot which will fill the voids in the infiltration bed and the receiving soils. This will result in reduced infiltration capacity overtime and eventually lead to system failure if not properly managed and maintained. What is the life expectancy of this system and what operational approaches are being proposed to avoid clogging of the infiltration beds and subsurface soils?*

Response: Maintenance and possible failure is always a concern with any stormwater BMP that goes unattended. Regular inspections and maintenance measures will take place in order to ensure the paver systems remain operational. An Operation & Maintenance Manual has been included within the drainage analysis.

17. *It is not clear from the Plans how the excess stormwater from the porous paver sections is to be managed. Based on the spot elevations provided, it appears the overflow from paver section 3 will flow towards paver section 2, the overflow from paver section 2 will flow towards paver section 1, and then the overflow from paver section 1 will flow towards abutting properties to the east or towards Winter Street. UE recommends providing additional spot elevation and an elevation profile running east and west through the 3 porous paver sections to clarify the intent with that an explanation be provided as to how stormwater in excess of the water quality volume will be managed to minimize impacts to abutters and Winter Street from site runoff will be prevented.*

Response: Additional spot elevations have been provided. Throughout all of the modeled storm events, none of the paver systems are overtopped and cause concern for negative impacts to abutting properties or Winter Street. A slight man-made berm exists along the property line and at the fence line where the leased portion of the lot is located, meaning that in the extreme event that the systems are overtopped, runoff would flow from paver section #3 to paver section #2 to paver section #1 and then eventually to the closed drainage system on Winter Street, but never happens according to the model.

18. *The spot elevations shown around the perimeter of the porous paver sections is variable across the individual paver sections suggesting the surface of the paver sections are not level, however this appears to be how the paver sections were modelled in the Drainage Analysis. The difference between the high and low spot elevations varies by 0.78' across paver section 1, 0.61' across paver section 2, and 0.38' across paver section 3. This degree of variability reduces the effective storage volume and may compromise the parking lot design. UE recommends a parking lot design configuration with level paver sections.*

Response: The recommended maximum slope for a porous paver system is 5%. The proposed systems are far less than that and the storage volume was modelled at a consistent depth but at the shallowest point of each section to ensure the systems were modelled conservatively, and to produce a model that wouldn't take into account any storage above the level where runoff would overflow during extreme events.

19. *Porous paver section 1 and 3 are shown immediately adjacent to the property lines on the east and west sides of the parcel. UE is concerned that the introduction of subsurface infiltration could negatively impact the abutters properties including but not limited to the building at 81 Winter Street (rear) being only 15' from this porous paver section #3. Porous paver section #2 is also shown to be only 6' from the foundation of the proposed addition. A Design guidance document from a leading manufacturer of porous interlocking paver systems (Cambridge Pavers) recommends at least 100 ft separation between the infiltrating concrete paver systems and the nearest building foundation when underdrains are not included. What preventative measures are proposed to prevent the infiltrated stormwater from impacting the abutting properties or the subject site's building?*
Response: Given the adequate infiltration capabilities of the soil unique to this property, the abutting properties will not be negatively impacted resultant of the construction of the paver systems. The proposed drainage system mimics the existing hydrology of the site given the existence of berms along the property lines.

Utility Plan (Sheet C4, 7 of 15):

20. *The separation between the proposed fire service and the gas service is minimal.*
Response: The location of the proposed gas service has been revised to achieve 5' of separation to the proposed fire service.

21. *Please note the Town requires the existing water service to be decommissioned at the main.*
Response: The existing water service will remain for domestic use. The new water line will only be used for sprinklers.

22. *We note the water main in Winter Street is labeled as 4" CI. Confirm that the existing main has adequate capacity with the Town Water and Sewer Department.*

Response: The capacity of the existing water main will be confirmed with the Town Water and Sewer Department.

23. *Show or note the location of the nearest inline water valves on the existing main east and west of the proposed tie-in point.*
Response: The nearest known inline water valves on the existing main east and west of the proposed tie-in point have been noted on Sheet C4 under Note #16.

24. *Confirm the existing water service size is adequate for the proposed additional flow. Although the capacity of the sanctuary will remain the same, there are 3 additional restrooms proposed. Provide a thorough explanation as to how the new addition will not increase water or sewer usage.*
Response: Although 3 additional restrooms are proposed, sewer flows are calculated based on number of seats. Since the number of seats are not changing, sewer flows will remain the same as in the pre-construction condition.

25. *Does the existing kitchen have a grease trap?*
Response: The existing kitchen is a warming kitchen only. Thus, a grease trap is not required.

26. *Add existing catch basin inverts with elevations to the upstream and downstream catch basins in Winter Street to assess crossing conflicts.*
Response: Existing catch basin inverts have been added and confirm that there are no crossing conflicts.

27. *Provide documentation that the building does not currently or in the future contribute to inflow and/or infiltration to the Town's sewer system from roof drains, sump pumps, floor drains, etc.*
Response: The existing building does not have any known floor drains or operational sump pumps. The only existing roof drain discharges above grade and into a landscaped area.

28. *We note there is a cemetery across the street. Per NH RSA 289.3:*

III. New construction, excavation, or building in the area of a known burial site or within the boundaries of an established burial ground or cemetery shall comply with local zoning regulations concerning burial sites, burial grounds or cemeteries, whether or not such burial site or burial ground was properly recorded in the deed to the property. In the absence of such regulations, no new construction, excavation, or building shall be conducted within 25 feet of a known burial site or within 25 feet of the boundaries of an established burial ground or cemetery, whether or not such burial site or burial ground was properly recorded in the deed to the property, except when such construction, excavation, or building is necessary for the construction of an essential service, as approved bythe governing body of a municipality in concurrence with the cemetery trustees, or in the case of a state highway, by the commissioner of the department of transportation in concurrence with the cemetery trustees.

The project proposes excavation approximately 25' from the boundary line to tie in the new water service. This work may fall under the category of an essential service. However, please add a note to the plans directing the Contractor to this RSA in the event some other unforeseen need for excavation near the cemetery comes up during construction.

Response: Note #17 has been added to Sheet C4 to include the aforementioned information.

Landscaping Plan (Sheet L2, 9 of 15):

29. *The landscaping plan indicates existing planting on the south side of the existing building and along the east side of the site, but the existing plantings/tree line along the west side of the property is not shown. UE recommends showing the existing plantings/tree line on the west side of the property and describing how this vegetation is impacted or altered by the proposed work.*
    Response: The existing treeline is now shown on the west side of the property with associated notes about how it will be impacted.

30. *A proposed tree is shown in the vicinity of the existing gas service and valve.*
    Response: The proposed tree will not interfere with the existing gas service and valve. Existing and proposed utilities can now be seen on Sheet L2 to confirm there will be no conflicts.

Detail Sheet (Sheet D3, 12 of 15):

31. *The permeable concrete paver detail includes what appears to be a section of vertical curb used for edge restraint that is not dimensioned. Is vertical curb restraint intended to be inside or outside the hatching for the porous paver sections? Please confirm the intent and dimension the curb section relative to the paver section hatching.*
    Response: The edge restraint is intended to be inside of the hatching for the porous paver sections. The hatching has been revised for clarity.
32. *Add the following details:*
    a. *Concrete washout pit*
    b. *Sidewalk tipdown*

    Response: The details have been added to the plans.

Truck Turning Plan (Sheet T1, 15 of 15):

33. *Sheet T1 indicates that the truck used in the turning analysis has a wheelbase of 19.75 feet and vehicle length of 34.9 feet, however Exeter's Ladder #1 is a 2014 KME Predator 2000/500/109' RMA ladder truck with a wheelbase of 21.7 feet and length of 40.75 feet. Please coordinate with Exeter Fire regarding the truck access needs for the project.*
    Response: We have coordinated with Exeter Fire Department to attain accurate fire truck dimensions. The fire truck plans from the fire department have been attached to this letter.

DRAINAGE ANALYSIS

34. *The section numbers in the Table of Contents are inconsistent with the section divider sheets.*
    Response: The section numbers have been revised to correspond with the section dividers.

35. *The narrative provided in the Drainage Analysis refers to redeveloping the +/- 0.86 acres property, however the portion of the site redevelopment area appears to be 0.76 acres and excludes +/- 0.1 acres of the northern portion of the lot that is said to be leased. What are the dimensions of the leased portion of the lot and what are conditions in the lease that justify it being excluded from the redevelopment area calculation? If the leased portion of the parcel is included as part of the redevelopment, the existing impervious area coverage (including the gravel parking area) is 53 percent of the entire 0.86-acre parcel which would disqualify it from being considered a redevelopment project. UE recommended providing a copy of the lease and other documentation as justification for excluding the leased portion of the lot from the drainage analysis.*
    Response: The leased portion of the lot is included in the existing impervious area coverage calculation seen on Sheet C2. The leased portion is made up entirely of gravel, resulting in an existing impervious coverage greater than 60% and meets the criteria for a redevelopment project. It is part of the property per the Zoning Ordinance so it counts towards impervious coverage which is how the redevelopment calculation is derived. Stormwater from the leased portion of the lot is not included due to the existence of a slight man-made berm along the existing fence line that separates the two areas and disables stormwater from flowing onto the subject area.

36. *It is not clear how the stormwater from the leased portion of the parcel is managed and whether it contributes to the stormwater on the site. Provide documentation supporting the argument that there is no contribution from the leased area to the portion of the site proposed for redevelopment.*
    Response: A slight man-made berm exists along the fence line that separates the leased portion from the rest of the lot and retains stormwater within the respective areas.

37. *Two test pit logs are included in the Drainage Analysis, however the test pit locations were not depicted. At a minimum, depict the test pit locations on the grading and drainage plan and the pre and post development plans.*
    Response: Test pit locations are now shown on the plans.

38. *The two test pit logs indicate that they were excavated to depths of 36" and 48" respectively and the soils at those depths were described as "firm fine sand with silty clay pockets".*

    a. *This description is inconsistent with the USDA-NRCS description for Urban Land Hoosick Complex soils which are described as "very graveling coarse sand" between 15" to 60" below the ground surface. This would suggest that using the published Ksat value of 2" per hour as a base value (prior to applying a safety factor) is likely an overestimation of the soil's infiltration capacity. UE recommends conducting in-situ infiltration test to confirm the infiltration capacity of the receiving soils.*
    Response: Infiltration testing was completed and the calculations have been added to the drainage analysis.

b. *The Standardized Test Pit/Boring Protocol in NH Stormwater Manual Vol. 1 page 12 indicate that "test pits and/or borings are required in the infiltration area to a minimum depth of 5' below the proposed bottom of the infiltration facility. UE recommends conducting new test pits within each of the paver sections and excavated to a depth of at least 5 feet below the bottom of the infiltration bed to adequately characterize the receiving soils and demonstrate that the infiltration capacity meets the requirements.*
Response: It is our understanding that this is not a requirement of Town of Exeter Stormwater Regulations. Given the scale of this project and proposed infrastructure, infiltration testing would the larger factor of concern which has now been completed.

39. *The NH Stormwater Manual Vol. 2 recommends that the bottom of the infiltration beds be at least 3' deep below the ground surface for infiltration practices. As mentioned above, UE is concerned about the shallow depth of the infiltration beds and recommends deepening the beds to below the frost line.*
Response: Three feet of depth is not practical in this scenario as the site is extremely flat and the seasonal high water table has been estimated to be 26" below existing grade at most. The porous paver systems are as deep as possible in order to provide the maximum extent of treatment while not conflicting with the seasonal high water table. The site is also extremely flat and the only area to daylight would be by connecting into the town drainage system. We have communicated with DPW and have been instructed that, in general, the town does allow discharge of as little runoff as possible into the system, but in this case tying into the system is off limits due to over capacity drain lines. The proposed design limits discharge to the town system to a minimum and is able to capture and infiltrate the entirety of runoff directed towards it, resulting in benefits to the town and the subject parcel. Given the unique circumstances and site properties, the shallow depth of the paver systems will be adequate and result in multiple benefits.

40. *The NH Stormwater Manual Vol. 2 states that pretreatment must be provided if the infiltration BMP receives stormwater other than roof runoff. What is being proposed as pretreatment for the paver sections? UE recommend providing an Operation and Maintenance Manual for the porous paver sections.*
Response: The purpose of pretreatment is to filter out larger debris and sediment prior to treatment of the stormwater. In this scenario, the gaps in the pavers are small enough to accomplish this task. According to the 2025 stormwater manual, if typical pretreatment for porous paver systems is not practical, frequent inspections and maintenance of the systems are required instead. An Operation & Maintenance Manual has been included within the drainage analysis.

41. *The maximum storage volume used in the Drainage Analysis is calculated assuming the top of the storage volume to coincide with the top of concrete pavers but does not consider the volume occupied by the pavers or the volume of the vertical curbing used as perimeter restraint.*
Response: The storage volume for the paver sections has been revised to include the volume occupied by the pavers and the volume of the vertical curbing.

42. *Explain why the area north of the parcel, which is under lease, is not included in the analysis? What site elements prevent stormwater from the leased area to not currently or in the future contribute run-on to the site?*
Response: A slight man-made berm exists along the fence line that separates the leased portion of the lot from the subject parcel. This berm restrains stormwater from flowing onto the subject parcel from the leased portion. If this berm were to be removed in the future and runoff directed towards the proposed development, the pavers will be able to handle this increase without overtopping.

43. *An area of 1,021 sf was used for paver section #1 in the analysis; the surface area of paver section #1 measures at 927 sf on Sheet C3. The calculation also describes the depth of paver section #3 as 1.22' (14.64"), however the elevation table on Sheet D3 describes the depth below the bottom of the bedding course to be 10". It appears to UE that the analysis should be revised to only include the depth below the bedding course and utilize the correct infiltration area.*
Response: The infiltration area and volume have been revised.

Included with this Response Letter:

1. Revised Plan Set.
2. Revised Drainage Analysis.
3. Waiver Request Letter.
4. Photo Log.
5. Exeter Fire Truck Plans.

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: Doug Greene, Port City Design (via email)
Skip Phelps, Exeter Presbyterian Church (via email)
David Cedarholm, P.E., Underwood Engineers (via email & U.S. Mail)
Robert Saunders, P.E., Underwood Engineers (via email)

JONES&BEACH
ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

August 28, 2025

Exeter Planning Board
Attn. Langdon Plumer, Chair
Exeter, NH 03833

RE: Request for Waiver
73 Winter Street, Exeter, NH
Tax Map 73, Lot 143
JBE Project No. 05241.1

Dear Members of the Board:

On behalf of our client, Exeter Presbyterian Church, Jones & Beach Engineers, Inc., respectfully requests the following waiver from the Town of Exeter Site Plan Regulations in regards to the proposed site plan mentioned above:

- Section 9.3.6. – Erosion and Sediment Control Standards (Grading Within 5' of the Property Line)

We request a waiver from the aforementioned requirement in order to adequately grade the proposed site to capture and treat the most of amount of stormwater practicable. The site in its existing condition is extremely flat and requires fine grading near the property line in order to capture runoff from the edges of the proposed pavement and to properly construct stormwater management practices that are able to manage the runoff that is directed towards them. The site currently has no formal stormwater management system and the approval of this project will result in a benefit to the client, town, and overall well being.

Waiver Criteria

1. **The granting of the waiver will not be detrimental to the public safety, health, or welfare or injurious to other property.**
   RESPONSE: The granting of this waiver will not negatively impact any of the aforementioned parties as the grading will be minimal and will not significantly impact abutters or the public. The grading is needed to meet aisle width, parking, and stormwater regulations.

2. **The conditions upon which the request for a waiver is based are unique to the property for which the waiver is sought and are not applicable generally to other property.**
   RESPONSE: The property is unique in the manner that the existing topography is extremely flat and grading within 5' of the property line is required to capture and treat the most amount of runoff practicable.

3. **Because of the particular physical surroundings, shape or topographical conditions of the specific property involved, a particular hardship to the owner would result, as distinguished from a mere inconvenience, if the strict letter of these regulations are carried out.**
   RESPONSE: As previously explained, the site is extremely flat and if the strict letter of these regulations were to be carried out, stormwater would not be able to be treated to a level that is currently proposed.

4. **The granting of the waiver will not be contrary to the spirit and intent of the regulations; and,**
   RESPONSE: The intent of the regulation is to create a smooth and safe transition between newly graded areas and the surrounding abutters. Since the grading will be minimal, a smooth and safe transition will still occur, meeting the intent of the regulations.

5. **The waiver will not, in any manner, vary the provisions of the Zoning Ordinance or Master Plan.**
   RESPONSE: The provisions of the Zoning Ordinance and the Master Plan will not be conflicted with the granting of this waiver.

Thank you very much for consideration of this waiver request.

Very truly yours,
JONES & BEACH ENGINEERS, INC.

Paige Libbey, P.E.
Associate Principal

PHOTO LOG
73 Winter Street
Exeter, NH
JBE PROJECT NO. 05241.1

Photo 1: Berm Along West Property Line

Photo 2: Berm Along West Property Line

Photo 3: Berm Along West Property Line

Photo 4: Berm Along East Property Line

Photo 5: Berm Along East Property Line

Photo 6: Berm Along North Fence

Photo 7: Berm Along North Fence

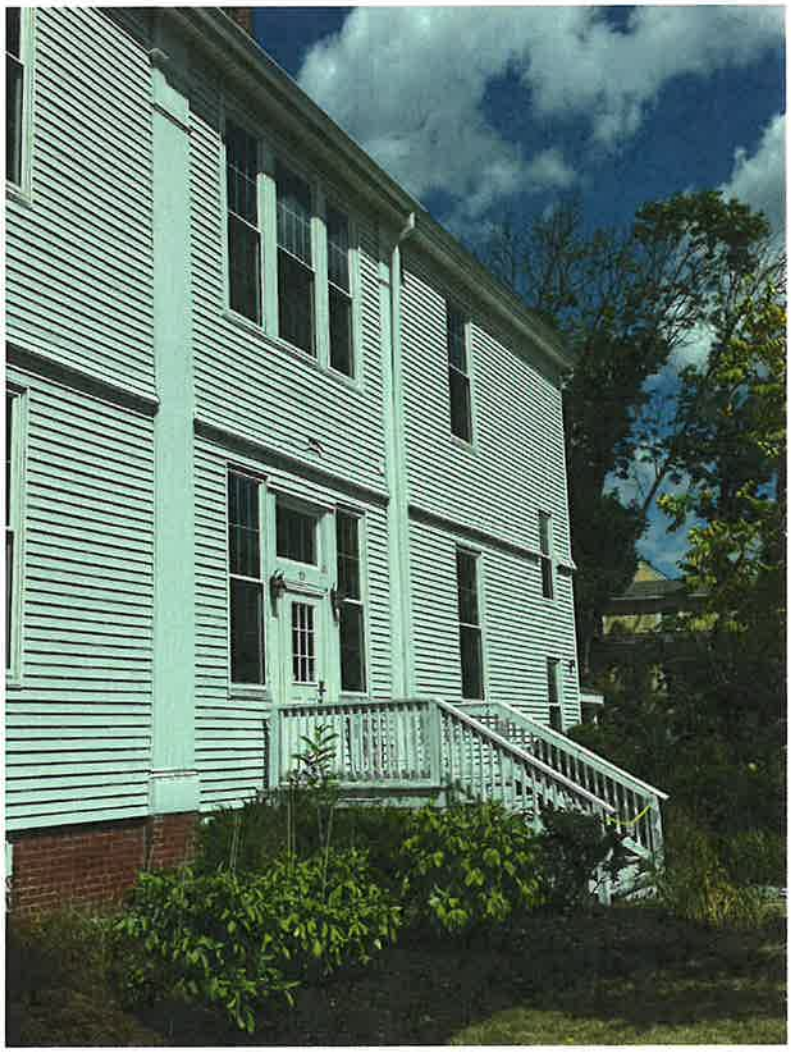


Photo 6: Existing Gutter

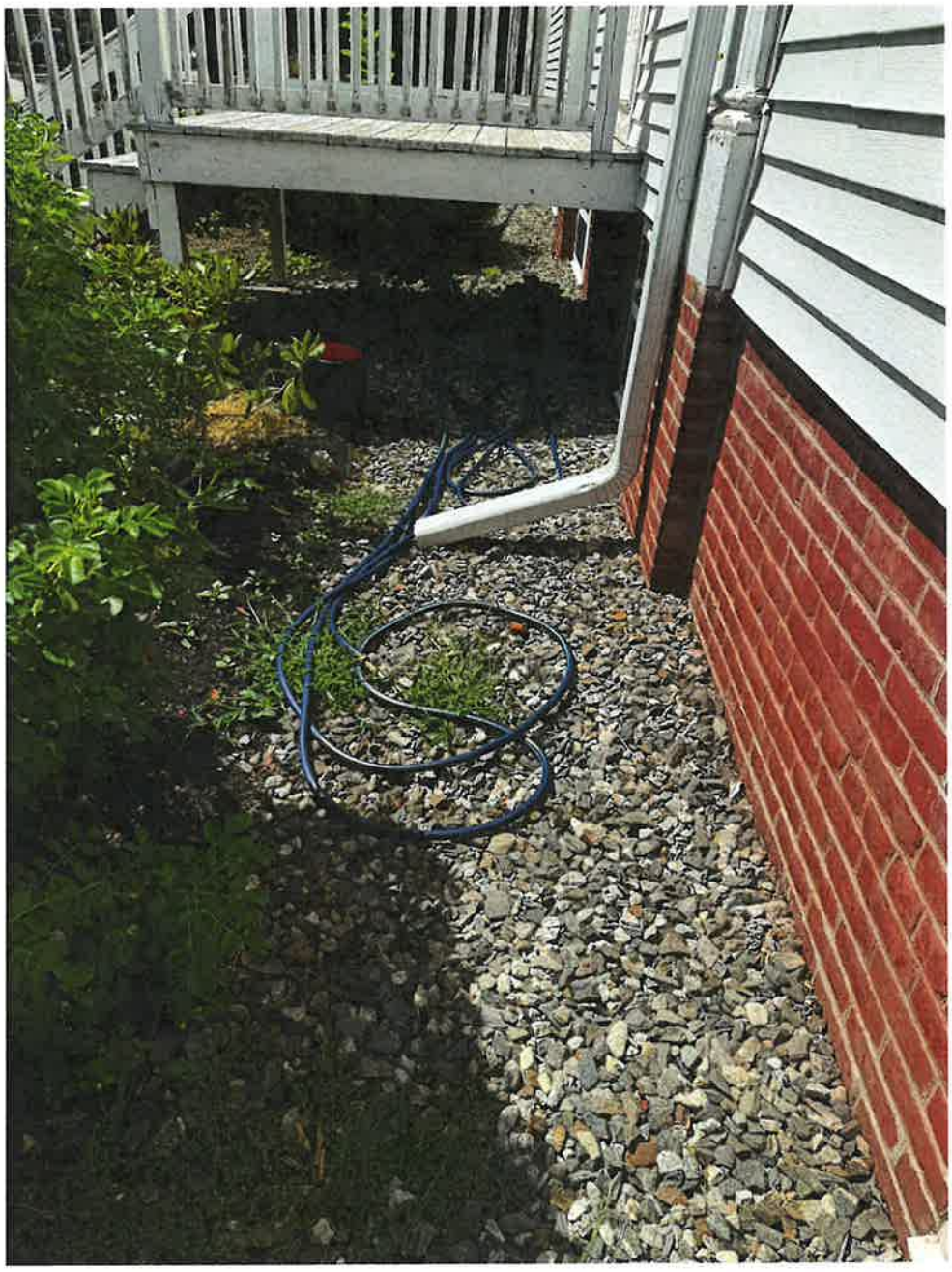
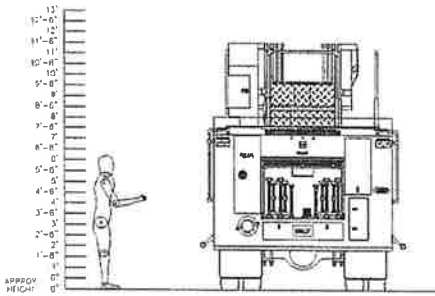
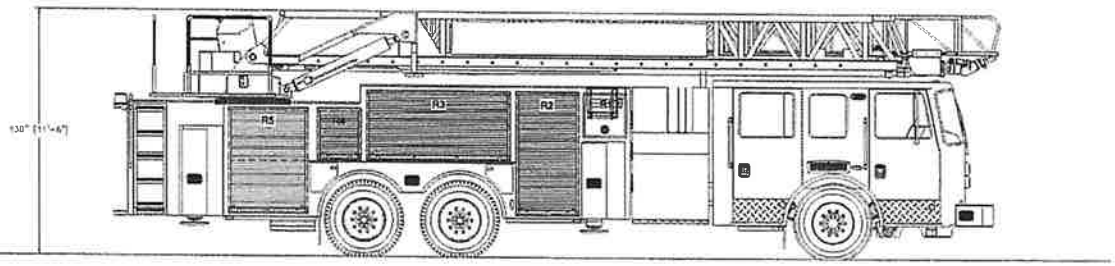


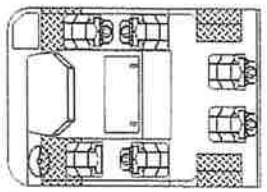
Photo 7: Existing Gutter Discharge



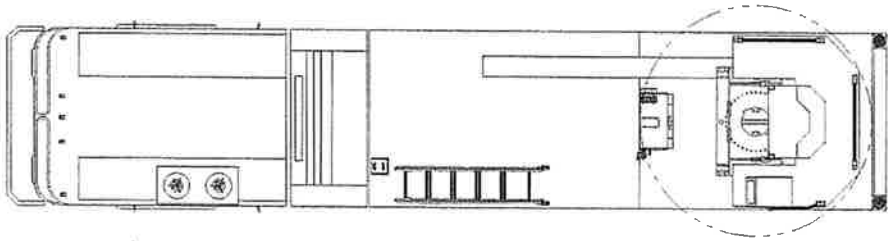
REAR VIEW



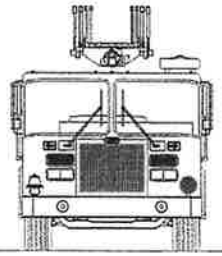
OFFICERS SIDE VIEW



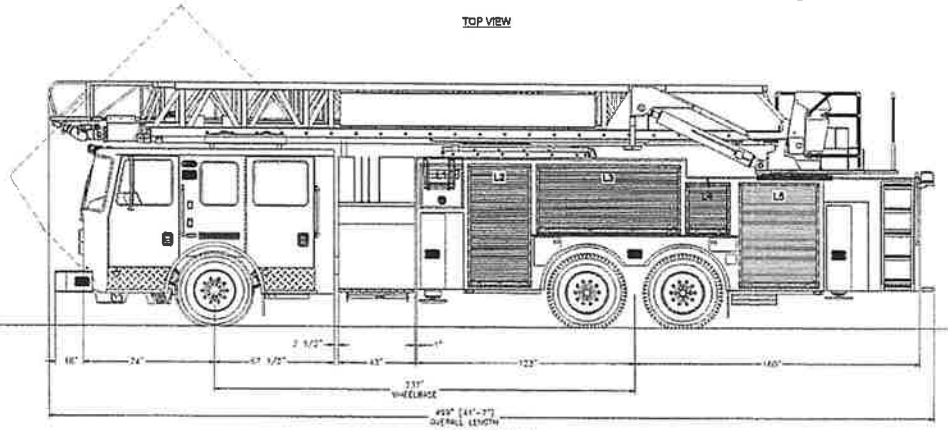
CAB INTERIOR LAYOUT



TOP VIEW



FRONT VIEW



DRIVERS SIDE VIEW

SPECIFICATIONS

CHASSIS: FREIGHTLINER SEVERE SERVICE w/ FLAT ROOF
ENGINE: CUMMINS ISX 12 500 HP w/ ENGINE BRAKE
TRANSMISSION: ALLISON 4000EVS 5-SPEED AUTOMATIC
FRONT AXLE: MERITOR MFS-20-133A-N, $23,000
REAR AXLE: MERITOR RT-52-160, $56,000
PUMP: WATEROUS CSU-HD, 2000 GPM SINGLE STAGE
TANK: 500 GALLON POLY-E

NOTES

THIS DRAWING IS A GENERAL CONFIGURATION AND MAY NOT NECESSARILY REFLECT ALL CONTRACTUAL OBLIGATIONS

CUSTOMER APPROVAL

NAME:

TITLE:

DATE:

SYM	DATE	REVISION DESCRIPTION	APP'D
A	01OCT13	PRE CONSTRUCTION MEETING	JB

SALES ENGINEER: JASON BEHLER

SCALE: 3/8"=1'	DWG NO: B
DATE: 28AUG13	

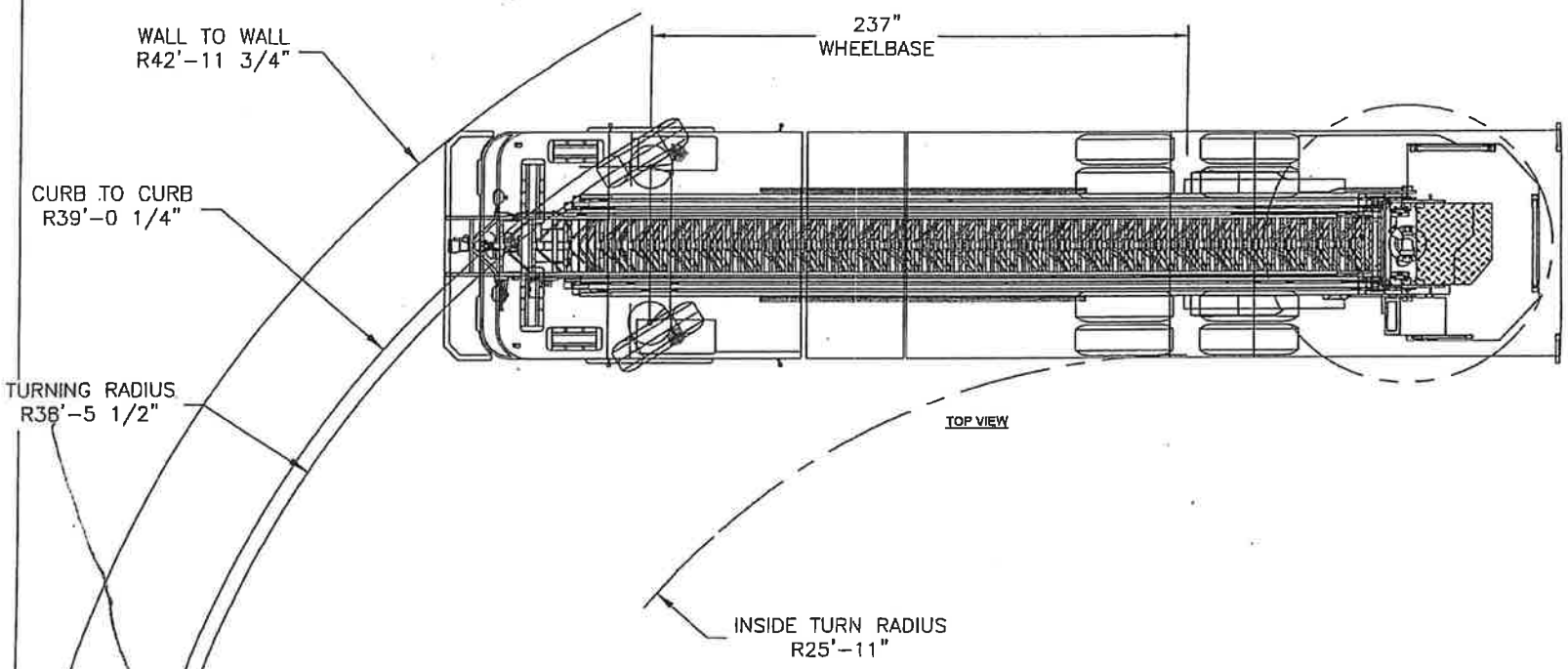
109' REARMOUNT LADDER

EXETER FIRE DEPARTMENT

QUOTE 9373

KME KOVATCH

KOVATCH MOBILE EQUIPMENT
ONE INDUSTRIAL COMPLEX - HENDERSONVILLE PA 18245



NOTES:

1. ALL DIMENSIONS ARE APPROXIMATE AND DO NOT TAKE INTO ACCOUNT THE SERVICE WEIGHT OF THE VEHICLE OR THE SURFACE THE VEHICLE IS TRAVELING ON.

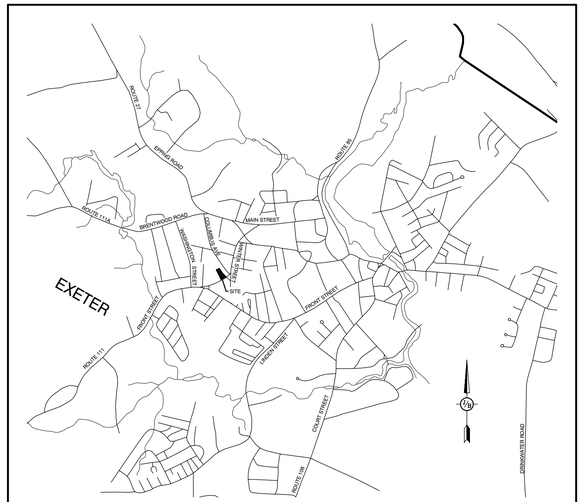
TITLE: **109' REAR MOUNT LADDER TURNING RADIUS REPORT**			**KME FIRE APPARATUS**		
DRAWN BY: ZCZ	DATE: 17SEP13	MATERIAL: SEE BILL OF MATERIAL	DWG/PART NO:	REV: 0	1 OF 1

GENERAL LEGEND

EXISTING	PROPOSED	AS-BUILT	DESCRIPTION
GENERAL			
			ZONELINE
			BUILDING SETBACK
			SURVEY TIE LINES
			FRESHWATER WETLANDS
			TIDAL WETLANDS
			SOIL BOUNDARY
			TREE LINE
			EDGE OF GRAVEL
			EDGE OF PAVEMENT
100	100		MAJOR CONTOUR
98	98		MINOR CONTOUR
			FENCE
			SILTFENCE
			LIGHT POLE
			SINGLE/DOUBLE POST SIGN
			TREES
TP1 TP2			TEMPORARY BENCHMARK
			TEST PIT
			MONITORING WELL
UTILITIES			
D			DRAIN LINE
			CATCH BASIN
W	W		WATER MAIN LINE
			WATER GATE VALVE
			WATER SHUTOFF
S	S		SEWER LINE
FM	FM		SEWER FORCEMAIN
			SEWER MANHOLE
OHE	OHE		OVERHEAD ELECTRIC LINES
UGE	UGE		UNDERGROUND ELECTRIC LINES
			UTILITY POLE
			GUY WIRE ANCHOR
E	E		ELECTRIC METER
T	T		TRANSFORMER
G	G		GAS LINE
			GAS METER
			GAS GATE VALVE
BOUNDARY			
			PROPERTY LINE
			ABUTTER PROPERTY LINE
			EASEMENT LINE
DH			DRILL HOLE
IR/IP			IRON ROD / IRON PIPE AS NOTED
BND			GRANITE BOUND

AMENDED SITE PLAN
EXETER PRESBYTERIAN CHURCH

TAX MAP 73 LOT 143
73 WINTER STREET, EXETER, NH



LOCUS SCALE: 1"=2000'

SHEET INDEX

CS	COVER SHEET
C1	EXISTING CONDITIONS PLAN
DM	DEMOLITION PLAN
EXH	VEHICLE PARKING EXHIBIT PLAN
C2	SITE PLAN
C3	GRADING AND DRAINAGE PLAN
C4	UTILITY PLAN
L1	LIGHTING PLAN
L2	LANDSCAPING PLAN
D1-D3	DETAIL SHEETS
E1	EROSION AND SEDIMENT CONTROL DETAILS
A1	EASEMENT PLAN
T1	TRUCK TURNING PLAN

CIVIL ENGINEER / SURVEYOR
JONES & BEACH ENGINEERS, INC.
85 PORTSMOUTH AVE
STRATHAM, NH 03885
(603) 772-4746
CONTACT: PAIGE LIBBEY

LANDSCAPE DESIGNER
LM LAND DESIGN, LLC
11 SOUTH ROAD
BRENTWOOD, NH 03833
(603) 770-7728
CONTACT: LISE MCNAUGHTON

WATER AND SEWER
EXETER PUBLIC WORKS DEPARTMENT
13 NEWFIELDS ROAD
EXETER, NH 03833
(603) 773-6157

ELECTRIC
UNITIL NEW HAMPSHIRE
6 LIBERTY LANE WEST
HAMPTON, NH 03842
(603) 772-0775

TELEPHONE
CONSOLIDATED COMMUNICATIONS
100 TRI CITY ROAD
SOMERWORTH, NH 03878
ATTN:DAVE KESTNER
(603) 743-1114

CABLE TV
COMCAST COMMUNICATION CORPORATION
334-B CALEF HIGHWAY
EPPING, NH 03042-2325
(603) 679-5695

ARCHITECT
PORT CITY DESIGN
952 ISLINGTON ST, STE 23F
PORTSMOUTH, NH 03801
(603) 312-1707
CONTACT: DOUG GREENE

MECHANICAL, ELECTRICAL, PLUMBING
CSI ENGINEERING, LLC
125 AVIATION AVE #4
PORTSMOUTH, NH 03801
(603) 319-8561
CONTACT: JASON CHENARD

PROJECT PARCEL
TOWN OF EXETER, NH
TAX MAP 73, LOT 143

APPLICANT
EXETER PRESBYTERIAN CHURCH
73 WINTER STREET, EXETER, NH

TOTAL LOT AREA
37,462 SQ. FT.
00.86 ACRES

811 Know what's **below** **811** before you dig

APPROVED – EXETER, NH
PLANNING BOARD

DATE:

Design: NJL	Draft: TCR	Date: 07/18/2025
Checked: PSL	Scale: AS SHOWN	Project No.: 05241.1
Drawing Name: 05241.1-PLAN.DWG		

STATE OF NEW HAMPSHIRE – PAIGE S LIBBEY No.16670 – LICENSED PROFESSIONAL ENGINEER – 08/28/2025

REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

JONES & BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name:	COVER SHEET
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

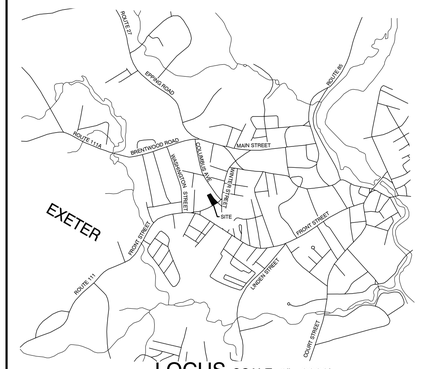
DRAWING No.
CS
SHEET NO. 1 OF 15
JBE PROJECT NO. 05241.1

LEGEND

- PROPERTY LINE
- ABUTTER PROPERTY LINE
- BUILDING SETBACK
- SURVEY TIE LINES
- WETLANDS
- TREE LINE
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- OHE — OVERHEAD ELECTRIC LINES
- STONE WALL
- UTILITY POLE
- CATCH BASIN
- SEWER MANHOLE
- E — ELECTRIC METER
- G — GAS METER
- 100 — MAJOR CONTOUR
- 102 — MINOR CONTOUR
- IR — IRON ROD
- IP — IRON PIPE

PLAN REFERENCES:

1. "PLAT OF LAND IN EXETER, NH SHOWING A PROPERTY LINE SURVEY WITH BOUNDARY LINE AGREEMENT, ASSESSORS MAP 73 LOT 147, PREPARED FOR GENERAL RECREATION REALTY TRUST." PREPARED BY PARKER SURVEY & ENGINEERING ASSOC., INC. DATED APRIL 29, 2005. R.C.R.D. D-32608 & 32609.
2. "SUBDIVISION OF LAND FOR GEORGE L. & BEVERLY A. VINCENT IN EXETER, NH" PREPARED BY PARKER SURVEY & ENGINEERING ASSOC., INC. DATED AUGUST 1984. R.C.R.D. 14010.
3. "PLAN OF DIVISION OF HOMESTEAD OF SAMUEL W. LEAVITT, EXETER, NH" PREPARED BY DUDLEY & DOHERTY. DATED 1892. R.C.R.D. 00164
4. "PLAT OF LAND IN EXETER, NH SHOWING A BOUNDARY SURVEY AT 83 WINTER STREET, ASSESSORS MAP 73 LOT 140." PREPARED BY MILLENNIUM ENGINEERING INC. DATED FEBRUARY 13, 2008. R.C.R.D. 35364.
5. "PLAT OF LAND IN EXETER, NH SHOWING A PROPERTY LINE SURVEY AT 69 WINTER STREET, ASSESSORS MAP 73 LOT 144." PREPARED BY MILLENNIUM ENGINEERING INC. DATED APRIL 09, 2008. R.C.R.D. 35849.



LOCUS SCALE: 1"=2000'

NOTES:

1. THE INTENT OF THIS PLAN IS TO SHOW THE BOUNDARY AND EXISTING CONDITIONS OF LOT 143 AS SHOWN ON TOWN OF EXETER TAX MAP 73.
2. CURRENT OWNER OF RECORD:
   EXETER PRESBYTERIAN CHURCH
   73 WINTER STREET
   EXETER, NH 03833
   BK 4675 PG 982
3. ZONING DISTRICT: CENTRAL AREA COMMERCIAL (C-1)
   LOT AREA MINIMUM = 5,000 SF
   BUILDING SETBACKS (MINIMUM):
   FRONT SETBACK = 10'
   SIDE SETBACK = 10'
   REAR SETBACK = 20'
   MAX. BUILDING HEIGHT = 35'
   MAX. IMPERVIOUS COVER = 75%
   MIN. REQUIRED OPEN SPACE = 5%
4. THE UTILITY LOCATIONS SHOWN HEREON WERE DETERMINED BY OBSERVED ABOVE GROUND EVIDENCE AND SHOULD BE CONSIDERED APPROXIMATE IN LOCATION ONLY. LOCATION, DEPTH, SIZE, TYPE, EXISTENCE OR NONEXISTENCE OF UNDERGROUND UTILITIES AND/OR UNDERGROUND STORAGE TANKS WAS NOT VERIFIED BY THIS SURVEY. ALL CONTRACTORS SHOULD NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO ANY EXCAVATION WORK OR CALL DIG-SAFE AT 1-888-DIG-SAFE.
5. THE SUBJECT PARCEL IS LOCATED WITHIN AN AREA HAVING A ZONE 'X' DESIGNATION BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 33015C0402E, WITH EFFECTIVE DATE OF 05/17/2005, IN ROCKINGHAM COUNTY, STATE OF NEW HAMPSHIRE, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR COMMUNITY IN WHICH SAID PREMISES IS SITUATED.
6. BASIS OF BEARING: HORIZONTAL – NH STATE PLANE. VERTICAL – NAVD88.
7. CERTAIN DATA HEREON MAY VARY FROM RECORDED DATA DUE TO DIFFERENCES IN DECLINATION, ORIENTATION, AND METHODS OF MEASUREMENT.
8. ALL BOOK AND PAGE NUMBERS REFER TO THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
9. THE TAX MAP AND LOT NUMBERS ARE BASED ON THE TOWN OF EXETER TAX RECORDS AND ARE SUBJECT TO CHANGE.
10. RESEARCH WAS PERFORMED AT THE TOWN OF EXETER ASSESSOR'S OFFICE AND THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
11. THIS SURVEY IS NOT A CERTIFICATION TO OWNERSHIP OR TITLE OF LANDS SHOWN. OWNERSHIP AND ENCUMBRANCES ARE MATTERS OF TITLE EXAMINATION NOT OF A BOUNDARY SURVEY. THE INTENT OF THIS PLAN IS TO RETRACE THE BOUNDARY LINES OF DEEDS REFERENCED HEREON. OWNERSHIP OF ADJOINING PROPERTIES IS ACCORDING TO ASSESSOR'S RECORDS. THIS PLAN MAY OR MAY NOT INDICATE ALL ENCUMBRANCES EXPRESSED, IMPLIED OR PRESCRIPTIVE.
12. ANY USE OF THIS PLAN AND OR ACCOMPANYING DESCRIPTIONS SHOULD BE DONE WITH LEGAL COUNSEL, TO BE CERTAIN THAT TITLES ARE CLEAR, THAT INFORMATION IS CURRENT, AND THAT ANY NECESSARY CERTIFICATES ARE IN PLACE FOR A PARTICULAR CONVEYANCE, OR OTHER USES.
13. THIS PLAN IS THE RESULT OF A CLOSED TRAVERSE WITH A RAW, UNADJUSTED LINEAR ERROR OF CLOSURE GREATER THAN 1 IN 70,000.
14. SURVEY TIE LINES SHOWN HEREON ARE NOT BOUNDARY LINES. THEY SHOULD ONLY BE USED TO LOCATE THE PARCEL SURVEYED FROM THE FOUND MONUMENTS SHOWN AND LOCATED BY THIS SURVEY.

SOIL LEGEND (NRCS SOILS)

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP
599	URBAN-LAND HOOSIC COMPLEX	A

CERTIFICATION:

PURSUANT TO RSA 676:18-III AND RSA 672:14

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

I CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN UNADJUSTED LINEAR ERROR OF CLOSURE THAT EXCEED BOTH THE MINIMUM OF 1:10,000 AS DEFINED IN SECTION 503.04 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES AND THE MINIMUM OF 1:15,000 AS DEFINED IN SECTION 4.2 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

THIS SURVEY CONFORMS TO A CATEGORY 1 CONDITION 1 SURVEY AS DEFINED IN SECTION 4.1 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

STATE OF NEW HAMPSHIRE — No. 1030 — MATTHEW J. SALVUCCI — LICENSED LAND SURVEYOR

SIGNATURE

MATTHEW J. SALVUCCI, LLS 1030 DATE:
ON BEHALF OF JONES & BEACH ENGINEERS, INC.

GRAPHIC SCALE
20 0 10 20 40 60
(IN FEET)
1 inch = 20 feet

Design: NJL	Draft: TCR	Date: 07/18/2025	
Checked: PSL	Scale: AS SHOWN	Project No.: 05241.1	
Drawing Name: 05241.1-PLAN.DWG			

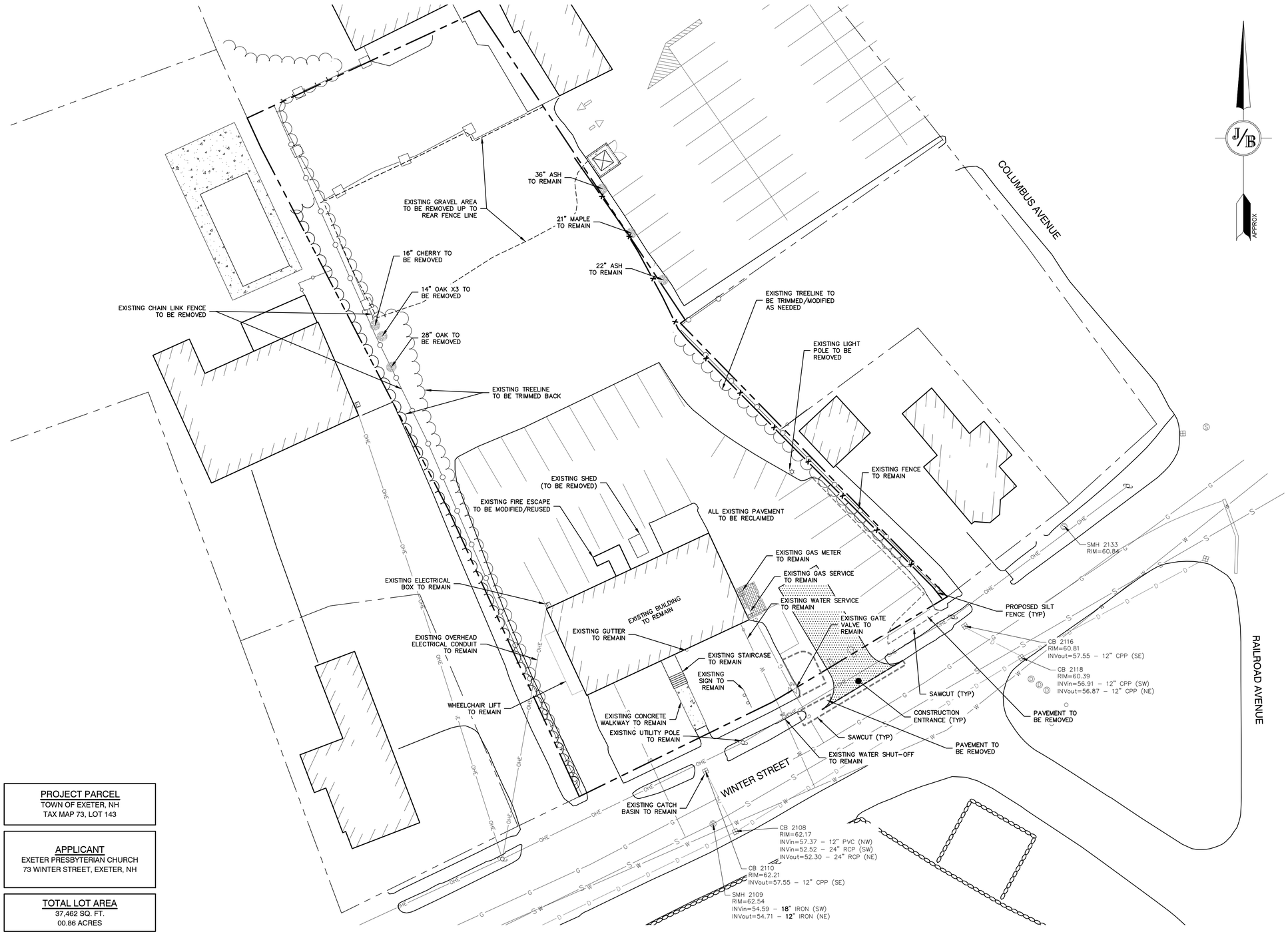
STATE OF NEW HAMPSHIRE — PAIGE S. LIBBEY No.16670 — LICENSED PROFESSIONAL ENGINEER — 09/29/2025

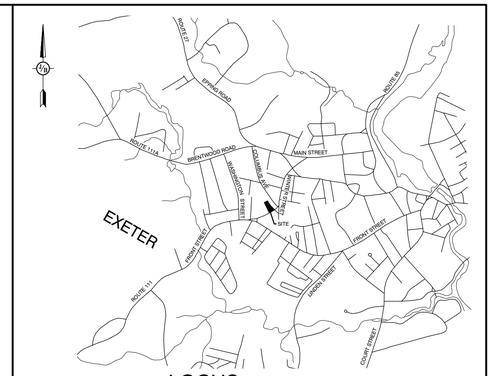
REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

JONES&BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name:	EXISTING CONDITIONS PLAN
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

DRAWING No.
C1
SHEET NO. 2 OF 15
JBE PROJECT NO. 05241.1





LOCUS SCALE: 1"=2000'

DEMOLITION NOTES:

1. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCIES FROM DATA AS SHOWN ON 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.
2. ALL EXISTING PAVED SURFACES WITHIN THE LIMITS OF WORK THAT ARE TO REMAIN SHALL BE RECLAIMED TO MINIMUM DEPTH OF 12" AND REGRADED AS SHOWN ON THE GRADING AND DRAINAGE PLAN. RECLAIMED ASPHALT SHALL CONFORM TO STATE SPECIFICATIONS. PRIOR TO REMOVAL, PAVEMENT SHALL BE SAWCUT AT ALL ENTRANCES AND LIMITS OF REMOVAL.
3. ALL CURBING, CONCRETE, PAVEMENT, BUILDINGS AND SUBBASE MATERIALS LOCATED WITHIN PROPOSED LANDSCAPED AREAS SHALL BE REMOVED AND REPLACED WITH LOAM MATERIALS SUITABLE FOR LANDSCAPING IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS. (SEE ALSO LANDSCAPE PLAN).
4. IN AREAS WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED.
5. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND ANY EARTH MOVING OPERATIONS. SILT FENCE SHALL BE INSTALLED AT THE LIMITS OF IMPACT AREAS ACCORDING TO THE DETAILS SHOWN ON SHEET E1.
6. EXCAVATED MATERIALS WILL BE PLACED WITHIN UPLAND AREAS AS FILL MATERIAL OR HAULED OFF-SITE FOR DISPOSAL IN AN APPROPRIATE UPLAND LOCATION.

PROJECT PARCEL
TOWN OF EXETER, NH
TAX MAP 73, LOT 143

APPLICANT
EXETER PRESBYTERIAN CHURCH
73 WINTER STREET, EXETER, NH

TOTAL LOT AREA
37,462 SQ. FT.
00.86 ACRES

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 feet

Design: NJL	Draft: TCR	Date: 07/18/2025	
Checked: PSL	Scale: AS SHOWN	Project No.: 05241.1	
Drawing Name: 05241.1-PLAN.DWG			

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

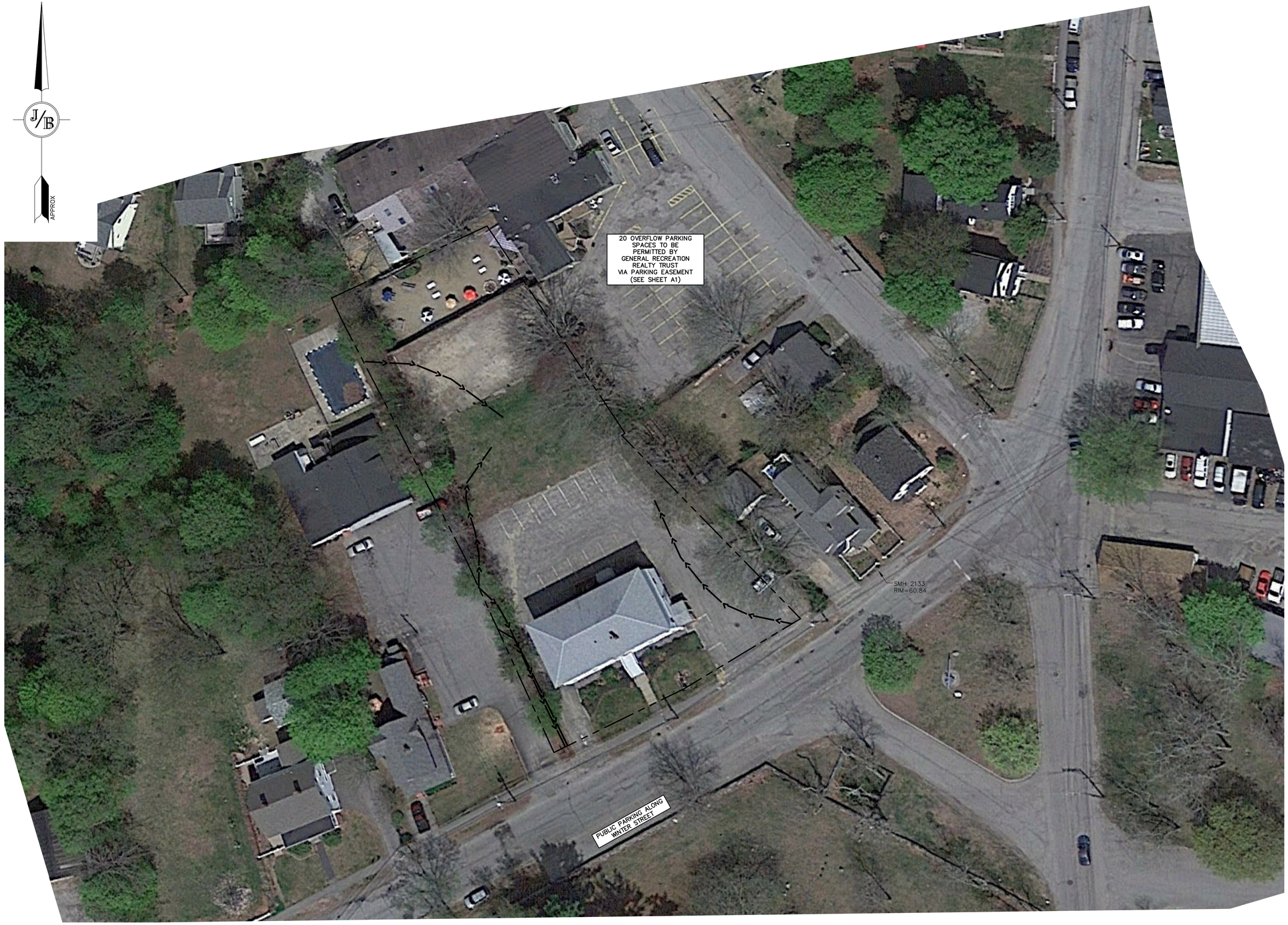
STATE OF NEW HAMPSHIRE — PAIGE S. LIBBEY No.16670 — LICENSED PROFESSIONAL ENGINEER — 08/28/2025

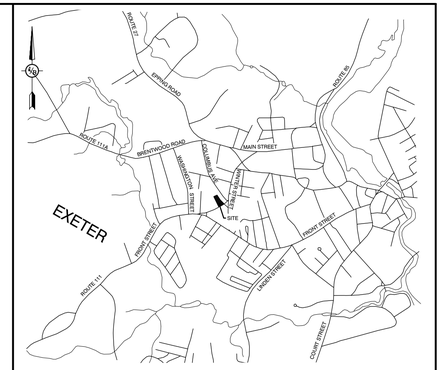
REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

JONES & BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name:	DEMOLITION PLAN
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

DRAWING No.
DM
SHEET NO. 3 OF 15
JBE PROJECT NO. 05241.1





LOCUS SCALE: 1"=2000'

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 feet

Design: NJL	Draft: NJL	Date: 07/11/2025	
Checked: PSL	Scale: AS SHOWN	Project No.: 05241.1	
Drawing Name: 05241.1 PLAN.dwg			

STATE OF NEW HAMPSHIRE
PAIGE S. LIBBEY No.16570
LICENSED PROFESSIONAL ENGINEER
08/28/2025

REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/13/25	ISSUED FOR REVIEW	NJL

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

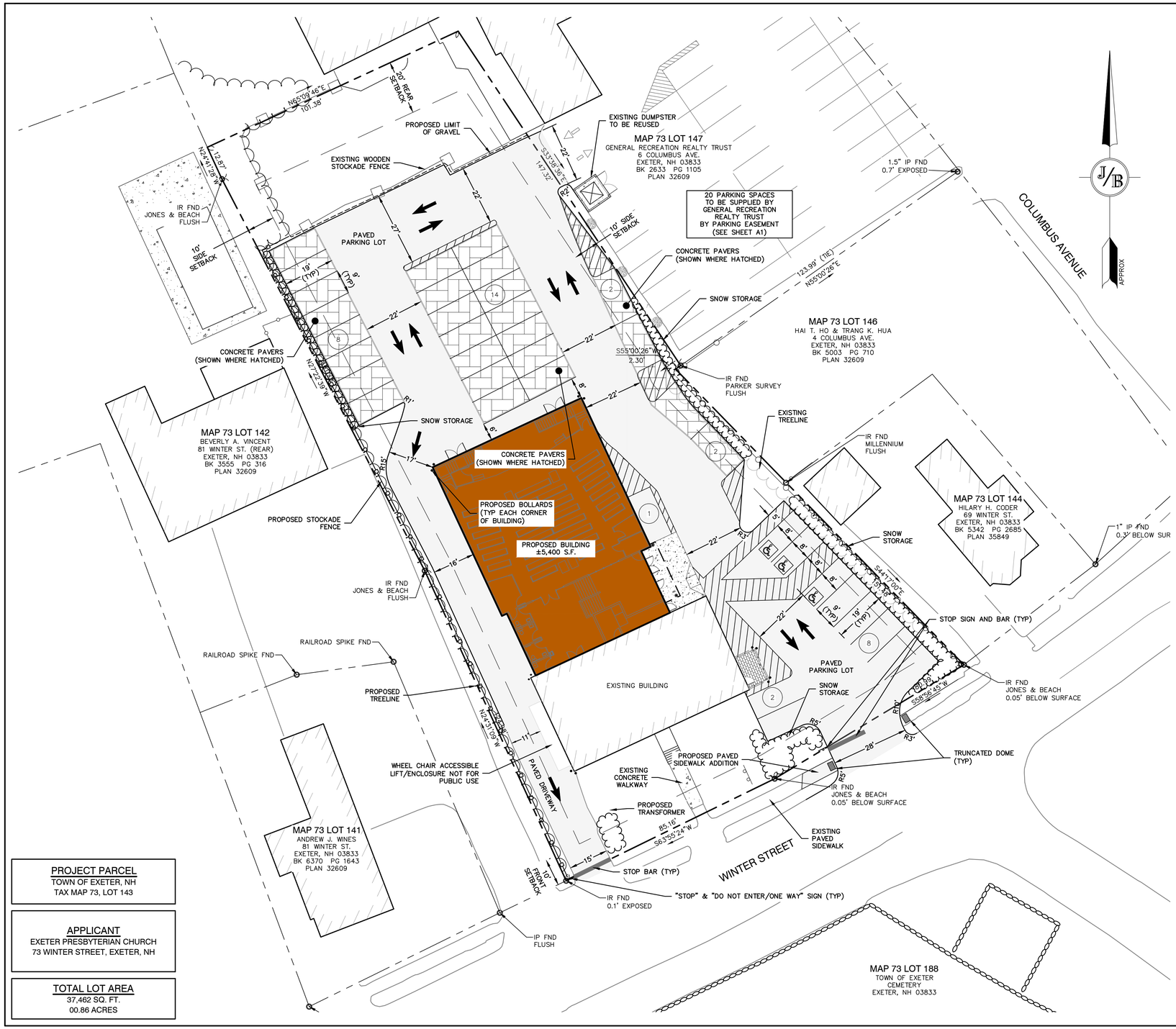
Plan Name:	VEHICLE PARKING PLAN
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

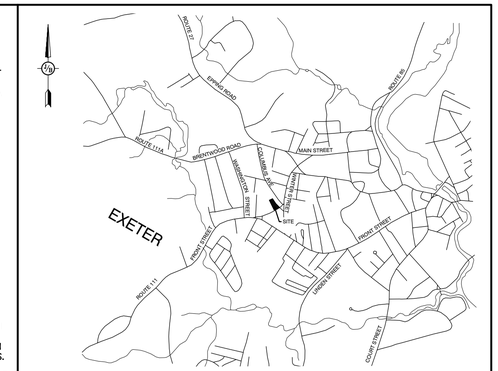
DRAWING No.

EXH

SHEET 4 OF 13

JBE PROJECT NO. 05241.1





LOCUS SCALE: 1"=2000'

SITE NOTES:

1. THE INTENT OF THIS PLAN IS TO DEPICT THE ADDITION OF A NEW BUILDING SECTION TO BE CONNECTED TO THE EXISTING BUILDING. THE DEVELOPMENT WILL CONSIST OF A NEW SANCTUARY SPACE FOR THE EXISTING CHURCH WITH ASSOCIATED PARKING AND DRIVEWAY.
2. ZONING DISTRICT: CENTRAL AREA COMMERCIAL (C-1)
   LOT AREA MINIMUM = 5,000 S.F.
   BUILDING SETBACKS (MINIMUM):
   FRONT SETBACK = 10'
   SIDE SETBACK = 10'
   REAR SETBACK = 20'
   MAX. BUILDING HEIGHT = 35'
   MAX. IMPERVIOUS COVER = 75%
   MIN. REQUIRED OPEN SPACE = 5%
3. PARKING CALCULATIONS:
   (1 SPACE/3.5 SEATS) * 200 SEATS = 57 SPACES REQUIRED

   37 SPACES PROVIDED ON SITE. 20 REMAINING PARKING SPACES TO BE PROVIDED BY ACCESS/PARKING EASEMENT WITH ABUTTING BOWLING ALLEY/RESTAURANT.
4. THIS PLAN SET HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC., 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, INCLUDING ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS ON THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS, MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
5. THE SUBJECT PARCEL IS LOCATED WITHIN AN AREA HAVING A ZONE "X" DESIGNATION BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 33015C0402E, WITH EFFECTIVE DATE OF 05/17/2005 IN ROCKINGHAM COUNTY, STATE OF NEW HAMPSHIRE, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR COMMUNITY IN WHICH SAID PREMISES IS SITUATED.
6. LANDOWNERS ARE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING PERMITTING REQUIRED UNDER THESE REGULATIONS.
7. 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.
8. ALL CONSTRUCTION WILL CONFORM TO TOWN STANDARDS AND REGULATIONS, AND NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.
9. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
10. ALL PARKING STALLS SHALL BE SEPARATED USING 4" WIDE SOLID STRIPES. STRIPING SHALL BE 100% ACRYLIC TYPE, LOW VOC, FAST DRYING, IN A COLOR OF WHITE.
11. ALL STOP BARS SHALL BE 18" IN WIDTH IN A COLOR OF WHITE; ALL TRAFFIC ARROWS SHALL BE PAINTED IN A COLOR OF WHITE.
12. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PROVIDED BY THE OWNER. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND OWNER PRIOR TO THE START OF CONSTRUCTION.
13. SNOW TO BE STORED AT EDGE OF PAVEMENT AND IN AREAS SHOWN ON THE PLANS, OR TRUCKED OFFSITE TO AN APPROVED SNOW DUMPING LOCATION.

IMPERVIOUS COVER CALCULATIONS

STRUCTURE DESCRIPTION	PRE-CONSTRUCTION IMPERVIOUS AREAS	POST-CONSTRUCTION IMPERVIOUS AREAS
BUILDING	2,961 S.F.	8,285 S.F.
PAVEMENT	11,867 S.F.	14,820 S.F.
GRAVEL	8,663 S.F.	3,888 S.F.
STAIRWAY/WALKWAY	276 S.F.	187 S.F.
TOTAL:	23,767 S.F.	27,180 S.F.
PERCENT COVERAGE, PRE-CONSTRUCTION:		63%
PERCENT COVERAGE, POST-CONSTRUCTION:		73%

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 feet

PROJECT PARCEL
TOWN OF EXETER, NH
TAX MAP 73, LOT 143

APPLICANT
EXETER PRESBYTERIAN CHURCH
73 WINTER STREET, EXETER, NH

TOTAL LOT AREA
37,462 SQ. FT.
00.86 ACRES

Design: NJL	Draft: TCR	Date: 07/18/2025	
Checked: PSL	Scale: AS SHOWN	Project No.: 05241.1	
Drawing Name: 05241.1-PLAN.DWG			

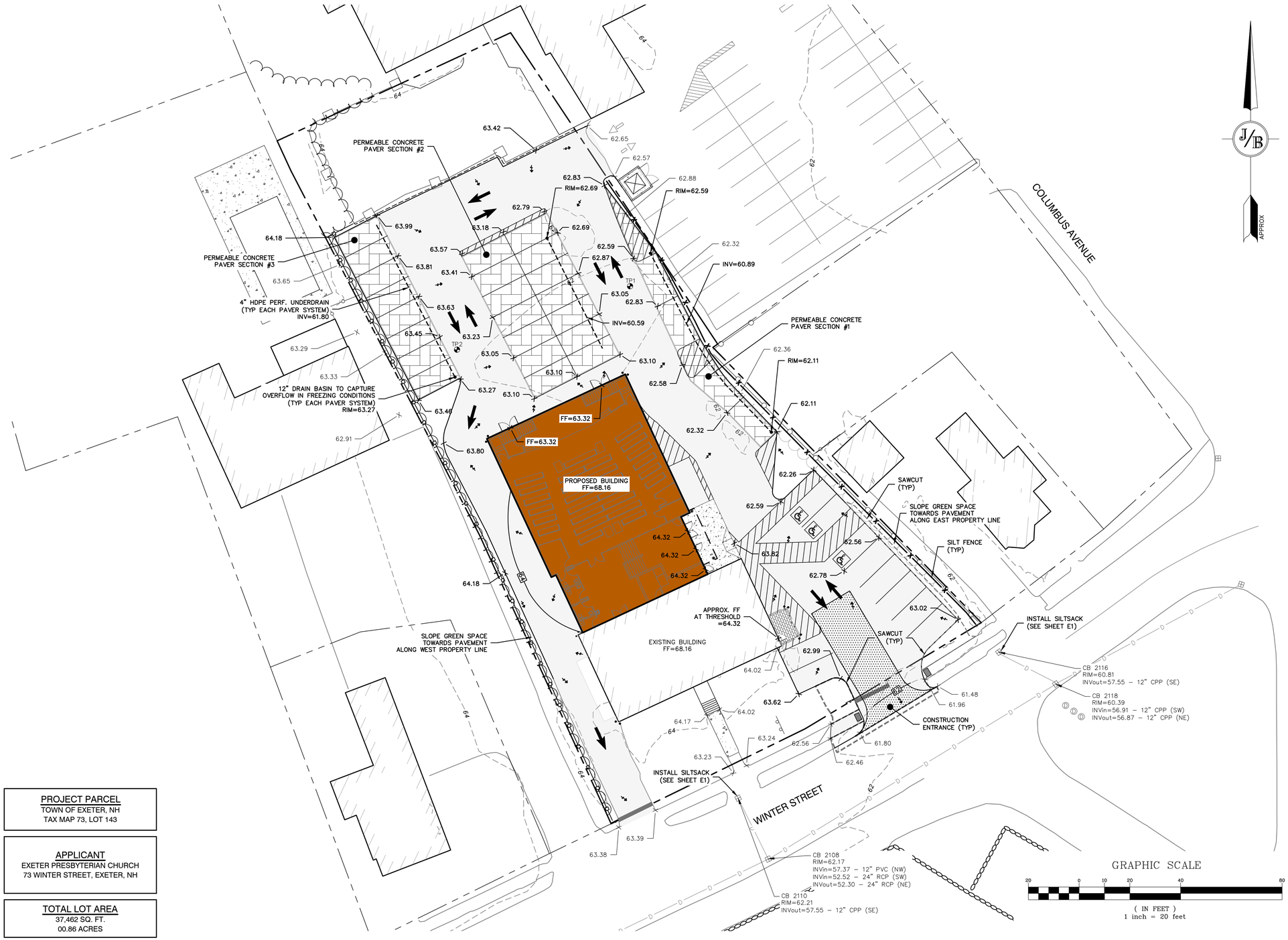
PAIGE S. LIBBEY No.16670 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 09/29/2025

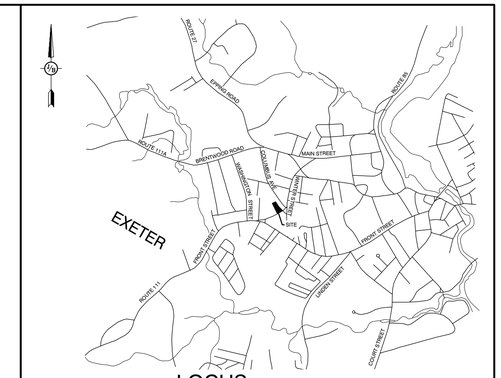
REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

JONES&BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name: SITE PLAN
Project: EXETER PRESBYTERIAN CHURCH, 73 WINTER STREET, EXETER, NH
Owner of Record: EXETER PRESBYTERIAN CHURCH, 73 WINTER STREET, EXETER, NH

DRAWING No. C2
SHEET NO. 5 OF 15
JBE PROJECT NO. 05241.1





LOCUS SCALE: 1"=2000'

GRADING AND DRAINAGE NOTES:

1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER JONES & BEACH ENGINEERS, INC., NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES AND/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 888-DIG-SAFE (888-344-7233).
2. VERTICAL DATUM: NH STATE PLANE. HORIZONTAL DATUM: NAVD88.
3. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
4. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. SEE CONSTRUCTION SEQUENCE ON SHEET E1.
5. IMMEDIATELY APPLY AND COMPACT STONE BASE FOR BUILDING PAD TO +/-½" PRIOR TO EXCAVATING INTERIOR AND PERIMETER FOOTINGS.
6. IN AREAS WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED.
7. INLET PROTECTION SHALL BE PLACED AT ALL CATCH BASINS. SEE DETAIL WITHIN THE DETAIL SHEETS.
8. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY ALL GOVERNING AUTHORITIES.
9. NO GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
10. ALL EXPOSED AREAS SHALL BE SEEDED AS SPECIFIED WITHIN 3 DAYS OF FINAL GRADING.
11. SHOULD CONSTRUCTION STOP FOR LONGER THAN 3 DAYS, THE SITE SHALL BE SEEDED AS SPECIFIED.
12. MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN EVENT OF 0.5" OR GREATER IN A 24 HOUR PERIOD AND AT LEAST ONCE A WEEK.
13. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE, AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
14. CONSTRUCTION VEHICLES SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE TO THE EXTENT POSSIBLE THROUGHOUT CONSTRUCTION.
15. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
16. SEE ALSO EROSION AND SEDIMENT CONTROL SPECIFICATIONS ON SHEET E1.
17. CONCRETE WASHOUT PIT TO BE INSTALLED PRIOR TO ANY CONCRETE POURS.

PROJECT PARCEL
TOWN OF EXETER, NH
TAX MAP 73, LOT 143

APPLICANT
EXETER PRESBYTERIAN CHURCH
73 WINTER STREET, EXETER, NH

TOTAL LOT AREA
37,462 SQ. FT.
00.86 ACRES

Design: NJL	Draft: TCR	Date: 07/18/2025	
Checked: PSL	Scale: AS SHOWN	Project No.: 05241.1	
Drawing Name: 05241.1-PLAN.DWG			

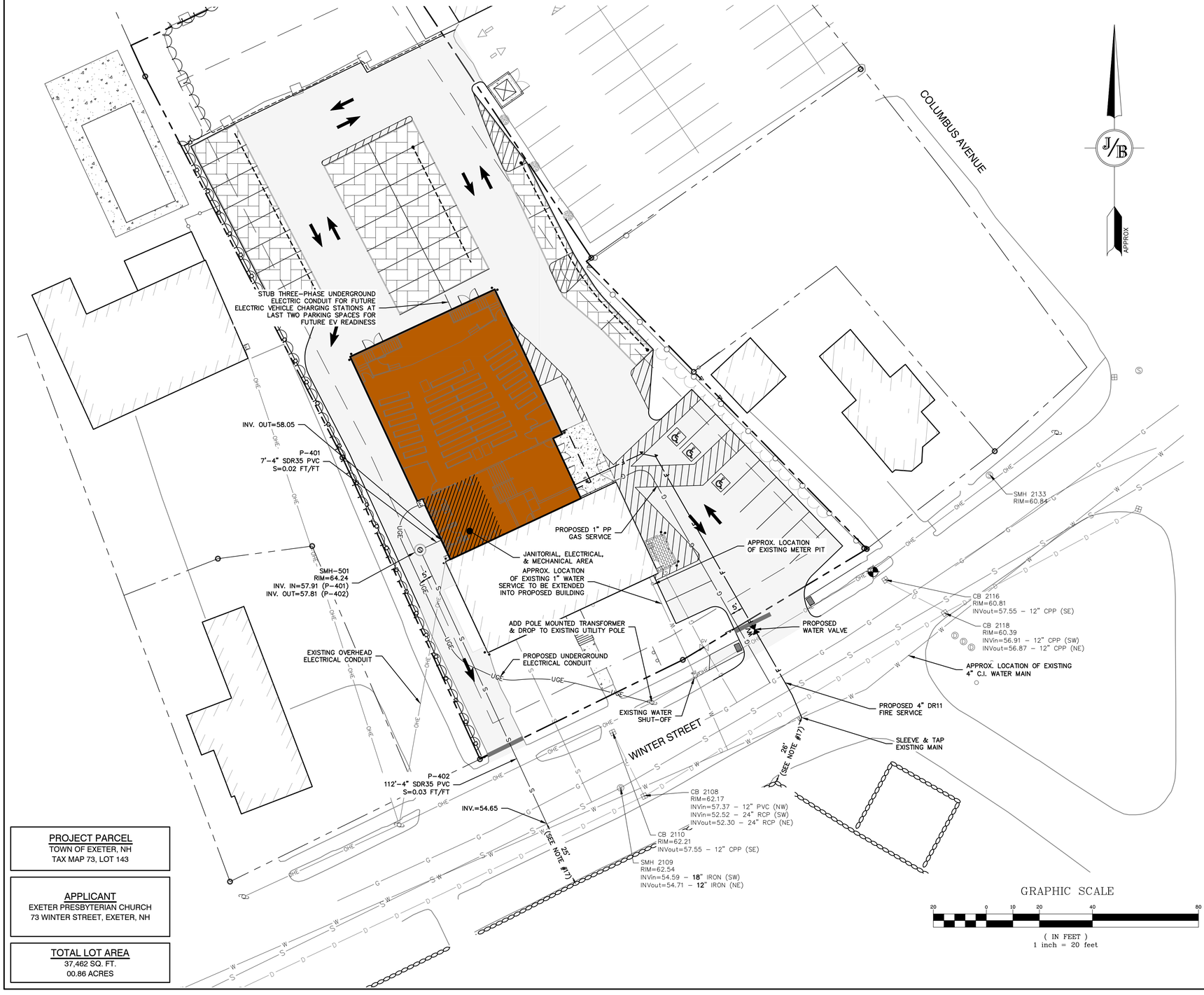
STATE OF NEW HAMPSHIRE – PAIGE S. LIBBEY No.16670 – LICENSED PROFESSIONAL ENGINEER – 08/28/2025

REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

JONES&BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name:	GRADING & DRAINAGE PLAN
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

DRAWING No.
C3
SHEET NO. 6 OF 15
JBE PROJECT NO. 05241.1



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, CONNECTION FEES AND BONDS.
2. THE CONTRACTOR SHALL PROVIDE A MINIMUM NOTICE OF FOURTEEN (14) DAYS TO ALL CORPORATIONS, COMPANIES AND/OR 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 LOCATION, SIZE, DEPTH AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE TO THE STANDARDS AND REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY (ELECTRIC, TELEPHONE, CABLE TELEVISION, FIRE ALARM, GAS, WATER, AND SEWER).
4. ALL CONSTRUCTION SHALL CONFORM TO THE TOWN STANDARDS AND REGULATIONS, AND NHDES STANDARDS AND SPECIFICATIONS, WHICHEVER ARE MORE STRINGENT, UNLESS OTHERWISE SPECIFIED.
5. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
6. BUILDING TO BE SERVICED BY UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED.
7. THE CONTRACTOR IS TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITY STUBS PRIOR TO CONSTRUCTION.
8. IF THE BUILDING IS REQUIRED TO HAVE A SPRINKLER SYSTEM, A PRECONSTRUCTION MEETING SHALL BE HELD BETWEEN THE CONTRACTOR, OWNER, ARCHITECT AND THE LOCAL FIRE DEPARTMENT PRIOR TO THE INSTALLATION.
9. DIMENSIONS ARE SHOWN TO CENTERLINE OF PIPE OR FITTING.
10. THE CONTRACTOR SHALL HAVE THE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER FIRE PROTECTION SYSTEM PRIOR TO INSTALLATION.
11. EXISTING UTILITIES SHALL BE DIGSAFED BEFORE CONSTRUCTION.
12. ALL WATER LINES SHOULD HAVE TESTABLE BACKFLOW PREVENTERS AT THE ENTRANCE TO EACH BUILDING.
13. SEWERS SHALL BE BURIED TO A MINIMUM DEPTH OF 6 FEET BELOW GRADE IN ALL ROADWAY LOCATIONS, AND TO A MINIMUM DEPTH OF 4 FEET BELOW GRADE IN ALL CROSS-COUNTRY LOCATIONS. PROVIDE TWO-INCHES OF R-10 FOAM BOARD INSULATION 2-FOOT WIDE TO BE INSTALLED 6-INCHES OVER SEWER PIPE IN AREAS WHERE DEPTH IS NOT ACHIEVED. A WAIVER FROM THE DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER ENGINEERING BUREAU IS REQUIRED PRIOR TO INSTALLING SEWER AT LESS THAN MINIMUM COVER.
14. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
15. SEWER FLOW CALCULATIONS

    CHURCH SANCTUARY (3 GPD / SEAT)
    PROPOSED NUMBER OF SEATS = 200
    FLOW = (200)(3) = 600 GPD
16. NEAREST INLINE WATER VALVES ON EXISTING WATER MAIN EAST AND WEST OF THE TIE-IN POINT ARE AS FOLLOWS:
    EAST: INTERSECTION OF WINTER ST & RAILROAD AVE
    WEST: INTERSECTION OF FRONT ST, MORROW ST, AND WINTER ST
17. PER NH RSA 289.3: NEW CONSTRUCTION, EXCAVATION, OR BUILDING IN THE AREA OF A KNOWN BURIAL SITE OR WITHIN THE BOUNDARIES OF AN ESTABLISHED BURIAL GROUND OR CEMETARY SHALL COMPLY WITH LOCAL ZONING REGULATIONS CONCERNING BURIAL SITES, BURIAL GROUNDS OR CEMETARIES, WHETHER OR NOT SUCH BURIAL SITE OR BURIAL GROUND WAS PROPERLY RECORDED IN THE DEED TO THE PROPERTY. IN THE ABSENCE OF SUCH REGULATIONS, NO NEW CONSTRUCTION, EXCAVATION, OR BUILDING SHALL BE CONDUCTED WITHIN 25 FEET OF A KNOWN BURIAL SITE OR WITHIN 25 FEET OF THE BOUNDARIES OF AN ESTABLISHED BURIAL GROUND OR CEMETARY, WHTHER OR NOT SUCH BURIAL SITE OR BURIAL GROUND WAS PROPERLY RECORDED IN THE DEED TO THE PROPERTY, EXCEPT WHEN SUCH CONSTRUCTION, EXCAVATION, OR BUILDING IS NECESSARY FOR THE CONSTRUCTION OF AN ESSENTIAL SERVICE, AS APPROVED BY THE GOVERNING BODY OF A MUNICIPALITY IN CONCURRENCE WITH THE CEMETARY TRUSTEES, OR IN THE CASE OF A STATE HIGHWAY, BY THE COMMISSIONER OF THE DEPARTMENT OF TRANSPORTATION IN CONCURRENCE WITH THE CEMETARY TRUSTEES.

PROJECT PARCEL
TOWN OF EXETER, NH
TAX MAP 73, LOT 143

APPLICANT
EXETER PRESBYTERIAN CHURCH
73 WINTER STREET, EXETER, NH

TOTAL LOT AREA
37,462 SQ. FT.
00.86 ACRES

Design: NJL	Draft: TCR	Date: 07/18/2025	
Checked: PSL	Scale: AS SHOWN	Project No.: 05241.1	
Drawing Name: 05241.1-PLAN.DWG			

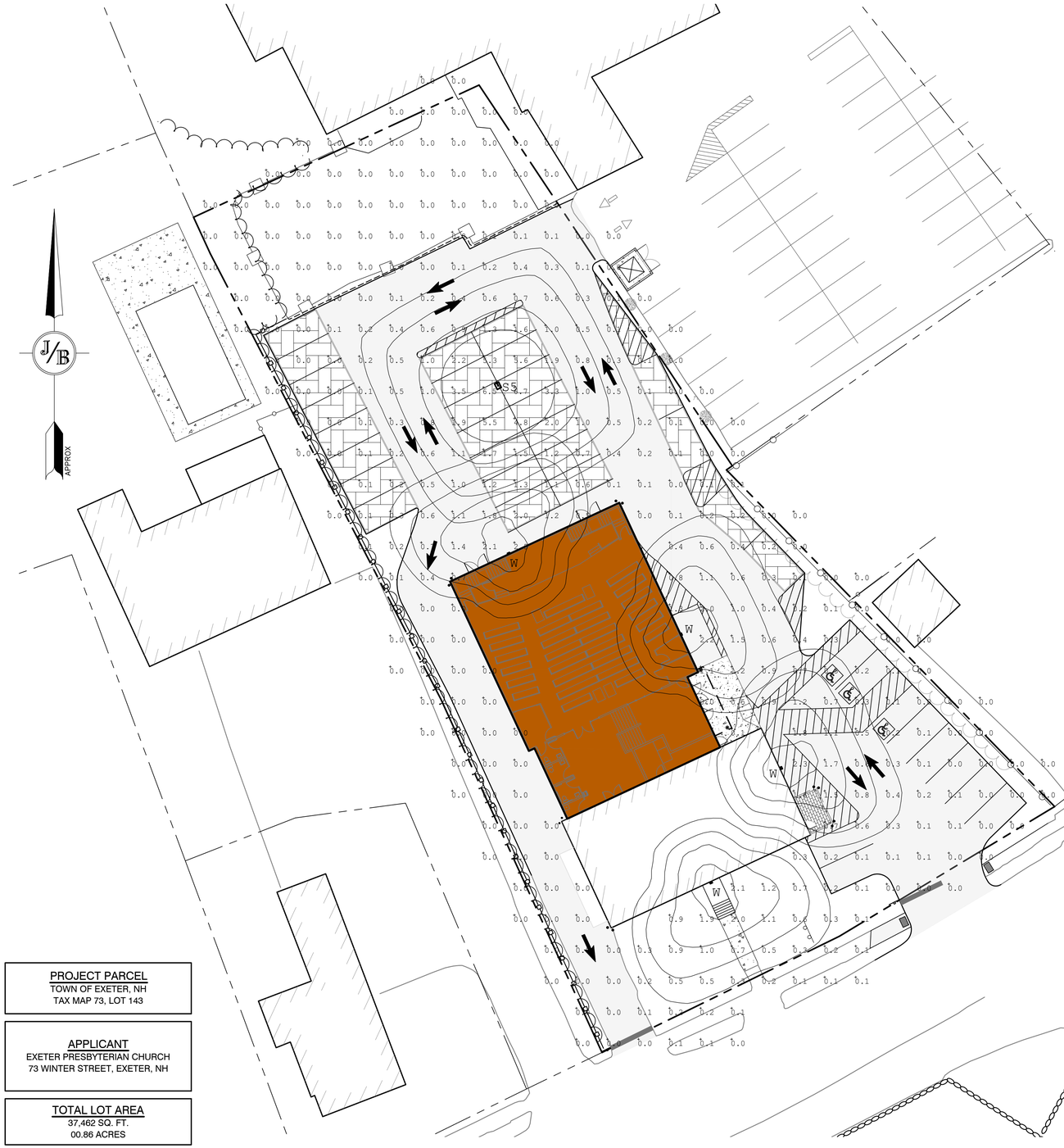
STATE OF NEW HAMPSHIRE – PAIGE S. LIBBEY No. 16670 – LICENSED PROFESSIONAL ENGINEER – 09/29/2025

REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

JONES&BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name:	UTILITY PLAN
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

DRAWING No.
C4
SHEET NO. 7 OF 15
JBE PROJECT NO. 05241.1



PROJECT PARCEL
TOWN OF EXETER, NH
TAX MAP 73, LOT 143

APPLICANT
EXETER PRESBYTERIAN CHURCH
73 WINTER STREET, EXETER, NH

TOTAL LOT AREA
37,462 SQ. FT.
00.86 ACRES

LIGHTING AND ELECTRICAL NOTES:

1. SITE ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES AND DRAINAGE BEFORE DRILLING POLE BASES.
2. CONTRACTOR SHALL INSTALL PROPOSED LIGHT POLES ACCORDING TO TOWN REGULATIONS.
3. ILLUMINATION READINGS SHOWN ARE BASED ON A TOTAL LLF OF 0.75 AT GRADE. ILLUMINATION READINGS SHOWN ARE IN UNITS OF FOOT–CANDLES.
4. LIGHTING CALCULATIONS SHOWN ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM AND SAFETY.
5. THE PROPOSED LIGHTING CALCULATIONS AND DESIGN WAS PERFORMED BY EXPOSURE2LIGHTING, 501 ISLINGTON ST UNIT 1A, PORTSMOUTH NH, 03801, ATTENTION KEN SWEENEY. ALL LIGHTS SHOULD BE PURCHASED FROM THIS COMPANY, OR AN EQUAL LIGHTING DESIGN SHOULD BE SUBMITTED FOR REVIEW IF EQUAL SUBSTITUTIONS ARE PROPOSED BY THE CONTRACTOR OR OWNER.

Catalog # : Project :
Prepared By : Date :

Steel Poles
Square Straight

MANUFACTURED IN THE USA

QUICK LINKS
Ordering Guide | Configurations | Dimensions | EPA

FEATURES & SPECIFICATIONS

Pole Shaft
- Straight poles are 4”, 5”, or 6” square.
- Pole shaft is electro-welded ASTM-A500 Grade C steel tubing with a minimum yield strength of 50,000 psi.
- On Tenon Mount steel poles, tenon is 2-3/8” O.D. high-strength pipe. Tenon is 4-3/4” in length.

Hand-Hole
- Standard hand-hole location is 12” above pole base.
- Poles 22’ and above have a 3” x 6” reinforced hand-hole. Shorter poles have a 2” x 4” non-reinforced hand-hole.

Base
- Pole base is ASTM-A36 hot-rolled steel plate with a minimum yield strength of 36,000 psi.
- Two-piece square base cover is optional.

Anchor Bolts
- Poles are furnished with anchor bolts featuring zinc-plated double nuts and washers. Galvanized anchor bolts are optional.
- Anchor Bolts conform to ASTM F 1554-07a Grade 55 with a minimum yield strength of 55,000 PSI.

Ground Lug
- Ground lug is standard.

Duplex Receptacle
- Weatherproof duplex receptacle is optional.

Ground Fault Circuit Interrupter
- Self-testing Ground fault circuit interrupter is optional.

Finishes
- Every pole is provided with the DuraGrip Protection System and a 5-year limited warranty:
- When the top-of-the line DuraGrip Plus Protection System is selected, in addition to the DuraGrip Protection System, a non-porous, automotive-grade corrosion coating is applied to the lower portion of the pole interior sealing and further protecting it from corrosion. This option extends the limited warranty to 7 years.

Determining The Luminaire/Pole Combination For Your Application:
- Select luminaire from luminaire ordering information.
- Select bracket configuration if required
- Determine EPA value from luminaire/bracket EPA chart
- Select Pole Height
- Select MPH to match wind speed in the application area (See windspeed maps).
- Confirm pole EPA equal to or exceeding value of luminaire/bracket EPA
- Consult factory for special wind load requirements and banner brackets.

Pole Vibration Damper
- A pole vibration damper is recommended in open terrain areas of the country where low steady state winds are common.
- Non-tapered poles and lightly loaded poles are more susceptible to destructive vibration if a damper is not installed.

Listings
- UL Listed
- BAA/TAA Compliant

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Page 1/8 Rev. 10/12/22
SPEC.1070.B.0622

Catalog # : Project : Type :
Prepared By : Date :

V-Locity Small (VALS)
Outdoor LED Area Light

MANUFACTURED IN THE USA · c UL us LISTED · TITLE 24 COMPLIANT · DARKSKY APPROVED · RoHS COMPLIANT · IP66

OVERVIEW	
Lumen Package	6,000 - 27,000
Wattage Range	36 - 178
Efficacy Range (LPW)	142 - 171
Weight lbs(kg)	20 (9.1)
Control Options	IMSBT, ALB, ALS, 7-Pin, PCI

QUICK LINKS
Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Rugged die-cast aluminum housing contains factory prewired driver and optical units. Cast aluminum wiring access door located underneath.
- Self-contained optic, board and heat sink assembly can be rotated or replaced in the field.
- Fixtures are finished with LSI’s DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: TBD lbs in carton.

Optical System
- State-of-the-Art acrylic optics delivers industry leading optical control with an integrated gasket to provide IP66 rated seal.
- Proprietary refractor optics provide exceptional coverage and uniformity in distribution types 2, 3M, 3W, 4M, 4W, 4F, FTM, 5QN, 5QM, 5Q, 5QW, AM, WF and LC/RC.
- Available in 5000K, 4000K, 3500K, 3000K and 2700K color temperatures per ANSI C78.377 as well as phosphor converted amber.
- Minimum CRI of 80 (optional 70 CRI for 5000K and 4000K).
- Factory or field installable integral shielding available for enhanced spill light control.
- Zero Uplight (excludes adjustable arms).

Electrical
- High-performance driver features over-voltage, under voltage, short-circuit and over temperature protection.
- 0-10 volt dimming (10% - 100%) standard, must specify EXT option for dimming leads to be extended to fixture exterior.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L70 Calculated Life: >60k Hours
- Total harmonic distortion: <20%
- Operating temperature: -40°C to +50°C (-40°F to +122°F).
- Power factor: >.90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Driver is fully encased in potting material for moisture resistance and complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls
- Optional integral passive infrared Bluetooth™ motion and photocell sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app.
- LSI’s AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7.

Installation
- REDiMount pole mount arm allows for a true one person installation.
- Side arm pole mount designed to mount to square or round poles.
- Pole mount arms can accommodate pole drill patterns from 2.4 to 5” on center and utilize LSI’s reduced B3 or traditional B5 drill patterns.
- Additional mounting options are available including a mast arm or adjustable slip fitter that allow for luminaire attachment to a 2 3/8” tenon or mast arm.
- Adjustable arms allow for 65° of tilt (-5°below horizontal to +60° above horizontal) in 5° increments.

Warranty
- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings
- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- DarkSky approved with 3000K or warmer color temperature selection (side arm pole and mast arm mounting only).
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP66 rated Luminaire per IEC 60598-1.
- 3G rated for ANSI C136.31 high vibration applications are qualified.

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Page 1/7 Rev. 08/26/24
SPEC.1151.A.0324

Catalog # : Project : Type :
Prepared By : Date :

Mirada Small Silicone (XWS SIL)
Outdoor Wall Sconce

MANUFACTURED IN THE USA · c UL us LISTED · TITLE 24 COMPLIANT · DLC LISTED PREMIUM · DARKSKY APPROVED · IP65

OVERVIEW	
Lumen Package (lm)	1,000 - 8,000
Wattage Range (W)	10 - 61
Efficacy Range (LPW)	126 - 162
Weight lbs (kg)	10 (4.5)
Control Options	IMSBT, ALB, ALS, PCI

QUICK LINKS
Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Rugged die-cast aluminum housing.
- Fixtures are finished with LSI’s DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Extended housing available with 1/2” threaded hubs for surface conduit and rated wire.
- Standard luminaire shipping weight: TBD lbs in carton.
- Max luminaire shipping weight: 12 lbs in carton (20 lbs w/EH option)

Optical System
- State-of-the-Art one piece silicone optic provides industry leading optical control while also acting as an integrated gasket reducing system complexity and improving fixture reliability.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in distribution types 2, 3, and FT.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93%.
- Zero uplight.
- 5000K, 4000K, 3500K, 3000K, and 2700K color temperatures per ANSI C78.377. Also available in Phosphor Converted Amber with peak intensity at 610nm.
- 70 or 80CRI Minimum.

Electrical
- High-performance programmable driver features over-voltage, under-voltage, short circuit and over temperature protection. Custom lumen and wattage packages available.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L80 Calculated Life: >100k Hours
- Total harmonic distortion (THD): <20%
- Operating temperature: -40°C to 40°C (-40°F to +104°F)
- Power factor (PF): >.90
- Input power stays constant over life.
- Optional 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed via hinged door.
- Optional integral emergency battery pack provides 90-minutes of constant power to the LED system, ensuring code compliance. A test switch/indicator button is installed on the housing for ease of maintenance. The fixture delivers 1500 lumens during emergency mode.

Controls
- Integral passive infrared Bluetooth™ motion sensor options. Fixtures operate independently and can be commissioned via an iOS or Android configuration app. Updates and modifications to the control strategy are easily implemented via an intuitive app.
- The ALBMRxLR utilizing an external antenna for long range communications allows for Bluetooth Mesh wireless up to 100′ from node to node. Ensures reliable wireless communications for applications where only wall-mount fixture product is being utilized.

Installation
- Universal wall mounting plate easily mounts directly to 4” octagonal or square junction box.
- 2 fasteners secure the hinged door underneath the housing and provide quick & easy access to the electrical compartment for installing/servicing.
- Optional terminal block accepts up to 12 ga wire.

Warranty
- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings
- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- IDA compliant; with 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP65 rated luminaire per IEC 60598-1.
- 3G rated for ANSI C136.31 high vibration applications when pole mounted (using optional XPMA bracket) or wall mounted.
- IK08 rated luminiare per IEC 66262 mechanical impact code.
- DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

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SPEC.1021.C.0625

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description	Tag	[MANUFAC]
⊟	1	S5	Single	VALS-09L-5QN-UNV-30K8-CXX-SA / 4SQ B3 S11G12.5 S CXX AB 4BC	12.5' POLE MOUNTED ON 2.5' BASE	LSI INDUSTRIES, INC.
▯	4	W	Single	XWS-LED-03L-SIL-FT-UNV-DIM-30-70CRI-CXX	WALL MOUNTED 12' AFG	LSI INDUSTRIES, INC.

GRAPHIC SCALE

(IN FEET)
1 inch = 20 feet

Design: NJL	Draft: TCR	Date: 07/18/2025
Checked: PSL	Scale: AS SHOWN	Project No.: 05241.1
Drawing Name: 05241.1-PLAN.DWG		

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

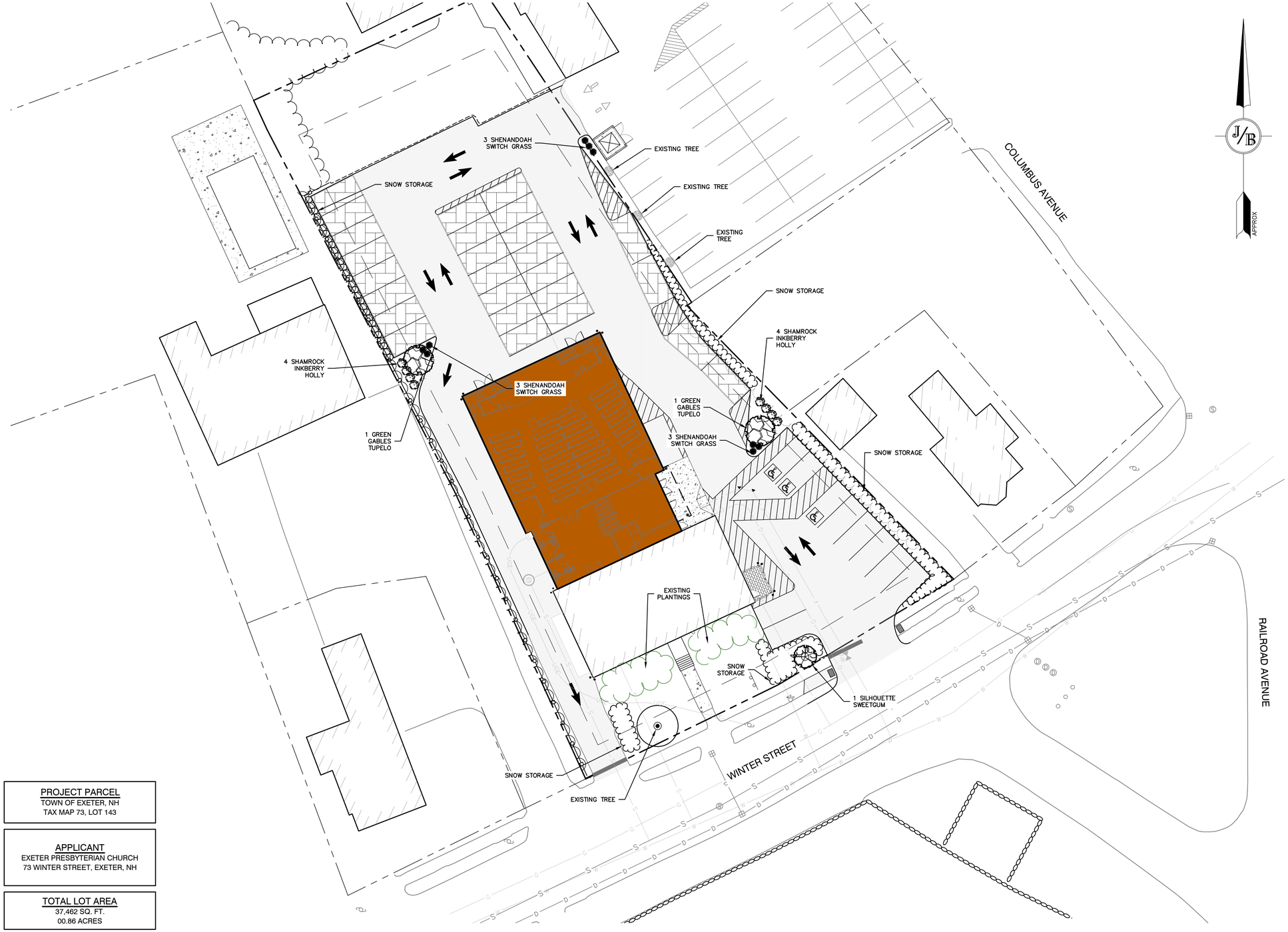
PAIGE S. LIBBEY
No.16670
08/28/2025

REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

JONES&BEACH
ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name:	LIGHTING PLAN
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

DRAWING No.
L1
SHEET NO. 8 OF 15
JBE PROJECT NO. 05241.1



LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
2. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS.
3. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. NO PLANT SHALL BE PUT IN THE GROUND BEFORE GRADING HAS BEEN FINISHED.
5. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24–HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN IF NECESSARY, DURING THE FIRST GROWING SEASON.
6. ALL LANDSCAPE AREAS TO BE GRASS COMMON TO REGION, EXCEPT FOR INTERIOR LANDSCAPED ISLANDS OR WHERE OTHER PLANT MATERIAL IS SPECIFIED.
7. ALL TREES AND SHRUBS SHALL BE PLANTED IN MULCH BEDS WITH EDGE STRIPS TO SEPARATE TURF GRASS AREAS.
8. THE CONTRACTOR SHALL REMOVE WEEDS, ROCKS, CONSTRUCTION ITEMS, ETC. FROM ANY LANDSCAPE AREA SO DESIGNATED TO REMAIN, WHETHER ON OR OFF–SITE. GRASS SEED OR PINE BARK MULCH SHALL BE APPLIED AS DEPICTED ON PLANS.
9. FINISHED GRADES IN LANDSCAPED ISLANDS SHALL BE INSTALLED SO THAT THEY ARE 1" HIGHER THAN THE TOP OF THE SURROUNDING CURB.
10. ALL LANDSCAPING SHALL MEET THE TOWN STANDARDS AND REGULATIONS.
11. ALL LANDSCAPED AREAS SHALL HAVE SELECT MATERIALS REMOVED TO A DEPTH OF AT LEAST 9" BELOW FINISH GRADE. THE RESULTING VOID IS TO BE FILLED WITH A MINIMUM OF 9" HIGH–QUALITY SCREENED LOAM AMENDED WITH 3" OF AGED ORGANIC COMPOST.
12. THIS PLAN IS INTENDED FOR LANDSCAPING PURPOSES ONLY. REFER TO CIVIL/SITE DRAWINGS FOR OTHER SITE CONSTRUCTION INFORMATION.

PLANTING SCHEDULE

TREES AND SHRUBS

QTY	COMMON NAME	BOTANICAL NAME	SIZE
8	SHAMROCK INKBERRY HOLLY	ILEX GLABRA	5 GALLON
1	SILHOUETTE SWEETGUM	LIQUIDAMBAR STYRACIFLUA	3" CALIPER
2	GREEN GABLES TUPELO	NYSSA SYLVATICA	2.5" CALIPER
9	SHENANDOAH SWITCH GRASS	PANICUM VIRGATUM	2 GALLON

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

PROJECT PARCEL
TOWN OF EXETER, NH
TAX MAP 73, LOT 143

APPLICANT
EXETER PRESBYTERIAN CHURCH
73 WINTER STREET, EXETER, NH

TOTAL LOT AREA
37,462 SQ. FT.
00.86 ACRES

Design: NJL	Draft: TCR	Date: 07/18/2025	
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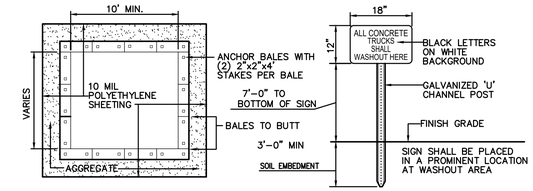
PAIGE S. LIBBEY No.16670 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
08/28/2025

REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

JONES&BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name:	LANDSCAPING PLAN
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

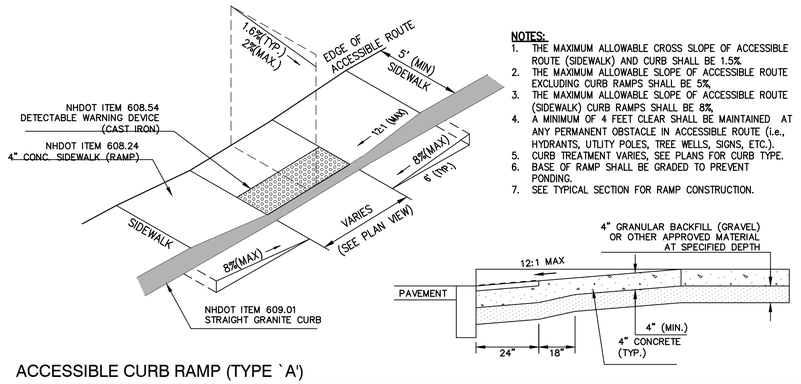
DRAWING No.
L2
SHEET NO. 9 OF 15
JBE PROJECT NO. 05241.1



1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

CONCRETE WASHOUT AREA

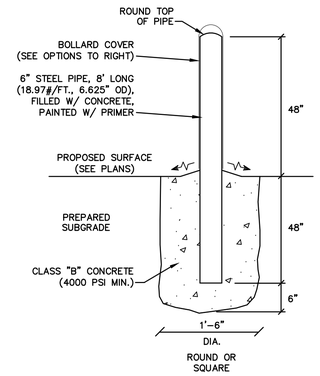
NOT TO SCALE



NOTES:
1. THE MAXIMUM ALLOWABLE CROSS SLOPE OF ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 1.5%.
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE (SIDEWALK) CURB RAMPS SHALL BE 8%.
4. A MINIMUM OF 4 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (i.e., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
6. BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.
7. SEE TYPICAL SECTION FOR RAMP CONSTRUCTION.

ACCESSIBLE CURB RAMP (TYPE `A')

NOT TO SCALE

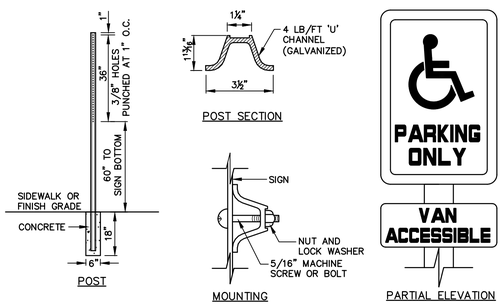


BOLLARD COVERS:

1. UNLESS NOTED OTHERWISE, BOLLARDS SHALL BE PROVIDED WITH 1/4"-THICK THERMOPLASTIC POLYETHELENE COVERS.
2. BOLLARD COVERS TO BE IDEALSHIELD BRAND COVERS, OR APPROVED EQUAL.
3. COVER OPTIONS:
   - 3.1. STANDARD: YELLOW - DOME TOP
   - 3.2. ADA PARKING: BLUE - DOME TOP
   - 3.3. ARCHITECTURAL: BLACK OR URBAN BRONZE - DECORATIVE (W/ REFLECTIVE RINGS)
4. CONTRACTOR SHALL SUBMIT BOLLARD COVER CUT SHEETS FOR APPROVAL PRIOR TO ORDERING.

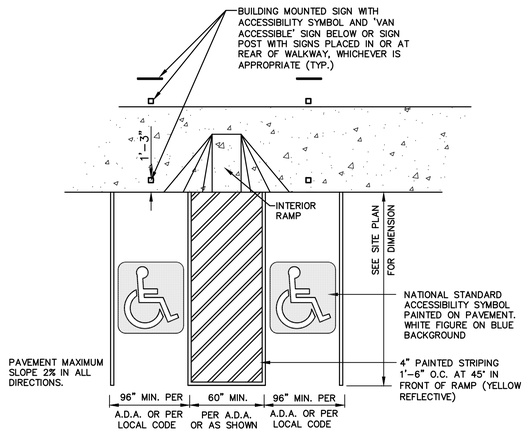
BOLLARD DETAIL

NOT TO SCALE



HANDICAP SIGN DETAILS

NOT TO SCALE



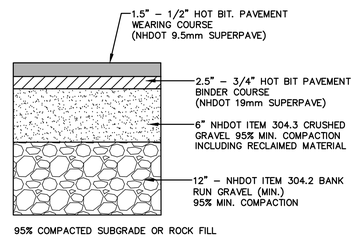
HANDICAP PARKING LAYOUT

NOT TO SCALE

NOTES:
1. ALL STOP BARS TO BE SOLID WHITE REFLECTIVE TRAFFIC PAINT AS PER DIMENSIONS ABOVE.

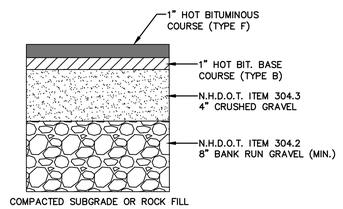
STOP BAR

NOT TO SCALE



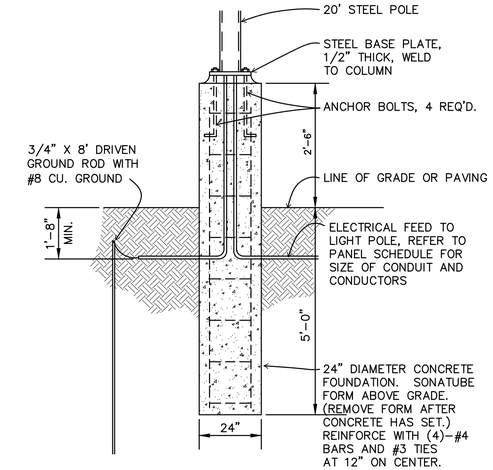
TYPICAL BITUMINOUS PAVEMENT

NOT TO SCALE



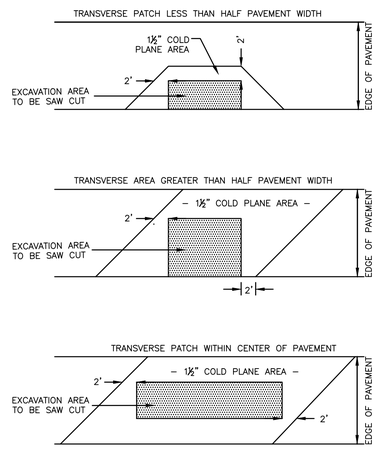
BITUMINOUS SIDEWALK DETAIL

NOT TO SCALE



LIGHT POLE BASE FOUNDATION

NOT TO SCALE



NOTE: WHERE LIMITS OF ADJACENT COLD PLANED AREAS ARE LESS THAN OR EQUAL TO 20', THE AREA BETWEEN SHALL BE COLD PLANED AND RESURFACED

SAWCUT DETAIL

NOT TO SCALE

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Drawing Name: 05241.1-PLAN.DWG		

STATE OF NEW HAMPSHIRE - PAIGE S. LIBBEY No.16670 - LICENSED PROFESSIONAL ENGINEER - 08/28/2025

REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

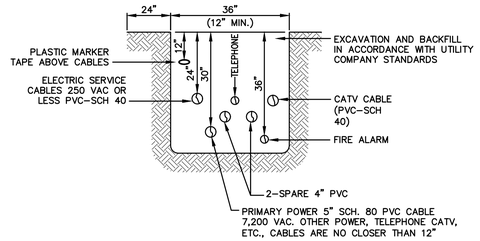
JONES&BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name:	DETAIL SHEET
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

DRAWING No.

D1

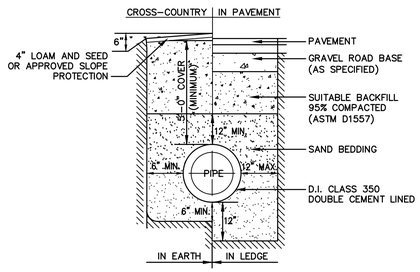
SHEET NO. 10 OF 15
JBE PROJECT NO. 05241.1



NOTE: ALL UTILITIES SHALL BE REVIEWED AND APPROVED BY APPROPRIATE UTILITY COMPANY.

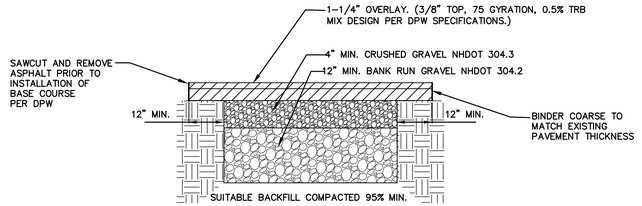
UTILITY TRENCH

NOT TO SCALE



WATER SYSTEM TRENCH

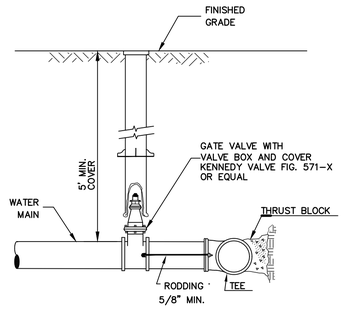
NOT TO SCALE



1. AFTER PROPER BACKFILLING AND COMPACTION, ADJACENT PAVEMENT MUST BE "SAW CUT" (STRAIGHT CUTS) A MINIMUM OF ONE FOOT (1') AROUND THE PERIMETER OF THE EXCAVATION. PAVEMENT MUST BE REMOVED.
2. INSTALL BASE COURSE LEAVING A REVEAL FOR SURFACE COURSE.
3. INSTALL SURFACE COURSE OF ASPHALT PAVING.
4. APPLY EMULSION SEALANT AT PERIMETER OF JOINT OVERLAPPING BASE COURSE. INSTALL WEARING COURSE OF ASPHALT TO GRADE. APPLY LIGHT SAND TO ABSORB EXCESS JOINT SEALANT.
5. GRAVEL COMPACTIONS TO MEET 95% MINIMUM.

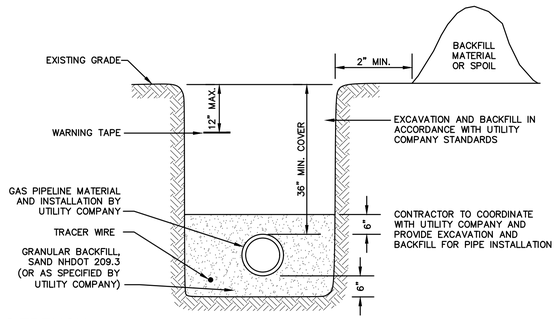
TYPICAL PAVEMENT REPAIR DETAIL

NOT TO SCALE



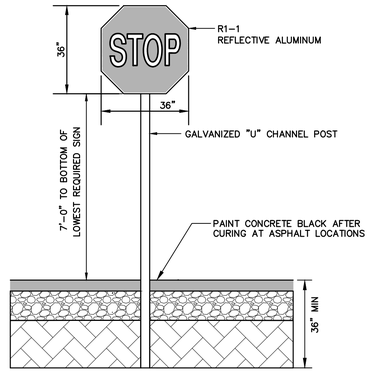
BURIED GATE VALVE DETAIL

NOT TO SCALE



GAS TRENCH

NOT TO SCALE

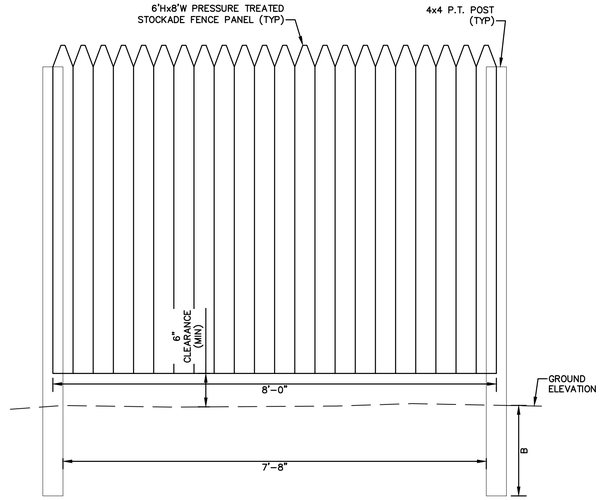


STOP SIGN (R1-1)

NOT TO SCALE

NOTES:

1. ALL SIGNAGE SHALL BE TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS AND NHDOT STANDARDS.
2. SIGN, HARDWARE, AND INSTALLATION TO CONFORM TO 2016 NHDOT STANDARD SPECIFICATION, SECTION 615 – TRAFFIC SIGNS.
3. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS/CATALOG CUTS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ERECTING SIGNS.
4. THE LOCATION OF THE SIGNS SHALL BE AS INDICATED ON THE DRAWINGS AND/OR AS DIRECTED BY THE CITY OF NORTH HAMPTON DEPARTMENT OF PUBLIC WORKS.



FRONT ELEVATION

A		B		C		D	
H(FT)	INCHES	H(FT)	INCHES	H(FT)	INCHES	H(FT)	INCHES
3	60	3	22	3	25	3	36
4	84	4	34	4	37	4	48
5	96	5	34	5	49	5	60
6	108	6	34	6	61	6	72

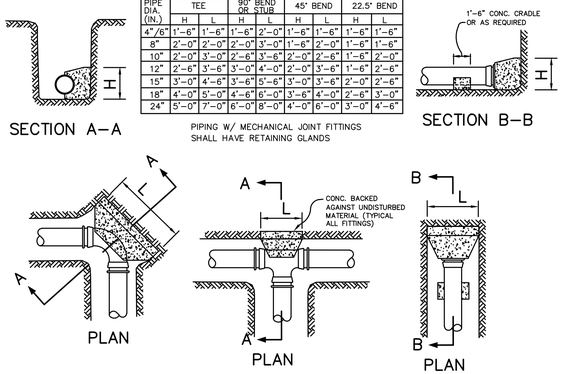
NOTES:

1. CONTRACTOR TO PROVIDE FENCE SPEC TO ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
2. VINYL FENCE SHALL MEET ASTM F964-09 STANDARDS.

6' VINYL STOCKADE FENCE

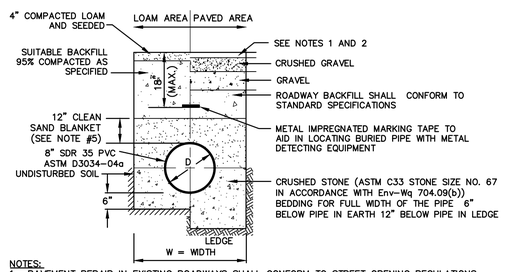
NOT TO SCALE

CONCRETE THRUST BLOCK DIMENSIONS								
PIPE DIA. (IN.)	TEE		90° BEND OR STUB		45° BEND		22.5° BEND	
	H	L	H	L	H	L	H	L
4"/6"	1'-6"	1'-6"	1'-6"	2'-0"	1'-6"	1'-6"	1'-6"	1'-6"
8"	2'-0"	2'-0"	2'-0"	3'-0"	1'-6"	2'-0"	1'-6"	1'-6"
10"	2'-6"	3'-0"	2'-6"	3'-6"	2'-0"	2'-6"	1'-6"	2'-0"
12"	2'-6"	3'-6"	3'-0"	4'-0"	2'-0"	3'-6"	1'-6"	2'-6"
15"	3'-0"	4'-6"	3'-6"	5'-6"	3'-0"	3'-6"	2'-0"	2'-6"
18"	4'-0"	5'-0"	4'-6"	6'-0"	3'-6"	4'-0"	2'-6"	3'-0"
24"	5'-0"	7'-0"	6'-0"	8'-0"	4'-0"	6'-0"	3'-0"	4'-6"



THRUST BLOCK DETAILS

NOT TO SCALE



NOTES:

1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPECIFICATIONS.
3. W= MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12" INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36"; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
4. RIGID FOAM INSULATION TO BE PROVIDED WHERE COVER IN THE ROADWAY IS LESS THAN 6' AND CROSS COUNTRY IS LESS THAN 4', PURSUANT TO DES WAIVER BEING ISSUED.
5. PIPE SAND BLANKET MATERIAL SHALL BE GRADED SAND, FREE FROM ORGANIC MATERIALS, GRADED SUCH THAT 100% PASSES A 1/2 " SIEVE AND A MAXIMUM OF 15% PASSES A #200 SIEVE IN ACCORDANCE WITH Env-Wq 704.09(c).

SEWER TRENCH

NOT TO SCALE

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Drawing Name: 05241.1-PLAN.DWG		

REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

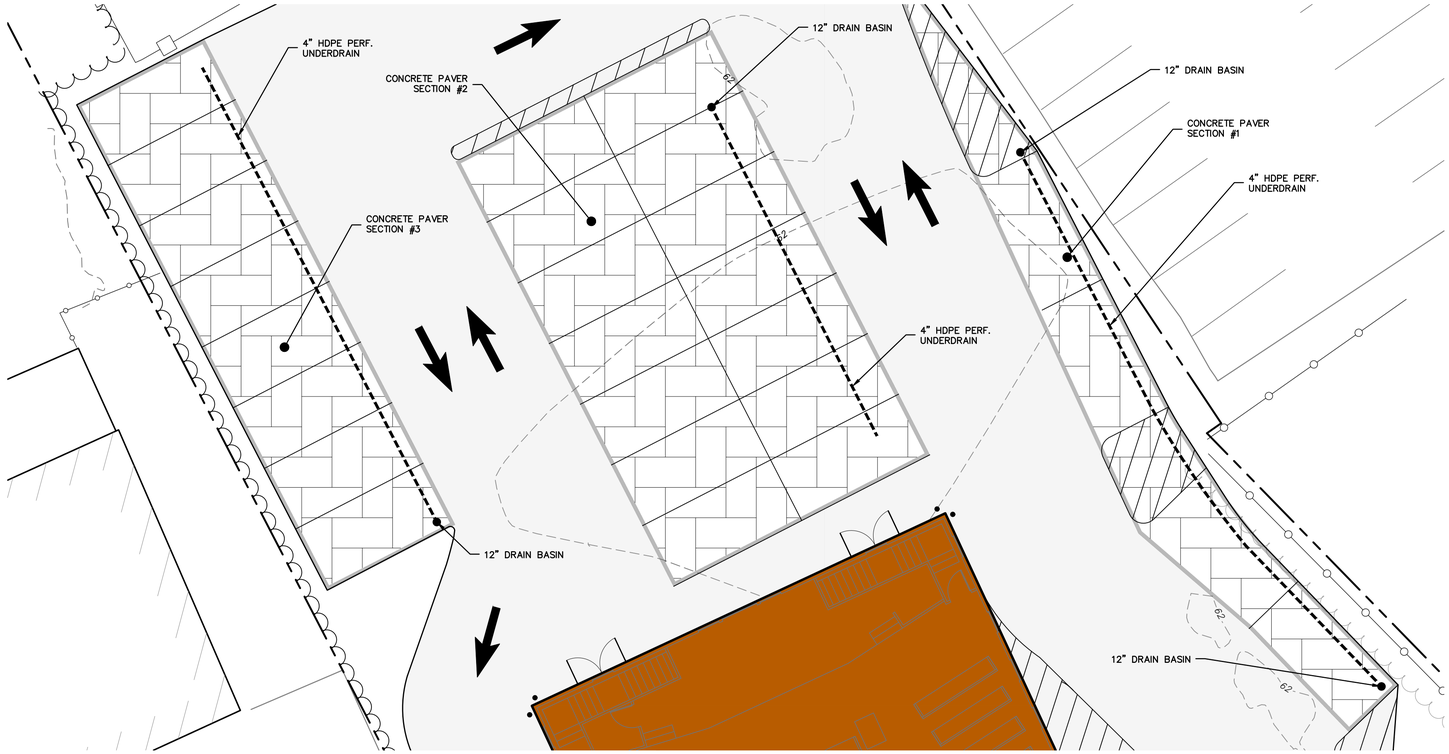
JONES&BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name:	DETAIL SHEET
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

DRAWING No.

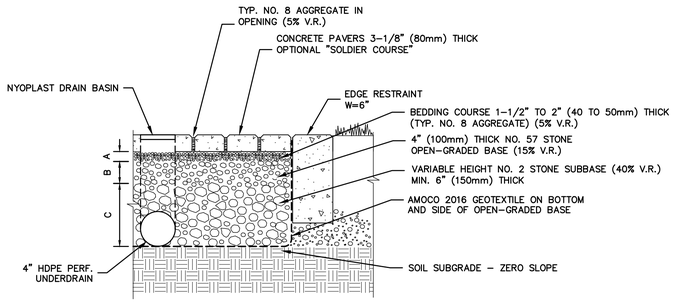
D2

SHEET NO. 11 OF 15
JBE PROJECT NO. 05241.1



CONCRETE PAVER SECTIONS

1" = 10'



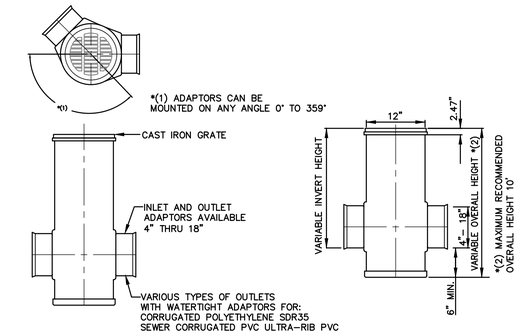
NOTES:

1. 2 3/8" (60 MM) THICK PAVERS MAY BE USED IN PEDESTRIAN APPLICATIONS.
2. NO. 2 STONE SUBBASE THICKNESS VARIES WITH DESIGN. CONSULT ICPI PERMEABLE INTERLOCKING CONCRETE PAVEMENT MANUAL.
3. INSTALLATION TO BE PERFORMED TO MANUFACTURER'S GUIDLINES AND THE PERMEABLE INTERLOCKING CONCRETE PAVEMENT SPECIFICATIONS.
4. DRAIN BASIN TO BE INSTALLED AT LOW POINT OF EACH PAVER SECTION.

		ELEVATION						
		A	B	C (MIN)	C (MAX)	TOTAL DEPTH AT LOW POINT	INFILTRATION AREA	S.H.W.T.
SECTION	1	1.5"	4"	6"	14.6"	11.5"	904 S.F.	60.88
	2	1.5"	4"	16.5"	27.12"	22"	2,294 S.F.	60.58
	3	1.5"	4"	8.9"	19.9"	14.4"	1,276 S.F.	61.79

PERMEABLE CONCRETE PAVER DETAIL

NOT TO SCALE



nyloplast usa inc
3130 Verona Avenue – Buford, Georgia 30518
Tel. (770) 932-2443 – Fax: (770) 932-2490

12" DRAIN BASIN

NOT TO SCALE

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Checked: PSL	Scale: AS SHOWN	Project No.: 05241.1
Drawing Name: 05241.1-PLAN.DWG		

STATE OF NEW HAMPSHIRE – PAIGE S LIBBEY No.16670 – PROFESSIONAL ENGINEER – LICENSED – 08/28/2025

REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

JONES&BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name:	DETAIL SHEET
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

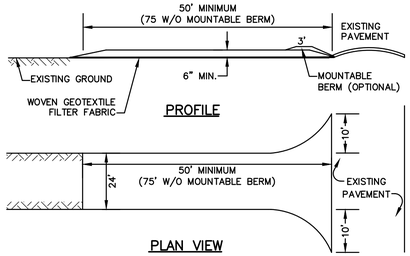
DRAWING No.

D3

SHEET NO. 12 OF 15
JBE PROJECT NO. 05241.1

TEMPORARY EROSION CONTROL NOTES

1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME. AT NO TIME SHALL AN AREA IN EXCESS OF 5 ACRES BE EXPOSED AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED, DIRECTED BY THE ENGINEER.
3. ALL DISTURBED AREAS (INCLUDING POND AREAS BELOW THE PROPOSED WATERLINE) SHALL BE RETURNED TO PROPOSED GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 6" OF SCREENED ORGANIC LOAM AND SEEDED WITH SEED MIXTURE 'C' AT A RATE NOT LESS THAN 1.10 POUNDS OF SEED PER 1,000 S.F. OF AREA (48 LBS. / ACRE).
4. SILT FENCES AND OTHER BARRIERS SHALL BE INSPECTED EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 0.5" OR GREATER. ALL DAMAGED AREAS SHALL BE REPAIRED, AND SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
5. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
6. AREAS MUST BE SEEDED AND MULCHED OR OTHERWISE PERMANENTLY STABILIZED WITHIN 3 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 14 DAYS OF THE INITIAL DISTURBANCE OF SOIL. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
7. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING NORTH AMERICAN GREEN S75 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER) ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
8. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
9. AFTER OCTOBER 15th, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3" OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.
10. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
    a. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
    b. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
    c. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED; OR
    d. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

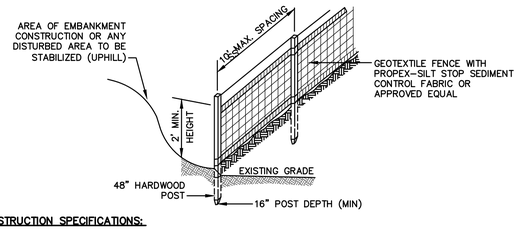


NOTES:

1. STONE FOR 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, 75' WITHOUT A MOUNTABLE BERM, AND EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. 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, WHICHEVER IS GREATER.
5. GEOTEXTILE FILTER FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER FABRIC IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENTIAL 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 STONE 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 THE PUBLIC RIGHT-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 THE PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

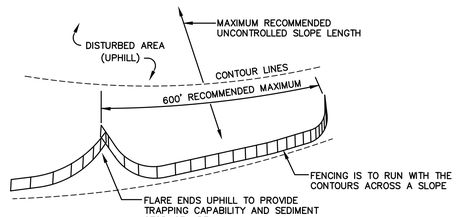
STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS:

1. WOVEN FABRIC FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP, MID AND BOTTOM AND EMBEDDED IN THE GROUND A MINIMUM OF 8" AND THEN COVERED WITH SOIL.
2. THE FENCE POSTS SHALL BE A MINIMUM OF 48" LONG, SPACED A MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED 6", FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED AND PROPERLY DISPOSED OF WHEN IT IS 6" DEEP OR VISIBLE 'BULGES' DEVELOP IN THE SILT FENCE.
5. PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
6. SILT FENCE SHALL REMAIN IN PLACE FOR 24 MONTHS.



7. SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND REVEGETATED.

MAINTENANCE:

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE DONE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED, OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED, SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

SEEDING SPECIFICATIONS

1. GRADING AND SHAPING
   A. SLOPES SHALL NOT BE STEEPER THAN 2:1 WITHOUT APPROPRIATE EROSION CONTROL MEASURES AS SPECIFIED ON THE PLANS (3:1 SLOPES OR FLATTER ARE PREFERRED).
   B. 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 FERTILIZER AND LIME MIXED INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A 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. TYPES AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
      AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS. PER 1,000 SQ.FT.
      NITROGEN(N), 50 LBS. PER ACRE OR 1.1 LBS. PER 1,000 SQ.FT.
      PHOSPHATE(P2O5), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
      POTASH(K2O), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
      (NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10.)
   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. REFER TO THE 'SEEDING GUIDE' AND 'SEEDING RATES' TABLES ON THIS SHEET FOR APPROPRIATE SEED MIXTURES AND RATES OF SEEDING. ALL LEGUMES (CROWNVETCH, BIRDSFOOT, TREFOIL AND FLATPEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT PRIOR TO THEIR INTRODUCTION TO THE SITE.
   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 20th OR FROM AUGUST 10th TO SEPTEMBER 1st.
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 S.F.
5. MAINTENANCE TO ESTABLISH A STAND
   A. PLANTED AREAS 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 PERENNIALS TAKE 2 TO 3 YEARS TO BECOME FULLY ESTABLISHED.
   C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, ANNUAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	E	FAIR	EXCELLENT	EXCELLENT	2/
	F	FAIR	EXCELLENT	EXCELLENT	2/

GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.

1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE BELOW.
2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.

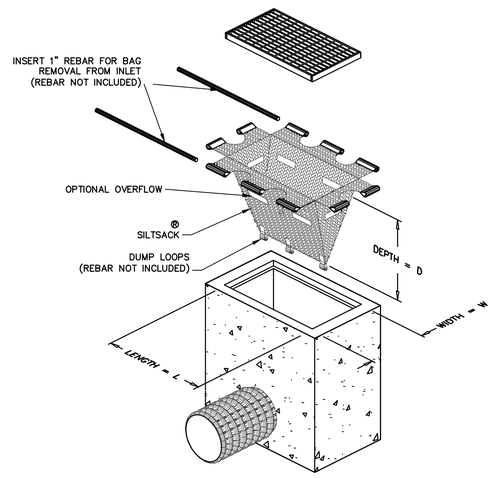
NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCTOBER 15th, IF PERMANENT SEEDING NOT YET COMPLETE.

SEEDING GUIDE

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR		
FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDS FOOT TREFOIL	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREEPING RED FESCUE 1/	50	1.15
KENTUCKY BLUEGRASS 1/	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

SEEDING RATES



NOTES:

1. TO INSTALL SILTSACK IN THE CATCH BASIN, REMOVE THE GRATE AND PLACE THE SACK IN THE OPENING. HOLD APPROXIMATELY SIX INCHES OF THE SACK OUTSIDE THE FRAME. THIS IS THE AREA OF THE LIFTING STRAPS. REPLACE THE GRATE TO HOLD THE SACK IN PLACE.
2. THE SILTSACK IS FULL AND SHOULD BE EMPTIED WHEN THE RESTRAINT CORD IS NO LONGER VISIBLE.
3. TO REMOVE SILTSACK, TAKE TWO PIECES OF 1" DIAMETER REBAR AND PLACE THROUGH THE LIFTING LOOPS ON EACH SIDE OF THE SACK TO FACILITATE THE LIFTING OF SILTSACK.
4. TO EMPTY SILTSACK, PLACE UNIT WHERE THE CONTENTS WILL BE COLLECTED. PLACE THE REBAR THROUGH THE LIFT STRAPS (CONNECTED TO THE BOTTOM OF THE SACK) AND LIFT. THIS WILL TURN THE SILTSACK INSIDE OUT AND EMPTY THE CONTENTS. CLEAN OUT AND RINSE. RETURN SILTSACK TO ITS ORIGINAL SHAPE AND PLACE BACK IN THE BASIN.
5. SILTSACK IS REUSABLE. ONCE THE CONSTRUCTION CYCLE IS COMPLETE, REMOVE SILTSACK FROM THE BASIN AND CLEAN. SILTSACK SHOULD BE STORED OUT OF THE SUNLIGHT UNTIL NEEDED ON ANOTHER PROJECT.

SILTSACK INLET SEDIMENT CONTROL DEVICE TYPE B - WITHOUT CURB DEFLECTOR

NOT TO SCALE

CONSTRUCTION SEQUENCE

1. CUT AND REMOVE TREES IN CONSTRUCTION AREA AS REQUIRED OR DIRECTED.
2. INSTALL SILT FENCING, SILTSACK, AND CONSTRUCTION ENTRANCE PRIOR TO THE START OF CONSTRUCTION. THESE ARE TO BE MAINTAINED UNTIL THE FINAL PAVEMENT SURFACING AND LANDSCAPING AREAS ARE ESTABLISHED.
3. CLEAR, CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES.
4. STRIP LOAM AND PAVEMENT OR RECLAIM EXISTING PAVEMENT WITHIN LIMITS OF WORK PER THE RECOMMENDATIONS OF THE PROJECT ENGINEER.
5. PERFORM PRELIMINARY SITE GRADING IN ACCORDANCE WITH THE PLANS.
6. PREPARE BUILDING PAD(S) TO ENABLE BUILDING CONSTRUCTION TO BEGIN.
7. INSTALL THE DRAINAGE SYSTEM FIRST, THEN ANY OTHER UTILITIES IN ACCORDANCE WITH THE PLAN AND DETAILS. ANY CONFLICTS BETWEEN UTILITIES ARE TO BE RESOLVED WITH THE INVOLVEMENT AND APPROVAL OF THE ENGINEER.
8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE DITCHES, CHECK DAMS, SEDIMENT TRAPS, ETC., TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ABUTTING WATERS AND/OR PROPERTY.
9. PERFORM FINAL FINE GRADING, INCLUDING PLACEMENT OF 'SELECT' SUBGRADE MATERIALS.
10. PAVE PARKING LOT AND DRIVEWAY WITH INITIAL 'BASE COURSE'.
11. PERFORM ALL REMAINING SITE CONSTRUCTION (i.e. BUILDING, UTILITY CONNECTIONS, ETC.).
12. LOAM AND SEED ALL DISTURBED AREAS.
13. FINISH PAVING PARKING AREAS AND DRIVEWAY WITH 'FINISH' COURSE.
14. DRIVEWAY AND PARKING LOT SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
15. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
16. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
17. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE BEEN 75%-85% ESTABLISHED AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND RE-VEGETATE ALL DISTURBED AREAS.
18. CLEAN SITE OF ALL SILT AND DEBRIS.
19. INSTALL ALL PAINTED PAVEMENT MARKINGS AND SIGNAGE PER THE PLANS AND DETAILS.
20. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.
21. UPON COMPLETION OF CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ANY RELEVANT PERMITTING AGENCIES THAT THE CONSTRUCTION HAS BEEN FINISHED IN A SATISFACTORY MANNER.

Design: NJL	Draft: TCR	Date: 07/18/2025	
Checked: PSL	Scale: AS SHOWN	Project No.: 05241.1	
Drawing Name: 05241.1-PLAN.DWG			

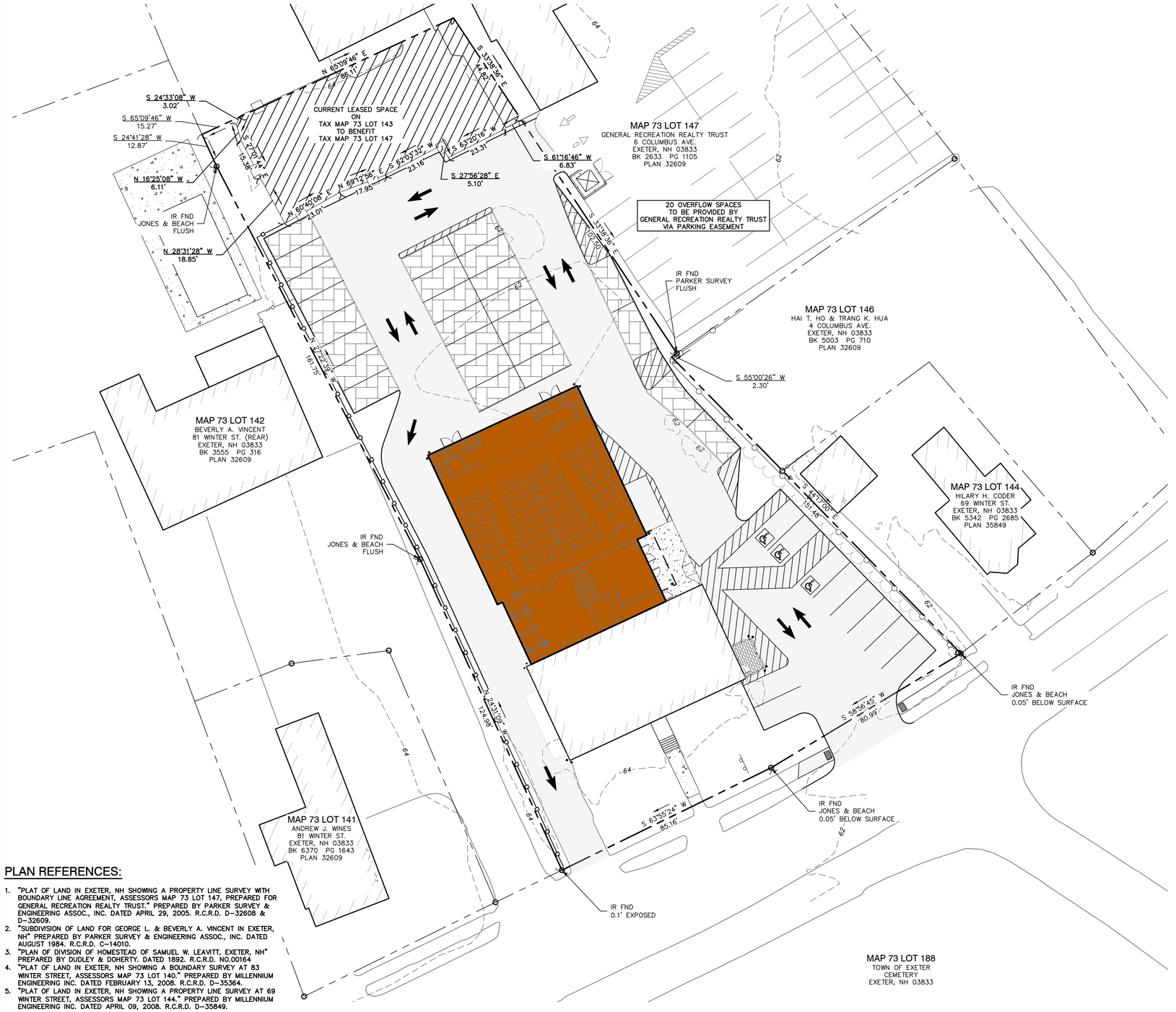
PAIGE S LIBBEY No.16670 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 08/28/2025

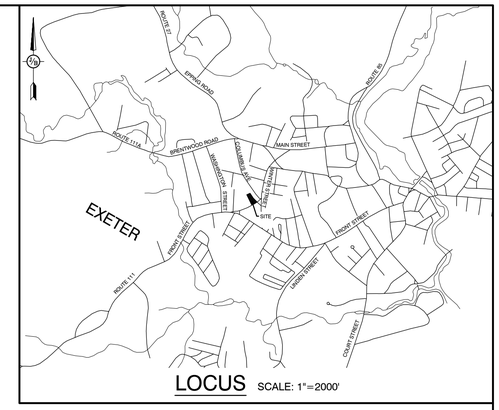
REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

JONES&BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name:	EROSION & SEDIMENT CONTROL
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

DRAWING No.
E1
SHEET NO. 13 OF 15
JBE PROJECT NO. 05241.1





EASEMENT NOTES:

1. THE INTENT OF THIS PLAN IS TO SHOW AN EASEMENT ON EXETER TAX MAP 73 LOT 147 TO BENEFIT TAX MAP 73 LOT 143.

PLAN REFERENCES:

1. "PLAT OF LAND IN EXETER, NH SHOWING A PROPERTY LINE SURVEY WITH BOUNDARY LINE AGREEMENT, ASSESSORS MAP 73 LOT 147, PREPARED FOR GENERAL RECREATION REALTY TRUST." PREPARED BY PARKER SURVEY & ENGINEERING ASSOC., INC. DATED APRIL 29, 2005. R.C.R.D. D-32608 & D-32609.
2. "SUBDIVISION OF LAND FOR GEORGE L. & BEVERLY A. VINCENT IN EXETER, NH" PREPARED BY PARKER SURVEY & ENGINEERING ASSOC., INC. DATED AUGUST 1984. R.C.R.D. C-14010.
3. "PLAN OF DIVISION OF HOMESTEAD OF SAMUEL W. LEAVITT, EXETER, NH" PREPARED BY DUDLEY & DOHERTY. DATED 1892. R.C.R.D. NO.00164
4. "PLAT OF LAND IN EXETER, NH SHOWING A BOUNDARY SURVEY AT 83 WINTER STREET, ASSESSORS MAP 73 LOT 140." PREPARED BY MILLENNIUM ENGINEERING INC. DATED FEBRUARY 13, 2008. R.C.R.D. D-35364.
5. "PLAT OF LAND IN EXETER, NH SHOWING A PROPERTY LINE SURVEY AT 69 WINTER STREET, ASSESSORS MAP 73 LOT 144." PREPARED BY MILLENNIUM ENGINEERING INC. DATED APRIL 09, 2008. R.C.R.D. D-35849.

CERTIFICATION:

PURSUANT TO RSA 676:18-III AND RSA 672:14

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

I CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN UNADJUSTED LINEAR ERROR OF CLOSURE THAT EXCEED BOTH THE MINIMUM OF 1:10,000 AS DEFINED IN SECTION 503.04 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES AND THE MINIMUM OF 1:15,000 AS DEFINED IN SECTION 4.2 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

THIS SURVEY CONFORMS TO A CATEGORY 1 CONDITION 1 SURVEY AS DEFINED IN SECTION 4.1 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

STATE OF NEW HAMPSHIRE · No. 1030 · MATTHEW J. SALVUCCI · LICENSED LAND SURVEYOR · SIGNATURE

MATTHEW J. SALVUCCI, LLS 1030 DATE:
ON BEHALF OF JONES & BEACH ENGINEERS, INC.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

Design: NJL	Draft: TCR	Date: 07/18/2025
Checked: PSL	Scale: AS SHOWN	Project No.: 05241.1
Drawing Name: 05241.1-PLAN.DWG		

STATE OF NEW HAMPSHIRE · PAIGE S. LIBBEY No.16670 · LICENSED PROFESSIONAL ENGINEER · 08/28/2025

REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

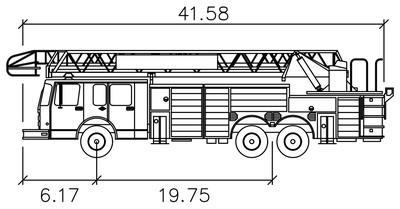
JONES & BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name:	EASEMENT PLAN
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

DRAWING No.

A1

SHEET NO. 14 OF 15
JBE PROJECT NO. 05241.1



EXETER FIRE TRUCK

	FEET
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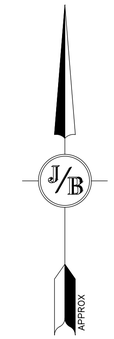
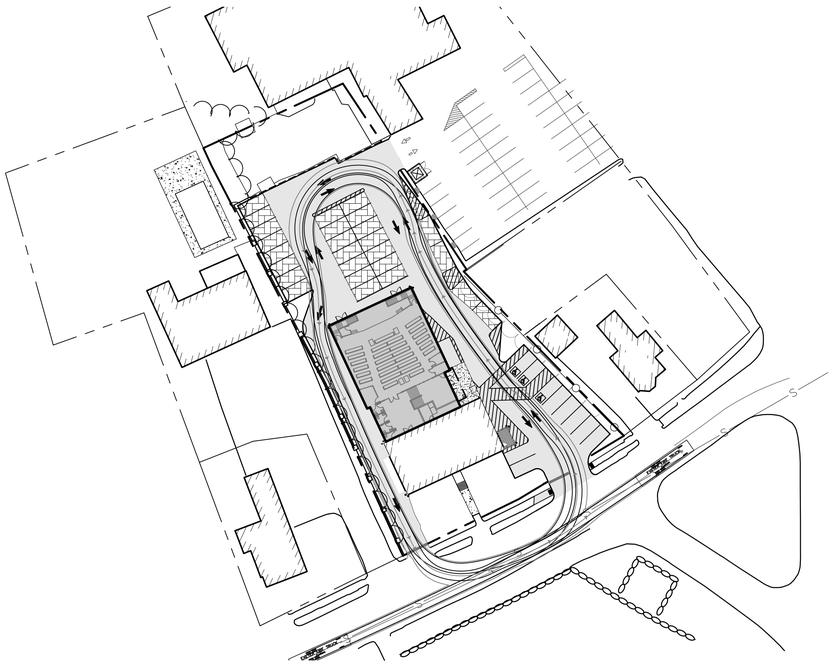
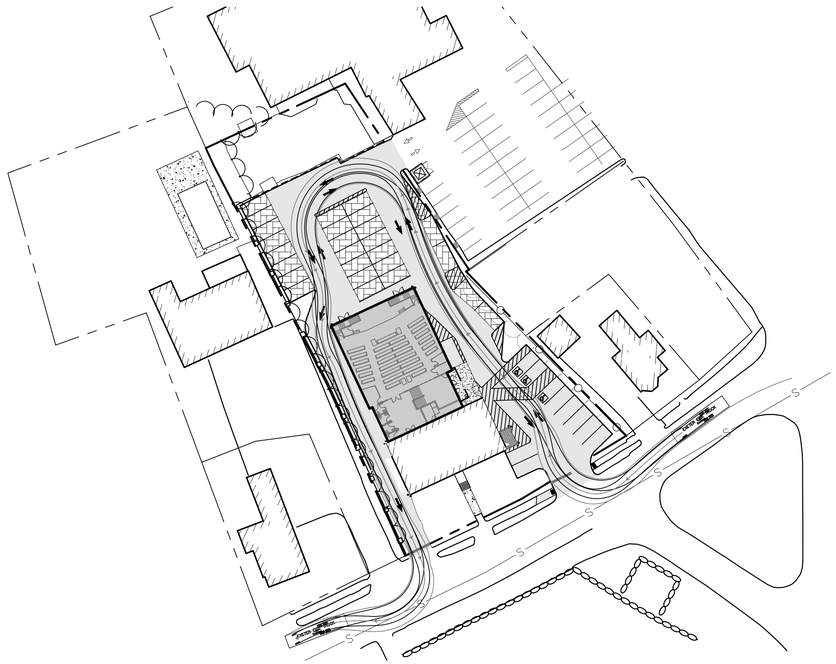
Track	: 6.91
Lock to Lock Time	: 6.0
Steering Angle	: 33.9







GRAPHIC SCALE

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(IN FEET)
1 inch = 50 feet

Design: NJL	Draft: TCR	Date: 07/18/2025
Checked: PSL	Scale: AS SHOWN	Project No.: 05241.1
Drawing Name: 05241.1-PLAN.DWG		

STATE OF NEW HAMPSHIRE
PAIGE S LIBBEY
No.16670
LICENSED PROFESSIONAL ENGINEER
08/28/2025

REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/15/25	ISSUED FOR REVIEW	NJL

JONES&BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

Plan Name:	TRUCK TURNING PLAN
Project:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

DRAWING No.

T1

SHEET NO. 15 OF 15
JBE PROJECT NO. 05241.1

JONES&BEACH
ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

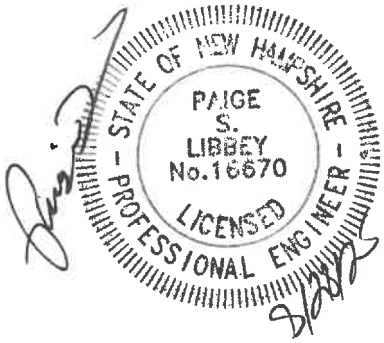
DRAINAGE ANALYSIS

SEDIMENT AND EROSION CONTROL PLAN

Exeter Presbyterian Church
73 Winter Street
Exeter, NH

Prepared for:

Exeter Presbyterian Church
73 Winter Street
Exeter, NH



July 15, 2025
JBE Project No. 05241.1
Rev. #1 – 08/28/2025

1. EXECUTIVE SUMMARY

Our client, Exeter Presbyterian Church, proposes to redevelop their property to include a 5,400 S.F. building addition with associated parking and driveway on a ±0.86-acre parcel of land located on the north side of Winter Street in Exeter, NH. A drainage analysis of the entire site and its offsite contributing watershed areas was conducted for the purpose of estimating the peak rate of stormwater runoff 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. A summary of the existing and proposed conditions peak rates of runoff is as follows:

COMPONENT	PEAK DISCHARGE COMPARISON (C.F.S.)							
	2 Year		10 Year		25 Year		50 Year	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Analysis Point #1	0.26	0.23	0.58	0.56	0.80	0.78	0.96	0.95
Analysis Point #2	0.67	0.01	1.68	0.03	2.37	0.04	2.89	0.05

COMPONENT	PEAK VOLUME COMPARISON (C.F.)							
	2 Year		10 Year		25 Year		50 Year	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Analysis Point #1	0.019	0.017	0.042	0.041	0.058	0.057	0.070	0.069
Analysis Point #2	0.044	0.001	0.115	0.002	0.165	0.003	0.202	0.004

The drainage design intent for this site is to maintain or decrease the post-development peak flow compared to the pre-development peak flow conditions to the extent practicable and to effectively treat stormwater from the development of this site. This has been accomplished through the use of three porous paver sections to maintain the peak discharge and effectively treat and infiltrate stormwater from the developed site.

Section 9.3.2: Stormwater Management for Redevelopment within the Site Plan Review and Subdivision Regulations for the Town of Exeter New Hampshire lists the stormwater regulations of redeveloped sites. Item 4 of this section states as follows:

For sites meeting the definition of a redevelopment project and having more than 60% existing impervious surface area, stormwater shall be managed for water quality in accordance with one or more of the following techniques, listed in order of preference:

A) Implement measures onsite that result in disconnection or treatment of 100% of the additional proposed impervious surface area and at least 30% of the existing impervious area and pavement areas, preferably using filtration and/or infiltration practices.
B) If resulting in greater overall water quality improvement on the site, implement LID practices to the maximum extent practicable to provide treatment of runoff generated from at least 60% of the entire developed site area.

Since this site in the existing condition is over 60% impervious, this project qualifies to meet this requirement. The pre-construction site contains 23,767 S.F. of impervious area, and the proposed development will result in the addition of 3,413 S.F. of impervious surfaces. The required amount of impervious surface area to be captured and treated is thus equal to 10,543 S.F.. The proposed

stormwater management practices have been designed to capture and treat 18,357 S.F. of impervious surface area, almost doubling the required amount.

The proposed stormwater management practices have also been designed to treat the entirety of the calculated water quality volume while achieving at least 80% removal of Total Suspended Solids (TSS) and at least 60% of both Total Nitrogen and Total Phosphorus. Additionally, Groundwater Recharge requirements are met through the use of three infiltrating porous paver systems and can be found in the appendix of this report.

Channel Protection Requirements are met due to the fact that the 2-Year 24-Hour post-development peak flow rate generated from the proposed disturbance is less than the 2-Year 24-Hour pre-development peak flow rate and the 2-Year 24-Hour post-development peak volume has not increased over the 2-Year 24-Hour pre-development volume. Additionally, the 2-Year 24-Hour post-development peak flow rate is less than 2 C.F.S..

Peak Runoff Control Requirements are met due to the fact that throughout all modeled storm events (2-, 10-, 25-, and 50-Year 24-Hour), the peak flow rate has not increased in the post-development condition compared to the pre-development condition.

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2. Drainage Analysis
   - 2.1. Rainfall Characteristics
   - 2.2. Existing Conditions Analysis
   - 2.3. Proposed Conditions Analysis
   - 2.4. Conclusion
   - 2.5. Existing Conditions Analysis - Appendix I
     - 2.5.1. 2 Year - 24 Hour Summary
     - 2.5.2. 10 Year - 24 Hour Complete
     - 2.5.3. 25 Year - 24 Hour Summary
     - 2.5.4. 50 Year - 24 Hour Complete
   - 2.6. Proposed Conditions Analysis - Appendix II
     - 2.6.1. 2 Year - 24 Hour Summary
     - 2.6.2. 10 Year - 24 Hour Complete
     - 2.6.3. 25 Year - 24 Hour Summary
     - 2.6.4. 50 Year - 24 Hour Complete
3. Precipitation Data
4. Web Soil Survey
5. EPA Performance Curves for Soil Infiltration Rate: Infiltration Trench
6. BMP Worksheets
7. Groundwater Recharge Volume Calculation
8. Test Pit Log
9. Infiltration Testing Data & Results
10. Stormwater Operations & Maintenance Manual
11. Plans
    - 11.1. Existing Conditions Watershed Plan - W1
    - 11.2. Proposed Conditions Watershed Plan - W2

2. DRAINAGE ANALYSIS

2.1 METHODOLOGY

This drainage report includes an existing conditions analysis of the area involved in the proposed development, as well as a proposed condition, or post-construction analysis, of the same location. These analyses were accomplished using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. The curve numbers were developed using the SCS TR-55 Runoff Curve numbers for Urban Areas. A Type III SCS 24-hour rainfall distribution was utilized in analyzing the data for the 2 Year – 24 Hour (3.31"), 10 Year – 24 Hour (5.27"), 25 Year – 24 Hour (6.50"), and 50 Year – 24 Hour (7.40") storm events.

2.2 EXISTING CONDITIONS ANALYSIS

The study area consists entirely of the subject property, containing ±0.756 acres. The existing site is currently developed and is an operating church. There are stormwater management practices located onsite currently. The existing site is extremely flat and contains a subtle high point, dividing the area into two (2) subcatchments that flow towards two (2) separate analysis points described below.

The entirety of the soil on this site is Urban Land – Hoosic Complex, described as Hydrologic Soil Group (HSG) "A". Infiltration testing was performed in the areas of each of the three porous paver systems. The Ksat value resultant of the infiltration testing and utilized in the stormwater model utilizes a factor of safety of two in order to obtain a conservative model when studying the impacts of the development. Infiltration testing data and results can be found in the appendix of this report.

Analysis Point #1 (AP1) represents Winter Street, where existing stormwater infrastructure is in place to capture and convey runoff.

Analysis Point #2 (AP2) represents the parking lot of the abutting parcel.

Subcatchment 100 represents the area of land that flows directly to Winter Street (AP1)

Subcatchment 200 represents the area of land that flows to a low point (Pond P10), before reaching Analysis Point #2.

2.3 PROPOSED CONDITIONS ANALYSIS

The proposed site includes the construction of a new 5,400 S.F. building with associated parking and driveway.

Subcatchment 200 represents the area of land that flows directly to Analysis Point #1, similarly to Subcatchment 100 in the pre-construction model.

Subcatchment 201 represents the area of land that flows to one of the porous paver sections (Pond P20).

Subcatchment 202 represents the area of land that flows to another porous paver section (Pond P21).

Subcatchment 203 represents the area of land that flows to the final porous paver section (Pond P22).

Subcatchment 204 represents the small area of land that flows directly to Analysis Point #2, similarly to Subcatchment 101 in the pre-construction model.

2.4 CONCLUSION

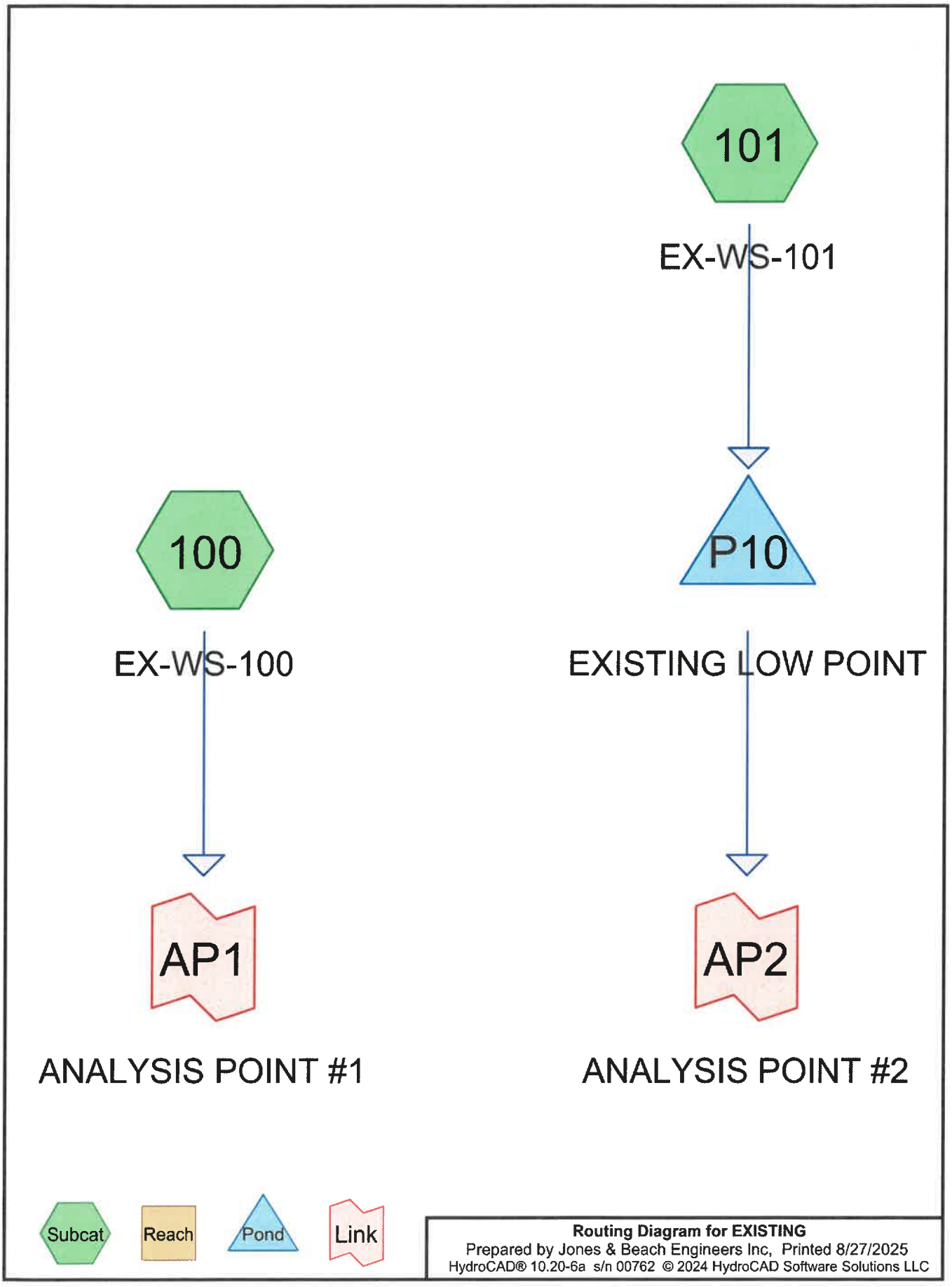
This proposed site development will have minimal effect on abutting infrastructures or properties by way of stormwater runoff or siltation. Peak runoff and volume from the proposed site has been decreased compared to the existing conditions to the extent practicable. Required treatment levels have been obtained through the use of three porous paver systems.

Respectfully Submitted,
JONES & BEACH ENGINEERS, INC.

Nicholas Lorenz
Project Engineer

2.5 EXISTING CONDITIONS ANALYSIS

2 Year - 24 Hour Summary
10 Year - 24 Hour Complete
25 Year - 24 Hour Summary
50 Year - 24 Hour Complete



Routing Diagram for EXISTING
Prepared by Jones & Beach Engineers Inc, Printed 8/27/2025

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.297	39	>75% Grass cover, Good, HSG A (100, 101)
0.110	98	Gravel, HSG A (101)
0.275	98	Pavement, HSG A (100, 101)
0.067	98	Roof, HSG A (100, 101)
0.001	98	Shed, HSG A (101)
0.002	98	Stairway, HSG A (101)
0.004	98	Stairway/Walkway, HSG A (100)
0.756	**75**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.756	HSG A	100, 101
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.756		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment100: EX-WS-100 Runoff Area=7,774 sf 63.79% Impervious Runoff Depth>1.29"
Tc=6.0 min CN=77 Runoff=0.26 cfs 0.019 af

Subcatchment101: EX-WS-101 Runoff Area=25,177 sf 59.75% Impervious Runoff Depth>1.11"
Tc=6.0 min CN=74 Runoff=0.71 cfs 0.053 af

Pond P10: EXISTING LOW POINT Peak Elev=62.03' Storage=464 cf Inflow=0.71 cfs 0.053 af
Outflow=0.67 cfs 0.044 af

Link AP1: ANALYSIS POINT #1 Inflow=0.26 cfs 0.019 af
Primary=0.26 cfs 0.019 af

Link AP2: ANALYSIS POINT #2 Inflow=0.67 cfs 0.044 af
Primary=0.67 cfs 0.044 af

Total Runoff Area = 0.756 ac Runoff Volume = 0.073 af Average Runoff Depth = 1.15"
39.30% Pervious = 0.297 ac 60.70% Impervious = 0.459 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment100: EX-WS-100 Runoff Area=7,774 sf 63.79% Impervious Runoff Depth>2.85"
Tc=6.0 min CN=77 Runoff=0.58 cfs 0.042 af

Subcatchment101: EX-WS-101 Runoff Area=25,177 sf 59.75% Impervious Runoff Depth>2.58"
Tc=6.0 min CN=74 Runoff=1.71 cfs 0.124 af

Pond P10: EXISTING LOW POINT Peak Elev=62.05' Storage=529 cf Inflow=1.71 cfs 0.124 af
Outflow=1.68 cfs 0.115 af

Link AP1: ANALYSISPOINT #1 Inflow=0.58 cfs 0.042 af
Primary=0.58 cfs 0.042 af

Link AP2: ANALYSISPOINT #2 Inflow=1.68 cfs 0.115 af
Primary=1.68 cfs 0.115 af

Total Runoff Area = 0.756 ac Runoff Volume = 0.167 af Average Runoff Depth = 2.64"
39.30% Pervious = 0.297 ac 60.70% Impervious = 0.459 ac

Summary for Subcatchment 100: EX-WS-100

Runoff = 0.58 cfs @ 12.09 hrs, Volume= 0.042 af, Depth> 2.85"
Routed to Link AP1 : ANALYSIS POINT #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YEAR Rainfall=5.27"

	Area (sf)	CN	Description
*	1,526	98	Roof, HSG A
*	3,246	98	Pavement, HSG A
*	187	98	Stairway/Walkway, HSG A
	2,815	39	>75% Grass cover, Good, HSG A
	7,774	77	Weighted Average
	2,815		36.21% Pervious Area
	4,959		63.79% Impervious Area

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

Summary for Subcatchment 101: EX-WS-101

Runoff = 1.71 cfs @ 12.09 hrs, Volume= 0.124 af, Depth> 2.58"
Routed to Pond P10 : EXISTING LOW POINT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YEAR Rainfall=5.27"

	Area (sf)	CN	Description
*	1,393	98	Roof, HSG A
*	89	98	Stairway, HSG A
*	40	98	Shed, HSG A
	10,134	39	>75% Grass cover, Good, HSG A
*	4,778	98	Gravel, HSG A
*	8,743	98	Pavement, HSG A
	25,177	74	Weighted Average
	10,134		40.25% Pervious Area
	15,043		59.75% Impervious Area

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

Summary for Pond P10: EXISTING LOW POINT

Inflow Area = 0.578 ac, 59.75% Impervious, Inflow Depth > 2.58" for 10-YEAR event
Inflow = 1.71 cfs @ 12.09 hrs, Volume= 0.124 af
Outflow = 1.68 cfs @ 12.11 hrs, Volume= 0.115 af, Atten= 2%, Lag= 1.0 min
Primary = 1.68 cfs @ 12.11 hrs, Volume= 0.115 af
Routed to Link AP2 : ANALYSIS POINT #2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 62.05' @ 12.11 hrs Surf.Area= 2,829 sf Storage= 529 cf

Plug-Flow detention time= 52.7 min calculated for 0.115 af (93% of inflow)
Center-of-Mass det. time= 15.8 min (850.1 - 834.3)

Volume	Invert	Avail.Storage	Storage Description
#1	61.84'	3,216 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
61.84	2,029	234.0	0	0	2,029
62.00	2,829	262.0	387	387	3,135
63.00	2,829	262.0	2,829	3,216	3,397

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	**60.6' long x 9.7' 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) 2.48 2.56 2.70 2.69 2.68 2.69 2.67 2.64 2.64 2.64 2.64 2.64 2.64 2.64 2.65

Primary OutFlow Max=1.64 cfs @ 12.11 hrs HW=62.05' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 1.64 cfs @ 0.55 fps)

Summary for Link AP1: ANALYSIS POINT #1

Inflow Area = 0.178 ac, 63.79% Impervious, Inflow Depth > 2.85" for 10-YEAR event
Inflow = 0.58 cfs @ 12.09 hrs, Volume= 0.042 af
Primary = 0.58 cfs @ 12.09 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link AP2: ANALYSIS POINT #2

Inflow Area = 0.578 ac, 59.75% Impervious, Inflow Depth > 2.39" for 10-YEAR event
Inflow = 1.68 cfs @ 12.11 hrs, Volume= 0.115 af
Primary = 1.68 cfs @ 12.11 hrs, Volume= 0.115 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment100: EX-WS-100 Runoff Area=7,774 sf 63.79% Impervious Runoff Depth>3.92"
Tc=6.0 min CN=77 Runoff=0.80 cfs 0.058 af

Subcatchment101: EX-WS-101 Runoff Area=25,177 sf 59.75% Impervious Runoff Depth>3.61"
Tc=6.0 min CN=74 Runoff=2.40 cfs 0.174 af

Pond P10: EXISTING LOW POINT Peak Elev=62.06' Storage=565 cf Inflow=2.40 cfs 0.174 af
Outflow=2.37 cfs 0.165 af

Link AP1: ANALYSISPOINT #1 Inflow=0.80 cfs 0.058 af
Primary=0.80 cfs 0.058 af

Link AP2: ANALYSISPOINT #2 Inflow=2.37 cfs 0.165 af
Primary=2.37 cfs 0.165 af

Total Runoff Area = 0.756 ac Runoff Volume = 0.232 af Average Runoff Depth = 3.68"
39.30% Pervious = 0.297 ac 60.70% Impervious = 0.459 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment100: EX-WS-100 Runoff Area=7,774 sf 63.79% Impervious Runoff Depth>4.72"
Tc=6.0 min CN=77 Runoff=0.96 cfs 0.070 af

Subcatchment101: EX-WS-101 Runoff Area=25,177 sf 59.75% Impervious Runoff Depth>4.39"
Tc=6.0 min CN=74 Runoff=2.91 cfs 0.211 af

Pond P10: EXISTING LOW POINT Peak Elev=62.07' Storage=590 cf Inflow=2.91 cfs 0.211 af
Outflow=2.89 cfs 0.202 af

Link AP1: ANALYSISPOINT #1 Inflow=0.96 cfs 0.070 af
Primary=0.96 cfs 0.070 af

Link AP2: ANALYSISPOINT #2 Inflow=2.89 cfs 0.202 af
Primary=2.89 cfs 0.202 af

Total Runoff Area = 0.756 ac Runoff Volume = 0.282 af Average Runoff Depth = 4.47"
39.30% Pervious = 0.297 ac 60.70% Impervious = 0.459 ac

Summary for Subcatchment 100: EX-WS-100

Runoff = 0.96 cfs @ 12.09 hrs, Volume= 0.070 af, Depth> 4.72"
Routed to Link AP1 : ANALYSIS POINT #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YEAR Rainfall=7.40"

	Area (sf)	CN	Description
*	1,526	98	Roof, HSG A
*	3,246	98	Pavement, HSG A
*	187	98	Stairway/Walkway, HSG A
	2,815	39	>75% Grass cover, Good, HSG A
	7,774	77	Weighted Average
	2,815		36.21% Pervious Area
	4,959		63.79% Impervious Area

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

Summary for Subcatchment 101: EX-WS-101

Runoff = 2.91 cfs @ 12.09 hrs, Volume= 0.211 af, Depth> 4.39"
Routed to Pond P10 : EXISTING LOW POINT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YEAR Rainfall=7.40"

	Area (sf)	CN	Description
*	1,393	98	Roof, HSG A
*	89	98	Stairway, HSG A
*	40	98	Shed, HSG A
	10,134	39	>75% Grass cover, Good, HSG A
*	4,778	98	Gravel, HSG A
*	8,743	98	Pavement, HSG A
	25,177	74	Weighted Average
	10,134		40.25% Pervious Area
	15,043		59.75% Impervious Area

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

Summary for Pond P10: EXISTING LOW POINT

Inflow Area = 0.578 ac, 59.75% Impervious, Inflow Depth > 4.39" for 50-YEAR event
Inflow = 2.91 cfs @ 12.09 hrs, Volume= 0.211 af
Outflow = 2.89 cfs @ 12.11 hrs, Volume= 0.202 af, Atten= 1%, Lag= 0.8 min
Primary = 2.89 cfs @ 12.11 hrs, Volume= 0.202 af
Routed to Link AP2 : ANALYSIS POINT #2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 62.07' @ 12.11 hrs Surf.Area= 2,829 sf Storage= 590 cf

Plug-Flow detention time= 35.7 min calculated for 0.202 af (95% of inflow)
Center-of-Mass det. time= 12.1 min (831.2 - 819.0)

Volume	Invert	Avail.Storage	Storage Description
#1	61.84'	3,216 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
61.84	2,029	234.0	0	0	2,029
62.00	2,829	262.0	387	387	3,135
63.00	2,829	262.0	2,829	3,216	3,397

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	**60.6' long x 9.7' 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) 2.48 2.56 2.70 2.69 2.68 2.69 2.67 2.64 2.64 2.64 2.64 2.64 2.64 2.64 2.65

Primary OutFlow Max=2.85 cfs @ 12.11 hrs HW=62.07' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 2.85 cfs @ 0.66 fps)

Summary for Link AP1: ANALYSIS POINT #1

Inflow Area = 0.178 ac, 63.79% Impervious, Inflow Depth > 4.72" for 50-YEAR event
Inflow = 0.96 cfs @ 12.09 hrs, Volume= 0.070 af
Primary = 0.96 cfs @ 12.09 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

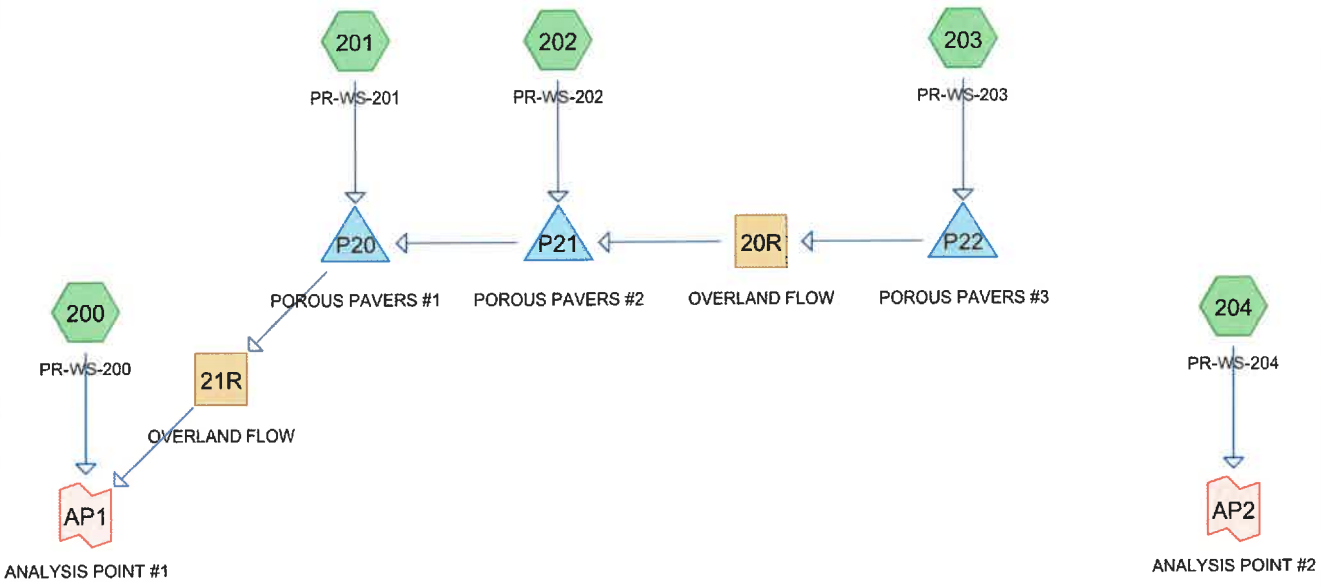
Summary for Link AP2: ANALYSIS POINT #2

Inflow Area = 0.578 ac, 59.75% Impervious, Inflow Depth > 4.20" for 50-YEAR event
Inflow = 2.89 cfs @ 12.11 hrs, Volume= 0.202 af
Primary = 2.89 cfs @ 12.11 hrs, Volume= 0.202 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2.6 PROPOSED CONDITIONS ANALYSIS

2 Year - 24 Hour Summary
10 Year - 24 Hour Complete
25 Year - 24 Hour Summary
50 Year - 24 Hour Complete



Subcat Reach Pond Link

Routing Diagram for PROPOSED
Prepared by Jones & Beach Engineers Inc, Printed 8/27/2025

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.108	39	>75% Grass cover, Good, HSG A (200, 201, 202, 203, 204)
0.009	98	Concrete, HSG A (201)
0.003	98	Gravel, HSG A (202, 204)
0.340	98	Pavement, HSG A (200, 201, 202, 204)
0.110	98	Porous Pavers, HSG A (201, 202, 203)
0.181	98	Roof, HSG A (200, 201, 202)
0.004	98	Stairway/Walkway, HSG A (200)
0.756	**90**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.756	HSG A	200, 201, 202, 203, 204
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.756		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment200: PR-WS-200 Runoff Area=8,225 sf 58.59% Impervious Runoff Depth>1.11"
Tc=6.0 min CN=74 Runoff=0.23 cfs 0.017 af

Subcatchment201: PR-WS-201 Runoff Area=12,789 sf 97.15% Impervious Runoff Depth>2.86"
Tc=6.0 min CN=96 Runoff=0.89 cfs 0.070 af

Subcatchment202: PR-WS-202 Runoff Area=9,844 sf 94.95% Impervious Runoff Depth>2.75"
Tc=6.0 min CN=95 Runoff=0.67 cfs 0.052 af

Subcatchment203: PR-WS-203 Runoff Area=1,622 sf 84.22% Impervious Runoff Depth>2.18"
Tc=6.0 min CN=89 Runoff=0.09 cfs 0.007 af

Subcatchment204: PR-WS-204 Runoff Area=431 sf 60.32% Impervious Runoff Depth>1.17"
Tc=6.0 min CN=75 Runoff=0.01 cfs 0.001 af

Reach 20R: OVERLAND FLOW Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.013 L=20.0' S=0.0110 '/' Capacity=9.44 cfs Outflow=0.00 cfs 0.000 af

Reach 21R: OVERLAND FLOW Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=109.0' S=0.0010 '/' Capacity=3.76 cfs Outflow=0.00 cfs 0.000 af

Pond P20: POROUS PAVERS #1 Peak Elev=60.97' Storage=30 cf Inflow=0.89 cfs 0.070 af
Discarded=0.90 cfs 0.070 af Primary=0.00 cfs 0.000 af Outflow=0.90 cfs 0.070 af

Pond P21: POROUS PAVERS #2 Peak Elev=60.63' Storage=35 cf Inflow=0.67 cfs 0.052 af
Discarded=0.67 cfs 0.052 af Primary=0.00 cfs 0.000 af Outflow=0.67 cfs 0.052 af

Pond P22: POROUS PAVERS #3 Peak Elev=61.81' Storage=7 cf Inflow=0.09 cfs 0.007 af
Discarded=0.09 cfs 0.007 af Primary=0.00 cfs 0.000 af Outflow=0.09 cfs 0.007 af

Link AP1: ANALYSIS POINT #1 Inflow=0.23 cfs 0.017 af
Primary=0.23 cfs 0.017 af

Link AP2: ANALYSIS POINT #2 Inflow=0.01 cfs 0.001 af
Primary=0.01 cfs 0.001 af

Total Runoff Area = 0.756 ac Runoff Volume = 0.147 af Average Runoff Depth = 2.33"
14.26% Pervious = 0.108 ac 85.74% Impervious = 0.648 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment200: PR-WS-200 Runoff Area=8,225 sf 58.59% Impervious Runoff Depth>2.58"
Tc=6.0 min CN=74 Runoff=0.56 cfs 0.041 af

Subcatchment201: PR-WS-201 Runoff Area=12,789 sf 97.15% Impervious Runoff Depth>4.80"
Tc=6.0 min CN=96 Runoff=1.46 cfs 0.117 af

Subcatchment202: PR-WS-202 Runoff Area=9,844 sf 94.95% Impervious Runoff Depth>4.68"
Tc=6.0 min CN=95 Runoff=1.11 cfs 0.088 af

Subcatchment203: PR-WS-203 Runoff Area=1,622 sf 84.22% Impervious Runoff Depth>4.03"
Tc=6.0 min CN=89 Runoff=0.17 cfs 0.012 af

Subcatchment204: PR-WS-204 Runoff Area=431 sf 60.32% Impervious Runoff Depth>2.67"
Tc=6.0 min CN=75 Runoff=0.03 cfs 0.002 af

Reach 20R: OVERLAND FLOW Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.013 L=20.0' S=0.0110 '/' Capacity=9.44 cfs Outflow=0.00 cfs 0.000 af

Reach 21R: OVERLAND FLOW Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=109.0' S=0.0010 '/' Capacity=3.76 cfs Outflow=0.00 cfs 0.000 af

Pond P20: POROUS PAVERS #1 Peak Elev=60.99' Storage=39 cf Inflow=1.46 cfs 0.117 af
Discarded=1.46 cfs 0.117 af Primary=0.00 cfs 0.000 af Outflow=1.46 cfs 0.117 af

Pond P21: POROUS PAVERS #2 Peak Elev=60.64' Storage=46 cf Inflow=1.11 cfs 0.088 af
Discarded=1.11 cfs 0.088 af Primary=0.00 cfs 0.000 af Outflow=1.11 cfs 0.088 af

Pond P22: POROUS PAVERS #3 Peak Elev=61.82' Storage=10 cf Inflow=0.17 cfs 0.012 af
Discarded=0.17 cfs 0.012 af Primary=0.00 cfs 0.000 af Outflow=0.17 cfs 0.012 af

Link AP1: ANALYSIS POINT #1 Inflow=0.56 cfs 0.041 af
Primary=0.56 cfs 0.041 af

Link AP2: ANALYSIS POINT #2 Inflow=0.03 cfs 0.002 af
Primary=0.03 cfs 0.002 af

Total Runoff Area = 0.756 ac Runoff Volume = 0.261 af Average Runoff Depth = 4.14"
14.26% Pervious = 0.108 ac 85.74% Impervious = 0.648 ac

Summary for Subcatchment 200: PR-WS-200

Runoff = 0.56 cfs @ 12.09 hrs, Volume= 0.041 af, Depth> 2.58"
Routed to Link AP1 : ANALYSIS POINT #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YEAR Rainfall=5.27"

	Area (sf)	CN	Description
	3,406	39	>75% Grass cover, Good, HSG A
*	1,860	98	Pavement, HSG A
*	2,771	98	Roof, HSG A
*	188	98	Stairway/Walkway, HSG A
	8,225	74	Weighted Average
	3,406		41.41% Pervious Area
	4,819		58.59% Impervious Area

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

Summary for Subcatchment 201: PR-WS-201

Runoff = 1.46 cfs @ 12.09 hrs, Volume= 0.117 af, Depth> 4.80"
Routed to Pond P20 : POROUS PAVERS #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YEAR Rainfall=5.27"

	Area (sf)	CN	Description
	364	39	>75% Grass cover, Good, HSG A
*	3,600	98	Roof, HSG A
*	7,429	98	Pavement, HSG A
*	1,021	98	Porous Pavers, HSG A
*	375	98	Concrete, HSG A
	12,789	96	Weighted Average
	364		2.85% Pervious Area
	12,425		97.15% Impervious Area

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

Summary for Subcatchment 202: PR-WS-202

Runoff = 1.11 cfs @ 12.09 hrs, Volume= 0.088 af, Depth> 4.68"
Routed to Pond P21 : POROUS PAVERS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YEAR Rainfall=5.27"

	Area (sf)	CN	Description
*	1,535	98	Roof, HSG A
*	5,302	98	Pavement, HSG A
*	2,394	98	Porous Pavers, HSG A
	497	39	>75% Grass cover, Good, HSG A
*	116	98	Gravel, HSG A
	9,844	95	Weighted Average
	497		5.05% Pervious Area
	9,347		94.95% Impervious Area

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

Summary for Subcatchment 203: PR-WS-203

Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.012 af, Depth> 4.03"
Routed to Pond P22 : POROUS PAVERS #3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YEAR Rainfall=5.27"

	Area (sf)	CN	Description
	256	39	>75% Grass cover, Good, HSG A
*	1,366	98	Porous Pavers, HSG A
	1,622	89	Weighted Average
	256		15.78% Pervious Area
	1,366		84.22% Impervious Area

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

Summary for Subcatchment 204: PR-WS-204

Runoff = 0.03 cfs @ 12.09 hrs, Volume= 0.002 af, Depth> 2.67"
Routed to Link AP2 : ANALYSIS POINT #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YEAR Rainfall=5.27"

	Area (sf)	CN	Description
*	23	98	Gravel, HSG A
*	237	98	Pavement, HSG A
	171	39	>75% Grass cover, Good, HSG A
	431	75	Weighted Average
	171		39.68% Pervious Area
	260		60.32% Impervious Area

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

Summary for Reach 20R: OVERLAND FLOW

Inflow Area = 0.037 ac, 84.22% Impervious, Inflow Depth = 0.00" for 10-YEAR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Pond P21 : POROUS PAVERS #2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 1.7 sf, Capacity= 9.44 cfs

5.00' x 0.50' deep Parabolic Channel, n= 0.013 Asphalt, smooth
Length= 20.0' Slope= 0.0110 '/'
Inlet Invert= 63.27', Outlet Invert= 63.05'

‡

Summary for Reach 21R: OVERLAND FLOW

Inflow Area = 0.557 ac, 95.39% Impervious, Inflow Depth = 0.00" for 10-YEAR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Link AP1 : ANALYSIS POINT #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 3.3 sf, Capacity= 3.76 cfs

5.00' x 1.00' deep Parabolic Channel, n= 0.030 Earth, grassed & winding
Length= 109.0' Slope= 0.0010 '/'
Inlet Invert= 62.11', Outlet Invert= 62.00'

Summary for Pond P20: POROUS PAVERS #1

[90] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 0.557 ac, 95.39% Impervious, Inflow Depth > 2.53" for 10-YEAR event
Inflow = 1.46 cfs @ 12.09 hrs, Volume= 0.117 af
Outflow = 1.46 cfs @ 12.09 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.3 min
Discarded = 1.46 cfs @ 12.09 hrs, Volume= 0.117 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 21R : OVERLAND FLOW

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 60.99' @ 12.09 hrs Surf.Area= 930 sf Storage= 39 cf
Flood Elev= 62.11' Surf.Area= 904 sf Storage= 256 cf

Plug-Flow detention time= 1.3 min calculated for 0.117 af (100% of inflow)
Center-of-Mass det. time= 1.0 min (761.7 - 760.7)

Volume	Invert	Avail.Storage	Storage Description
#1	60.89'	258 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	60.89'	8 cf	**4.0" Round Pipe Storage** L= 86.0'
		265 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.89	904	0.0	0	0
60.90	904	40.0	4	4
61.38	904	40.0	174	177
61.39	904	15.0	1	179
61.71	904	15.0	43	222
61.72	904	5.0	0	222
62.10	904	5.0	17	240
62.11	904	100.0	9	249
62.12	904	100.0	9	258

Device	Routing	Invert	Outlet Devices
#1	Discarded	60.89'	**6.200 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 60.88' Phase-In= 0.10'
#2	Primary	62.11'	**9.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=1.44 cfs @ 12.09 hrs HW=60.99' (Free Discharge)
↑—**1=Exfiltration** (Controls 1.44 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=60.89' TW=62.11' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond P21: POROUS PAVERS #2

[90] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 0.263 ac, 93.43% Impervious, Inflow Depth > 4.02" for 10-YEAR event
Inflow = 1.11 cfs @ 12.09 hrs, Volume= 0.088 af
Outflow = 1.11 cfs @ 12.09 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.5 min
Discarded = 1.11 cfs @ 12.09 hrs, Volume= 0.088 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond P20 : POROUS PAVERS #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 60.64' @ 12.09 hrs Surf.Area= 2,304 sf Storage= 46 cf
Flood Elev= 62.69' Surf.Area= 2,294 sf Storage= 1,442 cf

Plug-Flow detention time= 1.8 min calculated for 0.088 af (100% of inflow)
Center-of-Mass det. time= 1.4 min (767.9 - 766.4)

Volume	Invert	Avail.Storage	Storage Description
#1	60.59'	1,461 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)
#2	60.59'	4 cf	**4.0" Round Pipe Storage** L= 43.0'
		1,465 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.59	2,294	0.0	0	0
60.60	2,294	40.0	9	9
61.96	2,294	40.0	1,248	1,257
61.97	2,294	15.0	3	1,261
62.29	2,294	15.0	110	1,371
62.30	2,294	5.0	1	1,372
62.68	2,294	5.0	44	1,415
62.69	2,294	100.0	23	1,438
62.70	2,294	100.0	23	1,461

Device	Routing	Invert	Outlet Devices
#1	Discarded	60.59'	**7.076 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 60.58' Phase-In= 0.10'
#2	Primary	62.69'	**9.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Discarded OutFlow Max=1.10 cfs @ 12.09 hrs HW=60.64' (Free Discharge)
↑—**1=Exfiltration** (Controls 1.10 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=60.59' TW=60.89' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P22: POROUS PAVERS #3

Inflow Area = 0.037 ac, 84.22% Impervious, Inflow Depth > 4.03" for 10-YEAR event
Inflow = 0.17 cfs @ 12.09 hrs, Volume= 0.012 af
Outflow = 0.17 cfs @ 12.10 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.7 min
Discarded = 0.17 cfs @ 12.10 hrs, Volume= 0.012 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 20R : OVERLAND FLOW

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 61.82' @ 12.10 hrs Surf.Area= 1,286 sf Storage= 10 cf
Flood Elev= 63.27' Surf.Area= 1,276 sf Storage= 484 cf

Plug-Flow detention time= 1.9 min calculated for 0.012 af (100% of inflow)
Center-of-Mass det. time= 1.6 min (793.7 - 792.1)

Volume	Invert	Avail.Storage	Storage Description
#1	61.80'	491 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	61.80'	6 cf	**4.0" Round Pipe Storage** L= 67.0'
		497 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.80	1,276	0.0	0	0
61.81	1,276	40.0	5	5
62.54	1,276	40.0	373	378
62.55	1,276	15.0	2	380
62.87	1,276	15.0	61	441
62.88	1,276	5.0	1	441
63.26	1,276	5.0	24	466
63.27	1,276	100.0	13	479
63.28	1,276	100.0	13	491

Device	Routing	Invert	Outlet Devices
#1	Discarded	61.80'	**9.980 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 61.79' Phase-In= 0.10'
#2	Primary	63.27'	**18.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.17 cfs @ 12.10 hrs HW=61.82' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.17 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=61.80' TW=63.27' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Link AP1: ANALYSIS POINT #1

Inflow Area = 0.746 ac, 86.07% Impervious, Inflow Depth > 0.65" for 10-YEAR event
Inflow = 0.56 cfs @ 12.09 hrs, Volume= 0.041 af
Primary = 0.56 cfs @ 12.09 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link AP2: ANALYSIS POINT #2

Inflow Area = 0.010 ac, 60.32% Impervious, Inflow Depth > 2.67" for 10-YEAR event
Inflow = 0.03 cfs @ 12.09 hrs, Volume= 0.002 af
Primary = 0.03 cfs @ 12.09 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment200: PR-WS-200 Runoff Area=8,225 sf 58.59% Impervious Runoff Depth>3.61"
Tc=6.0 min CN=74 Runoff=0.78 cfs 0.057 af

Subcatchment201: PR-WS-201 Runoff Area=12,789 sf 97.15% Impervious Runoff Depth>6.02"
Tc=6.0 min CN=96 Runoff=1.81 cfs 0.147 af

Subcatchment202: PR-WS-202 Runoff Area=9,844 sf 94.95% Impervious Runoff Depth>5.90"
Tc=6.0 min CN=95 Runoff=1.38 cfs 0.111 af

Subcatchment203: PR-WS-203 Runoff Area=1,622 sf 84.22% Impervious Runoff Depth>5.22"
Tc=6.0 min CN=89 Runoff=0.21 cfs 0.016 af

Subcatchment204: PR-WS-204 Runoff Area=431 sf 60.32% Impervious Runoff Depth>3.71"
Tc=6.0 min CN=75 Runoff=0.04 cfs 0.003 af

Reach 20R: OVERLAND FLOW Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.013 L=20.0' S=0.0110 '/' Capacity=9.44 cfs Outflow=0.00 cfs 0.000 af

Reach 21R: OVERLAND FLOW Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=109.0' S=0.0010 '/' Capacity=3.76 cfs Outflow=0.00 cfs 0.000 af

Pond P20: POROUS PAVERS #1 Peak Elev=61.02' Storage=49 cf Inflow=1.81 cfs 0.147 af
Discarded=1.80 cfs 0.147 af Primary=0.00 cfs 0.000 af Outflow=1.80 cfs 0.147 af

Pond P21: POROUS PAVERS #2 Peak Elev=60.65' Storage=52 cf Inflow=1.38 cfs 0.111 af
Discarded=1.39 cfs 0.111 af Primary=0.00 cfs 0.000 af Outflow=1.39 cfs 0.111 af

Pond P22: POROUS PAVERS #3 Peak Elev=61.82' Storage=12 cf Inflow=0.21 cfs 0.016 af
Discarded=0.21 cfs 0.016 af Primary=0.00 cfs 0.000 af Outflow=0.21 cfs 0.016 af

Link AP1: ANALYSIS POINT #1 Inflow=0.78 cfs 0.057 af
Primary=0.78 cfs 0.057 af

Link AP2: ANALYSIS POINT #2 Inflow=0.04 cfs 0.003 af
Primary=0.04 cfs 0.003 af

Total Runoff Area = 0.756 ac Runoff Volume = 0.335 af Average Runoff Depth = 5.31"
14.26% Pervious = 0.108 ac 85.74% Impervious = 0.648 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment200: PR-WS-200 Runoff Area=8,225 sf 58.59% Impervious Runoff Depth>4.39"
Tc=6.0 min CN=74 Runoff=0.95 cfs 0.069 af

Subcatchment201: PR-WS-201 Runoff Area=12,789 sf 97.15% Impervious Runoff Depth>6.92"
Tc=6.0 min CN=96 Runoff=2.07 cfs 0.169 af

Subcatchment202: PR-WS-202 Runoff Area=9,844 sf 94.95% Impervious Runoff Depth>6.80"
Tc=6.0 min CN=95 Runoff=1.58 cfs 0.128 af

Subcatchment203: PR-WS-203 Runoff Area=1,622 sf 84.22% Impervious Runoff Depth>6.09"
Tc=6.0 min CN=89 Runoff=0.25 cfs 0.019 af

Subcatchment204: PR-WS-204 Runoff Area=431 sf 60.32% Impervious Runoff Depth>4.50"
Tc=6.0 min CN=75 Runoff=0.05 cfs 0.004 af

Reach 20R: OVERLAND FLOW Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.013 L=20.0' S=0.0110 '/' Capacity=9.44 cfs Outflow=0.00 cfs 0.000 af

Reach 21R: OVERLAND FLOW Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=109.0' S=0.0010 '/' Capacity=3.76 cfs Outflow=0.00 cfs 0.000 af

Pond P20: POROUS PAVERS #1 Peak Elev=61.04' Storage=57 cf Inflow=2.07 cfs 0.169 af
Discarded=2.07 cfs 0.169 af Primary=0.00 cfs 0.000 af Outflow=2.07 cfs 0.169 af

Pond P21: POROUS PAVERS #2 Peak Elev=60.65' Storage=56 cf Inflow=1.58 cfs 0.128 af
Discarded=1.59 cfs 0.128 af Primary=0.00 cfs 0.000 af Outflow=1.59 cfs 0.128 af

Pond P22: POROUS PAVERS #3 Peak Elev=61.82' Storage=13 cf Inflow=0.25 cfs 0.019 af
Discarded=0.25 cfs 0.019 af Primary=0.00 cfs 0.000 af Outflow=0.25 cfs 0.019 af

Link AP1: ANALYSIS POINT #1 Inflow=0.95 cfs 0.069 af
Primary=0.95 cfs 0.069 af

Link AP2: ANALYSIS POINT #2 Inflow=0.05 cfs 0.004 af
Primary=0.05 cfs 0.004 af

Total Runoff Area = 0.756 ac Runoff Volume = 0.389 af Average Runoff Depth = 6.18"
14.26% Pervious = 0.108 ac 85.74% Impervious = 0.648 ac

Summary for Subcatchment 200: PR-WS-200

Runoff = 0.95 cfs @ 12.09 hrs, Volume= 0.069 af, Depth> 4.39"
Routed to Link AP1 : ANALYSIS POINT #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YEAR Rainfall=7.40"

	Area (sf)	CN	Description
	3,406	39	>75% Grass cover, Good, HSG A
*	1,860	98	Pavement, HSG A
*	2,771	98	Roof, HSG A
*	188	98	Stairway/Walkway, HSG A
	8,225	74	Weighted Average
	3,406		41.41% Pervious Area
	4,819		58.59% Impervious Area

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

Summary for Subcatchment 201: PR-WS-201

Runoff = 2.07 cfs @ 12.09 hrs, Volume= 0.169 af, Depth> 6.92"
Routed to Pond P20 : POROUS PAVERS #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YEAR Rainfall=7.40"

	Area (sf)	CN	Description
	364	39	>75% Grass cover, Good, HSG A
*	3,600	98	Roof, HSG A
*	7,429	98	Pavement, HSG A
*	1,021	98	Porous Pavers, HSG A
*	375	98	Concrete, HSG A
	12,789	96	Weighted Average
	364		2.85% Pervious Area
	12,425		97.15% Impervious Area

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

Summary for Subcatchment 202: PR-WS-202

Runoff = 1.58 cfs @ 12.09 hrs, Volume= 0.128 af, Depth> 6.80"
Routed to Pond P21 : POROUS PAVERS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YEAR Rainfall=7.40"

	Area (sf)	CN	Description
*	1,535	98	Roof, HSG A
*	5,302	98	Pavement, HSG A
*	2,394	98	Porous Pavers, HSG A
	497	39	>75% Grass cover, Good, HSG A
*	116	98	Gravel, HSG A
	9,844	95	Weighted Average
	497		5.05% Pervious Area
	9,347		94.95% Impervious Area

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

Summary for Subcatchment 203: PR-WS-203

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.019 af, Depth> 6.09"
Routed to Pond P22 : POROUS PAVERS #3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YEAR Rainfall=7.40"

	Area (sf)	CN	Description
	256	39	>75% Grass cover, Good, HSG A
*	1,366	98	Porous Pavers, HSG A
	1,622	89	Weighted Average
	256		15.78% Pervious Area
	1,366		84.22% Impervious Area

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

Summary for Subcatchment 204: PR-WS-204

Runoff = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Depth> 4.50"
Routed to Link AP2 : ANALYSIS POINT #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YEAR Rainfall=7.40"

	Area (sf)	CN	Description
*	23	98	Gravel, HSG A
*	237	98	Pavement, HSG A
	171	39	>75% Grass cover, Good, HSG A
	431	75	Weighted Average
	171		39.68% Pervious Area
	260		60.32% Impervious Area

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

Summary for Reach 20R: OVERLAND FLOW

Inflow Area = 0.037 ac, 84.22% Impervious, Inflow Depth = 0.00" for 50-YEAR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Pond P21 : POROUS PAVERS #2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 1.7 sf, Capacity= 9.44 cfs

5.00' x 0.50' deep Parabolic Channel, n= 0.013 Asphalt, smooth
Length= 20.0' Slope= 0.0110 '/'
Inlet Invert= 63.27', Outlet Invert= 63.05'

‡

Summary for Reach 21R: OVERLAND FLOW

Inflow Area = 0.557 ac, 95.39% Impervious, Inflow Depth = 0.00" for 50-YEAR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Link AP1 : ANALYSIS POINT #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 3.3 sf, Capacity= 3.76 cfs

5.00' x 1.00' deep Parabolic Channel, n= 0.030 Earth, grassed & winding
Length= 109.0' Slope= 0.0010 '/'
Inlet Invert= 62.11', Outlet Invert= 62.00'

Summary for Pond P20: POROUS PAVERS #1

Inflow Area = 0.557 ac, 95.39% Impervious, Inflow Depth > 3.65" for 50-YEAR event
Inflow = 2.07 cfs @ 12.09 hrs, Volume= 0.169 af
Outflow = 2.07 cfs @ 12.10 hrs, Volume= 0.169 af, Atten= 0%, Lag= 0.5 min
Discarded = 2.07 cfs @ 12.10 hrs, Volume= 0.169 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 21R : OVERLAND FLOW

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 61.04' @ 12.10 hrs Surf.Area= 932 sf Storage= 57 cf
Flood Elev= 62.11' Surf.Area= 904 sf Storage= 256 cf

Plug-Flow detention time= 1.2 min calculated for 0.169 af (100% of inflow)
Center-of-Mass det. time= 0.9 min (754.3 - 753.4)

Volume	Invert	Avail.Storage	Storage Description
#1	60.89'	258 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	60.89'	8 cf	**4.0" Round Pipe Storage** L= 86.0'
		265 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.89	904	0.0	0	0
60.90	904	40.0	4	4
61.38	904	40.0	174	177
61.39	904	15.0	1	179
61.71	904	15.0	43	222
61.72	904	5.0	0	222
62.10	904	5.0	17	240
62.11	904	100.0	9	249
62.12	904	100.0	9	258

Device	Routing	Invert	Outlet Devices
#1	Discarded	60.89'	**6.200 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 60.88' Phase-In= 0.10'
#2	Primary	62.11'	**9.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=2.04 cfs @ 12.10 hrs HW=61.04' (Free Discharge)
↑—**1=Exfiltration** (Controls 2.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=60.89' TW=62.11' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond P21: POROUS PAVERS #2

[90] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 0.263 ac, 93.43% Impervious, Inflow Depth > 5.84" for 50-YEAR event
Inflow = 1.58 cfs @ 12.09 hrs, Volume= 0.128 af
Outflow = 1.59 cfs @ 12.09 hrs, Volume= 0.128 af, Atten= 0%, Lag= 0.4 min
Discarded = 1.59 cfs @ 12.09 hrs, Volume= 0.128 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond P20 : POROUS PAVERS #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 60.65' @ 12.09 hrs Surf.Area= 2,305 sf Storage= 56 cf
Flood Elev= 62.69' Surf.Area= 2,294 sf Storage= 1,442 cf

Plug-Flow detention time= 1.6 min calculated for 0.128 af (100% of inflow)
Center-of-Mass det. time= 1.3 min (759.6 - 758.3)

Volume	Invert	Avail.Storage	Storage Description
#1	60.59'	1,461 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)
#2	60.59'	4 cf	**4.0" Round Pipe Storage** L= 43.0'
		1,465 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.59	2,294	0.0	0	0
60.60	2,294	40.0	9	9
61.96	2,294	40.0	1,248	1,257
61.97	2,294	15.0	3	1,261
62.29	2,294	15.0	110	1,371
62.30	2,294	5.0	1	1,372
62.68	2,294	5.0	44	1,415
62.69	2,294	100.0	23	1,438
62.70	2,294	100.0	23	1,461

Device	Routing	Invert	Outlet Devices
#1	Discarded	60.59'	**7.076 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 60.58' Phase-In= 0.10'
#2	Primary	62.69'	**9.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Discarded OutFlow Max=1.56 cfs @ 12.09 hrs HW=60.65' (Free Discharge)
↑—**1=Exfiltration** (Controls 1.56 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=60.59' TW=60.89' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond P22: POROUS PAVERS #3

Inflow Area = 0.037 ac, 84.22% Impervious, Inflow Depth > 6.09" for 50-YEAR event
Inflow = 0.25 cfs @ 12.09 hrs, Volume= 0.019 af
Outflow = 0.25 cfs @ 12.10 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.6 min
Discarded = 0.25 cfs @ 12.10 hrs, Volume= 0.019 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 20R : OVERLAND FLOW

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 61.82' @ 12.10 hrs Surf.Area= 1,288 sf Storage= 13 cf
Flood Elev= 63.27' Surf.Area= 1,276 sf Storage= 484 cf

Plug-Flow detention time= 1.8 min calculated for 0.019 af (100% of inflow)
Center-of-Mass det. time= 1.5 min (782.5 - 781.0)

Volume	Invert	Avail.Storage	Storage Description
#1	61.80'	491 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)
#2	61.80'	6 cf	**4.0" Round Pipe Storage** L= 67.0'
		497 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.80	1,276	0.0	0	0
61.81	1,276	40.0	5	5
62.54	1,276	40.0	373	378
62.55	1,276	15.0	2	380
62.87	1,276	15.0	61	441
62.88	1,276	5.0	1	441
63.26	1,276	5.0	24	466
63.27	1,276	100.0	13	479
63.28	1,276	100.0	13	491

Device	Routing	Invert	Outlet Devices
#1	Discarded	61.80'	**9.980 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 61.79' Phase-In= 0.10'
#2	Primary	63.27'	**18.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.24 cfs @ 12.10 hrs HW=61.82' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.24 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=61.80' TW=63.27' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Link AP1: ANALYSIS POINT #1

Inflow Area = 0.746 ac, 86.07% Impervious, Inflow Depth > 1.11" for 50-YEAR event
Inflow = 0.95 cfs @ 12.09 hrs, Volume= 0.069 af
Primary = 0.95 cfs @ 12.09 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link AP2: ANALYSIS POINT #2

Inflow Area = 0.010 ac, 60.32% Impervious, Inflow Depth > 4.50" for 50-YEAR event
Inflow = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af
Primary = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

3 PRECIPITATION DATA

NOAA Atlas 14, Volume 10, Version 3
Location name: Exeter, New Hampshire, USA*
Latitude: 42.9805°, Longitude: -70.962°
Elevation: 64 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.311 (0.242-0.402)	0.372 (0.289-0.481)	0.472 (0.365-0.612)	0.554 (0.426-0.722)	0.668 (0.498-0.907)	0.753 (0.550-1.04)	0.843 (0.599-1.21)	0.944 (0.636-1.38)	1.09 (0.706-1.65)	1.21 (0.765-1.86)
10-min	0.441 (0.343-0.570)	0.528 (0.410-0.682)	0.669 (0.518-0.867)	0.786 (0.605-1.02)	0.947 (0.706-1.28)	1.07 (0.781-1.48)	1.20 (0.849-1.71)	1.34 (0.901-1.96)	1.54 (1.00-2.34)	1.71 (1.08-2.64)
15-min	0.519 (0.404-0.670)	0.621 (0.482-0.802)	0.787 (0.609-1.02)	0.925 (0.713-1.20)	1.11 (0.831-1.51)	1.26 (0.918-1.74)	1.41 (0.998-2.02)	1.57 (1.06-2.30)	1.82 (1.18-2.75)	2.01 (1.27-3.10)
30-min	0.712 (0.554-0.919)	0.851 (0.661-1.10)	1.08 (0.835-1.40)	1.27 (0.976-1.65)	1.53 (1.14-2.07)	1.72 (1.26-2.39)	1.93 (1.37-2.76)	2.16 (1.45-3.16)	2.49 (1.61-3.77)	2.76 (1.75-4.26)
60-min	0.905 (0.704-1.17)	1.08 (0.840-1.40)	1.37 (1.06-1.78)	1.61 (1.24-2.10)	1.94 (1.45-2.64)	2.19 (1.60-3.03)	2.45 (1.74-3.51)	2.74 (1.84-4.01)	3.16 (2.05-4.79)	3.51 (2.22-5.41)
2-hr	1.19 (0.929-1.52)	1.43 (1.11-1.83)	1.82 (1.42-2.34)	2.14 (1.66-2.77)	2.59 (1.94-3.50)	2.92 (2.15-4.04)	3.28 (2.35-4.70)	3.70 (2.49-5.38)	4.32 (2.81-6.50)	4.85 (3.08-7.43)
3-hr	1.38 (1.09-1.77)	1.67 (1.31-2.14)	2.14 (1.67-2.74)	2.52 (1.96-3.26)	3.05 (2.30-4.12)	3.45 (2.55-4.76)	3.87 (2.79-5.56)	4.38 (2.96-6.36)	5.15 (3.35-7.72)	5.81 (3.70-8.87)
6-hr	1.78 (1.41-2.27)	2.16 (1.71-2.75)	2.79 (2.19-3.56)	3.30 (2.58-4.24)	4.01 (3.04-5.39)	4.54 (3.37-6.23)	5.11 (3.70-7.30)	5.80 (3.94-8.36)	6.85 (4.47-10.2)	7.75 (4.94-11.8)
12-hr	2.24 (1.78-2.84)	2.75 (2.18-3.47)	3.57 (2.82-4.52)	4.25 (3.33-5.42)	5.19 (3.95-6.93)	5.88 (4.39-8.03)	6.63 (4.83-9.42)	7.54 (5.14-10.8)	8.94 (5.85-13.2)	10.1 (6.48-15.3)
24-hr	2.65 (2.11-3.33)	3.31 (2.64-4.16)	4.38 (3.48-5.52)	5.27 (4.16-6.68)	6.50 (4.98-8.66)	7.40 (5.57-10.1)	8.39 (6.17-11.9)	9.64 (6.58-13.7)	11.6 (7.60-17.0)	13.3 (8.52-19.9)
2-day	2.96 (2.38-3.70)	3.79 (3.04-4.73)	5.15 (4.11-6.44)	6.27 (4.97-7.89)	7.81 (6.04-10.4)	8.94 (6.79-12.2)	10.2 (7.60-14.6)	11.9 (8.12-16.8)	14.6 (9.59-21.3)	17.0 (10.9-25.3)
3-day	3.22 (2.59-4.01)	4.12 (3.31-5.12)	5.58 (4.47-6.96)	6.79 (5.40-8.52)	8.46 (6.56-11.2)	9.67 (7.37-13.2)	11.0 (8.26-15.8)	12.9 (8.82-18.2)	15.9 (10.5-23.1)	18.6 (12.0-27.5)
4-day	3.48 (2.80-4.31)	4.40 (3.55-5.46)	5.91 (4.74-7.36)	7.17 (5.71-8.96)	8.89 (6.91-11.8)	10.1 (7.75-13.8)	11.5 (8.66-16.5)	13.4 (9.24-18.9)	16.6 (11.0-24.1)	19.4 (12.5-28.7)
7-day	4.22 (3.41-5.20)	5.18 (4.18-6.39)	6.74 (5.44-8.35)	8.05 (6.44-10.0)	9.84 (7.67-12.9)	11.1 (8.54-15.0)	12.6 (9.47-17.8)	14.6 (10.0-20.4)	17.8 (11.8-25.8)	20.7 (13.4-30.5)
10-day	4.90 (3.98-6.03)	5.89 (4.78-7.25)	7.51 (6.07-9.27)	8.85 (7.11-11.0)	10.7 (8.35-14.0)	12.0 (9.23-16.1)	13.5 (10.1-18.9)	15.5 (10.7-21.6)	18.7 (12.4-26.9)	21.6 (14.0-31.6)
20-day	6.92 (5.65-8.44)	8.00 (6.53-9.78)	9.78 (7.95-12.0)	11.3 (9.09-13.9)	13.3 (10.4-17.1)	14.8 (11.3-19.4)	16.4 (12.2-22.4)	18.3 (12.8-25.4)	21.2 (14.1-30.3)	23.6 (15.3-34.3)
30-day	8.58 (7.03-10.4)	9.74 (7.97-11.9)	11.7 (9.50-14.2)	13.2 (10.7-16.3)	15.4 (12.0-19.6)	17.1 (13.0-22.2)	18.8 (13.8-25.2)	20.6 (14.4-28.4)	23.2 (15.5-33.0)	25.3 (16.5-36.6)
45-day	10.7 (8.76-12.9)	11.9 (9.78-14.5)	14.0 (11.4-17.0)	15.7 (12.7-19.2)	18.0 (14.1-22.8)	19.8 (15.1-25.5)	21.6 (15.9-28.6)	23.4 (16.4-32.1)	25.7 (17.3-36.4)	27.5 (17.9-39.7)
60-day	12.4 (10.2-15.0)	13.7 (11.3-16.6)	15.9 (13.0-19.3)	17.7 (14.4-21.6)	20.1 (15.8-25.3)	22.1 (16.8-28.2)	23.9 (17.5-31.4)	25.7 (18.1-35.1)	27.9 (18.8-39.3)	29.5 (19.3-42.4)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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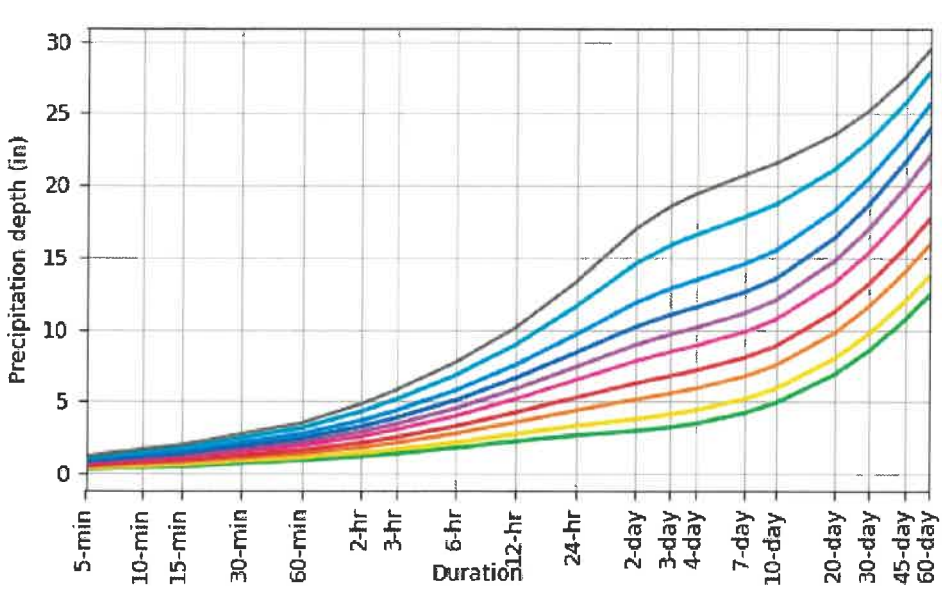
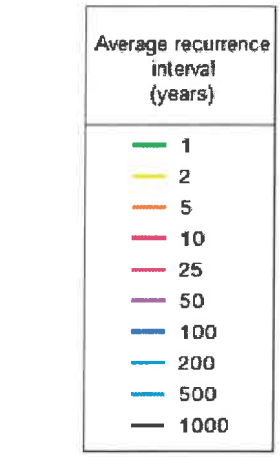
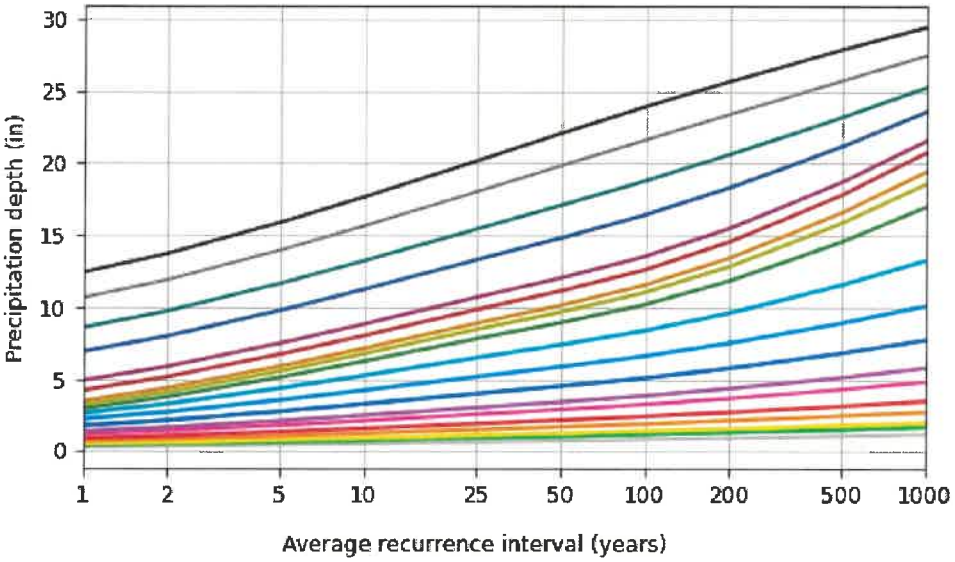
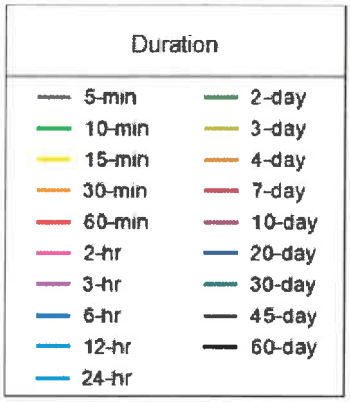
PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 42.9805°, Longitude: -70.9620°









NOAA Atlas 14, Volume 10, Version 3

Created (GMT): Sun Jul 13 23:58:23 2025

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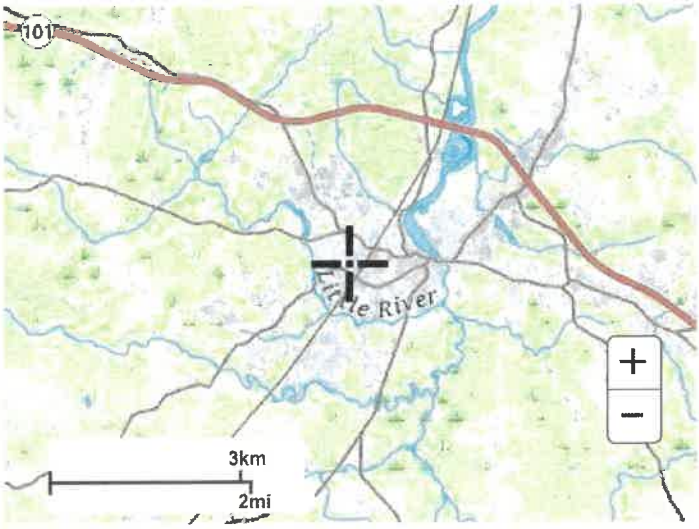
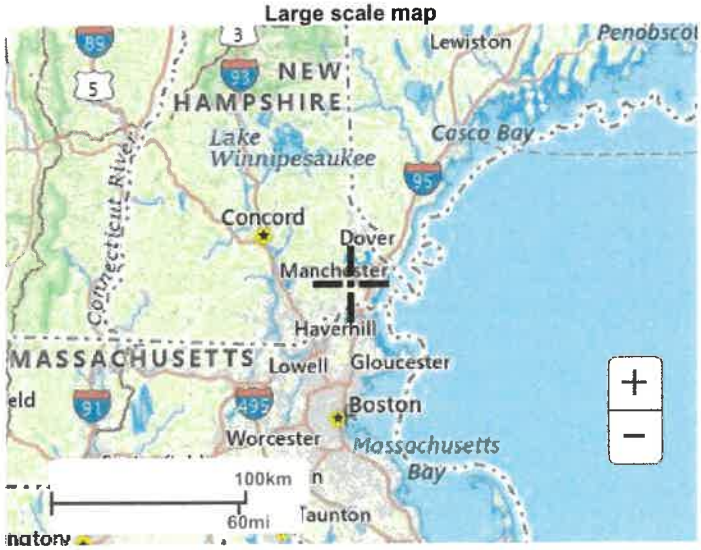
Maps & aerials

Small scale terrain



Large scale terrain

Large scale map



Large scale aerial

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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

4 NRCS WEB SOIL SURVEY REPORT

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,160 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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 27, Sep 3, 2024

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
599	Urban land-Hoosic complex, 3 to 15 percent slopes	4.6	100.0%
Totals for Area of Interest		**4.6**	**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.

5 EPA PERFORMANCE CURVES FOR SOIL INFILTRATION RATE: INFILTRATION TRENCH

According to the 2025 New Hampshire Stormwater Manual, the pollutant removal efficiencies of infiltration trenches is to be determined by EPA Performance Curves and varies depending on the infiltration rate and depth of runoff from impervious areas. In this case, where the sub-grade of the porous paver systems acts exactly like a typical infiltration trench, the EPA Performance curve for infiltration trenches with an infiltration rate corresponding with the Ksat value obtained from testing was utilized to determine the pollutant removal efficiency of the porous paver systems.

As seen from the following Performance Curves, all porous paver systems provide more than the required amount of pollutant removal efficiencies listed within the Site Plan Review and Subdivision Regulations for the Town of Exeter New Hampshire.

BMP Performance Curves for Soil Infiltration Rate: Infiltration Trench

POROUS PAVER SYSTEM #1 (POND P20)

DESIGN INFILTRATION RATE = 6.2 IN/HR

CURVE CLOSEST TO, BUT NOT MORE THAN DESIGN RATE = 2.41 IN/HR

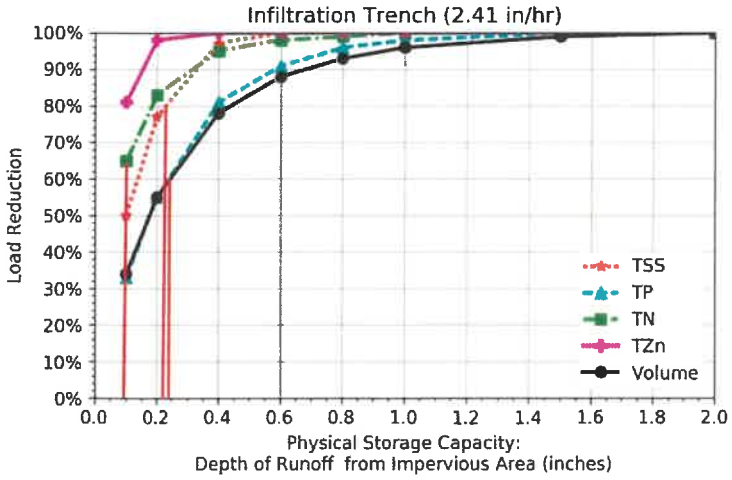
MIN. POLLUTANT REMOVAL REQUIREMENTS =
60% TOTAL NITROGEN
60% TOTAL PHOSPHORUS
80% TOTAL SUSPENDED SOLIDS

MIN. RUNOFF DEPTH (RD) TO MEET MIN. REMOVAL REQUIREMENTS =
TOTAL NITROGEN = 0.1"
TOTAL PHOSPHORUS = 0.25"
TOTAL SUSPENDED SOLIDS = 0.25"

MIN. RUNOFF DEPTH TO MEET ALL REMOVAL REQUIREMENTS = 0.25"

MIN. DESIGN STORAGE VOLUME (DSV) =
DSV = (RUNOFF DEPTH) * (IMPERVIOUS AREA)
DSV = ((0.25")/12) * ((0.53 AC)*(43,560 S.F.))
DSV REQUIRED = 481 C.F.

DSV PROVIDED = 265 C.F. (SEE DESIGNER NOTES ON BMP WORKSHEET)



BMP Performance Curves for Soil Infiltration Rate: Infiltration Trench

POROUS PAVER SYSTEM #2 (POND P21)

DESIGN INFILTRATION RATE = 7.076 IN/HR

CURVE CLOSEST TO, BUT NOT MORE THAN DESIGN RATE = 2.41 IN/HR

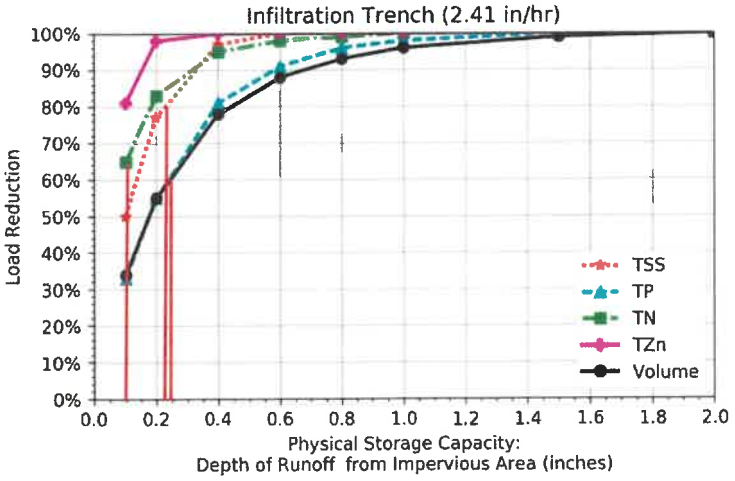
MIN. POLLUTANT REMOVAL REQUIREMENTS =
60% TOTAL NITROGEN
60% TOTAL PHOSPHORUS
80% TOTAL SUSPENDED SOLIDS

MIN. RUNOFF DEPTH (RD) TO MEET MIN. REMOVAL REQUIREMENTS =
TOTAL NITROGEN = 0.1"
TOTAL PHOSPHORUS = 0.25"
TOTAL SUSPENDED SOLIDS = 0.25"

MIN. RUNOFF DEPTH TO MEET ALL REMOVAL REQUIREMENTS = 0.25"

MIN. DESIGN STORAGE VOLUME (DSV) =
DSV = (RUNOFF DEPTH) * (IMPERVIOUS AREA)
DSV = ((0.25")/12) * ((0.24 AC)*(43,560 S.F.))
DSV REQUIRED = 217.8 C.F.

DSV PROVIDED = 1,422 C.F. (SEE DESIGNER NOTES ON BMP WORKSHEET)



BMP Performance Curves for Soil Infiltration Rate: Infiltration Trench

POROUS PAVER SYSTEM #3 (POND P22)

DESIGN INFILTRATION RATE = 9.98 IN/HR

CURVE CLOSEST TO, BUT NOT MORE THAN DESIGN RATE = 2.41 IN/HR

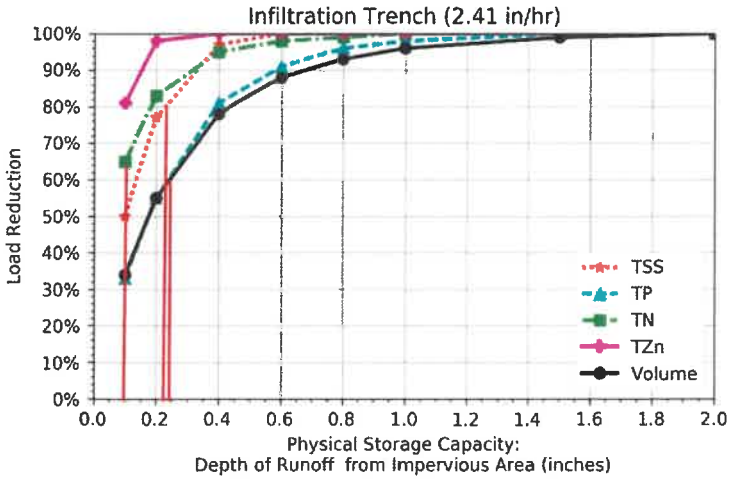
MIN. POLLUTANT REMOVAL REQUIREMENTS =
60% TOTAL NITROGEN
60% TOTAL PHOSPHORUS
80% TOTAL SUSPENDED SOLIDS

MIN. RUNOFF DEPTH (RD) TO MEET MIN. REMOVAL REQUIREMENTS =
TOTAL NITROGEN = 0.1"
TOTAL PHOSPHORUS = 0.25"
TOTAL SUSPENDED SOLIDS = 0.25"

MIN. RUNOFF DEPTH TO MEET ALL REMOVAL REQUIREMENTS = 0.25"

MIN. DESIGN STORAGE VOLUME (DSV) =
DSV = (RUNOFF DEPTH) * (IMPERVIOUS AREA)
DSV = ((0.25")/12) * ((0.03 AC)*(43,560 S.F.))
DSV REQUIRED = 27 C.F.

DSV PROVIDED = 484 C.F. (SEE DESIGNER NOTES ON BMP WORKSHEET)



6 BMP WORKSHEETS

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **POROUS PAVER SYSTEM #1 (POND P20)**

Enter the type of infiltration practice (such as basin, trench) and the node name in the drainage analysis, if applicable.

		Have you reviewed Env-Wq 1508.07(a) to ensure that infiltration is allowed?	← yes
0.56	ac	A = Area draining to the practice	
0.53	ac	A_I = Impervious area draining to the practice	
0.95	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.90	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.51	ac-in	WQV= 1" x Rv x A	
1,833	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
458	cf	25% x WQV (check calc for sediment forebay volume)	
N/A		Method of pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	≥ 25%WQV
265	cf	V = Volume[1] (attach a stage-storage table)	≥ WQV
904	sf	A_{SA} = Surface area of the bottom of the pond	
6.20	iph	$Ksat_{DESIGN}$ = Design infiltration rate[2]	
3.9	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	≤ 72-hrs
60.89	feet	E_{BTM} = Elevation of the bottom of the basin	
60.88	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
60.88	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
0.01	feet	D_{SHWT} = Separation from SHWT	≥ *[3]
0.0	feet	D_{ROCK} = Separation from bedrock	≥ *[3]
	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	≥ 24"
	ft	D_T = Depth of trench, if trench proposed	4 - 10 ft
	Yes/No	If a trench or underground system is proposed, has observation well been provided?	←yes
		If a trench is proposed, does material meet Env-Wq 1508.07(k)(2) requirements.[4]	← yes
	Yes/No	If a basin is proposed, Is the perimeter curvilinear, and basin floor flat?	← yes
	:1	If a basin is proposed, pond side slopes.	≥3:1
60.99	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
61.04	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
62.11	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	← yes
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← yes

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. $Ksat_{DESIGN}$ includes a factor of safety. See Env-Wq 1504.14 for requirements for determining the infiltr. rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes: ALTHOUGH THE ENTIRETY OF THE WQV IS NOT PROVIDED WITHIN THE SYSTEM, THE PRACTICE NEVER OVERTOPS. THIS SHOWS THAT EVEN THOUGH THE ENTIRETY OF THE WQV CANNOT BE STORED IN THE SYSTEM, THE ENTIRETY OF THE WQV IS STILL TREATED THROUGH THIS PRACTICE. FOR THE SAME REASONING, POLLUTANT REMOVAL REQUIREMENTS ARE EXCEEDED.

Stage-Area-Storage for Pond P20: POROUS PAVERS #1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
60.89	904	0
60.91	918	7
60.93	923	15
60.95	926	23
60.97	928	30
60.99	930	38
61.01	932	46
61.03	932	54
61.05	**933**	61
61.07	**933**	69
61.09	932	77
61.11	931	85
61.13	930	93
61.15	928	100
61.17	925	108
61.19	921	116
61.21	915	123
61.23	904	130
61.25	904	138
61.27	904	145
61.29	904	152
61.31	904	159
61.33	904	167
61.35	904	174
61.37	904	181
61.39	904	186
61.41	904	189
61.43	904	191
61.45	904	194
61.47	904	197
61.49	904	200
61.51	904	202
61.53	904	205
61.55	904	208
61.57	904	210
61.59	904	213
61.61	904	216
61.63	904	219
61.65	904	221
61.67	904	224
61.69	904	227
61.71	904	229
61.73	904	230
61.75	904	231
61.77	904	232
61.79	904	233
61.81	904	234
61.83	904	235
61.85	904	236
61.87	904	237
61.89	904	238
61.91	904	238
61.93	904	239
61.95	904	240
61.97	904	241
61.99	904	242
62.01	904	243
62.03	904	244
62.05	904	245
62.07	904	246
62.09	904	247
62.11	904	**256**

TOP OF SYSTEM = 62.11

STORAGE PROVIDED @ 62.11 = 256 C.F.

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **POROUS PAVER SYSTEM #2 (POND P21)**

Enter the type of infiltration practice (such as basin, trench) and the node name in the drainage analysis, if applicable.

		Have you reviewed Env-Wq 1508.07(a) to ensure that infiltration is allowed?	← yes
0.26	ac	A = Area draining to the practice	
0.24	ac	A_I = Impervious area draining to the practice	
0.92	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.88	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.23	ac-in	WQV= 1" x Rv x A	
831	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
208	cf	25% x WQV (check calc for sediment forebay volume)	
N/A		Method of pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	≥ 25%WQV
1,422	cf	V = Volume[1] (attach a stage-storage table)	≥ WQV
2,294	sf	A_{SA} = Surface area of the bottom of the pond	
7.08	iph	$Ksat_{DESIGN}$ = Design infiltration rate[2]	
0.6	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	≤ 72-hrs
60.59	feet	E_{BTM} = Elevation of the bottom of the basin	
60.58	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
60.58	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
0.01	feet	D_{SHWT} = Separation from SHWT	≥ *[3]
0.0	feet	D_{ROCK} = Separation from bedrock	≥ *[3]
	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	≥ 24"
	ft	D_T = Depth of trench, if trench proposed	4 - 10 ft
	Yes/No	If a trench or underground system is proposed, has observation well been provided?	←yes
		If a trench is proposed, does material meet Env-Wq 1508.07(k)(2) requirements.[4]	← yes
	Yes/No	If a basin is proposed, Is the perimeter curvilinear, and basin floor flat?	← yes
	:1	If a basin is proposed, pond side slopes.	≥3:1
60.64	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
60.65	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
62.69	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	← yes
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← yes

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. $Ksat_{DESIGN}$ includes a factor of safety. See Env-Wq 1504.14 for requirements for determining the infiltr. rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes:

Stage-Area-Storage for Pond P21: POROUS PAVERS #2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
60.59	2,294	0
60.64	2,304	46
60.69	2,307	93
60.74	**2,308**	139
60.79	**2,308**	186
60.84	2,306	232
60.89	2,303	279
60.94	2,294	325
60.99	2,294	371
61.04	2,294	417
61.09	2,294	463
61.14	2,294	508
61.19	2,294	554
61.24	2,294	600
61.29	2,294	646
61.34	2,294	692
61.39	2,294	738
61.44	2,294	784
61.49	2,294	830
61.54	2,294	875
61.59	2,294	921
61.64	2,294	967
61.69	2,294	1,013
61.74	2,294	1,059
61.79	2,294	1,105
61.84	2,294	1,151
61.89	2,294	1,197
61.94	2,294	1,243
61.99	2,294	1,271
62.04	2,294	1,288
62.09	2,294	1,306
62.14	2,294	1,323
62.19	2,294	1,340
62.24	2,294	1,357
62.29	2,294	1,374
62.34	2,294	1,380
62.39	2,294	1,386
62.44	2,294	1,392
62.49	2,294	1,397
62.54	2,294	1,403
62.59	2,294	1,409
62.64	2,294	1,415
62.69	2,294	**1,442**

TOP OF SYSTEM = 62.69

STORAGE PROVIDED @ 62.69 = 1,422 C.F.

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **POROUS PAVER SYSTEM #3 (POND P22)**

Enter the type of infiltration practice (such as basin, trench) and the node name in the drainage analysis, if applicable.

		Have you reviewed Env-Wq 1508.07(a) to ensure that infiltration is allowed?	← yes
0.04	ac	A = Area draining to the practice	
0.03	ac	A_I = Impervious area draining to the practice	
0.81	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.78	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.03	ac-in	WQV= 1" x Rv x A	
105	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
26	cf	25% x WQV (check calc for sediment forebay volume)	
N/A		Method of pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	≥ 25%WQV
484	cf	V = Volume[1] (attach a stage-storage table)	≥ WQV
1,276	sf	A_{SA} = Surface area of the bottom of the pond	
9.98	iph	$Ksat_{DESIGN}$ = Design infiltration rate[2]	
0.1	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	≤ 72-hrs
61.80	feet	E_{BTM} = Elevation of the bottom of the basin	
61.79	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
61.79	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
0.01	feet	D_{SHWT} = Separation from SHWT	≥ *[3]
0.0	feet	D_{ROCK} = Separation from bedrock	≥ *[3]
	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	≥ 24"
	ft	D_T = Depth of trench, if trench proposed	4 - 10 ft
	Yes/No	If a trench or underground system is proposed, has observation well been provided?	←yes
		If a trench is proposed, does material meet Env-Wq 1508.07(k)(2) requirements.[4]	← yes
	Yes/No	If a basin is proposed, Is the perimeter curvilinear, and basin floor flat?	← yes
	:1	If a basin is proposed, pond side slopes.	≥3:1
61.82	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
61.82	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
63.27	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	← yes
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← yes

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. $Ksat_{DESIGN}$ includes a factor of safety. See Env-Wq 1504.14 for requirements for determining the infiltr. rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes:

Stage-Area-Storage for Pond P22: POROUS PAVERS #3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
61.80	1,276	0
61.82	1,287	10
61.84	1,291	21
61.86	1,293	31
61.88	1,295	42
61.90	1,296	53
61.92	1,297	63
61.94	1,298	74
61.96	**1,298**	84
61.98	**1,298**	95
62.00	1,298	106
62.02	1,297	116
62.04	1,296	127
62.06	1,295	138
62.08	1,292	148
62.10	1,289	159
62.12	1,285	169
62.14	1,276	179
62.16	1,276	190
62.18	1,276	200
62.20	1,276	210
62.22	1,276	220
62.24	1,276	230
62.26	1,276	241
62.28	1,276	251
62.30	1,276	261
62.32	1,276	271
62.34	1,276	281
62.36	1,276	292
62.38	1,276	302
62.40	1,276	312
62.42	1,276	322
62.44	1,276	333
62.46	1,276	343
62.48	1,276	353
62.50	1,276	363
62.52	1,276	373
62.54	1,276	384
62.56	1,276	387
62.58	1,276	391
62.60	1,276	395
62.62	1,276	399
62.64	1,276	403
62.66	1,276	407
62.68	1,276	410
62.70	1,276	414
62.72	1,276	418
62.74	1,276	422
62.76	1,276	426
62.78	1,276	429
62.80	1,276	433
62.82	1,276	437
62.84	1,276	441
62.86	1,276	445
62.88	1,276	447
62.90	1,276	449
62.92	1,276	450
62.94	1,276	451
62.96	1,276	452
62.98	1,276	454
63.00	1,276	455
63.02	1,276	456
63.04	1,276	458
63.06	1,276	459
63.08	1,276	460
63.10	1,276	461
63.12	1,276	463
63.14	1,276	464
63.16	1,276	465
63.18	1,276	466
63.20	1,276	468
63.22	1,276	469
63.24	1,276	470
63.26	1,276	472
63.28	1,276	**497**

TOP OF SYSTEM = 63.27

STORAGE PROVIDED @ 63.27 = 484 C.F.

7 GROUNDWATER RECHARGE CALCULATION

GROUNDWATER RECHARGE VOLUME (GRV)
(Env-Wq 1504.12)

0.08	ac	Area of HSG A soil that was replaced by impervious cover	0.40"
	ac	Area of HSG B soil that was replaced by impervious cover	0.25"
	ac	Area of HSG C soil that was replaced by impervious cover	0.10"
	ac	Area of HSG D soil or impervious cover that was replaced by impervious cover	0.0"
0.40	inches	Rd = Weighted groundwater recharge depth	
0.032	ac-in	GRV = AI * Rd	
116	cf	GRV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
←	Y/N	Is a stage-storage table attached showing that the GRV can be stored below the lowest invert of the outlet structure (if applicable)? Multiple stormwater control measures may be used to meet the GRV requirements.	

Provide calculations/discussion below showing that the project meets the groundwater recharge requirements (Env-Wq 1507.04):

STORAGE BELOW THE LOWEST INVERT:

POROUS PAVER SYSTEM #1 = 265 C.F.

POROUS PAVER SYSTEM #2 = 1,422 C.F.

POROUS PAVER SYSTEM #3 = 484 C.F.

GRV PROVIDED = 2,171 C.F.

8 TEST PIT LOG

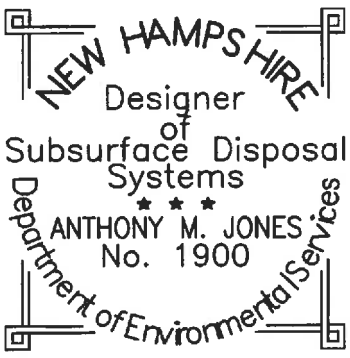
TEST PITS
FOR
73 WINTER STREET
EXETER, NEW HAMPSHIRE
June 19, 2025
JBE Project No. 05241.1

Performed by: Anthony Jones, Jones & Beach Engineers, Inc., SSD #1900

Test Pit #1

0"- 8"	10YR 3/3	dark brown fine sandy loam granular, very friable many roots
8" – 24"	10YR 4/6	dark yellowish brown sand granular, very friable many faint redox few roots
24" – 36"	2.5Y 5/4	grayish brown fine sand, with silty clay pockets Massive, firm many faint redox

SHWT = 24"
Roots: 24"
No H_2O observed
No Refusal observed



Test Pit #2

0"- 14"	10YR 3/3	dark brown fine sandy loam granular, friable common roots
14" – 26"	10YR 5/6	yellowish brown fine sandy loam granular, very friable few roots
26" – 48"	2.5Y 5/4	light olive brown fine sand, with silty clay pockets massive, friable many faint redox

SHWT = 26"
Roots: 26"
No H_2O observed
No Refusal observed

NEW HAMPSHIRE
Designer
of
Subsurface Disposal
Systems
ANTHONY M. JONES
No. 1900
Department of Environmental Services

9 INFILTRATION TESTING DATA & RESULTS

AMOOZEMETER DATA SHEET

JONES&BEACH ENGINEERS INC.

Project #: 05241.1
Test Pit #: 1
Permeameter Test #: 1
Date: 08/12/2025
Location: PAVER SECTION #1
Soil Map Unit Series:
Horizon: B / C (circle one)

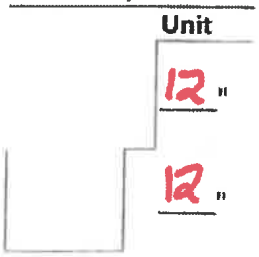
Outflow Chamber(s) Used (circle one) :
Associated Conversion Factor:

Small ("1 on")	Both ("2 on")
(= 20.0cm^2)	(= 105.0 cm^2)

Data Collection Interval (circle one) :
15 SEC

30 Sec. 1 Min. 2 Min.

Test hole profile:



Calculation Formulas:

D = (AxB)/C

E = D x 0.001056

F = E / 2.54

Notes: Mulitply "D" by 0.001056 for a conversion from cm^3/hr to cm/hr
Multiply "E" by 0.393701 for conversion fro cm/hr to in/hr

AMOOZEMETER DATA SHEET

JONES&BEACH ENGINEERS INC.

Project #: 05241.1
Test Pit #: 1
Permeameter Test #: 2
Date: 08 / 12 / 2025
Location: PAVER SECTION #1
Soil Map Unit Series:
Horizon: B / C (circle one)

Outflow Chamber(s) Used (circle one) :
Associated Conversion Factor:

Small ("1 on")	Both ("2 on")
(= 20.0cm^2)	(= 105.0 cm^2)

Data Collection Interval (circle one) :
15 SEC

30 Sec. 1 Min. 2 Min.

Test hole profile:

Unit	
12	"
12	"

Calculation Formulas:

D = (AxB)/C

E = D x 0.001056

F = E / 2.54

Notes: Mulitply "D" by 0.001056 for a conversion from cm^3/hr to cm/hr

Multiply "E" by 0.393701 for conversion fro cm/hr to in/hr

AMOOZEMETER DATA SHEET

JONES&BEACH ENGINEERS INC.

Project #: 05241.1
Test Pit #: 1
Permeameter Test #: 3
Date: 08/12/2025
Location: PAVER SECTION 41
Soil Map Unit Series:
Horizon: B / C (circle one)

Outflow Chamber(s) Used (circle one) :
Associated Conversion Factor:

Small ("1 on")
(= 20.0cm^2)

Both ("2 on")
(= 105.0 cm^2)

Data Collection Interval (circle one) :
15 SEC

30 Sec. 1 Min. 2 Min.

Test hole profile:

	Unit
12	"
12	"

Calculation Formulas:

D = (AxB)/C

E = D x 0.001056

F = E / 2.54

Notes: Mulitply "D" by 0.001056 for a conversion from cm^3/hr to cm/hr

Multiply "E" by 0.393701 for conversion fro cm/hr to in/hr

AMOOZEMETER DATA SHEET

JONES&BEACH ENGINEERS INC.

Project #: 05241.1
Test Pit #: 2
Permeameter Test #: 1
Date:
Location: PAVER SECTION 2
Soil Map Unit Series:
Horizon: B / C (circle one)

Outflow Chamber(s) Used (circle one) :
Associated Conversion Factor:

Small ("1 on")	Both ("2 on")
(= 20.0cm^2)	(= 105.0 cm^2)

Data Collection Interval (circle one) :
15 SEC

30 Sec. 1 Min. 2 Min.

Test hole profile:

Unit

14 "

12 "

Calculation Formulas:

D = (AxB)/C

E = D x 0.001056

F = E / 2.54

Notes: Mulitply "D" by 0.001056 for a conversion from cm^3/hr to cm/hr

Multiply "E" by 0.393701 for conversion fro cm/hr to in/hr

AMOOZEMETER DATA SHEET

JONES & BEACH ENGINEERS INC.

Project #: 05241.1
Test Pit #: 2
Permeameter Test #: 2
Date: 08/12/2025
Location: PAVER SECTION 2
Soil Map Unit Series:
Horizon: B / C (circle one)

Outflow Chamber(s) Used (circle one) :
Associated Conversion Factor:

Small ("1 on")
(= 20.0cm^2)

Both ("2 on")
(= 105.0 cm^2)

Data Collection Interval (circle one) :
15 SEC

30 Sec. **1 Min.** **2 Min.**

Test hole profile:

Unit	
14	"
12	"

Calculation Formulas:

D = (AxB)/C

E = D x 0.001056

F = E / 2.54

Notes: Mulitply "D" by 0.001056 for a conversion from cm^3/hr to cm/hr

Multiply "E" by 0.393701 for conversion fro cm/hr to in/hr

AMOOZEMETER DATA SHEET

JONES&BEACH ENGINEERS INC.

Project #: 05241.1
Test Pit #: 2
Permeameter Test #: 3
Date: 08/12/2025
Location: PAVER SECTION 2
Soil Map Unit Series:
Horizon: B / C (circle one)

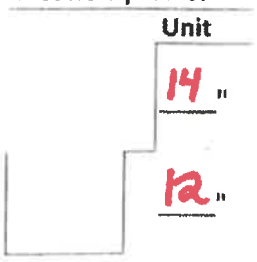
Outflow Chamber(s) Used (circle one) :
Associated Conversion Factor:

Small ("1 on")	Both ("2 on")
(= 20.0cm^2)	(= 105.0 cm^2)

Data Collection Interval (circle one) :
15 SEC

30 Sec. 1 Min. 2 Min.

Test hole profile:



Calculation Formulas:

D = (AxB)/C

E = D x 0.001056

F = E / 2.54

Notes: Mulitply "D" by 0.001056 for a conversion from cm^3/hr to cm/hr

Multiply "E" by 0.393701 for conversion fro cm/hr to in/hr

AMOOZEMETER DATA SHEET

JONES&BEACH ENGINEERS INC.

Project #: 05241.1
Test Pit #: 2
Permeameter Test #: 1
Date: 08/12/2025
Location: PAVER SECTION #3
Soil Map Unit Series:
Horizon: B / C (circle one)

Outflow Chamber(s) Used (circle one) :
Associated Conversion Factor:

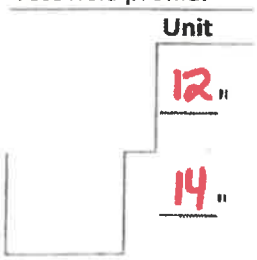
Small ("1 on")
(= 20.0cm^2)

Both ("2 on")
(= 105.0 cm^2)

Data Collection Interval (circle one) :
15 SEC

30 Sec. **1 Min.** **2 Min.**

Test hole profile:



Calculation Formulas:

D = (AxB)/C

E = D x 0.001056

F = E / 2.54

Notes: Mulitply "D" by 0.001056 for a conversion from cm^3/hr to cm/hr

Multiply "E" by 0.393701 for conversion fro cm/hr to in/hr

AMOOZEMETER DATA SHEET

JONES & BEACH ENGINEERS INC.

Project #: 05241.1
Test Pit #: 2
Permeameter Test #: 2
Date: 08 / 12 / 2025
Location: PAVER SECTION #3
Soil Map Unit Series:
Horizon: B / C (circle one)

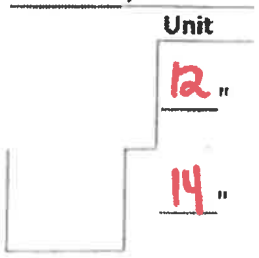
Outflow Chamber(s) Used (circle one) :
Associated Conversion Factor:

Small ("1 on")	Both ("2 on")
(= 20.0cm^2)	(= 105.0 cm^2)

Data Collection Interval (circle one) :
15 SEC

30 Sec. 1 Min. 2 Min.

Test hole profile:



Calculation Formulas:

D = (AxB)/C

E = D x 0.001056

F = E / 2.54

Notes: Mulitply "D" by 0.001056 for a conversion from cm^3/hr to cm/hr

Multiply "E" by 0.393701 for conversion fro cm/hr to in/hr

AMOOZEMETER DATA SHEET

JONES&BEACH ENGINEERS INC.

Project #: 05241.1
Test Pit #: 2
Permeameter Test #: 3
Date: 08/12/2025
Location: PAVER SECTION #3
Soil Map Unit Series:
Horizon: B / C (circle one)

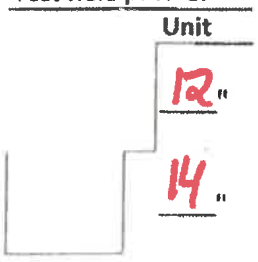
Outflow Chamber(s) Used (circle one) :
Associated Conversion Factor:

Small ("1 on")	Both ("2 on")
(= 20.0cm^2)	(= 105.0 cm^2)

Data Collection Interval (circle one) :
15 SEC

30 Sec. 1 Min. 2 Min.

Test hole profile:



Calculation Formulas:

D = (AxB)/C

E = D x 0.001056

F = E / 2.54

Notes: Mulitply "D" by 0.001056 for a conversion from cm^3/hr to cm/hr

Multiply "E" by 0.393701 for conversion fro cm/hr to in/hr

Paver Section #1 - Test #1

Height	Constant	Time		Outflow	Rate (K_{sat})	
cm	cm^2	Minutes	Hours	cm^3/hr	cm/hr	in/hr
0						
1.4	105	0.25	0.004167	35280.0	37.2557	14.6676
2.5	105	0.5	0.008333	31500.0	33.2640	13.0961
3.5	105	0.75	0.0125	29400.0	31.0464	12.2230
4.5	105	1	0.016667	28350.0	29.9376	11.7865
5.4	105	1.25	0.020833	27216.0	28.7401	11.3150

Mean	**12.6176**
σ (Std. Dev.)	**1.1811**

Constant	105	cm^2
Glover Coefficient:	0.001056	$1/cm^2$

Calculations:

Constant = 20 cm^2 for one tube, 105 cm^2 for two tubes (two tubes used)

Hours = Minutes / 60

Outflow = (Height*Constant)/Hours

Ksat = Outflow*Glover Coefficient

Average of All Tests = 12.4 iph

With factor of safety of two = **6.2** iph

Paver Section #1 - Test #2

Height	Constant	Time		Outflow	Rate (K_{sat})	
cm	cm^2	Minutes	Hours	cm^3/hr	cm/hr	in/hr
0						
1.3	105	0.25	0.004167	32760.0	34.5946	13.6199
2.3	105	0.5	0.008333	28980.0	30.6029	12.0484
3.3	105	0.75	0.0125	27720.0	29.2723	11.5245
4.3	105	1	0.016667	27090.0	28.6070	11.2626
5.2	105	1.25	0.020833	26208.0	27.6756	10.8959

Mean	**11.8703**
σ (Std. Dev.)	**0.9520**

Constant	105	cm^2
Glover Coefficient:	0.001056	$1/cm^2$

Calculations:

Constant = 20 cm^2 for one tube, 105 cm^2 for two tubes (two tubes used)

Hours = Minutes / 60

Outflow = (Height*Constant)/Hours

Ksat = Outflow*Glover Coefficient

Average of All Tests = 12.4 iph

With factor of safety of two = **6.2** iph

Paver Section #1 - Test #3

Height	Constant	Time		Outflow	Rate (K_{sat})	
cm	cm^2	Minutes	Hours	cm^3/hr	cm/hr	in/hr
0						
1.4	105	0.25	0.004167	35280.0	37.2557	14.6676
2.5	105	0.5	0.008333	31500.0	33.2640	13.0961
3.8	105	0.75	0.0125	31920.0	33.7075	13.2707
5.1	105	1	0.016667	32130.0	33.9293	13.3580
6.3	105	1.25	0.020833	31752.0	33.5301	13.2008

Mean	**13.5186**
σ (Std. Dev.)	**0.5809**

Constant	105	cm^2
Glover Coefficient:	0.001056	$1/cm^2$

Calculations:

Constant = 20 cm^2 for one tube, 105 cm^2 for two tubes (two tubes used)

Hours = Minutes / 60

Outflow = (Height*Constant)/Hours

Ksat = Outflow*Glover Coefficient

Average of All Tests = 12.4 iph

With factor of safety of two = **6.2** iph

Paver Section #2 - Test #1

Height	Constant	Time		Outflow	Rate (K_{sat})	
cm	cm^2	Minutes	Hours	cm^3/hr	cm/hr	in/hr
0						
1.5	105	0.25	0.004167	37800.0	39.9168	15.7153
3	105	0.5	0.008333	37800.0	39.9168	15.7153
4.5	105	0.75	0.0125	37800.0	39.9168	15.7153
5.8	105	1	0.016667	36540.0	38.5862	15.1914
6.7	105	1.25	0.020833	33768.0	35.6590	14.0390

Mean	**15.2752**
σ (Std. Dev.)	**0.6506**

Constant	105	cm^2
Glover Coefficient:	0.001056	$1/cm^2$

Calculations:

Constant = 20 cm^2 for one tube, 105 cm^2 for two tubes (two tubes used)

Hours = Minutes / 60

Outflow = (Height*Constant)/Hours

Ksat = Outflow*Glover Coefficient

Average of Tests 1&2 = 14.2 iph

With factor of safety of two = **7.076239** iph

Paver Section #2 - Test #2

Height	Constant	Time		Outflow	Rate (K_{sat})	
cm	cm^2	Minutes	Hours	cm^3/hr	cm/hr	in/hr
0						
1.4	105	0.25	0.004167	35280.0	37.2557	14.6676
2.5	105	0.5	0.008333	31500.0	33.2640	13.0961
3.7	105	0.75	0.0125	31080.0	32.8205	12.9214
4.7	105	1	0.016667	29610.0	31.2682	12.3103
5.8	105	1.25	0.020833	29232.0	30.8690	12.1531

Mean	**13.0297**
σ (Std. Dev.)	**0.8927**

Constant	105	cm^2
Glover Coefficient:	0.001056	$1/cm^2$

Calculations:

Constant = 20 cm^2 for one tube, 105 cm^2 for two tubes (two tubes used)

Hours = Minutes / 60

Outflow = (Height*Constant)/Hours

Ksat = Outflow*Glover Coefficient

Average of Tests 1&2 = 14.2 iph

With factor of safety of two = **7.076239** iph

Paver Section #2 - Test #3 (Discarded from Calculations due to Significantly Higher Ksat Measurement)

Height	Constant	Time		Outflow	Rate (K_{sat})	
cm	cm^2	Minutes	Hours	cm^3/hr	cm/hr	in/hr
0						
3	105	0.25	0.004167	75600.0	79.8336	31.4306
6	105	0.5	0.008333	75600.0	79.8336	31.4306
8.7	105	0.75	0.0125	73080.0	77.1725	30.3829
11.4	105	1	0.016667	71820.0	75.8419	29.8590
13.9	105	1.25	0.020833	70056.0	73.9791	29.1256

Mean	**30.4457**
σ (Std. Dev.)	**0.8978**

Constant	105	cm^2
Glover Coefficient:	0.001056	$1/cm^2$

Calculations:

Constant = 20 cm^2 for one tube, 105 cm^2 for two tubes (two tubes used)

Hours = Minutes / 60

Outflow = (Height*Constant)/Hours

Ksat = Outflow*Glover Coefficient

Average of Tests 1&2 = 14.2 iph

With factor of safety of two = **7.076239** iph

Paver Section #3 - Test #1

Height	Constant	Time		Outflow	Rate (K_{sat})	
cm	cm^2	Minutes	Hours	cm^3/hr	cm/hr	in/hr
0						
2.1	105	0.25	0.004167	52920.0	55.8835	22.0014
4	105	0.5	0.008333	50400.0	53.2224	20.9537
5.6	105	0.75	0.0125	47040.0	49.6742	19.5568
7.1	105	1	0.016667	44730.0	47.2349	18.5964
8.5	105	1.25	0.020833	42840.0	45.2390	17.8106

Mean	**19.7838**
σ (Std. Dev.)	**1.5259**

Constant	105	cm^2
Glover Coefficient:	0.001056	$1/cm^2$

Calculations:

Constant = 20 cm^2 for one tube, 105 cm^2 for two tubes (two tubes used)

Hours = Minutes / 60

Outflow = (Height*Constant)/Hours

Ksat = Outflow*Glover Coefficient

Average of All Tests = 20.0 iph

With factor of safety of two = **9.98** iph

Paver Section #3 - Test #2

Height	Constant	Time		Outflow	Rate (K_{sat})	
cm	cm^2	Minutes	Hours	cm^3/hr	cm/hr	in/hr
0						
2.1	105	0.25	0.004167	52920.0	55.8835	22.0014
4.1	105	0.5	0.008333	51660.0	54.5530	21.4775
5.6	105	0.75	0.0125	47040.0	49.6742	19.5568
7.1	105	1	0.016667	44730.0	47.2349	18.5964
8.6	105	1.25	0.020833	43344.0	45.7713	18.0202

Mean	**19.9305**
σ (Std. Dev.)	**1.5653**

Constant	105	cm^2
Glover Coefficient:	0.001056	$1/cm^2$

Calculations:

Constant = 20 cm^2 for one tube, 105 cm^2 for two tubes (two tubes used)

Hours = Minutes / 60

Outflow = (Height*Constant)/Hours

Ksat = Outflow*Glover Coefficient

Average of All Tests = 20.0 iph

With factor of safety of two = **9.98** iph

Paver Section #3 - Test #3

Height	Constant	Time		Outflow	Rate (K_{sat})	
cm	cm^2	Minutes	Hours	cm^3/hr	cm/hr	in/hr
0						
2.1	105	0.25	0.004167	52920.0	55.8835	22.0014
4.1	105	0.5	0.008333	51660.0	54.5530	21.4775
5.7	105	0.75	0.0125	47880.0	50.5613	19.9060
7.3	105	1	0.016667	45990.0	48.5654	19.1203
8.8	105	1.25	0.020833	44352.0	46.8357	18.4393

Mean	**20.1889**
σ (Std. Dev.)	**1.3586**

Constant	105	cm^2
Glover Coefficient:	0.001056	$1/cm^2$

Calculations:

Constant = 20 cm^2 for one tube, 105 cm^2 for two tubes (two tubes used)

Hours = Minutes / 60

Outflow = (Height*Constant)/Hours

Ksat = Outflow*Glover Coefficient

Average of All Tests = 20.0 iph

With factor of safety of two = **9.98** iph

10 STORMWATER OPERATIONS & MAINTENANCE MANUAL

JONES&BEACH
ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

STORMWATER MANAGEMENT OPERATION AND MAINTENANCE MANUAL

73 Winter Street
Tax Map 73 / Lot 143
Exeter, NH 03833

Prepared for:

Exeter Presbyterian Church
73 Winter Street
Exeter, NH 03833

August 28, 2025
JBE Project No. 05241.1

Inspection and Maintenance of Facilities and Property

A. Maintenance of Common Facilities or Property

1. The property owner, future owners and assigns are responsible to perform the maintenance obligations or hire a Professional Engineer to review the site on an annual basis for maintenance and certification of the stormwater system. The property owner shall keep receipts and records of all maintenance companies hired throughout the year.

B. General Inspection and Maintenance Requirements

1. Permanent stormwater and sediment and erosion control facilities to be maintained on the site include, but are not limited to, the following:

    a. Parking Lot and Roadway
    b. Vegetation and Landscaping
    c. Porous Pavers

2. Maintenance of permanent measures shall follow the following schedule:

    a. Normal winter roadway and parking lot maintenance including plowing and snow removal. Road and parking lot sweeping at the end of every winter, preferably at the start of the spring rain season.

    b. **Annual inspection** of the site for erosion, destabilization, settling, and sloughing. Any needed repairs are to be conducted immediately. **Annual inspection** of site's vegetation and landscaping. Any areas that are bare shall be reseeded and mulched with hay or, if the case is extreme, loamed and seeded or sodded to ensure adequate vegetative cover. Landscape specimens shall be replaced in kind, if they are found to be dead or dying.

    c. Porous Pavers:

    The following recommendations will help assure that the pavers are maintained to preserve its hydrologic effectiveness.

    Winter maintenance:

    - Sanding for winter traction is prohibited. Deicing is permitted (NaCl, $MgCl_2$, 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.

- 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. (more than usual, about an inch).

Routine maintenance:

- Surface seal coating is absolutely forbidden. Surface seal coating is not reversible.
- The paver surface shall be cleaned 2 or 3 times per year, and at any additional times sediment is spilled, eroded, or tracked onto the surface.
- Planted areas adjacent to porous pavers shall be well maintained to prevent soil washout onto the pavement. If any bare spots or eroded areas are observed within the planted areas, they shall be replanted and/or stabilized at once.
- Immediately clean any soil deposited on pavers. Superficial dirt does not necessarily clog the 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.
- Do not allow construction staging, soil/mulch storage, etc. on unprotected paver surface. Contractor to laydown tarps, plywood or removable item and take care not to track material onto unprotected pavers.
- Written and verbal communication to the porous pavers' future owner should make clear the pavement's special purpose and special maintenance requirements such as those listed here.
- 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.

See attached sample forms as a guideline.

Any inquiries in regards to the design, function, and/or maintenance of any one of the above mentioned facilities or tasks shall be directed to the project engineer:

Jones & Beach Engineers, Inc.
85 Portsmouth Avenue
P.O. Box 219
Stratham, NH 03885

T#: (603) 772-4746
F#: (603) 772-0227

Commitment to maintenance requirements

I agree to complete and/or observe all of the required maintenance practices and their respective schedules as outlined above.

_____

Signature

_____

Print Name

_____

Title

_____

Date

Annual Operations and Maintenance Report

The owner, future owners and assigns are responsible to perform the maintenance obligations or hire a Professional Engineer to review the site on an annual basis for maintenance and certification of the stormwater system. The owner shall keep receipts and records of all maintenance companies hired throughout the year along with the following form.

Construction Activity	Date of Inspection	Who Inspected	Findings of Inspector
Parking Lot and Roadway			
Vegetation and Landscaping			
Porous Pavers			

CHECKLIST FOR INSPECTION OF POROUS PAVERS

Location: Inspector:

Date: Time: Site Conditions:

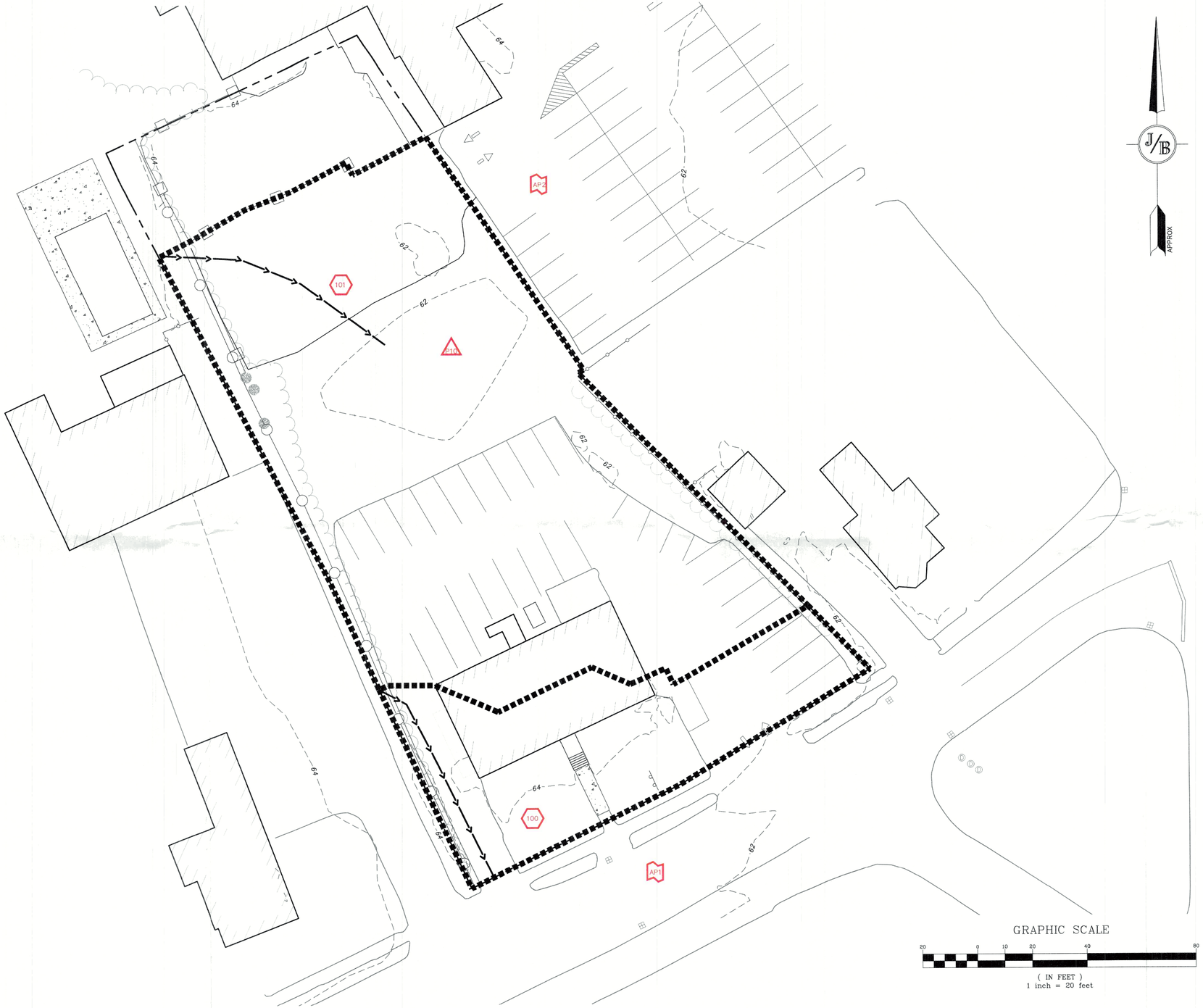
Date Since Last Rain Event:

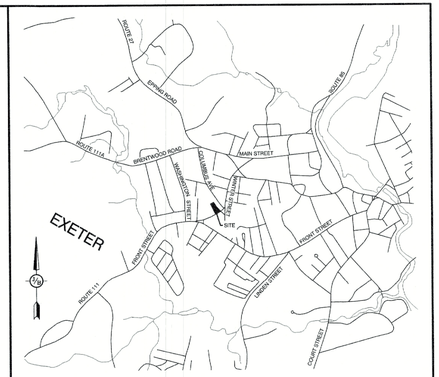
Inspection Items	Satisfactory (S) or Unsatisfactory (U)		Comments/Corrective Action
1. Salt / Deicing			
Use salt only for ice management	S	U	
2. Debris Cleanup (2-4 times a year minimum, Spring & Fall)			
Clean porous pavers to remove sediment and organic debris on the surface	S	U	
Clean overflow grate	S	U	
3. Controlling Run-On (2-4 times a year)			
Adjacent vegetated areas show no signs of erosion and run-on to porous pavement	S	U	
4. Outlet / Catch Basin Inspection (if available) (2 times a year, After large storm events)			
No evidence of blockage	S	U	
Good condition, no need for cleaning/repair	S	U	
5. Poorly Drainage Pavement (2-4 times a year)			
Pavers has been pressure washed	S	U	
6. Pavement Condition (2-4 times a year minimum, Spring & Fall)			
No evidence of deterioration	S	U	
No cuts from utilities visible	S	U	
No evidence of improper design load applied	S	U	
7. Signage / Stockpiling (As Needed)			
Proper signage posted indicating usage for traffic load	S	U	
No stockpiling of materials and no seal coating	S	U	

Corrective Action Needed	Due Date
1.	
2.	

11 PLANS

10.1 EXISTING WATERSHED PLAN
10.2 PROPOSED WATERSHED PLAN





LOCUS SCALE: 1"=2000'

LEGEND

- SUBCATCHMENT BOUNDARY
- SUBCATCHMENT (X)
- REACH (X)
- POND (X)
- TC PATH
- WETLANDS
- HISS SOILS
- FLOW ARROW

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

PROJECT PARCEL
TOWN OF EXETER, NH
TAX MAP 73 LOT 147

APPLICANT/OWNER
EXETER PRESBYTERIAN CHURCH
73 WINTER STREET
EXETER, NH 03833

TOTAL LOT AREA
±37,462 SQ. FT.
±0.86 ACRES

Design: NJL	Draft: NJL	Date: 07/11/2025
Checked: PSL	Scale: AS SHOWN	Project No.: 05241.1
Drawing Name: 05241.1-PLAN.dwg		

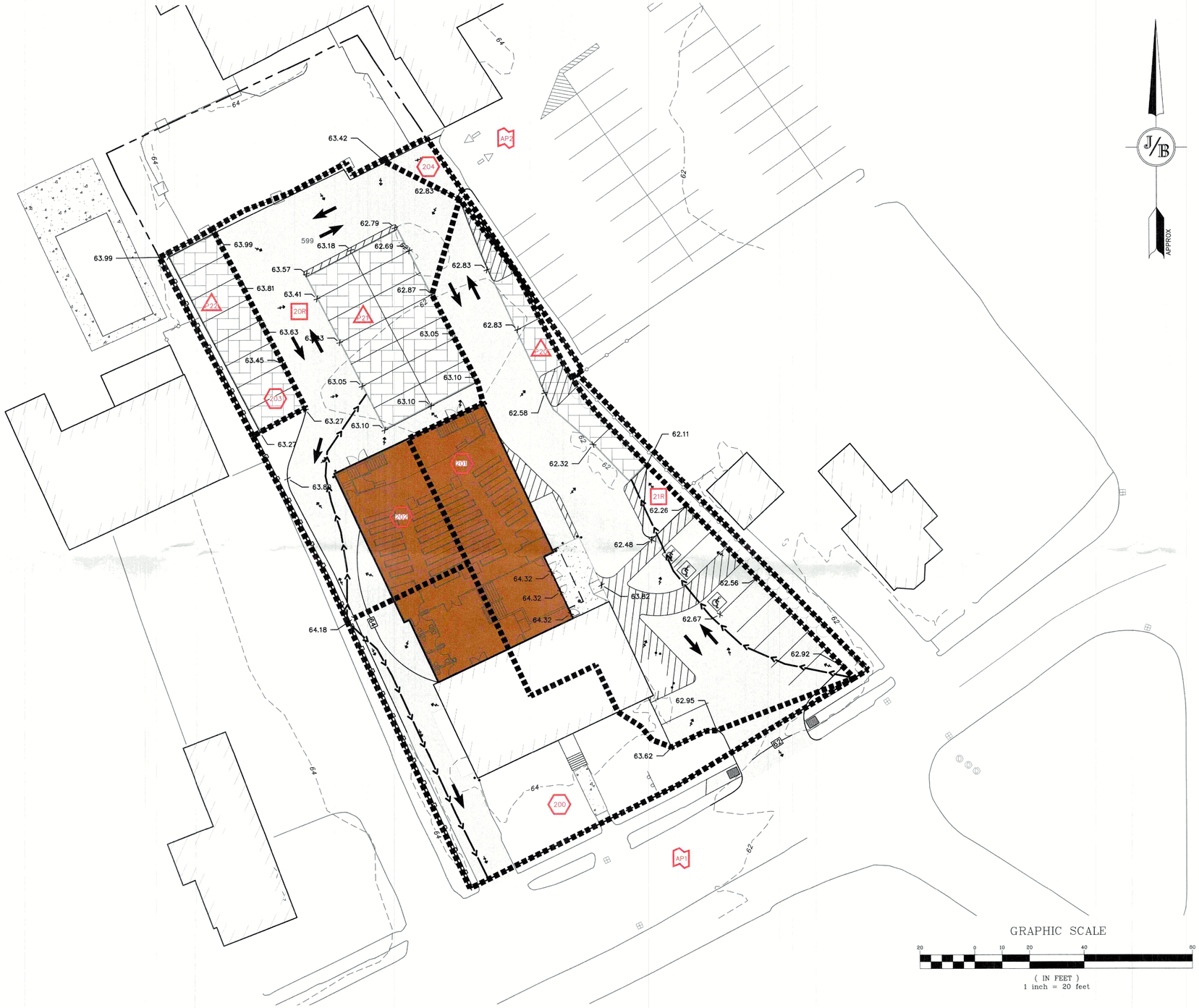
STATE OF NEW HAMPSHIRE — PAIGE S. LIBBEY No. 15670 — LICENSED PROFESSIONAL ENGINEER

REV.	DATE	REVISION	BY
1	08/28/25	REVISED PER TOWN COMMENTS	NJL
0	07/13/25	ISSUED FOR REVIEW	NJL

Designed and Produced in NH
Jones & Beach Engineers, Inc.
Civil Engineering Services
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	EXISTING WATERSHED PLAN
Project:	EXETER PRESBYTERAIN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

DRAWING No.
W1
SHEET 1 OF 2
JBE PROJECT NO. 05241.1



LEGEND

- SUBCATCHMENT BOUNDARY
- SUBCATCHMENT (X)
- REACH (X)
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- WETLANDS
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PROJECT PARCEL
TOWN OF EXETER, NH
TAX MAP 73 LOT 147

APPLICANT/OWNER
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Project:	EXETER PRESBYTERAIN CHURCH 73 WINTER STREET, EXETER, NH
Owner of Record:	EXETER PRESBYTERIAN CHURCH 73 WINTER STREET, EXETER, NH

DRAWING No.
W2
SHEET X OF13
JBE PROJECT NO. 05241.1