

**SITE PLAN REVIEW TECHNICAL ADVISORY COMMITTEE  
PORTSMOUTH, NEW HAMPSHIRE**

**CONFERENCE ROOM A  
CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE**

*Members of the public also have the option to join the meeting over Zoom  
(See below for more details)\**

**2:00 PM**

**February 4, 2025**

**AGENDA**

**I. APPROVAL OF MINUTES**

- A. Approval of minutes from November 21, 2024 Site Plan Review Technical Advisory Committee Meeting.
- B. Approval of minutes from December 3, 2024 Site Plan Review Technical Advisory Committee Meeting.

**II. OLD BUSINESS**

- A. The request of **One Market Square (Owner)**, for property located at **1 (15) Congress Street**. The applicant requested, and received, a 1-year extension to the Site Plan approval from the Planning Board on November 16, 2023. The purpose of this submission is to request an additional 1-year extension of the February 2023 approval to February 16, 2025.

**III. ADJOURNMENT**

*\*Members of the public also have the option to join this meeting over Zoom, a unique meeting ID and password will be provided once you register. To register, click on the link below or copy and paste this into your web browser:*

[https://us06web.zoom.us/webinar/register/WN\\_m5YodO\\_lQzOFw4uW6gse8A](https://us06web.zoom.us/webinar/register/WN_m5YodO_lQzOFw4uW6gse8A)

**SITE PLAN REVIEW TECHNICAL ADVISORY COMMITTEE  
PORTSMOUTH, NEW HAMPSHIRE**

**CONFERENCE ROOM A  
CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE**

*Members of the public also have the option to join the meeting over Zoom  
(See below for more details)\**

**2:00 PM**

**November 5, 2024**

**MEMBERS PRESENT:**

Peter Stith, Chairperson, Planning Manager; David Desfosses, Construction Technician Supervisor; Peter Britz, Director of Planning & Sustainability; Chad Putney, Fire Prevention Officer; Zachary Cronin, Assistant City Engineer; Eric Eby, Parking and Transportation Engineer; Mike Maloney; Deputy Police Chief, Vincent Hayes; Planner I

**MEMBERS ABSENT:**

Patrick Howe, Deputy Fire Chief; Shanti Wolph, Chief Building Inspector

**ADDITIONAL STAFF PRESENT:** Stefanie Casella, Planner II; Kate Homet, Environmental Planner

**MINUTES**

**I. APPROVAL OF MINUTES**

- A. Approval of minutes from October 1, 2024 Site Plan Review Technical Advisory Committee Meeting.

[8:01] P. Britz proposed an edit to the October minutes to include himself as present in the attendance list. He then made a motion to recommend approval of the minutes with the one edit. D. Desfosses seconded the motion. The motion passed unanimously.

**II. OLD BUSINESS**

- A. The request of **635 Sagamore Development LLC (Owner)**, For property located at **635 Sagamore Avenue** requesting Site Plan approval for the removal of the existing structures and construction of 4 single-family dwellings on one lot with associated site improvements. Said property is located on Assessor Map 222 Lot 19 and lies within the Single Residence A (SRA) District. LU-22-209)

**SPEAKING TO THE APPLICATION**

[9:12] Mike Garrepy from Garrepy Planning Consultants came to present this application. He noted that his team had received the comments from Altus and are okay with them. He went on to address the concerns from Altus about the retaining wall. He noted Altus and staff's concerns with the sand system maintenance and stated that monthly or seasonal maintenance would be a responsibility of the future landscaping company.

[13:22] P. Britz asked about the inspection of the sand system and the possibility of building a different type of stormwater system that would not require this level of maintenance. A discussion continued about the maintenance schedule and how to enforce it.

## **PUBLIC HEARING**

[16:33] P. Stith opened the public hearing.

[16:58] Tim McNamara of 579 Sagamore Avenue Unit 19 came to speak. Mr. McNamara noted his concerns about traffic, a potential error in the scale bar on the plans, concern about the positions of buildings 3 and 4 and the Board of Adjustment's analysis of this. Additionally, he mentioned concerns over possible radon levels from blasting, the accuracy of the proposed tree line if there are scale bar issues, increased stormwater intake at Tidewatch, trees, parking, rooflines, drainage and concerns about the aesthetics of the proposed boulder wall.

[36:41] P. Stith closed the public hearing.

## **DISCUSSION AND DECISION OF THE BOARD**

[37:01] P. Britz addressed some of the public comments made during the public hearing.

[38:40] S. Wolph commented on his initial concerns about parking and noted how important it would be for residents to utilize their garage spaces to meet the parking rules.

[40:37] V. Hayes asked if it would be helpful to have a condition precedent that requires clearly marking out the existing tree line that is to remain prior to the commencement of site work. P. Britz and D. Desfosses discussed the handling of the sand filtration system and proposed maintenance.

[43:50] D. Desfosses made a motion to recommend approval of the application to the Planning Board with the following stipulations:

### **The following changes will be made prior to Planning Board submission:**

1. *The stormwater maintenance manual shall be updated for the submission to the Planning Board.*

### **Conditions:**

1. *Trees to remain are clearly marked before site work can commence.*

2. *Monthly and annual reporting of stormwater and drainage infrastructure as defined in the stormwater maintenance manual to the Department of Public Works.*
3. *Engineer to certify that stormwater mitigation system was monitored during construction, is installed as designed and that the system will function in compliance with the proposed drainage study and plan.*
4. *Developer to pay for the installation of the fire hydrant extended to the site. The hydrant was installed exclusively for the benefit of this site. The cost to install was \$20,900.*
5. *Developer to provide fair share contribution for catch basin installed up gradient to the Tidewatch intersection. The catch basin was installed partially for the benefit of this site. The fair share contribution is \$15,208.*

P. Britz seconded the motion. The motion passed unanimously.

**B.** The request of **Oak Street Real Estate Capital (Owner), 100 Durgin Lane Owner, LLC (Applicant)**, for property located at **100 Durgin Lane** requesting Subdivision approval of a lot line adjustment and Site Plan Review approval for the demolition of the existing buildings and the construction of 360 rental housing units in a mix of 3-story and 4-story buildings with associated site improvements including parking, pedestrian access, community spaces, utilities, stormwater management, lighting, and landscaping. Said property is located on Assessor Map 239 Lot 18 and lies within the Gateway Corridor (G1) District. (LU-24-62)

## **SPEAKING TO THE APPLICATION**

[48:16] Neil Hansen (Tighe & Bond), Brett Bentson (architect), Andrew Hayes (owner representative) and Patrick Crimmins (Tigh & Bond) came to present this application. Mr. Hansen proceeded to go through the staff comments and address them.

[50:29] P. Britz asked about the offsite hotel and whether the applicants have spoken to the hotel owners about needing to amend their own site plans for the proposed access changes. Mr. Hayes said that they were aware. C. Putney asked about the existing fire hydrant on that property that was not shown on the plans, and he wondered whether or not it would be staying. Mr. Hansen responded that they were not planning to remove any hydrants from the Hampton Inn property.

[51:42] P. Stith asked if the applicants had confirmed with Weston & Sampson on the sewer, Mr. Hansen responded yes.

## **PUBLIC HEARING**

[52:01] P. Stith opened the public hearing.

[52:16] Tim Phoenix from Hoefle, Phoenix, Gormley & Roberts came to speak on behalf of the New Frontiers church. He mentioned that the church is working with the developer on access and sewer easements that need to be cleaned up or replaced. In addition, the church is concerned about

the Planning Board approval happening before they can finish their legal agreements and finalize documents. They also have concerns about the concept of a street going through a residential parking lot and the liability associated with that.

[55:23] P. Stith closed the public hearing.

## **DISCUSSION AND DECISION OF THE BOARD**

[56:29] P. Britz made a motion to recommend approval of the application to the Planning Board with the following stipulations:

### **The following changes will be made prior to Planning Board submission:**

- 1. R4-7b Keep Right signs to be used at traffic circle, and place signs inside the raised median island, not on the right-hand side of the roadway.*
- 2. NO PARKING signs must be installed at the head of each handicap parking space access aisle that is 8 feet wide, in a location that does not block the accessible route.*
- 3. When W11-2 signs are used at crosswalks, they must also include a W16-7P sign below them.*
- 4. Detail highlighting changes in wetland buffer impacts since conservation commission approval will be included.*

### **Conditions:**

- 1. A CMMP will be required for construction. Portions of that plan will be a proposed utility and access sequencing plan for the two nearby lots that are dependent on this parcel for their utility and access needs. The Department of PW will need to sign off on the proposed plan prior to the CMMP being authorized.*
- 2. Applicant must replace the 6" water main in Woodbury Avenue from Gosling Road to the 16" main on Woodbury Avenue with a new 12" DI pipe installed to City standards.*
- 3. A 10' multi-use path on Durgin Lane must be constructed by the developer all the way to Woodbury Avenue. Multi-use path tip downs are to be concrete with tactile panels as appropriate. Developer will provide a final layout, drainage and striping plan for final review.*
- 4. Continue narrowing Durgin Lane to 28' to provide a grass strip along the road in the area adjacent to the Durgin Plaza parking lot.*
- 5. Third party oversite engineer is required.*

D. Desfosses seconded the motion. The motion passed unanimously.

- C. The request of **Francis E. Mouflouze Revocable Trust of 2015 (Owner)**, for property located at **550 Sagamore Avenue** requesting a subdivision and site review approval to demolish the existing single-family residence and subdivide the lot into three new parcels, each with a single-family dwelling, and associated site improvements, including a private roadway, stormwater management, utilities, and landscaping. Said property is located on Assessor Map 222 Lot 11 and lies within the Single Residence B (SRB) District. (LU-24-166)

### **SPEAKING TO THE APPLICATION**

[59:46] Eric Weinrieb came to present this application. He explained the changes made since the previous application in October and then proceeded to go through staff comments.

### **PUBLIC HEARING**

[1:05:09] P. Stith opened the public hearing.

Stephanie, a potential property owner at 576 Sagamore Avenue, who had recently signed a purchase and sale agreement for the abutting property, came to speak. She requested more time to review the plans and expressed concerns for the property lines, existing trees and a historic rock wall. Mr. Weinrieb responded to her comments.

[1:10:50] Richard Wilder, a rear abutter to the applicant living at 58 Walker Bungalow Road, came to comment on the application. He expressed his concern about the potential for increased stormwater flow and flooding at the riprap apron.

[1:15:24] Alden Sweet of 72 Walker Bungalow Road, came to speak. He noted his concerns for the existing drainage issues and proposed stormwater overflows, as well as traffic and safety. He also stated concern for impacts from blasting if they need to eliminate existing ledge.

[1:19:02] P. Stith closed the public hearing.

### **DISCUSSION AND DECISION OF THE BOARD**

[1:19:10] Mr. Weinrieb responded to comments made during the public hearing.

[1:20:25] S. Wolph asked Mr. Weinrieb if the stormwater system was being oversized to deal with extreme weather events and greater rainfall averages. Mr. Weinrieb responded that they complied with the City requirements using a Cornell study and a 15% threshold which is also what is done with AOT standards and the design is for a 50-year standard.

[1:22:12] D. Desfosses recommended approval of the application to the Planning Board with the following stipulations:

**The following changes will be made prior to Planning Board submission:**

1. Applicant to provide a letter demonstrating compliance with Site Plan Review Regulations 6.2.1, 6.3.4, 6.3.8, 6.3.9, 6.3.14, 6.4, and 6.11.

**Condition Precedent:**

1. Trees to remain are clearly marked and erosion controls in place before site work can commence.

**Conditions:**

1. Applicant will provide a maintenance agreement for right of way.
2. Sewer will require NHDES sewer extension application.
3. A W14-2a sign will be used rather than a W14-2.
4. Engineer to certify that stormwater mitigation system was monitored during construction, is installed as designed and that the system will function in compliance with the proposed drainage study and plan.

P. Britz seconded the motion. The motion passed unanimously.

**III. NEW BUSINESS**

- A. The request of **Shaines & McEachern Company (Owner)**, for property located at **282 Corporate Drive** requesting site review approval from the Pease Development Authority for site improvements related to a new commercial use, including stormwater management, utilities, lighting, and landscaping. Said property is located on Assessor Map 315 Lot 2 and lies within the Airport Business Commercial (ABC) District. (LU-24-169)

**SPEAKING TO THE APPLICATION**

John Chagnon came to present this application along with Austin Pietschman of Port City Air and Mike Mates of the PDA. He explained the parcel history, the proposed use by Port City Air, and the upgrades that need to occur on site. He also noted the jurisdictional wetlands on site and their pending application to the Pease Development Authority for a wetland conditional use permit. Mr. Chagnon proceeded to go through and address staff comments as well.

[1:33:45] Z. Cronin noted that it would be required that the applicant coordinate with the City's grease trap compliance person and maintain the required maintenance logs. D. Desfosses noted that the proposed grades for the catch basins in Corporate Drive that are stated on the plan set should be removed as they imply that the applicant's contractor will be doing that work, when in fact that is City jurisdiction, and it cannot be modified privately. He would like to see those areas on the plans re-identified as planned grades and not proposed.

[1:35:10] P. Britz asked for clarification on where the plantings are to be placed as it was not obvious on the landscaping plan. Mr. Chagnon noted that it is shown in the clouded area designated on plans. He described the layout of the landscaping plan.

D. Desfosses then requested Mr. Chagnon and his office comply with full ADA rules for all aspects of the site work, including sidewalk slopes. Mr. Chagnon responded with their proposed plans for what they can do. They will confirm their compliance.

## **PUBLIC HEARING**

[1:38:09] Chairman Stith opened the public hearing. No one spoke. The public hearing was closed.

## **DISCUSSION AND DECISION OF THE BOARD**

[1:38:43] P. Britz asked if they would be submitting their wetland permit to just the PDA since the site is in the Airport Business District. Mr. Mates responded that the applicant would be submitting their PDA Wetland Conditional Use Permit to the City which would be referred to the Conservation Commission and would then receive a recommendation at the Planning Board which would be sent back to the PDA Planning Board for review. He noted that it is located within the Business Commercial Zone, not the Airport Business District, so it would go to the City first. A discussion continued about the process moving forward and the deadlines for the applicant to submit to the Conservation Commission and Planning Board.

[1:42:34] P. Britz made a motion to recommend approval of the application to the PDA with the following stipulations:

1. *Plans will be updated to reflect NO PARKING signs will be installed at the head of each handicapped parking space access aisle that is 8 feet wide, in a location that does not block the access route.*
2. *Plans will be updated to reflect any disturbance in roadway aprons will result in reinstalled aprons as they currently exist to ensure that the sidewalk system stays ADA compliant.*
3. *Applicant will coordinate with grease trap compliance at DPW.*
4. *Plans will be edited to reflect accurate plan grades in right of way.*
5. *A PDA Conditional Use Permit will be submitted to the Portsmouth Conservation Commission and Planning Board for review and recommendation.*

S. Wolph seconded the motion. The motion passed unanimously.

- B.** The request of **Go-Lo Inc (Owner)**, and **Peter and Michael Labrie (Applicants)**, for property located at **2059 Lafayette Road** requesting to demolish the existing mixed use building and construct a new 8-unit residential building. Said property is located on



Assessor Map 268 Lot 13 and lies within the Mixed Residential Business (MRB) District. (LU-23-191)

## **SPEAKING TO THE APPLICATION**

[1:43:51] Eric Weinrieb, Mark Gianniny, Peter Labrie and Michael Labrie came to present this application. Mr. Weinrieb went on to describe the proposal and its associated proposed lot merger, and he proceeded to address staff comments received prior to the meeting along with Mr. Gianniny.

[1:56:27] P. Britz mentioned that he hoped the applicants would consider converting the site to electric instead of the proposed gas. He also asked about the proposed rain garden and how it would be oriented. Mr. Weinrieb noted that it would be centered in the middle and reduced on the sides. He was still working on the grading for that and potentially making it a little bit shallower. P. Britz recommended increasing plantings near the road to increase buffering from the road.

Chairman Stith noted that the applicants will need to supply a parking demand analysis for their proposed parking CUP.

## **PUBLIC HEARING**

[1:58:42] Chairman Stith opened the public hearing.

S. Wolph requested that Mr. Gianniny update the code referenced on Sheet A1 to the 2017 code as well as the electrical code that was referenced in the plan set.

No one from the public spoke. The public hearing was closed.

## **DISCUSSION AND DECISION OF THE BOARD**

[2:01:09] P. Britz requested that the applicants add fencing to protect the existing trees prior to the start of sitework.

Z. Cronin noted that he could concede on the request for a concrete sidewalk and that it could remain asphalt but that it should extend to Coolidge Drive. D. Desfosses noted that the applicants are proposing to reroute some drainage and wanted to confirm that they had checked the capacity of the storm drainage pipe to ensure there is room for additional flow being sent in that direction. Mr. Weinrieb responded that he had not yet done an analysis of that culvert. Additionally, D. Desfosses noted that the current drainage pipe takes a 90-degree corner at Coolidge Drive which may be an issue if additional flow is added. Mr. Weinrieb agreed to investigate these two impacts.

[2:04:17] V. Hayes asked the applicants how access to the site would go during construction. Mr. Weinrieb responded that it was depicted on the site preparation plans C1, C3 and C4 which will be the existing driveway for the beginning of the project. Once more construction is completed, it will be moved up to the Hoover Drive entrance.

[2:06:24] D. Desfosses noted that he was okay with moving the application forward with conditions. A conversation continued about necessary easements and stormwater monitoring during construction. D. Desfosses made a motion to recommend approval with the following stipulations:

**The following changes will be made prior to Planning Board submission:**

1. *A CUP will be needed to provide 175% of required parking.*
2. *Applicant will include existing vegetation and trees on landscape plan (what is to remain and what is to be removed) and demonstrate compliance with Section 6.2.1 of the Site Plan Review Regulations.*
3. *Applicant will demonstrate compliance with Site Plan Review Regulation 6.11 and note landscape irrigation source and plans.*
4. *Install new 5.5' asphalt sidewalk on Hoover Drive from Lafayette Road to Coolidge Drive to the satisfaction of DPW.*
5. *Change proposed drain manhole on Hoover Drive to in-line catch basin with sump.*
6. *Note added to plan reflecting MEP engineer to determine sizes of proposed fire and domestic water services.*
7. *NO PARKING signs must be installed at the head of each handicap parking space access aisle that is 8 feet wide, in a location that does not block the accessible route.*
8. *Plans updated to reflect tactile panels at the ends of the multi-use path must extend the full width of the path.*
9. *Plans will be updated to reflect the current preferred alternative route for the DOT Route 1 project provides for a 10-foot-wide multi-use path along the site, not 8 feet.*
10. *Applicant will consider bike racks that provide two points of contact with bikes.*
11. *All plans reflect compliance with the City's most up to date building codes.*
12. *Offsite plans will be provided for Hoover Drive that is approved by DPW.*

**Conditions:**

1. *Trees to remain clearly marked and fenced in before site work to commence.*

2. *Engineer to certify that stormwater mitigation system was monitored during construction, is installed as designed and that the system will function in compliance with the proposed drainage study and plan.*
3. *Access to utility room will be provided to DPW for water meter access.*
4. *New plantings will not block sight lines at driveway and vegetation will be cleared within Hoover Drive ROW to provide necessary sight lines.*

P. Britz seconded the motion. The motion passed unanimously.

**C.** The request of **City of Portsmouth (Owner)**, for property located at **680 Peverly Hill Road** requesting TAC input for two building additions and associated site improvements related to stormwater, lighting and utilities. Said property is located on Assessor Map 254 Lot 8 and lies within the Industrial (I) and Municipal (M) Districts. (LU-24-189)

## **SPEAKING TO THE APPLICATION**

Corey Belden of Altus Engineering and Joe Almeida of the City of Portsmouth came to present this application. They had previously been before the Committee for a work session. The applicants proceeded to go through the proposal and noted that they would not need to go through to the Planning Board, just receiving review from TAC.

[2:16:00] C. Putney noted that the applicants need to ensure that the second floor's single exit travel distances should not exceed the requirement.

P. Britz asked about the turning distances and if one is needed for a semi-truck. C. Putney noted that if the shown fire truck can make the turn, then a tractor trailer should be able to make the same turn. Mr. Almeida noted that the bigger challenge for this site will be trucks leaving the bays will need relief and have been given room on the lot to show those trucks being able to exit.

D. Desfosses noted that there was a lack of staff comments but that was because staff had been working closely with the engineer on this project already.

[2:18:39] S. Wolph asked about the multi-stall configuration in the gender-neutral toilets and if that is standard practice for stalls. Mr. Almeida noted that they are walls and not partitions. The walls would be floor to ceiling with doors and the only shared space is for the hand washing station.

## **PUBLIC HEARING**

[2:19:58] Chairman Stith opened the public hearing. No one spoke. The public hearing was closed.

## **DISCUSSION AND DECISION OF THE BOARD**

It was determined that no recommendation was needed and the meeting adjourned.

**IV. ADJOURNMENT**

The meeting adjourned at 4:09 p.m.

**SITE PLAN REVIEW TECHNICAL ADVISORY COMMITTEE  
PORTSMOUTH, NEW HAMPSHIRE**

**CONFERENCE ROOM A  
CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE**

**2:00 PM**

**December 3, 2024**

**MEMBERS PRESENT:**

Peter Stith, Chairperson, Planning Manager; David Desfosses, Construction Technician Supervisor; Patrick Howe, Deputy Fire Chief; Peter Britz, Director of Planning & Sustainability; Shanti Wolph, Chief Building Inspector; Zachary Cronin, Assistant City Engineer, Vincent Hayes; Planner I

**MEMBERS ABSENT:**

Mike Maloney; Deputy Police Chief, Eric Eby, Parking and Transportation Engineer

**ADDITIONAL STAFF**

Stefanie Casella; Planner II, Kate Homet; Environmental Planner

**PRESENT:**

**MINUTES**

**I. APPROVAL OF MINUTES**

- A. Approval of minutes from November 5, 2024 Site Plan Review Technical Advisory Committee Meeting.

Chairman Stith announced that the November minutes would be available at the next regular meeting for review.

**II. NEW BUSINESS**

- A. The request of **Jeffrey S. Nawrocki Revocable Trust (Owner)**, for property located at **299 Hanover Street** requesting a parking Conditional Use Permit from Section 10.1112.14 to allow three parking spaces where 11 are required. Said property is located on Assessor Map 125 Lot 10 and lies within the Character District 4L-1 (CD4-L1) District. (LU-24-160)

**SPEAKING TO THE APPLICATION**

Jeff Nawrocki, the property owner, came to present this application. Mr. Nawrocki gave a brief overview of the existing property, its use, and his proposal to change the downstairs level from an office space to an apartment. A discussion continued about parking needs and the installation of a sprinkler system.

## **PUBLIC HEARING**

Chairman Stith opened the public hearing. No one spoke. The public hearing was closed.

## **DISCUSSION AND DECISION OF THE BOARD**

V. Hayes asked about the need for the dumpster which was shown on the site plan. Mr. Nawrocki responded that it was from an older plan and was leftover. He would be needing a dumpster temporarily for the construction phase but would get an encumbrance permit for that.

P. Britz made a motion to find the parking demand analysis acceptable. Z. Cronin seconded the motion. The motion passed unanimously.

- B.** The request of **One Market Square LLC (Owner)**, for property located at **1 Congress Street, 21 (15) Congress Street** requesting a Parking Conditional Use Permit from Section 10.1112.14 of the Zoning Ordinance to allow 21 parking spaces where 53 parking spaces are required; and Site Plan Approval to merge the lots of 1 Congress Street and 15 Congress Street for a mixed-use development with associated site improvements. Said property is located on Assessor Map 117 Lot 14 and Map 117 Lot 12 and lies within the Character District 4 (CD-4), Character District 5 (CD-5) and Historic and Downtown Overlay Districts. (LU-22-12)

## **SPEAKING TO THE APPLICATION**

Mark McNabb, Tracey Kozak, John Chagnon, Marie Bodi and Terrence Parker came to present this application.

Mr. Chagnon explained the proposed redevelopment project, the building connections existing today and proceeded to go through the details of the plan set. After reviewing the proposal, Mr. Chagnon and Mr. McNabb went through and addressed all the staff comments that had been sent out prior to the meeting. Mr. McNabb also addressed the project's issues with lot mergers and building coverage.

Mr. Britz noted that they do not have a work session before the Committee but yet the applicants were presenting another option that had not been submitted. Mr. Chagnon responded that they were seeking to get Committee feedback on a different scenario. They continued to discuss the issue of two separate buildings, the building footprint, the separate lots, the need for utilities, elements of the proposal's design, egress points, etc.

## **PUBLIC HEARING**

Chairman Stith opened the public hearing. No one spoke. The public hearing was closed.

## **DISCUSSION AND DECISION OF THE BOARD**

P. Howe asked about the proposed egress on the second floor and the single exit. The other exit looked like it dumped into an office space. Ms. Kozak responded that this submission had a doorway missing and a stairway would serve the office space off of Haven Court and an additional stairway on High Street would connect as well. P. Howe noted that he was looking for an exit for the residential space, not the office. Mr. McNabb responded that their final plans would show a hallway that connects but there is no layout shown yet. A discussion continued about the building code and egress needs.

P. Britz noted that the application was confusing because it talks about creating co-living space yet the plans do not show this. He noted that it would be very confusing for the Planning Board to review this. Mr. McNabb disagreed and said they had to have a confusing narrative because they want to keep the conversation of co-living alive to encourage it to get passed. Mr. McNabb noted that co-living would not be in front of the Planning Board as part of this application.

Chairman Stith brought up the building coverage definition and Mr. McNabb discussed what he viewed as two options to move forward without TAC's recommended approval of their definition or with. P. Britz noted that the Planning Board will have to wrestle with this as the Committee interprets the definition as it is written. P. Britz noted that he did not feel like he could personally recommend what Mr. McNabb suggests due to the way the Zoning Ordinance is written because they need to follow the ordinance as it is written.

Chairman Stith gave a potential motion for recommending this application go forth as two separate buildings unless the Planning Board has a different interpretation or the applicant seeks a conditional use permit for the building footprint. S. Wolph motioned this forward and D. Desfosses seconded the motion.

V. Hayes noted that this would need a CMMP. Chairman Stith noted that that was already a part of the original approval. Chairman Stith noted that comments 5, 6 and 7 could be carried over as conditions of the motion. The motion passed unanimously.

- C. The request of **Durgin Square LLC (Owner)**, for property located at **1600 Woodbury Avenue** requesting amended Site Plan approval for the addition of EV charging stations in existing parking lot with associated equipment and transformer. Said property is located on Assessor Map 238 Lot 16 and lies within the Gateway Corridor (G1) District. (LU-24-182)

## **SPEAKING TO THE APPLICATION**

A representative of AGI, Ionna and the landlord for this property came to present the application which was a request to provide EV charging in an existing parking lot. The representative

described the proposal, the location, the amount of chargers and infrastructure needed for this project.

D. Desfosses noted that the applicant would need a license for the utility pole and power line that crosses the city street. This would need to be requested from the City Council.

The representative noted they would be going underground across Durgin Lane to which D. Desfosses noted that Eversource would need to obtain a license for the pole and the applicant would need a license for the conduit going across Durgin Lane. There would be impact fees as well due to the road being recently paved. It was noted that this project would need to be bonded with a site review agreement.

## **PUBLIC HEARING**

Chairman Stith opened the public hearing. No one spoke. The public hearing was closed.

## **DISCUSSION AND DECISION OF THE BOARD**

A conversation continued about the install process and who would be responsible for the different installations associated with this proposal.

It was mentioned that the staff comments provided for this application should be revised before going to the Planning Board. Chairman Stith reviewed the conditions out loud that came from the staff comments and Z. Cronin added additional stipulations from DPW comments. P. Britz made a motion to recommend approval of the application to the Planning Board with the recommended stipulations. D. Desfosses seconded the motion. The motion passed unanimously.

The meeting adjourned at 3:22 p.m.





HALEY WARD

200 Griffin Road, Unit 14, Portsmouth, NH 03801  
Phone (603) 430-9282 Fax 436-2315

9 January 2025

Peter Stith, TAC Committee Chair  
City of Portsmouth  
1 Junkins Avenue  
Portsmouth, NH 03801

**RE: Request for Site Plan Approval (Second Extension) at 1 Congress Street, Proposed Site Development**

Dear Mr. Stith and TAC Members:

On behalf of Mark McNabb and One Market Square, LLC, we hereby submit the attached previously approved plan set and supporting information for the above-mentioned project and request that we be placed on the agenda for your **February 4, 2025**, Technical Advisory Committee (TAC) Meeting. The project includes the re-use of the existing commercial buildings at 1 and 3 Congress Street, some existing building demolition, and proposed new construction of a 3 Story Structure with Attic Hip Top Mansard Roof to the rear of the existing buildings with the associated and required site improvements. The area behind the existing building is currently a surface parking lot. The surface parking will be lowered to below street level and be included with the new construction. The project was approved under **Site Plan** review at the January 3, 2023, TAC Meeting and received Planning Board approval on February 16, 2023. The applicant requested, and received, a 1-year extension to the Site Plan approval from the Planning Board on November 16, 2023.

The purpose of this submission is to request an additional 1-year extension of the February 2023 approval to February 16, 2025. Under the Site Plan Review regulations Section 2.14.3 the Applicant is required to supply the previously approved plan and supporting data if a second 1-year extension is requested. Please find that information attached herewith.

Since the 1 Congress Site Plan approval, the applicant has placed an adjacent property under agreement, and seeks to expand the project size and scope. Currently there is an application before the Planning Board which has TAC approval, which is proceeding forward but will not (potentially) be approved by the expiration of the 1-year extension. In order to keep the 1 Congress project vested while the current approvals are in process, this request is submitted. The Planning Board Conditions of Approval are repeated below, with information supplied to assist in your deliberations.

2.1) The site plan, and any easement plans and deeds shall be recorded at the Registry of Deeds by the City or as deemed appropriate by the Planning Department. **This is work that would need to be completed as a part of the approval, but the current application would alter the final task completion documents, so an extension is prudent.**

2.2) The applicant shall prepare a Construction Management and Mitigation Plan (CMMP) for review and approval by the City's Legal and Planning Departments. **This is work that would need to be completed as the project moves toward construction, and this would probably be a condition of the new approval.**

2.3) The applicant shall agree to pay for the services of an oversight engineer, to be selected by the City, to monitor the construction of improvements within the public rights-of-way and on site. **This is work that would need to be completed as the project moves toward construction, and this would probably be a condition of the new approval.**

2.4) Any site development (new or redevelopment) resulting in 15,000 square feet or greater ground disturbance will require the submittal of a Land Use Development Tracking Form through the Pollutant Tracking and Accounting Program (PTAP) online portal. For more information visit: <https://www.cityofportsmouth.com/publicworks/stormwater/ptap>. **This is work that would need to be completed with the final project approval.**

2.5) The proposed off-site improvements for High Street and Ladd Street and Haven Court will be reviewed and approved authorized by the City Council to ensure building, pedestrian, vehicular, and emergency vehicle safety. **This is work that would need to be completed as the project moves toward construction, and this would probably be a condition of the new approval.**

2.6) Any utility work that is necessary to construct a fully operational building will need to be reviewed and approved by the Public Works Department. **This is work that would need to be completed as the project moves toward construction, and this would probably be a condition of the new approval. Specific work in this regard is included in the current application before the Board.**

We look forward to the review of this submission and Staff / City Department review of this project. Given the current application before the city to expand on this approval we submit that a second 1-year extension is reasonable and hereby request that the TAC Committee recommend that the Planning Board grant an additional 1-year extension request.

Sincerely,

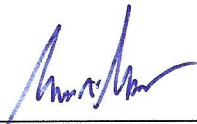
A handwritten signature in black ink, appearing to read 'J. Chagnon', with a long horizontal flourish extending to the right.

John R. Chagnon, PE

**NOTICE OF VOLUNTARY MERGER OF CONTIGUOUS LOTS**

NOW COMES One Market Square, LLC., owner of Map 117 Lot 14 and Map 117 Lot 15 being contiguous parcels of land located at 1 Congress Street and High Street, Portsmouth, County of Rockingham and State of New Hampshire, who wishes to merge said parcels for Municipal regulation and taxation purposes, and does hereby apply to the Planning Board of the City of Portsmouth, or its designee, for approval of said merger and further says that said lots are listed on Assessor's Map 117 as Lot 14 and as Lot 15, and being the same property conveyed to One Market Square, LLC., by deed of Peter H. Jarvis and Sons, LLC., dated December 09, 2022 and recorded at the Rockingham County Registry of Deeds at Book 6363 Page 31.

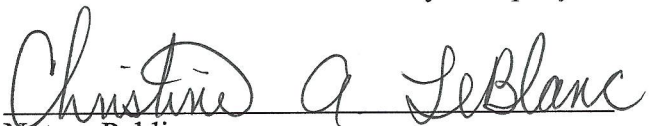
DATED this 31<sup>st</sup> day of January 2022.

  
\_\_\_\_\_  
Mark A. McNabb, Manager  
One Market Square, LLC

State of New Hampshire  
Rockingham, SS

Acknowledged before me by Mark A. McNabb, duly authorized Manager of One Market Square, LLC, this 31<sup>st</sup> day of January 2022, on behalf of said Limited Liability Company.

CHRISTINE A. LEBLANC  
Notary Public - New Hampshire  
My Commission Expires February 20, 2024

  
\_\_\_\_\_  
Notary Public

**APPROVAL OF MERGER**

NOW COMES THE Portsmouth Planning Board or its designee and pursuant to RSA 674:39-a approved the merger.

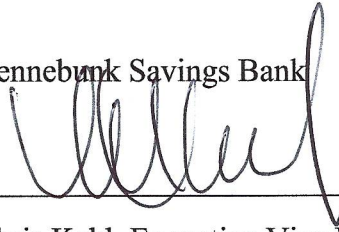
Dated: 2-7-2022

Beverly Moss-Zendt  
Authorized Officer

**CONSENT OF LIEN HOLDER**

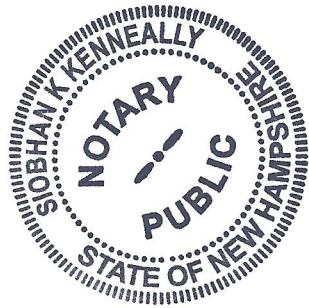
Now comes Kennebunk Savings Bank and hereby consents in accordance with NH RSA 674:39-a, II to the voluntary lot merger of lots set forth on the city of Portsmouth Tax Maps as Map 117 Lot 14 & Map 117 Lot 15, said parcels subject to the grant of a mortgage from One Market Square, LLC to Kennebunk Savings Bank, pursuant to a certain Commercial Mortgage, Security Agreement and Assignment of Leases and Rents dated December 9, 2021, and recorded at the Rockingham County Registry of Deeds at Book 6363, Page 31.

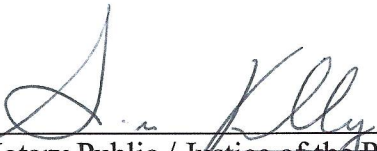
Dated: 2/1/2022

Kennebunk Savings Bank  
By:   
Chris Kehl, Executive Vice President

STATE OF NEW HAMPSHIRE  
COUNTY OF ROCKINGHAM

On this, the 31<sup>st</sup> of January 2022, before me, the undersigned Officer, personally appeared Chris Kehl, who acknowledged themselves to be the Executive Vice President of Kennebunk Savings Bank, and that they, as such, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of the company by themselves as Executive Vice President.




  
Notary Public / Justice of the Peace  
My commission expires 8/18/2026

**SIOBHAN K KENNEALLY**  
NOTARY PUBLIC  
State of New Hampshire  
My Commission Expires  
August 18, 2026

December 27, 2021

**AUTHORIZATION**  
**One Market Square, LLC**  
**One Congress Street, Portsmouth New Hampshire 03801**

I, Mark A. McNabb, manager and member of One Market Square, LLC, as owner of two parcels of land located in the City of Portsmouth on Tax Assessor Map U117 Lot 14 and Lot 15, hereby authorize Tracy Kozak from Arcove, LLC., as project architect, and John Chagnon from Ambit Engineering, to represent our interests before land use boards of the City of Portsmouth and any State of New Hampshire or federal agency necessary to obtain regulatory approvals and permits and to submit any applications and materials related to the above referenced property on our behalf.



---

Mark A. McNabb, Manager & Member

Date: December 27, 2021

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# City of Portsmouth, New Hampshire

## Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

**Applicant Responsibilities (Section 2.5.2):** Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Applicant: One Market Square, LLC Date Submitted: 10/18/2022

Application # (in City's online permitting): LU-22-12

Site Address: 1 Congress Street Map: 117 Lot: 14 & 15

Application Requirements			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	Complete <a href="#">application</a> form submitted via the City's web-based permitting program (2.5.2.1(2.5.2.3A))	Online	N/A
<input type="checkbox"/>	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. (2.5.2.8)	Online	N/A

Site Plan Review Application Required Information			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	Statement that lists and describes "green" building components and systems. (2.5.3.1B)	See Letter	
<input type="checkbox"/>	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. (2.5.3.1C)	Sheet C3	N/A
<input type="checkbox"/>	Tax map and lot number, and current zoning of all parcels under Site Plan Review. (2.5.3.1D)	Cover Sheet	N/A

**Site Plan Review Application Required Information**

<input checked="" type="checkbox"/>	<b>Required Items for Submittal</b>	<b>Item Location (e.g. Page/line or Plan Sheet/Note #)</b>	<b>Waiver Requested</b>
<input type="checkbox"/>	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. <b>(2.5.3.1E)</b>	Cover Sheet	N/A
<input type="checkbox"/>	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. <b>(2.5.3.1F)</b>	Boundary Survey	N/A
<input type="checkbox"/>	Names, addresses and telephone numbers of all professionals involved in the site plan design. <b>(2.5.3.1G)</b>	Cover Sheet	N/A
<input type="checkbox"/>	List of reference plans. <b>(2.5.3.1H)</b>	Boundary Survey	N/A
<input type="checkbox"/>	List of names and contact information of all public or private utilities servicing the site. <b>(2.5.3.1I)</b>	Cover Sheet	N/A

**Site Plan Specifications**

<input checked="" type="checkbox"/>	<b>Required Items for Submittal</b>	<b>Item Location (e.g. Page/line or Plan Sheet/Note #)</b>	<b>Waiver Requested</b>
<input type="checkbox"/>	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director.. <b>(2.5.4.1A)</b>	Required on all plan sheets	N/A
<input type="checkbox"/>	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. <b>(2.5.4.1B)</b>	Required on all plan sheets	N/A
<input type="checkbox"/>	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. <b>(2.5.4.1C)</b>	Boundary Survey Plan	N/A
<input type="checkbox"/>	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. <b>(2.5.4.1D)</b>	Required on all plan sheets	N/A
<input type="checkbox"/>	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. <b>(2.5.4.1E)</b>	N/A	N/A
<input type="checkbox"/>	Title (name of development project), north point, scale, legend. <b>(2.5.4.2A)</b>	Cover Sheet	N/A
<input type="checkbox"/>	Date plans first submitted, date and explanation of revisions. <b>(2.5.4.2B)</b>	Each Sheet	N/A
<input type="checkbox"/>	Individual plan sheet title that clearly describes the information that is displayed. <b>(2.5.4.2C)</b>	Required on all plan sheets	N/A
<input type="checkbox"/>	Source and date of data displayed on the plan. <b>(2.5.4.2D)</b>	Sheet C1	N/A



**Site Plan Specifications – Required Exhibits and Data**

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	<p><b>1. Existing Conditions: (2.5.4.3A)</b></p> <ul style="list-style-type: none"> <li>• Surveyed plan of site showing existing natural and built features;</li> <li>• Existing building footprints and gross floor area;</li> <li>• Existing parking areas and number of parking spaces provided;</li> <li>• Zoning district boundaries;</li> <li>• Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre;</li> <li>• Existing impervious and disturbed areas;</li> <li>• Limits and type of existing vegetation;</li> <li>• Wetland delineation, wetland function and value assessment (including vernal pools);</li> <li>• SFHA, 100-year flood elevation line and BFE data, as required.</li> </ul>	Sheet C1	
<input type="checkbox"/>	<p><b>2. Buildings and Structures: (2.5.4.3B)</b></p> <ul style="list-style-type: none"> <li>• Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation;</li> <li>• Elevations: Height, massing, placement, materials, lighting, façade treatments;</li> <li>• Total Floor Area;</li> <li>• Number of Usable Floors;</li> <li>• Gross floor area by floor and use.</li> </ul>	Sheet C3 & Architects Plans	
<input type="checkbox"/>	<p><b>3. Access and Circulation: (2.5.4.3C)</b></p> <ul style="list-style-type: none"> <li>• Location/width of access ways within site;</li> <li>• Location of curbing, right of ways, edge of pavement and sidewalks;</li> <li>• Location, type, size and design of traffic signing (pavement markings);</li> <li>• Names/layout of existing abutting streets;</li> <li>• Driveway curb cuts for abutting prop. and public roads;</li> <li>• If subdivision; Names of all roads, right of way lines and easements noted;</li> <li>• AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).</li> </ul>	Sheet C3	
<input type="checkbox"/>	<p><b>4. Parking and Loading: (2.5.4.3D)</b></p> <ul style="list-style-type: none"> <li>• Location of off street parking/loading areas, landscaped areas/buffers;</li> <li>• Parking Calculations (# required and the # provided).</li> </ul>	Sheet C6	
<input type="checkbox"/>	<p><b>5. Water Infrastructure: (2.5.4.3E)</b></p> <ul style="list-style-type: none"> <li>• Size, type and location of water mains, shut-offs, hydrants &amp; Engineering data;</li> <li>• Location of wells and monitoring wells (include protective radii).</li> </ul>	Sheet C4	
<input type="checkbox"/>	<p><b>6. Sewer Infrastructure: (2.5.4.3F)</b></p> <ul style="list-style-type: none"> <li>• Size, type and location of sanitary sewage facilities &amp; Engineering data, including any onsite temporary facilities during construction period.</li> </ul>	Sheet C4	

<input type="checkbox"/>	<b>7. Utilities: (2.5.4.3G)</b> <ul style="list-style-type: none"> <li>The size, type and location of all above &amp; below ground utilities;</li> <li>Size type and location of generator pads, transformers and other fixtures.</li> </ul>	Sheet C4	
<input type="checkbox"/>	<b>8. Solid Waste Facilities: (2.5.4.3H)</b> <ul style="list-style-type: none"> <li>The size, type and location of solid waste facilities.</li> </ul>	Sheet C6	
<input type="checkbox"/>	<b>9. Storm water Management: (2.5.4.3I)</b> <ul style="list-style-type: none"> <li>The location, elevation and layout of all storm-water drainage.</li> <li>The location of onsite snow storage areas and/or proposed off-site snow removal provisions.</li> <li>Location and containment measures for any salt storage facilities</li> <li>Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures.</li> </ul>	Sheet C5	
<input type="checkbox"/>	<b>10. Outdoor Lighting: (2.5.4.3J)</b> <ul style="list-style-type: none"> <li>Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan.</li> </ul>	Sheet C3	
<input type="checkbox"/>	<b>11. Indicate where dark sky friendly lighting measures have been implemented. (10.1)</b>	N/A	
<input type="checkbox"/>	<b>12. Landscaping: (2.5.4.3K)</b> <ul style="list-style-type: none"> <li>Identify all undisturbed area, existing vegetation and that which is to be retained;</li> <li>Location of any irrigation system and water source.</li> </ul>	Landscape Plans	
<input type="checkbox"/>	<b>13. Contours and Elevation: (2.5.4.3L)</b> <ul style="list-style-type: none"> <li>Existing/Proposed contours (2 foot minimum) and finished grade elevations.</li> </ul>	Sheet C5	
<input type="checkbox"/>	<b>14. Open Space: (2.5.4.3M)</b> <ul style="list-style-type: none"> <li>Type, extent and location of all existing/proposed open space.</li> </ul>	Sheet C3	
<input type="checkbox"/>	<b>15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)</b>	Boundary Survey Plan	
<input type="checkbox"/>	<b>16. Character/Civic District (All following information shall be included): (2.5.4.3P)</b> <ul style="list-style-type: none"> <li>Applicable Building Height (10.5A21.20 &amp; 10.5A43.30);</li> <li>Applicable Special Requirements (10.5A21.30);</li> <li>Proposed building form/type (10.5A43);</li> <li>Proposed community space (10.5A46).</li> </ul>	Sheet C3	
<input type="checkbox"/>	<b>17. Special Flood Hazard Areas (2.5.4.3Q)</b> <ul style="list-style-type: none"> <li>The proposed development is consistent with the need to minimize flood damage;</li> <li>All public utilities and facilities are located and construction to minimize or eliminate flood damage;</li> <li>Adequate drainage is provided so as to reduce exposure to flood hazards.</li> </ul>	N/A	

**Other Required Information**

<input checked="" type="checkbox"/>	<b>Required Items for Submittal</b>	<b>Item Location (e.g. Page/line or Plan Sheet/Note #)</b>	<b>Waiver Requested</b>
<input type="checkbox"/>	Traffic Impact Study or Trip Generation Report, as required. <b>(3.2.1-2)</b>	Report on file	
<input type="checkbox"/>	Indicate where Low Impact Development Design practices have been incorporated. <b>(7.1)</b>	Drain Study	
<input type="checkbox"/>	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. <b>(7.3.1)</b>	N/A	
<input type="checkbox"/>	Stormwater Management and Erosion Control Plan. <b>(7.4)</b>	Sheet D1	
<input type="checkbox"/>	Inspection and Maintenance Plan <b>(7.6.5)</b>	Drain Study	

**Final Site Plan Approval Required Information**

<input checked="" type="checkbox"/>	<b>Required Items for Submittal</b>	<b>Item Location (e.g. Page/line or Plan Sheet/Note #)</b>	<b>Waiver Requested</b>
<input type="checkbox"/>	All local approvals, permits, easements and licenses required, including but not limited to: <ul style="list-style-type: none"> <li>• Waivers;</li> <li>• Driveway permits;</li> <li>• Special exceptions;</li> <li>• Variances granted;</li> <li>• Easements;</li> <li>• Licenses.</li> </ul> <b>(2.5.3.2A)</b>	Cover Sheet	
<input type="checkbox"/>	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: <ul style="list-style-type: none"> <li>• Calculations relating to stormwater runoff;</li> <li>• Information on composition and quantity of water demand and wastewater generated;</li> <li>• Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls;</li> <li>• Estimates of traffic generation and counts pre- and post-construction;</li> <li>• Estimates of noise generation;</li> <li>• A Stormwater Management and Erosion Control Plan;</li> <li>• Endangered species and archaeological / historical studies;</li> <li>• Wetland and water body (coastal and inland) delineations;</li> <li>• Environmental impact studies.</li> </ul> <b>(2.5.3.2B)</b>	Drainage Analysis  Other submitted studies	
<input type="checkbox"/>	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. <b>(2.5.3.2D)</b>	To be provided	

**Final Site Plan Approval Required Information**

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	A list of any required state and federal permit applications required for the project and the status of same. <b>(2.5.3.2E)</b>	Cover Sheet	
<input type="checkbox"/>	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." <b>(2.5.4.2E)</b>	Cover Sheet & C3	N/A
<input type="checkbox"/>	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. <b>(2.5.4.2F)</b>	N/A	
<input type="checkbox"/>	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." <b>(2.13.3)</b>	Sheet C3	N/A

Applicant's Signature: John Chagnon Date: 10-18-2022



# CITY OF PORTSMOUTH

Planning Department  
1 Junkins Avenue  
Portsmouth, New  
Hampshire 03801  
(603) 610-7216

## TECHNICAL ADVISORY COMMITTEE

January 4, 2023

Mark McNabb  
One Market Square LLC  
3 Pleasant Street, Ste 400  
Portsmouth, New Hampshire 03801

RE: Site Plan Approval for property located at 1 Congress Street (LU-22-12)

Dear Mr. McNabb:

The Technical Advisory Committee, at its regularly scheduled meeting of Tuesday, January 3, 2023, considered your application for Site Plan Review approval for the partial demolition and expansion of the existing structure to construct a 3-story building with 58,780 square feet of gross floor area, 12,080 square foot building footprint, 13 parking spaces, and associated onsite and offsite improvements. Said property is shown on Assessor Map 117 Lot 14 and lies within the Character District 4 (CD-4), Character District 5 (CD-5) and the Historic District. As a result of said consideration, the Committee voted to recommend **approval** to the Planning Board with the following **conditions**:

### **Prior to Planning Board consideration:**

- 1. Applicant and project team will meet with the Planning staff to discuss the zoning compliance table.*
- 2. Pole lights will be removed and the replacement fixtures will be reviewed and approved by Public Works Department.*
- 3. Any utility work that is necessary to construct a fully operational building will need to be reviewed and approved by the Public Works Department.*

### **Subsequent to Planning Board approval by prior to the issuance of a Building Permit:**

- 4. Prior to issuance of building permit the proposed off site improvement for High Street and Ladd Street and Haven Court will be reviewed and approved authorized by the City entity to ensure building, pedestrian, vehicular, and emergency vehicle safety.*

This matter will be placed on the agenda for the Planning Board meeting scheduled for **Thursday, February 16, 2023**. One (1) hard copy of all plans and supporting reports and exhibits as well as an updated electronic file (in a PDF format) must be filed in the Planning Department and uploaded to the online permit system no later than **Wednesday, January 25, 2023**.

*Per Section 2.5 of the Site Plan Regulations, a site plan review application to the Planning Board must include all applicable information and supporting materials including but not limited to the following items:*

- *Full updated plan set*
- *Draft Easements*
- *Drainage Analysis*

- *Traffic Studies*
- *Etc.*

***All comments, corrections, and conditions identified as “Items to be addressed before Planning Board submittal” must be resolved/corrected for the Planning Board application submittal to be deemed complete.***

The minutes and audio recording of this meeting are available by contacting the Planning Department.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Peter Britz", with a horizontal line extending to the right.

Peter Britz,  
Planning and Sustainability Director

cc:

Tracy Kozak, JSA Design  
Francis Bruton, Bruton & Berube, PLLC  
John Chagnon, Ambit Engineering



# CITY OF PORTSMOUTH

Planning Department  
1 Junkins Avenue  
Portsmouth, New  
Hampshire 03801  
(603) 610-7216

## HISTORIC DISTRICT COMMISSION

August 23, 2022

Mark McNabb  
One Market Square LLC  
3 Pleasant Street, Ste 400  
Portsmouth, New Hampshire 03801

**RE: Certificate of Approval for property located at 1 Congress Street (LU-22-12)**

Dear Mr. McNabb:

The Historic District Commission, at its regularly scheduled meeting of **Wednesday August 03, 2022**, considered your application for renovations to an existing structure (repair and upgrade building facades along Congress and High Streets) and new construction to an existing structure (replace rear shed additions with new 4 story addition) as per plans on file in the Planning Department. Said property is shown on Assessor Map 117 Lot 14 and lies within the Character District 4 (CD-4), Character District 5 (CD-5) and the Historic District. As a result of said consideration, the Commission voted to **grant** the Certificate of Approval with the following stipulation:

1. A sample board shall be presented.

### **Findings of Fact**

#### A. Purpose and Intent

The proposed application meets the following objective(s) of the Historic District (as provided in Section 10.631.20 of the Zoning Ordinance):

- Conversation and enhancement of property values.

#### B. Review Criteria

The proposed application also meets the following review criteria of the Historic District (as provided in Section 10.635.70 of the Zoning Ordinance):

- Compatibility of innovative technologies with surrounding properties.

The Commission's decision may be appealed up to thirty (30) days after the vote. Any action taken by the applicant pursuant to the Commission's decision during this appeal period shall be at the applicant's risk. Please contact the Planning Department for more details about the appeals process.

Approvals may also be required from other City Committees or Boards. Once all required approvals have been received, applicant is responsible for applying for and securing a building permit from the Inspection Department prior to starting any project work.

This approval shall expire unless a building permit is issued within a period of one (1) year from the date granted by the Historic District Commission unless an extension is granted by the Commission in accordance with Section 10.636.70 of the Zoning Ordinance.

*Please note that any changes or modifications to this application require review and approval from the Commission prior to implementation and additional fees may apply.*

The minutes and audio recording of this meeting are available by contacting the Planning Department.

Very truly yours,



Nicholas J. Cracknell, AICP, Principal Planner  
for Jonathan Wyckoff, Chairman of the Historic District Commission

cc: Shanti Wolph, Chief Building Inspector  
Rosann Maurice-Lentz, City Assessor

Tracy Kozak, JSA Design  
Francis Bruton, Bruton & Berube, PLLC  
John Chagnon, Ambit Engineering



## ZONING DEVELOPMENT STANDARD 02/14/2023

### CD4 (CD-4, DOD, HDC): CHARACTER DISTRICT 4

	REQUIRED	EXISTING	PROPOSED
Height	3 stories with short 4th = 45'	n/a	3 stories @ 40' - 7 3/4"
Penthouses	may exceed bldg height by 2'	n/a	n/a
Roof appurtenance	may exceed bldg height by 10'	n/a	7' - 5 3/4"
Façade Types	shopfront	n/a	yes
Building Types	commercial, live-work, mixed use, flex space & community.	n/a	mixed use (retail, office, apartments)
Front (principle) max	10	n/a	0'-0"
Front (secondary) max	15	n/a	2'-4"
Side	NR	n/a	n/a
Rear, min	>of: 5' from rear line or 10' from cl alley	n/a	N/A
Front lotline buildout	50% min	n/a	100.00%
Lot area (sf)	NR	8,840	8,840
LOT area per dwelling	NR	0	n/a
Coverage, maximum	90%	0	65.6%
<b>Footprint, max*</b> <b>10.5a43.40</b>	15,000	0	5,686
Ground floor area per use, max	15,000	N/A	5,686
Open space, minimum	10%	9.5%	12.1%
Permitted uses (cd4 & cd5)	multifamily, live/work, office, retail, restaurant (<500occ)	surface parking lot	commercial retail, office & multifamily
Block length, max (ft)	200	n/a	168' - 0 3/4"
Façade modulation length, max (ft)	80	n/a	77' - 3 7/8"
Entrance spacing, max (ft)	50	n/a	39' - 10 3/8"
Floor height above sidewalk, max	36"	n/a	16"
Ground floor height, min	12'	n/a	13' 5 5/8"
Second floor height, min	10'	n/a	11'-3"
Glazing, shopfront, min	70%	n/a	70%
Glazing, other	20%-50%	n/a	25%
Roof types(pitch)	flat, gable (6:12-12:12), hip(>3:12), gambrel/mansard(6:12-30:12)	n/a	hip-top mansard
Parking, off-street; DOD*	when >20 spaces, max spaces = 120% min required. 10.1112.60 mixed used - some shared spaces allowed.	19	12
Residential (dwellings)	UNIT<500SF=.5 space/unit; 500-750sf=1 space/unit; >750sf=1.3 space/unit. ( + 1 visitor space/5 units)	N/A	10
Professional office	NA in DOD	N/A	N/A

\* see CD-5 zoning chart for remainder of parking spaces

**ZONING DEVELOPMENT STANDARD 02/14/2023**

CD5 (CD-5, DOD, HDC): CHARACTER DISTRICT 5			
	REQUIRED	EXISTING	PROPOSED
Height	2-3 stories with short 4th = 45'	45' - 5 1/4"	40' - 7 3/4"
Penthouses	may exceed bldg height by 2'	n/a	n/a
Roof appurtenance	may exceed bldg height by 10'	8' 0 3/4"	7' - 5 3/4"
Façade Types	shop front	yes	yes
Building Types	commercial, live-work, mixed use, flex space & community.	<b>mixed use (retail, restaurant, office, apartments)</b>	<b>mixed use (retail, office, apartments)</b>
Front (principle) max	5	0'-0"	0'-0"
Front (secondary) max	5	0'-0"	1'-6"
Side	NR	0'-0"	N/R
Rear, min	>of: 5' from rear line or 10' from cl alley	N/A	N/A
Front lotline buildout	80% min	100%	100%
Lot area (sf)	NR	7,266	7,266
LOT area per dwelling	NR	n/a	n/a
Coverage, maximum	95%	37.52%	89.1%
<b>Footprint, max*</b> <b>10.5a43.40</b>	20,000	<b>2,726</b>	<b>6,427</b>
Ground floor area per use, max	15,000	2,726	6,427
Open space, minimum	5%	0%	8.2%
Permitted uses (cd4 & cd5)	commercial, live/work, mixed-use, flex space, community, office, retail, restaurant (<500occ)	commercial, mixed use, office, retail & restaurant	COMMERCIAL (retail, restaurant, hotel lobby)
Block length, max (ft)	225	<b>168' - 0 3/4"</b>	<b>168' - 0 3/4"</b>
Façade modulation length, max (ft)	100	<b>62' - 1 1/8"</b>	<b>62' - 1 1/8"</b>
Entrance spacing, max (ft)	50	<b>49' - 7 1/4"</b>	<b>49' - 7 1/4"</b>
Floor height above sidewalk, max	36"	<b>4"</b>	<b>4"</b>
Ground floor height, min	12'	<b>12' - 8 3/8"</b>	<b>13' 5 5/8"</b>
Second floor height, min	10'	<b>11'-3"</b>	<b>11'-3"</b>
Glazing, shopfront, min	70%	<b>31%</b>	<b>53%</b>
Glazing, other	20%-50%	<b>20%</b>	<b>24%</b>
Roof types(pitch)	flat, gable (6:12-12:12), hip(>3:12), gambrel/mansard(6:12-30:12)	<b>hip-top mansard and gable</b>	<b>hip-top mansard and gable</b>
Parking, off-street; DOD*	when >20 spaces, max spaces = 120% min required. 10.1112.60 mixed used - some shared spaces allowed.	0	<b>11</b>
Residential (dwellings)	UNIT<500SF=.5 space/unit; 500-750sf=1 space/unit; >750sf=1.3 space/unit. ( + 1 visitor space/5 units)	<b>5</b>	<b>8</b>
Professional office	NA in DOD	N/A	N/A
* see CD-4 zoning chart for remainder of parking spaces			

# Schematic Area Summary

1/25/2023

	gsf	use	use
<b>new construction</b>	<b>total new</b>	<b>existing</b>	<b>proposed</b>
4th floor	8,528	n/a	residential
3rd floor	9,160	n/a	residential
2nd floor	9,160	n/a	office
<b>1st floor (footprint)</b>	<b>9,160</b>	<b>n/a</b>	<b>retail/restaurant</b>
basement	9,596	n/a	parking & support
<b>total new</b>	<b>45,604</b>		
<b>existing to remain and be renovated</b>			
		<b>existing</b>	<b>proposed</b>
4th floor - 1&3 Congress St	2,422	residential	residential
3rd floor - 1&3 Congress St	2,726	residential	residential
2nd floor - 1&3 Congress St	2,726	office	office
<b>1st floor - 1&amp;3 Congress St (footprint)</b>	<b>2,718</b>	office&retail	restaurant&retail
basement - 1&3 Congress	2,726	storage/mech	storage/support
<b>total renovation</b>	<b>13,318</b>		
<b>TOTAL FOOTPRINT new + reno</b>			
	11,878		
<b>TOTAL BUILDING new + reno</b>			
	<b>58,922</b>		
<b>roof decks</b>	<b>388</b>		

<b>Residential Vehicular Parking</b>	<b>Qty</b>	<b>parking per unit</b>	<b>parking required</b>	<b>parking available</b>
units > 750 sf	16	1.30	20.80	
units 500-750 sf	1	1.00	1.00	
Units <500 sf	1	0.50	0.50	
<b>resident units total</b>	<b>18</b>		<b>22.30</b>	
DOD deduct			-4.00	
1 visitor space for every 5 units			3.6	
<b>TOTAL</b>			<b>21.90</b>	<b>23.00</b>

<b>Unit NO.</b>	<b>BR's</b>	<b>SF</b>	<b>parking/unit</b>	<b>parking available</b>
301	2	1,067	1.3	
302	1	885	1.3	
303	1	925	1.3	
304	1	574	1.0	
305	1	1,011	1.3	
306	1	996	1.3	
307	1	1,032	1.3	
308	1	946	1.3	
309	2	1,037	1.3	
401	2	917	1.3	
402	1	845	1.3	
403	1	876	1.3	
404	st	343	0.5	
405	1	1,028	1.3	
406	1	848	1.3	
407	1	844	1.3	
408	1	894	1.3	
409	2	965	1.3	
resident units total		16,033	22.3	
DOD deduct			-4.0	
1 visitor space for every 5 units			3.6	
<b>TOTAL parking</b>			<b>21.90</b>	<b>23</b>

<b>Bicycle Parking</b>				
One space for every 5 units			3.6	
<b>TOTAL required, rounded up</b>			<b>4</b>	

## TECHNICAL MEMORANDUM

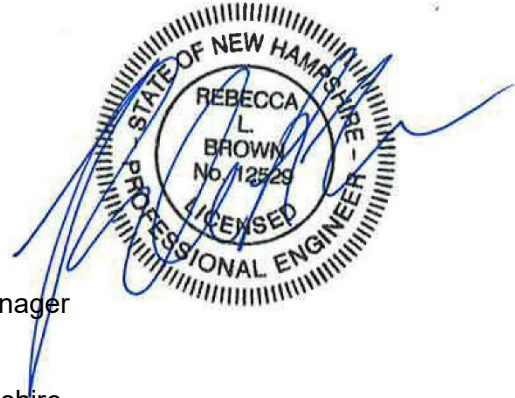
**REF:** NEX-2200015.00

**DATE:** October 25, 2022

**TO:** Mr. Mark A. McNabb  
McNabb Properties  
3 Pleasant Street, Suite 400  
Portsmouth, New Hampshire 03801

**FROM:** Ms. Rebecca L. Brown, P.E., Senior Project Manager

**RE:** Traffic Impact Assessment  
One Congress Street – Portsmouth, New Hampshire



## INTRODUCTION

Greenman-Pedersen, Inc. (GPI) has prepared this *Traffic Impact Assessment* (TIA) for a proposed mixed-use redevelopment located One Congress Street in Portsmouth, New Hampshire. The site is comprised of two lots on Tax Map 117, Parcels 14 and 15. Parcel 14 currently contains a 4-story mixed-use building with retail and restaurant space on the first floor and office and apartment space on the upper floors. Parcel 15 contains a private parking locate. The project consists of renovating a portion of the existing building on Parcel 14 and constructing a 4-story addition to encompass the remainder of Parcels 14 and 15, and constructing basement-level parking. Access to the parking lot would be provided via a driveway on Haven Court to a vehicle elevator for access to the basement level. Upon completion, the Project would provide ±8,025 SF of retail space on the first floor, ±8,312 SF of office space on the second floor and a total of 18 residential units on the upper floors.

This TIA provides a preliminary assessment of the potential vehicular traffic and parking demand to be generated by the proposed redevelopment, and a review of the safety of the roadways providing access/egress for the redevelopment.

The site is bounded by Haven Court to the north, Congress Street to the south, High Street to the east, and mixed-use buildings to the west. The site location in relation to the surrounding roadways is shown on the map on Figure 1.

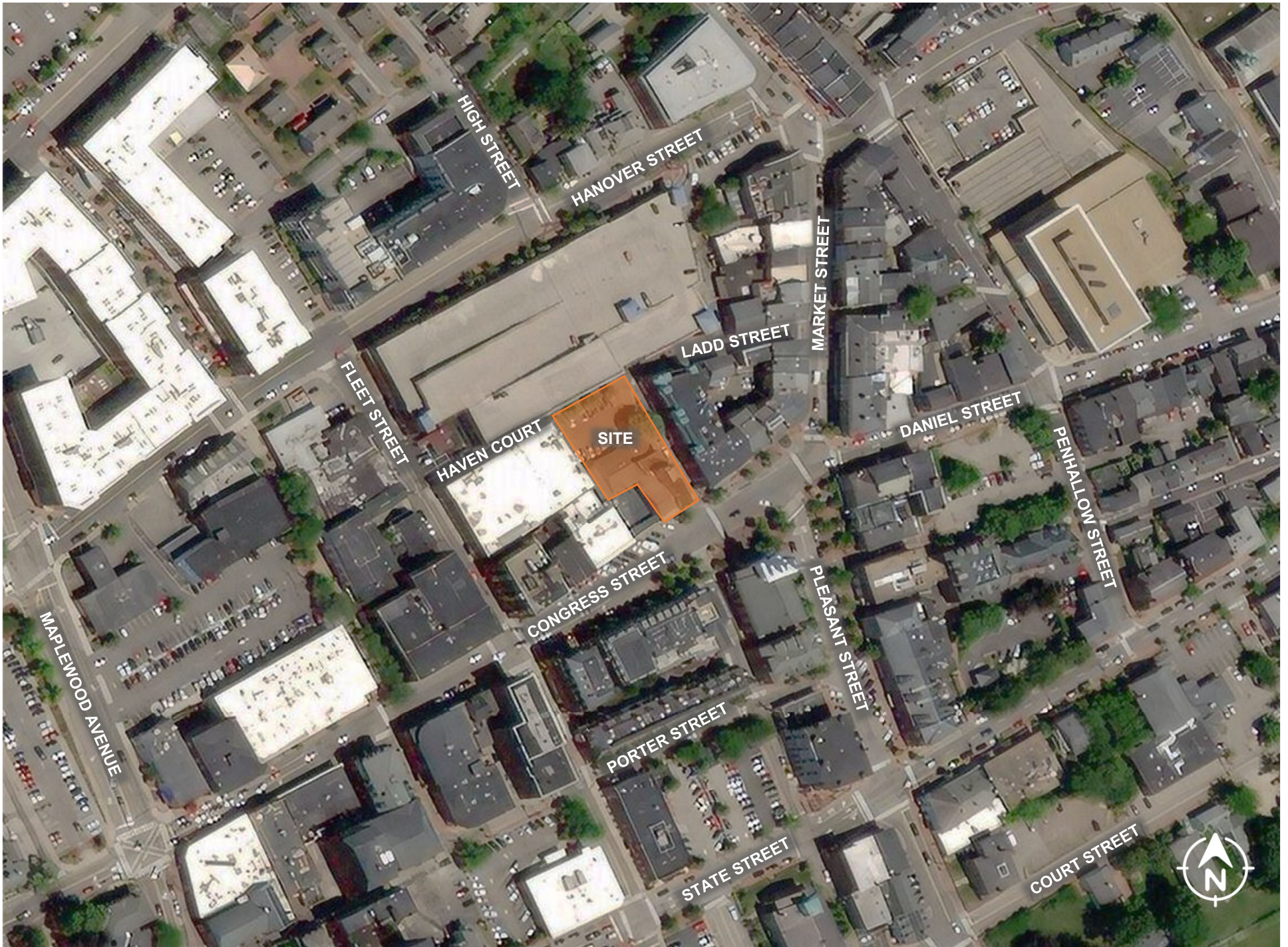


FIGURE I – SITE LOCATION MAP

## **COLLISIONS**

Collision data for the section of Congress Street between Market Square and Fleet Street, as well as along High Street, Haven Court, and Ladd Street, were obtained from NHDOT for the latest complete three years available (2015-2017). A summary of the crashes at this intersection is provided in Table 1. The detailed crash history is provided in the Appendix.

Based on the collision data, the section of Congress Street between Market Square and Fleet Street experienced an average of 5.0 collisions per year over the three-year study period. Of the 15 crashes, three were single-vehicle crashes with a light pole and may have involved vehicles striking the light poles immediately adjacent to the angled parking spaces along the northerly side of Congress Street. Five of the collisions involved a collision with a pedestrian, three of which occurred late at night when visibility of pedestrians in the roadway may have been a factor. Only one of the pedestrian crashes occurred at the intersection with High Street and involved a pedestrian crossing outside of the crosswalk at night.

There were no collisions reported along Haven Court, High Street, or Ladd Street over the three-year study period.

**TABLE 1  
Collision Summary**

Location	Number of Collisions		Severity <sup>a</sup>				Collision Type <sup>b</sup>					Percent During	
	Total	Average per Year	PD	PI	F	NR	VEH	PED	FO	SV	U	Commuter Peak <sup>c</sup>	Wet/Icy Conditions <sup>d</sup>
Congress Street from Market Square to Fleet Street	15	5.0	11	4	--	--	7	5	3	--	--	20%	20%
Haven Court	0	0.0	--	--	--	--	--	--	--	--	--	0%	0%
High Street	0	0.0	--	--	--	--	--	--	--	--	--	0%	0%
Ladd Street	0	0.0	--	--	--	--	--	--	--	--	--	0%	0%

Source: NHDOT (2015-2017).

<sup>a</sup> PD = property damage only; PI = personal injury; F = fatality, NR = not reported.

<sup>b</sup> VEH = collision with another motor vehicle; PED = pedestrian / bicycle; FO = fixed object; SV = single vehicle; U = unknown.

<sup>c</sup> Percent of vehicle incidents that occurred during the weekday AM (7:00 AM-9:00 AM) and weekday PM (4:00 PM -6:00 PM) commuter peak periods.

<sup>d</sup> Represents the percentage of only “known” collisions occurring during inclement weather conditions.



## TRIP GENERATION

The site currently contains approximately 1,180 SF of retail space and 5,500 SF of restaurant space on the first floor, with an additional 2,720 SF of office space and 10 residential units on the upper floors. Upon completion, the Project will provide ±8,023 SF of retail space, ±8,312 SF of office space, and 18 residential apartment units. GPI utilized trip-generation rates published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11<sup>th</sup> Edition*<sup>1</sup> for Land Use Code (LUC) 221 (Multi-family Housing (Mid-Rise)), LUC 710 (General Office Building), and LUC 822 (Strip Retail Plaza <40k)) to estimate the proposed trip generation.

The Project will be located in downtown Portsmouth, in close proximity to multiple retail, restaurant, office, residential, and entertainment uses for sharing of trips between uses. As a result, many of the trips generated by the site will be walking and biking trips. In addition, the site is located in close proximity to multiple bus routes, allowing for easy access to public transportation for access to/from the site. Therefore, the trip rates for the residential (LUC 221), office (LUC 710) and retail (LUC 822) uses were based on Dense Multi-Use Urban settings. The resulting trip generation estimate is summarized in Table 2, and the detailed calculations are provided in the Appendix.

**TABLE 2 – Proposed Trip Generation Summary**

Time Period/Direction	Office Trips (LUC 710) <sup>a</sup>	Residential Trips (LUC 221) <sup>b</sup>	Retail Trips (LUC 822) <sup>c</sup>	Total Trips <sup>d</sup>
<b>Weekday Daily</b>	62	46	272	<b>380</b>
<b>Weekday AM Peak Hour:</b>				
<i>Enter</i>	6	0	7	<b>13</b>
<i>Exit</i>	<u>1</u>	<u>4</u>	<u>5</u>	<b>10</b>
<i>Total</i>	7	4	12	<b>23</b>
<b>Weekday PM Peak Hour:</b>				
<i>Enter</i>	1	2	16	<b>19</b>
<i>Exit</i>	<u>6</u>	<u>1</u>	<u>16</u>	<b>23</b>
<i>Total</i>	7	3	32	<b>42</b>
<b>Saturday Daily</b>	14	42	544	<b>600</b>
<b>Saturday Midday Peak Hour:</b>				
<i>Enter</i>	2	2	21	<b>25</b>
<i>Exit</i>	<u>1</u>	<u>1</u>	<u>21</u>	<b>23</b>
<i>Total</i>	3	3	42	<b>48</b>

<sup>a</sup> ITE LUC 710 (Hotel) in Dense Multi-Use Urban setting for 8,312 SF

<sup>b</sup> ITE LUC 221 (Multi-family Housing (Mid-Rise)) in Dense Multi-Use Urban setting for 18 units.

<sup>c</sup> ITE LUC 822 (Strip Retail Plaza (<40K)) in Dense Multi-Use Urban setting for 8,023 SF.

<sup>d</sup> Sum of Residential Trips, Office Trips, and Retail Trips.

As previously noted, the site currently contains a mix of residential, office, retail, and restaurant space that is currently generating traffic. Therefore, not all of the site-generated trips will be new to the area. GPI has

<sup>1</sup> *Trip Generation Manual, 11<sup>th</sup> Edition*; Institute of Transportation Engineers; Washington, DC; September 2021.

estimated the trips generated by the former uses on the site based on ITE trip rates for LUC 221 (Multifamily Housing (Mid-Rise)), LUC 710 (General Office), LUC 822 (Strip Retail Plaza <40k)), and LUC 931 (Fine-Dining Restaurant). The trip rates for the office (LUC 710), retail (LUC 822) and residential (LUC 221) uses were based on Dense Multi-Use Urban settings, while the trip rates for the restaurant (LUC 931) use were based on General Urban/Suburban settings due to the lack of available trip generation data within dense multi-use urban settings for this use. The resulting trip generation estimate is summarized in Table 3, and the detailed calculations are provided in the Appendix.

**TABLE 3 – Existing Trip Generation Summary**

Time Period/Direction	Residential Trips (LUC 221) <sup>a</sup>	Office Trips (LUC 710) <sup>b</sup>	Retail Trips (LUC 822) <sup>c</sup>	Restaurant Trips (LUC 931) <sup>d</sup>	Total Trips <sup>e</sup>
<b>Weekday Daily</b>	26	20	40	462	<b>548</b>
<b>Weekday AM Peak Hour:</b>					
<i>Enter</i>	0	2	1	2	<b>5</b>
<i>Exit</i>	<u>2</u>	<u>0</u>	<u>1</u>	<u>2</u>	<b><u>5</u></b>
<i>Total</i>	2	2	2	4	<b>10</b>
<b>Weekday PM Peak Hour:</b>					
<i>Enter</i>	1	0	2	29	<b>32</b>
<i>Exit</i>	<u>1</u>	<u>2</u>	<u>2</u>	<u>14</u>	<b><u>19</u></b>
<i>Total</i>	2	2	4	43	<b>51</b>
<b>Saturday Daily</b>	24	4	80	496	<b>604</b>
<b>Saturday Midday Peak Hour:</b>					
<i>Enter</i>	1	1	3	35	<b>40</b>
<i>Exit</i>	<u>1</u>	<u>0</u>	<u>3</u>	<u>24</u>	<b><u>28</u></b>
<i>Total</i>	2	1	6	59	<b>68</b>

<sup>a</sup> ITE LUC 221 (Multifamily Housing (Mid-Rise)) in Dense Multi-Use Urban setting for 10 dwelling units.

<sup>b</sup> ITE LUC 710 (General Office Building) in Dense Multi-Use Urban setting for 1,392 SF.

<sup>c</sup> ITE LUC 822 (Strip Retail Plaza (<40K)) in Dense Multi-Use Urban setting for 1,044 SF.

<sup>d</sup> ITE LUC 931 (Fine-Dining Restaurant) in General Urban/Suburban setting for 5,391 SF.

<sup>e</sup> Sum of Residential Trips, Office Trips, Retail Trips, and Restaurant Trips.

Table 4 provides a comparison of the trips generated by the proposed land uses to the trips generated by the former uses on the site.

**TABLE 4 – Trip Generation Comparison**

Time Period/Direction	Existing Trips <sup>a</sup>	Proposed Trips <sup>b</sup>	Net Increase in Trips <sup>c</sup>
<b>Weekday Daily</b>	548	380	<b>-168</b>
<b>Weekday AM Peak Hour:</b>			
<i>Enter</i>	5	13	<b>8</b>
<i>Exit</i>	<u>5</u>	<u>10</u>	<b><u>5</u></b>
<i>Total</i>	10	23	<b>13</b>
<b>Weekday PM Peak Hour:</b>			
<i>Enter</i>	32	19	<b>-13</b>
<i>Exit</i>	<u>19</u>	<u>23</u>	<b><u>4</u></b>
<i>Total</i>	51	42	<b>-9</b>
<b>Saturday Daily</b>	604	600	<b>-4</b>
<b>Saturday Midday Peak Hour:</b>			
<i>Enter</i>	40	25	<b>-15</b>
<i>Exit</i>	<u>28</u>	<u>23</u>	<b><u>-5</u></b>
<i>Total</i>	68	48	<b>-20</b>

<sup>a</sup> Total Existing Trips (From Table 3).

<sup>b</sup> Total Proposed Trips (From Table 4).

<sup>c</sup> Proposed Trips minus Existing Trips.

As shown in Table 4, the proposed redevelopment will result in a minimal increase in vehicle trips of 13 additional trips (8 entering and 5 exiting) during the weekday AM peak hour, and is anticipated to result in a net reduction in vehicle trips during all other analysis time periods as compared to the existing uses on the site. These increases in traffic volumes represent less than one additional vehicle every five minutes on downtown roadways and are anticipated to result in negligible impacts to traffic operations downtown.

## PARKING

As part of the project, a total of 23 parking spaces will be provided in the basement level parking structure for use by the residents. No on-site parking will be provided for the proposed office and retail uses.

The site is located within the Downtown Overlay District, in close proximity to numerous municipal parking garages and on-street public parking. Based on Section 10.1115.21 of the Zoning Ordinance, non-residential uses within the Downtown Overlay District are not required to provide any parking. Therefore, no on-site parking will be provided for the proposed office and retail uses. It is assumed that the office and retail employees will walk, bike, or use public transit to work or park in the adjacent Hanover Street parking garage. Similarly, it is assumed that retail patrons will either park in one of the municipal parking lots or utilize on-street parking spaces in the area.

### Residential Parking

Section 10.1112.311 of the City of Portsmouth Zoning Ordinance requires:

- 0.5 parking spaces per unit for residential dwellings of less than 500 SF;
- 1.0 parking spaces per unit for residential dwellings of between 500 SF and 770 SF; and

- 1.3 parking spaces per unit for residential dwellings of greater than 750 SF.

The Project proposes to include a total of 1 unit with less than 500 SF of space, 1 unit with less 500-750 SF, and 16 units greater than 750 SF. Therefore, a total of 22.3 parking spaces are required to serve the proposed residential units.

In addition, Section 10.1112.312 of the Zoning Ordinance states that:

*“In addition to the off-street parking spaces provided in accordance with Sec. 10.1112.311, any dwelling or group of dwellings on a lot containing more than 4 dwelling units shall provide one visitor parking space for every 5 dwelling units or portion thereof.”*

Therefore, a total of 4.46 visitor parking spaces would be required to meet zoning regulations, which would result in a total of 26.76 parking spaces required for the residential use.

The Project is located within Downtown Overlay District. Section 10.1115.23 of the Zoning Ordinance allows for a 4 space reduction from the requirements of Section 10.1115.21 for any uses located within the Downtown Overlay District. Applying this reduction would result in a total parking requirement of 22.76 parking spaces.

As the proposed parking supply of 23 parking spaces will be consistent with the number of spaces required to meet the Zoning Ordinance, a Conditional Use Permit will not be required for this project for parking.

## CONCLUSIONS

- The site is comprised of two lots on Tax Map 117, Parcels 14 and 15. Parcel 14 currently contains a 4-story mixed-use building with retail and restaurant space on the first floor and office and apartment space on the upper floors. Parcel 15 contains a private parking locate. The project consists of renovating a portion of the existing building on Parcel 14 and constructing a 4-story addition to encompass the remainder of Parcels 14 and 15, and constructing basement-level parking. Access to the parking lot would be provided via a driveway on Haven Court to a vehicle elevator for access to the basement level. Upon completion, the Project would provide ±8,023 SF of retail space, ±8,312 SF of office space, and 18 residential apartment buildings.
- The section of Congress Street between Market Square and Fleet Street experienced an average of 5.0 collisions per year over the three-year study period. Of the 15 crashes, three were single-vehicle crashes with a light pole and may have involved vehicles striking the light poles immediately adjacent to the angled parking spaces along the northerly side of Congress Street. Five of the collisions involved a collision with a pedestrian, three of which occurred late at night when visibility of pedestrians in the roadway may have been a factor. Only one of the pedestrian crashes occurred at the intersection with High Street and involved a pedestrian crossing outside of the crosswalk at night. The occurrence of collisions with pedestrians at night may be an indication that the crosswalk is not adequately lit due either to poor lighting or overgrown street trees blocking existing light poles.
- There were no collisions reported along Haven Court, High Street, or Ladd Street over the three-year study period.
- The proposed redevelopment will result in a minimal increase in vehicle trips of 13 additional trips (8 entering and 5 exiting) during the weekday AM peak hour, and is anticipated to result in a net reduction in vehicle trips during all other analysis time periods as compared to the existing uses on

the site. These increases in traffic volumes represent less than one additional vehicle every five minutes on downtown roadways and are anticipated to result in negligible impacts to traffic operations downtown.

- The proposed parking supply of 23 residential parking spaces within the garage will meet the City's zoning regulations for residential developments within the Downtown Overlay District. No on-site parking is required for office and retail uses within the Downtown Overlay District.

**- APPENDIX**

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- *NHDOT Crash Data*
- *Trip Generation Calculations*

**TRAFFIC IMPACT ASSESSMENT**

One Congress Street – Portsmouth, New Hampshire

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**NHDOT CRASH DATA**

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FID	CRASH_DATE	ACDDAY	ACDTIME	ACDSTREET	INTERSTREE	MILESFTFR	NSEW_TO	TYPE_OF_AC	FIXED_OBJE	LOCATION_F	NUMVEHICLE	TOTALFATAL	TOTALINJUR	PEDFATALS	SEVERITY	ROAD_ALIGN	ROAD_CONDI	SURFACE_CO	LIGHTING_D	WEATHER_DE	TRAFFIC_CO
417934	6/22/2015	MON	1558	151 HIGH ST	HIGH ST AND DEER ST	150	E	Other Motor Vehicle		Along the Road	2	0	0	0	No Apparent Injury	Straight and Level	Normal	Dry	Daylight	Clear	Lane Control
434430	8/13/2015	THU	933	75 CONGRESS ST	FLEET ST	10	S	Fixed Object	Light Pole	Along the Road	1	0	0	0	Unknown	Straight and Level	Normal	Dry	Daylight	Clear	Visible Road Markings
455142	11/4/2015	WED	1443	1 DANIEL ST	1 MARKET SQ	0	AT	Pedestrian		At Intersection	1	0	1	0	No Apparent Injury	Other	Normal	Dry	Daylight	Clear	Stop Sign
466467	5/17/2016	TUE	1242	5 MARKET SQ	CONGRESS ST	10	N	Other Motor Vehicle		Along the Road	2	0	0	0	No Apparent Injury	Straight and Level	Normal	Dry	Daylight	Clear	Lane Control
488867	6/16/2016	TUE	2302	5 MARKET SQ	PLEASANT ST	0	AT	Pedestrian		Intersection Related	3	0	2	0	Non_Incapacitating	Straight and Level	Normal	Dry	Dark-Street Light On	Clear	Visible Road Markings
481938	7/17/2016	SUN	1444	62 CONGRESS ST	FLEET ST	20	W	Other Motor Vehicle		Unknown	2	0	0	0	No Apparent Injury	Unknown	Normal	Dry	Daylight	Clear	None
482191	7/19/2016	TUE	1356	10 PLEASANT ST	14 MARKET SQ	0	AT	Other Motor Vehicle		Along the Road	2	0	0	0	No Apparent Injury	Straight and Level	Normal	Dry	Daylight	Clear	None
482892	10/25/2016	TUE	1638	29 CONGRESS ST		0		Other Motor Vehicle		Unknown	2	0	0	0	Non_Incapacitating	Unknown	Normal	Dry	Daylight	Clear	Yield Sign
469157	11/8/2016	TUE	1934	14 MARKET SQ		0		Other Motor Vehicle		Along the Road	2	0	0	0	No Apparent Injury	Straight and Level	Normal	Dry	Daylight	Clear	Lane Control
499903	11/20/2016	SUN	1251	75 CONGRESS ST	FLEET ST	40	W	Pedestrian		Intersection Related	2	0	1	0	Non_Incapacitating	Straight and Level	Normal	Dry	Daylight	Clear	Traffic Signals
481331	12/8/2016	THU	2018	5 CONGRESS ST	HIGH ST	0	AT	Pedestrian		At Intersection	2	0	0	0	No Apparent Injury	Straight and Level	Normal	Dry	Dark-Street Light On	Clear	Visible Road Markings
469809	12/12/2016	MON	1612	40 PLEASANT ST		0		Other Motor Vehicle		Unknown	2	0	0	0	No Apparent Injury	Unknown	Normal	Dry	Dusk	Clear	None
479143	12/22/2016	THU	1426	8 CONGRESS ST		0		Fixed Object	Light Pole	At Intersection	1	0	0	0	No Apparent Injury	Unknown	Normal	Wet	Daylight	Snow	None
484255	12/24/2016	SAT	1	5 MARKET SQ	1 PLEASANT ST	0	AT	Pedestrian		Intersection Related	2	0	1	0	Possible	Straight and Level	Normal	Wet	Dark-Street Light On	Cloudy	Stop Sign
477050	3/28/2017	TUE	833	6 CONGRESS ST	1 CHURCH ST	0	AT	Fixed Object	Light Pole	Along the Road	1	0	0	0	Unknown	Straight and Level	Normal	Wet	Unknown	Cloudy	None



**TRIP-GENERATION CALCULATIONS**

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Proposed Use	Size	Variable
Residential (LUC 221)	18	Units
Office (LUC 710)	8312	SF
Retail (LUC 822)	8023	SF
Restaurant (LUC 930)	0	SF

Existing Uses	Size	Variable
Residential (LUC 221)	10	Units
Office (LUC 710)	2720	SF
Retail (LUC 822)	1180	SF
Restaurant (LUC 931)	5500	SF

Time Period / Direction	Proposed Trips					First Floor Office					Net Change in Trips
	Office LUC 710	Residential LUC 221	Retail LUC 822	Restaurant LUC 930	Total Trips	Office LUC 710	Residential LUC 221	Retail LUC 822	Restaurant LUC 930	Total Trips	
Weekday Daily	62	46	272	0	380	20	26	40	462	548	-168
Weekday AM Peak Hour											
Enter	6	0	7	0	13	2	0	1	2	5	8
Exit	1	4	5	0	10	0	2	1	2	5	5
Total	7	4	12	0	23	2	2	2	4	10	13
Weekday PM Peak Hour											
Enter	1	2	16	0	19	0	1	2	29	32	-13
Exit	6	1	16	0	23	2	1	2	14	19	4
Total	7	3	32	0	42	2	2	4	43	51	-9
Saturday Daily	14	42	544	0	600	4	24	80	496	604	-4
Saturday Midday Peak Hour											
Enter	2	2	21	0	25	1	1	3	35	40	-15
Exit	1	1	21	0	23	0	1	3	24	28	-5
Total	3	3	42	0	48	1	2	6	59	68	-20

***Institute of Transportation Engineers (ITE)***  
**Land Use Code (LUC) 710 - General Office Building**  
**Dense Multi-Use Urban**

Average Vehicle Trips Ends vs: 1000 Sq. Feet Gross Floor Area  
 Independent Variable (X): 8.312

**AVERAGE WEEKDAY DAILY**

$$\frac{\text{ITE LUC 710 Weekday Trip Rate (U)}}{\text{ITE LUC 710 Weekday Trip Rate (S)}} = \frac{\text{ITE LUC 710 Weekday Evening Trip Rate (U)}}{\text{ITE LUC 710 Weekday Evening Trip Rate (S)}}$$

$$\frac{(Y)}{9.74} = \frac{0.87}{1.15} \quad Y = 7.37$$

T = Y \* 8.312  
 T = 61.25  
 T = 62 vehicle trips  
 with 50% ( 31 vpd) entering and 50% ( 31 vpd) exiting.

**WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC**

T = 0.83 \* (X)  
 T = 0.83 \* 8.312  
 T = 6.90  
 T = 7 vehicle trips  
 with 86% ( 6 vph) entering and 14% ( 1 vph) exiting.

**WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC**

T = 0.87 \* (X)  
 T = 0.87 \* 8.312  
 T = 7.23  
 T = 7 vehicle trips  
 with 17% ( 1 vph) entering and 83% ( 6 vph) exiting.

**SATURDAY DAILY**

$$\frac{\text{ITE LUC 710 Saturday Trip Rate (U)}}{\text{ITE LUC 710 Saturday Trip Rate (S)}} = \frac{\text{ITE LUC 710 Weekday Evening Trip Rate (U)}}{\text{ITE LUC 710 Weekday Evening Trip Rate (S)}}$$

$$\frac{(Y)}{2.21} = \frac{0.87}{1.15} \quad Y = 1.67$$

T = Y \* 8.312  
 T = 1.67 \* 8.312  
 T = 13.90  
 T = 14 vehicle trips  
 with 50% ( 7 vpd) entering and 32% ( 7 vpd) exiting.

**SATURDAY PEAK HOUR OF GENERATOR**

$$\frac{\text{ITE LUC 710 Saturday Peak Trip Rate (U)}}{\text{ITE LUC 710 Saturday Peak Trip Rate (S)}} = \frac{\text{ITE LUC 710 Weekday Evening Trip Rate (U)}}{\text{ITE LUC 710 Weekday Evening Trip Rate (S)}}$$

$$\frac{(Y)}{0.53} = \frac{0.87}{1.15} \quad Y = 0.40$$

T = Y \* 8.312  
 T = 3.33  
 T = 3 vehicle trips  
 with 54% ( 2 vph) entering and 46% ( 1 vph) exiting.  
*(same distribution split as ITE LUC 710 General Urban/Suburban during the Saturday Peak period)*

**Institute of Transportation Engineers (ITE)**

**Land Use Code (LUC) 221 - Multifamily Housing (Mid-Rise)**

**Dense Multi-Use Urban**

Average Vehicle Trips Ends vs: Dwelling Units  
 Independent Variable (X): 18

**AVERAGE WEEKDAY DAILY**

T = 2.59 \* (X)  
 T = 2.59 \* 18  
 T = 46.62  
 T = 46 vehicle trips  
 with 50% ( 23 vpd) entering and 50% ( 23 vpd) exiting.

**WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC**

T = 0.20 \* (X)  
 T = 0.20 \* 18  
 T = 3.60  
 T = 4 vehicle trips  
 with 12% ( 0 vph) entering and 88% ( 4 vph) exiting.

**WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC**

T = 0.18 \* (X)  
 T = 0.18 \* 18  
 T = 3.24  
 T = 3 vehicle trips  
 with 72% ( 2 vph) entering and 28% ( 1 vph) exiting.

**SATURDAY DAILY**

$$\frac{\text{ITE LUC 221 Saturday Daily Trip Rate (General Urban/Suburban)}}{\text{ITE LUC 221 Weekday Daily Trip Rate (General Urban/Suburban)}} = \frac{\text{ITE LUC 221 Saturday Daily Trip Rate (Dense Multi-Use Urban)}}{\text{ITE LUC 221 Weekday Daily Trip Rate (Dense Multi-Use Urban)}}$$

$$\frac{4.91}{5.44} = \frac{(Y)}{2.59} \quad Y = 2.34$$

T = Y \* 18.000  
 T = 42.078  
 T = 42 vehicle trips  
 with 50% ( 21 vpd) entering and 50% ( 21 vpd) exiting.  
*(same distribution split as ITE LUC 221 General Urban/Suburban during the Saturday Daily period)*

**SATURDAY PEAK HOUR OF GENERATOR**

$$\frac{\text{ITE LUC 221 Saturday Peak Trip Rate (General Urban/Suburban)}}{\text{ITE LUC 221 Weekday Evening Peak Trip Rate (General Urban/Suburban)}} = \frac{\text{ITE LUC 221 Saturday Peak Trip Rate (Dense Multi-Use Urban)}}{\text{ITE LUC 221 Weekday Evening Peak Trip Rate (Dense Multi-Use Urban)}}$$

$$\frac{0.44}{0.44} = \frac{(Y)}{0.18} \quad Y = 0.18$$

T = Y \* 18.000  
 T = 3.24  
 T = 3 vehicle trips  
 with 49% ( 2 vpd) entering and 51% ( 1 vpd) exiting.  
*(same distribution split as ITE LUC 221 General Urban/Suburban during the Saturday Peak period)*

**Institute of Transportation Engineers (ITE)**

**Land Use Code (LUC) 822 - Strip Retail Plaza (<40k)**

**General Urban/Suburban**

Average Vehicle Trips Ends vs: 1000 Sq. Ft. Gross Floor Area  
 Independent Variable (X): 8.023

**AVERAGE WEEKDAY DAILY**

$$\frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Weekday PM Trip Rate}}{\text{ITE LUC 822 (General Urban/Suburban) Weekday PM Trip Rate}} = \frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Weekday Daily Trip Rate}}{\text{ITE LUC 822 (General Urban/Suburban) Weekday Daily Trip Rate}}$$

$$\frac{4.10}{6.59} = \frac{(Y)}{54.45} \quad Y = 33.88$$

T = Y \* 8.023  
 T = 271.82  
 T = 272 vehicle trips  
 with 500% ( 136 vpd) entering and 50% ( 136 vpd) exiting.  
*(same distribution split as ITE LUC 822 (General Urban/Suburban) during the Weekday Daily)*

**WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC**

$$\frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Weekday PM Trip Rate}}{\text{ITE LUC 822 (General Urban/Suburban) Weekday PM Trip Rate}} = \frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Weekday AM Trip Rate}}{\text{ITE LUC 822 (General Urban/Suburban) Weekday AM Trip Rate}}$$

$$\frac{4.10}{6.59} = \frac{(Y)}{2.36} \quad Y = 1.47$$

T = Y \* 8.023  
 T = 11.79  
 T = 12 vehicle trips  
 with 60% ( 7 vpd) entering and 40% ( 5 vpd) exiting.  
*(same distribution split as ITE LUC 822 (General Urban/Suburban) during the Weekday AM)*

**WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC**

$$\frac{\text{ITE LUC 821 (Dense Multi-Use Urban) Weekday PM Trip Rate}}{\text{ITE LUC 821 (General Urban/Suburban) Weekday PM Trip Rate}} = \frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Weekday PM Trip Rate}}{\text{ITE LUC 822 (General Urban/Suburban) Weekday PM Trip Rate}}$$

$$\frac{3.23}{5.19} = \frac{(Y)}{6.59} \quad Y = 4.10$$

T = Y \* 8.023  
 T = 32.89  
 T = 32 vehicle trips  
 with 50% ( 16 vpd) entering and 50% ( 16 vpd) exiting.  
*(same distribution split as ITE LUC 822 (General Urban/Suburban) during the Weekday PM)*

**SATURDAY DAILY**

$$\frac{\text{ITE LUC 821 (General Urban/Suburban) Saturday Daily Trip Rate}}{\text{ITE LUC 821 (General Urban/Suburban) Saturday Peak Hour Trip Rate}} = \frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Saturday Daily Trip Rate}}{\text{ITE LUC 822 (Dense Multi-Use Urban) Saturday Peak Hour Trip Rate}}$$

$$\frac{81.07}{6.22} = \frac{(Y)}{5.20} \quad Y = 67.78$$

T = Y \* 8.023  
 T = 543.80  
 T = 544 vehicle trips  
 with 50% ( 272 vpd) entering and 50% ( 272 vpd) exiting.  
*(same distribution split as ITE LUC 821 during the Saturday Daily)*

**SATURDAY PEAK HOUR OF GENERATOR**

$$\frac{\text{ITE LUC 821 (Dense Multi-Use Urban) Saturday Midday Trip Rate}}{\text{ITE LUC 821 (General Urban/Suburban) Saturday Midday Trip Rate}} = \frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Saturday Midday Trip Rate}}{\text{ITE LUC 822 (General Urban/Suburban) Saturday Midday Trip Rate}}$$

$$\frac{4.92}{6.22} = \frac{(Y)}{6.57} \quad Y = 5.20$$

T = Y \* 8.023  
 T = 41.72  
 T = 42 vehicle trips  
 with 51% ( 21 vpd) entering and 49% ( 21 vpd) exiting.  
*(same distribution split as ITE LUC 822 (General Urban/Suburban) during the Saturday Midday)*

**Institute of Transportation Engineers (ITE)**  
**Land Use Code (LUC) 221 - Multifamily Housing (Mid-Rise)**  
**Dense Multi-Use Urban**

Average Vehicle Trips Ends vs: Dwelling Units  
 Independent Variable (X): 10

**AVERAGE WEEKDAY DAILY**

$$T = 2.59 * (X)$$

$$T = 2.59 * 10$$

$$T = 25.90$$

$$T = 26 \text{ vehicle trips}$$

with 50% ( 13 vpd) entering and 50% ( 13 vpd) exiting.

**WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC**

$$T = 0.20 * (X)$$

$$T = 0.20 * 10$$

$$T = 2.00$$

$$T = 2 \text{ vehicle trips}$$

with 12% ( 0 vph) entering and 88% ( 2 vph) exiting.

**WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC**

$$T = 0.18 * (X)$$

$$T = 0.18 * 10$$

$$T = 1.80$$

$$T = 2 \text{ vehicle trips}$$

with 72% ( 1 vph) entering and 28% ( 1 vph) exiting.

**SATURDAY DAILY**

$$\frac{\text{ITE LUC 221 Saturday Daily Trip Rate (General Urban/Suburban)}}{\text{ITE LUC 221 Weekday Daily Trip Rate (General Urban/Suburban)}} = \frac{\text{ITE LUC 221 Saturday Daily Trip Rate (Dense Multi-Use Urban)}}{\text{ITE LUC 221 Weekday Daily Trip Rate (Dense Multi-Use Urban)}}$$

$$\frac{4.91}{5.44} = \frac{(Y)}{2.59} \quad Y = 2.34$$

$$T = Y * 10.000$$

$$T = 23.377$$

$$T = 24 \text{ vehicle trips}$$

with 50% ( 12 vpd) entering and 50% ( 12 vpd) exiting.  
*(same distribution split as ITE LUC 221 General Urban/Suburban during the Saturday Daily period)*

**SATURDAY PEAK HOUR OF GENERATOR**

$$\frac{\text{ITE LUC 221 Saturday Peak Trip Rate (General Urban/Suburban)}}{\text{ITE LUC 221 Weekday Evening Peak Trip Rate (General Urban/Suburban)}} = \frac{\text{ITE LUC 221 Saturday Peak Trip Rate (Dense Multi-Use Urban)}}{\text{ITE LUC 221 Weekday Evening Peak Trip Rate (Dense Multi-Use Urban)}}$$

$$\frac{0.44}{0.44} = \frac{(Y)}{0.18} \quad Y = 0.18$$

$$T = Y * 10.000$$

$$T = 1.8$$

$$T = 2 \text{ vehicle trips}$$

with 49% ( 1 vpd) entering and 51% ( 1 vpd) exiting.  
*(same distribution split as ITE LUC 221 General Urban/Suburban during the Saturday Peak period)*

**Institute of Transportation Engineers (ITE)**  
**Land Use Code (LUC) 710 - General Office Building**  
**Dense Multi-Use Urban**

Average Vehicle Trips Ends vs: 1000 Sq. Feet Gross Floor Area  
 Independent Variable (X): 2.720

**AVERAGE WEEKDAY DAILY**

$$\frac{\text{ITE LUC 710 Weekday Trip Rate (U)}}{\text{ITE LUC 710 Weekday Trip Rate (S)}} = \frac{\text{ITE LUC 710 Weekday Evening Trip Rate (U)}}{\text{ITE LUC 710 Weekday Evening Trip Rate (S)}}$$

$$\frac{(Y)}{9.74} = \frac{0.87}{1.15} \quad Y = 7.37$$

T = Y \* 2.720  
 T = 20.04  
 T = 20 vehicle trips  
 with 50% ( 10 vpd) entering and 50% ( 10 vpd) exiting.

**WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC**

T = 0.83 \* (X)  
 T = 0.83 \* 2.720  
 T = 2.26  
 T = 2 vehicle trips  
 with 86% ( 2 vph) entering and 14% ( 0 vph) exiting.

**WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC**

T = 0.87 \* (X)  
 T = 0.87 \* 2.720  
 T = 2.37  
 T = 2 vehicle trips  
 with 17% ( 0 vph) entering and 83% ( 2 vph) exiting.

**SATURDAY DAILY**

$$\frac{\text{ITE LUC 710 Saturday Trip Rate (U)}}{\text{ITE LUC 710 Saturday Trip Rate (S)}} = \frac{\text{ITE LUC 710 Weekday Evening Trip Rate (U)}}{\text{ITE LUC 710 Weekday Evening Trip Rate (S)}}$$

$$\frac{(Y)}{2.21} = \frac{0.87}{1.15} \quad Y = 1.67$$

T = Y \* 2.720  
 T = 1.67 \* 2.720  
 T = 4.55  
 T = 4 vehicle trips  
 with 50% ( 2 vpd) entering and 32% ( 2 vpd) exiting.

**SATURDAY PEAK HOUR OF GENERATOR**

$$\frac{\text{ITE LUC 710 Saturday Peak Trip Rate (U)}}{\text{ITE LUC 710 Saturday Peak Trip Rate (S)}} = \frac{\text{ITE LUC 710 Weekday Evening Trip Rate (U)}}{\text{ITE LUC 710 Weekday Evening Trip Rate (S)}}$$

$$\frac{(Y)}{0.53} = \frac{0.87}{1.15} \quad Y = 0.40$$

T = Y \* 2.720  
 T = 1.09  
 T = 1 vehicle trips  
 with 54% ( 1 vph) entering and 46% ( 0 vph) exiting.  
*(same distribution split as ITE LUC 710 General Urban/Suburban during the Saturday Peak period)*

**Institute of Transportation Engineers (ITE)**

**Land Use Code (LUC) 822 - Strip Retail Plaza (<40k)**

**General Urban/Suburban**

Average Vehicle Trips Ends vs: 1000 Sq. Ft. Gross Floor Area  
 Independent Variable (X): 1.180

**AVERAGE WEEKDAY DAILY**

$$\frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Weekday PM Trip Rate}}{\text{ITE LUC 822 (General Urban/Suburban) Weekday PM Trip Rate}} = \frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Weekday Daily Trip Rate}}{\text{ITE LUC 822 (General Urban/Suburban) Weekday Daily Trip Rate}}$$

$$\frac{4.10}{6.59} = \frac{(Y)}{54.45} \quad Y = 33.88$$

T = Y \* 1.180  
 T = 39.98  
 T = 40 vehicle trips  
 with 500% ( 20 vpd) entering and 50% ( 20 vpd) exiting.  
*(same distribution split as ITE LUC 822 (General Urban/Suburban) during the Weekday Daily)*

**WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC**

$$\frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Weekday PM Trip Rate}}{\text{ITE LUC 822 (General Urban/Suburban) Weekday PM Trip Rate}} = \frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Weekday AM Trip Rate}}{\text{ITE LUC 822 (General Urban/Suburban) Weekday AM Trip Rate}}$$

$$\frac{4.10}{6.59} = \frac{(Y)}{2.36} \quad Y = 1.47$$

T = Y \* 1.180  
 T = 1.73  
 T = 2 vehicle trips  
 with 60% ( 1 vpd) entering and 40% ( 1 vpd) exiting.  
*(same distribution split as ITE LUC 822 (General Urban/Suburban) during the Weekday AM)*

**WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC**

$$\frac{\text{ITE LUC 821 (Dense Multi-Use Urban) Weekday PM Trip Rate}}{\text{ITE LUC 821 (General Urban/Suburban) Weekday PM Trip Rate}} = \frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Weekday PM Trip Rate}}{\text{ITE LUC 822 (General Urban/Suburban) Weekday PM Trip Rate}}$$

$$\frac{3.23}{5.19} = \frac{(Y)}{6.59} \quad Y = 4.10$$

T = Y \* 1.180  
 T = 4.84  
 T = 4 vehicle trips  
 with 50% ( 2 vpd) entering and 50% ( 2 vpd) exiting.  
*(same distribution split as ITE LUC 822 (General Urban/Suburban) during the Weekday PM)*

**SATURDAY DAILY**

$$\frac{\text{ITE LUC 821 (General Urban/Suburban) Saturday Daily Trip Rate}}{\text{ITE LUC 821 (General Urban/Suburban) Saturday Peak Hour Trip Rate}} = \frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Saturday Daily Trip Rate}}{\text{ITE LUC 822 (Dense Multi-Use Urban) Saturday Peak Hour Trip Rate}}$$

$$\frac{81.07}{6.22} = \frac{(Y)}{5.20} \quad Y = 67.78$$

T = Y \* 1.180  
 T = 79.98  
 T = 80 vehicle trips  
 with 50% ( 40 vpd) entering and 50% ( 40 vpd) exiting.  
*(same distribution split as ITE LUC 821 during the Saturday Daily)*

**SATURDAY PEAK HOUR OF GENERATOR**

$$\frac{\text{ITE LUC 821 (Dense Multi-Use Urban) Saturday Midday Trip Rate}}{\text{ITE LUC 821 (General Urban/Suburban) Saturday Midday Trip Rate}} = \frac{\text{ITE LUC 822 (Dense Multi-Use Urban) Saturday Midday Trip Rate}}{\text{ITE LUC 822 (General Urban/Suburban) Saturday Midday Trip Rate}}$$

$$\frac{4.92}{6.22} = \frac{(Y)}{6.57} \quad Y = 5.20$$

T = Y \* 1.180  
 T = 6.14  
 T = 6 vehicle trips  
 with 51% ( 3 vpd) entering and 49% ( 3 vpd) exiting.  
*(same distribution split as ITE LUC 822 (General Urban/Suburban) during the Saturday Midday)*



***Institute of Transportation Engineers (ITE)***  
**Land Use Code (LUC) 931 - Fine Dining Restaurant**  
**General Urban/Suburban**

Average Vehicle Trips Ends vs: 1,000 Sq. Ft. Gross Floor Area  
Independent Variable (X): 5.500

**AVERAGE WEEKDAY DAILY**

$T = 83.84 * (X)$   
 $T = 83.84 * 5.500$   
 $T = 461.12$   
 $T = 462$  vehicle trips  
with 50% ( 231 vpd) entering and 50% ( 231 vpd) exiting.

**WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC**

$T = 0.73 * (X)$   
 $T = 0.73 * 5.500$   
 $T = 4.02$   
 $T = 4$  vehicle trips  
with 55% ( 2 vph) entering and 45% ( 2 vph) exiting.  
*(same distribution split as ITE LUC 932 during the Weekday AM)*

**WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC**

$T = 7.80 * (X)$   
 $T = 7.8 * 5.500$   
 $T = 42.90$   
 $T = 43$  vehicle trips  
with 67% ( 29 vph) entering and 33% ( 14 vph) exiting.

**SATURDAY DAILY**

$T = 90.04 * (X)$   
 $T = 90.04 * 5.500$   
 $T = 495.22$   
 $T = 496$  vehicle trips  
with 50% ( 248 vpd) entering and 50% ( 248 vpd) exiting.

**SATURDAY PEAK HOUR OF GENERATOR**

$T = 10.68 * (X)$   
 $T = 10.68 * 5.500$   
 $T = 58.74$   
 $T = 59$  vehicle trips  
with 59% ( 35 vph) entering and 41% ( 24 vph) exiting.



1 Congress Street

Site Plan Review 10-18-2022

## **Green Building Statement**

### WATER

- ✓ Protect water quality – Eliminate surface parking lot.
- ✓ Conserve Water -- Target 30% reduction in fixtures water use over building code, meeting EPACT 2005.

### ENERGY

- ✓ Conserve Energy – Basis of Design to Target 50% Energy Use Index (EUI = 32) reduction over code compliance (IECC 2018) in combined attached existing and new buildings. Use early energy modeling to analyze effective scenarios. Provide high performance thermal envelope. Achieve Energy Star certification and associated rebates. Use Heat Recovery for ventilation. Commission energy using systems. LED lighting throughout. See attached engineering report and preliminary energy model summary for additional details.
- ✓ Renewable Energy – Rooftop Solar Photovoltaic system for portion of building's energy needs.
- ✓ Building Performance -- Use industry tools to annually monitor and benchmark buildings. Train staff on proper building operation with comprehensive Facilities Staff Training and Systems Manuals.
- ✓ Reduce Low level ozone (smog) -- Provide safe and secure bicycle storage. Use only low-VOC products for construction and operation.

### MATERIALS & RESOURCES

- ✓ Minimize waste (during construction and operation)
- ✓ Use regional, renewable, low carbon footprint materials

### INDOOR ENVIRONMENTAL QUALITY

- ✓ Thermal comfort -- Meet ASHRAE 55 Thermal Comfort Code. Address thermal envelope per above. Provide multiple zones of heating and cooling in each apartment.
- ✓ Indoor air quality (before and during occupancy) -- MEET ASHRAE 62 Ventilation Code in all occupied spaces. MEET LEED IEQ credit requirements.
- ✓ Views / connection to outdoors -- Provide views to outdoors for every regularly occupied space.
- ✓ Daylighting -- Achieve Daylight Factor of 2% minimum for every regularly occupied space.
- ✓ Individual controls (light, heat etc...) -- Provide individual controls for temperature and lighting.



wv engineering associates, pa. [www.wvengineering.com](http://www.wvengineering.com)  
11 king court, keene, new hampshire 03431 t: 603.352.7007

October 14, 2022

**Ms. Lynn Kramer**

McNabb Properties, LTD.  
3 Pleasant Street, Suite 400  
Portsmouth, NH 03801

Re: **Market Square  
One Congress Street  
Portsmouth, New Hampshire  
WVA Project No. 21208**

Dear Lynn:

We offer the following energy efficiency design standards as part of the 1 Congress Street Green Building Standard:

Plumbing

- Utilize low flow EPA Water Sense rated plumbing fixtures.
- Utilize 2018 International Energy Conservation Code (IECC) domestic hot water recirculation and piping insulation.
- Utilize condensing gas efficiency domestic hot water heaters at centralized domestic hot water plant for commercial and residential tenants.

Mechanical

- Utilize centralized commercial 3-phase VRF heat recovery air source heat pumps.
- Utilize minimum 65% efficiency energy recovery ventilators to provide 2018 International Mechanical Code required ventilation and exhaust to commercial and residential tenants.
- Utilized high supply/low return air distribution where possible to maximize ventilation efficiency.

Electrical

- Utilize Energy Star or Design Light Consortium rated LED light fixtures.
- Utilize 2018 IECC day light dimming, occupancy and vacancy sensors to minimize lighting energy use.

Sincerely,

WV Engineering Associates, PA

A handwritten signature in black ink, appearing to read "R.A. Parks, III". The signature is stylized and cursive.

Richard A. Parks, III, PE

cc: Tracy Kozak ARCOve Architects

# ANALYSIS SUMMARY

Location

Portsmouth, NH 03801, USA

Climate Zone

ASHRAE Climate Zone 5

# 98

Walk Score®  
Walker's Paradise

# 63

Bike Score®  
Bikeable

Building Type

## ENERGY UTILIZATION INTENSITY - EUI



Office

23.49



Apartments

36.87



Retail

30.96

# 32

Overall Energy

The current model is done using [ASHRAE 2016 - IECC 2018 Equivalent](#) energy code assumptions. The current design is [better](#) than the national average and can be significantly improved by higher performance of envelope, HVAC and more. The building load is driven by [Equipment](#) and [Lighting](#).

# BENCHMARKS

## WHERE DO WE NEED TO BE?

Energy

# 66

National Average

# 13

2030 Target

EUI is expressed as energy per square foot per year. It is calculated by dividing the total energy consumed by the building in one year (measured in kBtu) by the total floor area of the building. The most common unit for EUI is kBtu/ft<sup>2</sup>/year.

# 55%

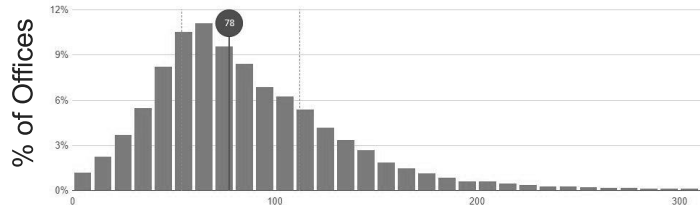
Daylight

Spatial Daylight Autonomy (sDA) describes the percentage of floor area that receives at least 300 lux for at least 50% of the annual occupied hours.

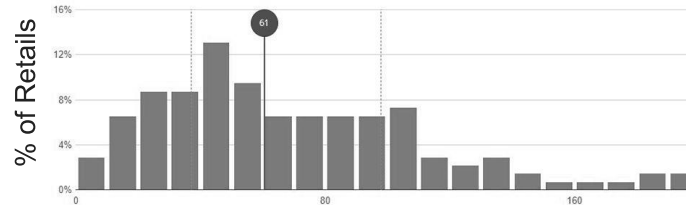
# 10%

Glare

Annual Solar Exposure (ASE) refers to the percentage of space that receives too much direct sunlight (1000 Lux or more for at least 250 occupied hours per year), which can cause glare or increased cooling loads.

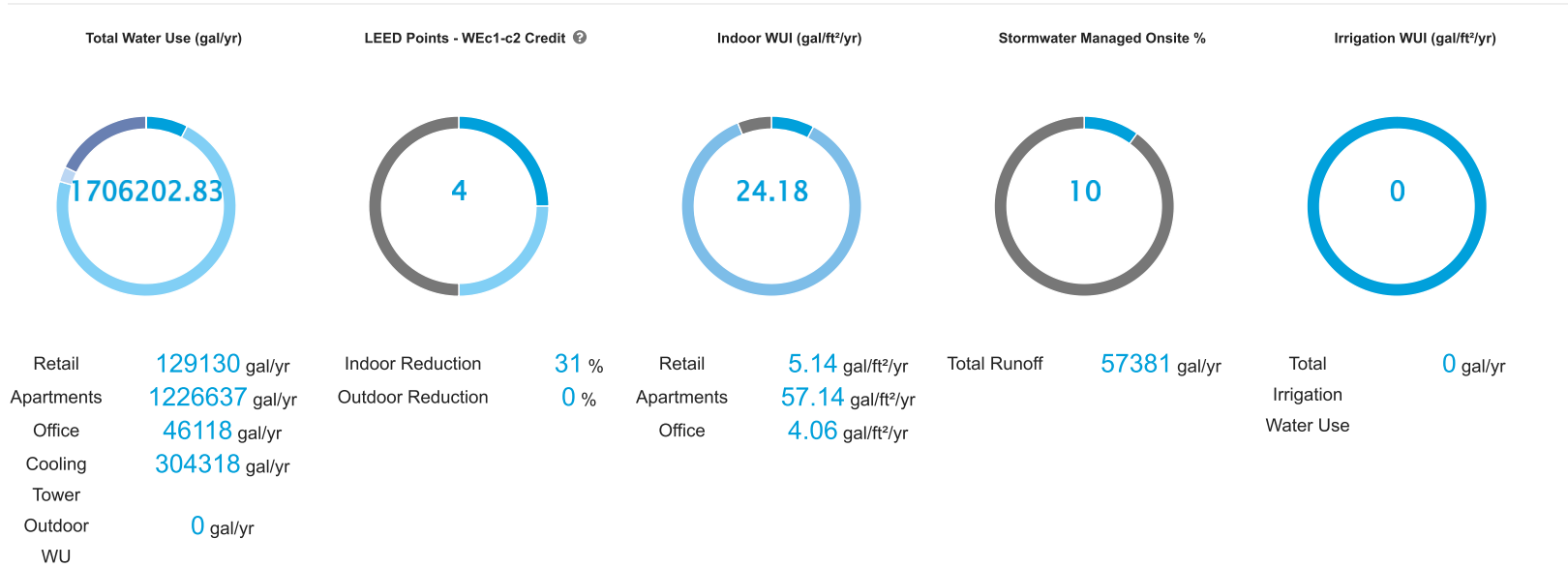


Measured Energy Use of Offices



Measured Energy Use of Retailers

# Water Use



Average Grade Work Sheet						
Project	One Congress Street				Calculated	
Address:	1 Congress Street, Portsmouth, NH				10/26/2022	
6' offset from Building; Prop Grades 10' OC						
SECTION	Elev	Elev	Elev	Elev	Total	
SOUTH	27.84	27.79	27.74	27.97	111.34	AVG PER SECTION
	28.02				28.02	
			#	5	139.36	27.87
WEST	35.00	34.83	34.61	34.44	138.88	AVG PER SECTION
	34.25	34.04	33.86	33.68	135.83	
	33.50	33.32	33.14	33.03	132.99	
	32.50				32.5	
			#	13	440.20	33.86
NORTH	31.79	31.10	30.41	29.72	123.02	AVG PER SECTION
	29.03	28.28	27.70	27.09	112.10	
	26.54				26.54	
			#	9	261.66	29.07
EAST	27.83	27.71	27.59	27.47	110.60	AVG PER SECTION
	27.62	27.56	27.43	27.26	109.87	
	27.39	27.64	27.44	27.24	109.71	
	27.04	26.84	26.64	26.44	106.96	
	26.24				26.24	
			#	17	463.38	27.26
Total	1,304.60	>	AVERAGE GRADE			
#	44		29.65			



# RAVEN™

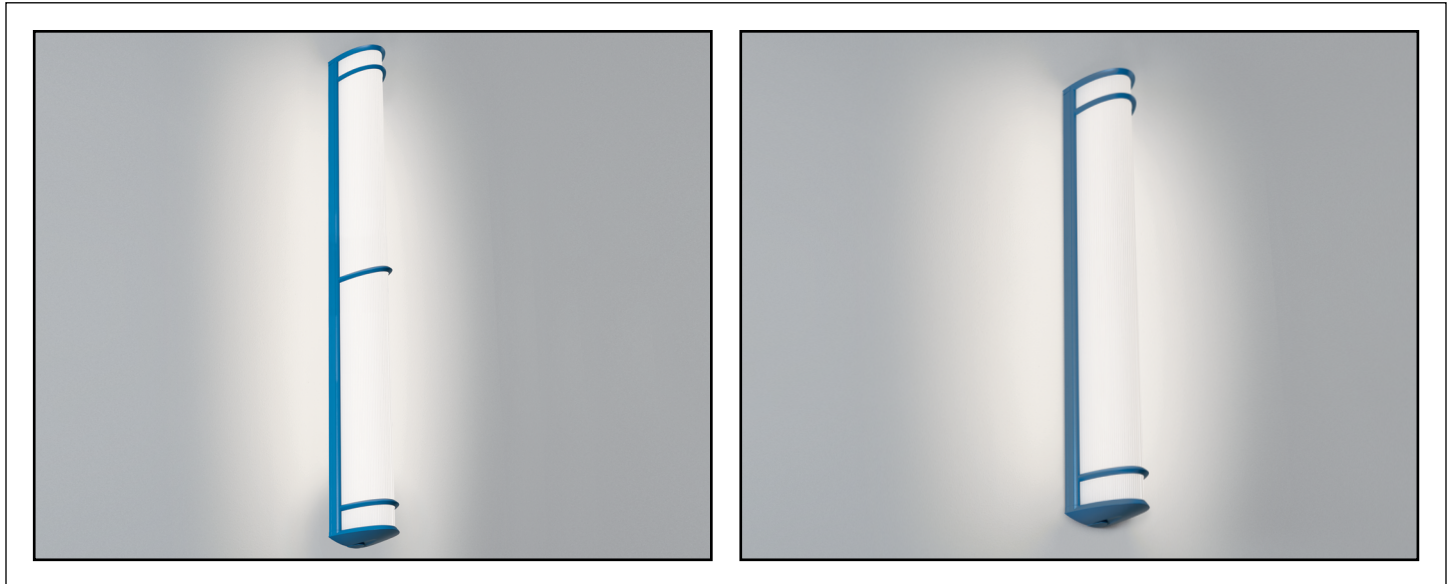
OW1340/OW1342/OW1344/OW1346/OW1348

Outdoor models with Accent Bars



[VisaLighting.com/products/Raven](http://VisaLighting.com/products/Raven)

Type: \_\_\_\_\_ Project: \_\_\_\_\_ Location: \_\_\_\_\_



## DIMENSIONS<sup>1</sup>

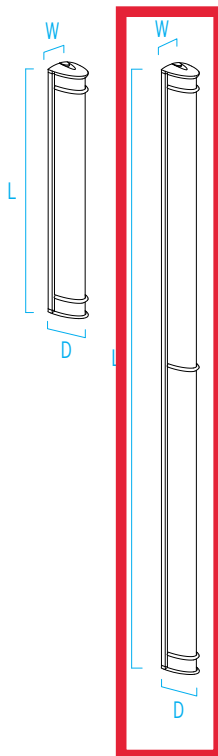
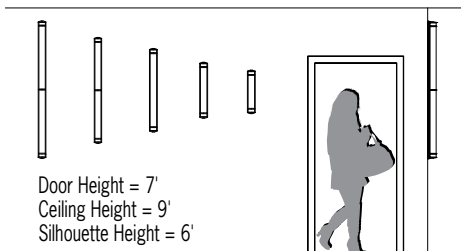
L = Length D = Depth W = Width WT = Weight

	OW1348	OW1340	OW1342	OW1344	OW1346
L	18-1/2" (470 mm)	24-3/4" (629 mm)	36-1/2" (927 mm)	48-3/8" (1229 mm)	60-1/8" (1527 mm)
D	4" (102 mm)				
W	3 -3/8" (86 mm)				

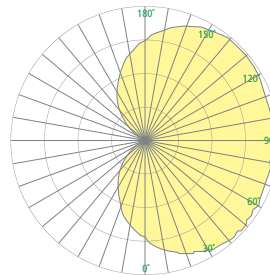
## FEATURES

- Integral driver
- Vertical or horizontal mounting
- Mounts to 2 X 4 electrical junction box (by others) with provided hardware. Requires auxiliary mounting fasteners (provided). Orient junction box to match fixture's linear dimension (horizontal or vertical)
- Tamper resistant fasteners
- High impact extruded aluminum backplate/side rails, die-cast end caps and trim bars; gasketed and sealed construction
- Extruded clear prismatic performance lens and extruded white acrylic diffuser
- High impact extruded white acrylic, FI rated; UV stable; UL-94 HB Flame Class rated
- No VOC powder coat finish
- ETL listed for wet location mounting 4' above grade

## RELATIVE SCALE DRAWING



## PHOTOMETRICS



ADA



XPS



ETL Listed



5 Year Warranty

# RAVEN (cont.)



OW1340/OW1342/OW1344/OW1346/OW1348

Outdoor models with Accent Bars

Fill in shaded boxes using information listed below

		- MVOLT			
<b>MODEL<sup>1</sup></b> OW1348 OW1340 OW1342 OW1344 OW1346  See page 1	<b>SOURCE<sup>2</sup></b> • L30K(H) • L30K(L) L35K(H) L35K(L) • L40K(H) • L40K(L)	<b>VOLTAGE</b> MVOLT	<b>FINISH</b>  See last page for finish order codes	<b>OPTION<sup>3</sup></b> XPS	

### SOURCE<sup>2</sup> (Select One)

Dimmable 0-10V to 1%, Minimum 80CRI, within 3-step MacAdam

Source	CCT	OW1348		OW1340		OW1342		OW1344		OW1346	
		Delivered Lumens	Power/Watts	Delivered Lumens	Power/Watts	Delivered Lumens	Power/Watts	Delivered Lumens	Power/Watts	Delivered Lumens	Power/Watts
• L30K(H)	3000K	1100	10	1400	13	2800	26	3300	29	3900	35
• L30K(L)	3000K	750	7	800	7	1900	17	2200	19	2800	23
L35K(H)	3500K	1100	10	1400	13	2800	26	3300	29	3900	35
L35K(L)	3500K	750	7	800	7	1900	17	2200	19	2800	23
• L40K(H)	4000K	1100	10	1400	13	2900	26	3400	29	4100	35
• L40K(L)	4000K	750	7	800	7	2000	17	2300	19	2800	23

### OPTION<sup>3</sup>

⚠ Option availability may be interdependent with Other Options

<b>XPS</b>	Express 10 day shipping. Items marked with a bullet (•) are not available with XPS
------------	--

### VOLTAGE

<b>MVOLT</b>	120-277V, 50/60 Hz
--------------	--------------------

### LUMEN MAINTENANCE RATING

L80 (reported)	>50,000hrs
----------------	------------

### Tamper Resistant Fastener



# RAVEN (cont.)

OW1340/OW1342/OW1344/OW1346/OW1348

Outdoor models with Accent Bars

## RAVEN PRODUCT FAMILY

Accent Bars	Outdoor	<ul style="list-style-type: none"> <li>• OW1348</li> <li>• OW1340</li> <li>• OW1342</li> <li>• OW1344</li> <li>• OW1346</li> </ul>
	Indoor	<ul style="list-style-type: none"> <li>• CV1818</li> <li>• CV1800</li> <li>• CV1802</li> <li>• CV1804</li> <li>• CV1806</li> </ul>
No Accent Bars	Outdoor	<ul style="list-style-type: none"> <li>• OW1350</li> <li>• OW1352</li> <li>• OW1354</li> <li>• OW1356</li> <li>• OW1358</li> </ul>
	Indoor	<ul style="list-style-type: none"> <li>• CV1820</li> <li>• CV1822</li> <li>• CV1824</li> <li>• CV1826</li> <li>• CV1828</li> </ul>

## SUGGESTED VARIATIONS

- 2700k–5000k color temperatures
- Increase fixture length up to 8' (indoor only)

See [Visalighting.com/products/Raven](https://visalighting.com/products/Raven) for more information

# RAVEN (cont.)

OW1340/OW1342/OW1344/OW1346/OW1348

Outdoor models with Accent Bars



## FINISHES

Specify color code when ordering. For accurate color matching, individual paint and finish samples are [available upon request](#).  
For more information about our finishes visit [visalighting.com/finishes](https://visalighting.com/finishes)

### Powder Coat Paint Finishes (Standard)

						
<b>AGGY</b> Agate Grey	<b>ALGN</b> Alpine Green	<b>BJBG</b> Baja Beige	<b>BMAT</b> Bronze Matt	<b>BRNZ</b> Bronze	<b>BL</b> Blade Silver	<b>CVBL</b> Cove Blue
						
<b>DEOR</b> Deoro Gold	<b>GLWT</b> Glacier White	<b>GSIL</b> Graphite Siver	<b>HRGR</b> Harbor Grey	<b>JTBK</b> Jet Black	<b>OCBL</b> Ocean Blue	<b>SHGR</b> Shoreline Grey
						
<b>SBGN</b> Sagebrush Green	<b>SLGR</b> Slate Grey	<b>SSTP</b> Sierra Taupe	<b>TRCN</b> Terracotta Canyon	<b>TRWT</b> Traffic White	<b>VBLK</b> Velvet Black	<b>VNRD</b> Vineyard Red



# A78BLED FRISCO SERIES

LED

EPA  
2.03 (ft<sup>2</sup>)  
WEIGHT  
22 LBS

7 YEAR  
WARRANTY

LUMEN  
RANGE  
2,200 to  
5,400

LIFE SPAN  
L70  
MINIMUM  
100,000  
HOURS

UL  
LISTED

CLICK  
FOR FAQ'S

JOB NAME \_\_\_\_\_

FIXTURE TYPE \_\_\_\_\_

MEMO \_\_\_\_\_

## BUILD A PART NUMBER

ORDERING EXAMPLE: **2A-A78BLED-5P-4L40T3-MDLO5-A-PEC-FHD/480PM/4212FP4/FCC/BKT**

Mounting Config.	Fixture	Fitter	LED	CCT	Type	Driver	Lens	Option Control Receptacle	Option Control	Option Fuse	Option Custom Logo	Option GFI	Option Terminal Block	Option House Side Shield	Arm <small>See Arm Spec Sheets</small>	Pole <small>See Pole Spec Sheets</small>	Finish

### Mounting Configuration

(Click here to link to mounting configuration specification page)

- 1W            • 2A            • 3A90            • 1AM
- PT            • 2A90            • 3APT            • 2AM
- 1A            • 2APT            • 4A            • 450PB
- 1APT        • 3A            • 4APT

W = Wall Mount PT = Post Top A = Arm Mount AM = Arm Mid-Mount PB = Pier Base

### Fixture

- A78BLED

### Fitter

- 5P            • 992            • 995            • BD7            • C2097<sup>1</sup>
- 990            • 993            • BD4            • OL3
- 991            • 994            • BD5            • OL4

<sup>1</sup> Consult factory for use on concrete poles.

### LED

- 4L

### CCT - Color Temperature (K)

- 27(00) • 30(00) • 35(00) • 40(00) • 50(00)

### Type

- T3            • T4            • T5

### Driver

- MDL02 (120v-277v, 250mA)
- MDL03 (120v-277v, 350mA)
- MDL05 (120v-277v, 500mA)
- MDL06 (120v-277v, 630mA)
- MDH02 (347v-480v, 250mA)
- MDH03 (347v-480v, 350mA)
- MDH05 (347v-480v, 500mA)
- MDH06 (347v-480v, 630mA)

### Lens

- A (Acrylic Lens)

### Options (Click here to view accessories sheet)

- R<sup>2</sup> 3-Pin control receptacle only
- R<sup>5</sup> 5-Pin control receptacle only
- R<sup>7</sup> 7-Pin control receptacle only
- PE<sup>3</sup> Twist-Lock Photocontrol (120v-277v)
- PE<sup>3</sup> Twist-Lock Photocontrol (347v)
- PE<sup>4</sup> Twist-Lock Photocontrol (480v)

- SC<sup>3</sup> Shorting Cap
- PEC Electronic Button Photocontrol (120v-277v)
- PEC4 Electronic Button Photocontrol (480v)
- FHD<sup>4</sup> Double Fuse and Holder
- CL<sup>5</sup> Custom Logo in Medallion
- GFI<sup>2</sup> 15A Duplex GFI for Utility Fitter
- TB<sup>2</sup> Terminal Block
- HSS 120° House Side Shield

<sup>2</sup> For 900 series utility fitter only.

<sup>3</sup> Requires control receptacle.

<sup>4</sup> Ships loose for installation in base.

<sup>5</sup> Consult factory for specification details.

### Pole (Click here to link to pole specification page)

See Pole specification sheets.

### Finish

#### Standard Finishes<sup>6</sup>

- BKT Black Textured
- WHT White Textured
- PGT Park Green Textured
- ABZT Architectural Medium Bronze Textured
- DBT Dark Bronze Textured

<sup>6</sup> Smooth finishes are available upon request.

#### Custom Finishes<sup>7</sup>

- OI Old Iron
- RT Rust
- WBR Weathered Brown
- CD Cedar
- WBK Weathered Black
- TT Two Tone

<sup>7</sup> Custom colors require upcharge.

#### Sternberg Select Finishes

- VG Verde Green
- SI Swedish Iron
- OWGT Old World Gray Textured

### Fitter - Standard

The fitter shall be heavy wall cast aluminum, 356 alloy for high tensile strength. It shall have an 8-1/2" inside diameter opening to attach to the 8" neck of the acorn globe. When ordered with a Sternberg aluminum pole, the fitter shall be welded to the pole top or tenon for safety and to ensure the fixture will be plumb, secure and level over the life of the installation. The fitter shall have a one-piece ring bug gasket to resist insect penetration into lamp assembly.

### 900 Series Utility Fitter Option

The fitter shall be heavy wall cast aluminum, 360 die cast alloy for high tensile strength. It shall have a 9-1/4" inside diameter opening to attach to the 8" neck of the acorn globe. It shall have a hinged, tool-less entry door that provides open access to all of the components. The 900 series shall have an optional terminal block for ease of wiring, an optional Twist-Lock Photocontrol receptacle, an optional single GFCI outlet for auxiliary power needs. The top mounted driver mounting plate shall be cast aluminum and provide tool-less removal from the housing using 2 finger latches. The fitter shall have a one-piece ring gasket to resist insect penetration into globe assembly. When supplied with GFCI receptacle a hole will be provided for cord and plug installation with the access door closed. When cord and plug is not in use a filler plug will be provided and shall be tethered to the fitter for easy recovery and installation.

### LED's

The luminaire shall use high output, high brightness LED's. The Chip on Board (COB) LED components are mounted to vertical heat sinks. The LED's and printed circuit boards shall be 100% recyclable; they shall also be protected from moisture and corrosion by a conformal coating of 1 to 3 mils. They shall not contain lead, mercury or any other hazardous substances and shall be RoHS compliant. The LED life rating data shall be determined in accordance with IESNA LM-80. The High Performance white LED's will have a life

See next page

# A78BLED FRISCO SERIES

LED

expectancy of approximately 100,000 hours with not less than 70% of original brightness (lumen maintenance), rated at 25°C. The High Brightness, High Output LED's shall be 4000K (2700K, 3000K, 3500K or 5000K option) color temperature with a minimum CRI of 70. Consult factory for custom color CCT. The luminaire shall have a minimum \_\_\_\_\_ (see table) delivered initial lumen rating when operated at steady state with an average ambient temperature of 25°C (77°F).

## Optics

The luminaire shall be provided with refractor type optics from external prismatic acorn. Testing shall be done in accordance with IESNA LM-79.

## Electronic Drivers

The LED driver shall be U.L. Recognized. It shall be securely mounted inside the fixture, for optimized performance and longevity. It shall be supplied with a quick-disconnect electrical connector on the power supply, providing easy power connections and fixture installation. It shall have overload as well as short circuit protection, and have a DC voltage output,

constant current design, 50/60HZ. It shall be supplied with line-ground, line-neutral and neutral-ground electrical surge protection in accordance with IEEE/ANSI C62.41.2 guidelines. It shall be dimmable using a 0-10v signal.

**For sources over 50w:** The driver shall have a minimum efficiency of 90%. The driver shall be rated at full load with THD<20% and a power factor of greater than 0.90. The driver shall contain over-heat protection

**For sources under 50w:** The driver shall have a minimum efficiency of 88%.

## Photocontrols

**Button Style:** On a single assembly the photocontrol shall be mounted on the fixture and pre-wired to driver. On multiple head assembly's the photocontrol shall be mounted in the pole shaft on an access plate. The electronic button type photocontrol is instant on with a 5-10 second turn off, and shall turn on at 1.5 footcandles with a turn-off at 2-3 footcandles. Photocontrol is 120-277 volt and warranted for 6 years.

**Twist-Lock Style:** The photocontrol shall be mounted in the utility fitter and pre-wired to

driver. The twist lock type photocontrol is instant on with a 3-6 second turn off, and shall turn on at 1.5 footcandles with a turn-off at 2-3 footcandles. Photocontrol is 120-277 volt and warranted for 6 years.

## Warranty

Seven-year limited warranty. See product and finish warranty guide for details.

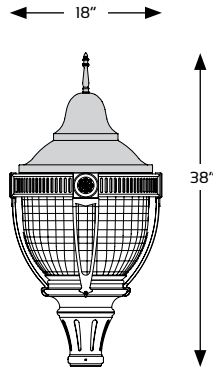
## Finish

Refer to website for details.

## Performance

LIGHT SOURCE	T3 INITIAL LUMENS	EFFICACY (LPW)	T4 INITIAL LUMENS	EFFICACY (LPW)	T5 INITIAL LUMENS	EFFICACY (LPW)	WATTAGE
4L27T_-MDL06	4680	47.8	4620	47.1	4735	48.3	98
4L30T_-MDL06	5170	52.8	5105	52.1	5230	53.4	98
4L40T_-MDL06	5340	54.5	5275	53.8	5400	55.1	98
4L27T_-MDL05	3855	51.4	3815	50.9	3860	51.5	75
4L30T_-MDL05	4255	56.7	4215	56.2	4265	56.9	75
4L40T_-MDL05	4395	58.6	4355	58.1	4405	58.7	75
4L27T_-MDL03	3025	55.0	2975	54.1	3020	54.9	55
4L30T_-MDL03	3340	60.7	3290	59.8	3335	60.6	55
4L40T_-MDL03	3450	62.7	3395	61.7	3445	62.6	55
4L27T_-MDL02	2225	55.6	2200	55.0	2215	55.4	40
4L30T_-MDL02	2460	61.5	2430	60.8	2445	61.1	40
4L40T_-MDL02	2540	63.5	2510	62.8	2530	63.3	40

## Fixtures



A78BLEDD

## Fitters

10-1/8" W  
10-3/8" H



**5P or 5T\***  
Fits 3" OD  
x 3" tall  
tenon/pole

10-1/8" W  
10-1/8" H



**BD4**  
Fits 4" OD  
x 5" tall  
tenon/pole

10-1/8" W  
10-1/4" H



**BD5**  
Fits 5" OD  
x 6" tall  
tenon/pole

10-1/8" W  
11-3/4" H



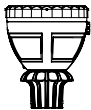
**BD7**  
Fits 7" OD  
x 1" tall  
tenon/pole

10-1/2" W  
15-3/4" H



**990 or 990T\***  
Fits 3" OD  
x 3" tall  
tenon/pole  
**994 or 994T\***  
Fits 4" OD  
x 3" tall  
tenon/pole

10-1/2" W  
13-1/8" H



**991**  
Fits 3" OD  
x 3" tall  
tenon/pole

10-1/2" W  
13-1/8" H



**992**  
Fits 3" OD  
x 3" tall  
tenon/pole

10-1/2" W  
15-3/4" H



**993**  
Fits 3" OD  
x 3" tall  
tenon/pole  
**995**  
Fits 4" OD  
x 3" tall  
tenon/pole

10-1/2" W  
11-3/8" H



**OL3**  
Fits 3" OD  
x 3" tall  
tenon/pole  
**OL4**  
Fits 4" OD  
x 3" tall  
tenon/pole

10" W  
3-1/4" H



**C2097**  
Fits 7" OD  
x 1" tall  
tenon/pole



**SternbergLighting**

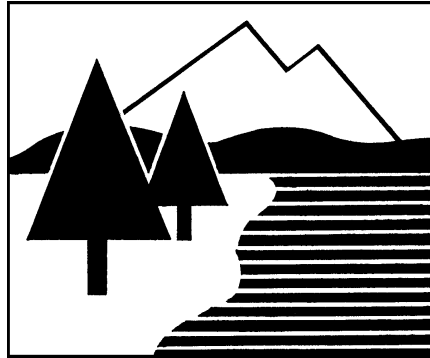
ESTABLISHED 1923 / EMPLOYEE OWNED

800-621-3376  
555 Lawrence Ave., Roselle, IL 60172  
info@sternberglighting.com  
www.sternberglighting.com

**DRAINAGE ANALYSIS**

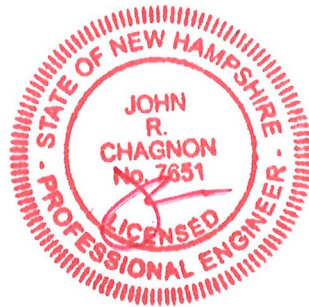
**COMMERCIAL DEVELOPMENT**

1 CONGRESS STREET  
PORTSMOUTH, NH



PREPARED FOR  
ONE MARKET SQUARE, LLC

18 OCTOBER 2022  
AMENDED: 17 FEBRUARY 2023



**AMBIT ENGINEERING, INC.**

**Civil Engineers & Land Surveyors**

200 Griffin Road, Unit 3  
Portsmouth, NH 03801  
Phone: 603.430.9282; Fax: 603.436.2315  
E-mail: [jrc@ambitengineering.com](mailto:jrc@ambitengineering.com)  
(Ambit Job Number 3406)



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Conclusion	6
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***ATTACHMENTS***

Existing Subcatchment Plan	
Proposed Subcatchment Plan	

***APPENDIX***

Vicinity (Tax) Map	A
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HydroCAD Drainage Analysis Calculations	C
Soil Survey Information	D
FEMA FIRM Map	E
Inspection & Long Term Maintenance Plan	F

## **EXECUTIVE SUMMARY**

This drainage analysis examines the pre-development (existing) and post-development (proposed) stormwater drainage patterns for the Commercial Development at the property known as 1 Congress Street in Portsmouth, NH. The site is shown on the City of Portsmouth Assessor's Tax Map 117 as Lots 14 and 15. The total size of the associated drainage area is 15,377± square-feet (0.353 acres). The total size of the lot is 16,106± square-feet (0.353 acres). The total redevelopment area of the project is 24,218± square-feet (0.556 acres). The City of Portsmouth specifies a 15,000 square-foot disturbed area and 40% impervious existing area threshold that would qualify the proposed site as a Redevelopment project, creating additional treatment requirements for the proposed structure.

The development will provide for a new commercial building. The development has the potential to increase stormwater pollutants to City infrastructure, and therefore must be designed in a manner to prevent that occurrence. This will be done primarily by capturing stormwater runoff and routing it through appropriate stormwater facilities, designed to ensure that there will be no increase in pollutants from the site as a result of this project.

The hydrologic modeling utilized for this analysis uses the "Extreme Precipitation" values for rainfall from The Northeast Regional Climate Center (Cornell University), with a 15% increase to comply with local ordinance.

This report has been amended to include an area of permeable pavers, to reduce peak flows discharging from the site to below existing levels.

## **INTRODUCTION / PROJECT DESCRIPTION**

This drainage report is designed to assist the owner, contractor, regulatory reviewer, and others in understanding the impact of the proposed development project on local surface water runoff and quality. The project site is shown on the City of Portsmouth, NH Assessor's Tax Map 117 as Lots 14 and 15. Bounding the site to the north is Haven Court. Bounding the site to the east is High Street. Bounding the site to the South is Congress Street. Bounding the site to the west are multi-story commercial buildings. A vicinity map is included in the Appendix to this report.

The proposed development will include a commercial building with utilities. This report includes information about the existing site and the proposed expansion necessary to analyze stormwater runoff and to design any required mitigation. The report includes maps of pre-development and post-development watersheds, subcatchment areas and calculations of runoff. The report will provide a narrative of the stormwater runoff and describe numerically and graphically the surface water runoff patterns for this site.

Proposed stormwater management methods will also be described, as well as erosion and sediment control practices. To fully understand the proposed site development the reader should also review a complete site plan set in addition to this report.

## **METHODOLOGY**

"Extreme Precipitation" values from The Northeast Regional Climate Center (Cornell University) have been used for modeling purposes. These values have been used in this analysis, with a 15% addition to comply with local ordinances. The unadjusted table is appended to this report.

This report uses the US Soil Conservation Service (SCS) Method for estimating stormwater runoff. The SCS method is published in The National Engineering Handbook (NEH), Section 4 "Hydrology" and includes the Technical Release No. 20, (TR-20) "Computer Program for Project Formulation Hydrology", and Technical Release No. 55 (TR-55) "Urban Hydrology for Small Watersheds" methods. This report uses the HydroCAD version 10.20 program,

written by HydroCAD Software Solutions LLC, Chocorua, N.H., to apply these methods for the calculation of runoff and for pond modeling. Rainfall data and runoff curve numbers are taken from “The Stormwater Management and Erosion Control Handbook for Urban and Developing Areas in New Hampshire.”

Time of Concentration (Tc) is calculated by entering measured flow path data such as flow path type, length, slope and surface characteristics into the HydroCAD program. For the purposes of this report, a minimum time of concentration of 5 minutes is used.

The storm events used for the calculations in this report are the 2-year, 10-year, 25-year, and 50-year (24-hour) storms. Watershed basin boundaries have been delineated using topographic maps prepared by Ambit Engineering and field observations to confirm.

### **SITE SPECIFIC INFORMATION**

Based on the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Soil Survey of Rockingham County, New Hampshire the site is made up of one soil type:

<b>Soil Symbol</b>	<b>Soil Name and Slopes</b>
<b>699</b>	Urban Land

**Urban Land** does not have any recorded geological features, including depth to bedrock or depth to water table. The Hydraulic Soil Grade is assumed to be type D.

The physical characteristics of the site not containing buildings consist of gently sloped (0-8%) grades that generally slope from the west of the lot to the east. Elevations on the site range from 27 to 32 feet above sea level. The existing site is developed with multi-story commercial buildings and associated parking.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) number 33015C0259F (effective date January 29, 2021), the proposed development is located in Zone X and is determined to be outside of the 0.2% annual chance floodplain. A copy of the FIRM map is included in the Appendix.

## **PRE-DEVELOPMENT DRAINAGE**

In the pre-development condition, the site has been analyzed as two subcatchment basins (E1 and E1a) based on localized topography and discharge location. Subcatchment E1 contains the entirety of the lot as well as part of the runoff from adjacent roads, and flows to the north to discharge point DP1, represented as Catch Basin 1 (CB1) on the plan set. Subcatchment E1a contains the flow from an adjacent alleyway (Haven Court) and flows to a trench drain, before flowing to DP1.

***Table 1: Pre-Development Watershed Basin Summary***

<b>Watershed Basin ID</b>	<b>Basin Area (SF)</b>	<b>Tc (MIN)</b>	<b>CN</b>	<b>10-Year Runoff (CFS)</b>	<b>50-Year Runoff (CFS)</b>	<b>To Design Point</b>
<b>E1</b>	13,745	5.0	97	2.53	3.85	DP1
<b>E1a</b>	1,632	5.0	98	0.30	0.46	DP1

## **POST-DEVELOPMENT DRAINAGE**

The proposed development has been designed to match the pre-development drainage patterns to the greatest extent feasible. In the post-development condition, the site has been analyzed as one subcatchment basin, (P1). The subcatchment matches the combined area of subcatchments E1 and E1a, and drain to Discharge Point DP1. Subcatchment P1 contains the new development and drains in part through a roof drain filter and then to DP1.

***Table 2: Post-Development Watershed Basin Summary***

<b>Watershed Basin ID</b>	<b>Basin Area (SF)</b>	<b>Tc (MIN)</b>	<b>CN</b>	<b>10-Year Runoff (CFS)</b>	<b>50-Year Runoff (CFS)</b>	<b>Design Point</b>
<b>P1</b>	15,377	5.0	94	2.76	4.26	DP1

The overall impervious coverage of the subcatchment areas analyzed in this report **decreases** from 0.337 acres (95.50%) in the pre-development condition to 0.322 acres (91.17%) in the post-development condition. The City of Portsmouth specifies that 30% of existing impervious cover in addition to 100% of additional proposed impervious cover is treated in a Redevelopment project. These conditions are exceeded by treating the proposed 9,400 sf rooftop with the roof drain filter as well as the 1,358 sf permeable pavers.

$$(100\%)(692 \text{ sf pervious}) + (30\%)(14,685 \text{ sf impervious}) = 5,098 \text{ sf required treatment}$$

Table 3 shows a summary of the comparison between pre-developed flows and post-developed flows for the design point. The comparison shows decreased flows between the existing and proposed conditions due to the decrease in impervious surfaces on the site as a result of the porous pavers.

**Table 3: Pre-Development to Post-Development Comparison**

Design Point	Q2 (CFS)		Q10 (CFS)		Q50 (CFS)		Description
	Pre	Post	Pre	Post	Pre	Post	
DP1	1.84	1.75	2.83	2.76	4.31	4.26	Catch Basin 1

Note that all post-development peak discharges are either equivalent or less than the existing peak discharges.

**OFFSITE INFRASTRUCTURE CAPACITY**

Due to the change of impervious surfaces in the proposed plan, the impacts to the local infrastructure receptors were measured. The receiving catch basin was estimated to be designed for a 10-year storm event, neglecting the 15% increase in rainfall specified in current regulations. By the original design standard, there would be a depth decrease of 0.13 feet in the receiving catch basin and would not overflow. Using the updated standard, the catch basin in the existing condition overflows during the 10-year storm.

## **EROSION AND SEDIMENT CONTROL PRACTICES**

The erosion potential for this site as it exists is moderate due to the presence of existing impervious surfaces. During construction, the major potential for erosion is wind and stormwater runoff. The contractor will be required to inspect and maintain all necessary erosion control measures, as well as installing any additional measures as required. All erosion control practices shall conform to “The Stormwater Management and Erosion Control Handbook for Urban and Developing Areas in New Hampshire.” Some examples of erosion and sediment control measures to be utilized for this project during construction may include:

- Catch basin filter baskets
- Stabilized construction entrance at access point to the site (FODS)
- Temporary mulching and seeding for disturbed areas
- Spraying water over disturbed areas to minimize wind erosion

After construction, permanent stabilization will be accomplished by surfacing the access drives and walkways as shown on the plans.

## **CONCLUSION**

The proposed development has been designed to match the pre-development drainage patterns to the greatest extent feasible. With the design of the roof drain filter and permeable pavers, the post-development runoff is treated sufficiently. Erosion and sediment control practices will be implemented for both the temporary condition during construction and for final stabilization after construction. Therefore, there are no negative impacts to downstream receptors or adjacent properties anticipated as a result of this project.

**REFERENCES**

1. Comprehensive Environmental Inc. and New Hampshire Department of Environmental Services. *New Hampshire Stormwater Manual (Volumes 1, 2 and 3)*, December 2008 (Revision 1.0).
2. Minnick, E.L. and H.T. Marshall. *Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire*, prepared by Rockingham County Conservation District, prepared for New Hampshire Department of Environmental Services, in cooperation with USDA Soil Conservation Service, August 1992.
3. HydroCAD Software Solution, LLC. *HydroCAD Stormwater Modeling System Version 10.20* copyright 2022.



COMMERCIAL DEVELOPMENT  
1 CONGRESS STREET  
PORTSMOUTH, NEW HAMPSHIRE

JOB NUMBER: 3406  
SCALE: 1" = 30'  
SUBMITTED: 10-18-2022



COMMERCIAL DEVELOPMENT  
1 CONGRESS STREET  
PORTSMOUTH, NEW HAMPSHIRE

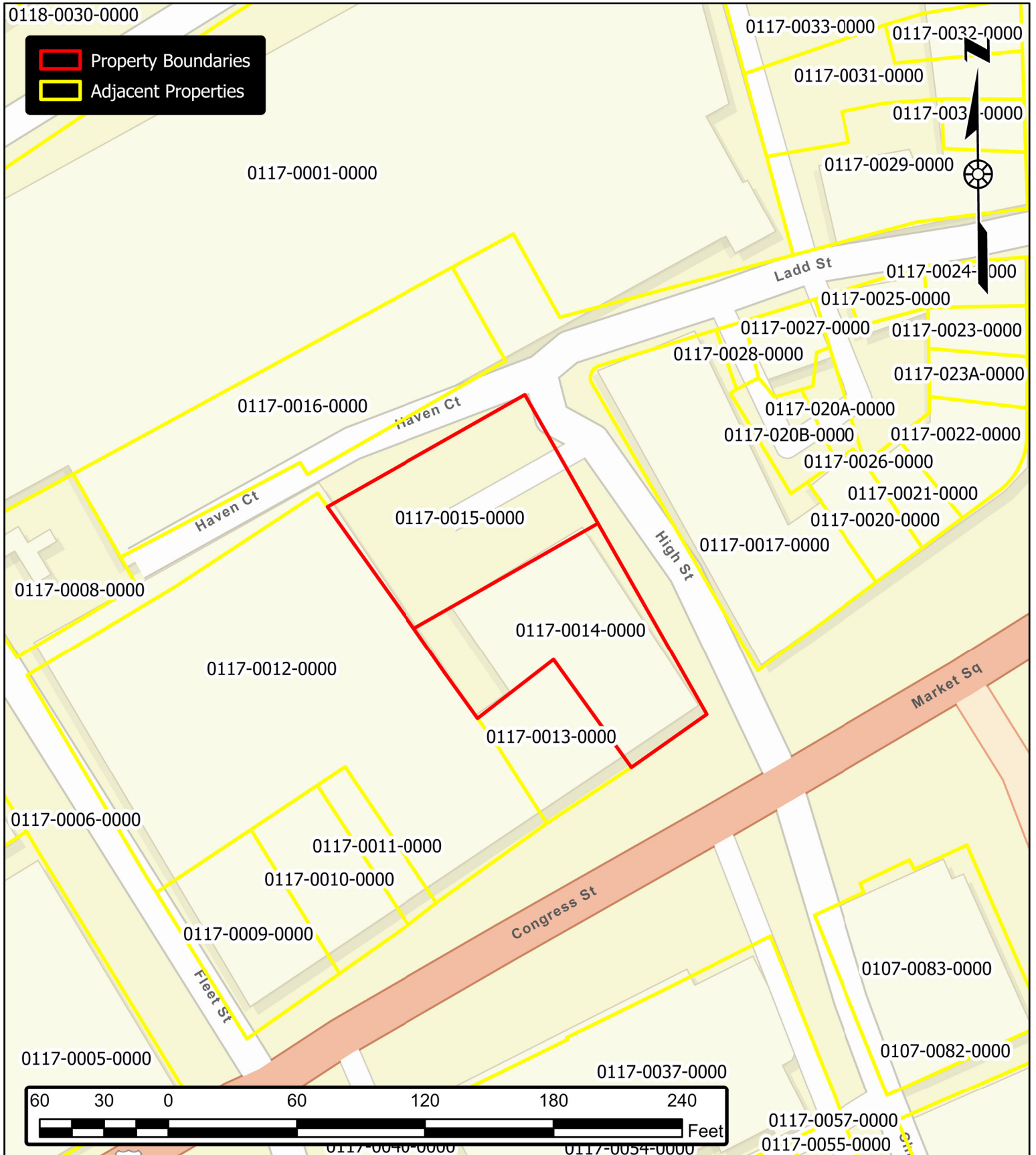
JOB NUMBER: 3406  
SCALE: 1" = 50'  
SUBMITTED: 02-17-2023



**APPENDIX A**  
**VICINITY (TAX) MAP**

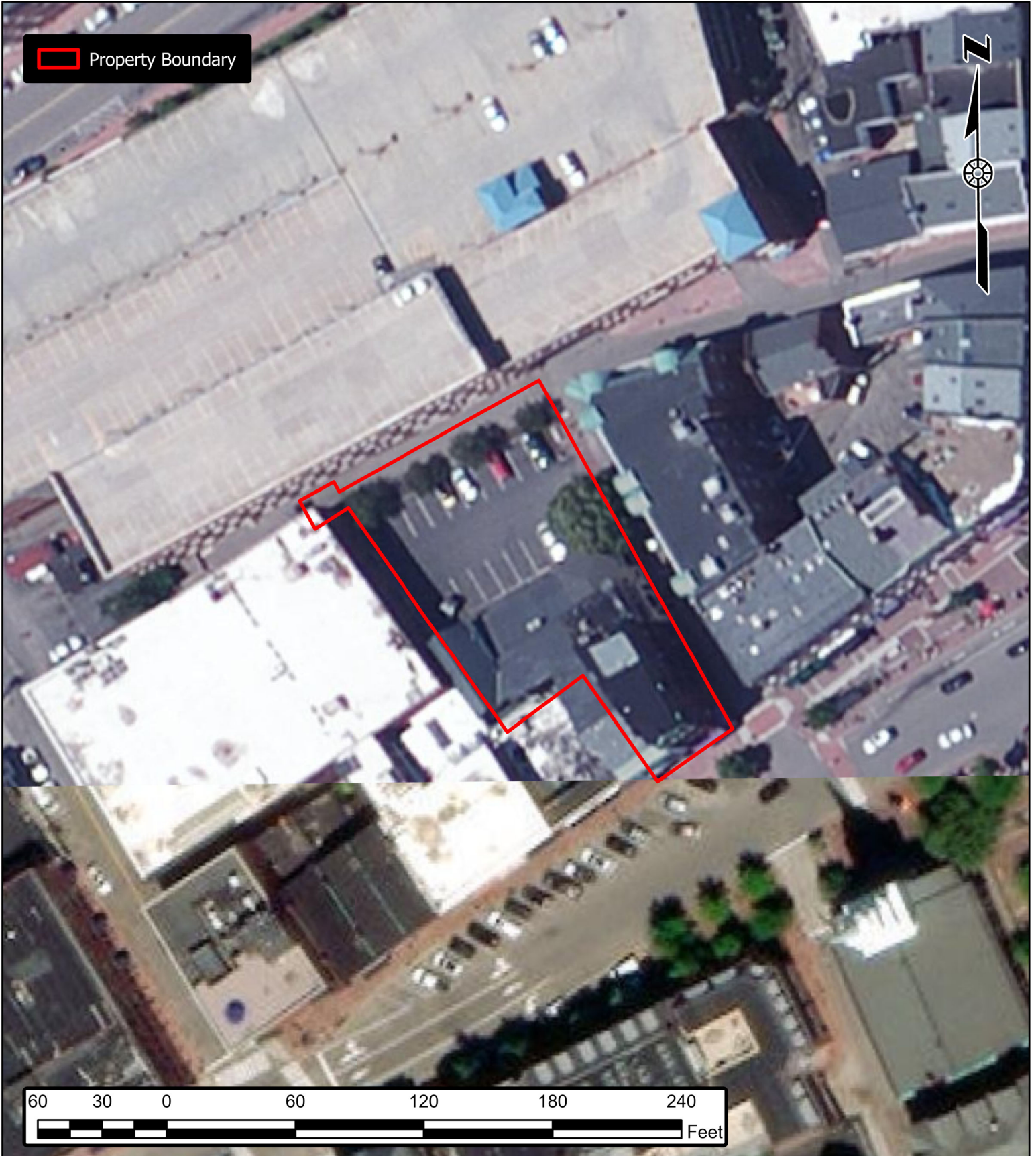
COMMERCIAL DEVELOPMENT  
1 CONGRESS STREET  
PORTSMOUTH, NEW HAMPSHIRE

JOB NUMBER: 3406  
SCALE: 1" = 60'  
SUBMITTED: 10-18-2022



COMMERCIAL DEVELOPMENT  
1 CONGRESS STREET  
PORTSMOUTH, NEW HAMPSHIRE

JOB NUMBER: 3406  
SCALE: 1" = 60'  
SUBMITTED: 10-18-2022



**APPENDIX B**  
**TABLES, CHARTS, ETC.**

# Extreme Precipitation Tables

## Northeast Regional Climate Center

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

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.758 degrees West
Latitude	43.077 degrees North
Elevation	0 feet
Date/Time	Tue, 01 Feb 2022 09:49:16 -0500

### Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.04	1yr	0.70	0.98	1.21	1.56	2.03	2.65	2.92	1yr	2.35	2.81	3.22	3.94	4.54	1yr
2yr	0.32	0.50	0.62	0.81	1.02	1.30	2yr	0.88	1.18	1.52	1.94	2.48	3.20	3.57	2yr	2.84	3.43	3.93	4.67	5.32	2yr
5yr	0.37	0.58	0.73	0.97	1.25	1.61	5yr	1.08	1.47	1.89	2.43	3.14	4.06	4.57	5yr	3.59	4.40	5.03	5.93	6.69	5yr
10yr	0.41	0.65	0.82	1.11	1.45	1.89	10yr	1.25	1.73	2.23	2.89	3.74	4.86	5.52	10yr	4.30	5.31	6.07	7.09	7.96	10yr
25yr	0.48	0.76	0.97	1.34	1.77	2.34	25yr	1.53	2.14	2.78	3.63	4.73	6.16	7.09	25yr	5.45	6.81	7.79	9.00	10.03	25yr
50yr	0.54	0.86	1.10	1.54	2.07	2.76	50yr	1.79	2.53	3.29	4.32	5.65	7.37	8.57	50yr	6.52	8.24	9.40	10.79	11.95	50yr
100yr	0.60	0.97	1.25	1.77	2.42	3.26	100yr	2.09	2.98	3.90	5.15	6.76	8.83	10.36	100yr	7.81	9.96	11.35	12.93	14.24	100yr
200yr	0.67	1.10	1.43	2.05	2.82	3.83	200yr	2.44	3.51	4.61	6.12	8.07	10.58	12.52	200yr	9.36	12.04	13.72	15.50	16.97	200yr
500yr	0.80	1.31	1.71	2.48	3.48	4.76	500yr	3.00	4.38	5.76	7.70	10.20	13.44	16.10	500yr	11.90	15.48	17.62	19.72	21.43	500yr

### Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.73	0.88	1yr	0.63	0.86	0.93	1.33	1.68	2.23	2.47	1yr	1.98	2.38	2.86	3.19	3.89	1yr
2yr	0.31	0.49	0.60	0.81	1.00	1.19	2yr	0.86	1.16	1.37	1.82	2.34	3.05	3.44	2yr	2.70	3.31	3.82	4.54	5.08	2yr
5yr	0.35	0.54	0.67	0.92	1.17	1.40	5yr	1.01	1.37	1.61	2.12	2.73	3.78	4.17	5yr	3.34	4.01	4.71	5.52	6.22	5yr
10yr	0.38	0.59	0.73	1.02	1.32	1.60	10yr	1.14	1.56	1.80	2.39	3.06	4.36	4.84	10yr	3.86	4.65	5.42	6.39	7.17	10yr
25yr	0.44	0.67	0.83	1.18	1.56	1.90	25yr	1.35	1.86	2.10	2.75	3.53	4.71	5.86	25yr	4.17	5.63	6.61	7.75	8.64	25yr
50yr	0.48	0.73	0.91	1.31	1.76	2.16	50yr	1.52	2.12	2.34	3.07	3.92	5.32	6.75	50yr	4.71	6.50	7.67	8.99	9.97	50yr
100yr	0.53	0.81	1.01	1.46	2.00	2.47	100yr	1.73	2.41	2.62	3.41	4.34	5.98	7.79	100yr	5.30	7.49	8.89	10.43	11.50	100yr
200yr	0.59	0.89	1.12	1.63	2.27	2.81	200yr	1.96	2.75	2.93	3.78	4.78	6.71	8.97	200yr	5.93	8.63	10.30	12.13	13.29	200yr
500yr	0.68	1.01	1.31	1.90	2.70	3.36	500yr	2.33	3.28	3.41	4.31	5.43	7.80	10.82	500yr	6.90	10.41	12.52	14.82	16.09	500yr

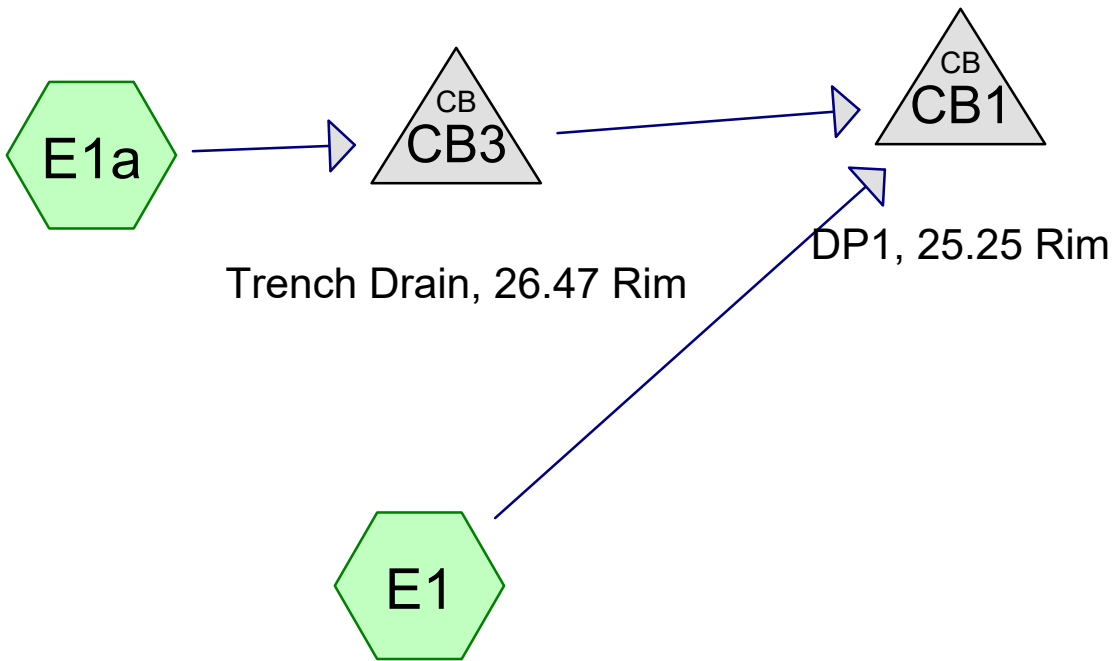
### Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	1yr	0.77	1.06	1.26	1.74	2.20	2.98	3.16	1yr	2.63	3.04	3.57	4.37	5.03	1yr
2yr	0.34	0.52	0.64	0.86	1.07	1.27	2yr	0.92	1.24	1.48	1.96	2.52	3.42	3.70	2yr	3.02	3.56	4.09	4.84	5.62	2yr
5yr	0.40	0.62	0.76	1.05	1.34	1.62	5yr	1.15	1.58	1.88	2.54	3.25	4.33	4.96	5yr	3.84	4.77	5.37	6.37	7.15	5yr
10yr	0.47	0.72	0.89	1.24	1.61	1.98	10yr	1.39	1.93	2.28	3.11	3.96	5.33	6.21	10yr	4.72	5.97	6.83	7.84	8.75	10yr
25yr	0.58	0.88	1.09	1.56	2.05	2.57	25yr	1.77	2.51	2.96	4.07	5.16	7.76	8.35	25yr	6.87	8.03	9.17	10.34	11.41	25yr
50yr	0.67	1.02	1.27	1.83	2.46	3.13	50yr	2.12	3.06	3.60	5.00	6.33	9.71	10.48	50yr	8.60	10.08	11.48	12.73	13.97	50yr
100yr	0.79	1.19	1.50	2.16	2.96	3.81	100yr	2.56	3.73	4.38	6.16	7.78	12.15	13.14	100yr	10.75	12.64	14.37	15.71	17.10	100yr
200yr	0.92	1.39	1.76	2.55	3.56	4.65	200yr	3.07	4.55	5.34	7.59	9.56	15.24	16.50	200yr	13.49	15.86	18.02	19.37	20.93	200yr
500yr	1.15	1.71	2.20	3.19	4.54	6.04	500yr	3.92	5.90	6.94	10.03	12.60	20.59	22.29	500yr	18.23	21.44	24.31	25.55	27.36	500yr



**APPENDIX C**  
**HYDROCAD DRAINAGE**  
**ANALYSIS CALCULATIONS**

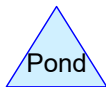




Subcat



Reach



Pond



Link

**Routing Diagram for 2022-02-01 Existing Conditions David T**  
 Prepared by Ambit Engineering, Printed 2022-10-14  
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## **Project Notes**

Defined 5 rainfall events from output (32) IDF

## 2022-02-01 Existing Conditions David T

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### Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type II 24-hr		Default	24.00	1	3.68	2
2	10-yr	Type II 24-hr		Default	24.00	1	5.59	2
3	25-yr	Type II 24-hr		Default	24.00	1	7.08	2
4	50-yr	Type II 24-hr		Default	24.00	1	8.48	2

## 2022-02-01 Existing Conditions David T

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### Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.016	80	>75% Grass cover, Good, HSG D (E1)
0.196	98	Paved parking, HSG D (E1, E1a)
0.141	98	Roofs, HSG D (E1)
<b>0.353</b>	<b>97</b>	<b>TOTAL AREA</b>

## 2022-02-01 Existing Conditions David T

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### Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.353	HSG D	E1, E1a
0.000	Other	
<b>0.353</b>		<b>TOTAL AREA</b>

## 2022-02-01 Existing Conditions David T

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### Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.016	0.000	0.016	>75% Grass cover, Good	E1
0.000	0.000	0.000	0.196	0.000	0.196	Paved parking	E1, E1a
0.000	0.000	0.000	0.141	0.000	0.141	Roofs	E1
<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.353</b>	<b>0.000</b>	<b>0.353</b>	<b>TOTAL AREA</b>	

## 2022-02-01 Existing Conditions David T

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### Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	CB1	22.75	22.10	17.2	0.0378	0.013	0.0	8.0	0.0
2	CB3	25.30	23.10	38.4	0.0573	0.013	0.0	6.0	0.0

**2022-02-01 Existing Conditions David T**

Type II 24-hr 2-yr Rainfall=3.68"

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

**Subcatchment E1:** Runoff Area=13,745 sf 94.97% Impervious Runoff Depth>3.10"  
Tc=5.0 min CN=97 Runoff=1.65 cfs 0.081 af

**Subcatchment E1a:** Runoff Area=1,632 sf 100.00% Impervious Runoff Depth>3.18"  
Tc=5.0 min CN=98 Runoff=0.20 cfs 0.010 af

**Pond CB1: DP1, 25.25 Rim** Peak Elev=24.29' Inflow=1.84 cfs 0.091 af  
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/' Outflow=1.84 cfs 0.091 af

**Pond CB3: Trench Drain, 26.47 Rim** Peak Elev=25.57' Inflow=0.20 cfs 0.010 af  
6.0" Round Culvert n=0.013 L=38.4' S=0.0573 '/' Outflow=0.20 cfs 0.010 af

**Total Runoff Area = 0.353 ac Runoff Volume = 0.091 af Average Runoff Depth = 3.11"**  
**4.50% Pervious = 0.016 ac 95.50% Impervious = 0.337 ac**



**2022-02-01 Existing Conditions David T**

Prepared by Ambit Engineering

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Type II 24-hr 2-yr Rainfall=3.68"

Printed 2022-10-14

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**Summary for Subcatchment E1:**

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

Runoff = 1.65 cfs @ 11.95 hrs, Volume= 0.081 af, Depth> 3.10"  
Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type II 24-hr 2-yr Rainfall=3.68"

Area (sf)	CN	Description
6,899	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	80	>75% Grass cover, Good, HSG D
77	80	>75% Grass cover, Good, HSG D
626	98	Roofs, HSG D
13,745	97	Weighted Average
692		5.03% Pervious Area
13,053		94.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry,</b>

**Summary for Subcatchment E1a:**

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

Runoff = 0.20 cfs @ 11.95 hrs, Volume= 0.010 af, Depth> 3.18"  
Routed to Pond CB3 : Trench Drain, 26.47 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type II 24-hr 2-yr Rainfall=3.68"

Area (sf)	CN	Description
1,632	98	Paved parking, HSG D
1,632		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry,</b>

**Summary for Pond CB1: DP1, 25.25 Rim**

[82] Warning: Early inflow requires earlier time span  
 [57] Hint: Peaked at 24.29' (Flood elevation advised)  
 [79] Warning: Submerged Pond CB3 Primary device # 1 OUTLET by 1.19'

Inflow Area = 0.353 ac, 95.50% Impervious, Inflow Depth > 3.11" for 2-yr event  
 Inflow = 1.84 cfs @ 11.95 hrs, Volume= 0.091 af  
 Outflow = 1.84 cfs @ 11.95 hrs, Volume= 0.091 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.84 cfs @ 11.95 hrs, Volume= 0.091 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 24.29' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	<b>8.0" Round Culvert</b> L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.84 cfs @ 11.95 hrs HW=24.28' (Free Discharge)  
 ↑**1=Culvert** (Inlet Controls 1.84 cfs @ 5.28 fps)

**Summary for Pond CB3: Trench Drain, 26.47 Rim**

[82] Warning: Early inflow requires earlier time span  
 [57] Hint: Peaked at 25.57' (Flood elevation advised)

Inflow Area = 0.037 ac, 100.00% Impervious, Inflow Depth > 3.18" for 2-yr event  
 Inflow = 0.20 cfs @ 11.95 hrs, Volume= 0.010 af  
 Outflow = 0.20 cfs @ 11.95 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.20 cfs @ 11.95 hrs, Volume= 0.010 af  
 Routed to Pond CB1 : DP1, 25.25 Rim

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 25.57' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.30'	<b>6.0" Round Culvert</b> L= 38.4' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.30' / 23.10' S= 0.0573 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

**Primary OutFlow** Max=0.20 cfs @ 11.95 hrs HW=25.57' (Free Discharge)  
 ↑**1=Culvert** (Inlet Controls 0.20 cfs @ 1.79 fps)

**2022-02-01 Existing Conditions David T**

Type II 24-hr 10-yr Rainfall=5.59"

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

**Subcatchment E1:** Runoff Area=13,745 sf 94.97% Impervious Runoff Depth>4.83"  
Tc=5.0 min CN=97 Runoff=2.53 cfs 0.127 af

**Subcatchment E1a:** Runoff Area=1,632 sf 100.00% Impervious Runoff Depth>4.90"  
Tc=5.0 min CN=98 Runoff=0.30 cfs 0.015 af

**Pond CB1: DP1, 25.25 Rim** Peak Elev=25.92' Inflow=2.83 cfs 0.142 af  
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/ Outflow=2.83 cfs 0.142 af

**Pond CB3: Trench Drain, 26.47 Rim** Peak Elev=25.65' Inflow=0.30 cfs 0.015 af  
6.0" Round Culvert n=0.013 L=38.4' S=0.0573 '/ Outflow=0.30 cfs 0.015 af

**Total Runoff Area = 0.353 ac Runoff Volume = 0.142 af Average Runoff Depth = 4.84"**  
**4.50% Pervious = 0.016 ac 95.50% Impervious = 0.337 ac**

**2022-02-01 Existing Conditions David T**

Type II 24-hr 10-yr Rainfall=5.59"

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**Summary for Subcatchment E1:**

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

Runoff = 2.53 cfs @ 11.95 hrs, Volume= 0.127 af, Depth> 4.83"  
Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type II 24-hr 10-yr Rainfall=5.59"

Area (sf)	CN	Description
6,899	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	80	>75% Grass cover, Good, HSG D
77	80	>75% Grass cover, Good, HSG D
626	98	Roofs, HSG D
13,745	97	Weighted Average
692		5.03% Pervious Area
13,053		94.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry,</b>

**Summary for Subcatchment E1a:**

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

Runoff = 0.30 cfs @ 11.95 hrs, Volume= 0.015 af, Depth> 4.90"  
Routed to Pond CB3 : Trench Drain, 26.47 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type II 24-hr 10-yr Rainfall=5.59"

Area (sf)	CN	Description
1,632	98	Paved parking, HSG D
1,632		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry,</b>

**Summary for Pond CB1: DP1, 25.25 Rim**

[82] Warning: Early inflow requires earlier time span  
 [57] Hint: Peaked at 25.92' (Flood elevation advised)  
 [81] Warning: Exceeded Pond CB3 by 0.26' @ 11.95 hrs

Inflow Area = 0.353 ac, 95.50% Impervious, Inflow Depth > 4.84" for 10-yr event  
 Inflow = 2.83 cfs @ 11.95 hrs, Volume= 0.142 af  
 Outflow = 2.83 cfs @ 11.95 hrs, Volume= 0.142 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.83 cfs @ 11.95 hrs, Volume= 0.142 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 25.92' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	<b>8.0" Round Culvert</b> L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 ' S= 0.0378 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=2.83 cfs @ 11.95 hrs HW=25.92' (Free Discharge)  
 ←1=Culvert (Inlet Controls 2.83 cfs @ 8.10 fps)

**Summary for Pond CB3: Trench Drain, 26.47 Rim**

[82] Warning: Early inflow requires earlier time span  
 [57] Hint: Peaked at 25.65' (Flood elevation advised)

Inflow Area = 0.037 ac, 100.00% Impervious, Inflow Depth > 4.90" for 10-yr event  
 Inflow = 0.30 cfs @ 11.95 hrs, Volume= 0.015 af  
 Outflow = 0.30 cfs @ 11.95 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.30 cfs @ 11.95 hrs, Volume= 0.015 af  
 Routed to Pond CB1 : DP1, 25.25 Rim

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 25.65' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.30'	<b>6.0" Round Culvert</b> L= 38.4' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.30' / 23.10' S= 0.0573 ' S= 0.0573 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

**Primary OutFlow** Max=0.30 cfs @ 11.95 hrs HW=25.65' (Free Discharge)  
 ←1=Culvert (Inlet Controls 0.30 cfs @ 2.03 fps)

**2022-02-01 Existing Conditions David T**

Type II 24-hr 25-yr Rainfall=7.08"

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

**Subcatchment E1:** Runoff Area=13,745 sf 94.97% Impervious Runoff Depth>6.17"  
Tc=5.0 min CN=97 Runoff=3.21 cfs 0.162 af

**Subcatchment E1a:** Runoff Area=1,632 sf 100.00% Impervious Runoff Depth>6.24"  
Tc=5.0 min CN=98 Runoff=0.38 cfs 0.019 af

**Pond CB1: DP1, 25.25 Rim** Peak Elev=27.66' Inflow=3.59 cfs 0.182 af  
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/ Outflow=3.59 cfs 0.182 af

**Pond CB3: Trench Drain, 26.47 Rim** Peak Elev=25.72' Inflow=0.38 cfs 0.019 af  
6.0" Round Culvert n=0.013 L=38.4' S=0.0573 '/ Outflow=0.38 cfs 0.019 af

**Total Runoff Area = 0.353 ac Runoff Volume = 0.182 af Average Runoff Depth = 6.18"**  
**4.50% Pervious = 0.016 ac 95.50% Impervious = 0.337 ac**

**2022-02-01 Existing Conditions David T**

Type II 24-hr 25-yr Rainfall=7.08"

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**Summary for Subcatchment E1:**

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

Runoff = 3.21 cfs @ 11.95 hrs, Volume= 0.162 af, Depth> 6.17"  
Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type II 24-hr 25-yr Rainfall=7.08"

Area (sf)	CN	Description
6,899	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	80	>75% Grass cover, Good, HSG D
77	80	>75% Grass cover, Good, HSG D
626	98	Roofs, HSG D
13,745	97	Weighted Average
692		5.03% Pervious Area
13,053		94.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry,</b>

**Summary for Subcatchment E1a:**

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

Runoff = 0.38 cfs @ 11.95 hrs, Volume= 0.019 af, Depth> 6.24"  
Routed to Pond CB3 : Trench Drain, 26.47 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type II 24-hr 25-yr Rainfall=7.08"

Area (sf)	CN	Description
1,632	98	Paved parking, HSG D
1,632		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry,</b>

**Summary for Pond CB1: DP1, 25.25 Rim**

[82] Warning: Early inflow requires earlier time span  
 [57] Hint: Peaked at 27.66' (Flood elevation advised)  
 [81] Warning: Exceeded Pond CB3 by 1.94' @ 11.95 hrs

Inflow Area = 0.353 ac, 95.50% Impervious, Inflow Depth > 6.18" for 25-yr event  
 Inflow = 3.59 cfs @ 11.95 hrs, Volume= 0.182 af  
 Outflow = 3.59 cfs @ 11.95 hrs, Volume= 0.182 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.59 cfs @ 11.95 hrs, Volume= 0.182 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 27.66' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	<b>8.0" Round Culvert</b> L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=3.59 cfs @ 11.95 hrs HW=27.66' (Free Discharge)  
 ←1=Culvert (Inlet Controls 3.59 cfs @ 10.30 fps)

**Summary for Pond CB3: Trench Drain, 26.47 Rim**

[82] Warning: Early inflow requires earlier time span  
 [57] Hint: Peaked at 25.72' (Flood elevation advised)

Inflow Area = 0.037 ac, 100.00% Impervious, Inflow Depth > 6.24" for 25-yr event  
 Inflow = 0.38 cfs @ 11.95 hrs, Volume= 0.019 af  
 Outflow = 0.38 cfs @ 11.95 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.38 cfs @ 11.95 hrs, Volume= 0.019 af  
 Routed to Pond CB1 : DP1, 25.25 Rim

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 25.72' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.30'	<b>6.0" Round Culvert</b> L= 38.4' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.30' / 23.10' S= 0.0573 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

**Primary OutFlow** Max=0.38 cfs @ 11.95 hrs HW=25.72' (Free Discharge)  
 ←1=Culvert (Inlet Controls 0.38 cfs @ 2.19 fps)



**2022-02-01 Existing Conditions David T**

Type II 24-hr 50-yr Rainfall=8.48"

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

**Subcatchment E1:** Runoff Area=13,745 sf 94.97% Impervious Runoff Depth>7.43"  
Tc=5.0 min CN=97 Runoff=3.85 cfs 0.195 af

**Subcatchment E1a:** Runoff Area=1,632 sf 100.00% Impervious Runoff Depth>7.49"  
Tc=5.0 min CN=98 Runoff=0.46 cfs 0.023 af

**Pond CB1: DP1, 25.25 Rim** Peak Elev=29.67' Inflow=4.31 cfs 0.219 af  
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/ Outflow=4.31 cfs 0.219 af

**Pond CB3: Trench Drain, 26.47 Rim** Peak Elev=25.78' Inflow=0.46 cfs 0.023 af  
6.0" Round Culvert n=0.013 L=38.4' S=0.0573 '/ Outflow=0.46 cfs 0.023 af

**Total Runoff Area = 0.353 ac Runoff Volume = 0.219 af Average Runoff Depth = 7.44"**  
**4.50% Pervious = 0.016 ac 95.50% Impervious = 0.337 ac**

**2022-02-01 Existing Conditions David T**

Type II 24-hr 50-yr Rainfall=8.48"

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**Summary for Subcatchment E1:**

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

Runoff = 3.85 cfs @ 11.95 hrs, Volume= 0.195 af, Depth> 7.43"  
Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type II 24-hr 50-yr Rainfall=8.48"

Area (sf)	CN	Description
6,899	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	80	>75% Grass cover, Good, HSG D
77	80	>75% Grass cover, Good, HSG D
626	98	Roofs, HSG D
13,745	97	Weighted Average
692		5.03% Pervious Area
13,053		94.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry,</b>

**Summary for Subcatchment E1a:**

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

Runoff = 0.46 cfs @ 11.95 hrs, Volume= 0.023 af, Depth> 7.49"  
Routed to Pond CB3 : Trench Drain, 26.47 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type II 24-hr 50-yr Rainfall=8.48"

Area (sf)	CN	Description
1,632	98	Paved parking, HSG D
1,632		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry,</b>

**Summary for Pond CB1: DP1, 25.25 Rim**

[82] Warning: Early inflow requires earlier time span  
 [57] Hint: Peaked at 29.67' (Flood elevation advised)  
 [81] Warning: Exceeded Pond CB3 by 3.88' @ 11.95 hrs

Inflow Area = 0.353 ac, 95.50% Impervious, Inflow Depth > 7.44" for 50-yr event  
 Inflow = 4.31 cfs @ 11.95 hrs, Volume= 0.219 af  
 Outflow = 4.31 cfs @ 11.95 hrs, Volume= 0.219 af, Atten= 0%, Lag= 0.0 min  
 Primary = 4.31 cfs @ 11.95 hrs, Volume= 0.219 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 29.67' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	<b>8.0" Round Culvert</b> L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 ' S= 0.0378 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=4.31 cfs @ 11.95 hrs HW=29.66' (Free Discharge)  
 ↑1=Culvert (Inlet Controls 4.31 cfs @ 12.35 fps)

**Summary for Pond CB3: Trench Drain, 26.47 Rim**

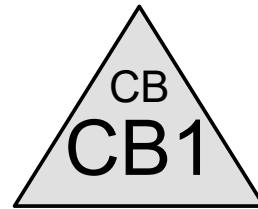
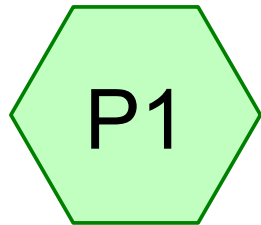
[82] Warning: Early inflow requires earlier time span  
 [57] Hint: Peaked at 25.78' (Flood elevation advised)

Inflow Area = 0.037 ac, 100.00% Impervious, Inflow Depth > 7.49" for 50-yr event  
 Inflow = 0.46 cfs @ 11.95 hrs, Volume= 0.023 af  
 Outflow = 0.46 cfs @ 11.95 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.46 cfs @ 11.95 hrs, Volume= 0.023 af  
 Routed to Pond CB1 : DP1, 25.25 Rim

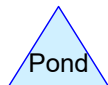
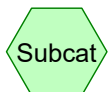
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 25.78' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.30'	<b>6.0" Round Culvert</b> L= 38.4' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.30' / 23.10' S= 0.0573 ' S= 0.0573 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

**Primary OutFlow** Max=0.46 cfs @ 11.95 hrs HW=25.78' (Free Discharge)  
 ↑1=Culvert (Inlet Controls 0.46 cfs @ 2.36 fps)



DP1, 25.25 Rim



## **Project Notes**

Defined 5 rainfall events from output (32) IDF

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### Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type II 24-hr		Default	24.00	1	3.68	2
2	10-yr	Type II 24-hr		Default	24.00	1	5.59	2
3	25-yr	Type II 24-hr		Default	24.00	1	7.08	2
4	50-yr	Type II 24-hr		Default	24.00	1	8.48	2

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### Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.165	98	Paved parking, HSG D (P1)
0.031	50	Permeable Pavers (P1)
0.157	98	Roofs, HSG D (P1)
<b>0.353</b>	<b>94</b>	<b>TOTAL AREA</b>

## 2022-10-14 Proposed Conditions David T

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### Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.322	HSG D	P1
0.031	Other	P1
<b>0.353</b>		<b>TOTAL AREA</b>



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### Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.165	0.000	0.165	Paved parking	P1
0.000	0.000	0.000	0.000	0.031	0.031	Permeable Pavers	P1
0.000	0.000	0.000	0.157	0.000	0.157	Roofs	P1
<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.322</b>	<b>0.031</b>	<b>0.353</b>	<b>TOTAL AREA</b>	

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### Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	CB1	22.75	22.10	17.2	0.0378	0.013	0.0	8.0	0.0

**2022-10-14 Proposed Conditions David T**

*Type II 24-hr 2-yr Rainfall=3.68"*

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

**Subcatchment P1:**

Runoff Area=15,377 sf 91.17% Impervious Runoff Depth>2.82"  
Tc=5.0 min CN=94 Runoff=1.75 cfs 0.083 af

**Pond CB1: DP1, 25.25 Rim**

Peak Elev=24.17' Inflow=1.75 cfs 0.083 af  
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/ Outflow=1.75 cfs 0.083 af

**Total Runoff Area = 0.353 ac Runoff Volume = 0.083 af Average Runoff Depth = 2.82"**  
**8.83% Pervious = 0.031 ac 91.17% Impervious = 0.322 ac**

**2022-10-14 Proposed Conditions David T**

Type II 24-hr 2-yr Rainfall=3.68"

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**Summary for Subcatchment P1:**

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

Runoff = 1.75 cfs @ 11.95 hrs, Volume= 0.083 af, Depth> 2.82"  
 Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 2-yr Rainfall=3.68"

Area (sf)	CN	Description
5,541	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	98	Roofs, HSG D
77	98	Roofs, HSG D
626	98	Roofs, HSG D
1,632	98	Paved parking, HSG D
* 1,358	50	Permeable Pavers
15,377	94	Weighted Average
1,358		8.83% Pervious Area
14,019		91.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry,</b>

**Summary for Pond CB1: DP1, 25.25 Rim**

[82] Warning: Early inflow requires earlier time span

[57] Hint: Peaked at 24.17' (Flood elevation advised)

Inflow Area = 0.353 ac, 91.17% Impervious, Inflow Depth > 2.82" for 2-yr event  
 Inflow = 1.75 cfs @ 11.95 hrs, Volume= 0.083 af  
 Outflow = 1.75 cfs @ 11.95 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.75 cfs @ 11.95 hrs, Volume= 0.083 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 24.17' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	<b>8.0" Round Culvert</b> L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 1/ S= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.74 cfs @ 11.95 hrs HW=24.16' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 1.74 cfs @ 5.00 fps)

**2022-10-14 Proposed Conditions David T**

Type II 24-hr 10-yr Rainfall=5.59"

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

**Subcatchment P1:**

Runoff Area=15,377 sf 91.17% Impervious Runoff Depth>4.57"  
Tc=5.0 min CN=94 Runoff=2.76 cfs 0.134 af

**Pond CB1: DP1, 25.25 Rim**

Peak Elev=25.77' Inflow=2.76 cfs 0.134 af  
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/' Outflow=2.76 cfs 0.134 af

**Total Runoff Area = 0.353 ac Runoff Volume = 0.134 af Average Runoff Depth = 4.57"**  
**8.83% Pervious = 0.031 ac 91.17% Impervious = 0.322 ac**

**2022-10-14 Proposed Conditions David T**

Type II 24-hr 10-yr Rainfall=5.59"

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**Summary for Subcatchment P1:**

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

Runoff = 2.76 cfs @ 11.95 hrs, Volume= 0.134 af, Depth> 4.57"  
 Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 10-yr Rainfall=5.59"

Area (sf)	CN	Description
5,541	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	98	Roofs, HSG D
77	98	Roofs, HSG D
626	98	Roofs, HSG D
1,632	98	Paved parking, HSG D
* 1,358	50	Permeable Pavers
15,377	94	Weighted Average
1,358		8.83% Pervious Area
14,019		91.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry,</b>

**Summary for Pond CB1: DP1, 25.25 Rim**

[82] Warning: Early inflow requires earlier time span

[57] Hint: Peaked at 25.77' (Flood elevation advised)

Inflow Area = 0.353 ac, 91.17% Impervious, Inflow Depth > 4.57" for 10-yr event  
 Inflow = 2.76 cfs @ 11.95 hrs, Volume= 0.134 af  
 Outflow = 2.76 cfs @ 11.95 hrs, Volume= 0.134 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.76 cfs @ 11.95 hrs, Volume= 0.134 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 25.77' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	<b>8.0" Round Culvert</b> L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 1' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=2.75 cfs @ 11.95 hrs HW=25.76' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 2.75 cfs @ 7.88 fps)

**2022-10-14 Proposed Conditions David T**

*Type II 24-hr 25-yr Rainfall=7.08"*

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

**Subcatchment P1:**

Runoff Area=15,377 sf 91.17% Impervious Runoff Depth>5.93"  
Tc=5.0 min CN=94 Runoff=3.53 cfs 0.174 af

**Pond CB1: DP1, 25.25 Rim**

Peak Elev=27.50' Inflow=3.53 cfs 0.174 af  
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/' Outflow=3.53 cfs 0.174 af

**Total Runoff Area = 0.353 ac Runoff Volume = 0.174 af Average Runoff Depth = 5.93"**  
**8.83% Pervious = 0.031 ac 91.17% Impervious = 0.322 ac**

**2022-10-14 Proposed Conditions David T**

Type II 24-hr 25-yr Rainfall=7.08"

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**Summary for Subcatchment P1:**

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

Runoff = 3.53 cfs @ 11.95 hrs, Volume= 0.174 af, Depth> 5.93"  
 Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 25-yr Rainfall=7.08"

Area (sf)	CN	Description
5,541	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	98	Roofs, HSG D
77	98	Roofs, HSG D
626	98	Roofs, HSG D
1,632	98	Paved parking, HSG D
* 1,358	50	Permeable Pavers
15,377	94	Weighted Average
1,358		8.83% Pervious Area
14,019		91.17% Impervious Area

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

**Summary for Pond CB1: DP1, 25.25 Rim**

[82] Warning: Early inflow requires earlier time span

[57] Hint: Peaked at 27.50' (Flood elevation advised)

Inflow Area = 0.353 ac, 91.17% Impervious, Inflow Depth > 5.93" for 25-yr event  
 Inflow = 3.53 cfs @ 11.95 hrs, Volume= 0.174 af  
 Outflow = 3.53 cfs @ 11.95 hrs, Volume= 0.174 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.53 cfs @ 11.95 hrs, Volume= 0.174 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 27.50' @ 11.95 hrs

Device #	Routing	Invert	Outlet Devices
#1	Primary	22.75'	<b>8.0" Round Culvert</b> L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 1' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=3.53 cfs @ 11.95 hrs HW=27.49' (Free Discharge)

↑**1=Culvert** (Inlet Controls 3.53 cfs @ 10.11 fps)



**2022-10-14 Proposed Conditions David T**

*Type II 24-hr 50-yr Rainfall=8.48"*

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

**Subcatchment P1:**

Runoff Area=15,377 sf 91.17% Impervious Runoff Depth>7.20"  
Tc=5.0 min CN=94 Runoff=4.26 cfs 0.212 af

**Pond CB1: DP1, 25.25 Rim**

Peak Elev=29.50' Inflow=4.26 cfs 0.212 af  
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/' Outflow=4.26 cfs 0.212 af

**Total Runoff Area = 0.353 ac Runoff Volume = 0.212 af Average Runoff Depth = 7.20"**  
**8.83% Pervious = 0.031 ac 91.17% Impervious = 0.322 ac**

**2022-10-14 Proposed Conditions David T**

Type II 24-hr 50-yr Rainfall=8.48"

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**Summary for Subcatchment P1:**

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

Runoff = 4.26 cfs @ 11.95 hrs, Volume= 0.212 af, Depth> 7.20"  
 Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 50-yr Rainfall=8.48"

Area (sf)	CN	Description
5,541	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	98	Roofs, HSG D
77	98	Roofs, HSG D
626	98	Roofs, HSG D
1,632	98	Paved parking, HSG D
* 1,358	50	Permeable Pavers
15,377	94	Weighted Average
1,358		8.83% Pervious Area
14,019		91.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry,</b>

**Summary for Pond CB1: DP1, 25.25 Rim**

[82] Warning: Early inflow requires earlier time span

[57] Hint: Peaked at 29.50' (Flood elevation advised)

Inflow Area = 0.353 ac, 91.17% Impervious, Inflow Depth > 7.20" for 50-yr event  
 Inflow = 4.26 cfs @ 11.95 hrs, Volume= 0.212 af  
 Outflow = 4.26 cfs @ 11.95 hrs, Volume= 0.212 af, Atten= 0%, Lag= 0.0 min  
 Primary = 4.26 cfs @ 11.95 hrs, Volume= 0.212 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 29.50' @ 11.95 hrs

Device #	Routing	Invert	Outlet Devices
#1	Primary	22.75'	<b>8.0" Round Culvert</b> L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 1/1' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=4.26 cfs @ 11.95 hrs HW=29.49' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 4.26 cfs @ 12.19 fps)

**APPENDIX D**  
**SOIL SURVEY INFORMATION**

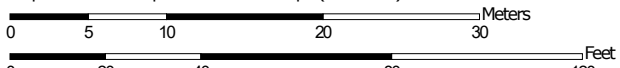
# Custom Soil Resource Report for Rockingham County, New Hampshire



# Custom Soil Resource Report Soil Map



Map Scale: 1:483 if printed on A landscape (11" x 8.5") sheet.



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 24, Aug 31, 2021

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

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

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
699	Urban land	0.4	100.0%
<b>Totals for Area of Interest</b>		<b>0.4</b>	<b>100.0%</b>

## 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.

## Custom Soil Resource Report

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

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

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

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

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

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

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

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



## Rockingham County, New Hampshire

### 699—Urban land

#### Map Unit Composition

*Urban land: 85 percent*

*Minor components: 15 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Minor Components

##### Not named

*Percent of map unit: 15 percent*

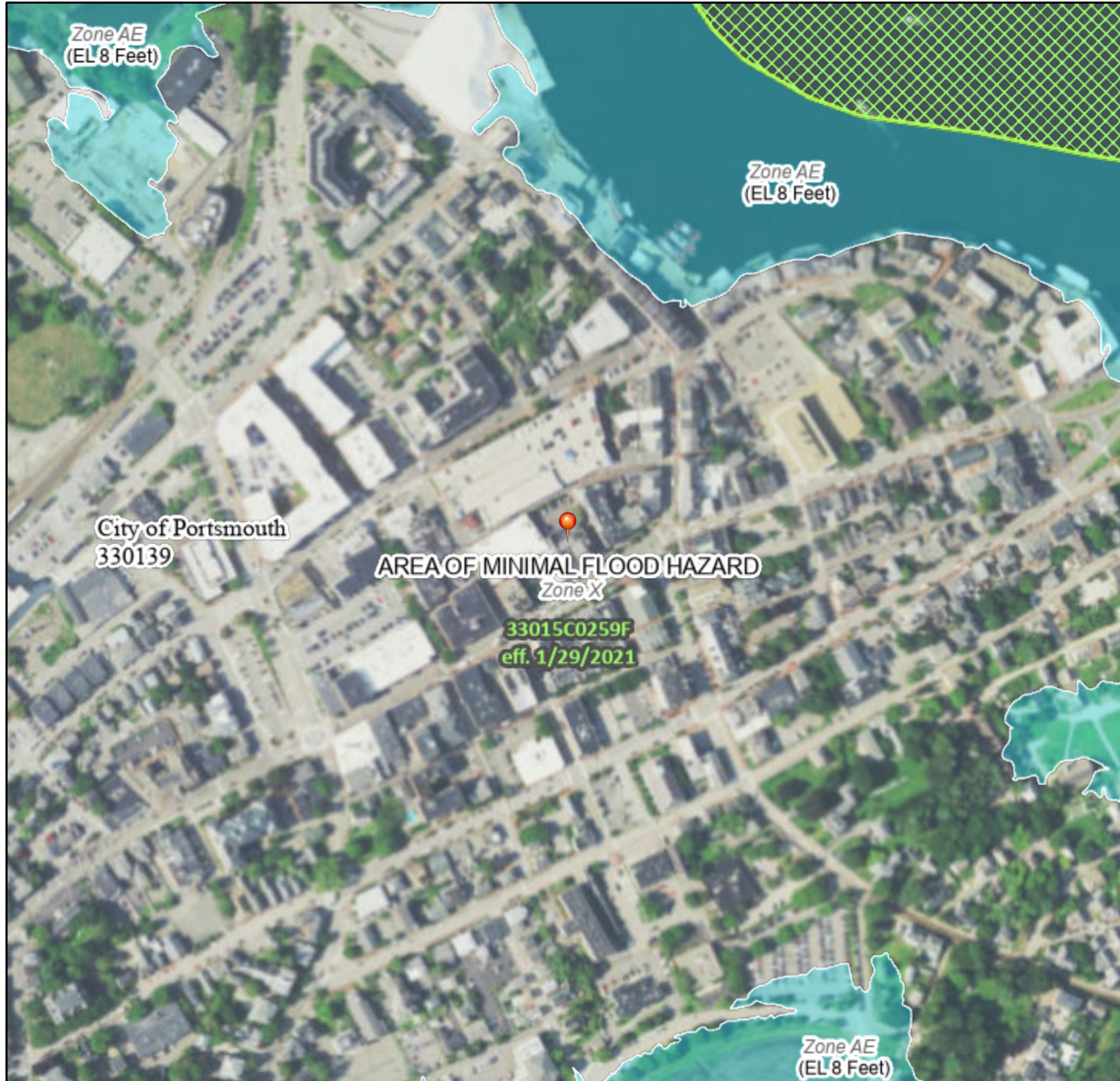
*Hydric soil rating: No*

**APPENDIX E**  
**FEMA FIRM MAP**

# National Flood Hazard Layer FIRMMette



70°45'49"W 43°4'51"N



70°45'12"W 43°4'24"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
MAP PANELS		8 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **8/25/2022 at 1:29 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

**APPENDIX F**  
**INSPECTION & LONG TERM**  
**MAINTENANCE PLAN**



**AMBIT ENGINEERING, INC.**  
**Civil Engineers & Land Surveyors**

***INSPECTION & LONG-TERM MAINTENANCE PLAN***  
***FOR***  
**COMMERCIAL DEVELOPMENT**

**1 CONGRESS STREET**  
**PORTSMOUTH, NH**

***Introduction***

The intent of this plan is to provide the One Market Square, LLC (herein referred to as “owner”) with a list of procedures that document the inspection and maintenance requirements of the stormwater management system for this development. Specifically, the proposed roof drain filter and permeable pavers (collectively referred to as the “Stormwater Management System”). The contact information for the owner shall be kept current, and if there is a change of ownership of the property this plan must be transferred to the new owner.

The following inspection and maintenance program is necessary to keep the stormwater management system functioning properly and will help in maintaining a high quality of stormwater runoff to minimize potential environmental impacts. By following the enclosed procedures, the owner will be able to maintain the functional design of the stormwater management system and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff.

***Annual Report***

The owner shall prepare an annual Inspection & Maintenance Report. The report shall include a summary of the system’s maintenance and repair by transmission of the Inspection & Maintenance Log and other information as required. A copy of the report shall be delivered annually to the Portsmouth DPW, if required.

***Inspection & Maintenance Checklist/Log***

The following pages contain the Stormwater Management System Inspection & Maintenance Requirements and a blank copy of the Stormwater Management System Inspection & Maintenance Log. These forms are provided to the owner as a guideline for performing the inspection and maintenance of the Stormwater Management System. This is a guideline and should be periodically reviewed for conformance with current practice and standards.

## *Stormwater Management System Components*

The Stormwater Management System is designed to mitigate the quality of site-generated stormwater runoff. As a result, the design includes the following elements:

### *Non-Structural BMPs*

Non-Structural best management practices (BMP's) include temporary and permanent measures that typically require less labor and capital inputs and are intended to provide protection against erosion of soils. Examples of non-structural BMP's on this project may include but are not limited to:

- Dust control
- Sediment barriers
- Stabilized construction entrance
- Catch basin basket
- Dewatering control

### *Structural BMPs*

Structural BMPs are more labor and capital-intensive structures or installations that require more specialized personnel to install. Examples on this project include but are not limited to:

- Bio Clean Downspout Filter
- Closed Drainage System
- Permeable Pavers

## *Inspection and Maintenance Requirements*

The following summarizes the inspection and maintenance requirements for the various BMP's that may be found on this project.

1. **Bio Clean Downspout Filter:** Refer to the manufacturer's Operation and Maintenance manual for guidance, included herewith.
2. **Storm Drains:** Monitor accumulation of debris in drainage structures monthly or after significant rain events. Remove sediments when they accumulate within the outlet pipe. During construction, maintain inlet protection until all areas have been stabilized. Prior to the end of construction, inspect the drains and basins for accumulations and remove and clean by jet-vacuuming.
3. **Permeable Pavers:** Ensure that sediments do not enter and plug pavement. Remove sediments, trash, and debris, as necessary. Repair outlet structures and appurtenances, as necessary. Vacuum at least twice annually.

### **Pollution Prevention**

The following pollution prevention activities shall be undertaken to minimize potential impacts on stormwater runoff quality. The Contractor is responsible for all activities during construction. The Owner is responsible thereafter.

#### **Spill Procedures**

Any discharge of waste oil or other pollutant shall be reported immediately to the New Hampshire Department of Environmental Services (NHDES). The Contractor/Owner will be responsible for any incident of groundwater contamination resulting from the improper discharge of pollutants to the stormwater system, and may be required by NHDES to remediate incidents that may impact groundwater quality. If the property ownership is transferred, the new owner will be informed of the legal responsibilities associated with operation of the stormwater system, as indicated above.

#### **Sanitary Facilities**

Sanitary facilities shall be provided during all phases of construction.

#### **Material Storage**

No on site trash facility is provided until homes are constructed. The contractors are required to remove trash from the site. Hazardous material storage is prohibited.

#### **Material Disposal**

All waste material, trash, sediment, and debris shall be removed from the site and disposed of in accordance with applicable local, state, and federal guidelines and regulations. Removed sediments shall be if necessary dewatered prior to disposal.

## STABILIZED CONSTRUCTION ENTRANCE CONSTRUCTION MAINTENANCE SHEET

INSPECTION REQUIREMENTS		
ACTION TAKEN	FREQUENCY	MAINTENANCE REQUIREMENTS
ENTRANCE SURFACE <i>-Check for sediment accumulation/clogging of stone</i> <i>-Check Vegetative filter strips</i>	After heavy rains, as necessary	<i>-Top dress pad with new stone.</i> <i>-Replace stone completely if completely clogged.</i> <i>-Maintain vigorous stand of vegetation.</i>
WASHING FACILITIES (if applicable) <i>-Monitor Sediment Accumulation</i>	As often as necessary	<i>-Remove Sediments from traps.</i>

MAINTENANCE LOG	
<b>PROJECT NAME</b>	
<b>INSPECTOR NAME</b>	<b>INSPECTOR CONTACT INFO</b>
<b>DATE OF INSPECTION</b>	<b>REASON FOR INSPECTION</b> <input type="checkbox"/> LARGE STORM EVENT <input type="checkbox"/> PERIODIC CHECK-IN
<b>IS CORRECTIVE ACTION NEEDED?</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	<b>DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE</b>
<b>DATE OF MAINTENANCE</b>	<b>PERFORMED BY</b>
<b>NOTES</b>	



## PERMEABLE PAVER LONG-TERM MAINTENANCE SHEET

<b>INSPECTION REQUIREMENTS</b>		
<b>ACTION TAKEN</b>	<b>FREQUENCY</b>	<b>MAINTENANCE REQUIREMENTS</b>
-Inspect pavement surface for the occurrence of sediment, trash, debris, or structural damage. -Check pavement for surface ponding	Frequently in first few months following construction, Bi-annually after	-Ensure that sediments do not enter and plug pavement. Remove sediments, trash, and debris, as necessary. -Repair outlet structures and appurtenances, as necessary. -Vacuum pavement at least twice annually. -Prevent vehicles with muddy wheels from accessing permeable pavement.
-No winter sanding permitted -Minimize application of salt	Continuous practice	

<b>MAINTENANCE LOG</b>	
<b>PROJECT NAME</b>	
<b>INSPECTOR NAME</b>	<b>INSPECTOR CONTACT INFO</b>
<b>DATE OF INSPECTION</b>	<b>REASON FOR INSPECTION</b> <input type="checkbox"/> LARGE STORM EVENT <input type="checkbox"/> PERIODIC CHECK-IN
<b>IS CORRECTIVE ACTION NEEDED?</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	<b>DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE</b>
<b>DATE OF MAINTENANCE</b>	<b>PERFORMED BY</b>
<b>NOTES</b>	

## CLOSED DRAINAGE STRUCTURE LONG-TERM MAINTENANCE SHEET

INSPECTION REQUIREMENTS		
ACTION TAKEN	FREQUENCY	MAINTENANCE REQUIREMENTS
<ul style="list-style-type: none"> <li>-Outlet Control Structures</li> <li>-Drain Manholes</li> <li>-Catch Basins</li> </ul>	Every other Month	<ul style="list-style-type: none"> <li><i>Check for erosion or short-circuiting</i></li> <li><i>Check for sediment accumulation</i></li> <li><i>Check for floatable contaminants</i></li> </ul>
<ul style="list-style-type: none"> <li>-Drainage Pipes</li> </ul>	1 time per 2 years	<ul style="list-style-type: none"> <li><i>Check for sediment accumulation/clogging, or soiled runoff.</i></li> <li><i>Check for erosion at outlets.</i></li> </ul>

MAINTENANCE LOG	
<b>PROJECT NAME</b>	
<b>INSPECTOR NAME</b>	<b>INSPECTOR CONTACT INFO</b>
<b>DATE OF INSPECTION</b>	<b>REASON FOR INSPECTION</b> <input type="checkbox"/> LARGE STORM EVENT <input type="checkbox"/> PERIODIC CHECK-IN
<b>IS CORRECTIVE ACTION NEEDED?</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	<b>DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE</b>
<b>DATE OF MAINTENANCE</b>	<b>PERFORMED BY</b>
<b>NOTES</b>	

## CATCH BASIN BASKET CONSTRUCTION MAINTENANCE SHEET

INSPECTION REQUIREMENTS		
ACTION TAKEN	FREQUENCY	MAINTENANCE REQUIREMENTS
-Check for damage to basket -Remove sediment from basket	Within 24 hours of rainfall, Daily during extended rainfall	<i>-Repair basket as necessary to prevent particles from reaching drainage system, or to prevent flooding.</i> <i>-Empty basket after every storm, or if clogged.</i>

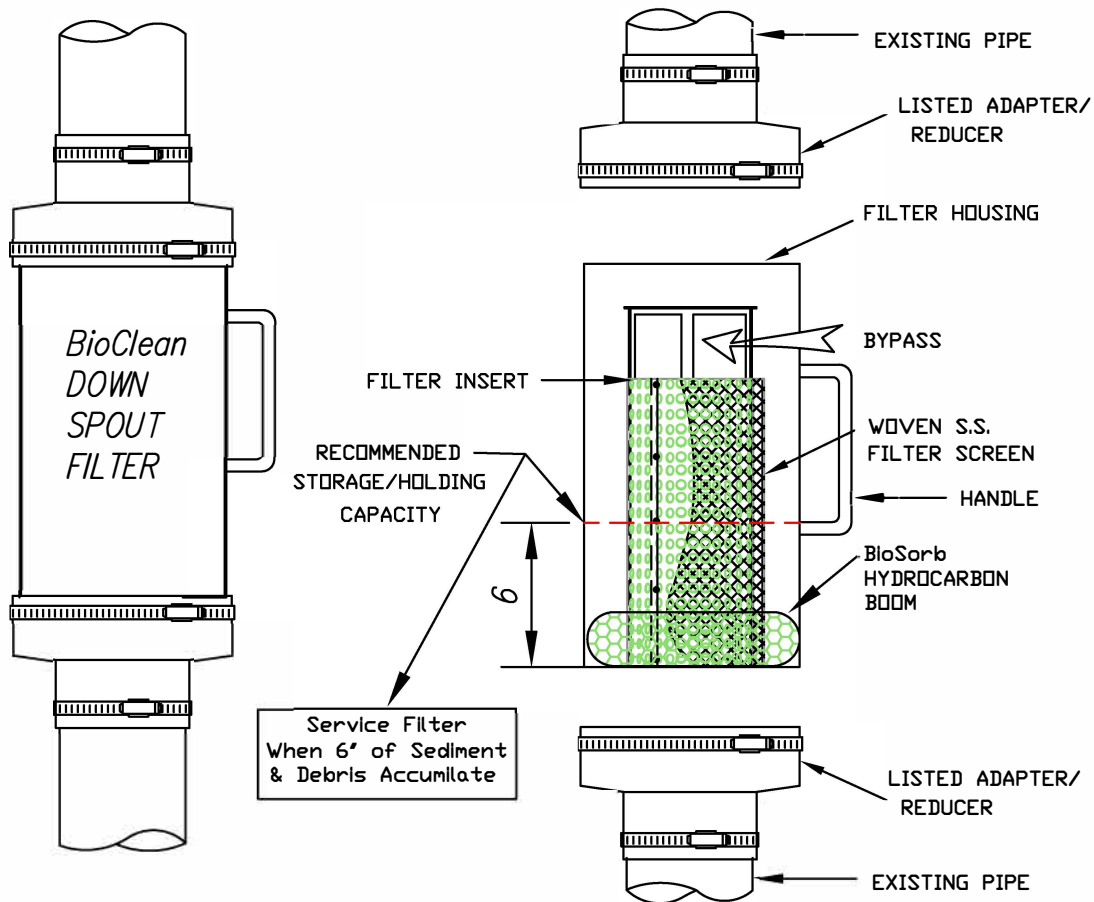
MAINTENANCE LOG	
<b>PROJECT NAME</b>	
<b>INSPECTOR NAME</b>	<b>INSPECTOR CONTACT INFO</b>
<b>DATE OF INSPECTION</b>	<b>REASON FOR INSPECTION</b> <input type="checkbox"/> LARGE STORM EVENT <input type="checkbox"/> PERIODIC CHECK-IN
<b>IS CORRECTIVE ACTION NEEDED?</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	<b>DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE</b>
<b>DATE OF MAINTENANCE</b>	<b>PERFORMED BY</b>
<b>NOTES</b>	

# SERVICE MANUAL

## (Cleaning Procedures)

### Bio Clean DOWNSPOUT FILTER

#### Screen Type With Hydrocarbon Boom



#### TOOLS AND EQUIPMENT NEEDED:

1. Medium size flat scred driver
2. BioSorb hydrocarbon boom. 25-1/2" X 2" dia.  
(Call Bio Clean to order)
3. Trash container or bag
4. Wooden dowel approx. 3' x 1/2' dia.

#### DETAIL OF PARTS

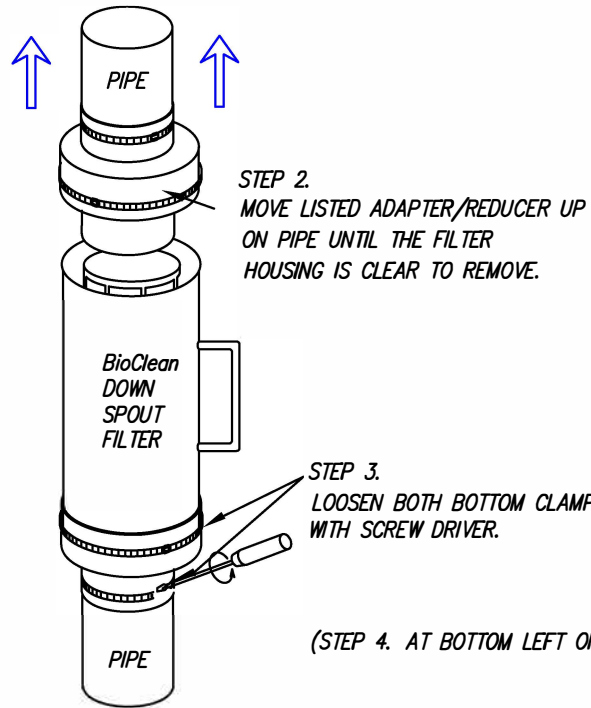
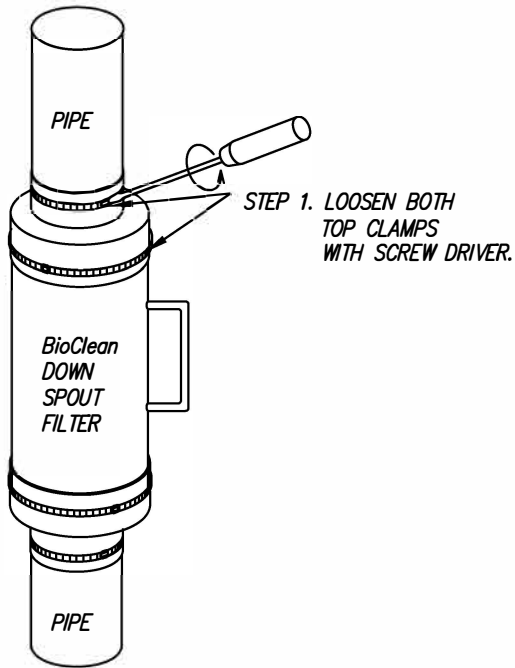
**Bio Clean**

A Forterra Company

P.O. BOX 869, Oceanside, Ca. 92049  
(760) 433-7640 Fax (760) 433-3176  
[www.biocleanenvironmental.net](http://www.biocleanenvironmental.net)

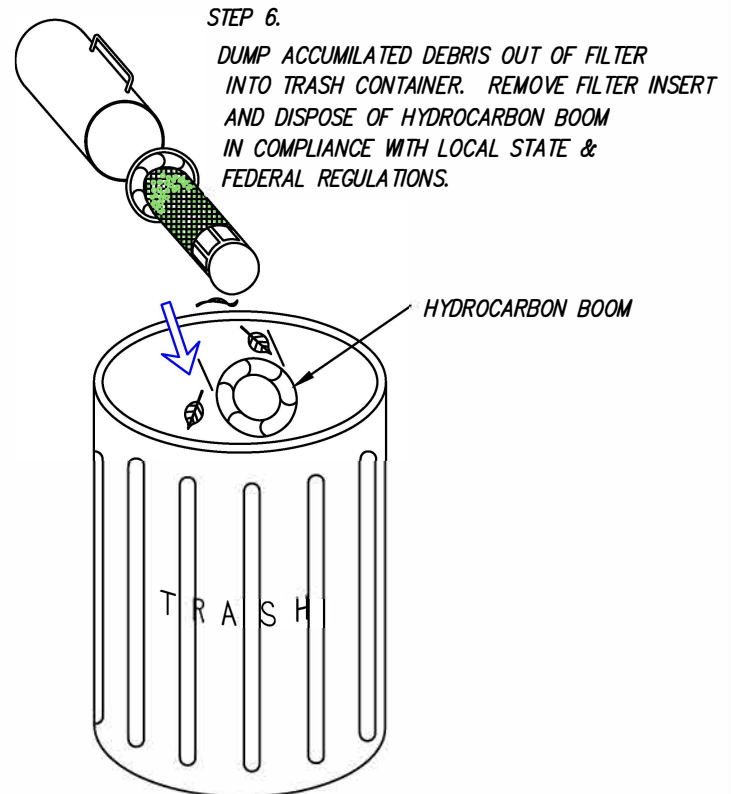
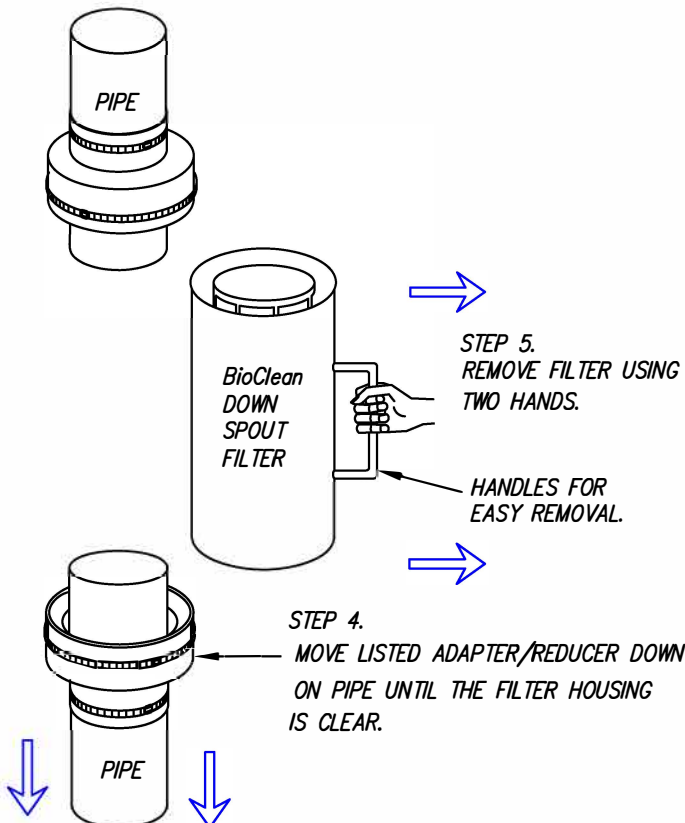


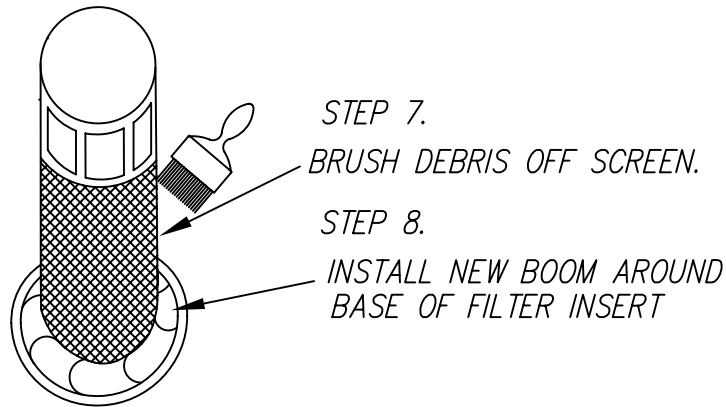
# REMOVING FILTER



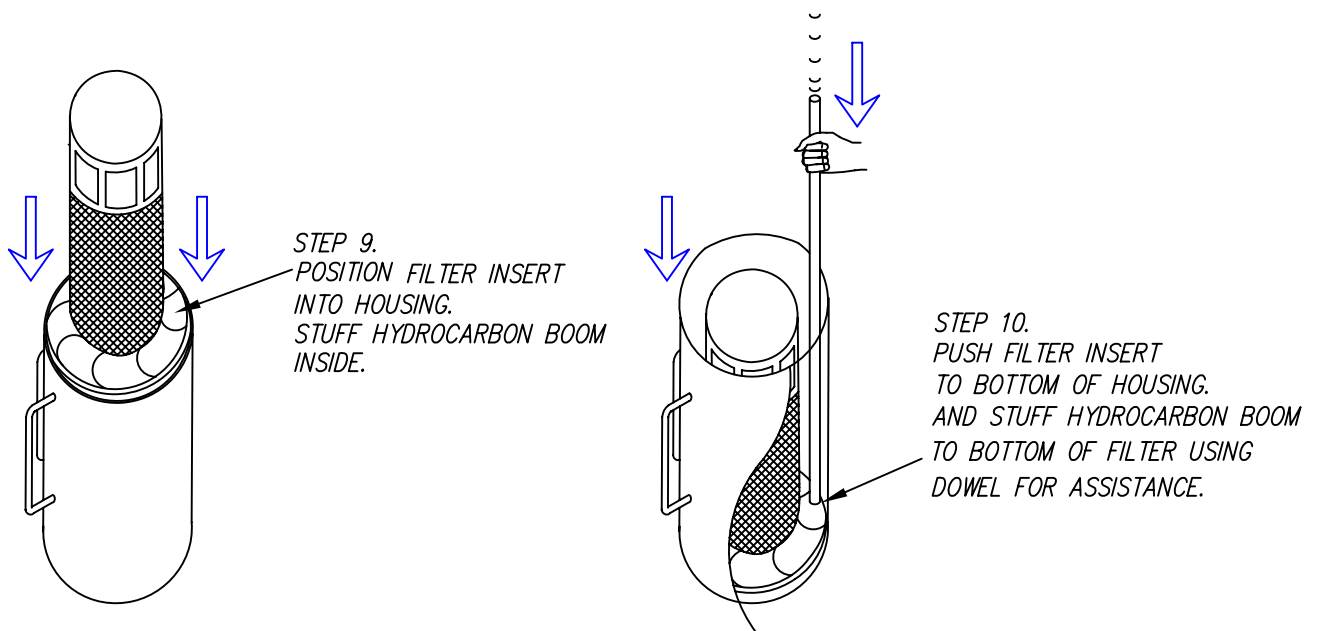
(STEP 4. AT BOTTOM LEFT OF PAGE)

# CLEANING FILTER

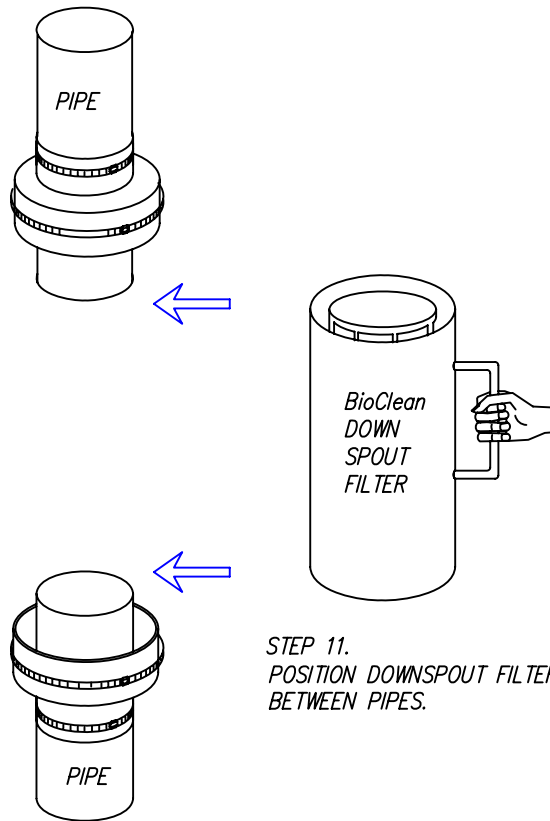




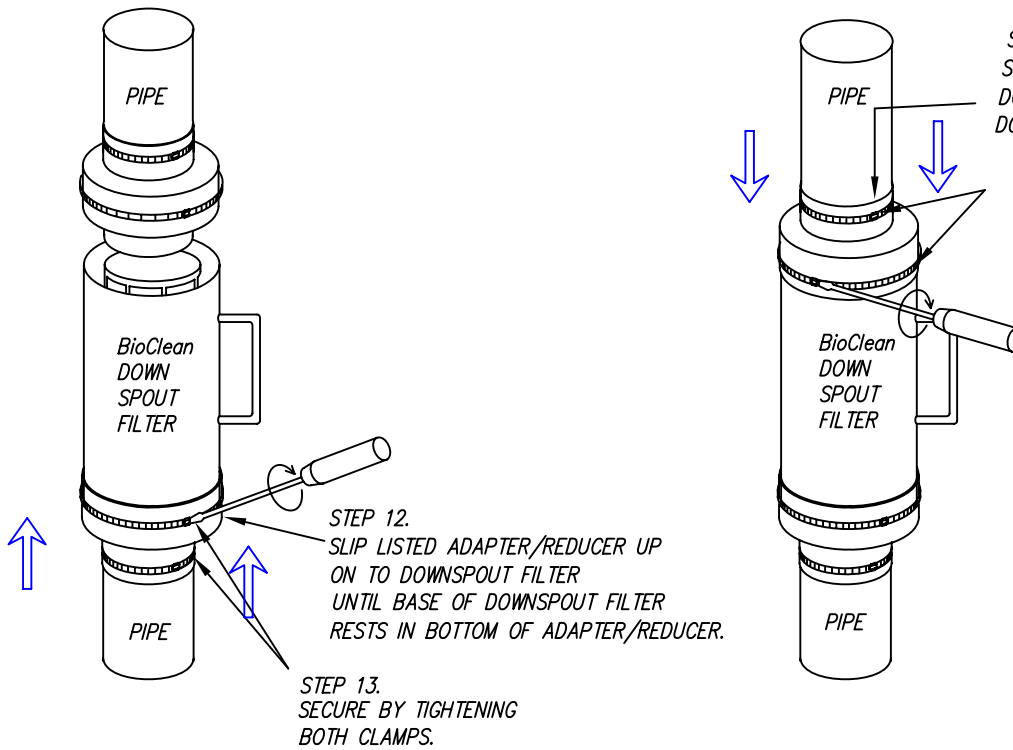
## REPLACING FILTER INSERT



# REPLACING FILTER

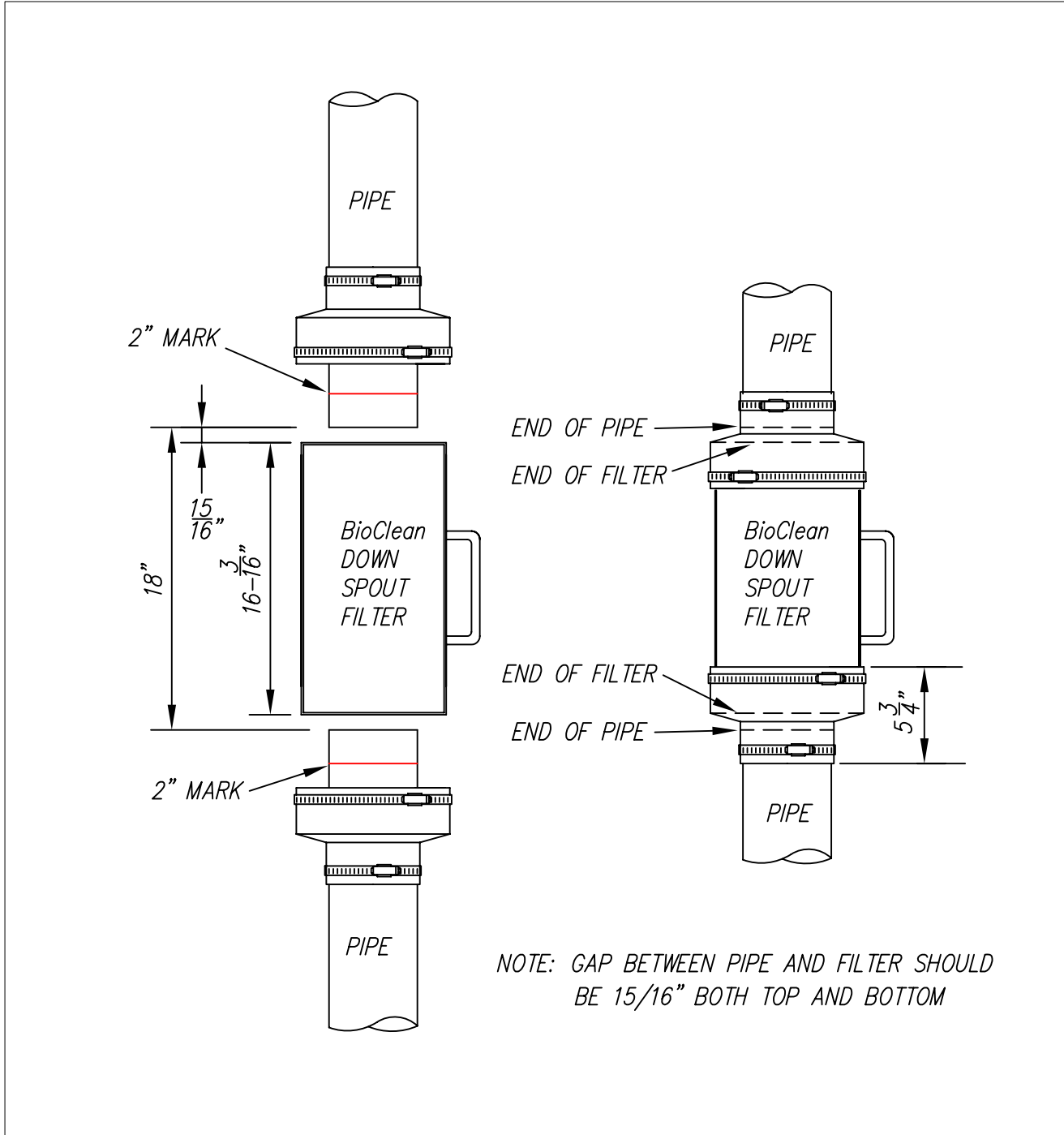


STEP 11.  
POSITION DOWNSPOUT FILTER  
BETWEEN PIPES.



## APPROPRIATE INSTALLATION

FILTER CENTERED BETWEEN PIPES WITH EVEN GAPS ON TOP AND BOTTOM



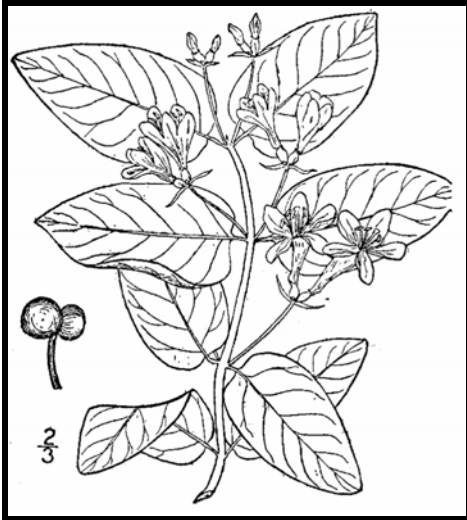
A Forterra Company

P.O. BOX 869, Oceanside, Ca. 92049  
(760) 433-7640 Fax (760) 433-3176  
[www.biocleanenvironmental.net](http://www.biocleanenvironmental.net)



## Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



**Tatarian honeysuckle**

*Lonicera tatarica*

USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit [www.nhinvasives.org](http://www.nhinvasives.org) or contact your UNH Cooperative Extension office.

### **New Hampshire Regulations**

Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr. 3802.01)

## How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag “head first” at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

**Burning:** Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can't be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn't be burned as the seeds may disperse by the hot air created by the fire.

**Bagging (solarization):** Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

**Tarping and Drying:** Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

**Chipping:** Use this method for woody plants that don't reproduce vegetatively.

**Burying:** This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

**Drowning:** Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn't used often. Be prepared for an awful stink!

**Composting:** Invasive plants can take root in compost. Don't compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.






**Japanese knotweed**  
*Polygonum cuspidatum*  
USDA-NRCS PLANTS Database /  
Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

**Be diligent looking for seedlings for years in areas where removal and disposal took place.**

## Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

Woody Plants	Method of Reproducing	Methods of Disposal
Norway maple <i>(Acer platanoides)</i> European barberry <i>(Berberis vulgaris)</i> Japanese barberry <i>(Berberis thunbergii)</i> autumn olive <i>(Elaeagnus umbellata)</i> burning bush <i>(Euonymus alatus)</i> Morrow's honeysuckle <i>(Lonicera morrowii)</i> Tatarian honeysuckle <i>(Lonicera tatarica)</i> showy bush honeysuckle <i>(Lonicera x bella)</i> common buckthorn <i>(Rhamnus cathartica)</i> glossy buckthorn <i>(Frangula alnus)</i>		<p><b>Prior to fruit/seed ripening</b></p> <p>Seedlings and small plants</p> <ul style="list-style-type: none"> <li>▪ Pull or cut and leave on site with roots exposed. No special care needed.</li> </ul> <p>Larger plants</p> <ul style="list-style-type: none"> <li>▪ Use as firewood.</li> <li>▪ Make a brush pile.</li> <li>▪ Chip.</li> <li>▪ Burn.</li> </ul>
		<p><b>After fruit/seed is ripe</b></p> <p>Don't remove from site.</p> <ul style="list-style-type: none"> <li>▪ Burn.</li> <li>▪ Make a covered brush pile.</li> <li>▪ Chip once all fruit has dropped from branches.</li> <li>▪ Leave resulting chips on site and monitor.</li> </ul>
oriental bittersweet <i>(Celastrus orbiculatus)</i> multiflora rose <i>(Rosa multiflora)</i>		<p><b>Prior to fruit/seed ripening</b></p> <p>Seedlings and small plants</p> <ul style="list-style-type: none"> <li>▪ Pull or cut and leave on site with roots exposed. No special care needed.</li> </ul> <p>Larger plants</p> <ul style="list-style-type: none"> <li>▪ Make a brush pile.</li> <li>▪ Burn.</li> </ul>
		<p><b>After fruit/seed is ripe</b></p> <p>Don't remove from site.</p> <ul style="list-style-type: none"> <li>▪ Burn.</li> <li>▪ Make a covered brush pile.</li> <li>▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.</li> </ul>

Non-Woody Plants	Method of Reproducing	Methods of Disposal
<p>garlic mustard (<i>Alliaria petiolata</i>)</p> <p>spotted knapweed (<i>Centaurea maculosa</i>)</p> <ul style="list-style-type: none"> <li>▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling.</li> </ul> <p>black swallow-wort (<i>Cynanchum nigrum</i>)</p> <ul style="list-style-type: none"> <li>▪ May cause skin rash. Wear gloves and long sleeves when handling.</li> </ul> <p>pale swallow-wort (<i>Cynanchum rossicum</i>)</p> <p>giant hogweed (<i>Heracleum mantegazzianum</i>)</p> <ul style="list-style-type: none"> <li>▪ Can cause major skin rash. Wear gloves and long sleeves when handling.</li> </ul> <p>dame's rocket (<i>Hesperis matronalis</i>)</p> <p>perennial pepperweed (<i>Lepidium latifolium</i>)</p> <p>purple loosestrife (<i>Lythrum salicaria</i>)</p> <p>Japanese stilt grass (<i>Microstegium vimineum</i>)</p> <p>mile-a-minute weed (<i>Polygonum perfoliatum</i>)</p>	<p><b>Fruits and Seeds</b></p> 	<p><b>Prior to flowering</b></p> <p>Depends on scale of infestation</p> <p>Small infestation</p> <ul style="list-style-type: none"> <li>▪ Pull or cut plant and leave on site with roots exposed.</li> </ul> <p>Large infestation</p> <ul style="list-style-type: none"> <li>▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting).</li> <li>▪ Monitor. Remove any re-sprouting material.</li> </ul> <hr/> <p><b>During and following flowering</b></p> <p>Do nothing until the following year or remove flowering heads and bag and let rot.</p> <p>Small infestation</p> <ul style="list-style-type: none"> <li>▪ Pull or cut plant and leave on site with roots exposed.</li> </ul> <p>Large infestation</p> <ul style="list-style-type: none"> <li>▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting).</li> <li>▪ Monitor. Remove any re-sprouting material.</li> </ul>
<p>common reed (<i>Phragmites australis</i>)</p> <p>Japanese knotweed (<i>Polygonum cuspidatum</i>)</p> <p>Bohemian knotweed (<i>Polygonum x bohemicum</i>)</p>	<p><b>Fruits, Seeds, Plant Fragments</b></p> <p>Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn't materially influence disposal activities.</p>	<p><b>Small infestation</b></p> <ul style="list-style-type: none"> <li>▪ Bag all plant material and let rot.</li> <li>▪ Never pile and use resulting material as compost.</li> <li>▪ Burn.</li> </ul> <p><b>Large infestation</b></p> <ul style="list-style-type: none"> <li>▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile.</li> <li>▪ Monitor and remove any sprouting material.</li> <li>▪ Pile, let dry, and burn.</li> </ul>

January 2010

UNH Cooperative Extension programs and policies are consistent with pertinent Federal and State laws and regulations, and prohibits discrimination in its programs, activities and employment on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sex, sexual orientation, or veteran's, marital or family status. College of Life Sciences and Agriculture, County Governments, NH Dept. of Resources and Economic Development, Division of Forests and Lands, NH Fish and Game ,and U.S. Dept. of Agriculture cooperating.



*October 18<sup>th</sup>, 2022*

**John Chagnon, PE, LLS  
Ambit Engineering  
200 Griffin Road  
Unit 3  
Portsmouth, NH 03801**

*Natural Gas to 1 Congress Street Portsmouth, NH*

Hi John,

Unitil/Northern Utilities Natural Gas Division has reviewed the requested site for natural gas service:

Unitil hereby confirms that natural gas is available for the proposed building at 1 Congress Street, Portsmouth, NH

If you have any questions, please contact me at 603-534-2379.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dave MacLean", is written over a light blue circular watermark.

**Dave MacLean**  
Senior Business Development Rep



**T** 603.294.5261

**M** 603.534.2379

**F** 603.294.5264

**Email** [macleand@unitil.com](mailto:macleand@unitil.com)

1 CONGRESS STREET

1 CONGRESS STREET & HIGH STREET  
 PORTSMOUTH, NH 03801

ONE MARKET SQUARE  
 LLC, OWNER

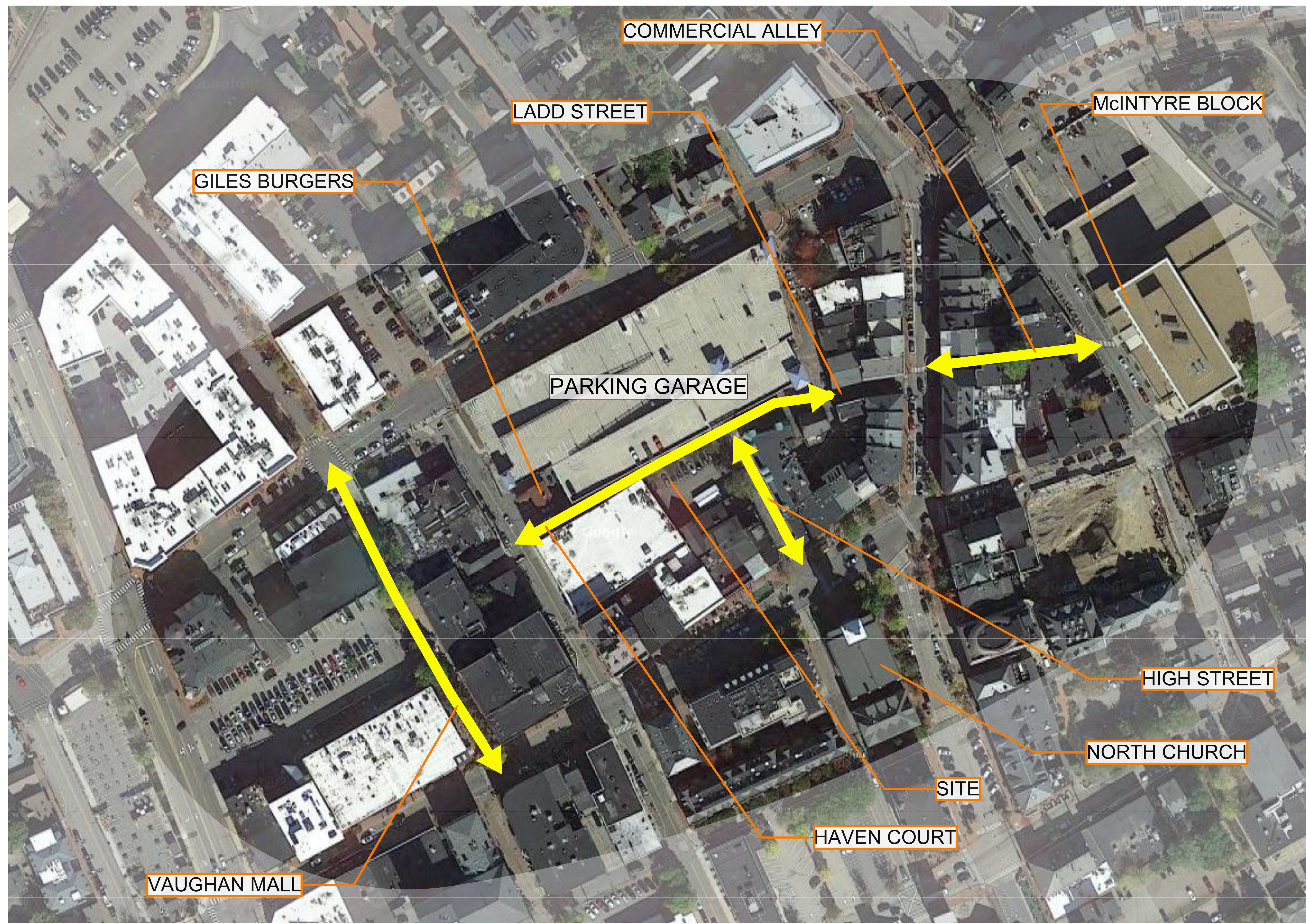
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 Date: 02/16/2022  
 Project Number: 1002

REVISIONS		
NO.	DESCRIPTION	DATE

CONCEPT DESIGN

CONTEXT MAP

**PC.02**





1

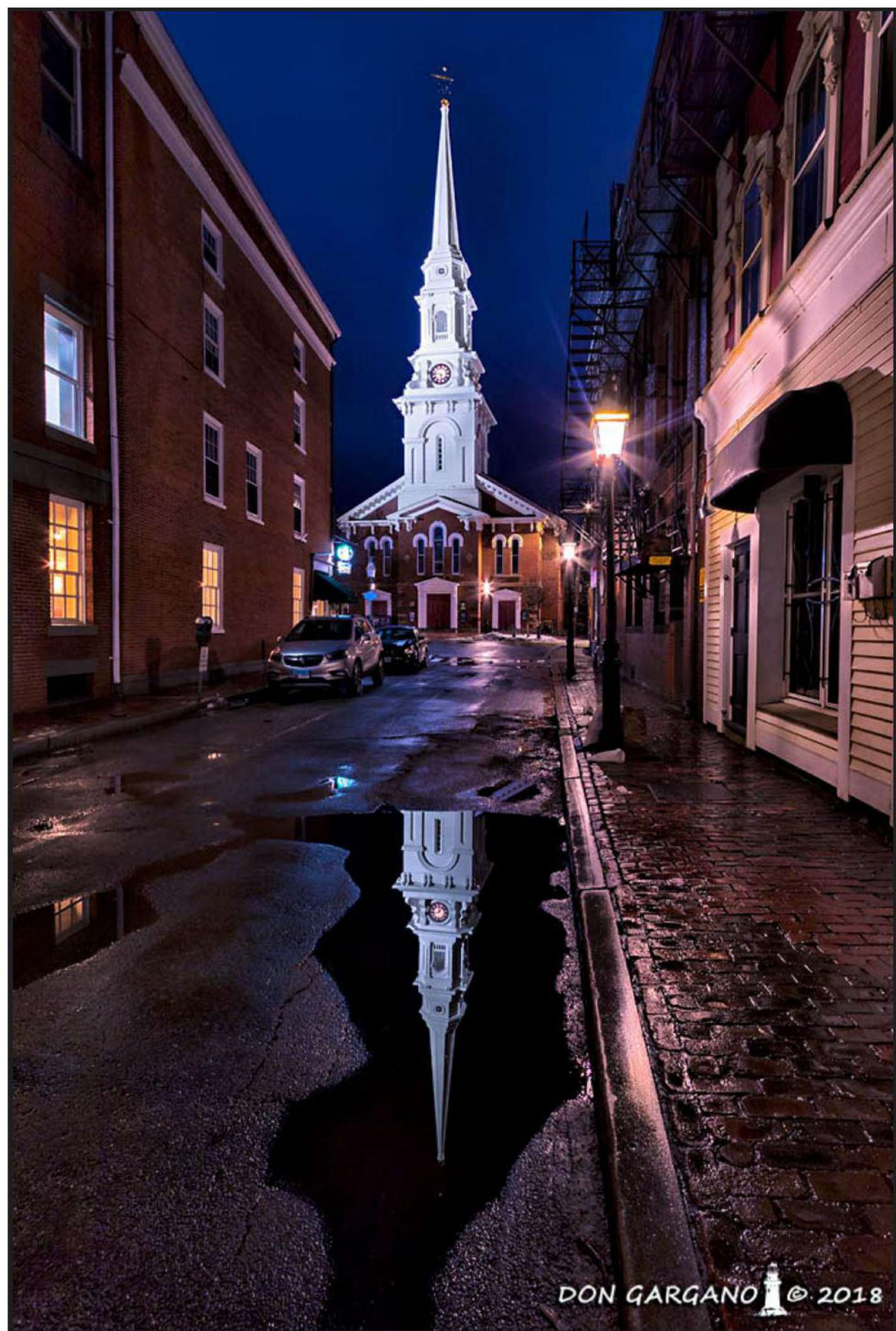


2

1 CONGRESS STREET

1 CONGRESS STREET & HIGH STREET  
 PORTSMOUTH, NH 03801

ONE MARKET SQUARE  
 LLC, OWNER



3



4



6



5



7

Scale:  
 Date: 02/16/2022  
 Project Number: 1002

REVISIONS		
NO.	DESCRIPTION	DATE

CONCEPT DESIGN

EXISTING  
 CONDITIONS -  
 CONTEXT

PC.03

UNILOCK ECO-LINE (GREY)  
(14" x 4.5" PAVERS)

GREY STONE PAVERS (TBD)  
(8" x 8" x 3" PAVERS)

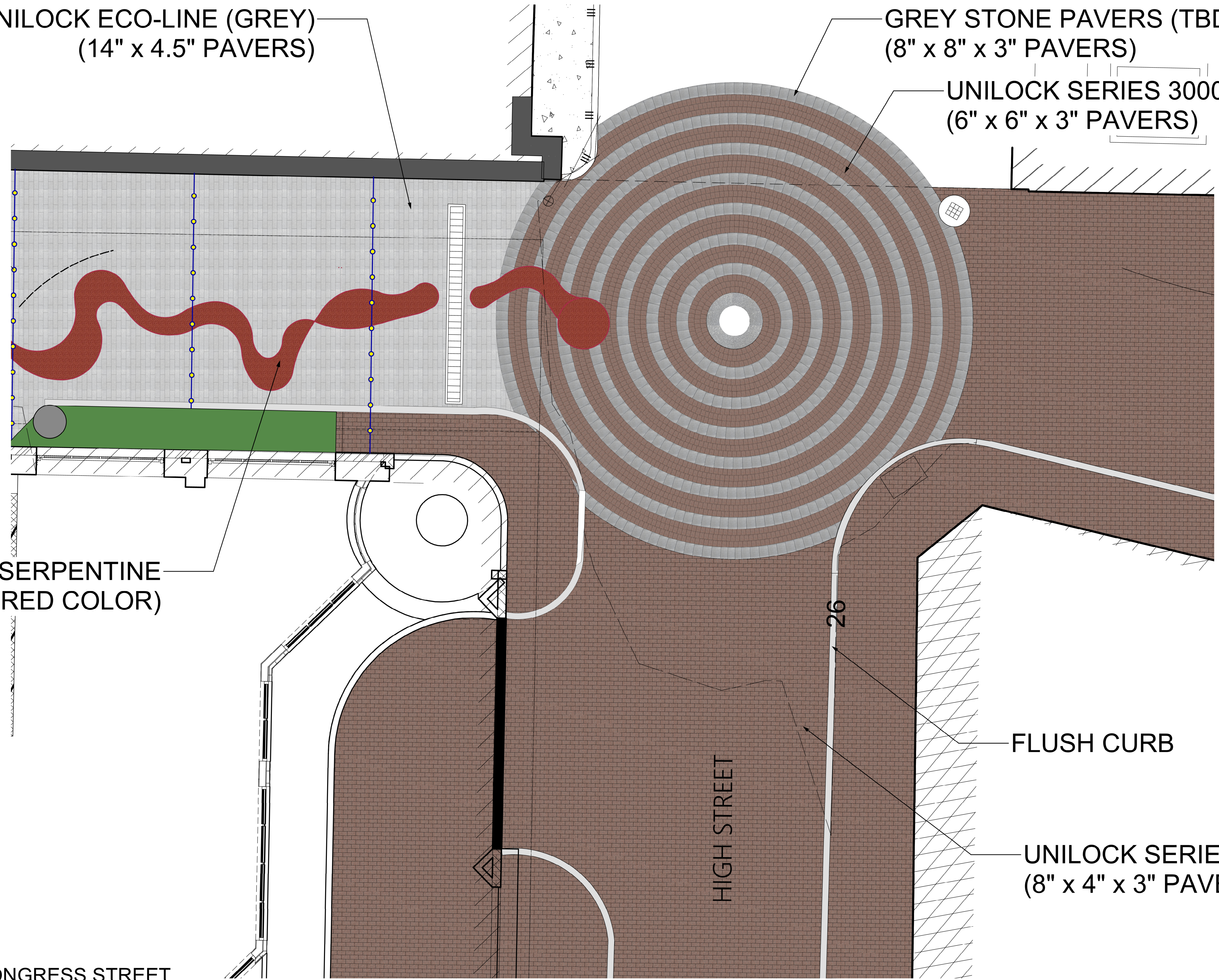
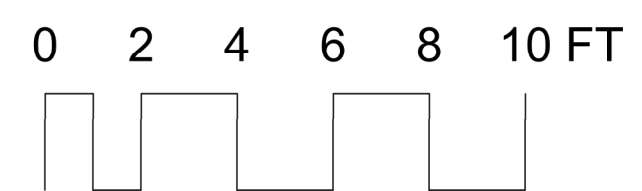
UNILOCK SERIES 3000 (MOCHA BROWN)  
(6" x 6" x 3" PAVERS)

CONCRETE SERPENTINE  
PAVE (TURKEY RED COLOR)

FLUSH CURB

UNILOCK SERIES 3000 (MOCHA BROWN)  
(8" x 4" x 3" PAVERS)

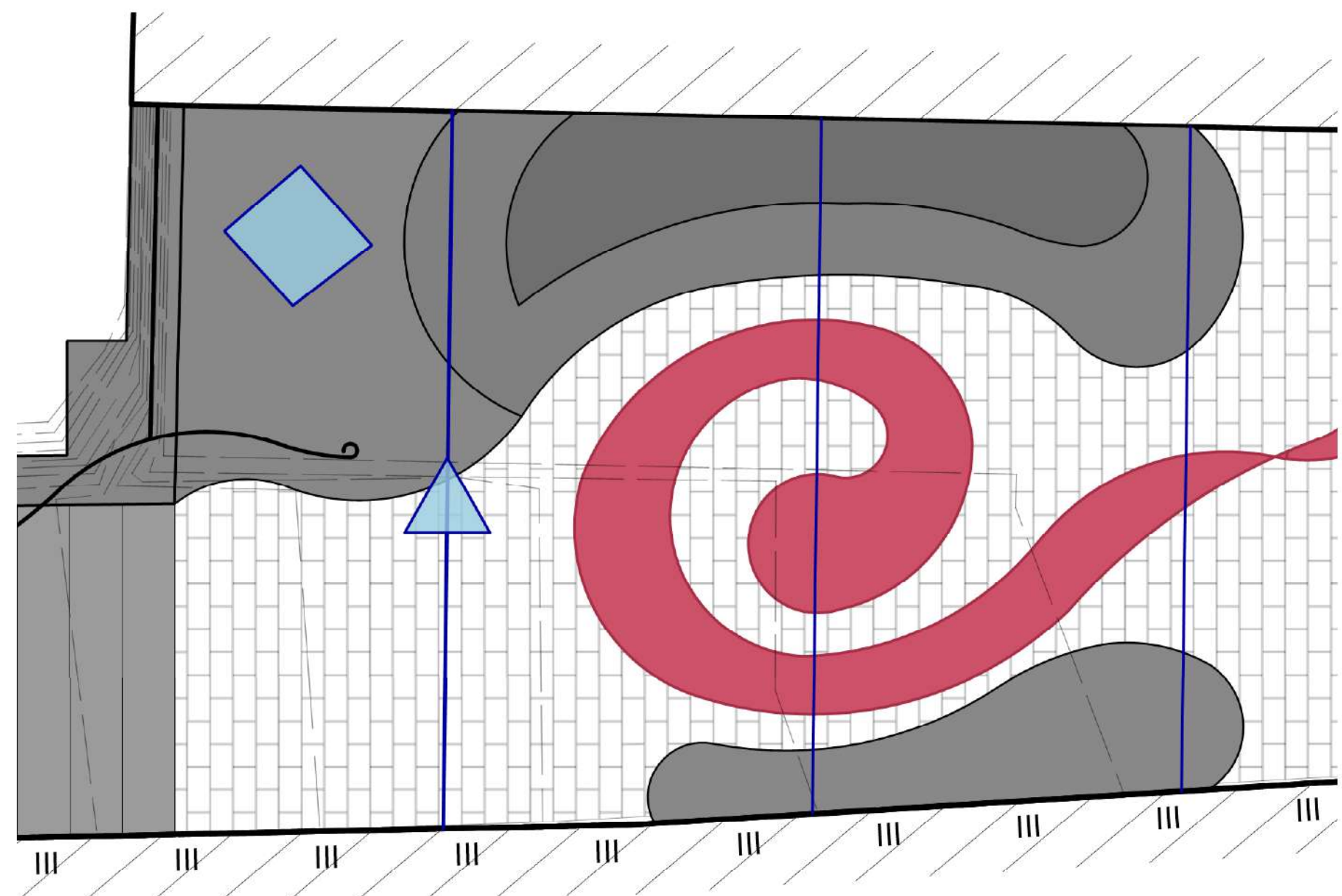
1 CONGRESS STREET  
PAVING PATTERN - OPTION TURKEY RED  
9/28/22



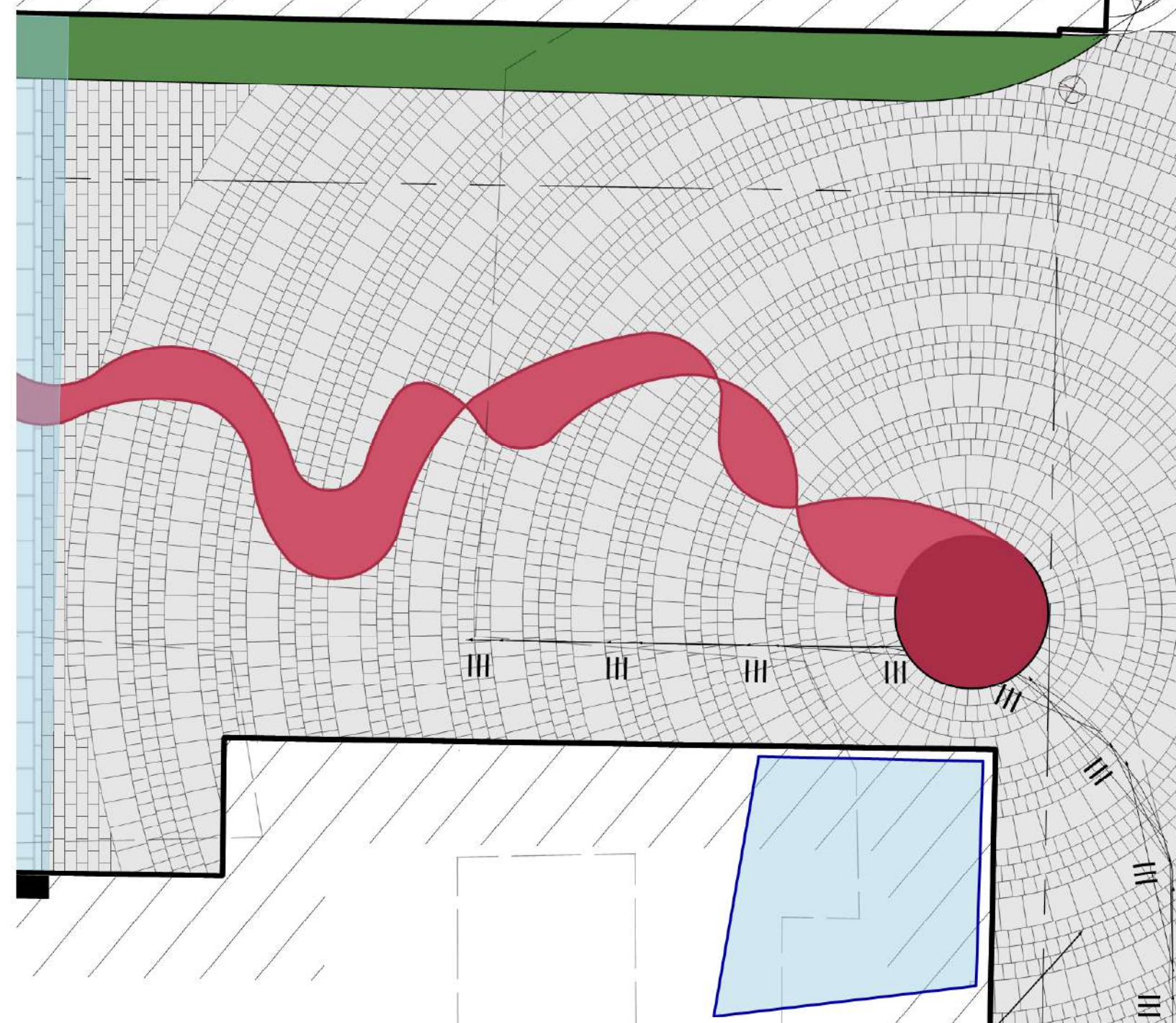
HIGH STREET

26





AMPHITHEATER DETAIL WITH SERPENTINE END



SERPENTINE BEGINNING DETAIL



CATENARY LIGHTING



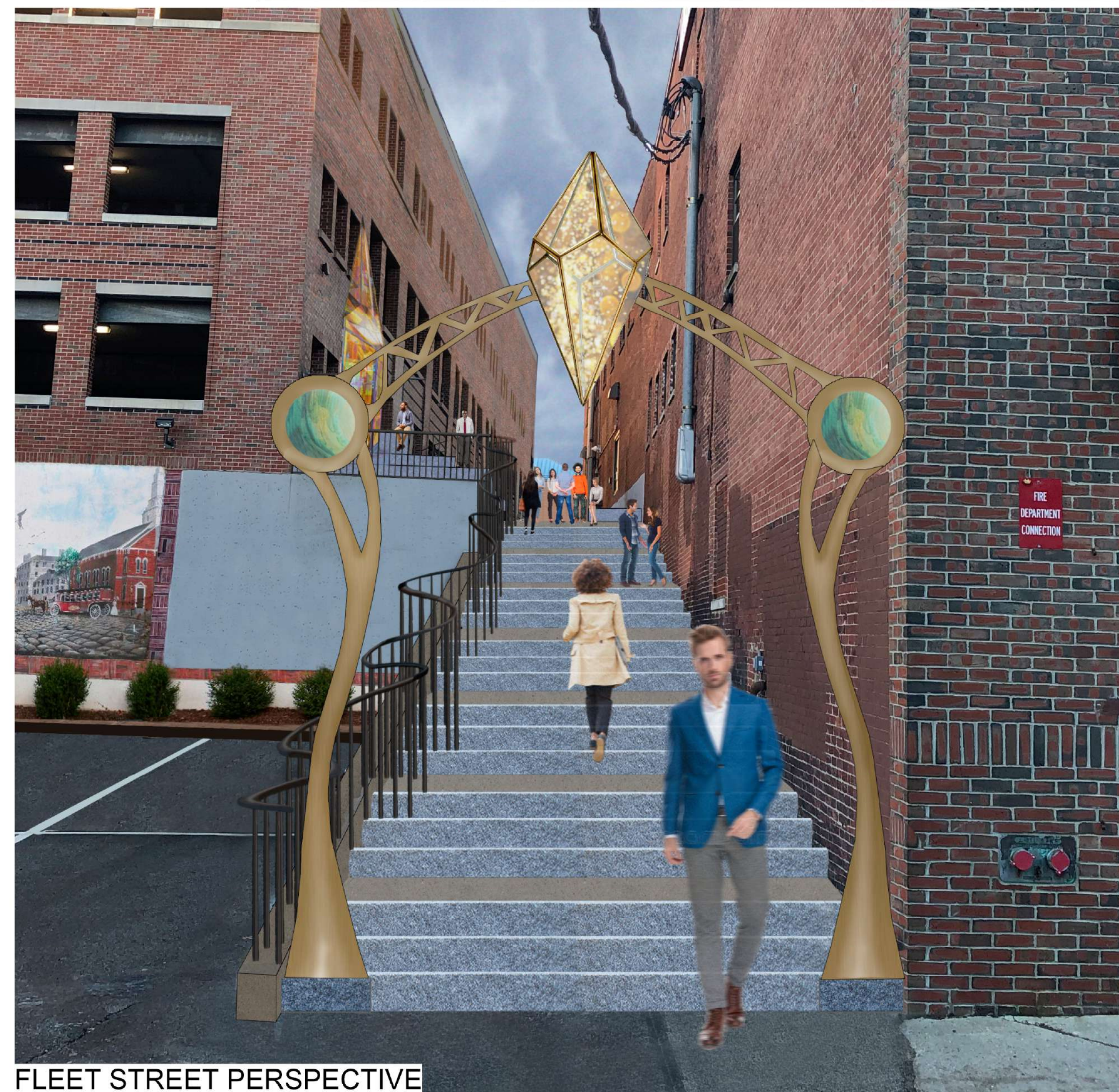
STONE SEATING



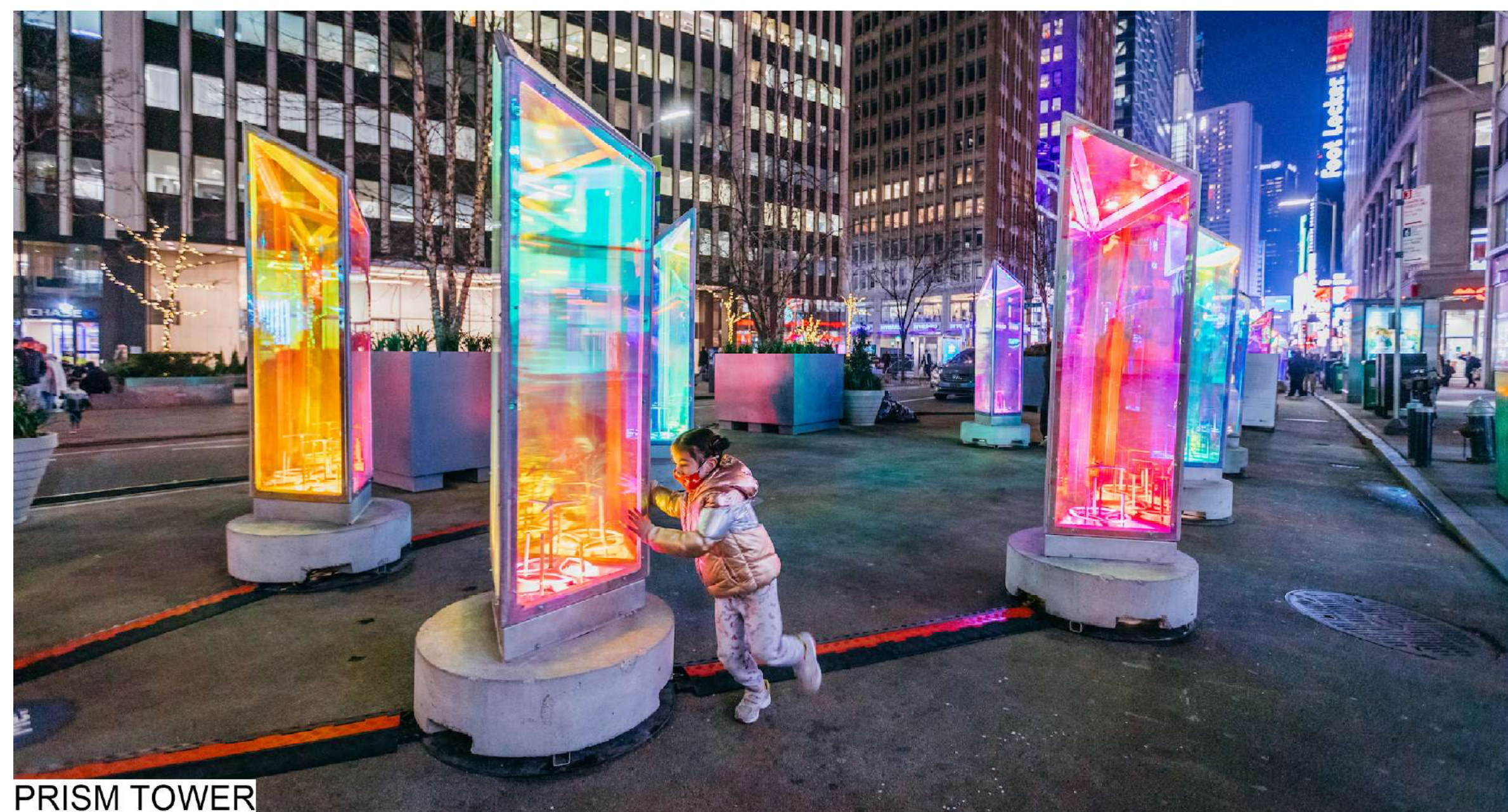
STONE SEATING



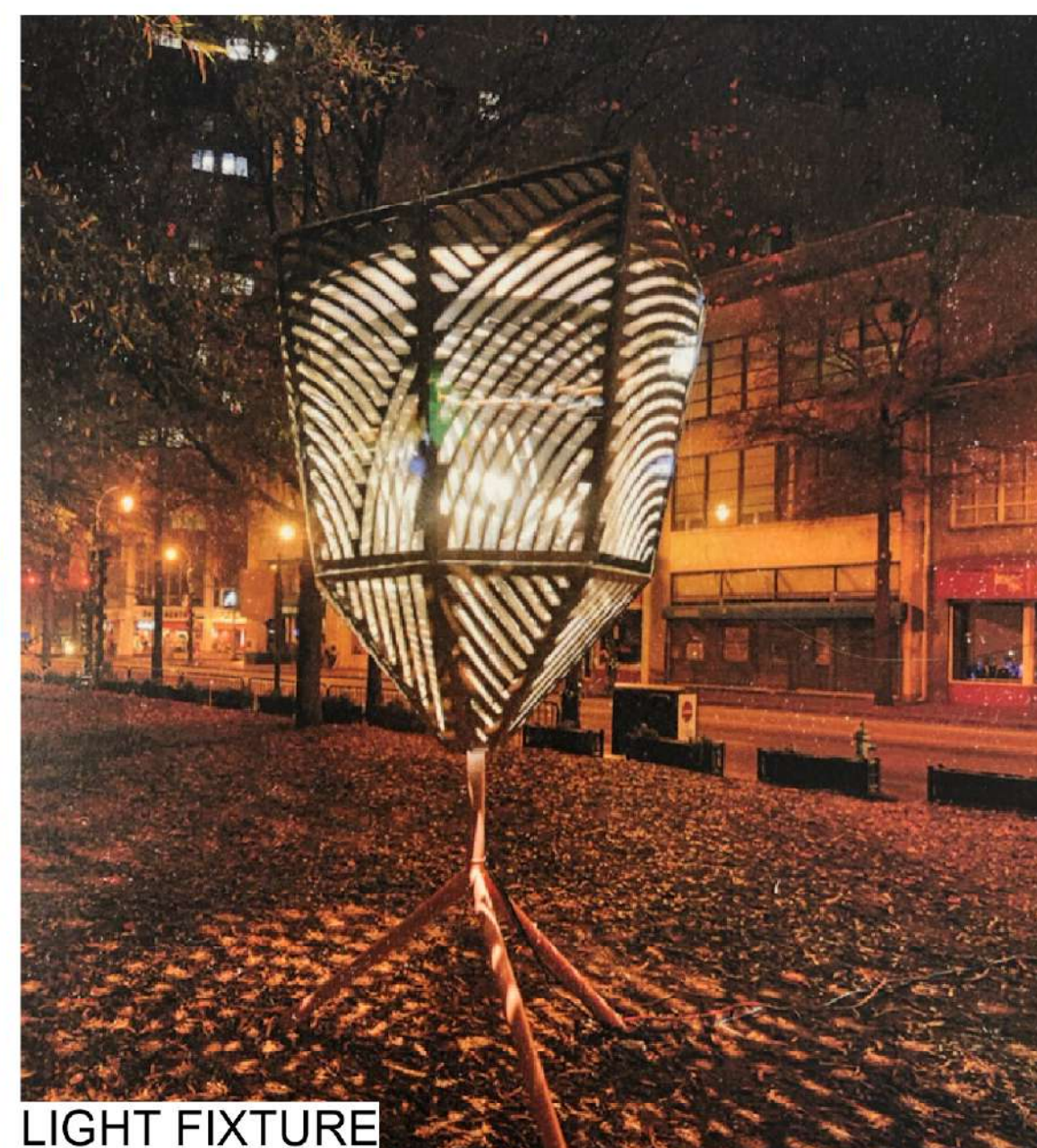
LABYRINTH INSPIRES + INFORMS THE SERPENTINE PAVING



FLEET STREET PERSPECTIVE



PRISM TOWER



LIGHT FIXTURE

LANDSCAPE IDEAS  
1 CONGRESS STREET



terra firma  
landscape architecture

167 a court street - portsmouth, nh 03801  
office 603.430.8388 | terrence@terrafirmalandarch.com

# COMMERCIAL DEVELOPMENT

## 1 CONGRESS STREET PORTSMOUTH, NEW HAMPSHIRE SITE PERMIT PLANS

**OWNER:**

ONE MARKET SQUARE LLC  
3 PLEASANT STREET  
SUITE #400  
PORTSMOUTH, NH 03801  
TEL. (603) 427-0725

**LANDSCAPE ARCHITECT:**

TERRA FIRMA LANDSCAPE  
ARCHITECTURE  
163A COURT STREET  
PORTSMOUTH, NH 03801  
TEL. (603) 430-8388

**LAND SURVEYOR & CIVIL  
ENGINEER:**

AMBIT ENGINEERING, INC.  
200 GRIFFIN ROAD, UNIT 3  
PORTSMOUTH, N.H. 03801  
Tel. (603) 430-9282  
Fax (603) 436-2315

**GEOTECHNICAL:**

GEOTECHNICAL SERVICES INC.  
18 COTE AVENUE, UNIT 11  
GOFFSTOWN, N.H. 03045  
Tel. (603) 624-2722

**ARCHITECT:**

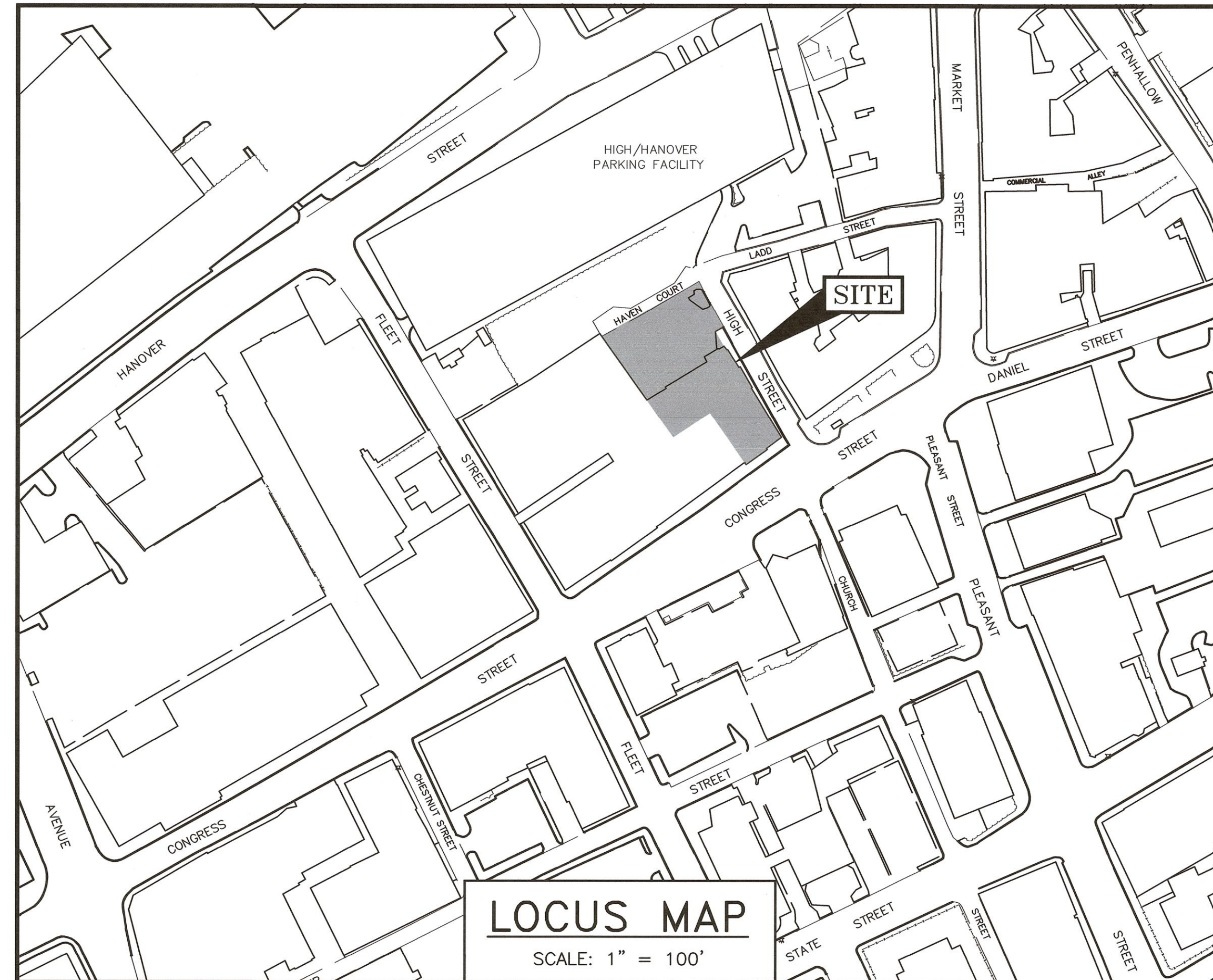
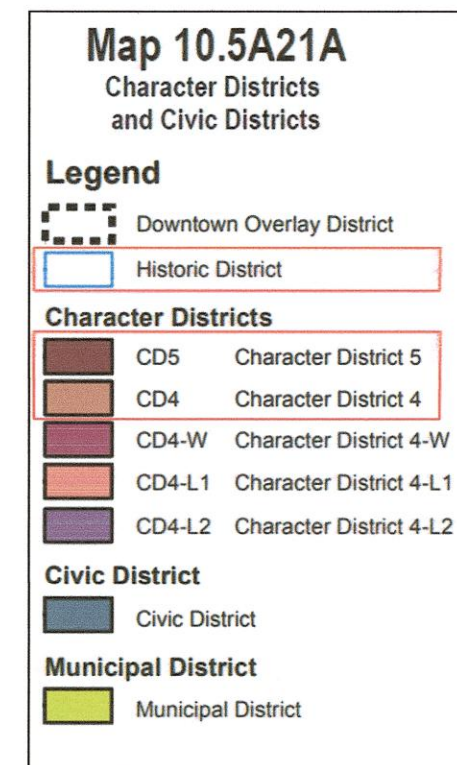
ARCOVE LLC  
3 CONGRESS STREET  
SUITE 1  
PORTSMOUTH, NH 03801  
TEL. (603) 731-5187

**LAND USE ATTORNEY:**

BRUTON & BERUBE, PLLC  
601 CENTRAL AVENUE  
DOVER, N.H. 03820  
Tel. (603) 749-4529

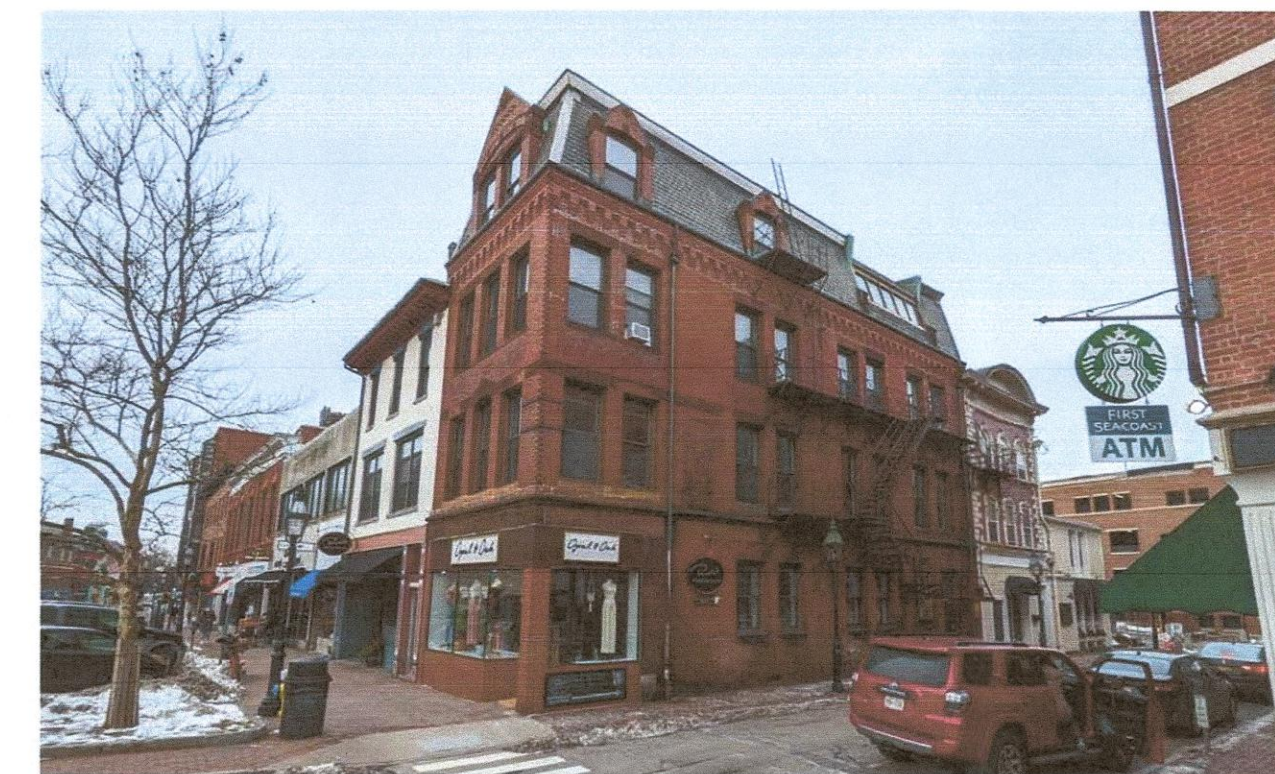
**PERMIT LIST:**

NHDES SEWER DISCHARGE PERMIT: TO BE SUBMITTED  
PORTSMOUTH HDC: PENDING  
PORTSMOUTH SITE PLAN: PENDING



**LEGEND:**

EXISTING	PROPOSED	
---	---	PROPERTY LINE
---	---	SETBACK
S	S	SEWER PIPE
SL	SL	SEWER LATERAL
G	G	GAS LINE
D	D	STORM DRAIN
W	W	WATER LINE
WS	WS	WATER SERVICE
UGE	UGE	UNDERGROUND ELECTRIC
OHW	OHW	OVERHEAD ELECTRIC/WIRES
---	---	FOUNDATION DRAIN
---	---	EDGE OF PAVEMENT (EP)
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
○	○	UTILITY POLE
☀	☀	WALL MOUNTED EXTERIOR LIGHTS
☀	☀	TRANSFORMER ON CONCRETE PAD
☀	☀	ELECTRIC HANDHOLD
☀	☀	SHUT OFFS (WATER/GAS)
☀	☀	GATE VALVE
☀	☀	HYDRANT
☀	☀	CATCH BASIN
☀	☀	SEWER MANHOLE
☀	☀	DRAIN MANHOLE
☀	☀	TELEPHONE MANHOLE
☀	☀	PARKING SPACE COUNT
☀	☀	PARKING METER
☀	☀	LANDSCAPED AREA
TBD	TBD	TO BE DETERMINED
CI	CI	CAST IRON PIPE
COP	COP	COPPER PIPE
DI	DI	DUCTILE IRON PIPE
PVC	PVC	POLYVINYL CHLORIDE PIPE
RCP	RCP	REINFORCED CONCRETE PIPE
AC	-	ASBESTOS CEMENT PIPE
VC	VC	VITRIFIED CLAY PIPE
EP	EP	EDGE OF PAVEMENT
EL	EL	ELEVATION
FF	FF	FINISHED FLOOR
INV	INV	INVERT
S =	S =	SLOPE FT/FT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL



**PORTSMOUTH APPROVAL CONDITIONS NOTE:**  
ALL CONDITIONS ON THIS PLAN SET SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE CITY OF PORTSMOUTH SITE PLAN REVIEW REGULATIONS.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

**INDEX OF SHEETS**

- BOUNDARY PLAN
- LICENSE PLAN
- C1 EXISTING CONDITIONS PLAN
- C2 DEMOLITION PLAN
- C3 PROJECT SITE PLAN
- ARCHITECTURAL PLANS
- LANDSCAPE PLANS
- C4 UTILITY PLAN
- C5 GRADING PLAN
- C6 PARKING LEVEL PLAN
- C7 AVERAGE GRADE PLANE
- P1 HIGH STREET PROFILE
- D1-D7 DETAILS

**UTILITY CONTACTS**

**ELECTRIC:**  
EVERSOURCE  
1700 LAFAYETTE ROAD  
PORTSMOUTH, N.H. 03801  
Tel. (603) 436-7708, Ext. 555.5678  
ATTN: MICHAEL BUSBY, P.E. (MANAGER)

**NATURAL GAS:**  
UNITIL  
325 WEST ROAD  
PORTSMOUTH, N.H. 03801  
Tel. (603) 294-5144  
ATTN: DAVE BEAULIEU

**CABLE:**  
COMCAST  
155 COMMERCE WAY  
PORTSMOUTH, N.H. 03801  
Tel. (603) 679-5695 (X1037)  
ATTN: MIKE COLLINS

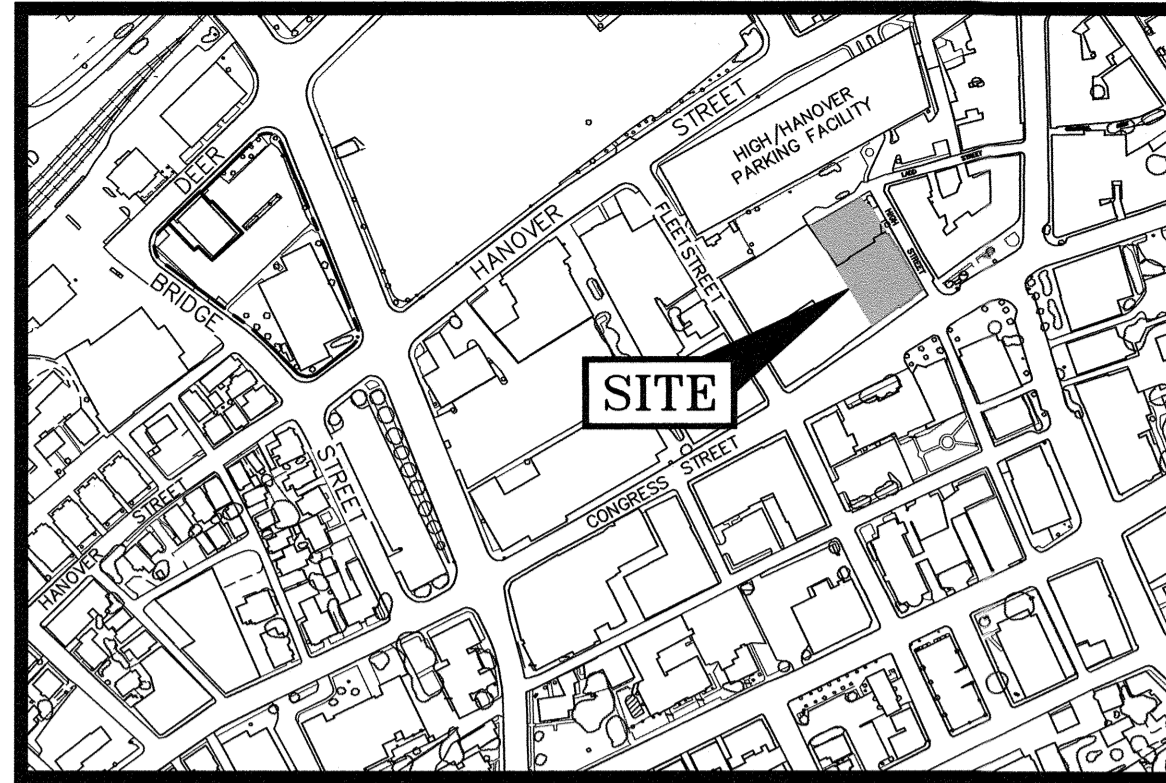
**SEWER & WATER:**  
PORTSMOUTH DEPARTMENT OF PUBLIC WORKS  
680 PEVERLY HILL ROAD  
PORTSMOUTH, N.H. 03801  
Tel. (603) 427-1530  
ATTN: JIM TOW

**COMMUNICATIONS:**  
FAIRPOINT COMMUNICATIONS  
JOE CONSIDINE  
1575 GREENLAND ROAD  
GREENLAND, N.H. 03840  
Tel. (603) 427-5525

**SITE PERMIT PLANS  
COMMERCIAL DEVELOPMENT  
1 CONGRESS STREET  
PORTSMOUTH, N.H.**

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

PLAN SET SUBMITTAL DATE: 20 DECEMBER 2022



LOCATION MAP

SCALE: 1" = 300'

LEGEND:

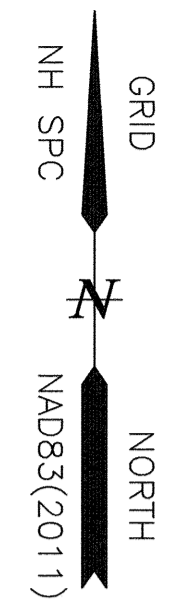
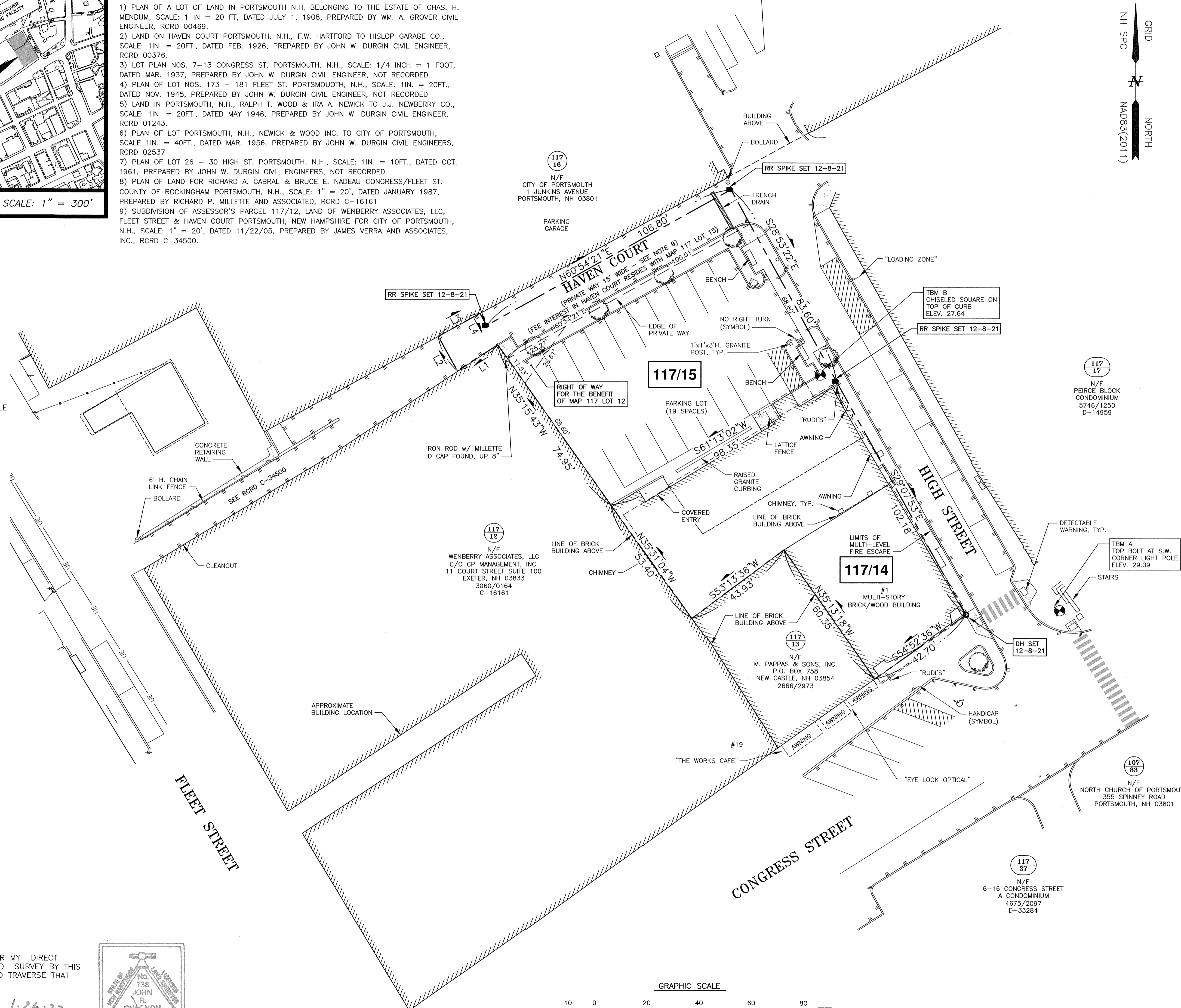
- N/F NOW OR FORMERLY
- RP RECORD OF PROBATE
- RCRD ROCKINGHAM COUNTY
- RR SPK RAILROAD SPIKE
- MAP 11/LOT 21
- IR FND IRON ROD FOUND
- IP FND IRON PIPE FOUND
- IR SET IRON ROD SET
- DH FND DRILL HOLE FOUND
- DH SET DRILL HOLE SET
- NHDB NHDOT BOUND FOUND
- TB TOWN BOUND
- BND w/DH BOUND WITH DRILL HOLE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

LENGTH TABLE

LINE	BEARING	DISTANCE
L1	S57°27'42"W	18.36'
L2	N28°53'22"W	15.00'
L3	N61°07'46"E	18.19'
L4	S29°05'39"E	5.28'

PLAN REFERENCES:

- 1) PLAN OF A LOT OF LAND IN PORTSMOUTH N.H. BELONGING TO THE ESTATE OF CHAS. H. MENDUM, SCALE: 1 IN = 20 FT, DATED JULY 1, 1908, PREPARED BY WM. A. GROVER CIVIL ENGINEER, RCRD 00469.
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- 6) PLAN OF LOT PORTSMOUTH, N.H., NEWICK & WOOD INC. TO CITY OF PORTSMOUTH, SCALE 1IN. = 40FT., DATED MAR. 1956, PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS, RCRD 02537
- 7) PLAN OF LOT 26 - 30 HIGH ST. PORTSMOUTH, N.H., SCALE: 1IN. = 10FT., DATED OCT. 1961, PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS, NOT RECORDED.
- 8) PLAN OF LAND FOR RICHARD A. CABRAL & BRUCE E. NADEAU CONGRESS/FLEET ST. COUNTY OF ROCKINGHAM PORTSMOUTH, N.H., SCALE: 1" = 20', DATED JANUARY 1987, PREPARED BY RICHARD P. MILLETTE AND ASSOCIATED, RCRD C-16161
- 9) SUBDIVISION OF ASSESSOR'S PARCEL 117/12, LAND OF WENBERRY ASSOCIATES, LLC, FLEET STREET & HAVEN COURT PORTSMOUTH, NEW HAMPSHIRE FOR CITY OF PORTSMOUTH, N.H., SCALE: 1" = 20', DATED 11/22/05, PREPARED BY JAMES VERRA AND ASSOCIATES, INC., RCRD C-34500.

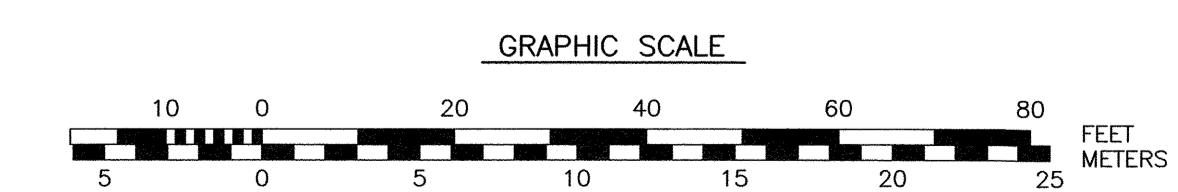
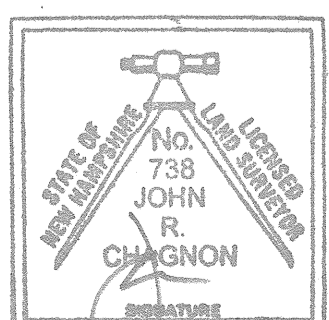


**AMBIT ENGINEERING, INC.**  
Civil Engineers & Land Surveyors  
200 Griffin Road - Unit 3  
Portsmouth, N.H. 03801-7114  
Tel (603) 430-9282  
Fax (603) 436-2315

- NOTES:**
- 1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 117 AS LOTS 14 AND 15.
  - 2) OWNER OF RECORD:  
ONE MARKET SQUARE, LLC  
3 PLEASANT STREET, SUITE 400  
PORTSMOUTH, NH 03801  
6363/31 PARCEL 1 & PARCEL 2
  - 3) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 4 AND CHARACTER DISTRICT 5.
  - 4) DIMENSIONAL REQUIREMENTS: SEE PORTSMOUTH ORDINANCE FOR REQUIREMENTS.
  - 5) LOT AREAS: MAP 117 LOT 14 7,266 S.F. 0.1668 ACRES  
MAP 117 LOT 15 8,840 S.F. 0.2029 ACRES  
COMBINED LOT AREA: 16,106 S.F. 0.3697 ACRES
  - 6) PARCELS ARE NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259F, EFFECTIVE JANUARY 29, 2021
  - 7) THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULTS OF A STANDARD BOUNDARY SURVEY ON TAX MAP 117, LOTS 14 AND 15 IN PORTSMOUTH, NH.
  - 8) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBS.
  - 9) HAVEN COURT IS A PRIVATE WAY 15 FEET WIDE. ALL RIGHTS, TITLE AND INTEREST UNTO SAID HAVEN COURT WERE CONVEYED WITH ASSESSOR'S MAP 117 LOT 15, AS DESCRIBED IN RCRD 983/179, SUBJECT TO RIGHTS OF OTHERS (OTHERS NOT DEFINED ON THIS SURVEY).

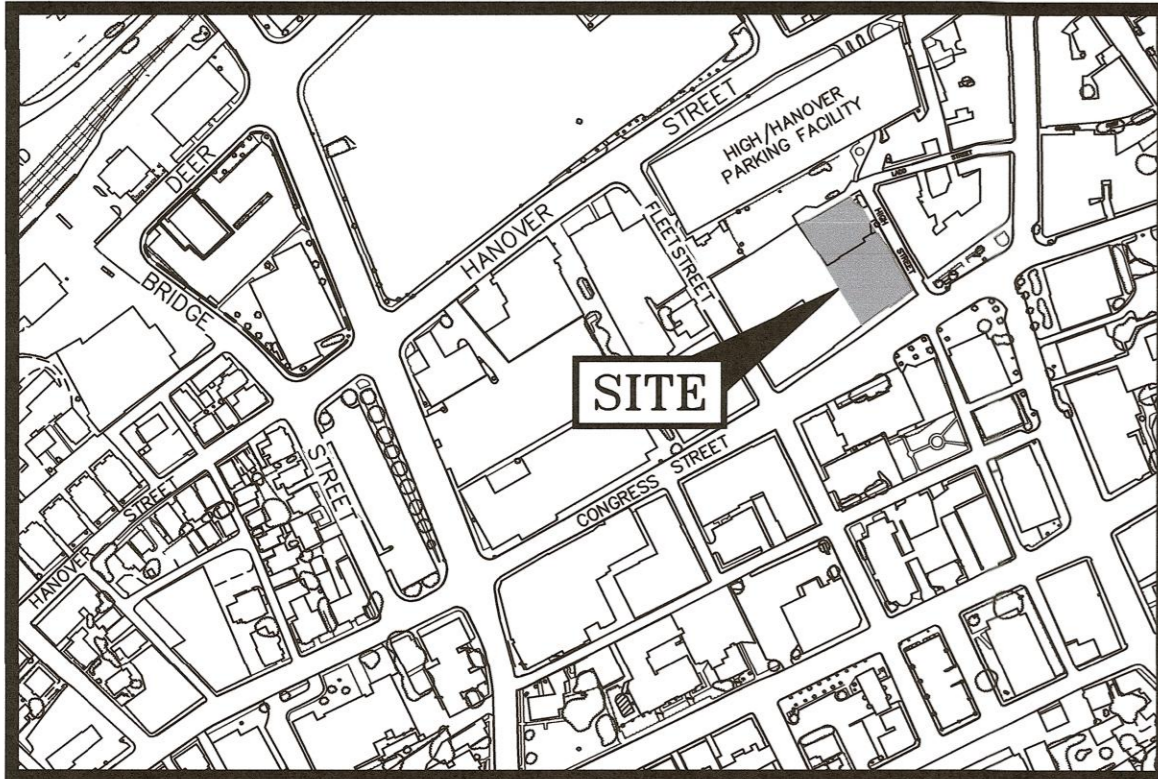
I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000.

*[Signature]*  
JOHN R. CHAGNON, LLS 738  
DATE 1-26-22



NO.	DESCRIPTION	DATE
1	NEW OWNER	1/26/22
0	ISSUED FOR RECORDING	12/8/21

**STANDARD BOUNDARY SURVEY**  
**TAX MAP 117**  
**LOTS 14 & 15**  
OWNER OF RECORD:  
**ONE MARKET SQUARE, LLC**  
PROPERTY LOCATED AT:  
1 CONGRESS STREET & HIGH STREET  
CITY OF PORTSMOUTH  
COUNTY OF ROCKINGHAM  
STATE OF NEW HAMPSHIRE



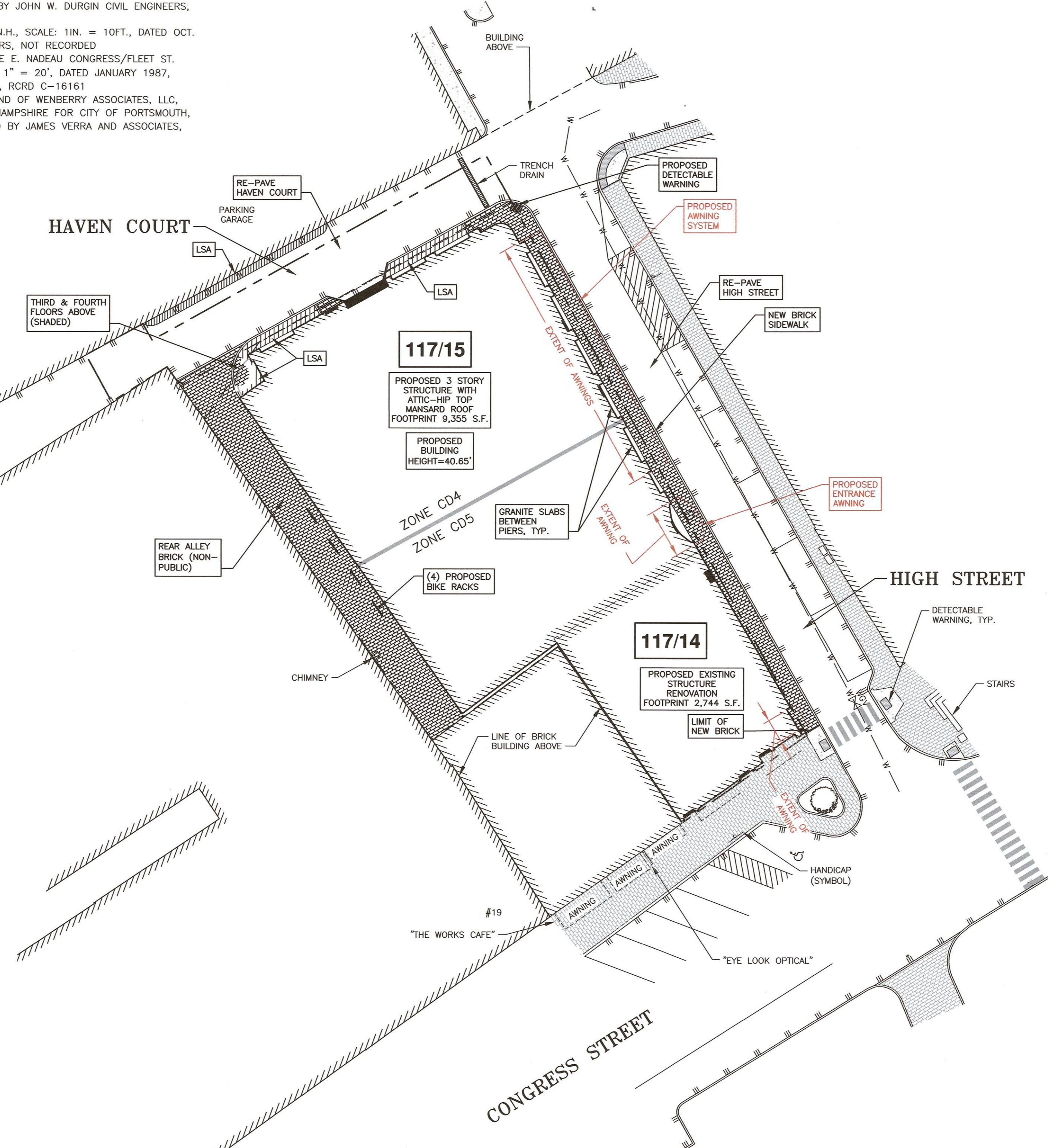
LOCATION MAP SCALE: 1" = 300'

LEGEND:

- N/F NOW OR FORMERLY
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- RCRD ROCKINGHAM COUNTY
- REGISTRY OF DEEDS
- RR SPK RAILROAD SPIKE
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- IR FND IRON ROD FOUND
- IP FND IRON PIPE FOUND
- IR SET IRON ROD SET
- DH FND DRILL HOLE FOUND
- DH SET DRILL HOLE SET
- NHHB NHDOT BOUND FOUND
- TB TOWN BOUND
- BND w/DH BOUND WITH DRILL HOLE
- ST BND w/DH STONE BOUND WITH DRILL HOLE

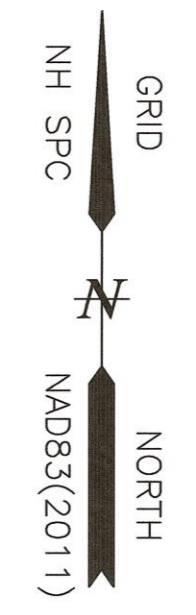
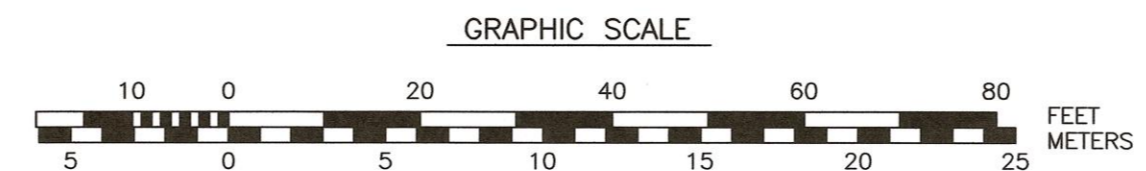
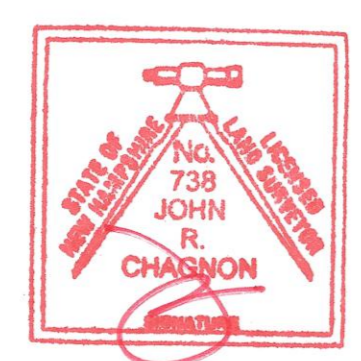
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I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000.

*John R. Chagnon*  
 JOHN R. CHAGNON, LLS 738  
 DATE 12.20.22



**AMBIT ENGINEERING, INC.**  
 Civil Engineers & Land Surveyors  
 200 Griffin Road - Unit 3  
 Portsmouth, N.H. 03801-7114  
 Tel (603) 430-9282  
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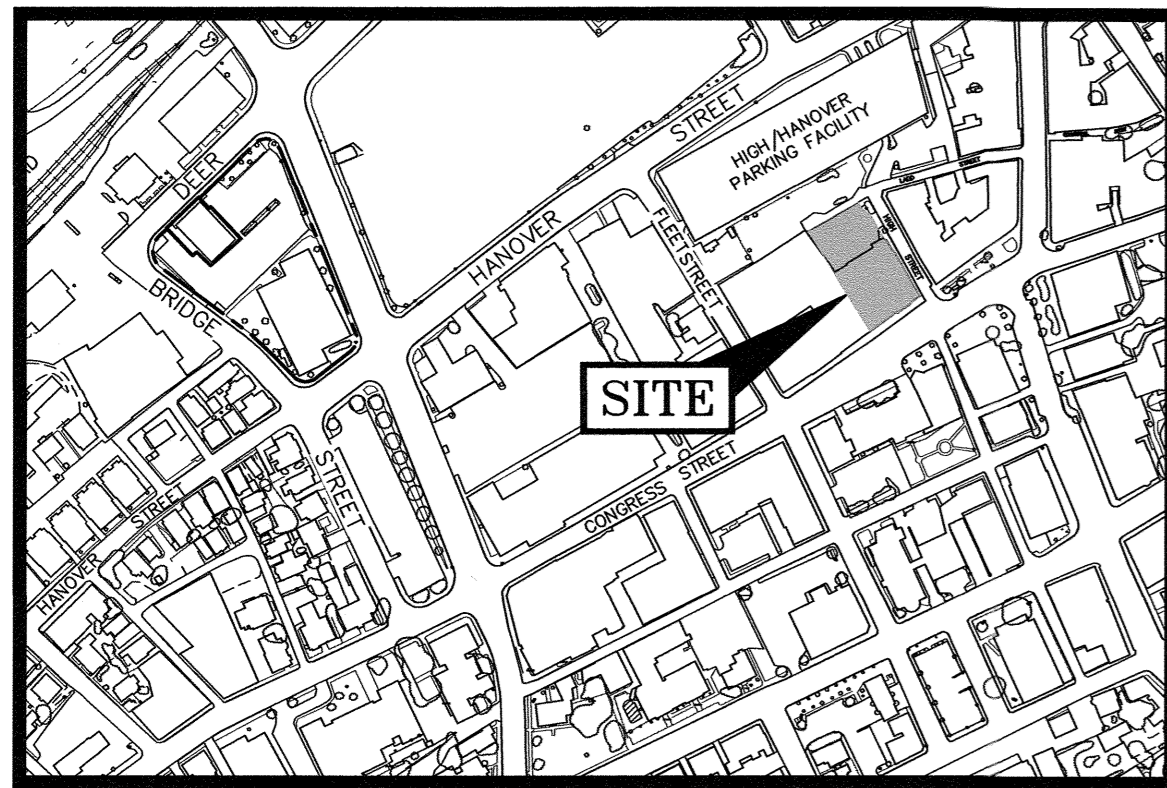
- NOTES:
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  - 2) OWNER OF RECORD:  
 ONE MARKET SQUARE, LLC  
 3 PLEASANT STREET, SUITE 400  
 PORTSMOUTH, NH 03801  
 6363/31 PARCEL 1 & PARCEL 2
  - 3) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 4 AND CHARACTER DISTRICT 5.
  - 4) DIMENSIONAL REQUIREMENTS: SEE PORTSMOUTH ORDINANCE FOR REQUIREMENTS.
  - 5) LOT AREAS: MAP 117 LOT 14 7,266 S.F. 0.1668 ACRES  
 MAP 117 LOT 15 8,840 S.F. 0.2029 ACRES  
 COMBINED LOT AREA: 16,106 S.F. 0.3697 ACRES
  - 6) PARCELS ARE NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259F, EFFECTIVE JANUARY 29, 2021
  - 7) THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED LICENSE AREAS ON HIGH STREET AND HAVEN COURT.

NO.	DESCRIPTION	DATE
1	ON SITE ONLY	12/20/22
0	ISSUED FOR COMMENT	11/29/22

**LICENSE PLAN**  
 ONE MARKET SQUARE, LLC  
 AND CITY OF PORTSMOUTH  
 HIGH STREET & HAVEN COURT  
 CITY OF PORTSMOUTH  
 COUNTY OF ROCKINGHAM  
 STATE OF NEW HAMPSHIRE







LOCATION MAP

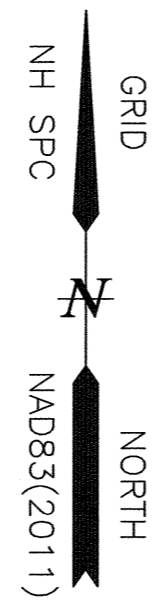
SCALE: 1" = 300'

**PLAN REFERENCE:**

STANDARD BOUNDARY SURVEY, TAX MAP 117, LOTS 14 & 15, FOR PETER H. JARVIS & SONS, LLC. 1 CONGRESS STREET & HIGH STREET, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE. PREPARED BY AMBIT ENGINEERING, INC. DATED NOVEMBER 2021, ISSUED FOR RECORDING 12/8/21. R.C.R.D. PLAN D-43095.

**BUILDING DATA:**

PROPOSED BUILDING:  
12,099 S.F. FOOTPRINT



**Schematic Area Summary**

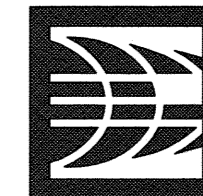
1/25/2023		gsf	use	use
new construction	total new	existing	proposed	
4th floor	8,528	n/a	residential	
3rd floor	9,160	n/a	residential	
2nd floor	9,160	n/a	office	
1st floor (footprint)	9,160	n/a	retail/restaurant	
basement	9,596	n/a	parking & support	
<b>total new</b>	<b>45,604</b>			

existing to remain and be renovated		existing	proposed
4th floor - 1&3 Congress St	2,422	residential	residential
3rd floor - 1&3 Congress St	2,726	residential	residential
2nd floor - 1&3 Congress St	2,726	office	office
1st floor - 1&3 Congress St (footprint)	2,718	office&retail	restaurant&retail
basement - 1&3 Congress	2,726	storage/mech	storage/support
<b>total renovation</b>	<b>13,318</b>		

TOTAL FOOTPRINT new + reno	11,878
TOTAL BUILDING new + reno	58,922
roof decks	388



**AMBIT ENGINEERING, INC.**

Civil Engineers & Land Surveyors

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PORTSMOUTH, NH 03801  
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- 10) PROPOSED USE: RETAIL, OFFICE, RESIDENTIAL.  
FIRST FLOOR: RETAIL  
2ND FLOOR: OFFICE  
3RD FLOOR & UP: 18 RESIDENTIAL UNITS.

**ZONING DEVELOPMENT STANDARD 02/14/2023**

**CD4 (CD-4, DOD, HDC): CHARACTER DISTRICT 4**

REQUIRED	EXISTING	PROPOSED	
Height	3 stories with short 4th = 45'	n/a	3 stories @ 40' - 73/4"
Penthouses	may exceed bldg height by 2'	n/a	n/a
Roof appearance	may exceed bldg height by 10'	n/a	7' - 5 3/4"
Facade Types	shopfront	n/a	yes
Building Types	commercial, live-work, mixed use, flex space & community.	n/a	mixed use (retail, office, apartments)
Front (principle) max	10	n/a	0'-0"
Front (secondary) max	15	n/a	2'-4"
Side	NR	n/a	n/a
Rear, min	>of: 5' from rear line or 10' from d	n/a	N/A
Front lotline buildout	50% min	n/a	100.00%
Lot area (sf)	NR	8,840	8,840
LOT area per dwelling	NR	n/a	n/a
Coverage, maximum	90%	0	65.6%
Footprint, max*	15,000	0	5,686
Ground floor area per use, max	15,000	N/A	5,686
Open space, minimum	50%	9.5%	12.1%
Permitted uses (d4 & d5)	multifamily, live/work, office, retail, restaurant (<500occ)	surface parking lot	commercial retail, office & multifamily
Block length, max (ft)	200	n/a	168' - 0 3/4"
Facade modulation length, max (ft)	80	n/a	77' - 3 7/8"
Entrance spacing, max (ft)	50	n/a	39' - 10 3/8"
Floor height above sidewalk, max	36"	n/a	16"
Ground floor height, min	12'	n/a	13' 5 5/8"
Second floor height, min	10'	n/a	11'-3"
Glazing, shopfront, min	70%	n/a	70%
Glazing, other	20%-50%	n/a	25%
Roof types(pitch)	flat, gable (6:12-12:12), hip(>3:12), gambrel/mansard(6:12-30:12)	n/a	hip-top mansard
Parking, off-street; DDD*	when >20 spaces, max spaces = 120% min required. 10,1112.60 mixed used - some shared spaces allowed.	19	12
Residential (dwellings)	UNIT<500SF= 5 space/unit; 500-750sf=1.3 space/unit; >750sf=1.3 space/unit. (+ 1 visitor space/5 units)	N/A	10
Professional office	NA in DOD	N/A	N/A

\* see CD-5 zoning chart for remainder of parking spaces

**ZONING DEVELOPMENT STANDARD 02/14/2023**

**CDS (CD-5, DOD, HDC): CHARACTER DISTRICT 5**

REQUIRED	EXISTING	PROPOSED	
Height	2-3 stories with short 4th = 45'	45' - 5 1/4"	40' - 73/4"
Penthouses	may exceed bldg height by 2'	n/a	n/a
Roof appearance	may exceed bldg height by 10'	8' 0 3/4"	7' - 5 3/4"
Facade Types	shop front	yes	yes
Building Types	commercial, live-work, mixed use, flex space & community.	mixed use (retail, restaurant, office, apartments)	mixed use (retail, office, apartments)
Front (principle) max	5	0'-0"	0'-0"
Front (secondary) max	5	0'-0"	1'-6"
Side	NR	0'-0"	N/R
Rear, min	>of: 5' from rear line or 10' from d	N/A	N/A
Front lotline buildout	80% min	100%	100%
Lot area (sf)	NR	7,266	7,266
LOT area per dwelling	NR	n/a	n/a
Coverage, maximum	95%	37.52%	89.1%
Footprint, max*	20,000	2,726	6,427
Ground floor area per use, max	15,000	2,726	6,427
Open space, minimum	5%	0%	8.2%
Permitted uses (d4 & d5)	commercial, live/work, mixed-use, flex space, community, office, retail, restaurant (<500occ)	commercial, mixed use, office, retail & restaurant	COMMERCIAL (retail, restaurant, hotel lobby)
Block length, max (ft)	225	168' - 0 3/4"	168' - 0 3/4"
Facade modulation length, max (ft)	100	62' - 1 1/8"	62' - 1 1/8"
Entrance spacing, max (ft)	50	49' - 7 1/4"	49' - 7 1/4"
Floor height above sidewalk, max	36"	4"	4"
Ground floor height, min	12'	12' - 8 3/8"	13' 5 5/8"
Second floor height, min	10'	11'-3"	11'-3"
Glazing, shopfront, min	70%	31%	59%
Glazing, other	20%-50%	20%	26%
Roof types(pitch)	flat, gable (6:12-12:12), hip(>3:12), gambrel/mansard(6:12-30:12)	hip-top mansard and gable	hip-top mansard and gable
Parking, off-street; DDD*	when >20 spaces, max spaces = 120% min required. 10,1112.60 mixed used - some shared spaces allowed.	0	11
Residential (dwellings)	UNIT<500SF= 5 space/unit; 500-750sf=1.3 space/unit; >750sf=1.3 space/unit. (+ 1 visitor space/5 units)	5	8
Professional office	NA in DOD	N/A	N/A

\* see CD-4 zoning chart for remainder of parking spaces

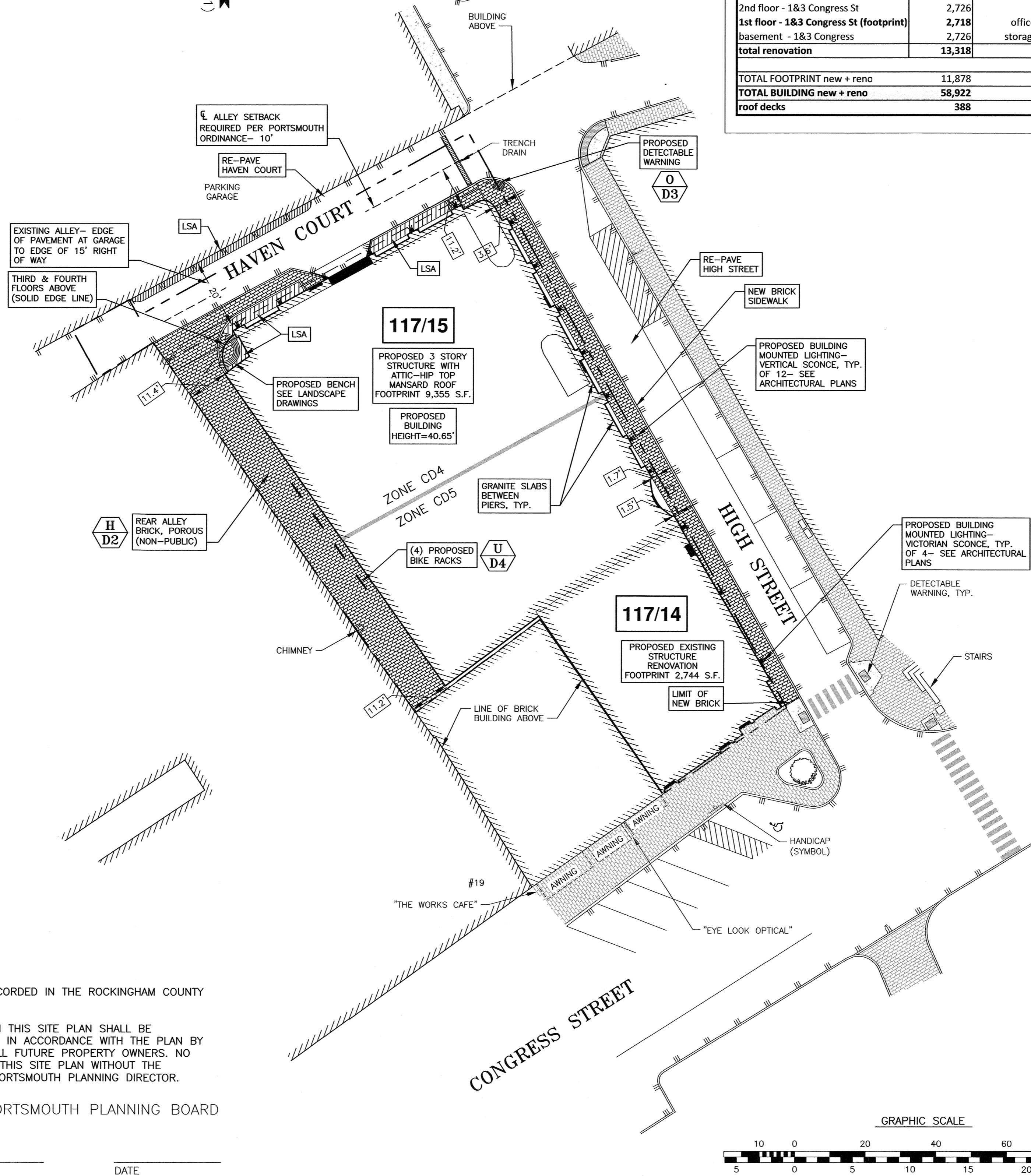
THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.

ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN

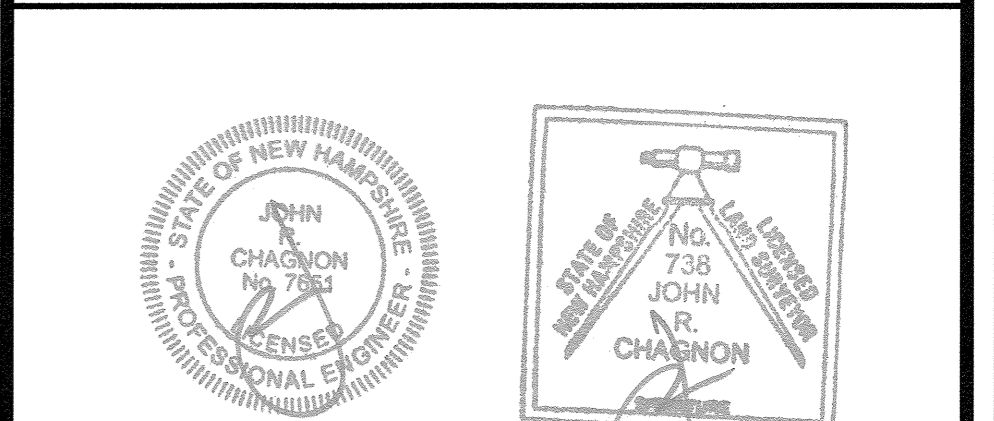
DATE



**COMMERCIAL DEVELOPMENT  
ONE CONGRESS STREET  
PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
4	TABLES, OPEN SPACE	2/14/23
3	REVISE TABLES, LIGHTS	1/25/23
2	STREET/SIDEWALK	12/20/22
1	BUILDING FOOTPRINT	10/18/22
0	ISSUED FOR COMMENT	9/6/22

REVISIONS



SCALE 1" = 20'

SEPTEMBER 2022

**PROJECT SITE PLAN**

**C3**



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1 CONGRESS STREET

PORTSMOUTH, NH

ONE MARKET SQUARE  
 LLC



Scale: 1/8" = 1'-0"  
 Date: 1/24/2023  
 Project Number: 1002

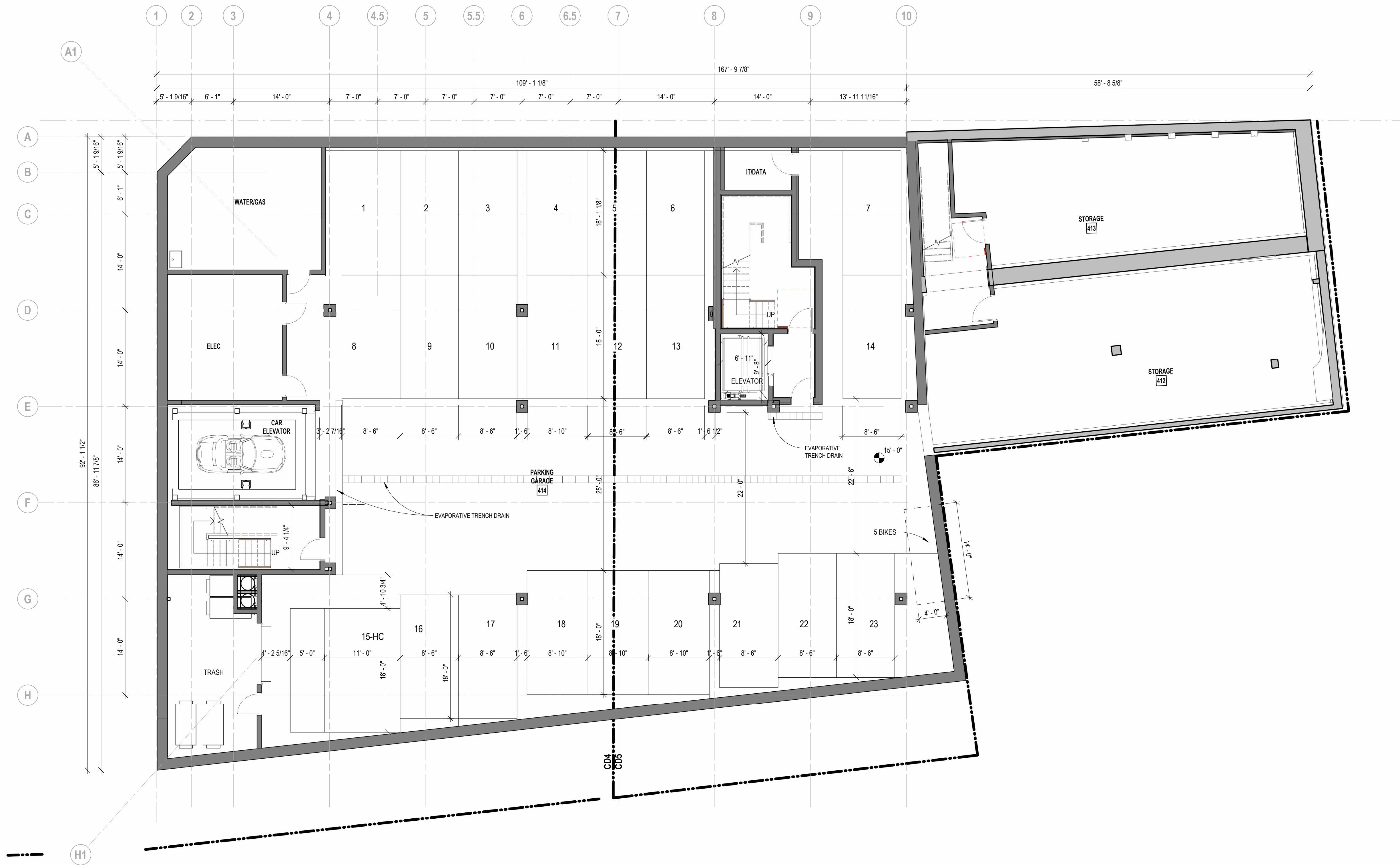
REVISIONS

NO.	DESCRIPTION	DATE

SITE PLAN REVIEW

BASEMENT  
 FLOOR PLAN

PB.A0



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PORTSMOUTH, NH

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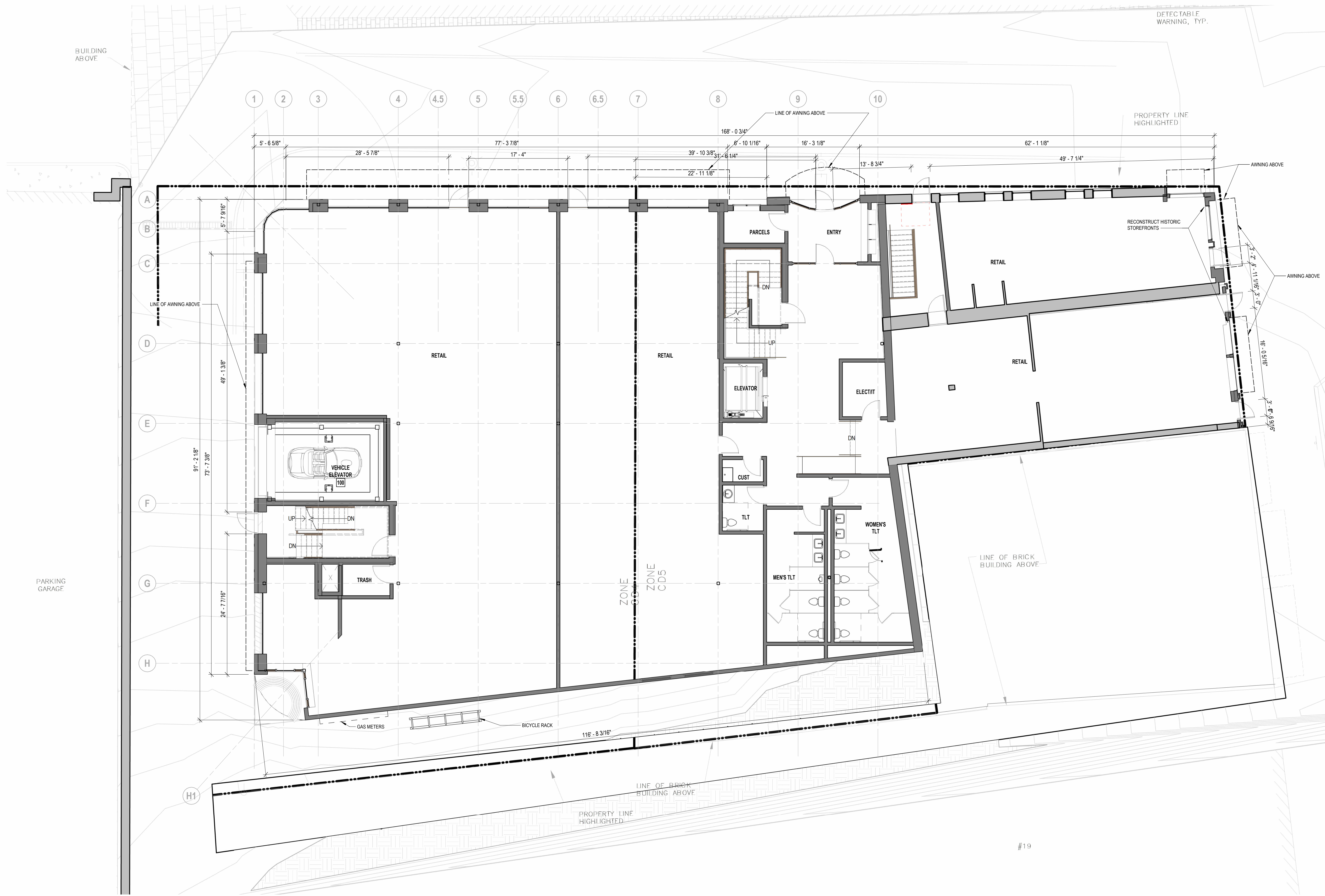
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SITE PLAN REVIEW

FIRST FLOOR  
 PLAN

**PB.A1**

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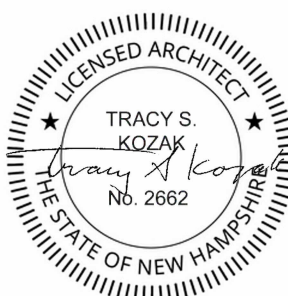
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PORTSMOUTH, NH

ONE MARKET SQUARE  
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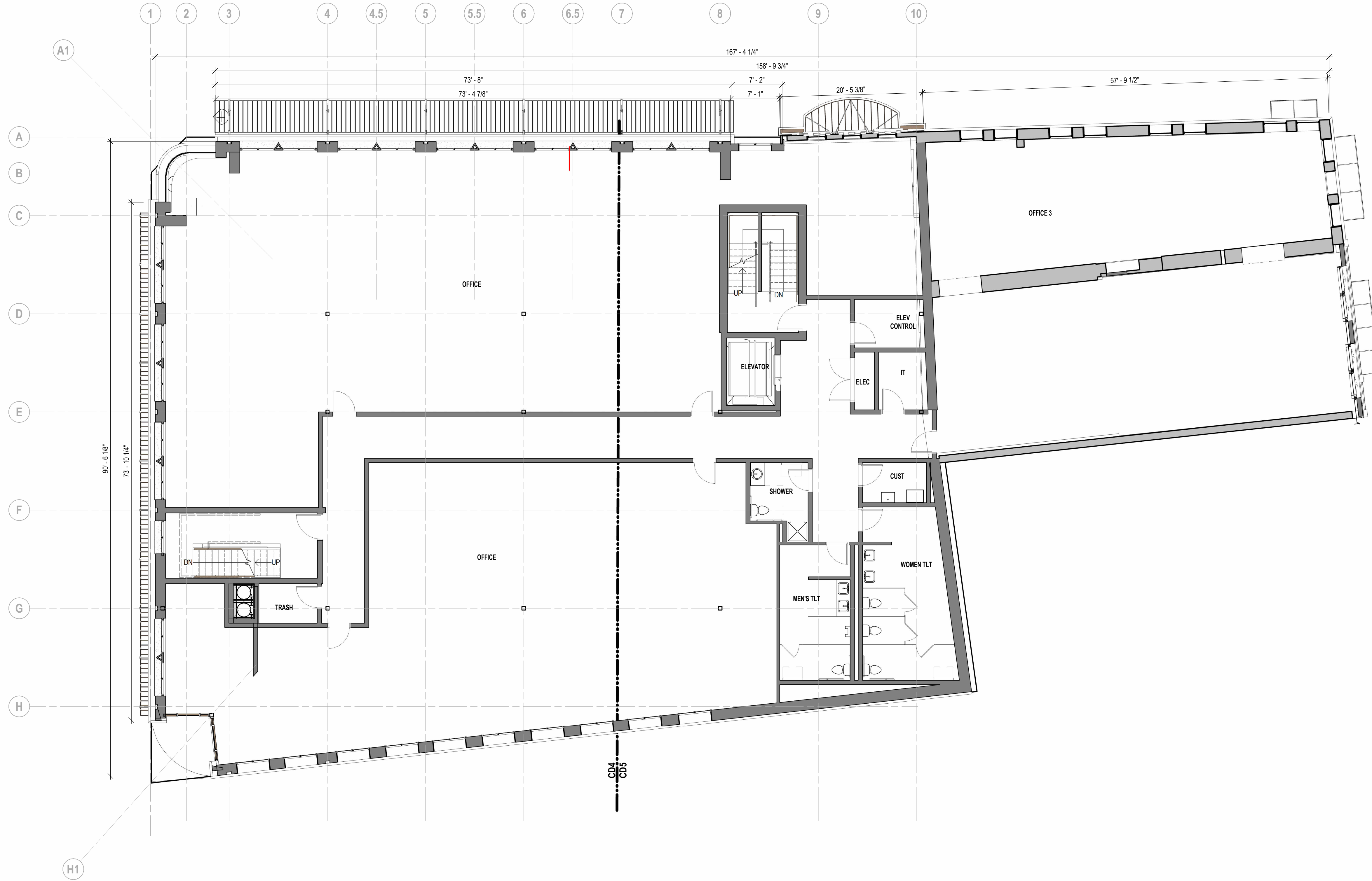
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SITE PLAN REVIEW

SECOND FLOOR  
 PLAN

**PB.A2**

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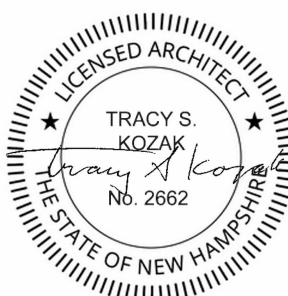
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1 CONGRESS STREET

PORTSMOUTH, NH

ONE MARKET SQUARE  
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SITE PLAN REVIEW

THIRD FLOOR  
 PLAN

**PB.A3**

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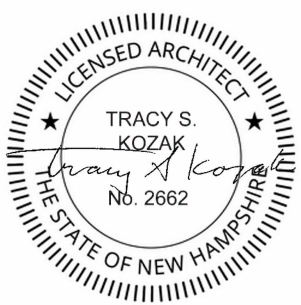
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1 CONGRESS STREET

PORTSMOUTH, NH

ONE MARKET SQUARE  
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SITE PLAN REVIEW

FOURTH FLOOR  
 PLAN

PB.A4





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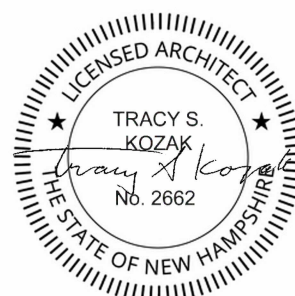
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1 CONGRESS STREET

PORTSMOUTH, NH

ONE MARKET SQUARE  
 LLC



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 Project Number: 1002

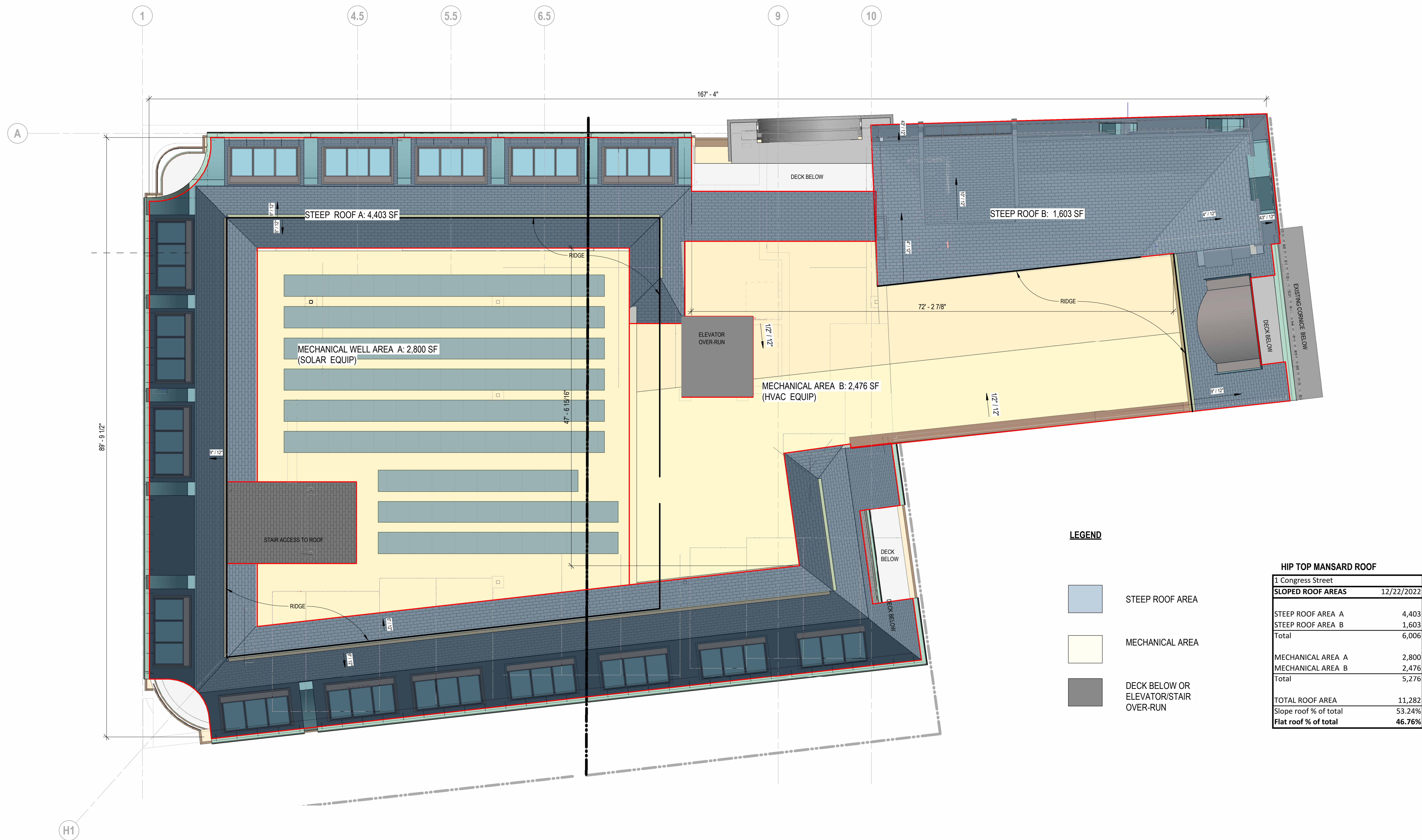
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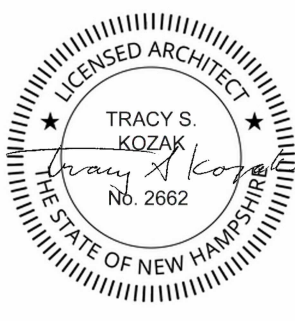
SITE PLAN REVIEW

ROOF PLAN

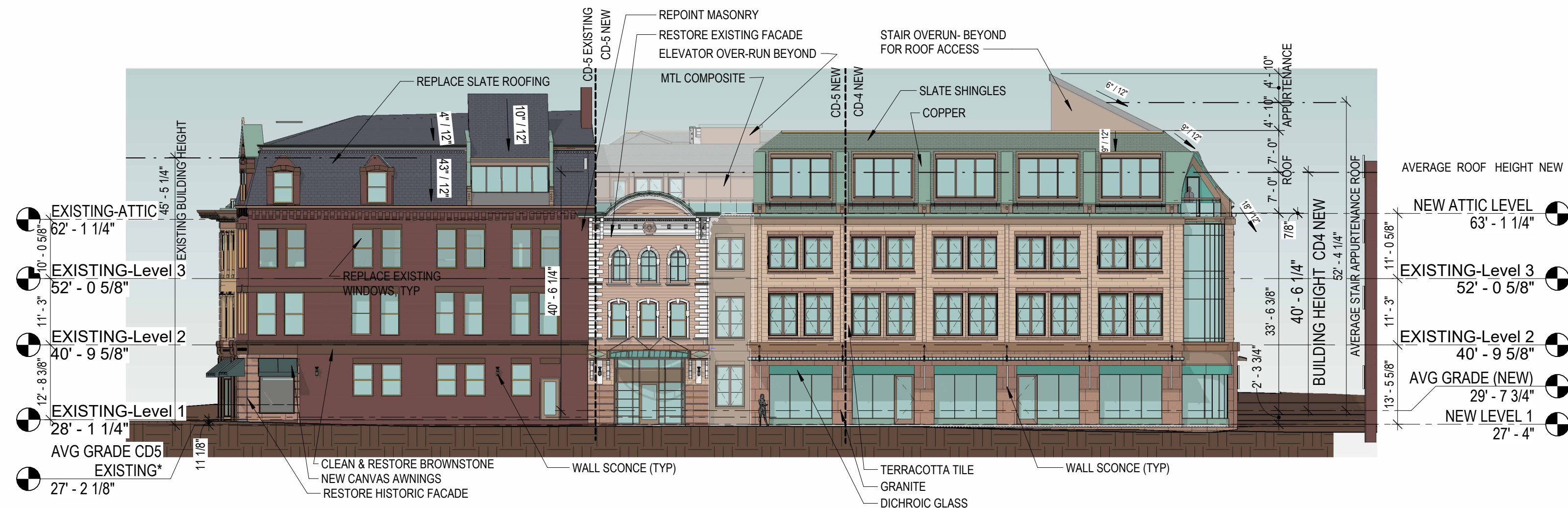
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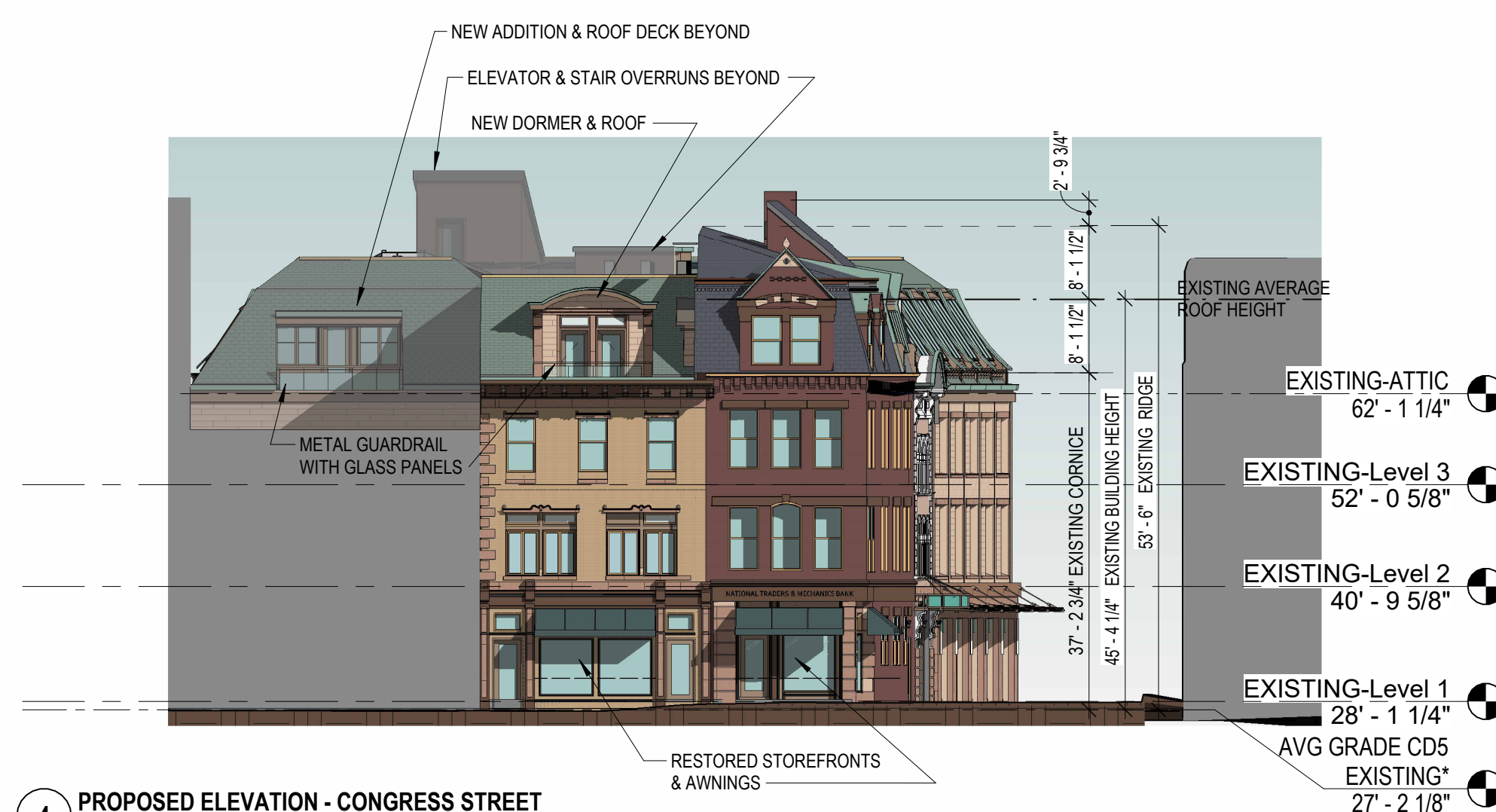
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NO.	DESCRIPTION	DATE



1 PROPOSED ELEVATION - NE - HIGH STREET  
 1/16" = 1'-0"



2 PROPOSED ELEVATION - NW HAVEN COURT  
 1/16" = 1'-0"



3 SW ELEVATION - REAR ALLEY PB2  
 1/16" = 1'-0"

4 PROPOSED ELEVATION - CONGRESS STREET  
 1/16" = 1'-0"



VIEW FROM MARKET SQUARE



VIEW FROM HIGH STREET AT LADD STREET



VIEW FROM LADD STREET



VIEW FROM HAVEN COURT AT NEWBERRY'S



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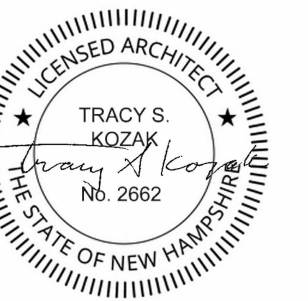
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1 CONGRESS STREET

PORTSMOUTH, NH

ONE MARKET SQUARE  
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SITE PLAN REVIEW

3D VIEWS

**PB.A7**

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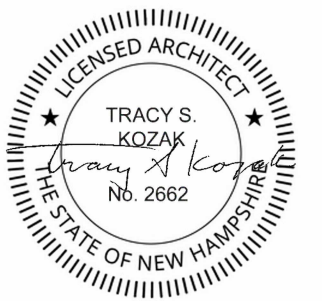
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1 CONGRESS STREET

PORTSMOUTH, NH

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 Project Number: 1002

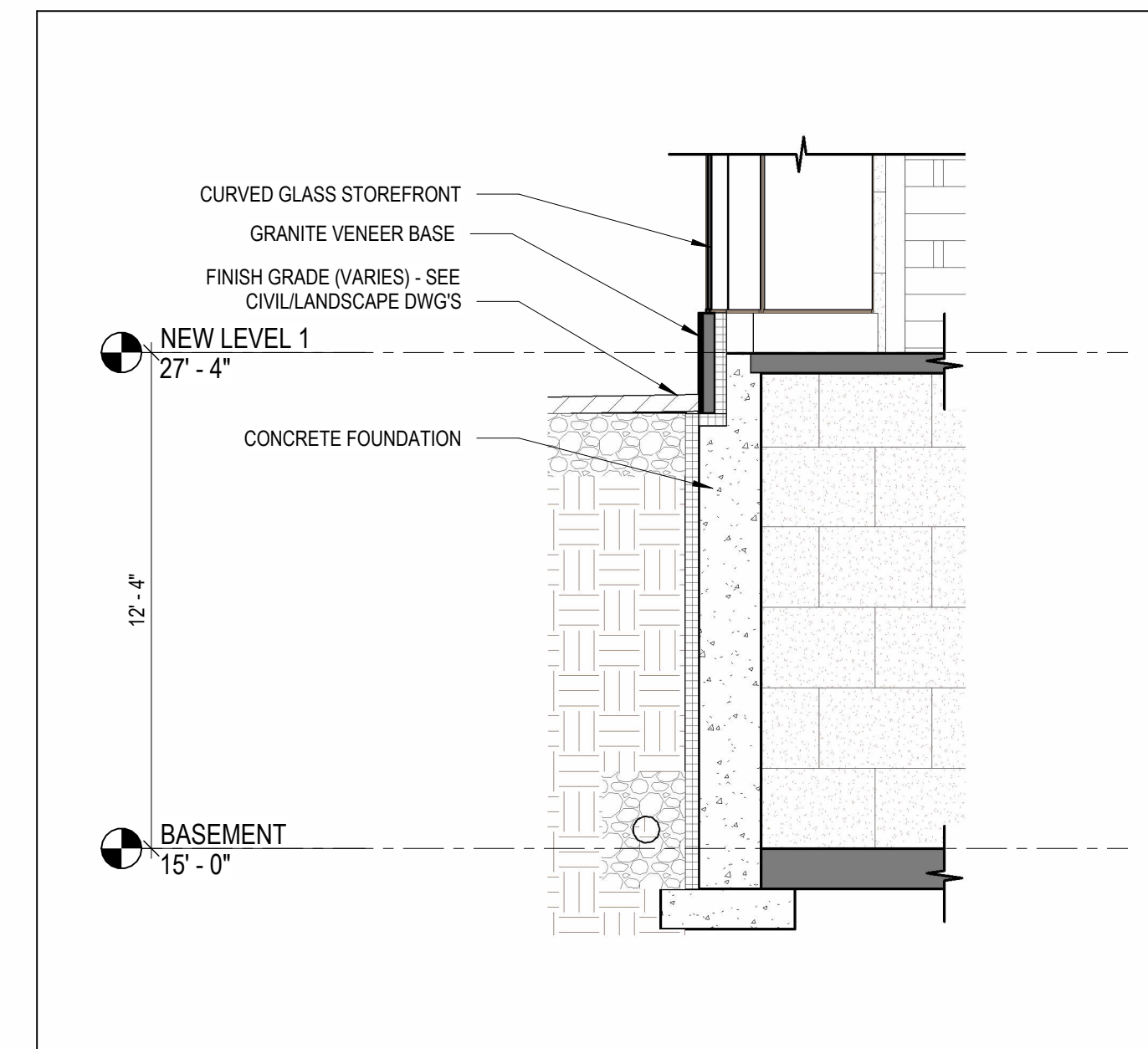
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NO.	DESCRIPTION	DATE

SITE PLAN REVIEW

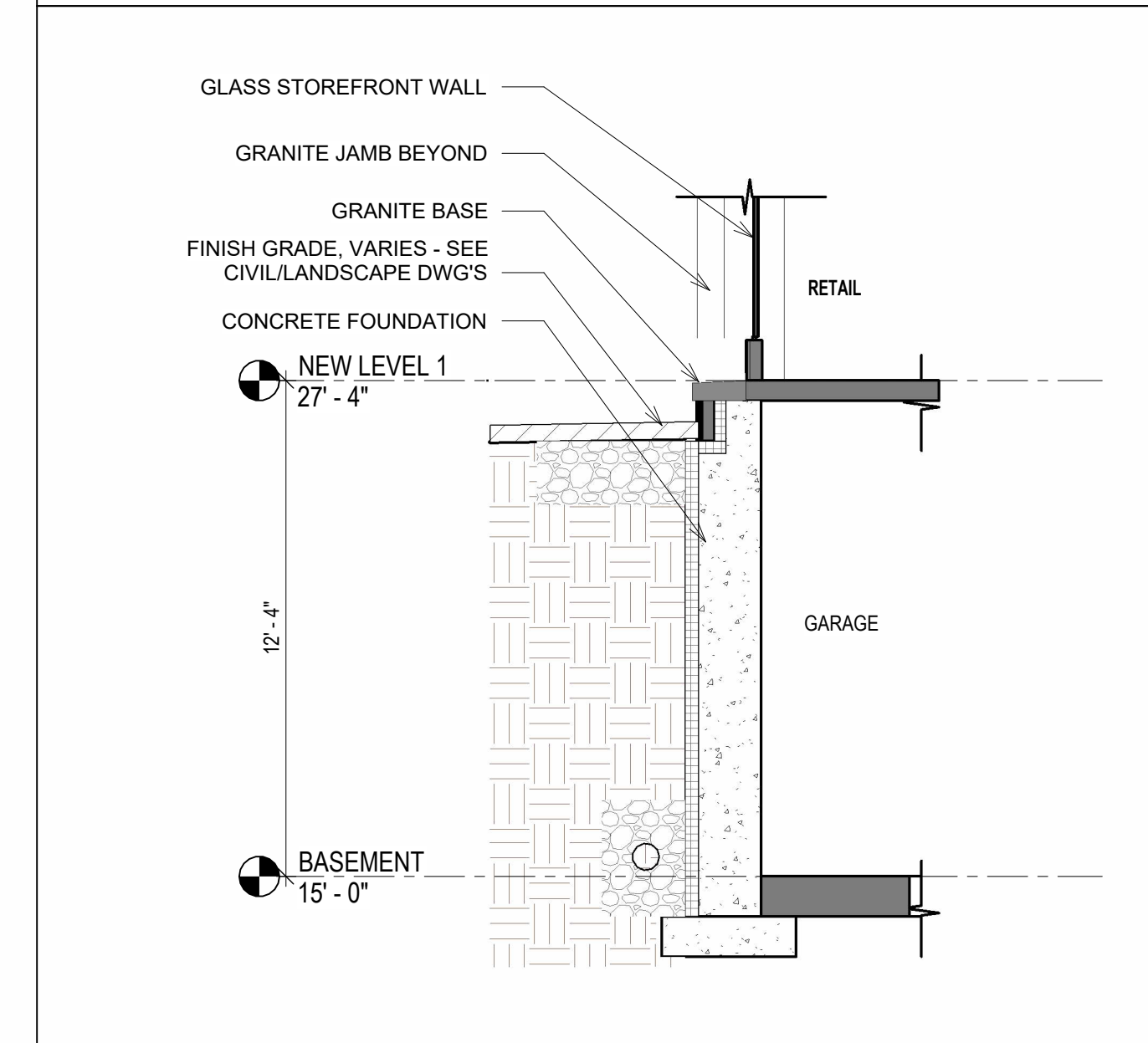
WALL SECTIONS

**PB.A8**

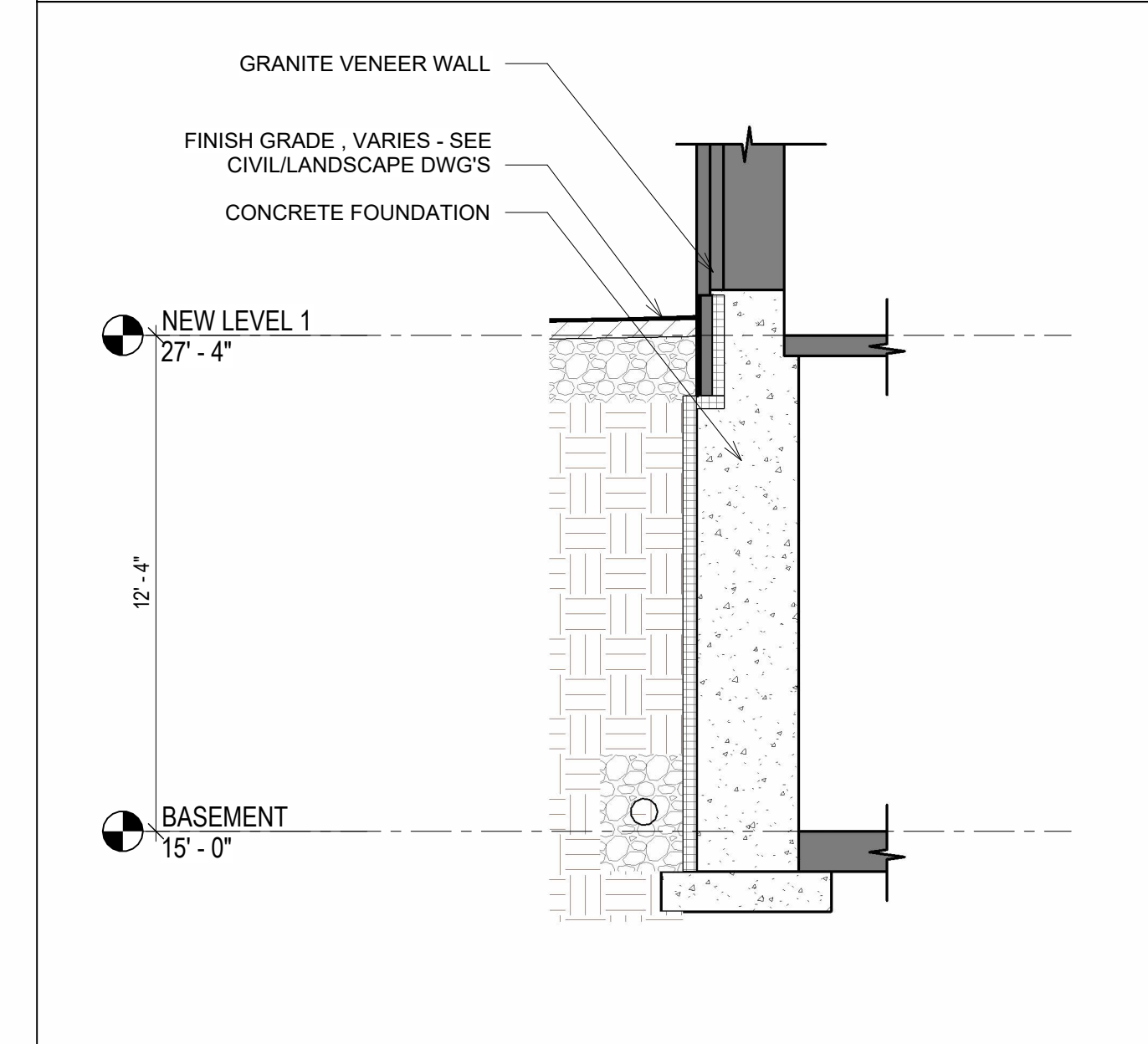
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3 CORNER-HAVEN-HIGH  
 1/4" = 1'-0"



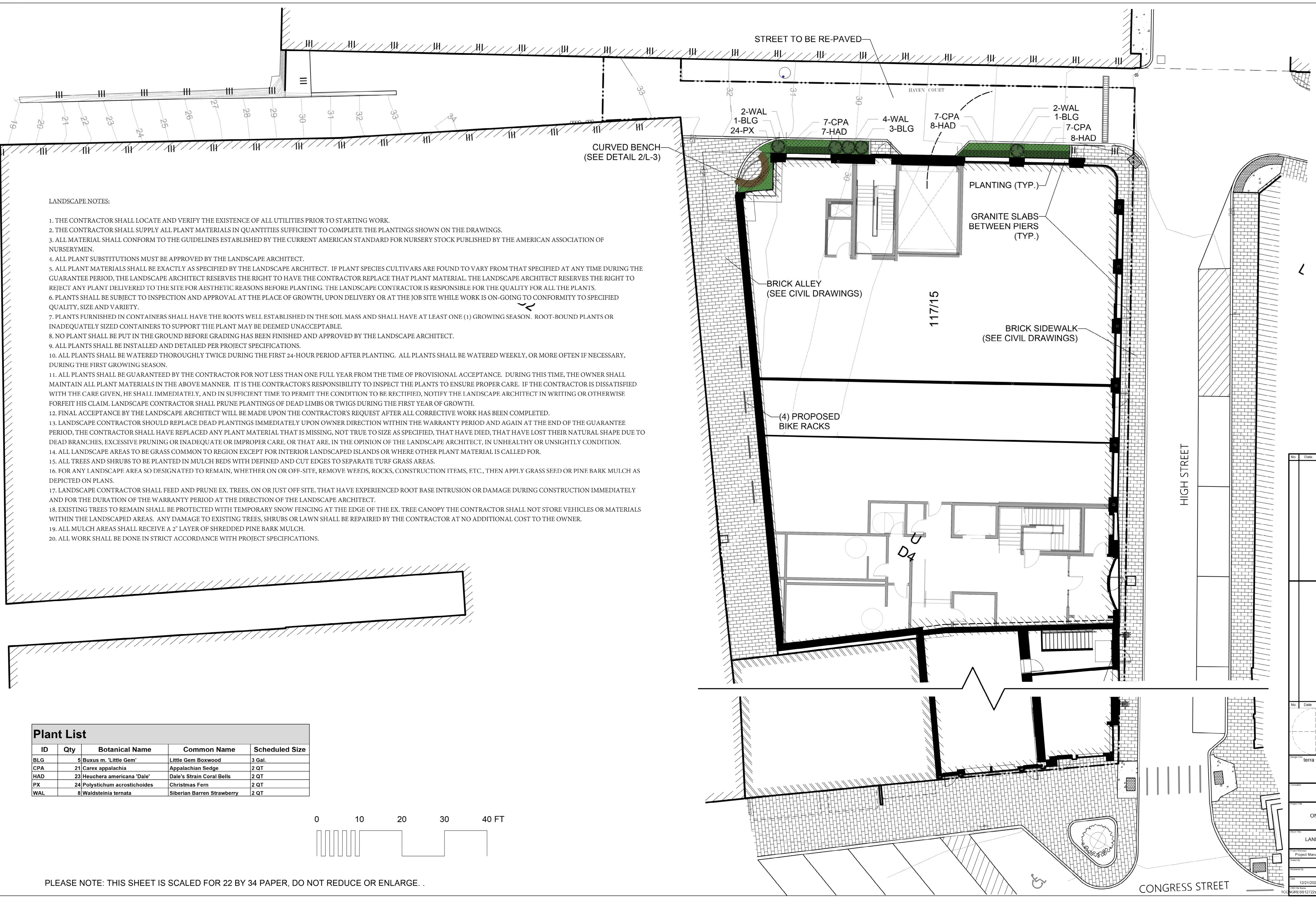
2 HIGH STREET  
 1/4" = 1'-0"



1 HAVEN-COURT ST  
 1/4" = 1'-0"

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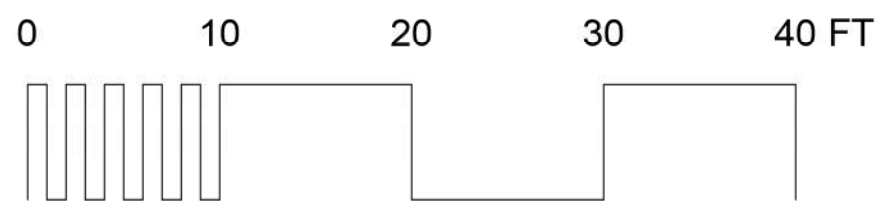




**LANDSCAPE NOTES:**

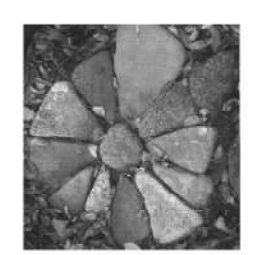
1. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
2. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS.
3. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. ALL PLANT SUBSTITUTIONS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT.
5. ALL PLANT MATERIALS SHALL BE EXACTLY AS SPECIFIED BY THE LANDSCAPE ARCHITECT. IF PLANT SPECIES CULTIVARS ARE FOUND TO VARY FROM THAT SPECIFIED AT ANY TIME DURING THE GUARANTEE PERIOD, THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO HAVE THE CONTRACTOR REPLACE THAT PLANT MATERIAL. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANT DELIVERED TO THE SITE FOR AESTHETIC REASONS BEFORE PLANTING. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE QUALITY FOR ALL THE PLANTS.
6. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY OR AT THE JOB SITE WHILE WORK IS ON-GOING TO CONFORMITY TO SPECIFIED QUALITY, SIZE AND VARIETY.
7. PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE AT LEAST ONE (1) GROWING SEASON. ROOT-BOUND PLANTS OR INADEQUATELY SIZED CONTAINERS TO SUPPORT THE PLANT MAY BE DEEMED UNACCEPTABLE.
8. NO PLANT SHALL BE PUT IN THE GROUND BEFORE GRADING HAS BEEN FINISHED AND APPROVED BY THE LANDSCAPE ARCHITECT.
9. ALL PLANTS SHALL BE INSTALLED AND DETAILED PER PROJECT SPECIFICATIONS.
10. 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.
11. ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR NOT LESS THAN ONE FULL YEAR FROM THE TIME OF PROVISIONAL ACCEPTANCE. DURING THIS TIME, THE OWNER SHALL MAINTAIN ALL PLANT MATERIALS IN THE ABOVE MANNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE PLANTS TO ENSURE PROPER CARE. IF THE CONTRACTOR IS DISSATISFIED WITH THE CARE GIVEN, HE SHALL IMMEDIATELY, AND IN SUFFICIENT TIME TO PERMIT THE CONDITION TO BE RECTIFIED, NOTIFY THE LANDSCAPE ARCHITECT IN WRITING OR OTHERWISE FORFEIT HIS CLAIM. LANDSCAPE CONTRACTOR SHALL PRUNE PLANTINGS OF DEAD LIMBS OR TWIGS DURING THE FIRST YEAR OF GROWTH.
12. FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT WILL BE MADE UPON THE CONTRACTOR'S REQUEST AFTER ALL CORRECTIVE WORK HAS BEEN COMPLETED.
13. LANDSCAPE CONTRACTOR SHOULD REPLACE DEAD PLANTINGS IMMEDIATELY UPON OWNER DIRECTION WITHIN THE WARRANTY PERIOD AND AGAIN AT THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAVE DIED, THAT HAVE LOST THEIR NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESSIVE PRUNING OR INADEQUATE OR IMPROPER CARE, OR THAT ARE, IN THE OPINION OF THE LANDSCAPE ARCHITECT, IN UNHEALTHY OR UNSIGHTLY CONDITION.
14. ALL LANDSCAPE AREAS TO BE GRASS COMMON TO REGION EXCEPT FOR INTERIOR LANDSCAPED ISLANDS OR WHERE OTHER PLANT MATERIAL IS CALLED FOR.
15. ALL TREES AND SHRUBS TO BE PLANTED IN MULCH BEDS WITH DEFINED AND CUT EDGES TO SEPARATE TURF GRASS AREAS.
16. FOR ANY LANDSCAPE AREA SO DESIGNATED TO REMAIN, WHETHER ON OR OFF-SITE, REMOVE WEEDS, ROCKS, CONSTRUCTION ITEMS, ETC., THEN APPLY GRASS SEED OR PINE BARK MULCH AS DEPICTED ON PLANS.
17. LANDSCAPE CONTRACTOR SHALL FEED AND PRUNE EX. TREES, ON OR JUST OFF SITE, THAT HAVE EXPERIENCED ROOT BASE INTRUSION OR DAMAGE DURING CONSTRUCTION IMMEDIATELY AND FOR THE DURATION OF THE WARRANTY PERIOD AT THE DIRECTION OF THE LANDSCAPE ARCHITECT.
18. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY SNOW FENCING AT THE EDGE OF THE EX. TREE CANOPY THE CONTRACTOR SHALL NOT STORE VEHICLES OR MATERIALS WITHIN THE LANDSCAPED AREAS. ANY DAMAGE TO EXISTING TREES, SHRUBS OR LAWN SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
19. ALL MULCH AREAS SHALL RECEIVE A 2" LAYER OF SHREDDED PINE BARK MULCH.
20. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.

ID	Qty	Botanical Name	Common Name	Scheduled Size
BLG	5	Buxus m. 'Little Gem'	Little Gem Boxwood	3 Gal.
CPA	21	Carex appalachia	Appalachian Sedge	2 QT
HAD	23	Heuchera americana 'Dale'	Dale's Strain Coral Bells	2 QT
PX	24	Polystichum acrostichoides	Christmas Fern	2 QT
WAL	8	Waldsteinia ternata	Siberian Barren Strawberry	2 QT



PLEASE NOTE: THIS SHEET IS SCALED FOR 22 BY 34 PAPER, DO NOT REDUCE OR ENLARGE.

**terra firma**  
landscape architecture



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office: 603.430.8388 | terrence@terrafirmalandscape.com

No.	Date	By	Revision Notes

No.	Date	Issue Notes

terra firma landscape architecture  
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Portsmouth, NH 03801

ONE CONGRESS STREET

LANDSCAPE PLAN - CONCEPT

Project Manager: ONE CONGRESS STREET  
Scale: 1:120

Date: 12/21/2022  
Sheet: L-01 of 12



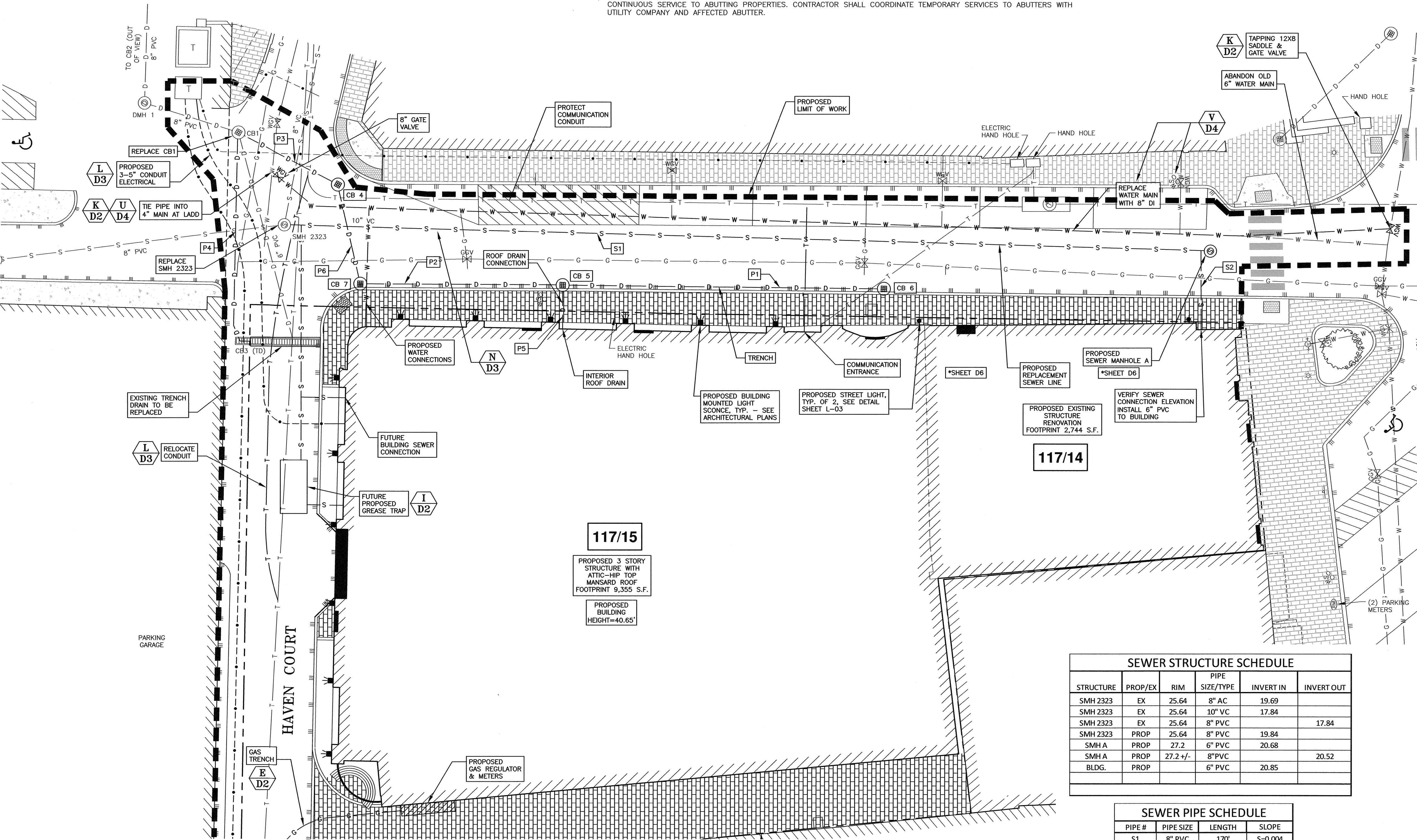
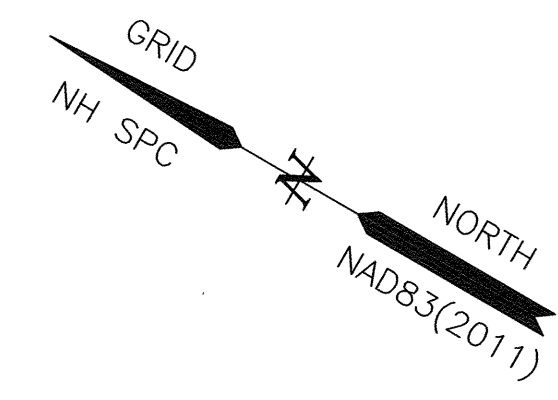


**UTILITY NOTES:**

- 1) SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
- 2) COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY.
- 3) SEE GRADING AND DRAINAGE PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
- 4) ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, POLYWRAPPED, CEMENT LINED DUCTILE IRON PIPE.
- 5) ALL WATERMAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION AND BEFORE ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE WITH THE CITY OF PORTSMOUTH.
- 6) ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
- 7) ALL WORK WITHIN CITY R.O.W. SHALL BE COORDINATED WITH CITY OF PORTSMOUTH
- 8) CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ADJACENT PROPERTIES THROUGHOUT CONSTRUCTION.
- 9) ANY CONNECTION TO EXISTING WATERMAIN SHALL BE CONSTRUCTED BY THE CITY OF PORTSMOUTH.
- 10) EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
- 11) ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
- 12) THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH BUILDING DRAWINGS AND UTILITY COMPANIES.
- 13) ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
- 14) ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.

**UTILITY NOTES CONTINUED:**

- 15) THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATED TO THE OWNER PRIOR TO THE COMPLETION OF PROJECT.
- 16) THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED IN THESE DRAWING TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
- 17) CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
- 18) A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS WATER ABOVE SEWER.
- 19) SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
- 20) GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
- 21) COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
- 22) ALL SEWER PIPES WITH LESS THAN 6' COVER SHALL BE INSULATED.
- 23) CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
- 24) CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ADJACENT PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ADJACENT WITH UTILITY COMPANY AND AFFECTED ADJUTTER.



**AMBIT ENGINEERING, INC.**  
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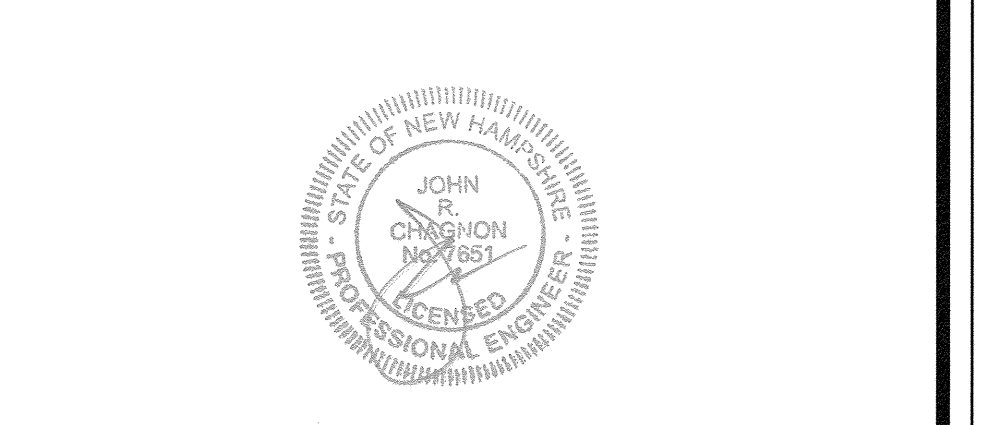
**NOTES:**

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- 4) PROVIDE TEMPORARY WATER SERVICES TO ALL IMPACTED PROPERTIES DURING NEW WATER MAIN INSTALLATION.
- 5) PROPOSED SEWER FLOW:  
 1ST FLOOR: 9,355 SF RETAIL/RESTAURANT:  
 460-3,000 GPD  
 2ND FLOOR: OFFICE: 470 GPD  
 REMAINDER: 18 RESIDENTIAL UNITS:  
 3,000 GPD  
 TOTAL PROPOSED FLOW: 3,930-6,470 GPD

**COMMERCIAL DEVELOPMENT  
 ONE CONGRESS STREET  
 PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
4	TAC COMMENTS	1/3/23
3	RE-DESIGN	12/20/22
2	PROPOSED ELECTRICAL & COMMS	10/27/22
1	BUILDING FOOTPRINT	10/18/22
0	ISSUED FOR COMMENT	9/6/22

REVISIONS



SCALE 1" = 10' SEPTEMBER 2022

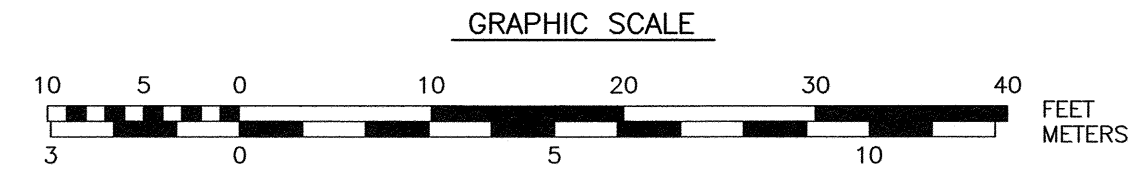
**UTILITY PLAN** **C4**

**SEWER STRUCTURE SCHEDULE**

STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT
SMH 2323	EX	25.64	8" AC	19.69	
SMH 2323	EX	25.64	10" VC	17.84	
SMH 2323	EX	25.64	8" PVC		17.84
SMH 2323	PROP	25.64	8" PVC	19.84	
SMH A	PROP	27.2	6" PVC	20.68	
SMH A	PROP	27.2 +/-	8" PVC		20.52
BLDG.	PROP		6" PVC	20.85	

**SEWER PIPE SCHEDULE**

PIPE #	PIPE SIZE	LENGTH	SLOPE
S1	8" PVC	170'	S=0.004
S2	6" PVC	15'	S=0.01



J:\0831\UN 3400\3400\3406\2021 Survey and Site Plan\Plans & Specs\Site\3406 Site Plan\Plans & Specs\Site\3406 Site Plan.dwg, 1/3/2023 9:31:21 AM, Canon TX-3000 Drafting.pc3

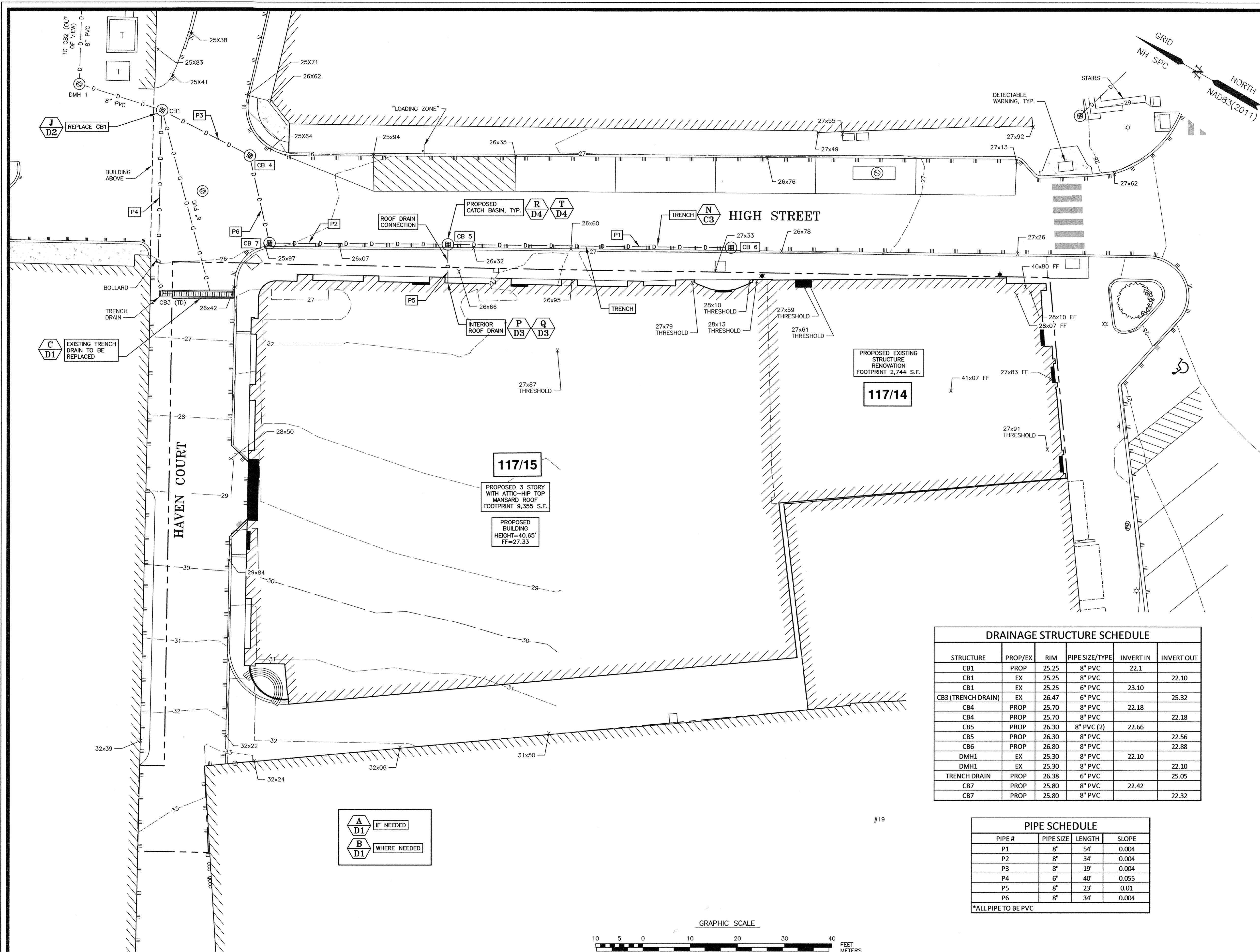


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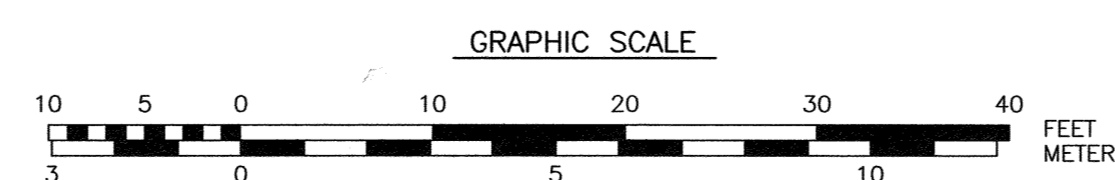
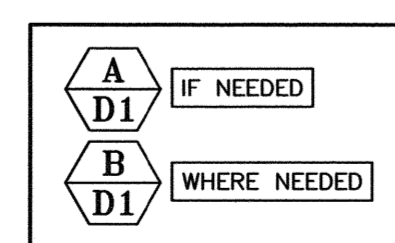
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DRAINAGE STRUCTURE SCHEDULE					
STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT
CB1	PROP	25.25	8" PVC	22.1	
CB1	EX	25.25	8" PVC		22.10
CB1	EX	25.25	6" PVC	23.10	
CB3 (TRENCH DRAIN)	EX	26.47	6" PVC		25.32
CB4	PROP	25.70	8" PVC	22.18	
CB4	PROP	25.70	8" PVC		22.18
CB5	PROP	26.30	8" PVC (2)	22.66	
CB5	PROP	26.30	8" PVC		22.56
CB6	PROP	26.80	8" PVC		22.88
DMH1	EX	25.30	8" PVC	22.10	
DMH1	EX	25.30	8" PVC		22.10
TRENCH DRAIN	PROP	26.38	6" PVC		25.05
CB7	PROP	25.80	8" PVC	22.42	
CB7	PROP	25.80	8" PVC		22.32

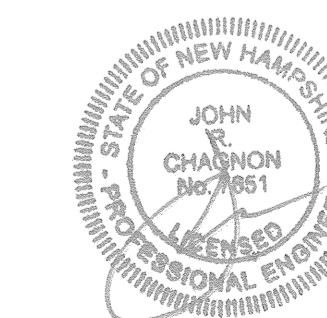
PIPE SCHEDULE			
PIPE #	PIPE SIZE	LENGTH	SLOPE
P1	8"	54'	0.004
P2	8"	34'	0.004
P3	8"	19'	0.004
P4	6"	40'	0.055
P5	8"	23'	0.01
P6	8"	34'	0.004

\*ALL PIPE TO BE PVC



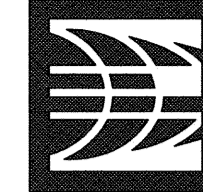
**COMMERCIAL DEVELOPMENT**  
**ONE CONGRESS STREET**  
**PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
2	REVISED	12/20/22
1	BUILDING FOOTPRINT, GRADING	10/18/22
0	ISSUED FOR COMMENT	9/6/22

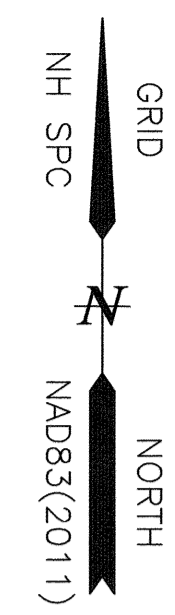


SCALE 1" = 10' SEPTEMBER 2022

**GRADING PLAN** **C5**

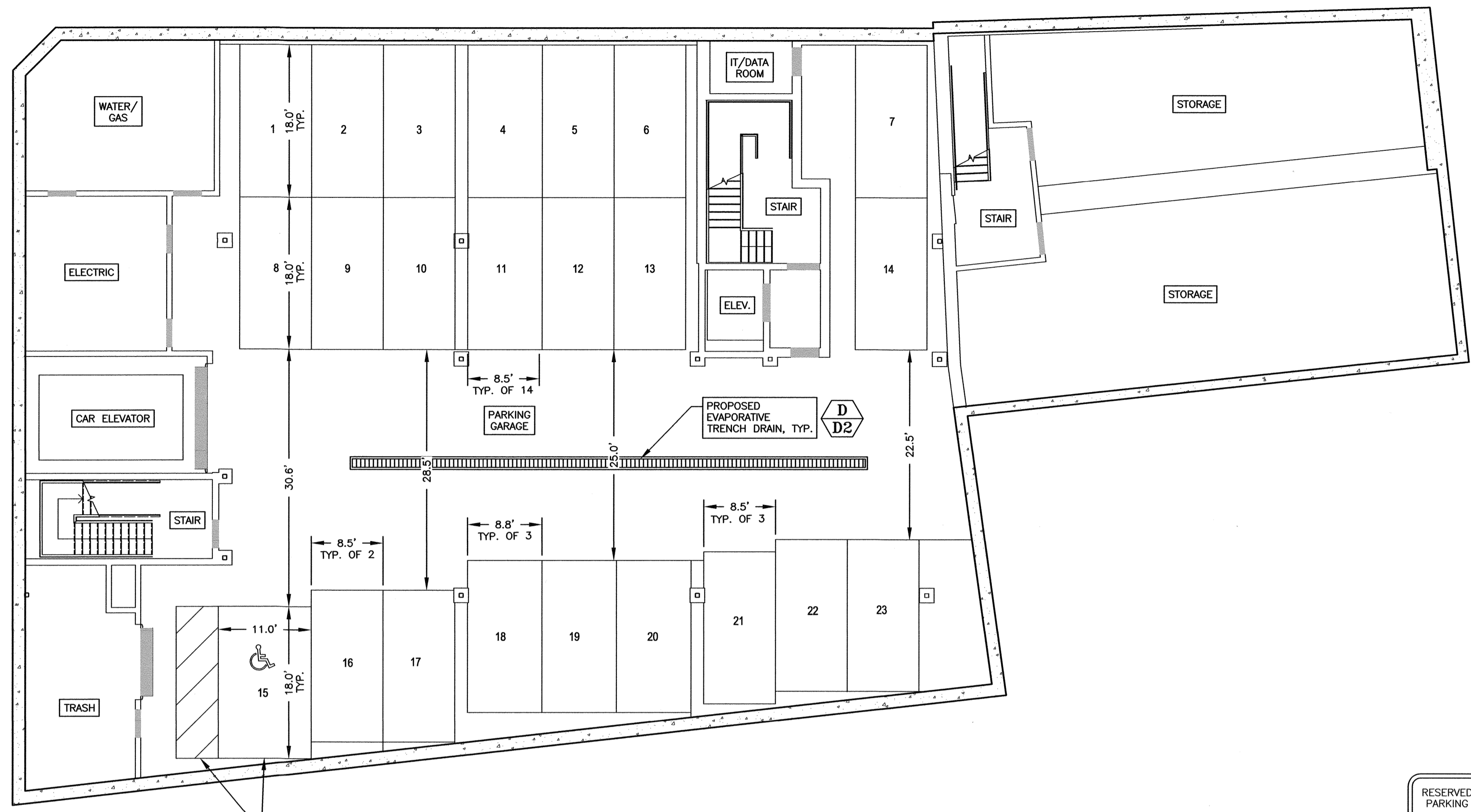


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**NOTES:**

- 1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 117 AS LOTS 14 AND 15.
- 2) OWNER OF RECORD:  
ONE MARKET SQUARE, LLC  
3 PLEASANT STREET, SUITE 400  
PORTSMOUTH, NH 03801  
6363/31 PARCEL 1 & PARCEL 2
- 3) THE PURPOSE OF THIS PLAN IS TO SHOW THE PARKING FOR THE PROPOSED SITE DEVELOPMENT ON ASSESSORS MAP 117 AS LOTS 14 AND 15. IN THE CITY OF PORTSMOUTH.
- 4) REQUIRED PARKING:  
PROPOSED USE: RETAIL, OFFICE, RESIDENTIAL.  
  
FIRST FLOOR: EXEMPT FROM REQUIREMENT.  
2ND FLOOR: OFFICE- NOT REQUIRED.  
UPPER FLOORS: 18 RESIDENTIAL UNITS  
  
REQUIRED PARKING: 27 (SEE TABLE).  
DOD CREDIT: <4>  
TOTAL REQUIRED: 23  
PROVIDED: 23

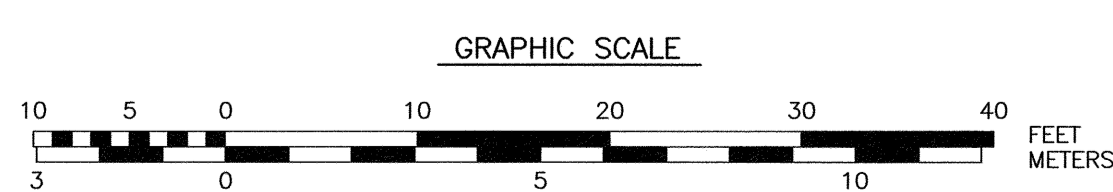


ADA SIGNAGE AND STRIPING **1** C6

Residential Vehicular Parking	Qty	parking per unit	parking required	parking available
units > 750 sf	16	1.30	20.80	
units 500-750 sf	1	1.00	1.00	
Units <500 sf	1	0.50	0.50	
<b>resident units total</b>	<b>18</b>		<b>22.30</b>	
DOD deduct			-4.00	
1 visitor space for every 5 units			3.6	
<b>TOTAL</b>			<b>21.90</b>	<b>23.00</b>

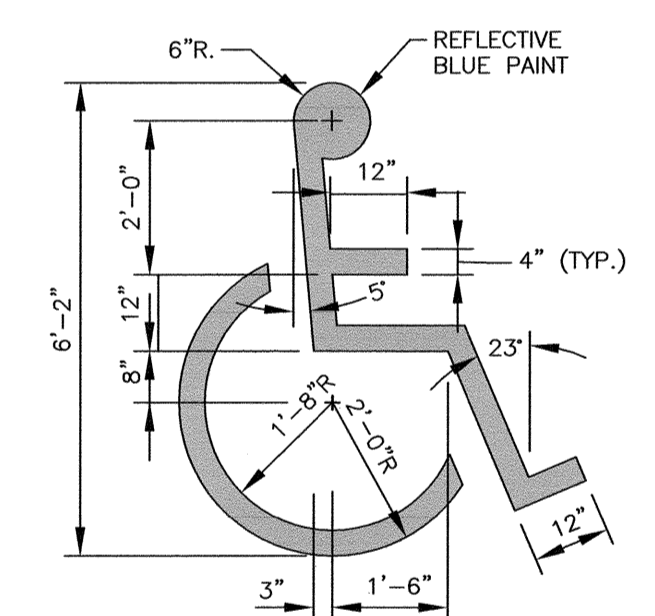
Unit NO.	BR's	SF	parking/unit	parking available
301	2	1,067	1.3	
302	1	885	1.3	
303	1	925	1.3	
304	1	574	1.0	
305	1	1,011	1.3	
306	1	996	1.3	
307	1	1,032	1.3	
308	1	946	1.3	
309	2	1,037	1.3	
401	2	917	1.3	
402	1	845	1.3	
403	1	876	1.3	
404	st	343	0.5	
405	1	1,028	1.3	
406	1	848	1.3	
407	1	844	1.3	
408	1	894	1.3	
409	2	965	1.3	
<b>resident units total</b>		<b>16,033</b>	<b>22.3</b>	
DOD deduct			-4.0	
1 visitor space for every 5 units			3.6	
<b>TOTAL parking</b>			<b>21.90</b>	<b>23</b>

Bicycle Parking	Qty	parking per unit	parking required	parking available
One space for every 5 units			3.6	
<b>TOTAL required, rounded up</b>			<b>4</b>	



R7-8a  
12" x 18"  
SIGN ON POST  
  
EACH SPACE SHALL HAVE THIS SIGN DISPLAYED PER ADA CODE

SIGNAGE  
LEGEND SYMBOL

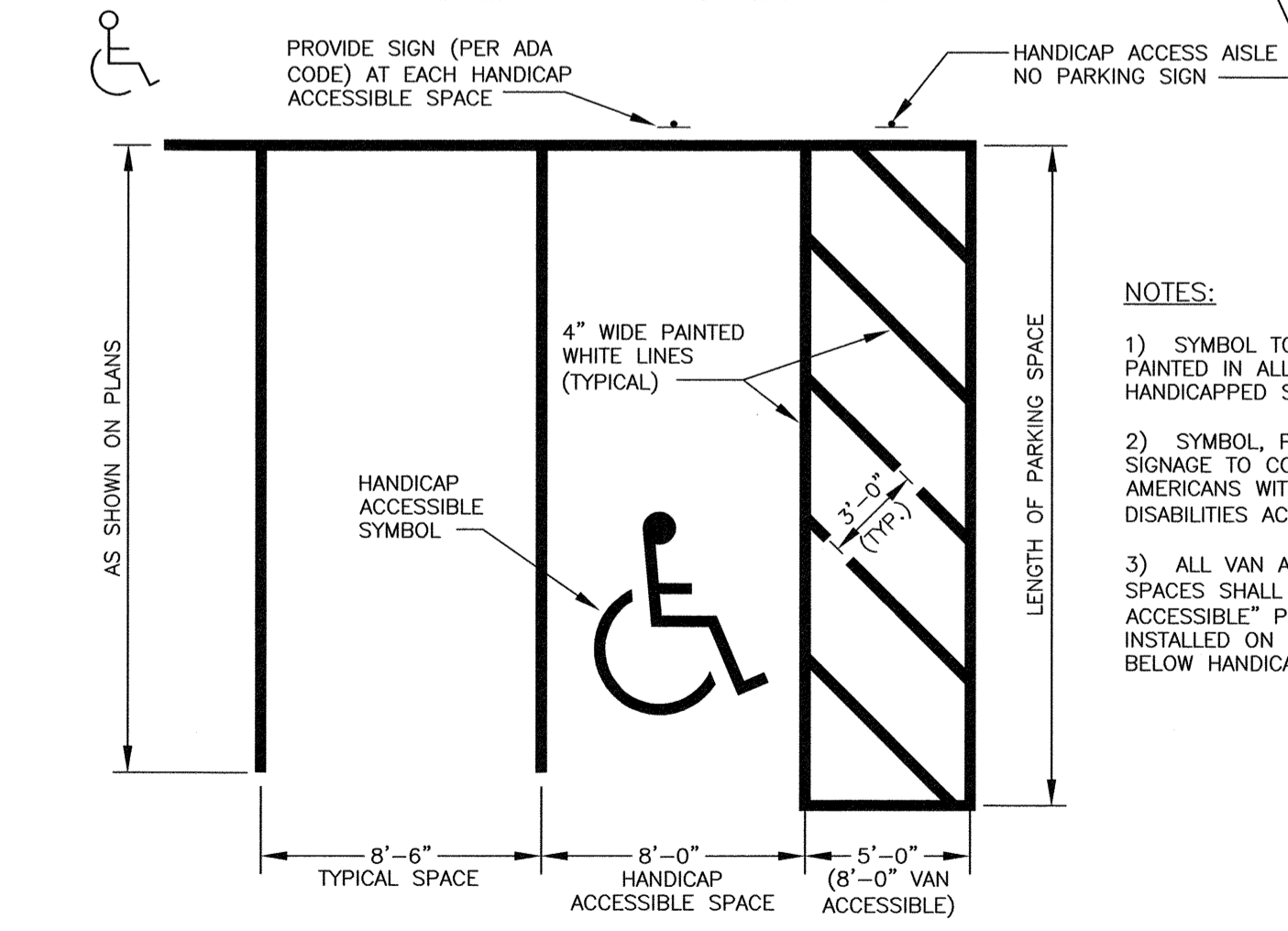


HANDICAP ACCESSIBLE SYMBOL



K-4438  
12" x 18"  
SIGN ON POST

SIGNAGE



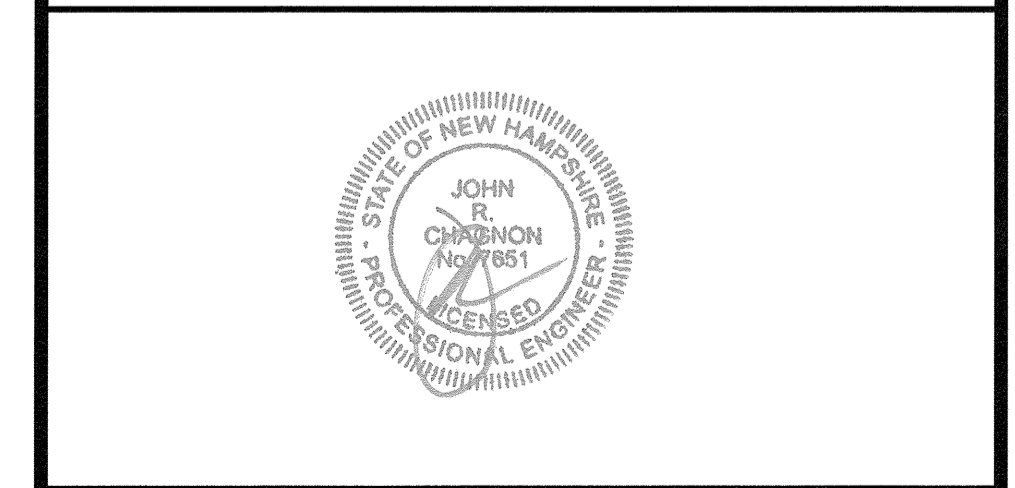
**1** C6 HANDICAP PARKING DETAIL  
NTS

**NOTES:**

- 1) SYMBOL TO BE PAINTED IN ALL HANDICAPPED SPACES.
- 2) SYMBOL, PAINT AND SIGNAGE TO CONFORM TO AMERICANS WITH DISABILITIES ACT (ADA).
- 3) ALL VAN ACCESSIBLE SPACES SHALL HAVE "VAN ACCESSIBLE" PLATE INSTALLED ON SIGN POST BELOW HANDICAP SIGN.

**COMMERCIAL DEVELOPMENT**  
**ONE CONGRESS STREET**  
**PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
2	PARKING TABLE	1/25/23
1	BUILDING FOOTPRINT	10/18/22
0	ISSUED FOR COMMENT	9/6/22



SCALE 1" = 10' SEPTEMBER 2022

**PARKING LEVEL PLAN** **C6**

APPROVED BY THE PORTSMOUTH PLANNING BOARD

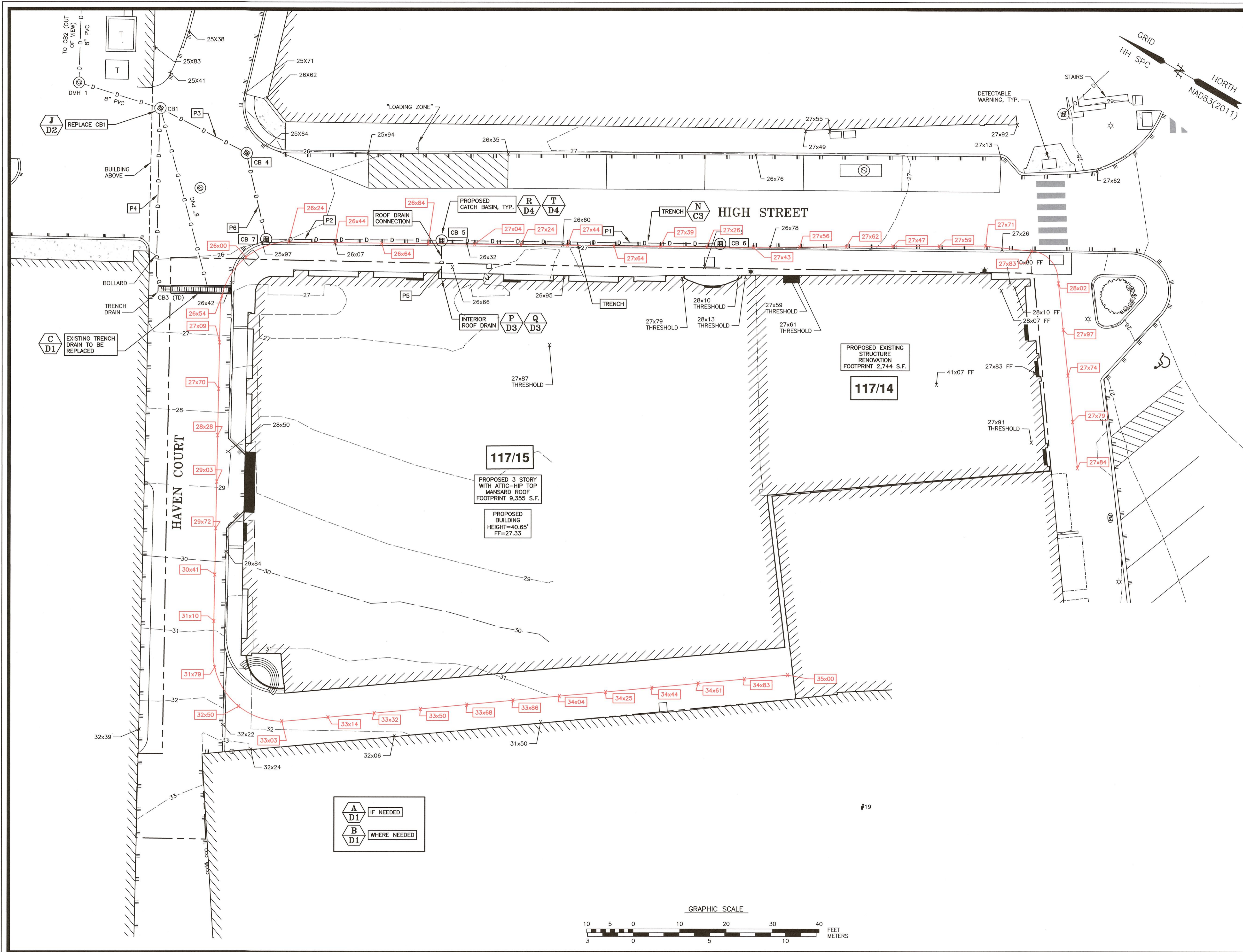
CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_



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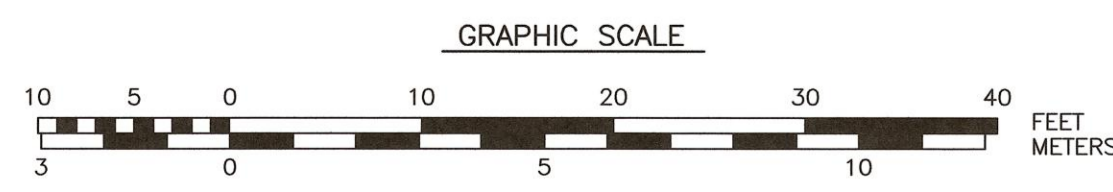
**COMMERCIAL DEVELOPMENT  
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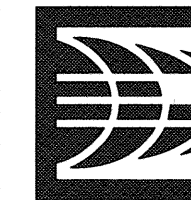
NO.	DESCRIPTION	DATE
2	REVISED	12/20/22
1	BUILDING FOOTPRINT, GRADING	10/18/22
0	ISSUED FOR COMMENT	9/6/22



SCALE 1" = 10' SEPTEMBER 2022

AVERAGE GRADE PLANE **C7**



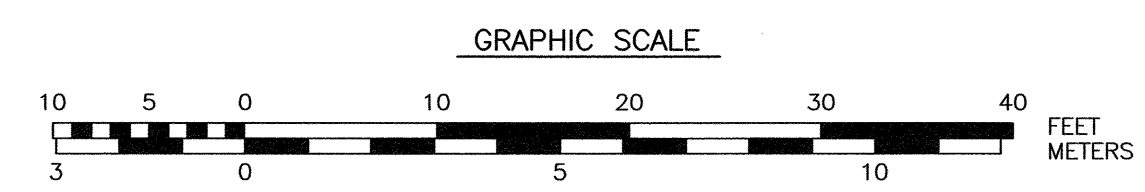
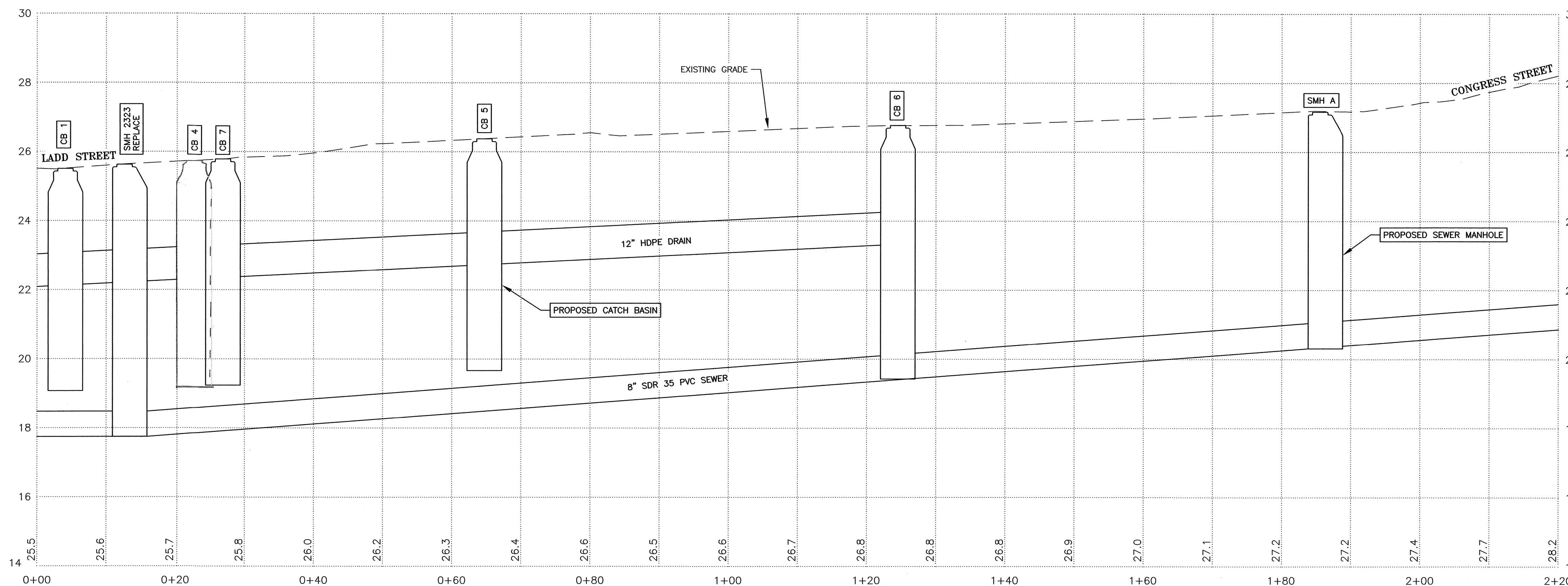
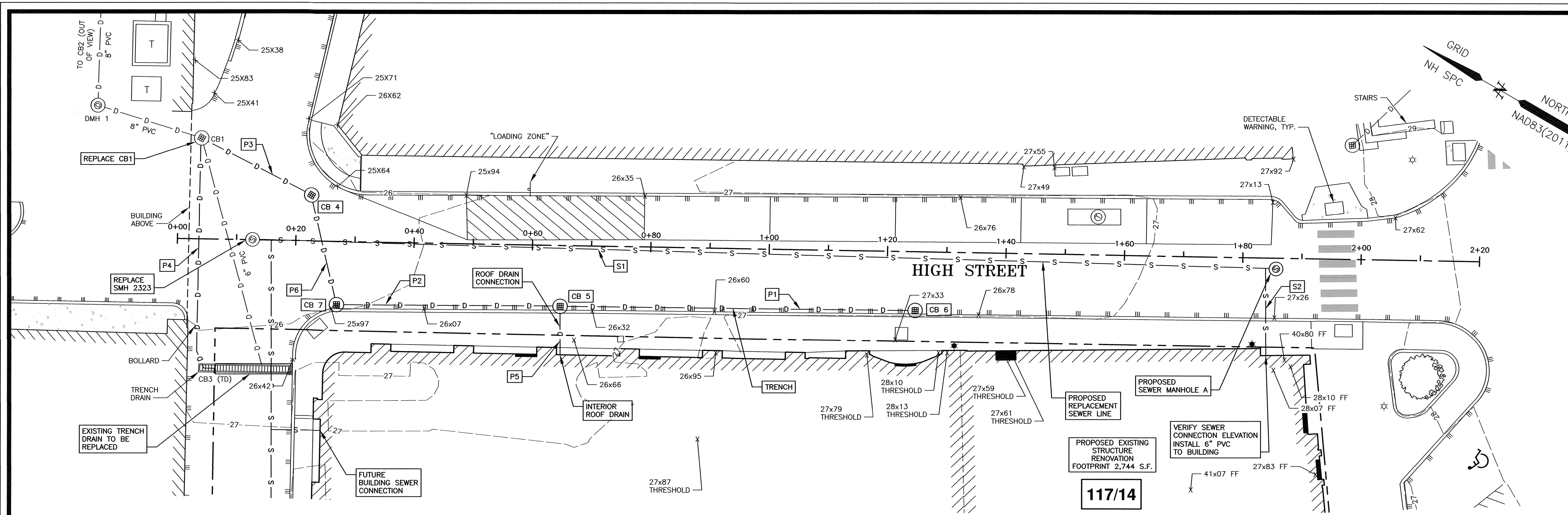


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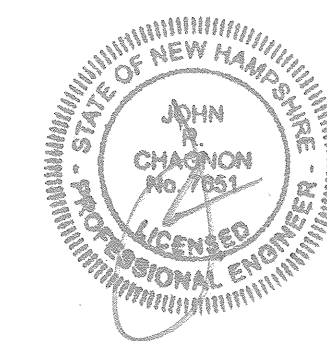
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SCALE: 1" = 10' (HOR.)  
1" = 2' (VERT.)

**COMMERCIAL  
DEVELOPMENT  
ONE CONGRESS STREET  
PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
1	REVISED	12/20/22
0	ISSUED FOR COMMENT	12/14/22



SCALE H:1"=10' V:1"=2' NOVEMBER 2021

PLAN & PROFILE

**P1**



# EROSION CONTROL NOTES

## CONSTRUCTION SEQUENCE

DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.

IF REQUIRED THE CONTRACTOR SHALL OBTAIN AN NPDES PHASE II STORMWATER PERMIT AND SUBMIT A NOTICE OF INTENT (N.O.I.) BEFORE BEGINNING CONSTRUCTION AND SHALL HAVE ON SITE A STORMWATER POLLUTION PREVENTION PLAN (S.W.P.P.P.) AVAILABLE FOR INSPECTION BY THE PERMITTING AUTHORITY DURING THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARRYING OUT THE S.W.P.P.P. AND INSPECTING AND MAINTAINING ALL BMP'S CALLED FOR BY THE PLAN. THE CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION (N.O.T.) FORM TO THE REGIONAL EPA OFFICE WITHIN 30 DAYS OF FINAL STABILIZATION OF THE ENTIRE SITE OR TURNING OVER CONTROL OF THE SITE TO ANOTHER OPERATOR.

THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:

- OBSERVATIONS OF THE PROJECT FOR COMPLIANCE WITH THE SWPPP SHALL BE MADE BY THE CONTRACTOR AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A STORM 0.25 INCHES OR GREATER;
- AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR;
- A REPRESENTATIVE OF THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
- IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.

INSTALL PERIMETER CONTROLS, I.E., SILT/SOXX AND CATCH BASIN PROTECTION AROUND THE LIMITS OF DISTURBANCE BEFORE ANY EARTH MOVING OPERATIONS. THE USE OF HAYBALES IS NOT ALLOWED.

THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES. PLACE FODS AS NEEDED.

CUT AND GRUB ALL TREES, SHRUBS, SAPLINGS, BRUSH, VINES AND REMOVE OTHER DEBRIS AND RUBBISH AS REQUIRED. DEMOLISH BUILDINGS AND FENCES AS NEEDED. REMOVE WALL AND STORE.

ROUGH GRADE SITE.

LAYOUT AND INSTALL ALL BURIED UTILITIES AND SERVICES UP TO 10' OF THE PROPOSED BUILDING FOUNDATIONS. CAP AND MARK TERMINATIONS OR LOG SWING TIES.

CONSTRUCT BUILDING.

CONNECT UTILITIES.

PLACE BINDER LAYER OF PAVEMENT FOR SIDEWALKS.

PLANT LANDSCAPING IN AREAS OUT OF WAY OF BUILDING CONSTRUCTION. PREPARE AND STABILIZE FINAL SITE GRADING BY ADDING TOPSOIL, SEED, MULCH AND FERTILIZER.

AFTER BUILDINGS ARE COMPLETED, FINISH ALL REMAINING LANDSCAPED WORK.

CONSTRUCT SIDEWALKS.

REMOVE TRAPPED SEDIMENTS FROM COLLECTION DEVICES AS APPROPRIATE, AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES UPON COMPLETION OF FINAL STABILIZATION OF THE SITE.

## PROJECT DESCRIPTION

THE PROJECT CONSISTS OF A BUILDING REDEVELOPMENT WITH ASSOCIATED UTILITIES AND PARKING.

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 0.370 ACRES.

BASED ON THE USCS WEB SOIL SURVEY THE SOILS ON SITE CONSIST OF URBAN LAND WHICH HAS AN UNSPECIFIED HYDROLOGIC SOIL GROUP RATING, ASSUMED D.

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA A CLOSED DRAINAGE SYSTEM TO THE CITY OF PORTSMOUTH CLOSED DRAINAGE SYSTEM WHICH ULTIMATELY FLOWS TO THE PISCATAQUA RIVER.

## GENERAL CONSTRUCTION NOTES

THE EROSION CONTROL PROCEDURES SHALL CONFORM TO SECTION 645 OF THE "STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION" OF THE NHDOT, AND "STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE". THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED FOR MORE THAN 45 DAYS.

ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION.

THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

DUST CONTROL: DUST CONTROL MEASURES SHALL INCLUDE BUT ARE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.

DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ADJACENT AREAS.

IF TEMPORARY STABILIZATION PRACTICES, SUCH AS TEMPORARY VEGETATION AND MULCHING, DO NOT ADEQUATELY REDUCE DUST GENERATION, APPLICATION OF WATER OR CALCIUM CHLORIDE SHALL BE APPLIED IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES.

SILT/SOXX SHALL BE PERIODICALLY INSPECTED DURING THE LIFE OF THE PROJECT AND AFTER EACH STORM. ALL DAMAGED SILT/SOXX SHALL BE REPAIRED. SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED IN A SECURED LOCATION.

ALL FILLS SHALL BE PLACED AND COMPACTED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS.

ALL NON-STRUCTURAL, SITE-FILL SHALL BE PLACED AND COMPACTED TO 90% MODIFIED PROCTOR DENSITY IN LAYERS NOT EXCEEDING 18 INCHES IN THICKNESS UNLESS OTHERWISE NOTED.

FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIAL, TRASH, WOODY DEBRIS, LEAVES, BRUSH OR ANY DELETERIOUS MATTER SHALL NOT BE INCORPORATED INTO FILLS.

FILL MATERIAL SHALL NOT BE PLACED ON FROZEN FOUNDATION SUBGRADE.

DURING CONSTRUCTION AND UNTIL ALL DEVELOPED AREAS ARE FULLY STABILIZED, ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH ONE HALF INCH OF RAINFALL.

THE CONTRACTOR SHALL MODIFY OR ADD EROSION CONTROL MEASURES AS NECESSARY TO ACCOMMODATE PROJECT CONSTRUCTION.

ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:  
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED ON AREAS TO BE PAVED  
 - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED  
 - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED  
 - EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.  
 - IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.

STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA.

STABILIZATION MEASURES TO BE USED INCLUDE:  
 - TEMPORARY SEEDING;  
 - MULCHING.

- ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN THESE AREAS, SILT/SOXX, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
- DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT/SOXX, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY OCTOBER 15.

## MAINTENANCE AND PROTECTION

THE SILT/SOXX BARRIER SHALL BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

SILT/SOXX SHALL BE REMOVED ONCE SITE IS STABILIZED, AND DISTURBED AREAS RESULTING FROM SILT/SOXX REMOVAL SHALL BE PERMANENTLY SEEDED.

THE CATCH BASIN INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

## WINTER NOTES

ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85% VEGETATED GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE 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.

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;

AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;

## STOCKPILES

- LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
- ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
- PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
- PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

## CONCRETE WASHOUT AREA

THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:

- THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
- IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
- CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
- INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

## ALLOWABLE NON-STORMWATER DISCHARGES

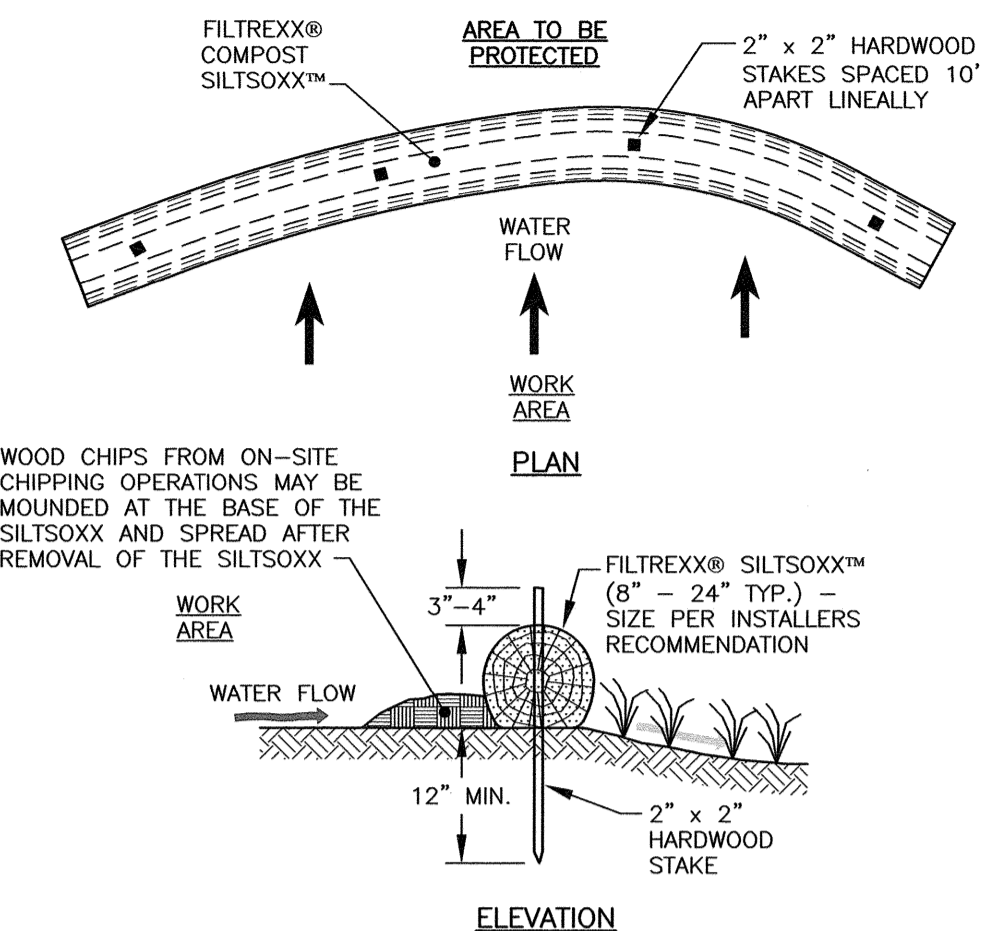
- FIRE-FIGHTING ACTIVITIES;
- FIRE HYDRANT FLUSHING;
- WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
- WATER USED TO CONTROL DUST;
- POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
- ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
- PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
- UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
- UNCONTAMINATED GROUND WATER OR SPRING WATER;
- FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
- UNCONTAMINATED EXCAVATION DEWATERING;
- LANDSCAPE IRRIGATION.

## WASTE DISPOSAL

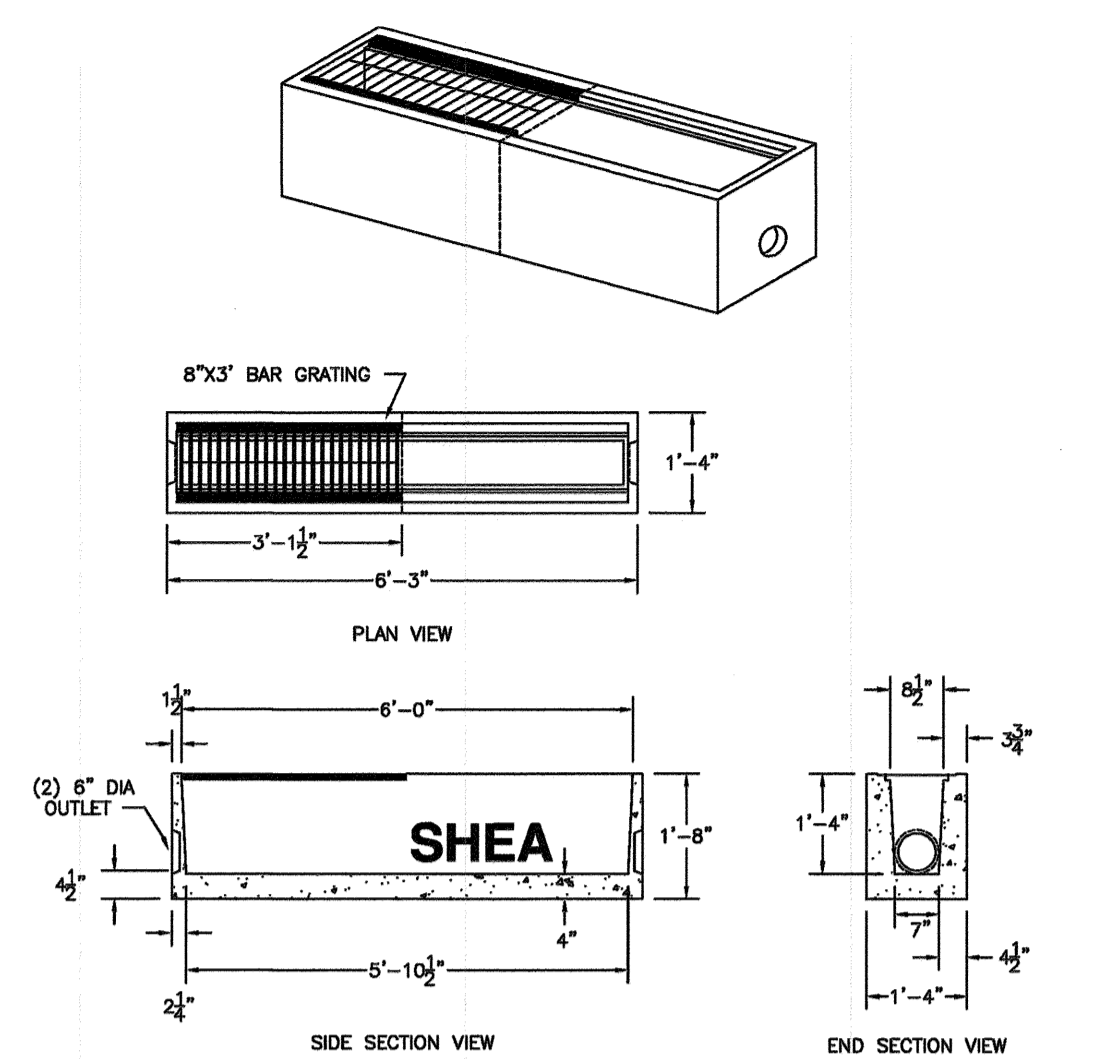
- WASTE MATERIAL
  - ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
  - NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
  - ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
- HAZARDOUS WASTE
  - ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
  - SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
- SANITARY WASTE
  - ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

## BLASTING NOTES

- CONTRACTOR SHALL CONTACT THE NHDES AND/OR LOCAL JURISDICTION PRIOR TO COMMENCING ANY BLASTING ACTIVITIES.
- FOR ANY PROJECT FOR WHICH BLASTING OF BEDROCK IS ANTICIPATED, THE APPLICANT SHALL SUBMIT A BLASTING PLAN THAT IDENTIFIES:
  - WHERE THE BLASTING ACTIVITIES ARE ANTICIPATED TO OCCUR;
  - THE ESTIMATED QUANTITY OF BLAST ROCK IN CUBIC YARDS; AND
  - SITE-SPECIFIC BLASTING BEST MANAGEMENT PRACTICES.

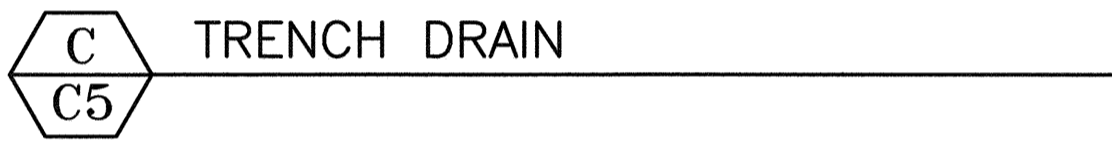


- NOTES:
- ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
  - FILTREXX SYSTEM SHALL BE INSTALLED BY A CERTIFIED FILTREXX INSTALLER.
  - THE CONTRACTOR SHALL MAINTAIN THE COMPOST FILTRATION SYSTEM IN A FUNCTIONAL CONDITION AT ALL TIMES. IT WILL BE ROUTINELY INSPECTED AND REPAIRED WHEN REQUIRED.
  - SILT/SOXX DEPICTED IS FOR MINIMUM SLOPES, GREATER SLOPES MAY REQUIRE ADDITIONAL PLACEMENTS.
  - THE COMPOST FILTER MATERIAL WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED, AS DETERMINED BY THE ENGINEER.



- NOTES:
- CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
  - AVAILABLE IN 3' AND 6' SECTIONS.
  - AVAILABLE IN END, MIDDLE, OR CLOSED SECTIONS.
  - DESIGNED FOR ASHTO HS-20 LOADING.

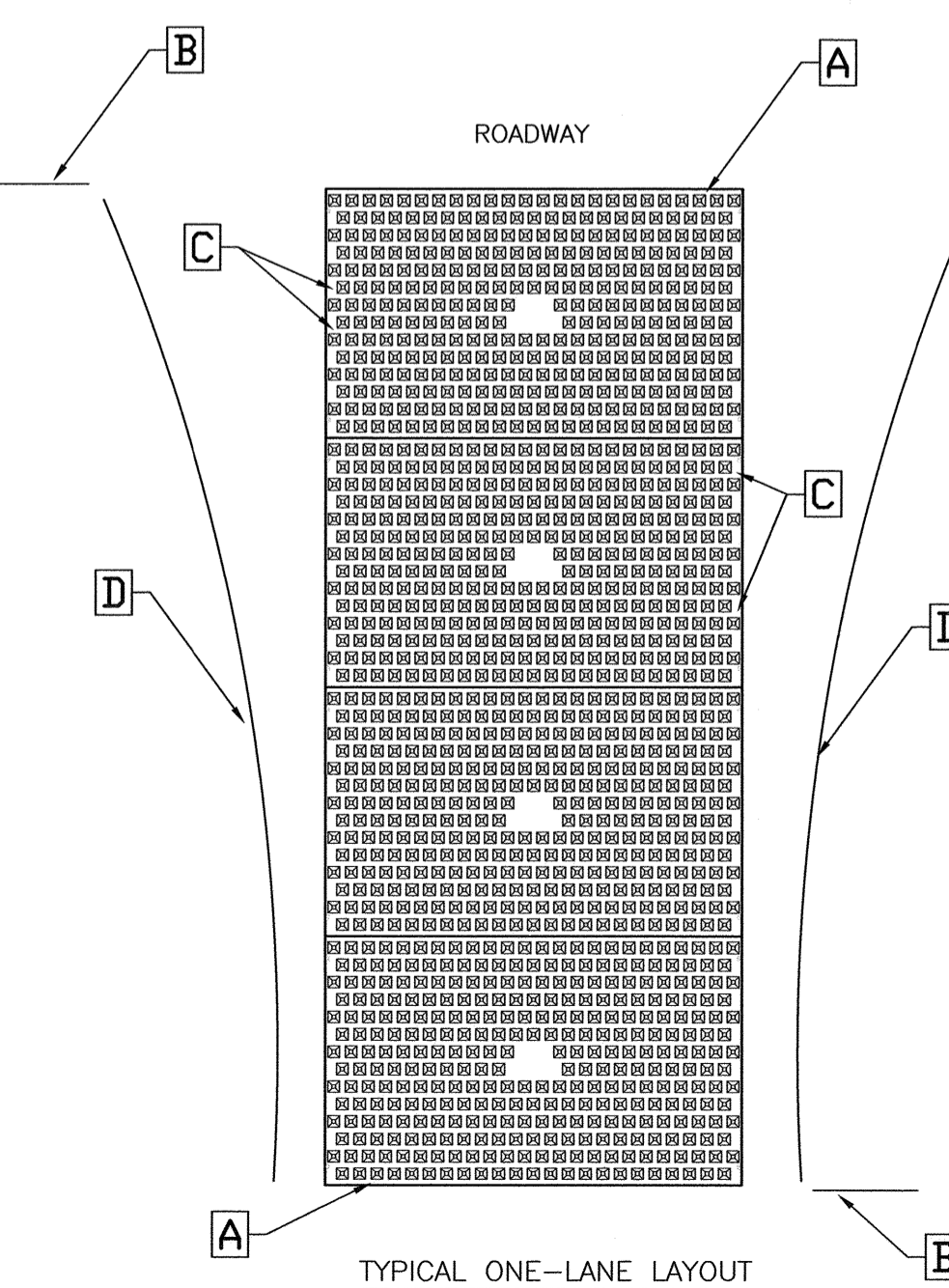
SHEA PRODUCT ID: TD3/TD6  
 TRENCH DRAIN 8"x16"  
 WEIGHT (LBS): 711#/1,315#



## FODS TRACKOUT CONTROL SYSTEM

INSTALLATION:  
 THE PURPOSE AND DESIGN OF THE FODS TRACKOUT CONTROL SYSTEM IS TO EFFECTIVELY REMOVE MOST SEDIMENT FROM VEHICLE TIRES AS THEY EXIT A DISTURBED LAND AREA ONTO A PAVED STREET. THIS MANUAL IS A PLATFORM FROM WHICH TO INSTALL A FODS TRACKOUT CONTROL SYSTEM. (NOTE: THIS IS NOT A ONE SIZE FITS ALL GUIDE.) THE INSTALLATION MAY NEED TO BE MODIFIED TO MEET THE EXISTING CONDITIONS, EXPECTATIONS, OR DEMANDS OF A PARTICULAR SITE. THIS IS A GUIDELINE. ULTIMATELY THE FODS TRACKOUT CONTROL SYSTEM SHOULD BE INSTALLED SAFELY WITH PROPER ANCHORING AND SIGNS PLACED AT THE ENTRANCE AND EXIT TO CAUTION USERS AND OTHERS.

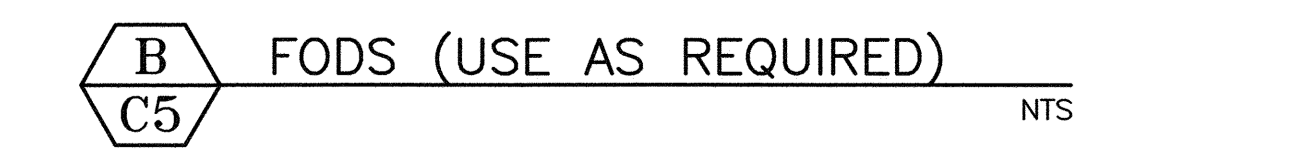
- KEY NOTES:
- FODS TRACKOUT CONTROL SYSTEM MAT.
  - FODS SAFETY SIGN.
  - ANCHOR POINT.
  - SILT OR ORANGE CONSTRUCTION FENCE.



- INSTALLATION:
- THE SITE WHERE THE FODS TRACKOUT CONTROL SYSTEM IS TO BE PLACED SHOULD CORRESPOND TO BEST MANAGEMENT PRACTICES AS MUCH AS POSSIBLE. THE SITE WHERE FODS TRACKOUT CONTROL SYSTEM IS PLACED SHOULD ALSO MEET OR EXCEED THE LOCAL JURISDICTION OR STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS.
  - CALL FOR UTILITY LOCATES 3 BUSINESS DAYS IN ADVANCE OF THE FODS TRACKOUT CONTROL SYSTEM INSTALLATION FOR THE MARKING OF UNDERGROUND UTILITIES. CALL THE UTILITY NOTIFICATION CENTER AT 811.
  - ONCE THE SITE IS ESTABLISHED WHERE FODS TRACKOUT CONTROL SYSTEM IS TO BE PLACED, ANY EXCESSIVE UNEVEN TERRAIN SHOULD BE LEVELED OUT OR REMOVED SUCH AS LARGE ROCKS, LANDSCAPING MATERIALS, OR SUDDEN ABRUPT CHANGES IN ELEVATION.
  - THE INDIVIDUAL MATS CAN START TO BE PLACED INTO POSITION. THE FIRST MAT SHOULD BE PLACED NEXT TO THE CLOSEST POINT OF EGRESS. THIS WILL ENSURE THAT THE VEHICLE WILL EXIT STRAIGHT FROM THE SITE ONTO THE PAVED SURFACE.
  - AFTER THE FIRST MAT IS PLACED DOWN IN THE PROPER LOCATION, MATS SHOULD BE ANCHORED TO PREVENT THE POTENTIAL MOVEMENT WHILE THE ADJOINING MATS ARE INSTALLED. ANCHORS SHOULD BE PLACED AT EVERY ANCHOR POINT (IF FEASIBLE) TO HELP MAINTAIN THE MAT IN ITS CURRENT POSITION.
  - AFTER THE FIRST MAT IS ANCHORED IN ITS PROPER PLACE, AN H BRACKET SHOULD BE PLACED AT THE END OF THE FIRST MAT BEFORE ANOTHER MAT IS PLACED ADJACENT TO THE FIRST MAT.
  - ONCE THE SECOND MAT IS PLACED ADJACENT TO THE FIRST MAT, MAKE SURE THE H BRACKET IS CORRECTLY SITUATED BETWEEN THE TWO MATS, AND SLIDE MATS TOGETHER.
  - NEXT THE CONNECTOR STRAPS SHOULD BE INSTALLED TO CONNECT THE TWO MATS TOGETHER.
  - UPON PLACEMENT OF EACH NEW MAT IN THE SYSTEM, THAT MAT SHOULD BE ANCHORED AT EVERY ANCHOR POINT TO HELP STABILIZE THE MAT AND ENSURE THE SYSTEM IS CONTINUOUS WITH NO GAPS IN BETWEEN THE MATS.
  - SUCCESSIVE MATS CAN THEN BE PLACED TO CREATE THE FODS TRACKOUT CONTROL SYSTEM REPEATING THE ABOVE STEPS.

- USE AND MAINTENANCE
- VEHICLES SHOULD TRAVEL DOWN THE LENGTH OF THE TRACKOUT CONTROL SYSTEM AND NOT CUT ACROSS THE MATS.
  - DRIVERS SHOULD TURN THE WHEEL OF THEIR VEHICLES SUCH THAT THE VEHICLE WILL MAKE A SHALLOW S-TURN ROUTE DOWN THE LENGTH OF THE FODS TRACKOUT CONTROL SYSTEM.
  - MATS SHOULD BE CLEANED ONCE THE VOIDS BETWEEN THE PYRAMIDS BECOME FULL OF SEDIMENT. TYPICALLY THIS WILL NEED TO BE PERFORMED WITHIN TWO WEEKS AFTER A STORM EVENT. BRUSHING IS THE PREFERRED METHOD OF CLEANING, EITHER MANUALLY OR MECHANICALLY.
  - THE USE OF ICE MELT, ROCK SALT, SNOW MELT, DE-ICER, ETC. SHOULD BE UTILIZED AS NECESSARY DURING THE WINTER MONTHS AND AFTER A SNOW EVENT TO PREVENT ICE BUILDUP.

- REMOVAL
- REMOVAL OF FODS TRACKOUT CONTROL SYSTEM IS REVERSE ORDER OF INSTALLATION.
  - STARTING WITH THE LAST MAT, THE MAT THAT IS PLACED AT THE INNERMOST POINT OF THE SITE OR THE MAT FURTHEST FROM THE EXIT OR PAVED SURFACE SHOULD BE REMOVED FIRST.
  - THE ANCHORS SHOULD BE REMOVED.
  - THE CONNECTOR STRAPS SHOULD BE UNBOLTED AT ALL LOCATIONS IN THE FODS TRACKOUT CONTROL SYSTEM.
  - STARTING WITH THE LAST MAT IN THE SYSTEM, EACH SUCCESSIVE MAT SHOULD THEN BE MOVED AND STACKED FOR LOADING BY FORKLIFT OR EXCAVATOR ONTO A TRUCK FOR REMOVAL FROM THE SITE.



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

- NOTES:
- THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.
  - UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.
  - CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).
  - HIGH AND LADD STREETS SHALL BE SWEEPED DAILY DURING EXCAVATION PHASE OF THE BUILDING CONSTRUCTION.

# COMMERCIAL DEVELOPMENT ONE CONGRESS STREET PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
2	UPDATED FOR URBAN AREAS	12/19/22
1	DETAIL C	10/18/22
0	ISSUED FOR COMMENT	9/6/22

REVISIONS

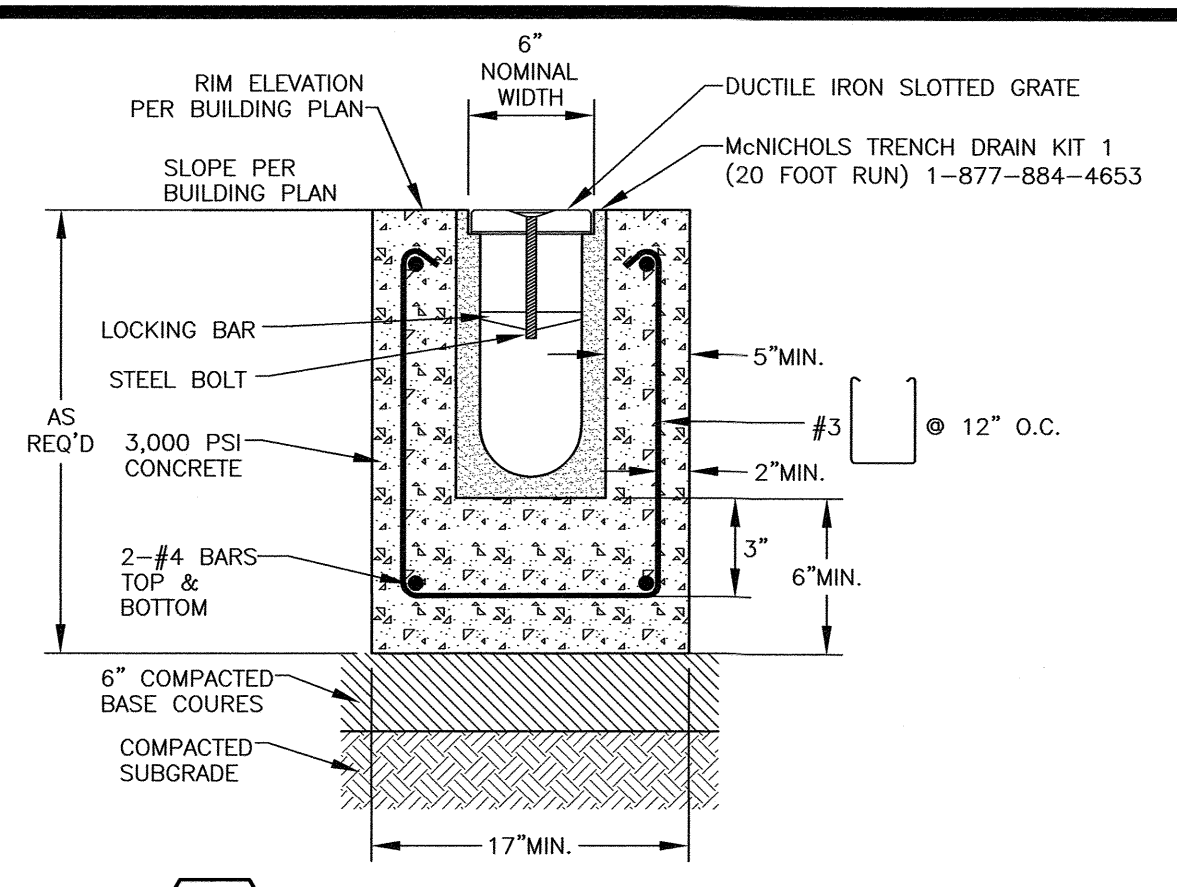
SCALE: AS SHOWN SEPTEMBER 2022

## EROSION PROTECTION NOTES AND DETAILS

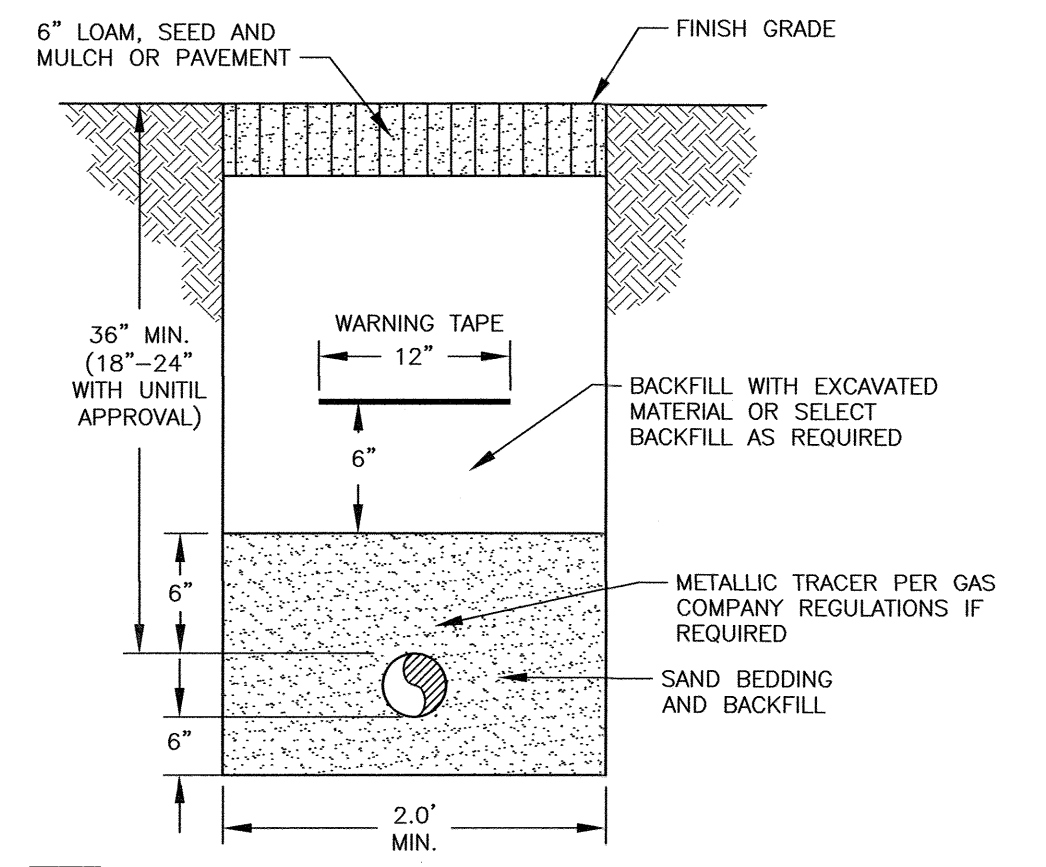
# D1

**NOTES:**

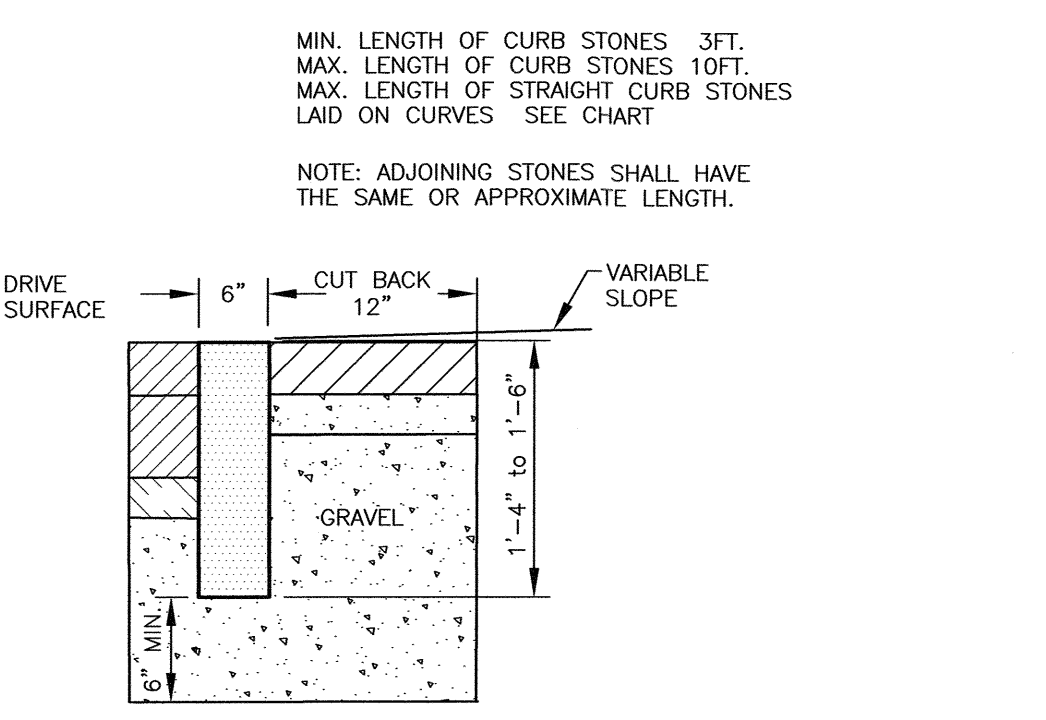
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- 3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).



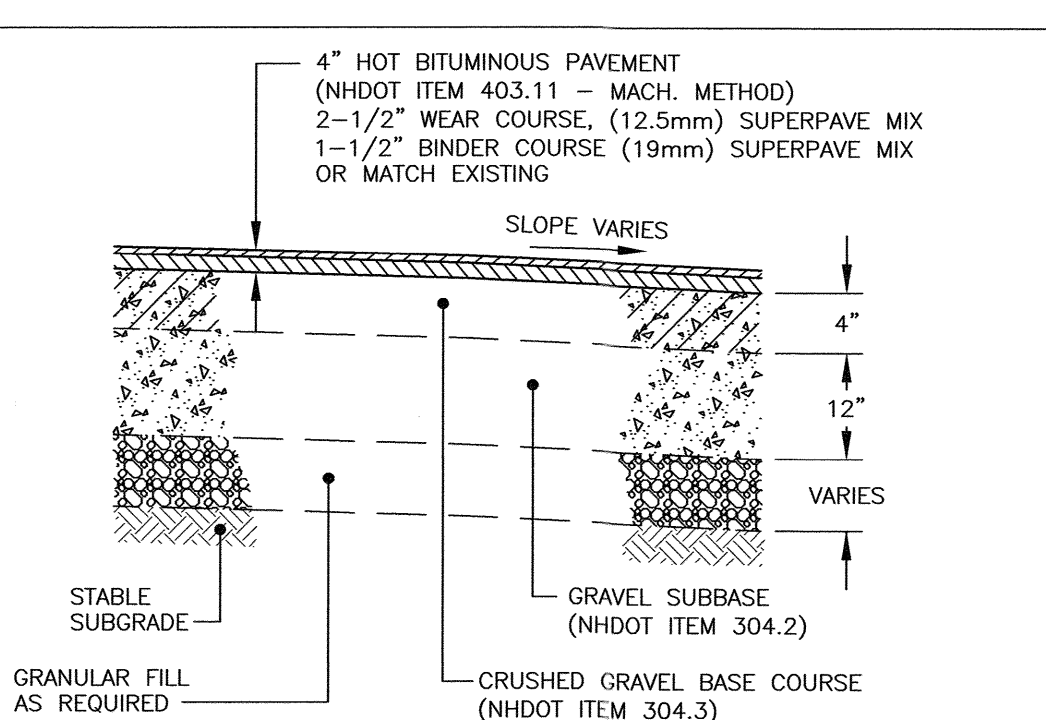
**D** TRENCH DRAIN DETAIL  
**C6** EVAPORATIVE NTS



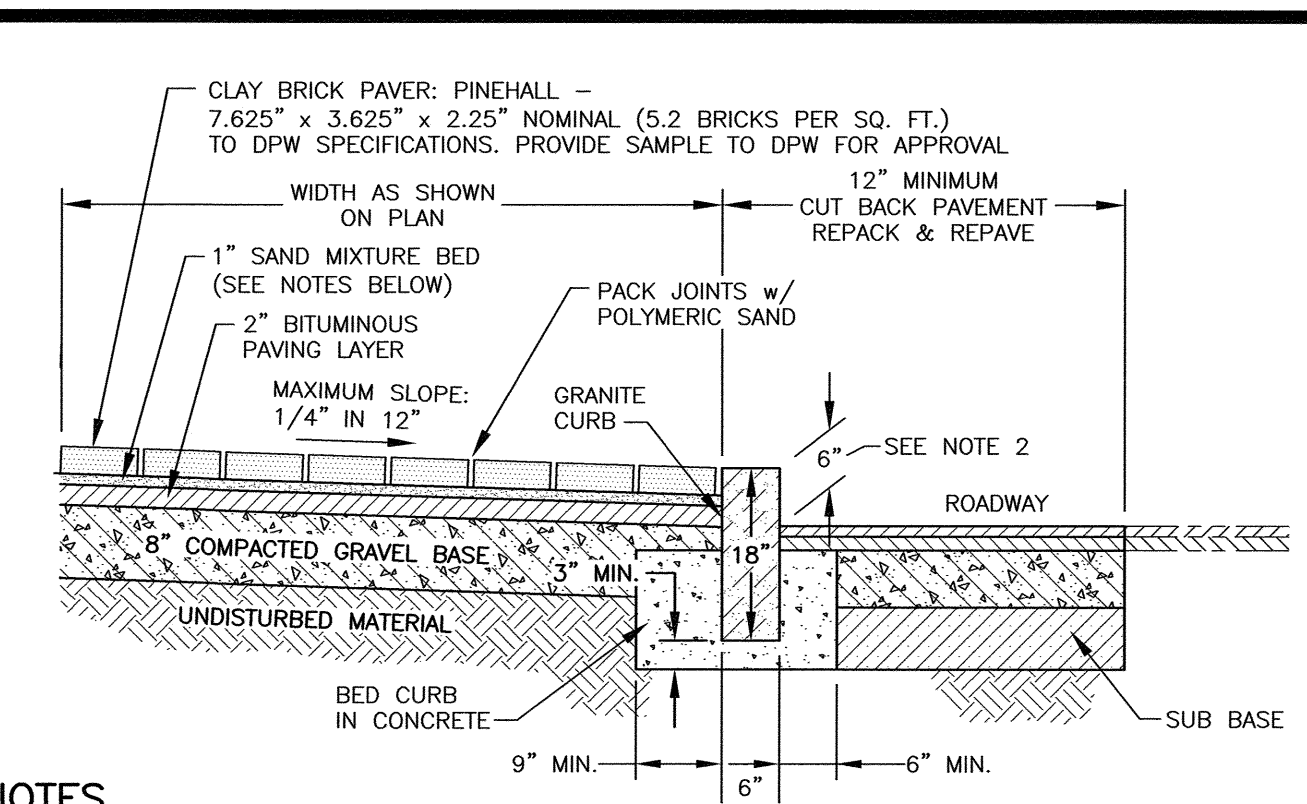
**E** GAS SERVICE TRENCH  
**C4** NTS



**F** FLUSHED GRANITE CURB  
**C3** NTS



**G** TYPICAL PAVEMENT CROSS-SECTION  
 AS NEEDED NTS



**CONSTRUCTION NOTE:**  
 EXISTING GRANITE CURB DISTURBED BY CONSTRUCTION SHALL BE REUSED AND ANY MISSING CURB SHALL BE REPLACED WITH NEW CURB MATCHING EXISTING CURB SIZE. NO CURB LESS THAN 3' IN LENGTH WILL BE ALLOWED.

**BRICK PAVEMENT NOTES**

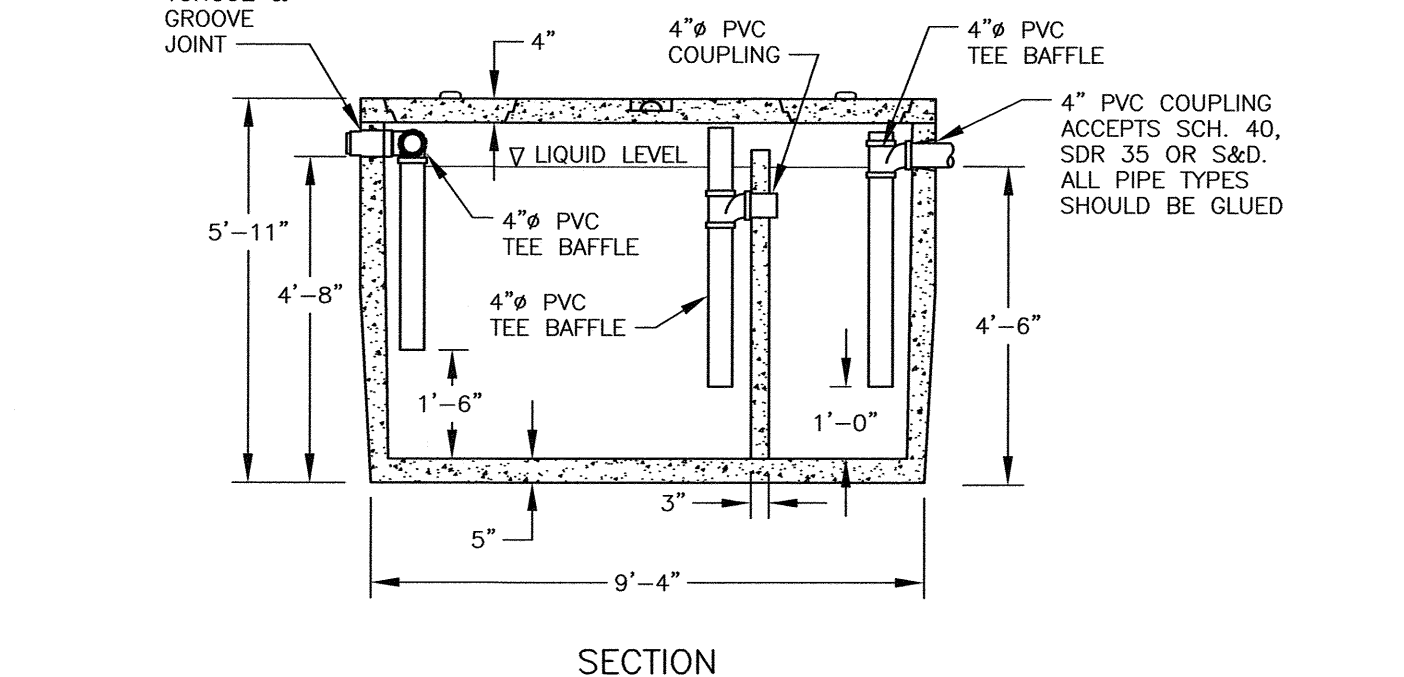
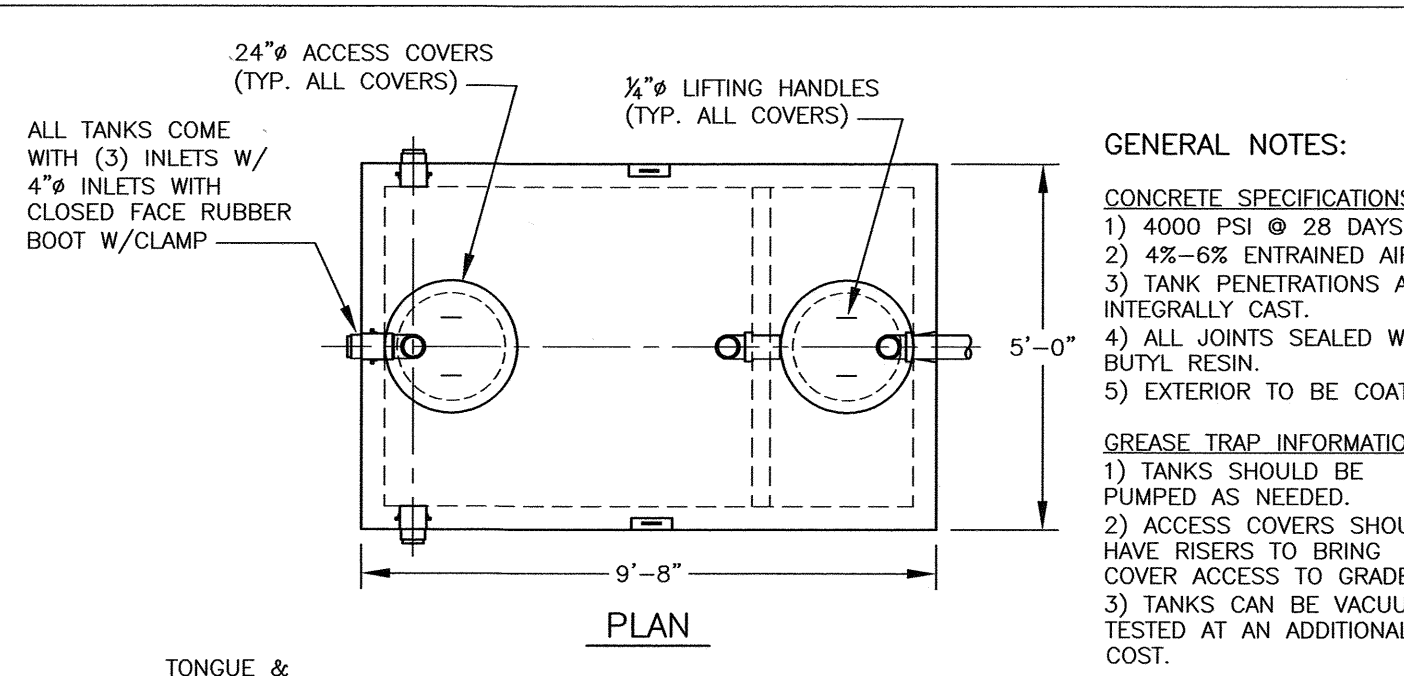
**SCOPE OF WORK:**

- 1) THE WORK SHALL CONSIST OF CONSTRUCTING/RECONSTRUCTING THE SUB-BASE AND CONSTRUCTING A NEW BRICK SIDEWALK AS DIRECTED IN THE FIELD BY THE ENGINEER.
- 2) REVEAL SHALL BE AS SHOWN ON PROPOSED GRADING PLAN. (COORDINATE WITH PORTSMOUTH DPW).

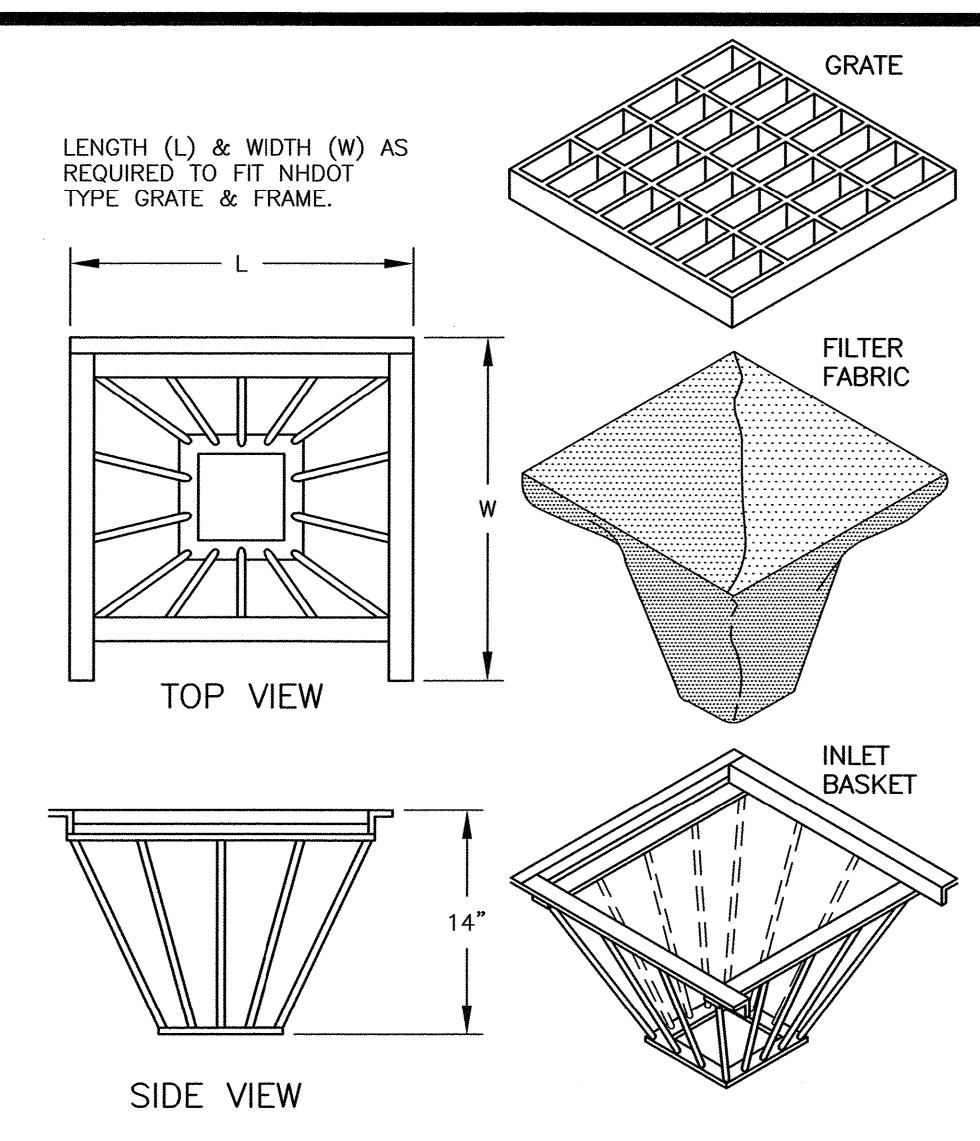
**METHODS OF CONSTRUCTION:**

- A) ALL LABOR AND MATERIALS SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 608, AND CITY OF PORTSMOUTH SPECIFICATIONS FOR NEW BRICK SIDEWALK, SECTION 6.
- B) ALL BRICKS SHALL CONFORM TO THE REQUIREMENTS OF ASTM STANDARD SPECIFICATIONS FOR BUILDING BRICKS: CLASS SX, TYPE 1, APPLICATION PX. THE BRICKS SHALL BE NO. 1, WIRE CUT TYPE FOR PAVING, WITH A COMPRESSIVE STRENGTH OF NOT LESS THAN 6,000 POUNDS PER SQUARE INCH. THE BRICKS SHALL NOT BE CORED OR HAVE FROGS AND SHALL BE OF A STANDARD SIZE (2.25" x 3.625" x 7.625").
- C) EXCAVATION FOR SIDEWALKS SHALL BE AT A DEPTH OF 10 INCHES BELOW FINISH GRADE. IN AREAS NOT BUTTING CURBING OR BUILDINGS, THE EXCAVATION SHALL BE 6 INCHES WIDER THAN THE FINISHED SIDEWALK WIDTH. AT ALL DRIVE CROSSINGS, THE DEPTH OF EXCAVATION SHALL BE INCREASED ACCORDINGLY. THE CONTRACTOR SHALL PROVIDE NEAT AND SQUARE CUTTING OF EXISTING ASPHALT ROAD SURFACE AS NEEDED. ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF-SITE AT THE CONTRACTOR'S OWN EXPENSE.
- D) THE BASE MATERIAL SHALL CONSIST OF A MIXTURE OF STONES OR ROCK FRAGMENTS AND PARTICLES WITH 100% PASSING THE 3 INCH SIEVE, 95% TO 100% PASSING THE 2 INCH SIEVE, 55% TO 85% PASSING THE 1 INCH SIEVE, AND 27% TO 52% PASSING THE NO. 4 SIEVE. AT LEAST 50% OF THE MATERIALS RETAINED ON THE 1 INCH SIEVE SHALL HAVE A FRACTURED FACE. THE BASE MATERIAL SHALL BE THOROUGHLY COMPACTED TO THE DEPTH SPECIFIED OR DIRECTED. IN THE WAY OF ALL DRIVE CROSSINGS THE BASE WILL BE INCREASED TO A COMPACTED DEPTH OF 12 INCHES. GRAVEL REQUIREMENTS FOR RECONSTRUCTION WILL BE AS DIRECTED, BASED ON SITE CONDITIONS. THE WORK INCLUDES BACKING UP ANY AND ALL CURB BEING INSTALLED BY OTHERS ON BOTH SIDES.
- E) THE CLAY BRICK PAVERS SHALL BE LAID IN A 1 INCH BED OF A SAND MIXTURE COMPRISED OF: 3 PARTS SAND MIXED WITH 1 PART PORTLAND CEMENT.
- F) THE CONTRACTOR SHALL LAY THE BRICKS SO THAT APPROXIMATELY 5.2 BRICKS SHALL COVER ONE SQUARE FOOT.
- G) THE SIDEWALK SHALL PITCH TOWARDS THE STREET AS SHOWN ON THE GRADING PLAN.
- H) IN AREAS WHERE THE FRONT OF THE BRICK SIDEWALK IS NOT ADJACENT TO GRANITE CURBING, THE CONTRACTOR SHALL INSTALL EDGING TO HOLD THE BRICKS IN PLACE. SUCH EDGING SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
- I) THE CONTRACTOR SHALL SUBMIT A SAMPLE OF THE BRICKS FOR APPROVAL BY THE CITY BEFORE BRICKS ARE INSTALLED.

**H** BRICK SIDEWALK w/ VERTICAL GRANITE CURB  
 (STONE DUST BEDDING OVER BITUMINOUS PAVING) NTS

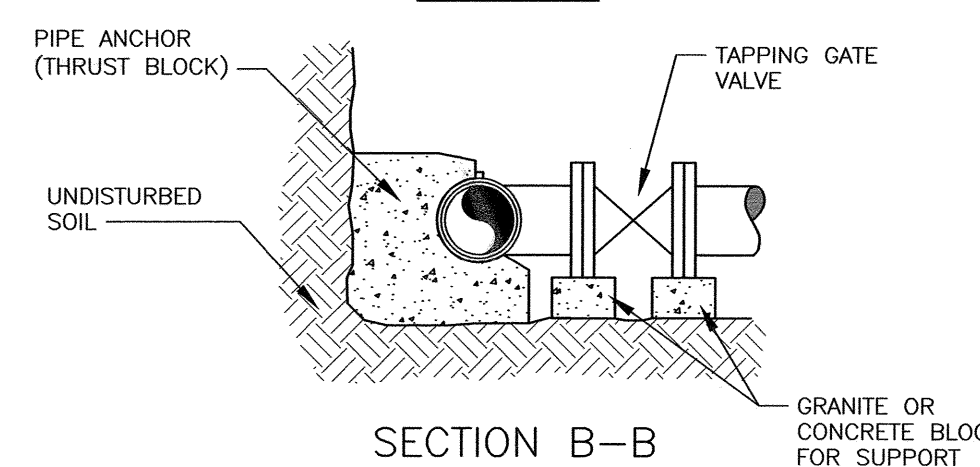
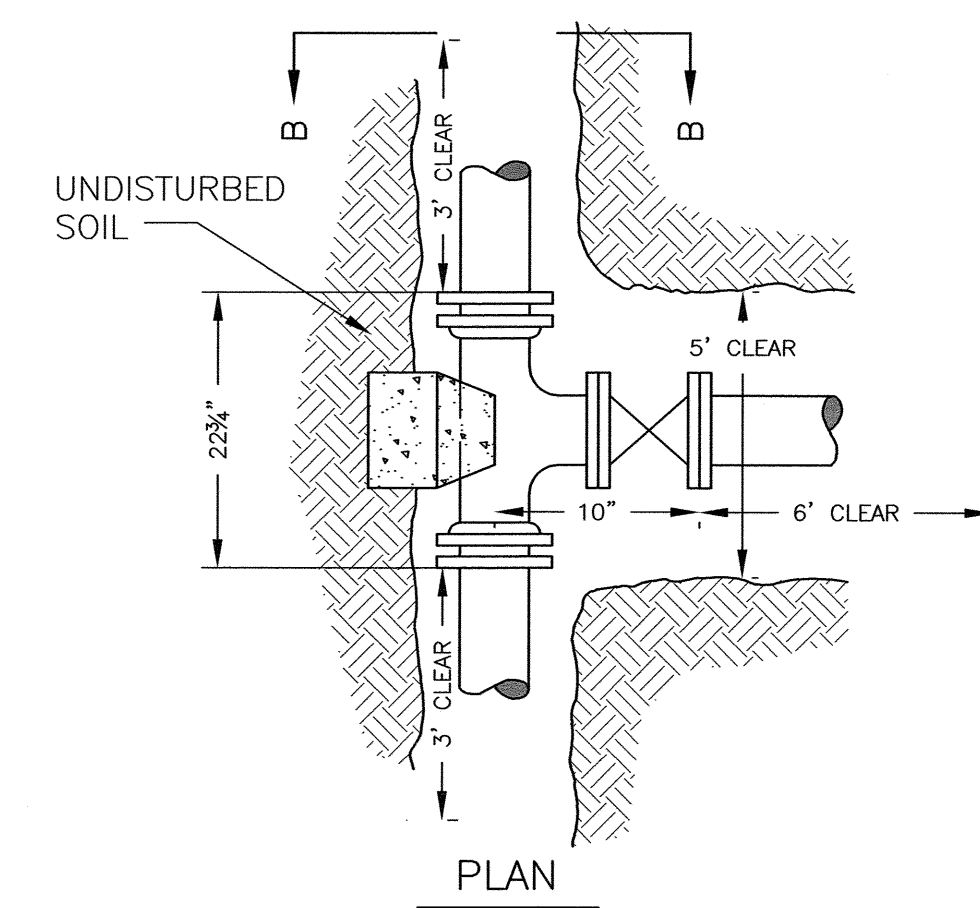


**I** SHEA CONCRETE  
**C4** 1000 GALLON 2 COMP. GREASE TRAP NTS  
 14,825 Lbs  
 ITEM # M1000H  
 H20 LOAD RATED



- 1) INLET BASKETS SHALL BE INSTALLED IMMEDIATELY AFTER CATCH BASIN CONSTRUCTION IS COMPLETE AND SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL PAVEMENT BINDER COURSE IS COMPLETE.
- 2) THE FILTER FABRIC SHALL BE PUSHED DOWN AND FORMED TO THE SHAPE OF THE BASKET. THE SHEET OF FABRIC SHALL BE LARGE ENOUGH TO BE SUPPORTED BY THE BASKET FRAME WHEN HOLDING SEDIMENT AND, SHALL EXTEND AT LEAST 6" PAST THE FRAME. THE INLET GRATE SHALL BE PLACED OVER THE BASKET/FRAME AND WILL SERVE AS THE FABRIC ANCHOR.
- 3) THE FILTER FABRIC SHALL BE A GEOTEXTILE FABRIC, POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:  
 -RAB STRENGTH: 45 LB. MIN. IN ANY PRINCIPAL DIRECTION (ASTM D1682)  
 -MULLEN BURST STRENGTH: MIN. 60 psi (ASTM D774)
- 4) THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 20 U.S. STANDARD SIEVE AND A MINIMUM PERMEABILITY OF 120 gpm/s.f. (MULTIPLY THE PERMITIVITY IN SEC.-1 FROM ASTM 54491-85 CONSTANT HEAD TEST USING THE CONVERSION FACTOR OF 74.)
- 5) THE INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.
- 6) SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

**J** CATCH BASIN INLET BASKET  
**C5** NTS

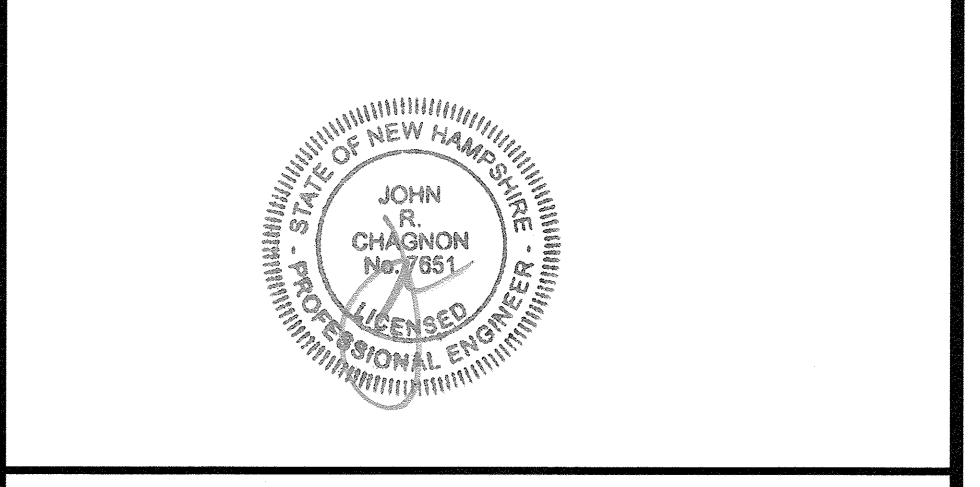


- NOTES:**
- 1) ALL MATERIALS SHALL BE APPROVED BY THE PORTSMOUTH WATER DEPARTMENT PRIOR TO INSTALLATION AND USE.
  - 2) ALL JOINTS SHALL BE MECHANICAL.
  - 3) "CLEAR" DIMENSIONS SHOWN ARE REQUIRED FOR WORKSPACE.
  - 4) NO JOINTS ON PIPE BEING TAPPED WITHIN "CLEAR" AREA.
  - 5) FORD TYPE STAINLESS STEEL TAPPING SADDLES OR APPROVED EQUAL ARE ALSO ACCEPTABLE.

**K** TAPPING SLEEVE AND GATE  
**C4** INSTALL PER PORTSMOUTH REQUIREMENTS NTS

**COMMERCIAL DEVELOPMENT**  
**ONE CONGRESS STREET**  
**PORTSMOUTH, N.H.**

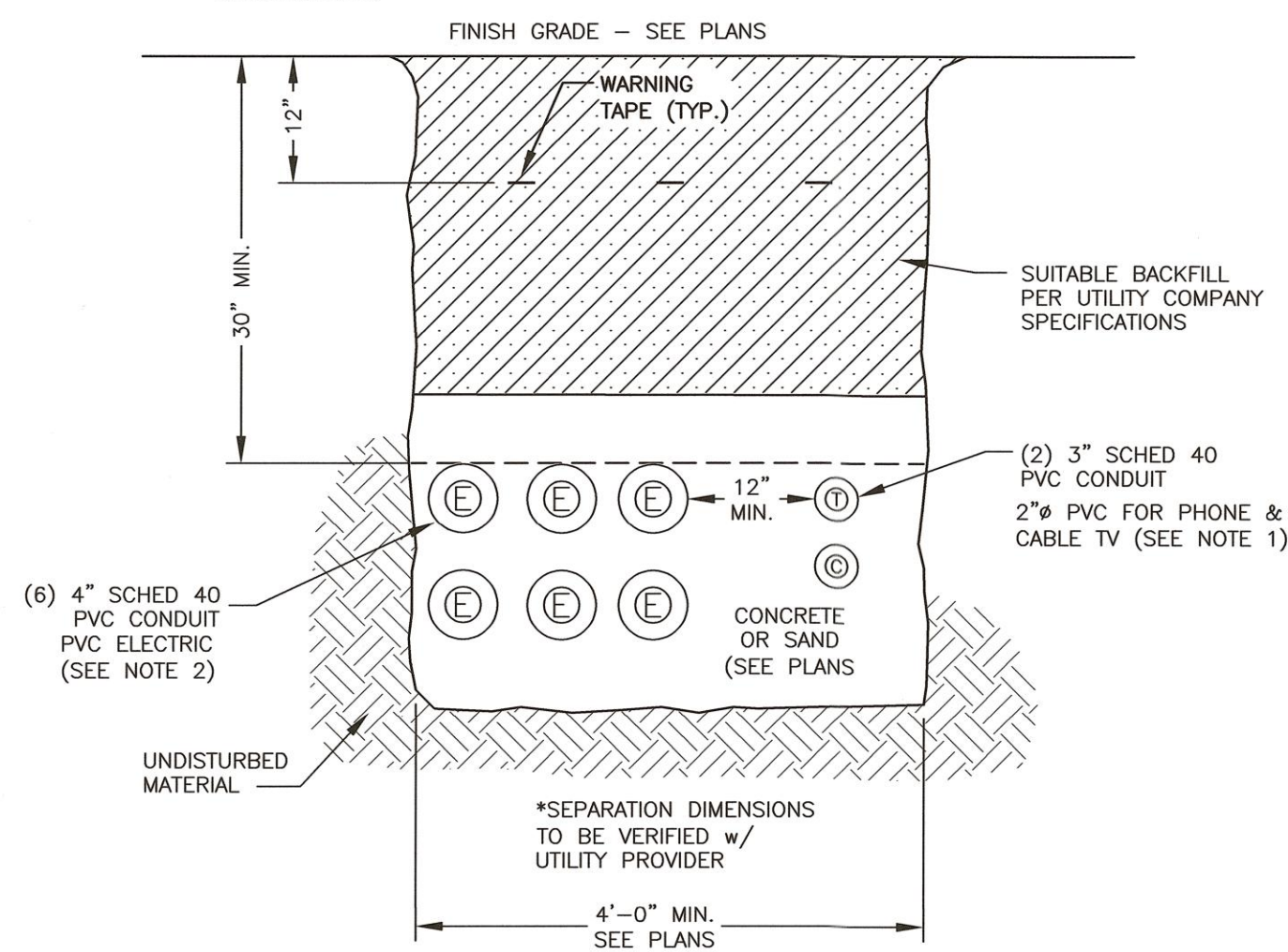
NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	9/6/22
REVISIONS		



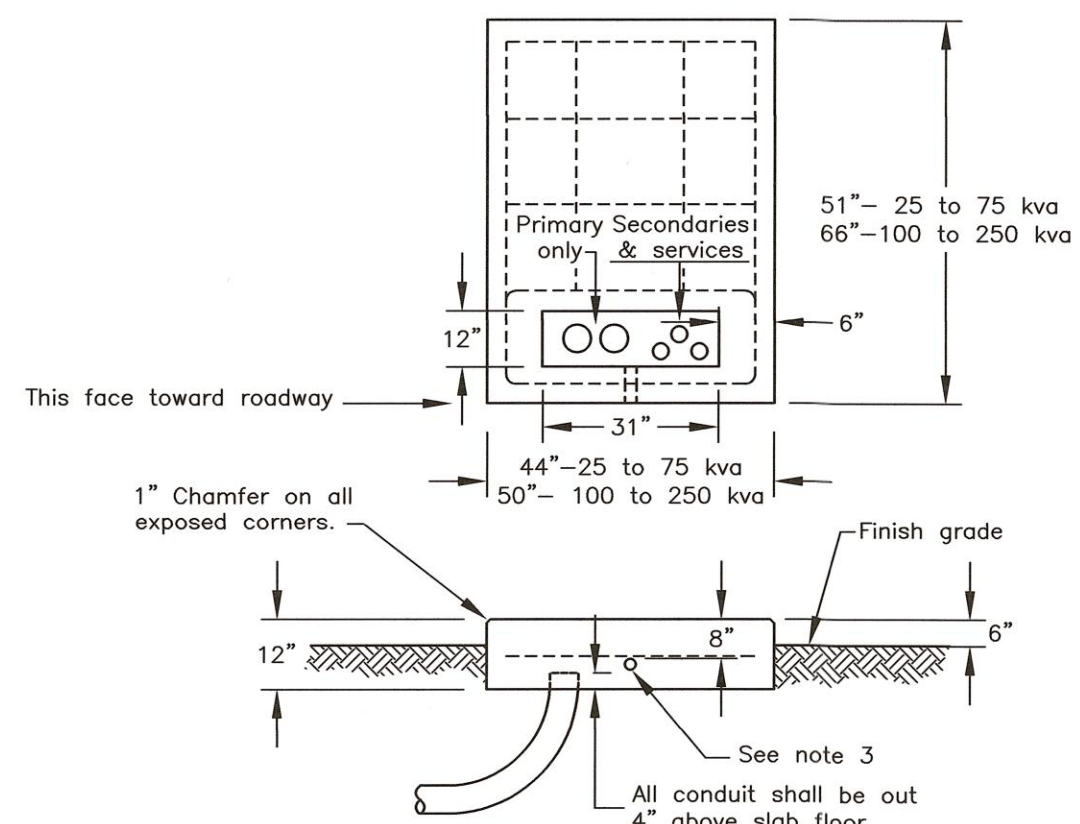
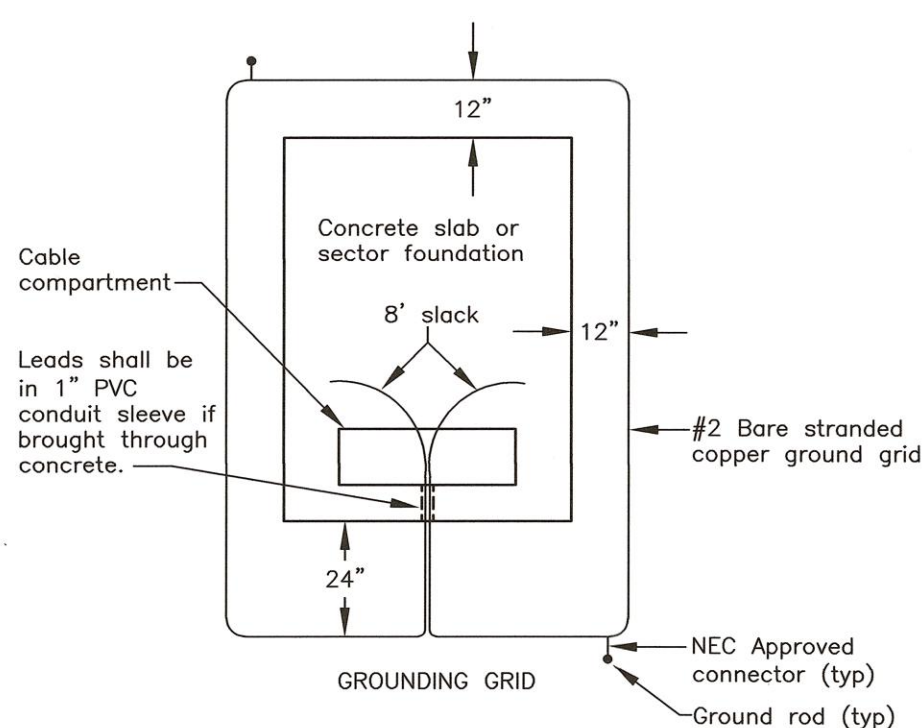
SCALE: AS SHOWN SEPTEMBER 2022

**DETAILS** **D2**

- NOTES:
- 1) ALL CONDUIT TO BE U.L. LISTED, SCH. 80 UNDER ALL TRAVEL WAYS, & SCHED. 40 FOR THE REMAINDER.
  - 2) NORMAL CONDUIT SIZES FOR PSNH ARE 3 INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4 INCH FOR THREE PHASE SECONDARY, AND 5 INCH FOR THREE PHASE PRIMARY.
  - 3) ALL WORK TO CONFORM TO THE NATIONAL ELECTRICAL CODE (LATEST REVISION)
  - 4) INSTALL A 200# PULL ROPE FOR EACH CONDUIT
  - 5) VERIFY ALL CONDUIT SPECIFICATIONS WITH UTILITY COMPANY'S PRIOR TO ANY CONSTRUCTION.

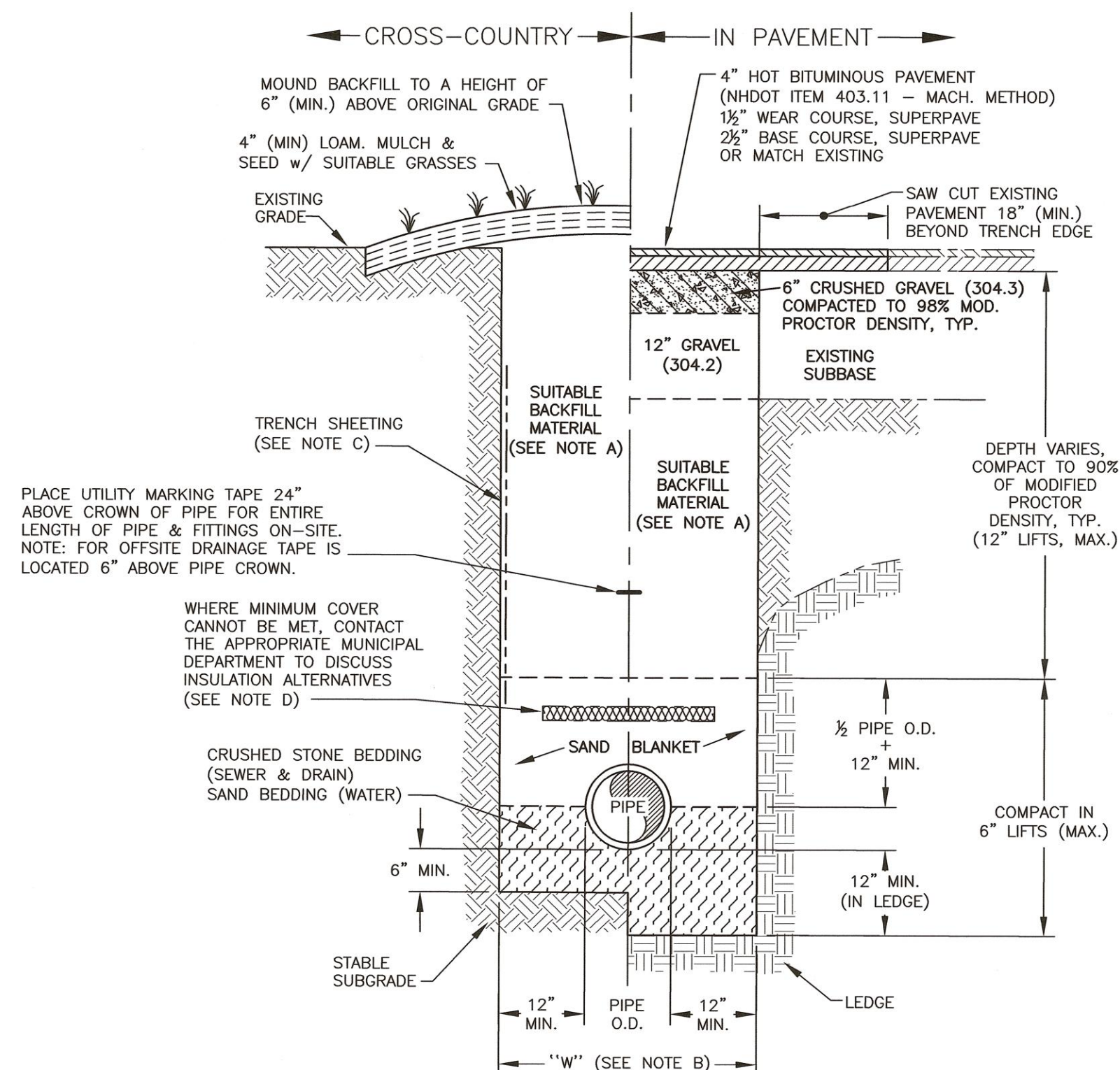


**L** BURIED ELEC/COMM CABLE  
NTS



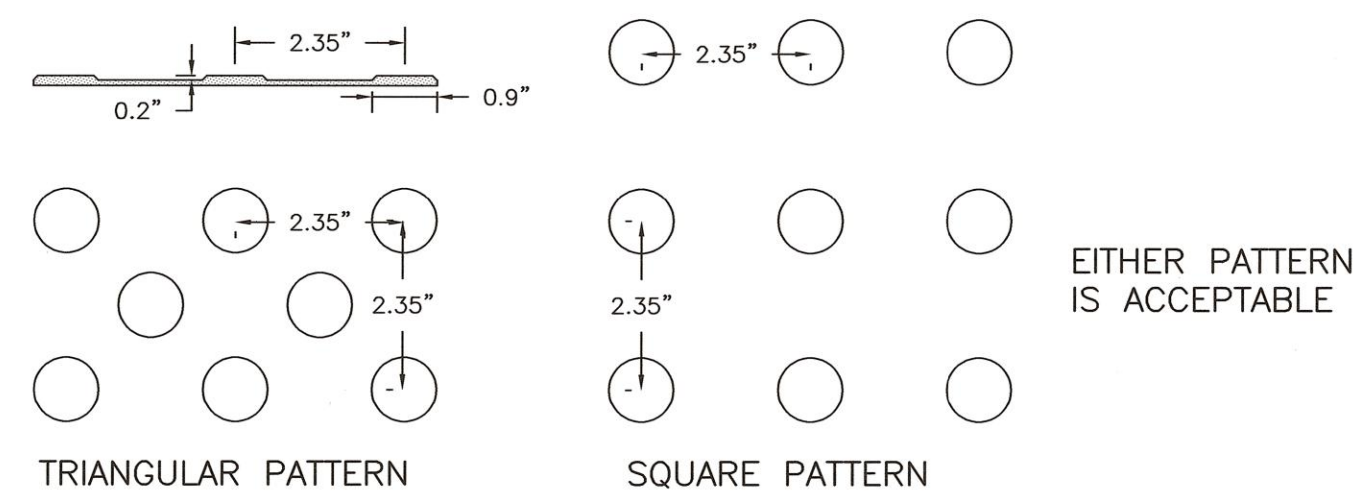
- NOTES:
1. See sheet "Requirements for Padmounted Transformer Slab Details".
  2. All reinforcing to be #6 bars.
  3. 1" PVC conduit sleeve for ground grid leads.
  4. The ground grid shall be supplied and installed by the customer and is to be buried at least 12" below grade. Eight feet of extra wire for each ground grid leg shall be left exposed in the cable compartment to allow for the connection to the transformer; the two 8' ground rods may be either galvanized steel or copperweld and they shall be connected to the grid with NEC approved connectors.

**M** TRANSFORMER PAD  
IF NEEDED NTS



- TRENCH NOTES:
- A) TRENCH BACKFILL:  
- IN PAVED AREAS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIALS DEEMED TO BE UNACCEPTABLE BY THE ENGINEER.
- IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE.
- B) "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 INCHES. FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D..
- C) TRENCH SHEETING:  
THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SAFE EXCAVATION PRACTICES.
- D) MINIMUM PIPE COVER FOR UTILITY MAINS (UNLESS GOVERNED BY OTHER CODES):  
5' MINIMUM FOR SEWER (IN PAVEMENT)  
4' MINIMUM FOR SEWER (CROSS COUNTRY)  
3' MINIMUM FOR STORMWATER DRAINS  
5' MINIMUM FOR WATER MAINS
- E) ALL PAVEMENT CUTS SHALL BE REPAIRED BY THE INFRARED HEAT METHOD.

**N** TYPICAL PIPE TRENCH  
NTS



**O** DETECTABLE WARNING SURFACE  
NTS

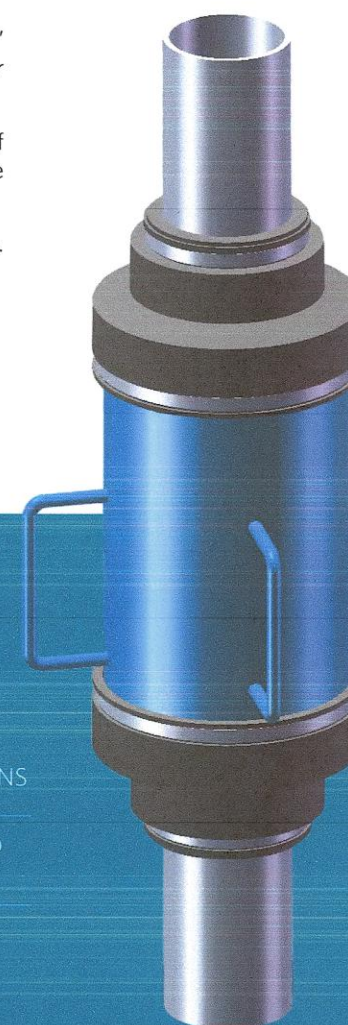
**OVERVIEW**

The Bio Clean Downspout Filter is the industry's leading solution for treatment of roof runoff. This technology is used to treat commercial and industrial rooftops along with highrise buildings, parking structures, and residential buildings.

Available in 3 sizes, this filter can easily adapt to downspouts 2" to 12" in diameter. The filter comes standard with rubber boots that allow for easy installation to the downspout.

Proven since 2003, the Downspout Filter has been used on hundreds of installations throughout the United States. All internal components are constructed of stainless steel.

The sleek in-line design allows the filter to be used in tight spaces. Approved by the IAPMO, this filter can meet all your needs.



**PERFORMANCE**

93% REMOVAL OF TSS  
87% REMOVAL OF HYDROCARBONS

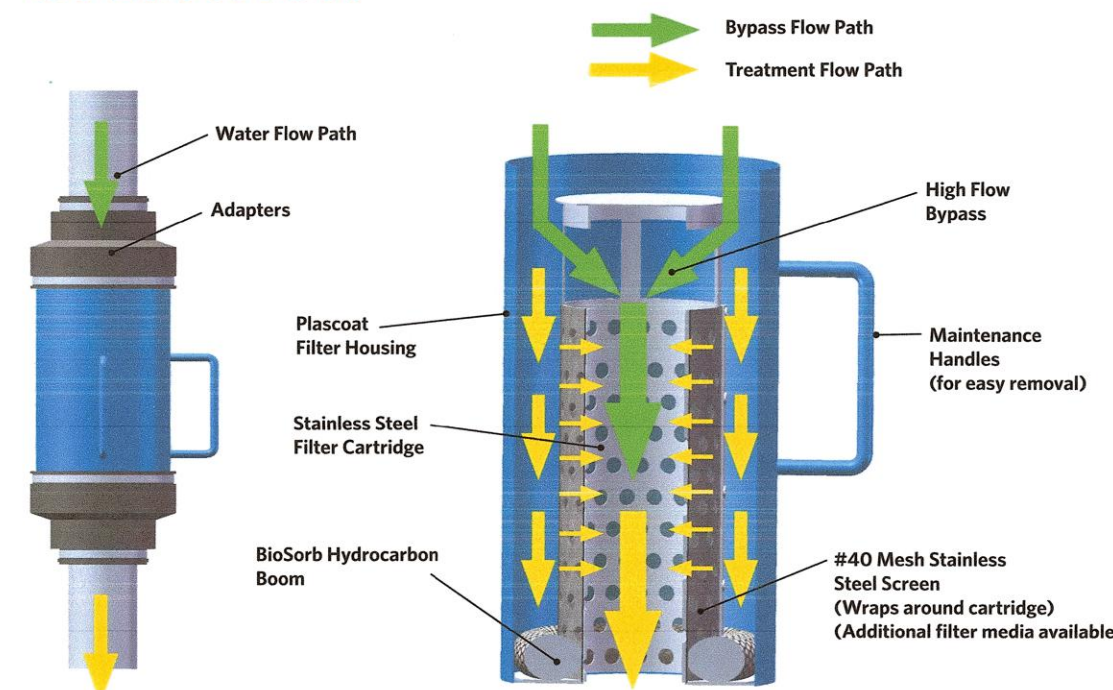
EFFECTIVE AT REMOVING METALS, NUTRIENTS, AND BACTERIA (MEDIA TYPE)

**ADVANTAGES**

- 1-YEAR WARRANTY
- HIGH TREATMENT FLOW RATE
- NO NETS OR GEOFABRICS
- HIGH BYPASS FLOW RATE
- SLEEK IN-LINE DESIGN
- LOW COST

**P** ROOF DRAIN FILTER OVERVIEW  
NTS

**OPERATION**



**APPROVALS**



**SPECIFICATIONS**

MODEL #	INLET ID (dia., in.)	FILTER OD (dia., in.)	STORAGE CAP. (cu. ft.)	FILTERED FLOW (gpm)	BYPASS FLOW (gpm)
BC-DF4	4	6.625	0.09	249	566
BC-DF6	6	8.625	0.21	509	1006
BC-DF8	8	8.625	0.21	509	1006
BC-DF10	10	12.75	0.77	1145	2264
BC-DF12	12	12.75	0.77	1145	2264

**Q** ROOF DRAIN FILTER OPERATION  
NTS

**NOTES:**

- 1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.
- 2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.
- 3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

**COMMERCIAL DEVELOPMENT**  
**ONE CONGRESS STREET**  
**PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
1	DETAIL M	10/18/22
0	ISSUED FOR COMMENT	9/6/22
REVISIONS		



SCALE: AS SHOWN AUGUST 2022

DETAILS **D3**

**NOTES:**  
 1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION." (NHDES DECEMBER 2008).

4) CATCH BASIN POLYETHYLENE LINER NOTES:  
 POLYETHYLENE LINER (ITEM 604.0007) SHALL BE FABRICATED AT THE SHOP. DOWNSPOUT SHALL BE EXTRUSION FILLET WELDED TO THE POLYETHYLENE SHEET.

PLACE A CONTINUOUS BEAD OF AN APPROVED SILICONE SEALANT (SUBSIDIARY TO ITEM 604.0007) BETWEEN FRAME AND POLYETHYLENE SHEET.

PLACE CLASS AA CONCRETE TO 2" BELOW THE TOP OF THE GRATE ELEVATION (SUBSIDIARY TO DRAINAGE STRUCTURE).

USE ON DRAINAGE STRUCTURES 4" MIN. DIAMETER ONLY.

TRIM POLYETHYLENE SHEET A MAXIMUM OF 4" OUTSIDE THE FLANGE ON THE FRAME FOR THE CATCH BASIN BEFORE PLACING CONCRETE (EXCEPT AS SHOWN WHEN USED WITH 3-FLANGE FRAME AND CURB).

THE CENTER OF THE GRATE & FRAME MAY BE SHIFTED A MAXIMUM OF 6" FROM THE CENTER OF THE DOWNSPOUT IN ANY DIRECTION.

PLACED ONLY IN DRAINAGE STRUCTURES IN PAVEMENT.

SEE NHDOT DR-04, "DI-DB, UNDERDRAIN FLUSHING BASIN AND POLYETHYLENE LINER DETAILS," FOR ADDITIONAL INFORMATION.

CATCH BASINS WITHIN CITY RIGHT OF WAY SHALL HAVE A POLYETHYLENE LINER.

5) ALL WATER MAIN & CONNECTIONS SHALL BE INSTALLED PER CITY OF PORTSMOUTH CONSTRUCTION STANDARDS.

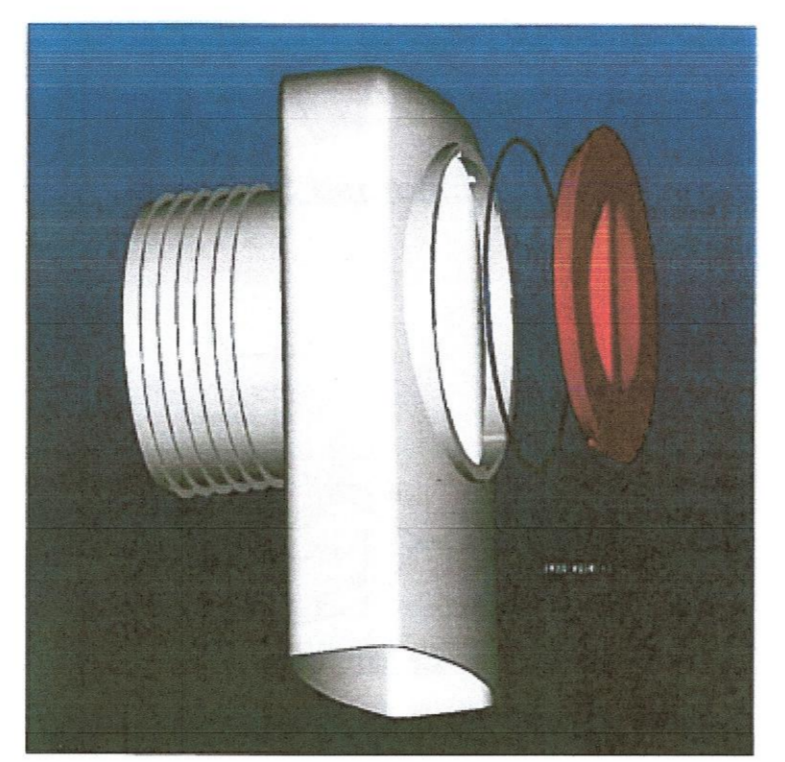
**COMMERCIAL DEVELOPMENT**  
**ONE CONGRESS STREET**  
**PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
2	DETAIL V	12/20/22
1	DETAIL S	10/18/22
0	ISSUED FOR COMMENT	9/6/22



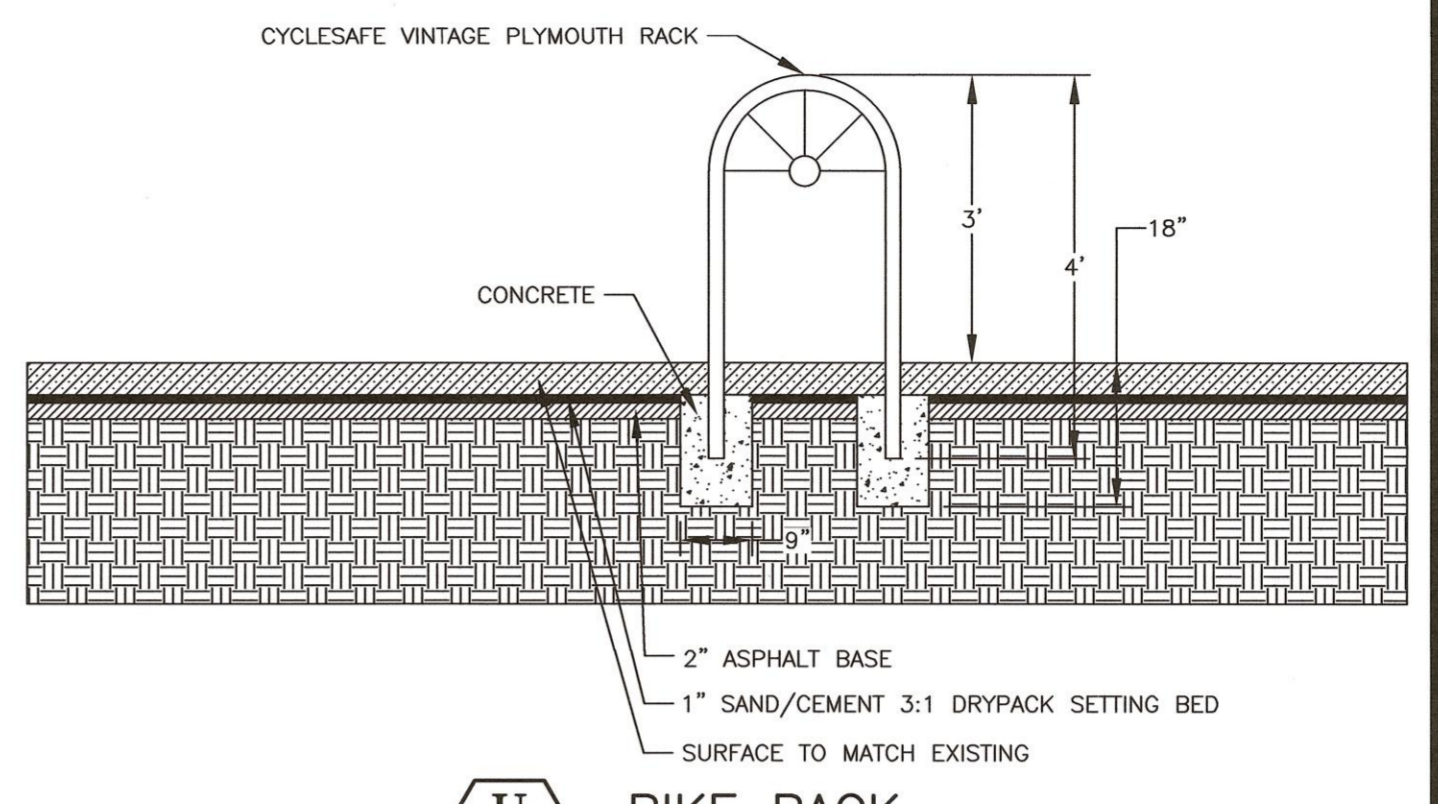
SCALE: AS SHOWN SEPTEMBER 2022

**DETAILS** **D4**

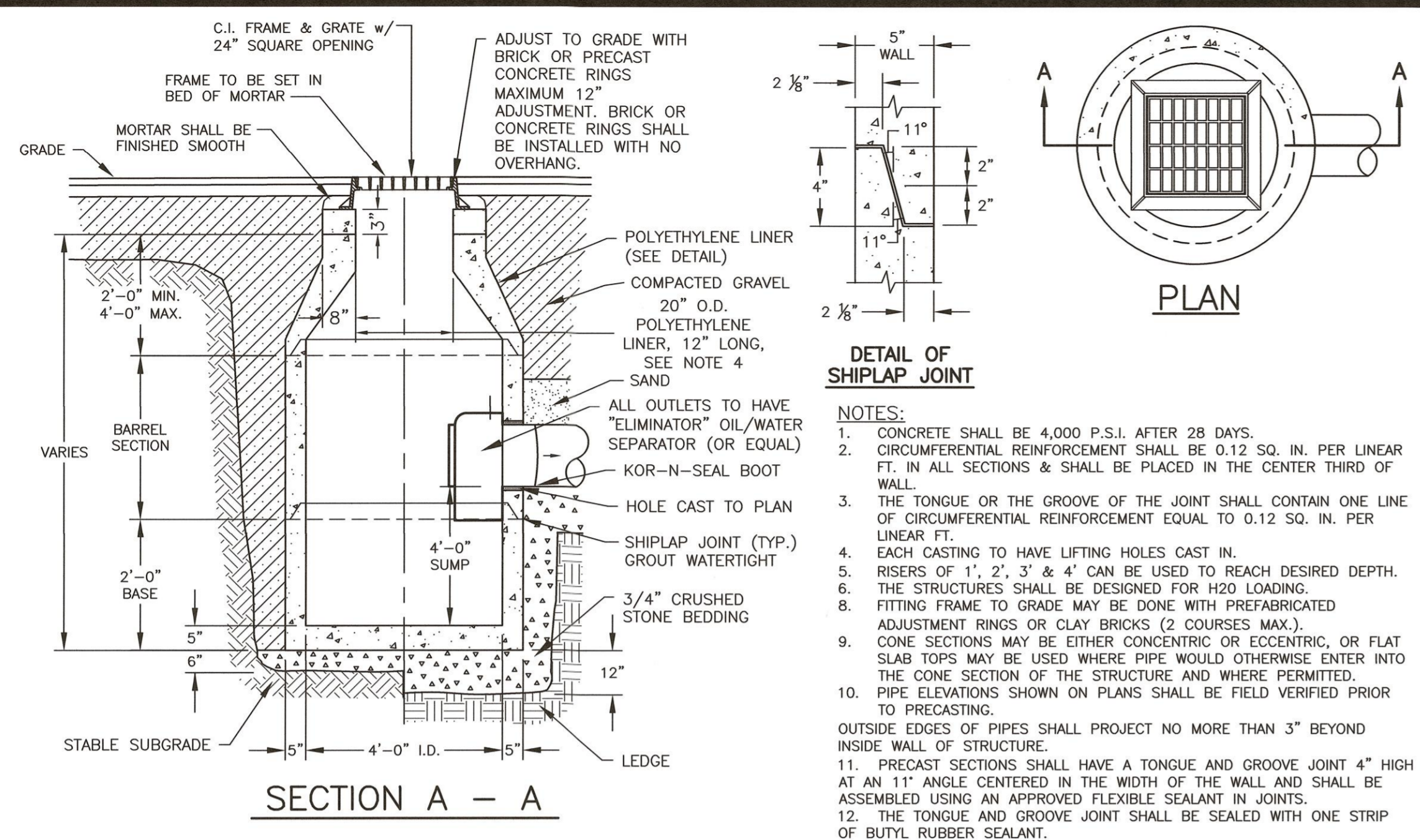


- NOTES:**  
 1. ALL CATCH BASIN OUTLETS TO HAVE "ELIMINATOR" OIL AND FLOATING DEBRIS TRAP MANUFACTURED BY KLEANSTREAM (NO EQUAL)  
 2. INSTALL DEBRIS TRAP TIGHT TO INSIDE OF STRUCTURE.  
 3. 1/4" HOLE SHALL BE DRILLED IN TOP OF DEBRIS TRAP.

**T**  
**C5** CATCH BASIN OIL TRAP  
 THE "ELIMINATOR" NTS

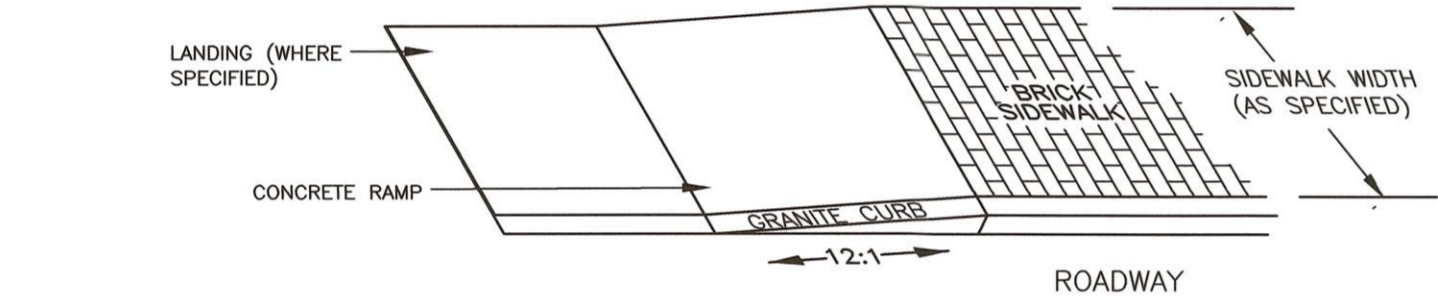


**U**  
**C3** BIKE RACK  
 NTS

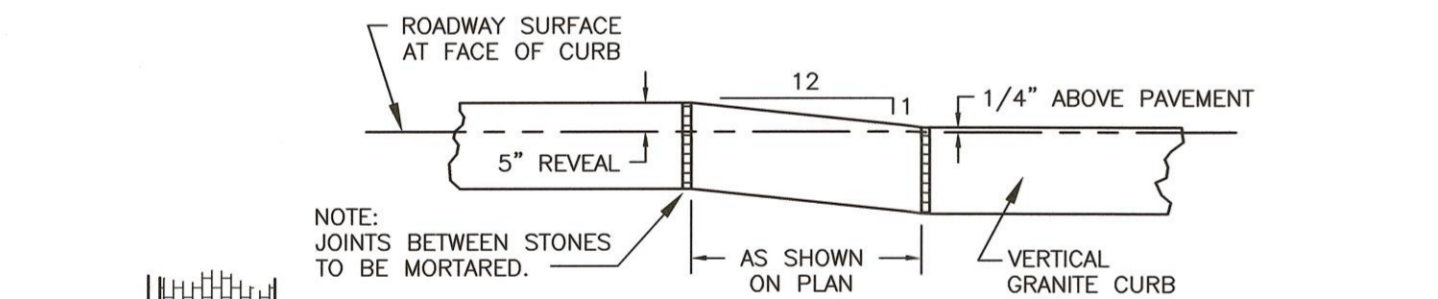


**R**  
**C5** CATCH BASIN DETAIL  
 NTS

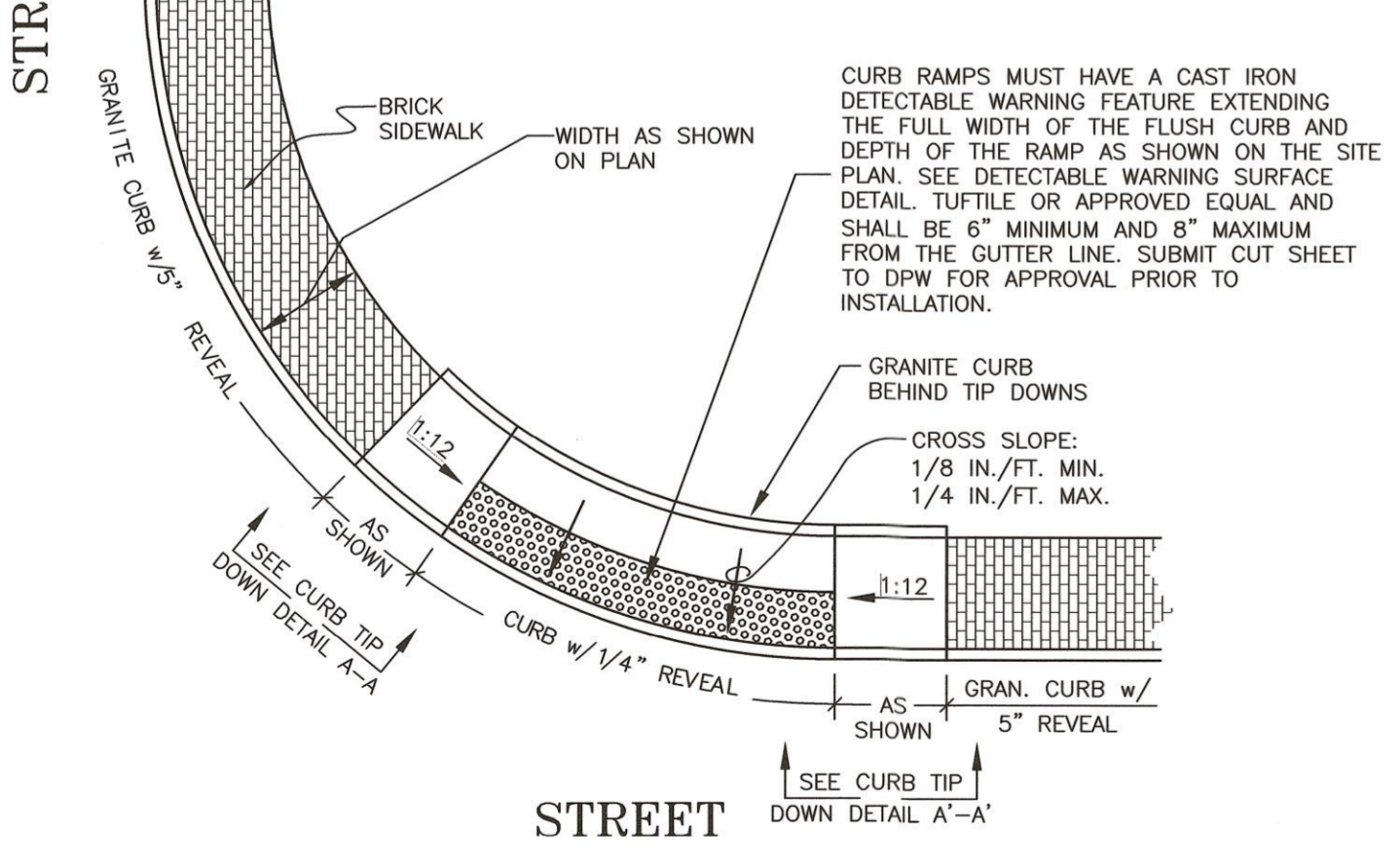
- DETAIL OF SHIPLAP JOINT**
- NOTES:**  
 1. CONCRETE SHALL BE 4,000 P.S.I. AFTER 28 DAYS. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS & SHALL BE PLACED IN THE CENTER THIRD OF WALL.  
 2. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.  
 3. EACH CASTING TO HAVE LIFTING HOLES CAST IN. RISERS OF 1", 2", 3" & 4" CAN BE USED TO REACH DESIRED DEPTH.  
 4. THE STRUCTURES SHALL BE DESIGNED FOR H2O LOADING.  
 5. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).  
 6. CONE SECTIONS MAY BE EITHER CONCENTRIC OR ECCENTRIC, OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.  
 7. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.  
 8. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.  
 9. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.  
 10. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.  
 11. "ELIMINATOR" OIL/WATER SEPARATOR SHALL BE INSTALLED TIGHT TO INSIDE OF CATCHBASIN.



**S**  
**C3** SIDEWALK TIP DOWN  
 (NON INTERSECTION) NTS

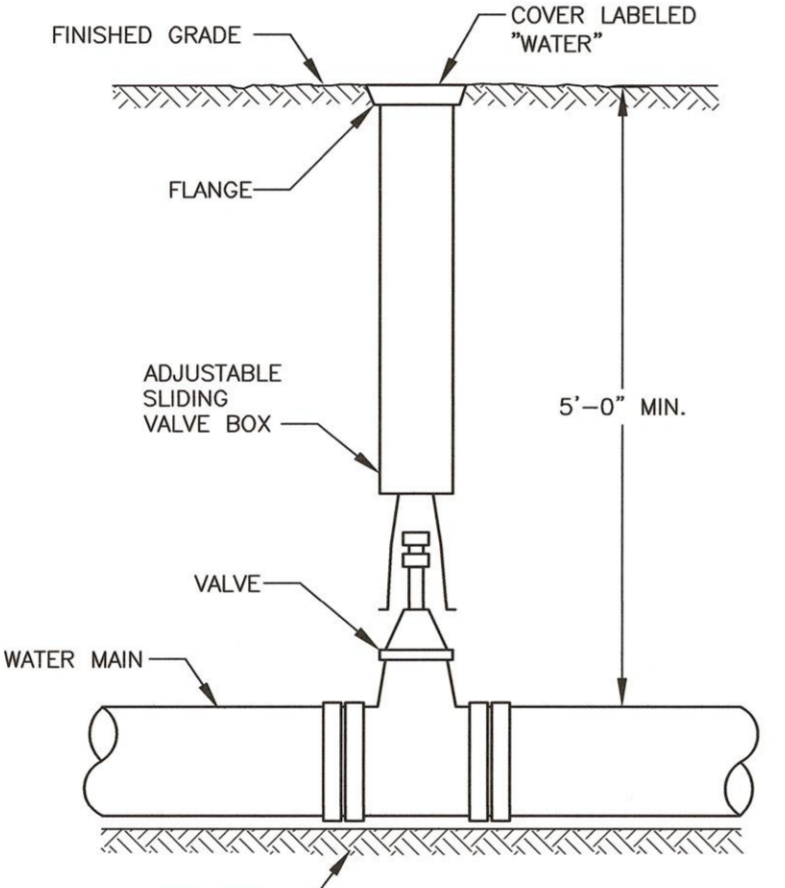


**S**  
**C3** CURB TIP DOWN DETAIL A-A & A'-A'  
 (A'-A' MIRRORED) NTS



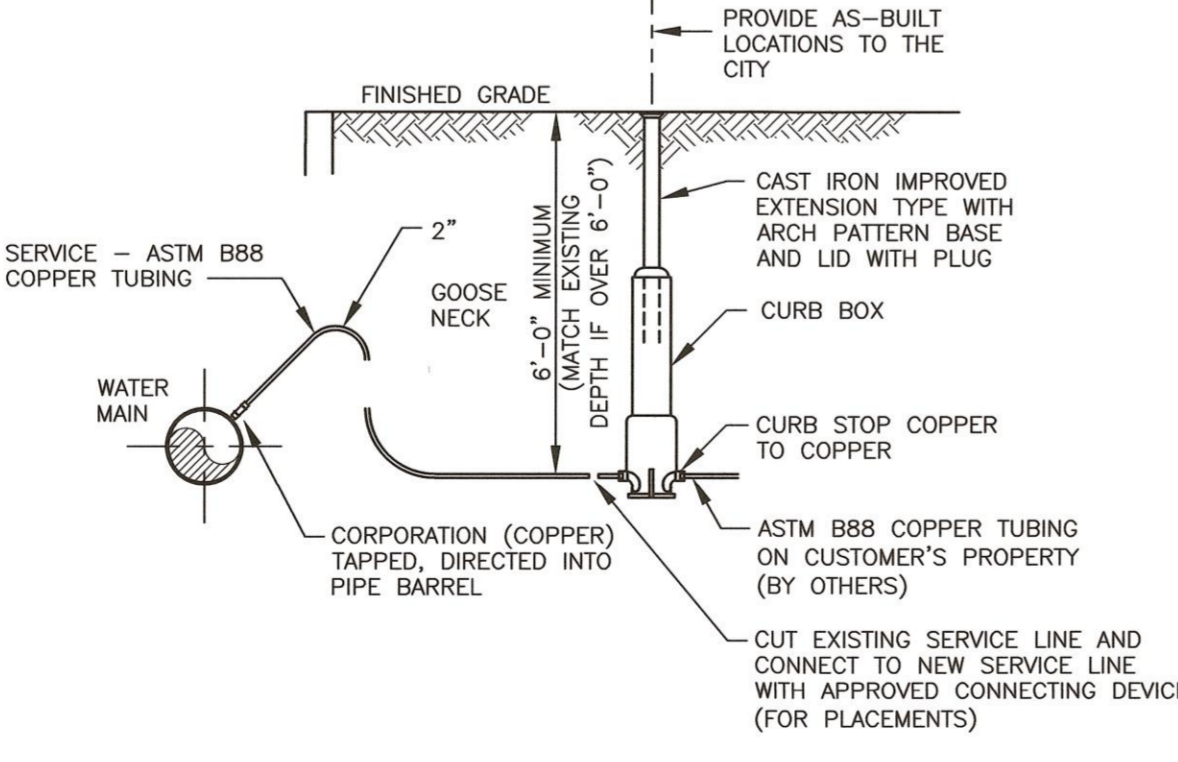
**S**  
**C3** SIDEWALK TIP DOWN AT INTERSECTION  
 NTS

**S**  
**C3** TYPICAL SIDEWALK TIP DOWNS  
 WITH FLUSH CURB RAMP IS ELIMINATED



**V**  
**C4** VALVE AND BOX DETAIL  
 NTS

- NOTES:**  
 1. GATE VALVE TO BE LOCATED WITHIN ROADWAY PAVEMENT WHERE POSSIBLE.  
 2. PROPER SIZE VALVE BOX SHALL BE INSTALLED WHERE GATE VALVES ARE SHOWN ON PLANS.



**V**  
**C4** TYPICAL WATER SERVICE CONNECTION  
 NTS

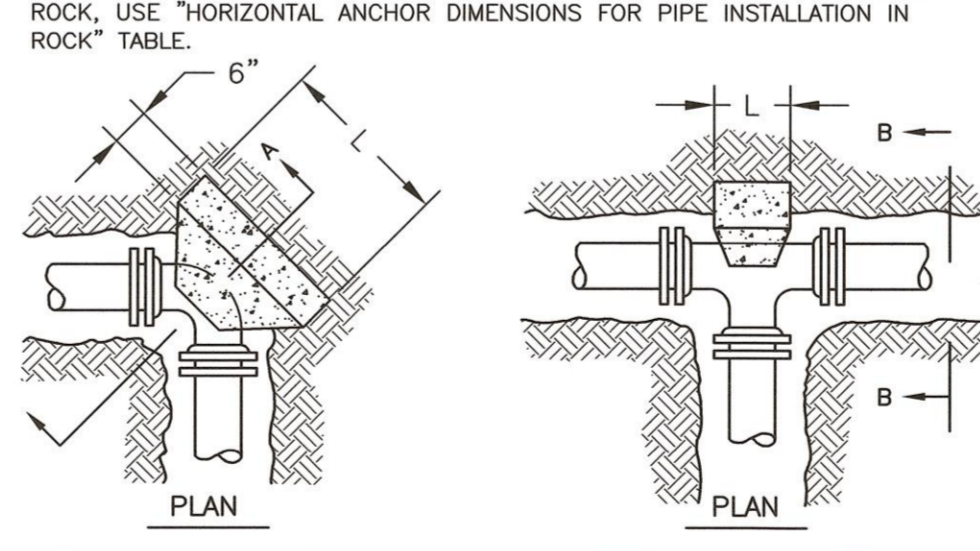
**HORIZONTAL ANCHOR DIMENSIONS FOR PIPE INSTALLATION IN ROCK**  
 UP TO 150 P.S.I. WORKING PRESSURE

PIPE SIZE	TEE OR TAP SLEEVE		90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		ROD DIA.
	H	L	H	L	H	L	H	L	H	L	
4"	0'-9"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"	3/4"
6"	0'-9"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"	3/4"
8"	1'-2"	1'-2"	1'-2"	1'-2"	1'-0"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"	3/4"
10"	1'-4"	1'-4"	1'-4"	1'-4"	1'-0"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"	3/4"
12"	1'-8"	1'-8"	1'-8"	1'-8"	1'-3"	1'-3"	1'-0"	1'-0"	0'-9"	1'-0"	3/4"

**HORIZONTAL ANCHOR DIMENSIONS FOR AVERAGE SOIL CONDITIONS**  
 UP TO 150 P.S.I. WORKING PRESSURE

PIPE SIZE	TEE OR TAP SLEEVE		90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		ROD DIA.
	H	L	H	L	H	L	H	L	H	L	
4"	1'-0"	2'-0"	1'-0"	2'-0"	1'-0"	1'-4"	0'-9"	1'-0"	0'-6"	1'-0"	3/4"
6"	1'-0"	2'-0"	1'-0"	2'-0"	1'-0"	1'-4"	0'-9"	1'-0"	0'-6"	1'-0"	3/4"
8"	1'-4"	2'-8"	1'-4"	2'-8"	1'-4"	1'-6"	1'-0"	1'-0"	0'-9"	1'-0"	3/4"
10"	1'-8"	3'-4"	1'-8"	3'-4"	1'-8"	2'-0"	1'-3"	1'-3"	1'-0"	1'-0"	3/4"
12"	2'-0"	4'-0"	2'-0"	4'-0"	2'-0"	2'-2"	1'-6"	1'-6"	1'-3"	1'-3"	3/4"

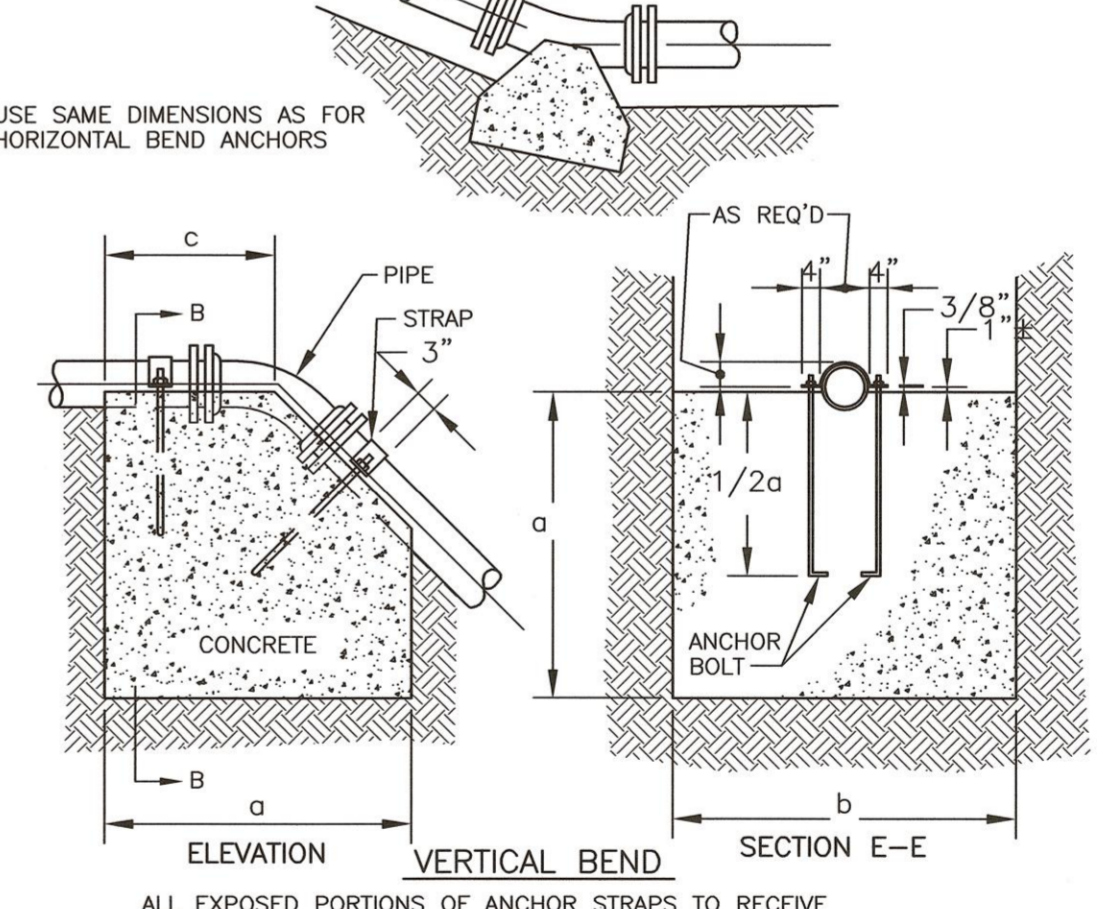
- NOTES:**  
 1) TABLES ARE BASED ON AN ALLOWABLE SOIL PRESSURE OF 3000 PSF ON UNDISTURBED EARTH BEHIND THE ANCHOR BLOCK. WHERE SOIL HAS BEEN DISTURBED BY ADJACENT EXCAVATIONS OR WHERE SOIL CANNOT WITHSTAND SUCH A PRESSURE, THE TABLE DOES NOT APPLY.  
 2) WHERE ENTIRE DEPTH OF PIPE IS BELOW THE TOP SURFACE OF SOUND ROCK, USE "HORIZONTAL ANCHOR DIMENSIONS FOR PIPE INSTALLATION IN ROCK" TABLE.



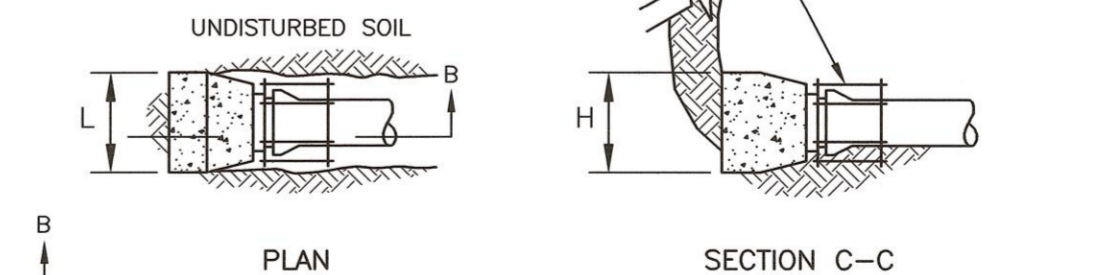
**V**  
**C4** HORIZONTAL ANCHORING  
 ALL HORIZONTAL BENDS TEE OR TAPPING SLEEVE

**VERTICAL ANCHOR DIMENSIONS**  
 UP TO 150 P.S.I. WORKING PRESSURE

PIPE SIZE	45° BEND			22 1/2° BEND			11 1/4° BEND			ROD DIA.		
	a	b	c	a	b	c	a	b	c			
4"	3'-0"	3'-0"	2'-0"	3/4"	2'-6"	2'-3"	1'-6"	3/4"	2'-0"	2'-0"	1'-6"	3/4"
6"	3'-0"	3'-0"	2'-0"	3/4"	2'-6"	2'-3"	1'-6"	3/4"	2'-0"	2'-0"	1'-6"	3/4"
8"	3'-6"	3'-6"	2'-6"	3/4"	3'-0"	3'-0"	1'-9"	3/4"	2'-6"	2'-6"	1'-3"	3/4"
10"	4'-3"	4'-0"	3'-0"	3/4"	3'-6"	3'-3"	2'-0"	3/4"	2'-9"	2'-9"	1'-6"	3/4"
12"	4'-9"	4'-6"	3'-3"	3/4"	4'-0"	3'-9"	2'-6"	3/4"	3'-3"	3'-3"	1'-9"	3/4"



**V**  
**C4** VERTICAL ANCHORING  
 ALL EXPOSED PORTIONS OF ANCHOR STRAPS TO RECEIVE TWO FIELD COATS (MIN.) OF BITUMASTIC MATERIAL

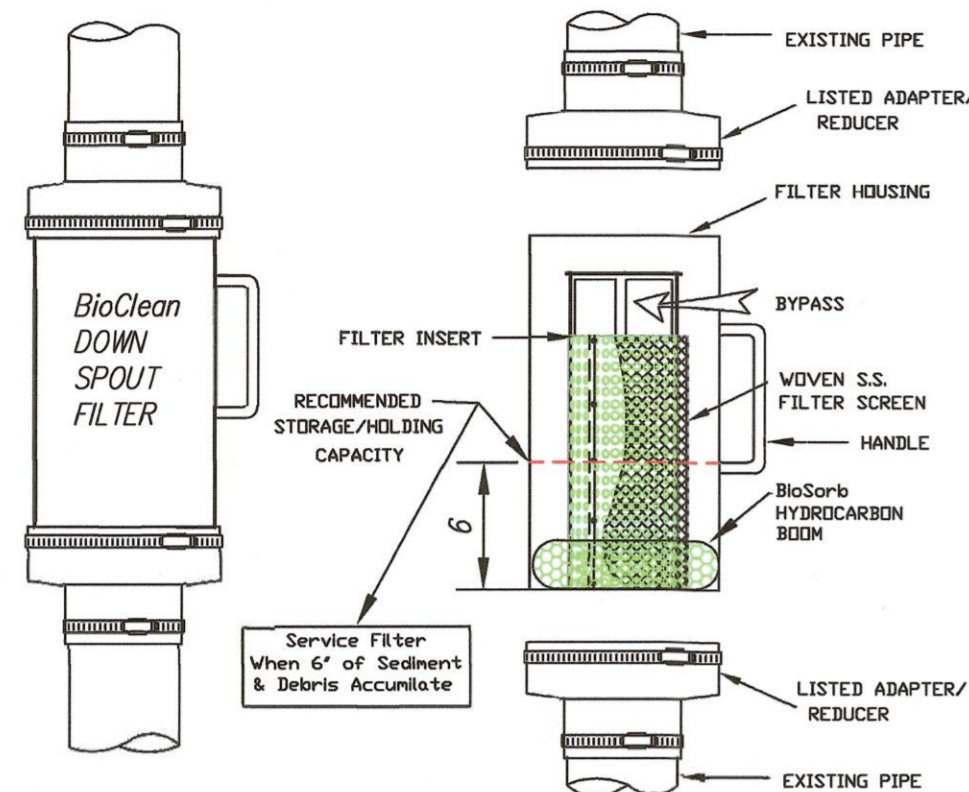


**V**  
**C4** RESTRAINED PLUG OR CAP  
 NOTE: SEE CHART "HORIZONTAL ANCHOR DIMENSIONS" TIE RODS TO BE PROVIDED IN LIEU OF THRUST BLOCK

**V**  
**C4** PRESSURE PIPE ANCHORING DETAILS  
 INSTALL PER PORTSMOUTH REQUIREMENTS NTS

# SERVICE MANUAL (Cleaning Procedures)

## Bio Clean DOWNSPOUT FILTER Screen Type With Hydrocarbon Boom



### TOOLS AND EQUIPMENT NEEDED:

1. Medium size flat screed driver
2. BioSorb hydrocarbon boom. 25-1/2" X 2" dia. (Call Bio Clean to order)
3. Trash container or bag
4. Wooden dowel approx. 3' x 1/2" dia.

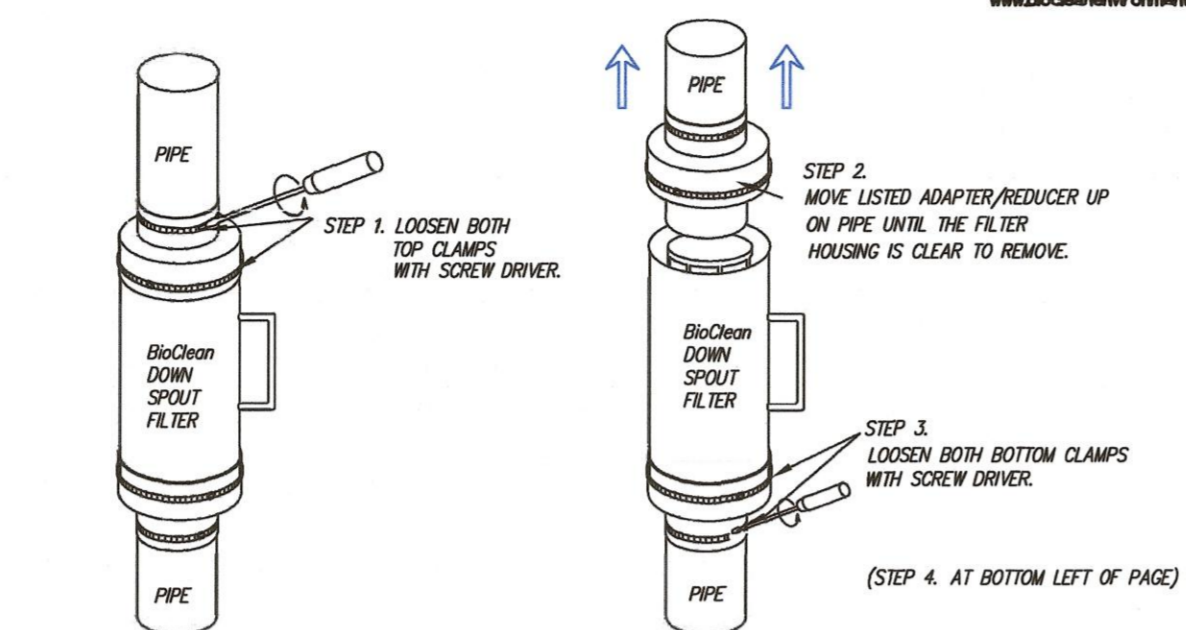
### DETAIL OF PARTS



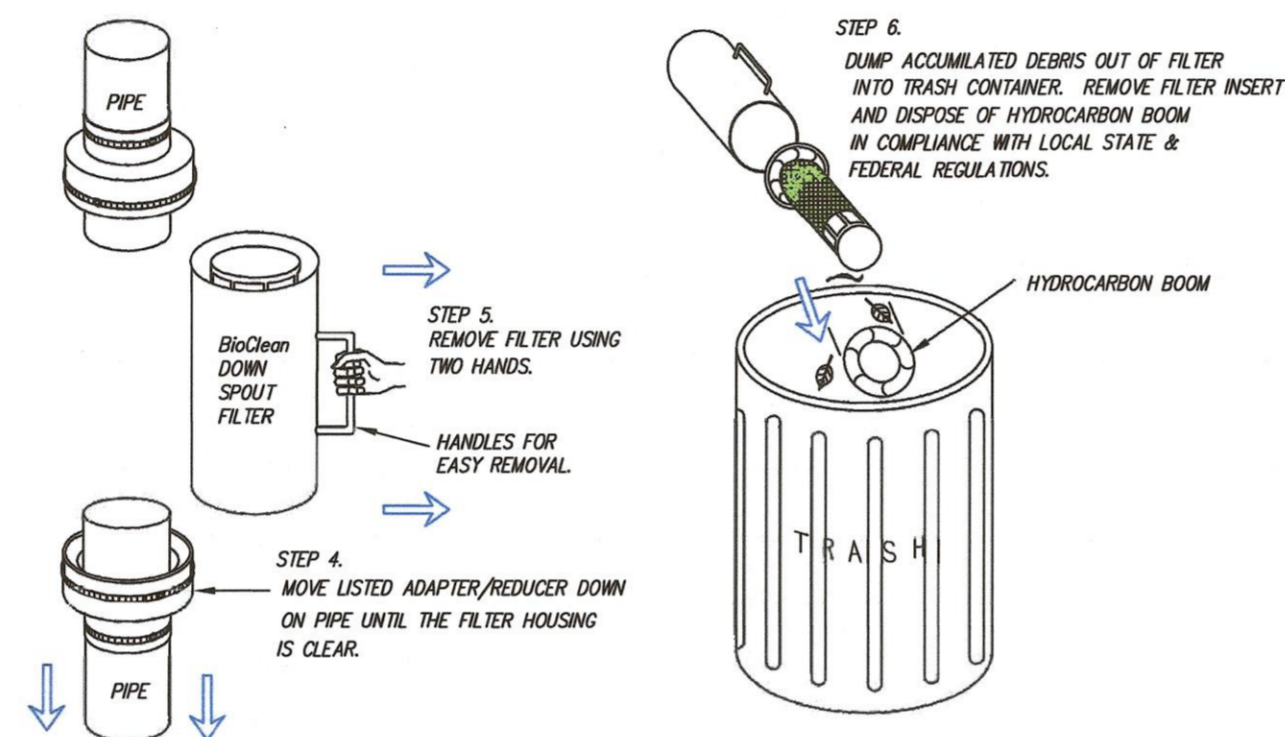
P.O. BOX 869, Oceanside, Ca. 92049  
(760) 433-7640 Fax (760) 433-3176  
www.biocleanenvironmental.net

PAGE 1 OF 5

### REMOVING FILTER

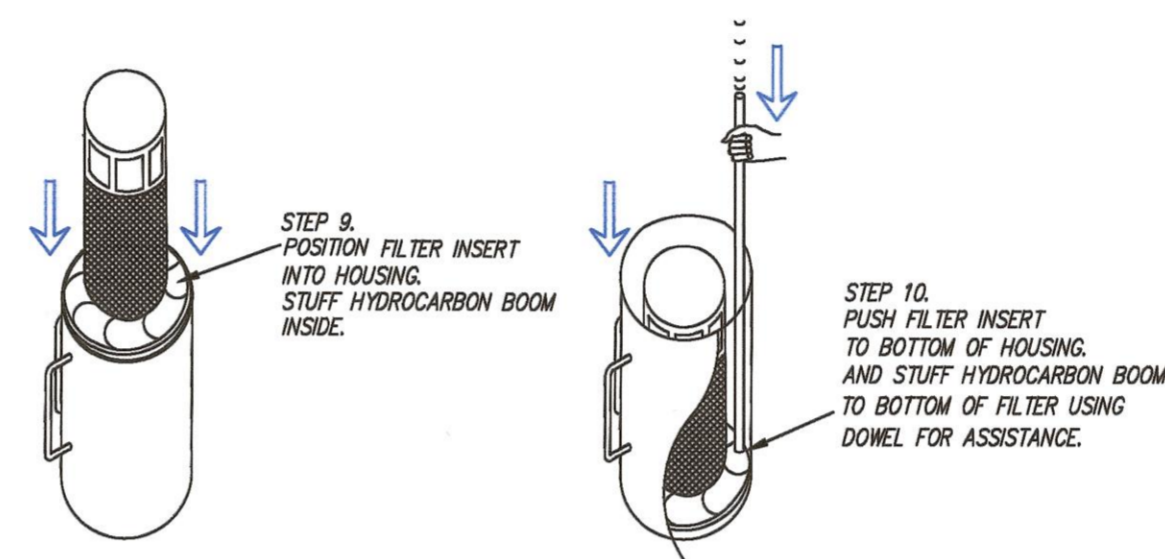


### CLEANING FILTER



PAGE 2 OF 5

### REPLACING FILTER INSERT



PAGE 3 OF 5

## DOWNSPOUT FILTER

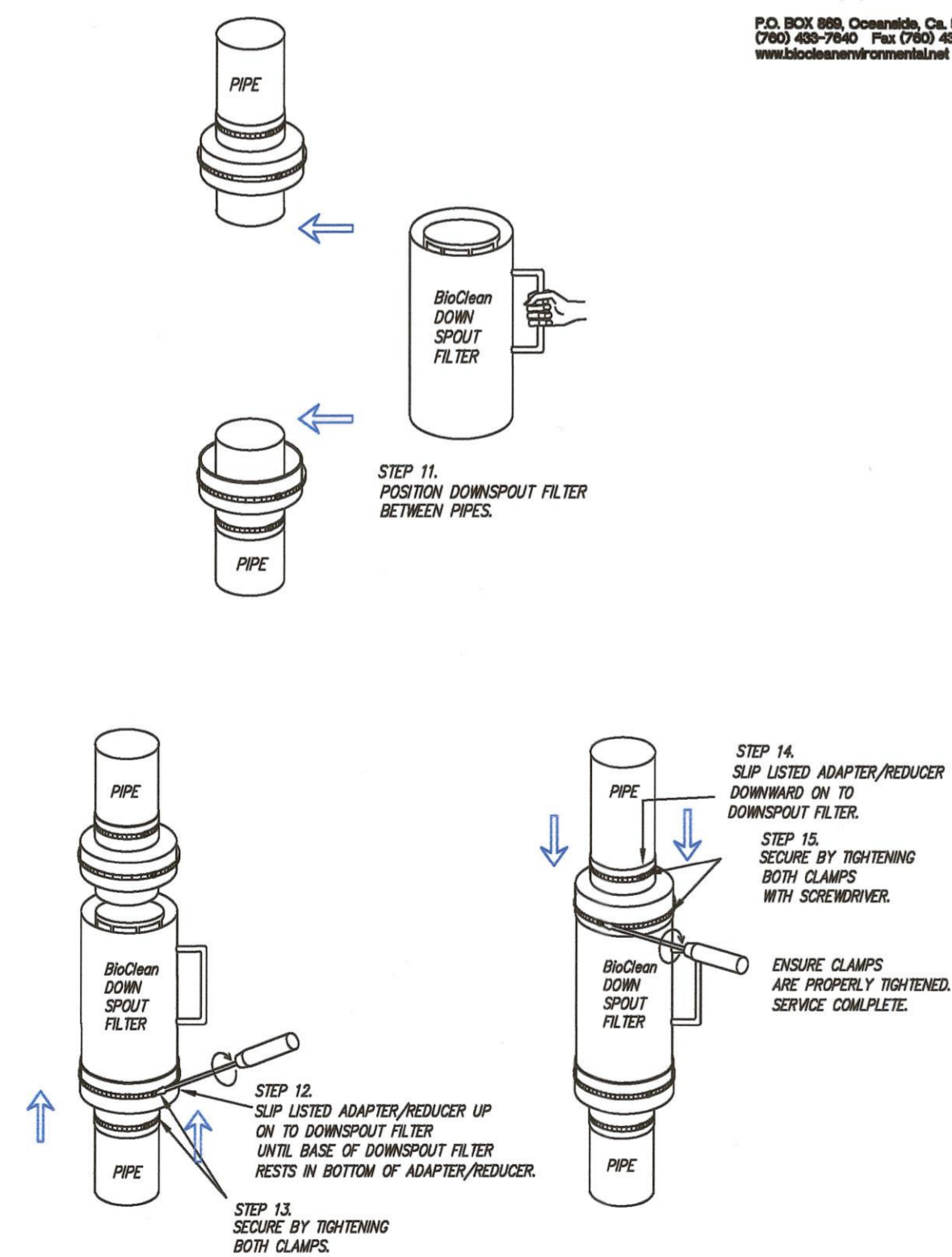
### MAINTENANCE:

THE FILTER IS DESIGNED TO ALLOW FOR THE USE OF MANUAL OR VACUUM REMOVAL OF CAPTURED MATERIALS IN THE FILTER STRUCTURE. FILTERS CAN BE CLEANED EASILY BY SIMPLY LOOSENING THE METAL CLAMPS AND REMOVING THE FILTER. THE HYDROCARBON ADSORBENT MEDIA THEN IS REMOVED AND THE TRASH AND DEBRIS CAN BE REMOVED FROM THE STRUCTURE. AT EACH CLEANING, NEW HYDROCARBON ADSORBENT MEDIA SHOULD BE REINSTALLED.

### MAINTENANCE NOTES:

1. BIO CLEAN ENVIRONMENTAL SERVICES, INC. RECOMMENDS CLEANING AND DEBRIS REMOVAL MAINTENANCE A MINIMUM OF TWO TO FOUR TIMES PER YEAR, AND REPLACEMENT OF MEDIA BOOMS A MINIMUM OF TWICE A YEAR.
2. THE DOWNSPOUT FILTER CAN BE CLEANED BY LOOSING THE METAL CLAMPS AT BOTTOM AND TOP OF RUBBER BOOTS. REMOVE THE FILTER BY GRASPING THE HANDLES, SLIDE DOWN THE BOTTOM BOOT OVER THE OUTFLOW PIPE AND SLIDE UP THE TOP BOOT OVER INFLOW PIPE. PLACE THE FILTER ON THE GROUND. DISPOSE OF ANY TRASH AND SEDIMENTS COLLECTED IN FILTER.
3. ONCE THE FILTER IS FREE, REMOVE THE INTERIOR INSERT. REMOVE THE HYDROCARBON ADSORBENT MEDIA BY UNWRAPPING IT FROM THE INTERIOR INSERT AND REPLACING WITH A NEW MEDIA, WRAPPING IT THE SAME WAY.
4. PLACE THE INTERIOR INSERT BACK INTO THE FILTER.
5. PLACE THE FILTER BACK IN LINE WITH THE PIPE AND SLIDE BACK THE TOP AND BOTTOM BOOTS IN PLACE AND TIGHTEN THE METAL CLAMPS SECURELY.
6. EVALUATION OF THE HYDROCARBON MEDIA SHALL BE PERFORMED AT EACH CLEANING. IF THE MEDIA IS FILLED WITH HYDROCARBONS AND OILS IT SHOULD BE REPLACED.
7. TRANSPORT ALL DEBRIS, TRASH, ORGANICS AND SEDIMENTS TO APPROVED FACILITY FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REQUIREMENTS.
8. THE HYDROCARBON MEDIA WITH ABSORBED HYDROCARBONS IS CONSIDERED HAZARDOUS WASTE AND NEEDS TO BE HANDLED AND DISPOSED OF AS HAZARDOUS MATERIAL. PLEASE REFER TO STATE AND LOCAL REGULATIONS FOR THE PROPER DISPOSAL OF USED MOTOR OIL/FILTERS.
9. FOLLOWING MAINTENANCE AND/OR INSPECTION, THE MAINTENANCE OPERATOR SHALL PREPARE A MAINTENANCE/INSPECTION RECORD. THE RECORD SHALL INCLUDE ANY MAINTENANCE ACTIVITIES PERFORMED, AMOUNT AND DESCRIPTION OF DEBRIS COLLECTED, AND CONDITION OF FILTER.
10. THE OWNER SHALL RETAIN THE MAINTENANCE/INSPECTION RECORD FOR A MINIMUM OF FIVE YEARS FROM THE DATE OF MAINTENANCE. THESE RECORDS SHALL BE MADE AVAILABLE TO THE GOVERNING MUNICIPALITY FOR INSPECTION UPON REQUEST AT ANY TIME.
11. ANY TOXIC SUBSTANCE OR ITEM FOUND IN THE FILTER IS CONSIDERED AS HAZARDOUS MATERIAL AND CAN ONLY BE HANDLED BY A CERTIFIED HAZARDOUS WASTE TRAINED PERSON (MINIMUM 24-HOUR HAZWOPER).

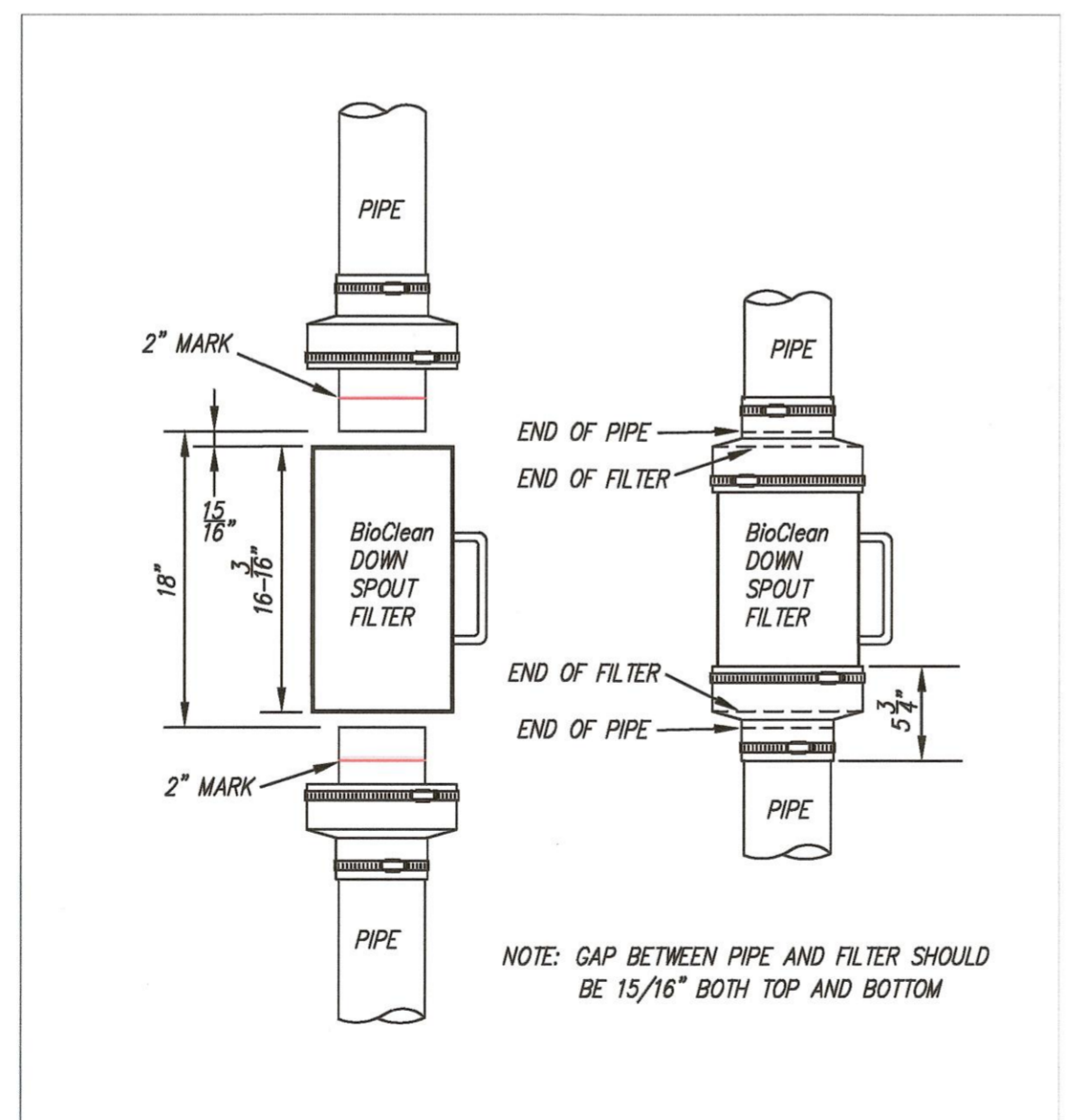
### REPLACING FILTER



PAGE 4 OF 5

### APPROPRIATE INSTALLATION

#### FILTER CENTERED BETWEEN PIPES WITH EVEN GAPS ON TOP AND BOTTOM



PAGE 5 OF 5



**AMBIT ENGINEERING, INC.**  
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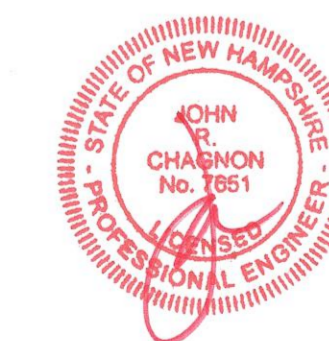
### NOTES:

- 1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.
- 2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.
- 3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

**COMMERCIAL  
DEVELOPMENT  
ONE CONGRESS STREET  
PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
2	ADDED MAINTENANCE	12/20/22
1	ISSUED FOR APPROVAL	10/18/22
0	ISSUED FOR COMMENT	9/6/22

### REVISIONS



SCALE: AS SHOWN

AUGUST 2022

DETAILS

**D5**



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**NOTES:**

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**GENERAL NOTES**

- MINIMUM PIPE SIZE FOR HOUSE SERVICE SHALL BE FOUR INCHES.
- PIPE AND JOINT MATERIALS:
  - PLASTIC SEWER PIPE
 

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	*PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F794	PVC (RIBBED WALL)	8" THROUGH 36"
AWWA C900	PVC (SOLID WALL)	8" THROUGH 18"

\*PVC: POLYVINYL CHLORIDE
  - JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212 AND SHALL BE PUSH-ON BELL AND SPIGOT TYPE.
  - DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
  - 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, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.
  - HOUSE SEWER INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL AS SPECIFIED IN NOTE 10. BEDDING AND REFILL FOR DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.
  - THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE FOUNDATION AT A GRADE OF NOT LESS THAN 1/4 INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.
  - TESTING: WHEN REQUIRED BY THE GOVERNING AUTHORITY, TESTING SHALL CONFORM TO ENV-WQ 704.09.
  - ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM HOUSE TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR OTHER SIMILAR CONNECTIONS CARRYING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.
  - HOUSE WATER SERVICE SHALL NOT BE LAID IN SAME TRENCH AS SEWER SERVICE, UNLESS IT IS ON A SHELF 12" HIGHER, AND 18" APART.
  - BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE, FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 STONE SIZE NO. 67.
 

100% PASSING	1 INCH SCREEN
90%-100% PASSING	3/4 INCH SCREEN
20%- 55% PASSING	3/8 INCH SCREEN
0%- 10% PASSING	#4 SIEVE
0%- 5% PASSING	#8 SIEVE

- WHERE ORDERED BY THE ENGINEER, OVEREXCAVATE UNSTABLE TRENCH BOTTOM AND BACKFILL WITH CRUSHED STONE.
- LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPE FINDER.
  - CAST-IN-PLACE CONCRETE: SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 PSI) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:
 

CEMENT: 6.0 BAGS PER CUBIC YARD
WATER: 5.75 GALLONS PER BAG OF CEMENT
MAXIMUM AGGREGATE SIZE: 3/4 INCH
  - BACKFILL UP TO SUBBASE GRAVEL SHALL BE WITH EXCAVATED SOIL FROM TRENCHING OPERATIONS. COMPACT IN 8" LIFTS WITH VIBRATORY PLATE COMPACTORS TO 90% OF MODIFIED PROCTOR DENSITY. IF FINE-GRAINED, COMPACT WITH POGO STICKS OR SHEEPSFOOT ROLLERS. PLACE NO LARGE ROCKS WITHIN 24" OF PIPE. TRENCHES THAT ARE NOT ADEQUATELY COMPACTED SHALL BE RE-EXCAVATED AND BACKFILLED UNDER THE SUPERVISION OF THE DESIGN ENGINEER OR GOVERNING BODY. UNSUITABLE BACKFILL MATERIAL INCLUDES CHUNKS OF PAVEMENT, TOPSOIL, ROCKS OVER 6" IN SIZE, MUCK, PEAT OR PIECES OF PAVEMENT.
  - THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB-SITE SAFETY AND COMPLIANCE WITH GOVERNING REGULATIONS.
  - ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE. REFILL WITH BEDDING MATERIAL. FOR TRENCH WIDTH SEE TRENCH DETAIL.
  - SAND BLANKET: CLEAN SAND, FREE FROM ORGANIC MATTER, SO GRADED THAT 90% - 100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR DUCTILE IRON AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2 INCHES IS IN CONTACT WITH THE PIPE.
  - BASE COURSE GRAVEL, IF ORDERED BY THE ENGINEER, SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE:
 

STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION  
OF THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION.
  - IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MIN.) BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
  - THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION.
  - THE PURPOSE OF THIS PLAN IS TO SHOW STANDARDS FOR SEWER CONSTRUCTION.
  - ALL WORK SHALL BE IN COMPLIANCE WITH NHDES CODE OF ADMINISTRATIVE RULES PART ENV-WQ 704 DESIGN OF SEWERAGE.

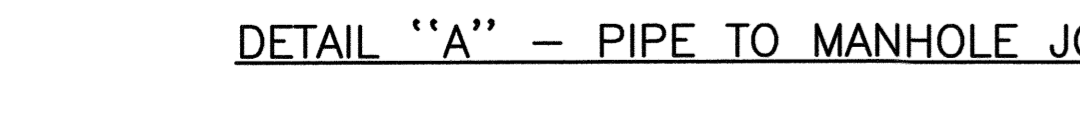
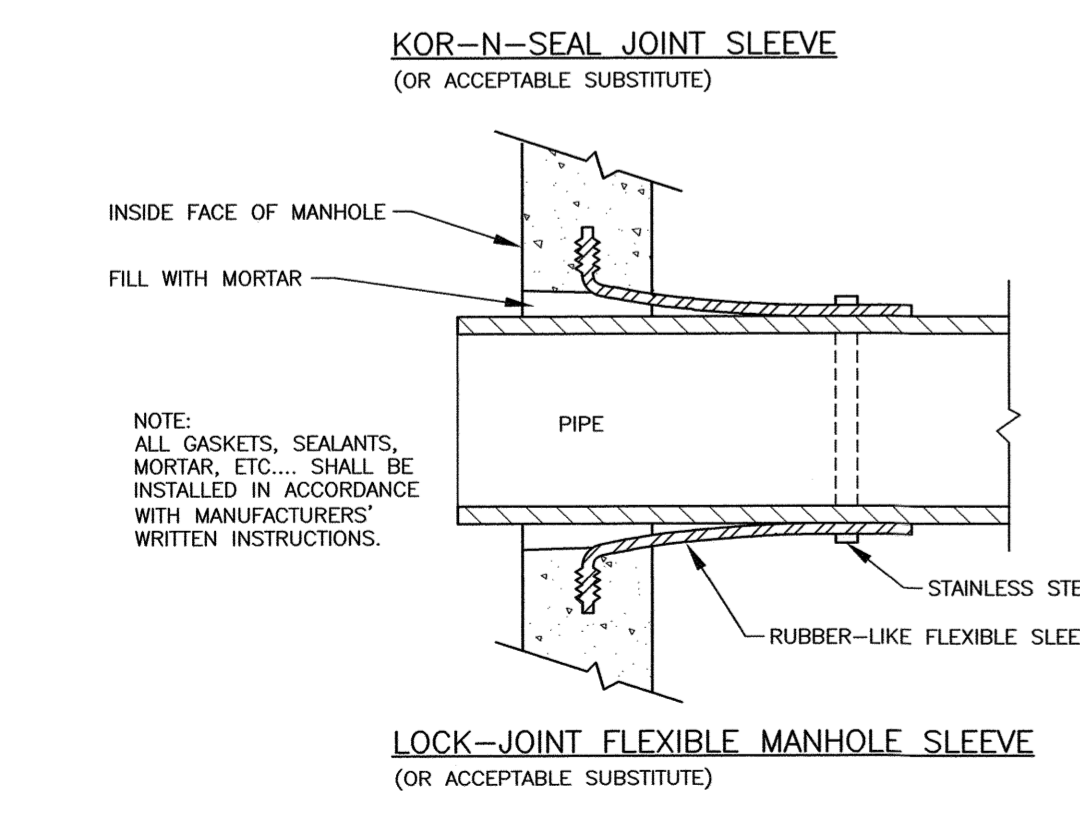
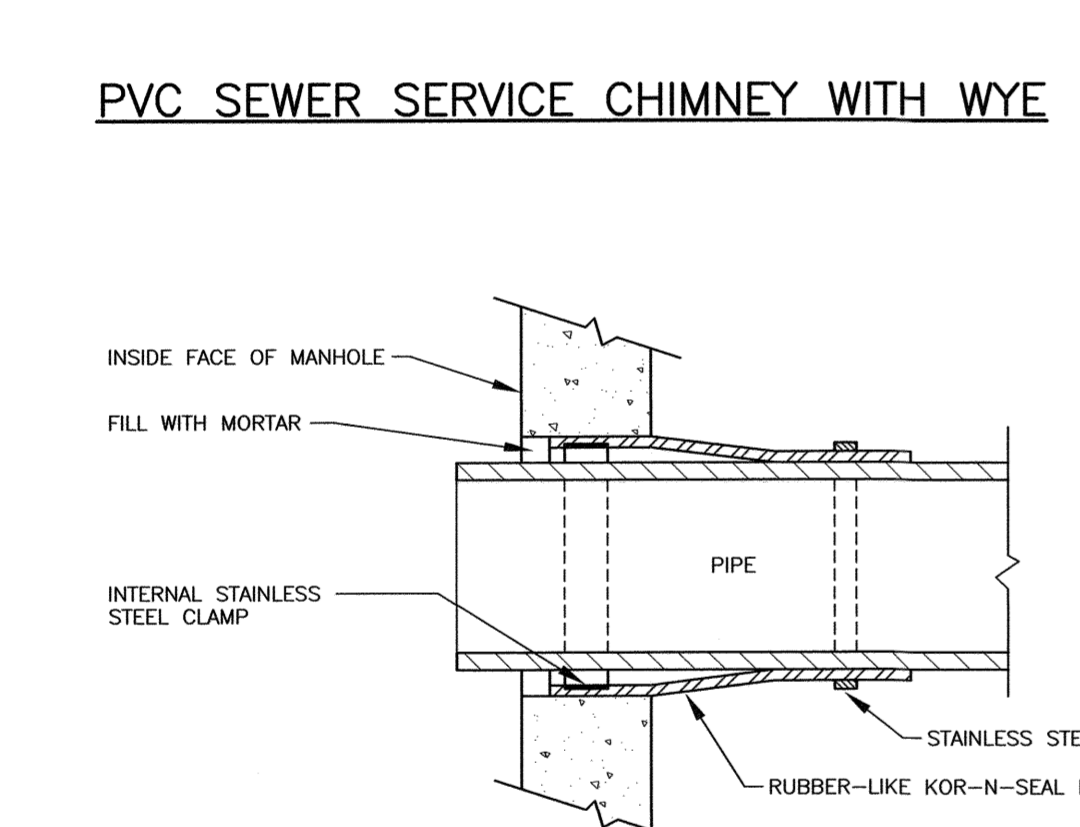
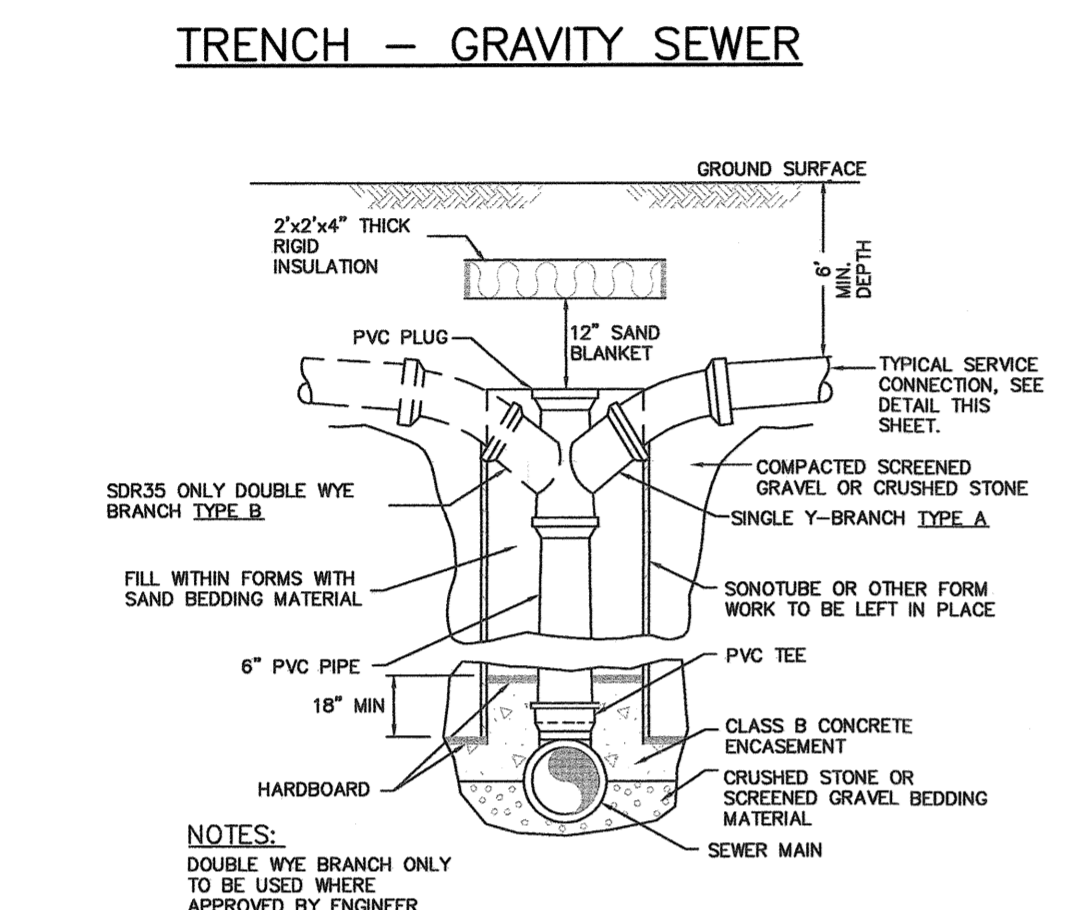
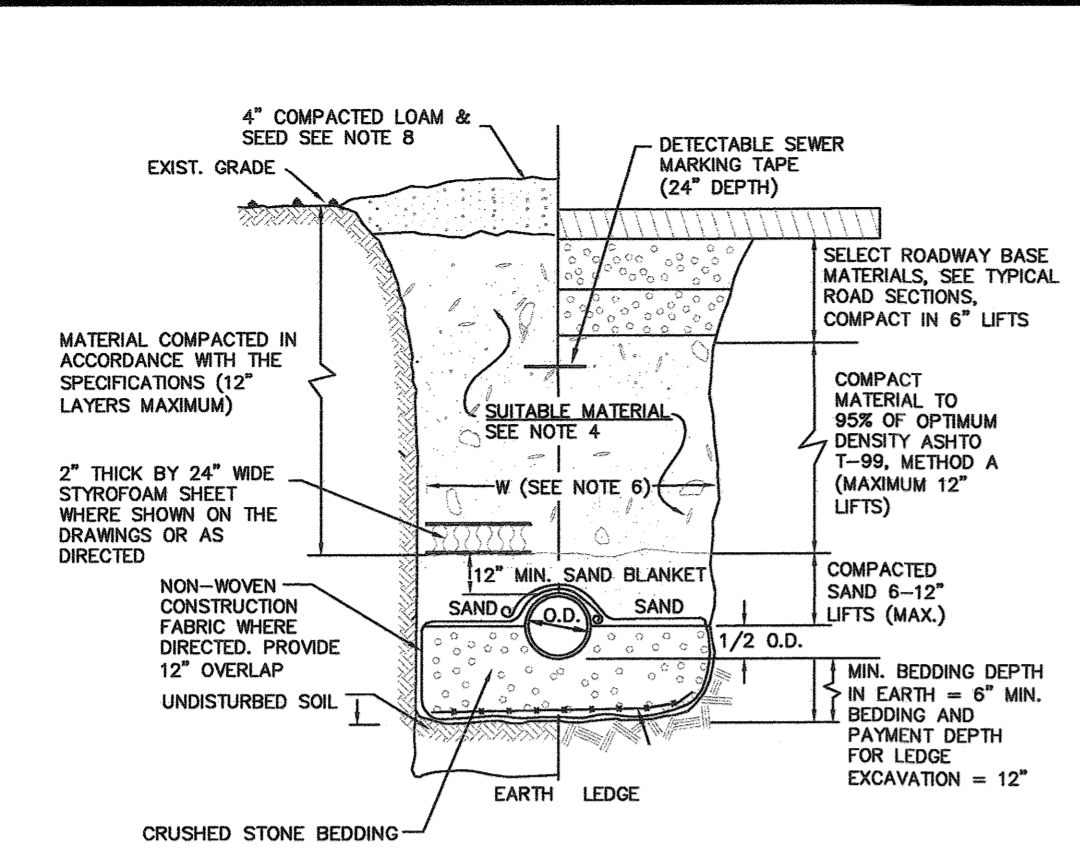
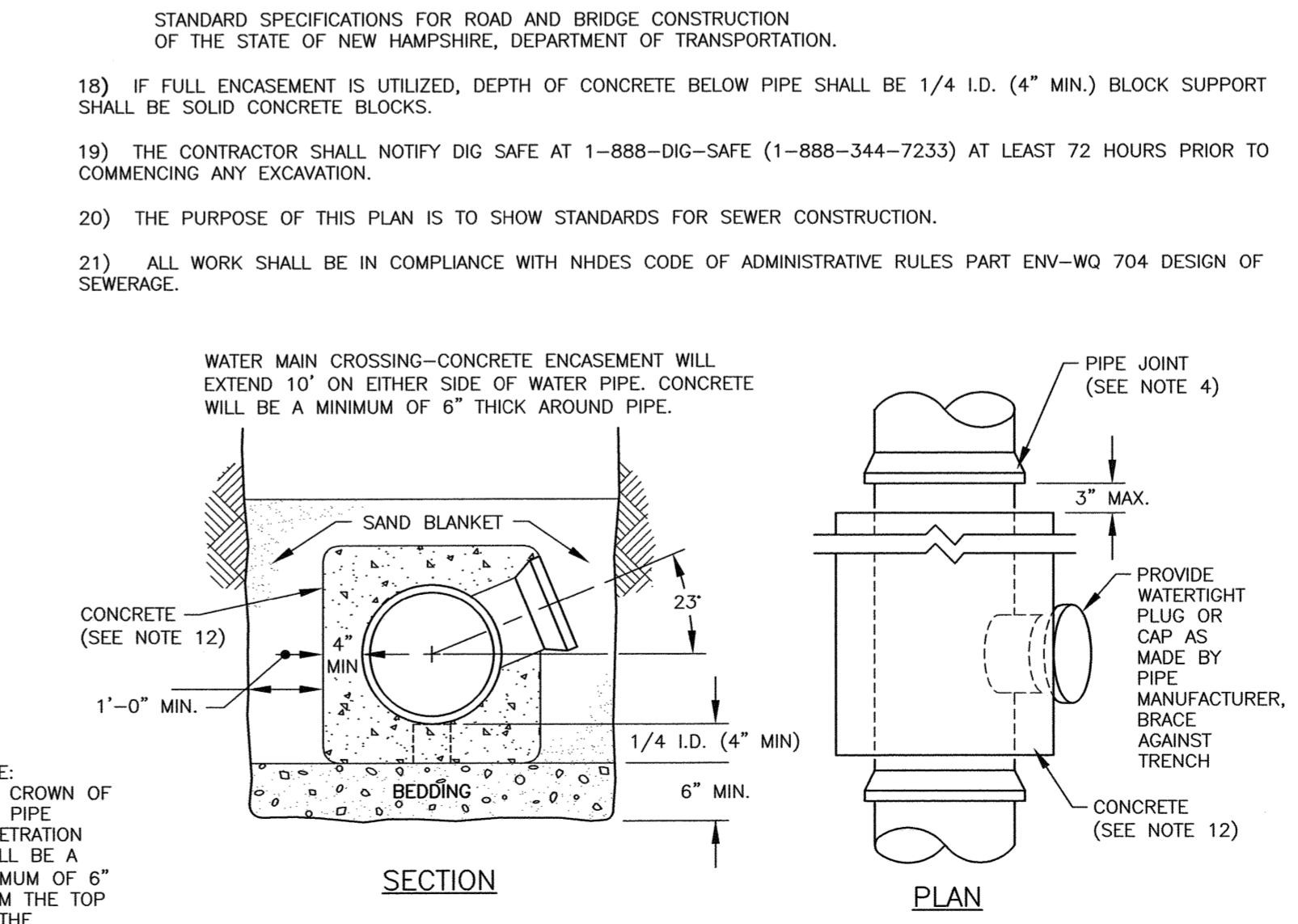
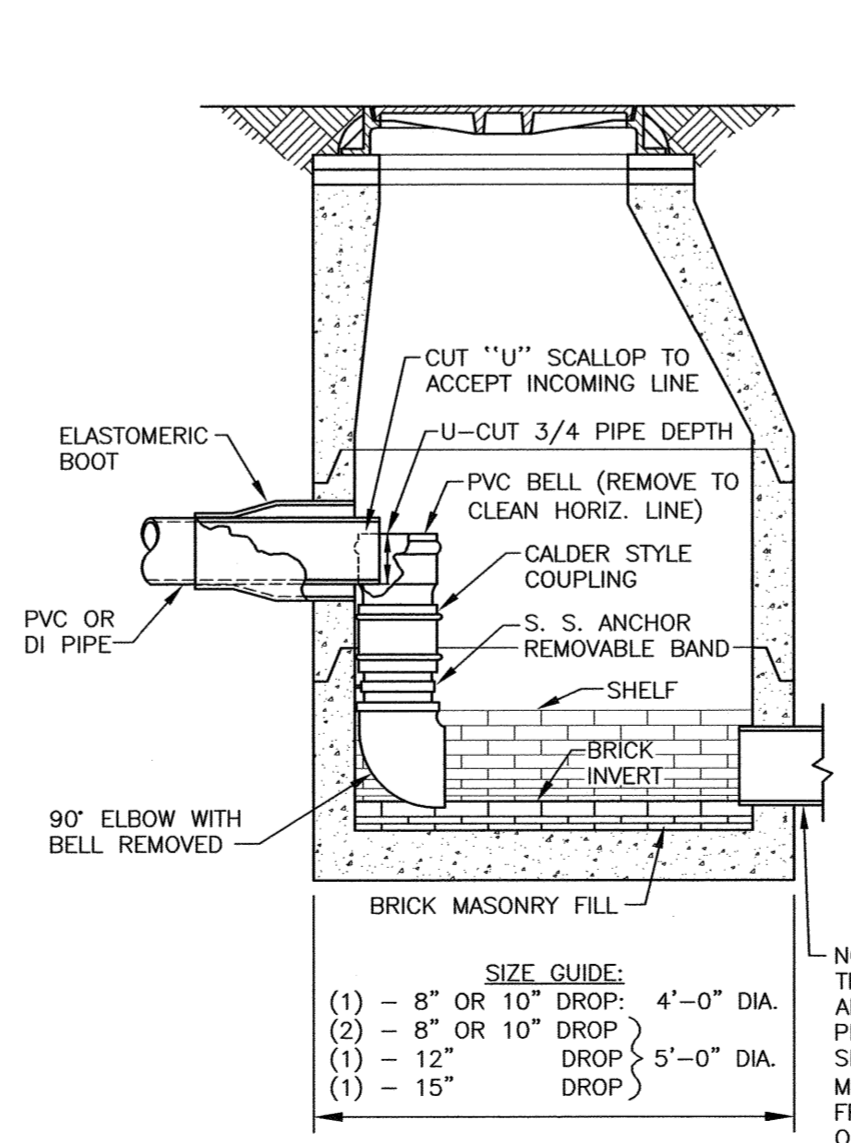
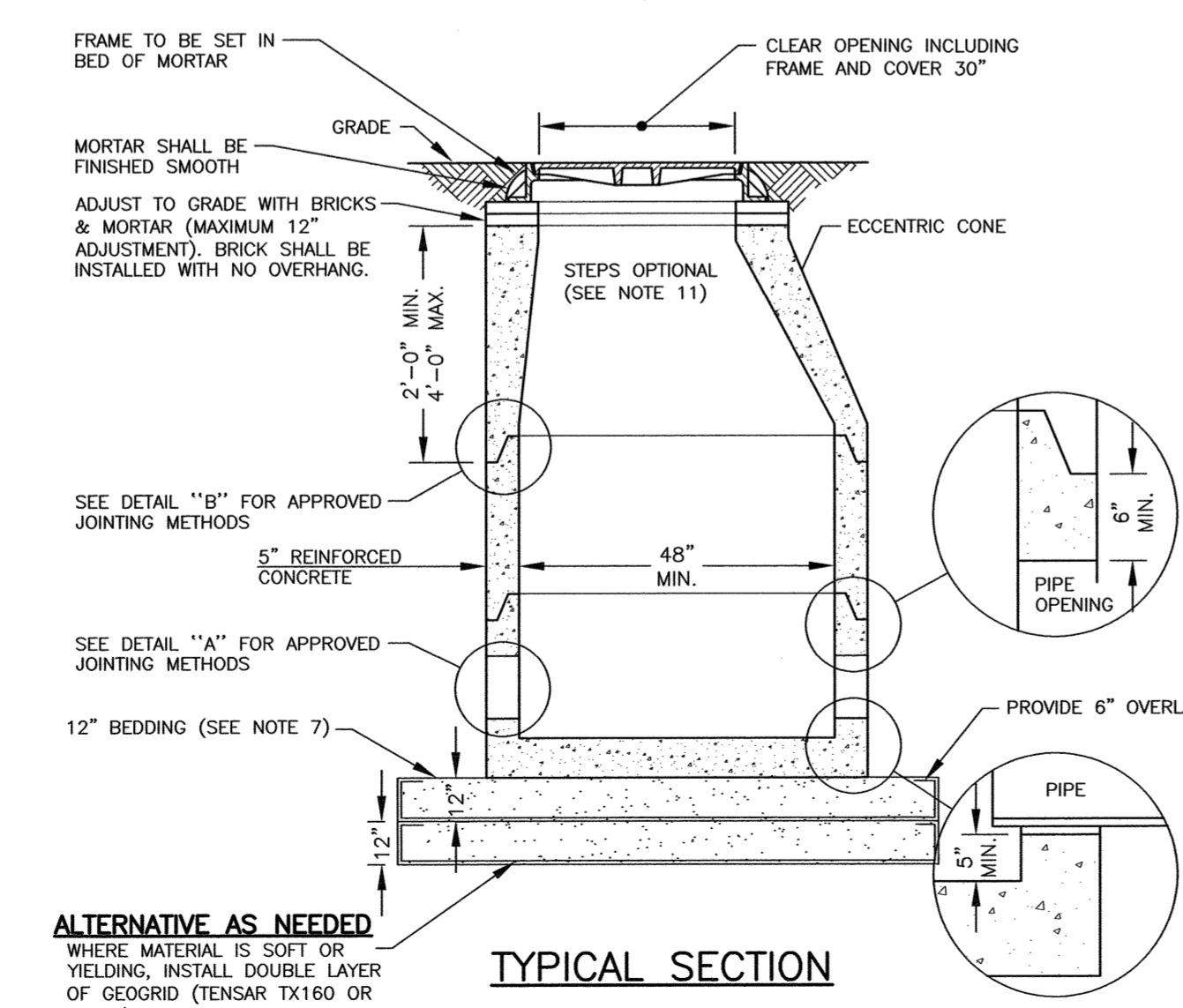
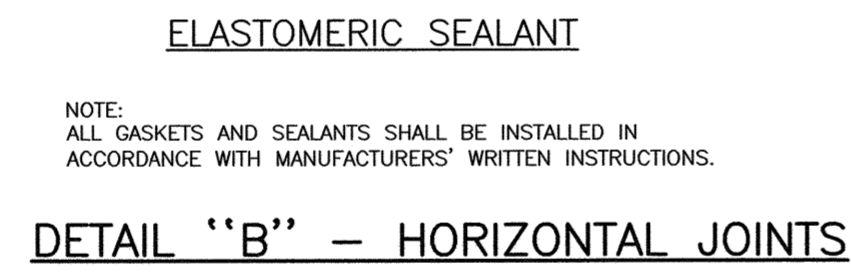
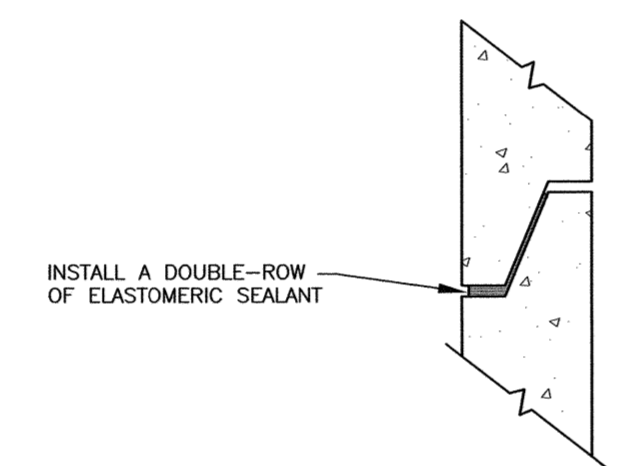
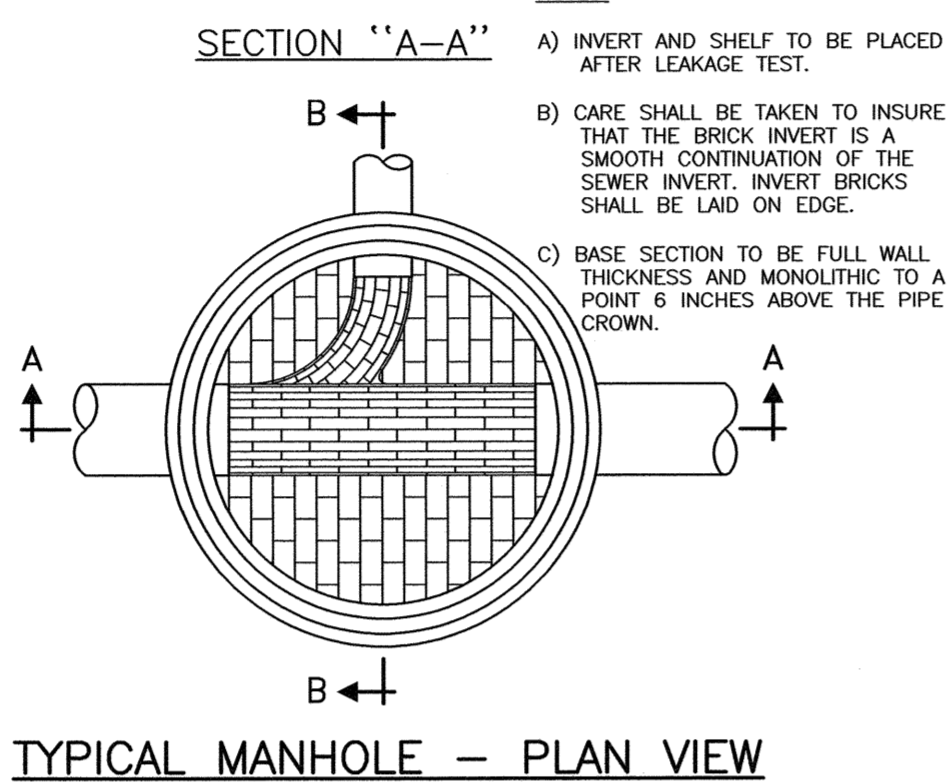
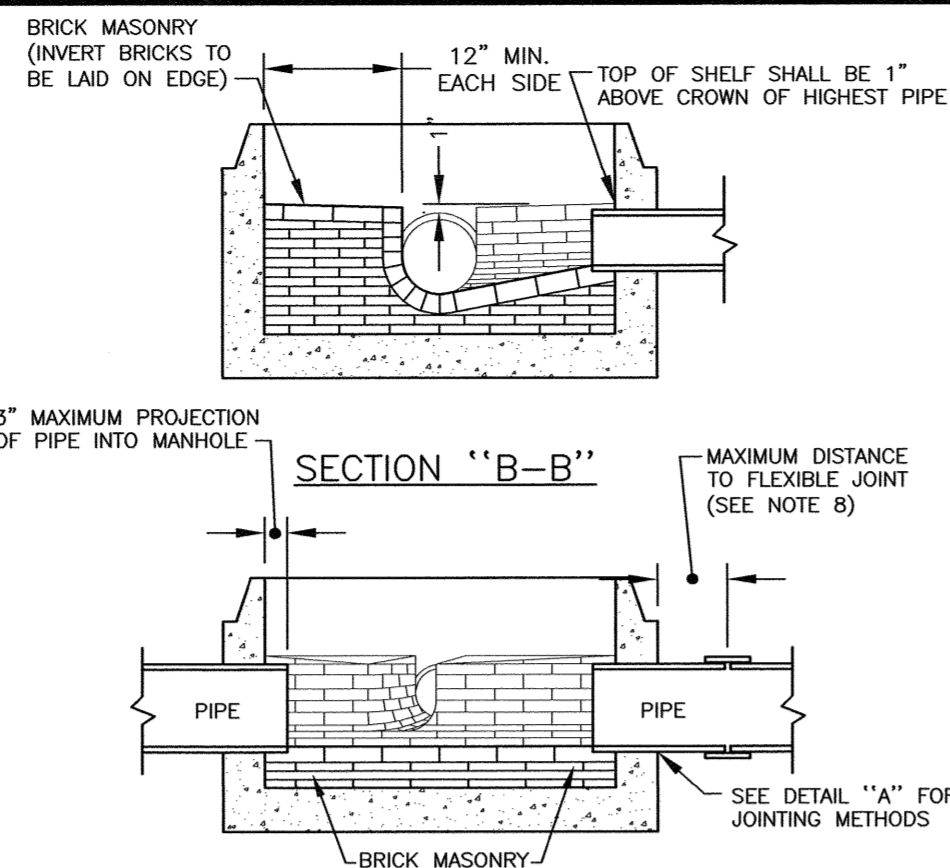
**GENERAL NOTES**

- IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAK PROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
- BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE, OR POURED IN PLACE REINFORCED CONCRETE IF POURED AS A COMPLETE MANHOLE.
- PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478.
- LEAKAGE TEST MAY NOT BE FEASIBLE, BUT SHALL CONFORM TO ENV-WQ 704.17.
- INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF THE PIPE AND FLOW. AT CHANGES IN DIRECTIONS, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE AND TANGENT TO THE CENTERLINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
- FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A THREE INCH (MINIMUM HEIGHT) WORD "SEWERS" FOR SEWERS AND "DRAIN" FOR DRAINS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER. CASTINGS SHALL CONFORM TO CLASS 30, ASTM A48.
 

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90%-100% PASSING	3/4 INCH SCREEN
20%- 55% PASSING	3/8 INCH SCREEN
0%- 10% PASSING	#4 SIEVE
0%- 5% PASSING	#8 SIEVE

WHEN ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1-1/2 INCH SHALL BE USED.
- BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE, FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 STONE SIZE NO. 67.
- FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:
 

RCP & CI PIPE - ALL SIZES - 48"
AC AND VC PIPE - UP THOUGH 12" DIA. - 18"
AC AND VC PIPE - LARGER THAN 12" DIA. - 36"
DI PIPE - NONE REQUIRED
PVC - UP THROUGH 15" DIA. - NONE REQUIRED
PVC - LARGER THAN 15" DIA. - 48"/60"
ABS (ASTM D2680) - ALL SIZES - SAME AS VC ABOVE
- SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS.
- MANHOLE STEPS MAY BE PERMITTED UPON REQUEST BY THE OWNER AS SECONDARY ADDITIONAL SAFETY FEATURE SUPPLEMENTARY TO THE PRIMARY PORTABLE LADDER ENTRY AND WHEN INSTALLED UNDER THE FOLLOWING CONDITIONS:
  - THE STEPS SHALL BE MANUFACTURED OF 5/8ths INCH ROUND STAINLESS STEEL COVERED STEEL OR PLASTIC. THEY SHALL BE SHAPED SO THAT THEY CANNOT BE PULLED OUT OF THE CONCRETE WALL IN WHICH THEY ARE EMBEDDED.
  - THE STEPS SHALL BE EMBEDDED IN THE CONCRETE BY THE MANUFACTURER DURING MANUFACTURE OR IMMEDIATELY FOLLOWING REMOVAL OF FORMS. SECURING THE STEPS WITH MORTAR IN DRILLED OR CAST HOLES, WILL NOT BE ACCEPTABLE.
  - THE STEPS SHALL BE OF THE DROP TYPE WITH A DEPRESSED SECTION FOR HANDHOLD. APPROXIMATELY 14" x 10" IN DIMENSION.
- HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE ENGINEER, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATER TIGHTNESS UPON AN ELASTOMERIC OR MASTIC-LIKE GASKET, IN 2 ROWS.
- PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND IN GENERAL, WILL DEPEND FOR WATERTIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERIC SEALANT.
- THE PURPOSE OF THIS PLAN IS TO SHOW STANDARDS FOR SEWER CONSTRUCTION.
- ALL WORK SHALL BE IN COMPLIANCE WITH NHDES CODE OF ADMINISTRATIVE RULES PART ENV-WQ 704 DESIGN OF SEWERAGE.
- BASE SECTIONS SHALL BE OF MONOLITHIC CONSTRUCTION TO A POINT AT LEAST 6 INCHES ABOVE THE CROWN OF THE LARGEST INCOMING PIPE.



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

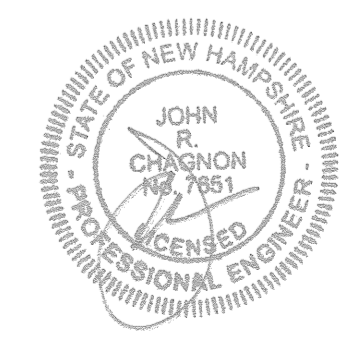
**BB P2** SEWER MANHOLE DETAILS  
INSTALL PER PORTSMOUTH REQUIREMENTS NTS

INSIDE DROP MANHOLE

CONCRETE FULL ENCASEMENT  
NOT TO SCALE

**COMMERCIAL DEVELOPMENT**  
**ONE CONGRESS STREET**  
**PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
2	NOTE 8, TRENCH, CHIMNEY DETAIL, BB	1/25/23
1	TITLE	10/18/22
0	ISSUED FOR COMMENT	9/6/22
REVISIONS		



SCALE: AS SHOWN AUGUST 2022

SEWER DETAILS **D6**

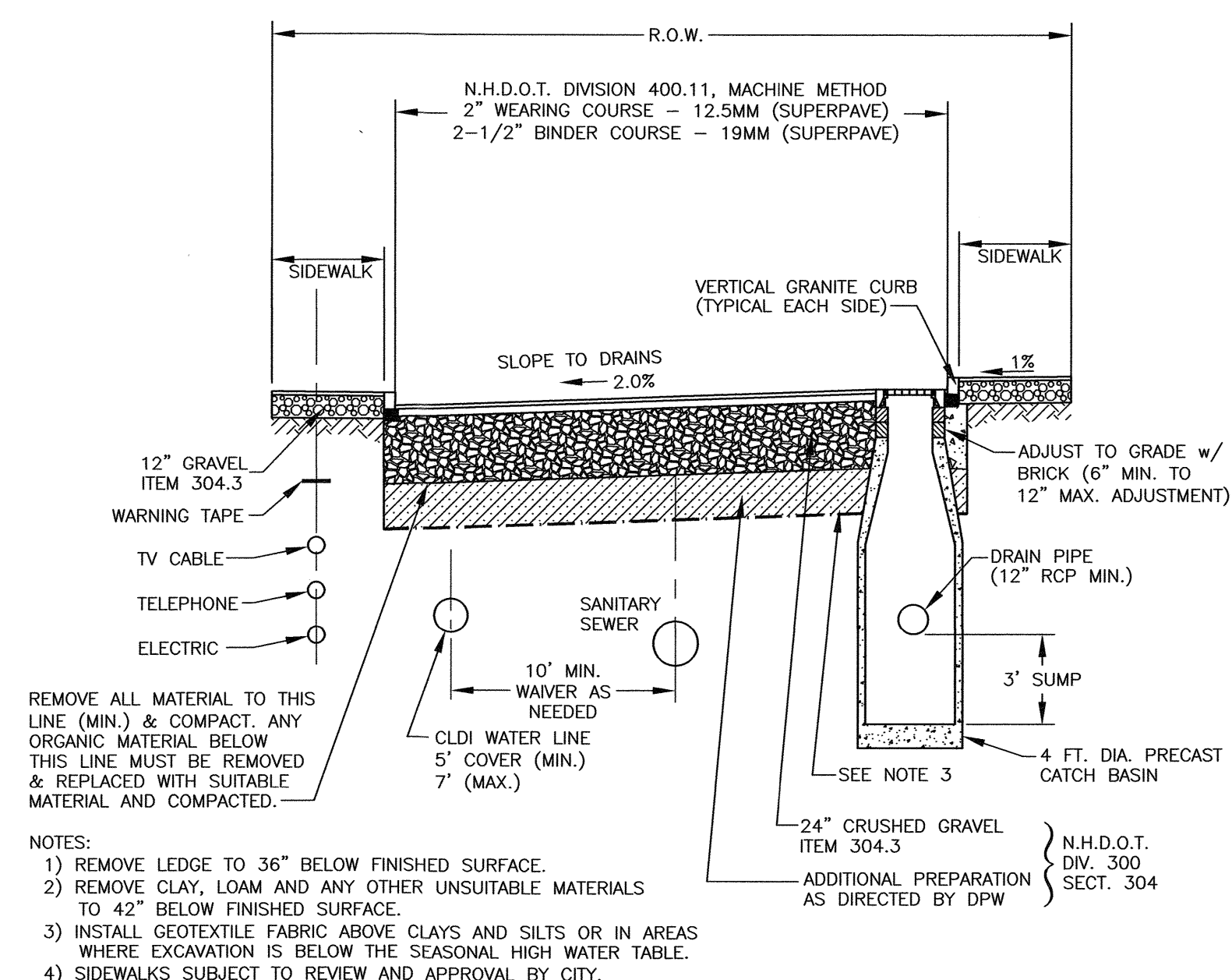


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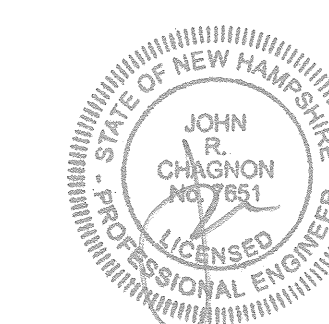
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**W C4 W P1** HIGH STREET ROADWAY CROSS SECTION NTS

**COMMERCIAL DEVELOPMENT**  
**ONE CONGRESS STREET**  
**PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	12/20/22
REVISIONS		



SCALE: AS SHOWN      AUGUST 2022

DETAILS

**D7**