

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

**Remote Meeting Via Zoom Conference Call**

Register in advance for this meeting:

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*You are required to register to join the meeting over Zoom, a unique meeting ID and password will be provided once you register. Public comments can be emailed in advance to [planning@cityofportsmouth.com](mailto:planning@cityofportsmouth.com). For technical assistance, please contact the Planning Department by email ([planning@cityofportsmouth.com](mailto:planning@cityofportsmouth.com)) or phone (603) 610-7216.*

Per NH RSA 91-A:2, III (b) the Chair has declared the COVID-19 outbreak an emergency and has waived the requirement that a quorum be physically present at the meeting pursuant to the Governor's Executive Order 2020-04, Section 8, as extended by Executive Order 2021-06, and Emergency Order #12, Section 3. Members will be participating remotely and will identify their location and any person present with them at that location. All votes will be by roll call.

**2:00 PM**

**May 4, 2021**

**AGENDA**

**I. APPROVAL OF MINUTES**

- A. Approval of minutes from the April 6, 2021 Site Plan Review Technical Advisory Committee Meeting.

**II. OLD BUSINESS**

- A. The request of **Stone Creek Realty, LLC, Owner, and Boston & Maine Corporation, Owner**, for properties located at **53 Green Street** and at the **intersection of Market Street and Green Street** requesting Preliminary and Final Subdivision approval (Lot Line Revision) to transfer 4,852 sq. ft. from Assessor Map 119 Lot 3 to Assessor Map 119 Lot 2 which will increase the total lot area for the receiving lot from 72,200 sq. ft. to 76,670 sq. ft. and the street frontage from 86 ft. to 104 ft. Said properties lie within the Character District 5 (CD5) District, the Transportation Corridor District (TC), the Historic District, and the North End Incentive Overlay District.
- B. The request of **Stone Creek Realty, LLC, Owner**, for property located at **53 Green Street** requesting Site Plan Review approval for the demolition of an existing building and construction of a 5-story mixed-use building with 121,544 sq. ft. of gross floor area and 29,374 sq. ft. building footprint that includes 1,898 sq. ft. of commercial space on the first floor, 48 upper floor residential units, 97 parking spaces and 22,095 sq. ft. of community space as well as paving, utilities,



lighting, landscaping and associated site improvements. Said property is shown on Assessor Map 119 Lot 02 and lies within the Character District 5 (CD5) District, the Historic District, and the North End Incentive Overlay District.

- C. The request of **North Mill Pond Holdings LLC (Applicant), and One Raynes Ave LLC, 31 Raynes Ave LLC, and 203 Maplewood Ave LLC (Owners)** for property located at **31 Raynes Avenue, 203 Maplewood Avenue, and 1 Raynes Avenue** requesting Conditional Use Permit as permitted by Section 10.1112.62 of the Zoning Ordinance and according to the requirements of Section 10.1112.14 to allow 111 off-street parking spaces to be provided on-site and 25 spaces to be provided on a separate lot where a total of 159 are required and Site Plan Review approval for the demolition of three existing buildings and construction of the following: 1) a 5-story mixed use building with 65,650 gross floor area and 17,565 sq. ft. building footprint including 8,100 sq. ft. of commercial use on the ground story and 60 residential units on the upper stories; 2) a 5-story 128-room hotel with 63,400 gross floor area and 13,815 sq. ft. of building footprint; 3) 27,000 sq. ft. of community space as well as associated paving, lighting, utilities, landscaping and other site improvements. Said properties are shown on Assessor Map 123 Lot 14, Map 123 Lot 13, Map 123 Lot 12, Map 123 Lot 10 and lie within the Character District 4 (CD4) District.

### III. NEW BUSINESS

- A. The request of **Green & Company (Applicant) and Philip J. Stokel and Stella B. Stokel (Owners)** for property located at **83 Peverly Hill Road** requesting Conditional Use Permit approval for an Open Space Planned Unit Development according to the requirements of Section 10.725 of the Zoning Ordinance and Site Plan Review approval for the construction of 56 single-family homes and a new 2,950-foot public road with related utilities, landscaping, drainage and associated site improvements. Said property is shown on Assessor Map 242 Lot 4 and lie within the Single Residence A (SRA) and Single Residence B (SRB) Districts.
- B. The request of **Hampshire Development Corp. (Applicant) and 64 Vaughan Mall, LLC (Owner)** for property located at **64 Vaughan Street** requesting Site Plan Review approval for the renovation of an existing building including a 2,475 sq. ft. expansion to the building footprint, a fourth-story addition to a portion of the existing building with retail space on the first floor and 14 residential units on the upper stories and an underground parking garage with related utilities, landscaping, and associated site improvements. Said property is shown on Assessor Map 126 Lot 1 and lies within the Character District 5 (CD5) District, the Historic District, and the Downtown Overlay District.

### IV. ADJOURNMENT

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

**Remote Meeting Via Zoom Conference Call**

Per NH RSA 91-A:2, III (b) the Chair has declared COVID-19 outbreak an emergency and has waived the requirement that a quorum be physically present at the meeting pursuant to the Governor's Executive Order 2020-04, Section 8, as extended by Executive Order 2020-24, and Emergency Order #12, Section 3. Members will be participating remotely and will identify their location and any person present with them at that location. All votes will be by roll call.

**2:00 PM**

**April 6, 2021**

**MINUTES**

**MEMBERS PRESENT:** Juliet TH Walker, Chairperson, Planning Director; David Desfosses, Construction Technician Supervisor; Eric Eby, Parking and Transportation Engineer; Patrick Howe, Fire Department; Darrin Sargent, Police Captain; Nicholas Cracknell, Principal Planner and Robert Marsilia, Chief Building Inspector

**MEMBERS ABSENT:** Peter Britz

**ADDITIONAL**

**STAFF PRESENT:** Peter Stith

**I. APPROVAL OF MINUTES**

- A. Approval of minutes from the March 2, 2021 Site Plan Review Technical Advisory Committee Meeting.

Mr. Desfosses moved to approve the March 2, 2021 Site Plan Review Technical Advisory Committee Meeting, seconded by Mr. Eby. The motion passed unanimously.

**II. OLD BUSINESS**

- A. The application of **Banfield Realty, LLC, Owner**, for property located at **375 Banfield Road** requesting Site Plan review approval to demolish two existing commercial buildings and an existing shed and construct a 75,000 s.f. industrial warehouse building with 75 parking spaces as well as associated paving, stormwater management, lighting, utilities and landscaping. Said property is shown on Assessor Map 266 Lot 7 and lies within the Industrial (I) District.

**SPEAKING TO THE APPLICATION**

Joe Coronati, Bernie Pelech, and Rob Graham spoke to the application. Mr. Coronati commented that they have come back with a redesign. The comment about the parking from the last design was something that could not be resolved without a variance. The redesign includes pushing the driveway to the west side of the building. This change will put part of the driveway into the 100-foot buffer. The majority of the wetland is further west, but there is a closer small ditch of wetland. There will be 85 sf of impact and grading disturbance. There may be a little more impact when the storm water design is finalized. There is already pavement in that area. All the asphalt between the proposed building and Banfield Rd. will be removed. All of the asphalt in the wetland buffer will be removed. A utility pole will be relocated. There was a previous TAC comment discussing the turning movements of large trucks coming in and crossing over the drive lane. They don't anticipate that happening a lot. It is not a high-volume trucking area. The driveway area can be widened but that would impact the buffer more. The building was elongated to make the new design work. It is now narrower and deeper to fit the space. The parking lot will be curbed and far from the buffer. The same basic turn around is still there.

Ms. Walker questioned if they anticipated further wetland buffer impacts. Mr. Coronati responded that the only impacts would be for the driveway entrance and the grading. The original storm water design should still fit under the parking lot.

Mr. Eby commented that he did not have a problem with the driveway width. It should not be a frequent conflict.

Mr. Howe questioned if they had calculated the waterflow requirements for the construction type of the building. Mr. Coronati responded that they have not done that yet. Mr. Howe commented that they may need an additional hydrant based on the size of building and construction type. It would be good to add one in the rear of the site.

Mr. Graham noted that he was concerned by some of the TAC comments and requested clarification on the fair share contribution for the road. Ms. Walker responded that this project would add an industrial use and truck volume to the road. The current project for the road is not designed around large trucks traveling it on a more regular basis. Mr. Desfosses commented that the amount of truck traffic will increase. One truck equaled 100 cars worth of damage to a road, so there will be impact to the road. Ms. Walker confirmed that they could try to provide more specifics for the cost.

Mr. Pelech commented that they were not averse to working with the City to make a fair share contribution once they have the opportunity to see what the City has planned for Banfield Rd. and what this Committee wishes. It would be unfortunate to see this dead end the project. Ms. Walker responded that they could provide more details on the plan for the road. TAC has requested more details on the traffic for this project. They can work out the fair share arrangement as part of the TAC process.

Ms. Walker noted that the TAC comments included Peter Britz's comments. They will want to review the storm water more as well.

TAC Comments:

- Please show truck turning paths for rear corner in driveway lot. It is not clear how trucks will turn around on site.
- The previous design had wetland buffer impacts beyond just the project entrance. Are there additional wetland impacts associated with drainage or septic design for this project?
- Please add the limits of the buried landfill as previously requested

## **PUBLIC HEARING**

The Chair asked if anyone was present from the public wishing to speak to, for, or against the application. Seeing no one rise, the Chair closed the public hearing.

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

Mr. Howe moved to **postpone** this request to the next TAC meeting, seconded by Mr. Eby. The motion passed unanimously.

### **III. NEW BUSINESS**

- A. The request of **North Mill Pond Holdings LLC (Applicant), and One Raynes Ave LLC, 31 Raynes Ave LLC, and 203 Maplewood Ave LLC (Owners)** for property located at **31 Raynes Avenue, 203 Maplewood Avenue, and 1 Raynes Avenue** requesting a Conditional Use Permit as permitted by Section 10.1112.62 of the Zoning Ordinance and according to the requirements of Section 10.1112.14 to allow 111 off-street parking spaces to be provided where 159 are required and Site Plan Review approval for the demolition of three existing buildings and construction of the following: 1) a 5-story mixed use building with 65,650 gross floor area and 17,565 sq. ft. building footprint including 8,100 sq. ft. of commercial use on the ground story and 60 residential units on the upper stories; 2) a 5-story 128-room hotel with 63,400 sq. ft. of gross floor area and 13,815 sq. ft. building footprint; 3) 22,342 sq. ft. of community space as well as associated paving, lighting, utilities, landscaping and other site improvements. Said properties are shown on Assessor Map 123 Lot 14, Map 123 Lot 13, Map 123 Lot 12, Map 123 Lot 10 and lie within the Character District 4 (CD4) District.

### **SPEAKING TO THE APPLICATION**

Evan Tormey, Patrick Crimmins, and Neil Hanson spoke to the application. Mr. Crimmins commented that this proposed project would merge the lots from 4 parcels into 1 parcel. The

team has met with TAC and the Conservation Commission for a work session, as well as the Planning Board for a design review. The site plan application will need a CUP for the impact to the buffer and a parking reduction. The proposal includes two 5 story buildings. The building closest to Maplewood Ave. is mixed use. There will be commercial space on the first floor and 60 residential units on the upper floors. The second building will be a 128-room hotel. The plan provides 20.2% open space to get the additional story. The existing site is bound by Raynes Ave., Maplewood Ave., the North Mill Pond and the City park. The existing buildings will be demolished to put up the two new buildings. There will be one driveway entrance off Raynes Ave. that will lead to the parking lot. There has been a lot of discussion about the impervious surface and parking. The community space will include a portion of the trail for the North Mill Pond trail and greenway. The previous design had a larger parking field, but that surface has been reduced. The asphalt has been pulled back and now it is green space. 10,000 sf of pavement has been removed. There will be 111 onsite parking spaces. The team will be seeking a CUP for reduced parking. The plan includes a proposal to share 25 spaces across the street with the office building. That will result is 136 total spaces. The parking analysis showed 131 would be required for this site. There should be enough parking to support the project between the onsite spaces and the shared parking across the street. The zoning requires 159 spaces. There are some covered tandem spaces on the site. The proposal is to reserve those spaces to add lift systems in the future if more spaces are needed. This design focused more on the streetscape designs and the trail design itself. There will be wayfinding signs and two other connections out to the park. There will be an internal path to the site through the plaza area. The transformers and dumpsters are all in one location. The drainage design currently has a culvert that the neighborhood drains to. This plan will reconstruct that culvert. There will be 2 water quality units to treat runoff. Right now, the runoff just sheet flows into the pond. This plan incorporates further treatment for the culvert by adding a downstream defender unit. An easement will be granted to the City for the culvert. The utilities will go down the driveway. The TAC comments about easements can be incorporated easily to the plan. There will be temporary grading easements that they have coordinated with the abutter on. There is a detailed landscape plan included in the package with seating areas along the pathway. The existing boat launch for kayaks will be reconstructed. The pier will also be rebuilt for public access. The plaza area will have removeable tables to maintain 360-degree fire access. It is challenging to plant along the sidewalk, so the front landscaping is largely focused along the building. There will be bike racks outside and inside the building as well. The next plan will include a grade plane exhibit to show the building height details.

Ms. Walker noted that there were a lot of TAC comments for this project. The team can just highlight anything they have questions about or need clarification on.

TAC Comments:

- Pending final HDC approval, the applicant should confirm that the building block length, façade composition and window glazing complies with the requirements.
- Although the proposed building height appears to comply with the standards and requirements outlined in the Norther End Overlay District, the HDC review will govern the final height, volume and massing of the building(s). A detailed building height map

should be provided showing the average grade plane and the proposed height around the perimeter of the building(s).

- Mr. Crimmins confirmed that they would provide additional documentation.
- Footnote #2 in the development standards chart on Sheet C-102 should reference Section 10.5A46.10 instead of Section 10.5A43.43.
  - Mr. Crimmins responded that they would adjust that.
- As you know, these properties front on multiple height districts, please provide more details on how your base building height was calculated.
- Footnote #3 in the development standards chart should reference Section 10.5A46.10.
- The parking demand analysis letter provided references the ability to share parking spaces with 145 Maplewood Ave office building. Is there an existing agreement in place?
  - Mr. Crimmins responded that it was not an existing agreement, but they will incorporate it as part of the CUP.
- We note you use ITE in your analysis for parking demand, wherever possible, you should use local data if there are comparable uses available where observations could be conducted
  - Mr. Crimmins noted that they would look into it. The intent was to use industry standard because Covid could impact numbers.
- Please respond to the Planning Board's comment regarding an excess of surface parking and suggestion to consider underground parking.
  - Mr. Crimmins noted that this comment was given because of some of the surrounding projects. This site is different than those sites. It is easier to get under the property across the street because of the grades. This building is flat along the road. They would have to design a full basement to ramp down to underground parking. It would also be at or below the mean high-water table, which would raise a number of concerns. They would also still need to provide a fire lane around the site, so underground parking would not reduce the impervious surface. It would just add to the cost of construction and cause long term maintenance concerns.
- I would suggest the applicant consider replacing this parking with a landscaped park area or a 5-800 SF, single-story, hipped roof structure that could be utilized as a community building or leased space for kayak, bike, scooter, or moped rentals.
  - Mr. Crimmins responded that they would look at that, but it may not make sense.
- Please provide a photometrics/lighting plan
  - Mr. Crimmins confirmed that this was submitted last week.
- Third party peer review is required for the traffic study
  - Mr. Crimmins responded that they had no objection to this comment.
- No tree planting specification were included as part of this plan set, please add City's tree planting details.
- Any trees located in the City's right-of-way will require review and approval by the City's Trees & Greenery Committee.
- Serious consideration should be given to converting the entire length of Raynes Ave and Vaughan Street to one-way counterclockwise flow, due to narrowness of road, delivery trucks loading zones and parking on both sides, and corner radii at driveway. Otherwise, the road would need to be widened to accommodate improved two-way flow with the increase in traffic flow and on-street parking demand created by the density of uses.

- Mr. Crimmins commented that they would need direction from City on that. It probably won't change the site design. Ms. Walker noted that they did pilot period when one building was under construction. Mr. Howe commented that it has been a challenge to get through there with parking on both sides. Mr. Sargent noted that there were no immediate concerns about this change for the police.
- Crosswalk across Maplewood Ave should have RRFB installed due to volume and speed of traffic, and limited sight lines.
- Signs on sidewalks should be at least 7'3" to provide clearance for sidewalk plow.
- Bike racks seem to be far away from any entrance. Any place closer to a doorway would be preferable.
- ADA parking spaces should be closer to accessible entrance than non-ADA spaces. Accessible route should not have to cross traffic aisles, if possible.
  - Mr. Crimmins responded that they located the ADA spaces under the covered parking directly across from the hotel entry. The tandem spaces cannot be used as ADA spaces.
- A loading zone on a curve on Raynes Ave is not practical. Large trucks will encroach on travel lane, which is only 10 feet. Another reason for one-way flow.
  - Mr. Crimmins responded that it was not designed as a loading zone but was striped for fire access. The loading zone is in a different location and will be signed.
- Is it possible to move the pedestrian/bike path further outside of the 25' vegetated buffer?
- The path should be at elevation 9 or above or otherwise designed to withstand periodic inundation
  - Mr. Crimmins responded that the path is porous so it will withstand that. Mr. Desfosses noted that the comment still applied. They should not build below elevation 9.
- Please elaborate on your proposed connection to the greenway between your project and 3S Artspace. This was not part of the original concept plan for the North Mill Pond trail. Is it your intention to make this a public entrance?
  - Mr. Crimmins responded that the original intent was to have another entrance to the site.
- The proposed community space meets the minimum area requirements of 20% but does not include the pedestrian access between the two proposed buildings. An access easement should include this area as well as the wide pedestrian sidewalk that is partially located on the property(s) and any secondary access ways proposed between the proposed hotel and 3S Artspace. Consideration should also be given to provide deeded public access to the kayak launch as well as the proposed timber deck.
  - Mr. Crimmins confirmed that they would work with staff.
- Raynes Ave needs new water main
  - Mr. Crimmins confirmed that they would work with staff.
- Provide 2 additional catch basins in Raynes to capture more stormwater before it goes down to Vaughn
  - Mr. Crimmins responded that they had concerns with crowning the road given all the utilities. Catch basins may not be possible. They can work further with staff on this. Mr. Desfosses commented that the whole area has an insufficient number



of drains. There needs to be as many catch basins as possible before coming to Vaughn St. Mr. Crimmins confirmed they would coordinate.

- Eversource needs power conduits in Green/Russell St and transformer and switch space on the lot or they will not be able to service these buildings. Decide on which project (Raynes/Green) is doing what portion of the offsite work that is needed.
- The street needs to be shaped properly with a crown in the center with equal cross slopes. Grading that is shown is not appropriate
- Mount a Redvalve check valve to the headwall at outfall, not inside the manhole using flanged bolt on connection. Show details including grouting around pipe and using water tight pipe joints so the high tide water does not circumvent the valve.
- For SMH inverts, match pipe crowns
- Confirm sewer flows match the projected flows for the sewer construction in Vaughn and Green from 2018
  - Mr. Crimmins responded that the demand was less.
- Gas meter on hotel building will block sidewalk in that location
  - Mr. Crimmins responded that they would look at that.
- PDMH2 should have private check valves protecting both left and right jellyfish and chamber systems from city backflow
- Provide easement for stormwater pipes from Raynes to outfall
- What is the purpose of the storm drainpipe that is planned along the edge of 3S? Roof drains only? If so, does 3S need an easement for it? There seems to be new fill being placed in this area. Is the existing 3S building wall designed to be a retaining wall structure? Do you have permission to fill against it?
- The Water Department will need an access easement to get to valves and meters and for leak detection.
  - Mr. Crimmins confirmed that they could adjust the easement to include the water lines.
- The sewer line in Raynes Ave is AC pipe. Please label as such so that precautions are made when cutting it.
  - Mr. Crimmins confirmed they would add a note.
- What is the plan for Lot 15-1?
  - Mr. Crimmins responded that was not owned by this parcel. They will get grading easements.
- All water and sewer services for the existing buildings need to be terminated at the respective mains
- Provide HC/loading ramp from the street grade up to sidewalk for the HC spot being moved in front of Barrio's kitchen.
  - Mr. Crimmins responded that was being addressed by 145 Maplewood Ave. Mr. Desfosses commented that it should be where the loading would be by the hotel and restaurant.
- Please adjust curb so that it is no higher than 6" reveal. Confirm no more than 2%, no less than 1% on City sidewalks
- The grease trap for the west building is so remote to the structure that an internal grease trap may be needed as well. Grease waste line should be 6"
  - Mr. Crimmins responded that was understood.

- There should not be any utilities within 5' either side of the edges of the City's new drain line (unless crossing transversely).
  - Mr. Crimmins responded that was understood.
- The pavement on Raynes Ave should be 5" thick. 3.5" of binder and 1.5" of surface. Of note is that the applicant is showing 3" of pavement on the private lot, this will not hold up to the construction activity and should be thickened for longevity.
  - Mr. Crimmins commented that they did 4 inches for 145 Maplewood Ave. and the AC hotel. Mr. Desfosses confirmed that the comment was what they were looking for.
- Use 18" of 304.4 under pavement and sidewalks.
  - Mr. Crimmins questioned if it should be 8 inches. Mr. Desfosses confirmed that was correct.
- Do not use wire reinforcement in any City owned sidewalks, use poly fiber mesh instead
- City CB's need liners, please add to detail
- Maintenance of the stormwater system needs to happen at least yearly with reports to DPW
- Provide a higher (24') North End light pole for Raynes Maplewood Intersection like Vaughn/Maplewood existing pole
- Move downstream defender to upstream of DMH 2 so it is not trying to treat private stormwater as well as City flow.
  - Mr. Crimmins responded that it may be a challenge to put in the road, but it may be possible on site.
- Temporary Access Easement for the bridge replacement will be needed
- Raynes Ave is to be paved as part of 111 (145) Maplewood project. The street will need to be milled, paved and striped again during this project.
  - Mr. Crimmins confirmed that was fine.

Ms. Walker noted that they had received some public comment mainly on clarifying the zoning. Future plans should have the buildings labeled as A and B to clarify which they are talking about. Ms. Walker will follow up with Mr. Britz on the elevation of the path. The team should think hard about the request for parking relief. The Planning Board gave feedback that they were concerned about the surface parking and the need for relief.

Mr. Desfosses questioned if there had been thought about adding parking along Maplewood Ave. If Raynes Ave. does not become one way, then they will be asking them to widen the road. If that happens then everything would be pushed onto the site and will impact the entire design. Ms. Walker noted that the applicant is looking for direction from the City on this. They will collaborate with public safety and the Parking Traffic and Safety Committee. If they are open to that, then the City can move forward with that change.

Mr. Howe questioned what the vertical clearance was under the building overhangs. Mr. Tormey responded that the clearance was 13.6. Mr. Howe commented that would be the minimum needed for the fire lane. Mr. Howe also noted that he had not seen parking lifts used outside, so the applicant should be cautious with that. They also cause some issues with sprinkling protocols.

## PUBLIC HEARING

Elizabeth Bratter of 159 McDonough St. commented that she was looking forward to seeing a new design plan with actual heights. The parking looked like it only had 46 spaces on the hotel side and the rest were on the mixed-use building side. Ms. Bratter questioned if the plan would differentiate those spaces. Ms. Bratter was concerned about some of the parking sticking out into the drive aisle because it was not wide enough. Mr. Crimmins noted that it was a 20-foot-wide drive aisle. Ms. Bratter commented that a lot of the greenway was in the 25-foot buffer. There should be access to the greenway on the right side. Ms. Bratter questioned if the Maplewood Ave. entrance into the parking lot was two way or one way.

The Chair asked if anyone else was present from the public wishing to speak to, for, or against the application. Seeing no one else rise, the Chair closed the public hearing.

## DISCUSSION AND DECISION OF THE BOARD

Mr. Howe questioned if the entrance to Maplewood Ave. was emergency access only. Mr. Crimmins confirmed that was correct.

Ms. Walker questioned if there were concerns about adding on street parking to Maplewood Ave. Mr. Eby responded there was not a lot of availability to add that parking.

Ms. Walker commented that they should get any third-party reviews moving forward quickly.

Mr. Howe moved to **postpone** this request to the next TAC meeting, seconded by Mr. Eby. The motion passed unanimously.

- B. The request of **Stone Creek Realty, LLC, Owner**, and **Boston & Maine Corporation, Owner**, for properties located at **53 Green Street** and at the **intersection of Market Street and Green Street** requesting Preliminary and Final Subdivision approval (Lot Line Revision) to transfer 4,852 sq. ft. from Assessor Map 119 Lot 3 to Assessor Map 119 Lot 2 which will increase the total lot area for the receiving lot from 72,200 sq. ft. to 76,670 sq. ft. and the street frontage from 86 ft. to 104 ft. Said properties lie within the Character District 5 (CD5) District.

## SPEAKING TO THE APPLICATION

Patrick Crimmins, Neil Hanson and Rob Simmons spoke to the application. Mr. Crimmins commented that they have met with TAC and the Conservation Commission for work sessions on this project. They also met with the Planning Board for a design review. The project consists of a mixed-use building bound by the North Mill Pond, the railroad, and the AC Hotel. There is a small amount of frontage on Green St. There is a lot line adjustment associated with

the project. The project will require a site plan review and a CUP from the Conservation Commission. It will go through the Historic District Commission as well. It is a 5-story mixed use residential building. There will be 48 units on the upper floors. The plan is providing 20% community space to get the additional story. The last time they met the plans resulted in a net reduction of impervious surface in the buffer. This plan has an additional 3,058 sf increase in that reduction.

Mr. Hanson noted that they would be demolishing the one-story L shaped building and removing all of the surface parking. The proposed new building is mostly within the existing building and parking lot footprint. This plan includes the updated FEMA flood lines. The first floor will consist of commercial space, the residential lobby and a parking lot. The upper floors will have a total of 48 units. The commercial space will front on Green St. There will be a drop off area in front of the residential lobby then a first floor and residential garage. There is a total of 96 spaces proposed. The upper level will have 46 spaces, and the remainder will be in the underground garage. The proposed building was pulled further onto the property to form a pedestrian connection out to the greenway trail. There will be over 16,000 sf of community space between the wide sidewalk area, the Green St. connection to the trail, and the trail itself. The building will step back away from the pond as it goes up. The grading and drainage plan are similar to the last version. The runoff from the parking area will be collected and run through a detention system. The water table is too high for infiltration, so the storm water management will be lined and the under drain will be used for temperature mitigation. The roof and yard drains tie into the same system. The outfall is out of the tidal wetland area. The utilities are similar to what has been presented at the work session. They are coordinating with Eversource on the transformer location and off-site improvements. There is a 15-foot-wide sewer easement and a community space easement. The impervious surface has been further reduced in the buffer. The fire truck access will be a grass pave system. The lane was extended further around the corner of the building and tied into the North Mill Pond trail. There was a comment to pull the path further back from the pond and that revision can be made. There is a detailed landscaping prepared by Robbi Woodburn.

Ms. Walker noted that there were a fair number of comments, and they could just review any that they had a question about or needed clarification on. Mr. Hanson noted that most of the comments would be easily resolved and they had no problem with the revisions. There were a few comments on the entrance configuration, and they will take a closer look at that entrance. The turning templates will be provided in future submissions. There were no other comments that caused them any issues or concerns with.

TAC Comments:

- Please show the proposed sewer easement to the City of Portsmouth on the lot line revision plan.
- The Community Space easement should include the pedestrian passageway between the proposed new building and the AC Hotel. This is the only connection between Green Street and the Greenway along the North Mill Pond. Additionally, the easement should include the proposed access to the seat wall behind the building.
- The minimum width of the community space pedestrian pathway should be 8 feet.

- Min. Front Lot Line Buildout (FLLB) compliance needs to be verified.
- Sheet C-102 Development standards footnote (2) needs to be reassigned to reflect the Overlay Incentive District requirements as Section 10.5A43.43 does not apply to this project.
- Footnote #3 in the development standards chart should reference Section 10.5A46.10.
- It appears that only 69 off-street parking spaces are required (versus 73) due to the DOD credit. Perhaps the three parallel spaces along the building frontage could be removed in order to support a larger raised and landscaped island to soften the impervious surface of the driveway, drop off area and sidewalks.
- The landscaping plan should show the grass paver fire lane as shown on the site plan.
- Drop off area in front appears to be too small. Show turning paths for expected vehicles. Delivery trucks will not be able to turn in this area, passenger cars will have a difficult time. How will moving vans access the site?
- Due to narrow driveway approach and 90 degree turn into ramps, entrance into parking garage ramps should be wider to allow for both entering and exiting vehicles at the same time. No Parking signs and pavement markings should be installed along the retaining wall. Vehicles exiting from the garage will require the entire 24-foot driveway width to make the turn in order to clear the side of the garage on their right turn. The building should be recessed in the area of the garage entrance to provide more turning radius area to allow for two way traffic.
- Driveway throat at Green Street is too short, too narrow and angled too sharply to allow for two way traffic. Vehicles exiting the site will not likely follow the curve of the driveway, and will block vehicles trying to turn right to enter the site. It will not be possible for any vehicle larger than a passenger car to turn right into the site driveway from Green Street, even if no vehicles are exiting the site at that time. The driveway geometry needs to be reconfigured.
- The commercial space, while not requiring parking, will still likely generate vehicle trips. These trips should be accounted for in the vehicle trip generation analysis.
- Where the pedestrian/bike path parallels the grass paver fire access, can the path be moved further inland to overlap with the fire lane and reduce impacts in the 25' wetland buffer?
- Eversource needs power conduits in Green/Russell St and transformer space on the lot or they will not be able to service this building. Decide on which project (Raynes/Green) is doing what portion of the offsite work that is needed.
- Green St to be milled and repaved 1.5" after main/ building utility services installations.
- Temporary water plan to be approved by Portsmouth Water and Portsmouth FD
- The greenway path should be at elevation 9 or above or otherwise designed to withstand periodic inundation
- Eversource to approve transformer location and confirm if the path is sufficient to get to the transformer
- On right side of driveway, wrap curb another 90 degrees around the arc shown toward the tracks
- Upgrade 'district standard light fixture base' detail to match what the bottom of lights actually look like. Bottom of ornamental portion of pole to be buried ½" below brick elevation..

- Provide low shrubs or other landscaping on right side of driveway inside semicircle of curbing
- Confirm that all the plants shown between this building and AC hotel will thrive in darker conditions.
- Any trees located in the City's right-of-way will require review and approval by the City's Trees & Greenery Committee.
- Confirm sewer flows match the projected flows for the sewer construction in Vaughn and Green from 2018
- Please adjust curb so that it is no higher than 6" reveal. Confirm no more than 2%, no less than 1% on City sidewalks

Mr. Eby commented that they should look at the entrance into the ramps and the turning radius into the garage doors as well. Mr. Hanson confirmed they would look at that and provide turning templates.

Ms. Walker noted they needed to fix a discrepancy on the community space in the plans and questioned if the community easement would include the pathway. Mr. Hanson confirmed they were expanding the easement to include the pedestrian connection and sitting wall to be part of the community space easement.

Mr. Crimmins noted there was a comment about the right turn coming across the tracks into the entrance and questioned if that was a concern. It is not a high traffic area because it's a residential site. Mr. Eby responded that the turning radius for a passenger car was too wide. If someone was in the other lane it would not work. It would be good to see a turning template to show how it would work.

Mr. Eby questioned if it would be a private boat dock. Mr. Crimmins confirmed that it would be gated and for residents' use only.

## **PUBLIC HEARING**

Elizabeth Bratter of 159 McDonough St. questioned who owned the triangle in the corner where the fire truck access was. Ms. Walker responded that it was City property.

The Chair asked if anyone else was present from the public wishing to speak to, for, or against the application. Seeing no one else rise, the Chair closed the public hearing.

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

Mr. Desfosses moved to **postpone** this request to the next TAC meeting, seconded by Mr. Sargent. The motion passed unanimously.

- C. The request of **Stone Creek Realty, LLC, Owner**, for property located at **53 Green Street** requesting Site Plan Review approval for the demolition of an existing building and construction of a 5-story mixed-use building with 121,544 sq. ft. of gross floor area and 29,374 sq. ft. building footprint that includes 1,898 sq. ft. of commercial space on the first floor, 48 upper floor residential units, 96 parking spaces and 15,494 sq. ft. of community space as well as paving, utilities, lighting, landscaping and associated site improvements. Said property is shown on Assessor Map 119 Lot 02 and lies within the Character District 5 (CD5) District.

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

Mr. Desfosses moved to **postpone** this request to the next TAC meeting, seconded by Mr. Sargent. The motion passed unanimously.

- D. The request of the **Islamic Society of the Seacoast Area, Owners**, for property located at **686 Maplewood Avenue** for a second 1-year extension of Site Plan Review Approval to construct a 2-story building for religious assembly with a building footprint of 3,880 s.f. and gross floor area of 5,333 s.f. with related paving, lighting, utilities, landscaping, drainage and associated site improvements that was originally granted on April 18, 2019 and was granted an initial 1-year extension on April 9, 2020.

### **SPEAKING TO THE APPLICATION**

John Chagnon spoke to the application. Mr. Chagnon commented that nothing in the design has changed. All of the conditions of the initial approval have been addressed through changes to the plans. They are here to see if TAC had any updates or requested changes in the plan. Otherwise, the request is for another extension.

### **PUBLIC HEARING**

The Chair asked if anyone was present from the public wishing to speak to, for, or against the application. Seeing no one rise, the Chair closed the public hearing.

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

Mr. Desfosses moved to recommend approval of this request to the Planning Board, seconded by Mr. Howe. The motion passed unanimously.



**IV. ADJOURNMENT**

Ms. Walker adjourned the meeting at 3:34 pm.

.....

Respectfully submitted,

Becky Frey,  
Acting Secretary for the Technical Advisory Committee



# City of Portsmouth, New Hampshire

## *Subdivision Application Checklist*

This subdivision application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. 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 subdivision review requirements. Please refer to the Subdivision review regulations for full details.

**Applicant Responsibilities (Section III.C):** Applicable fees are due upon application submittal along with the Preliminary or final plat and supporting documents and studies submitted in PDF format with the [online application](#). Please consult with Planning staff for submittal requirements.

Owner: Stone Creek Realty, LLC Date Submitted: 3/22/2021

Applicant: CPI Management, LLC

Phone Number: 617 742 6000 E-mail: rob@cathartes.com

Site Address 1: 53 Green Street Map: 119 Lot: 2

Site Address 2: \_\_\_\_\_ Map: \_\_\_\_\_ Lot: \_\_\_\_\_

Application Requirements			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Completed <a href="#">Application form</a> submitted via View Point (the City's web-based permitting program). <b>(III.C.2-3)</b>	Enclosed	N/A
<input checked="" type="checkbox"/>	All application documents, plans, supporting documentation and other materials uploaded to the application form in View Point 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. <b>(III.C.4)</b>	Enclosed	N/A

Requirements for Preliminary/Final Plat			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat
<input checked="" type="checkbox"/>	Name and address of record owner, any option holders, descriptive name of subdivision, engineer and/or surveyor or name of person who prepared the plat. <b>(Section IV.1/V.1)</b>	Existing Conditions Plan	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	<p><b>Preliminary Plat</b> Names and addresses of all adjoining property owners. <b>(Section IV.2)</b></p> <p><b>Final Plat</b> Names and addresses of all abutting property owners, locations of buildings within one hundred (100) feet of the parcel, and any new house numbers within the subdivision. <b>(Section V.2)</b></p>	To Be Provided	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	North point, date, and bar scale. <b>(Section IV.3/V3)</b>	Required on all Plan Sheets	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	Zoning classification and minimum yard dimensions required. <b>(Section IV.4/V.4)</b>	Site Plan, sheet C.102.1	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	<p><b>Preliminary Plat</b> Scale (not to be smaller than one hundred (100) feet = 1 inch) and location map (at a scale of 1" = 1000'). <b>(Section IV.5)</b></p> <p><b>Final Plat</b> Scale (not to be smaller than 1"=100'), Location map (at a scale of 1"=1,000') showing the property being subdivided and its relation to the surrounding area within a radius of 2,000 feet. Said location map shall delineate all streets and other major physical features that my either affect or be affected by the proposed development. <b>(Section V.5)</b></p>	Required on all plans sheets	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	Location and approximate dimensions of all existing and proposed property lines including the entire area proposed to be subdivided, the areas of proposed lots, and any adjacent parcels in the same ownership. <b>(Section IV.6)</b>	To Be Provided	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	Dimensions and areas of all lots and any and all property to be dedicated or reserved for schools, parks, playgrounds, or other public purpose. Dimensions shall include radii and length of all arcs and calculated bearing for all straight lines. <b>(Section V.6/ IV.7)</b>	To Be Provided	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	Location, names, and present widths of all adjacent streets, with a designation as to whether public or private and approximate location of existing utilities to be used. Curbs and sidewalks shall be shown. <b>(Section IV.8/V.7)</b>	To Be Provided	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	Location of significant physical features, including bodies of water, watercourses, wetlands, railroads, important vegetation, stone walls and soils types that may influence the design of the subdivision. <b>(Section IV.9/V.8)</b>	Existing Conditions Plan	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	<b>Preliminary Plat</b> Proposed locations, widths and other dimensions of all new streets and utilities, including water mains, storm and sanitary sewer mains, catch basins and culverts, street lights, fire hydrants, sewerage pump stations, etc. <b>(Section IV.10)</b> <b>Final Plat</b> Proposed locations and profiles of all proposed streets and utilities, including water mains, storm and sanitary sewer mains, catchbasins and culverts, together with typical cross sections. Profiles shall be drawn to a horizontal scale of 1"=50' and a vertical scale of 1"=5', showing existing centerline grade, existing left and right sideline grades, and proposed centerline grade. <b>(Section V.9)</b>	To Be Provided	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	When required by the Board, the plat shall be accompanied by profiles of proposed street grades, including extensions for a reasonable distance beyond the subject land; also grades and sizes of proposed utilities. <b>(Section IV.10)</b>	N/A	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	Base flood elevation (BFE) for subdivisions involving greater than five (5) acres or fifty (50) lots. <b>(Section IV.11)</b>	N/A	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	For subdivisions of five (5) lots or more, or at the discretion of the Board otherwise, the preliminary plat shall show contours at intervals no greater than two (2) feet. Contours shall be shown in dotted lines for existing natural surface and in solid lines for proposed final grade, together with the final grade elevations shown in figures at all lot corners. If existing grades are not to be changed, then the contours in these areas shall be solid lines. <b>(Section IV.12/ V.12)</b>	N/A	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	Dates and permit numbers of all necessary permits from governmental agencies from which approval is required by Federal or State law. <b>(Section V.10)</b>	Cover Sheet	<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	For subdivisions involving greater than five (5) acres or fifty (50) lots, the final plat shall show hazard zones and shall include elevation data for flood hazard zones. <b>(Section V.11)</b>	N/A	<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	Location of all permanent monuments. <b>(Section V.12)</b>	To Be Provided	<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

General Requirements <sup>1</sup>			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	<b>1. Basic Requirements: (VI.1)</b>	TBD	
<input type="checkbox"/>	a. Conformity to Official Plan or Map		
<input type="checkbox"/>	b. Hazards		
<input type="checkbox"/>	c. Relation to Topography		
<input type="checkbox"/>	d. Planned Unit Development		
<input type="checkbox"/>	<b>2. Lots: (VI.2)</b>	TBD	
<input type="checkbox"/>	a. Lot Arrangement		
<input type="checkbox"/>	b. Lot sizes		
<input type="checkbox"/>	c. Commercial and Industrial Lots		
<input type="checkbox"/>	<b>3. Streets: (VI.3)</b>	N/A	
<input type="checkbox"/>	a. Relation to adjoining Street System		
<input type="checkbox"/>	b. Street Rights-of-Way		
<input type="checkbox"/>	c. Access		
<input type="checkbox"/>	d. Parallel Service Roads		
<input type="checkbox"/>	e. Street Intersection Angles		
<input type="checkbox"/>	f. Merging Streets		
<input type="checkbox"/>	g. Street Deflections and Vertical Alignment		
<input type="checkbox"/>	h. Marginal Access Streets		
<input type="checkbox"/>	i. Cul-de-Sacs		
<input type="checkbox"/>	j. Rounding Street Corners		
<input type="checkbox"/>	k. Street Name Signs		
<input type="checkbox"/>	l. Street Names		
<input type="checkbox"/>	m. Block Lengths		
<input type="checkbox"/>	n. Block Widths		
<input type="checkbox"/>	o. Grade of Streets		
<input type="checkbox"/>	p. Grass Strips		
<input checked="" type="checkbox"/>	<b>4. Curbing: (VI.4)</b>	See Site Plan C.102.1	
<input checked="" type="checkbox"/>	<b>5. Driveways: (VI.5)</b>	See Site Plan C.102.1	
<input checked="" type="checkbox"/>	<b>6. Drainage Improvements: (VI.6)</b>	See Sheet C.103	
<input checked="" type="checkbox"/>	<b>7. Municipal Water Service: (VI.7)</b>	See Utility Plan C.104	
<input checked="" type="checkbox"/>	<b>8. Municipal Sewer Service: (VI.8)</b>	See Utility Plan C.104	
<input checked="" type="checkbox"/>	<b>9. Installation of Utilities: (VI.9)</b>	See Utility Plan C.104	
<input checked="" type="checkbox"/>	a. All Districts		
<input checked="" type="checkbox"/>	b. Indicator Tape		
<input checked="" type="checkbox"/>	<b>10. On-Site Water Supply: (VI.10)</b>	Enclosed	
<input type="checkbox"/>	<b>11. On-Site Sewage Disposal Systems: (VI.11)</b>	N/A	
<input checked="" type="checkbox"/>	<b>12. Open Space: (VI.12)</b>	See Landscape Plans L-1 & L-2	
<input type="checkbox"/>	a. Natural Features		
<input type="checkbox"/>	b. Buffer Strips		
<input type="checkbox"/>	c. Parks		
<input type="checkbox"/>	d. Tree Planting		
<input checked="" type="checkbox"/>	<b>13. Flood Hazard Areas: (VI.13)</b>	Cover sheet	
<input checked="" type="checkbox"/>	a. Permits		
<input type="checkbox"/>	b. Minimization of Flood Damage		
<input type="checkbox"/>	c. Elevation and Flood-Proofing Records		
<input type="checkbox"/>	d. Alteration of Watercourses		

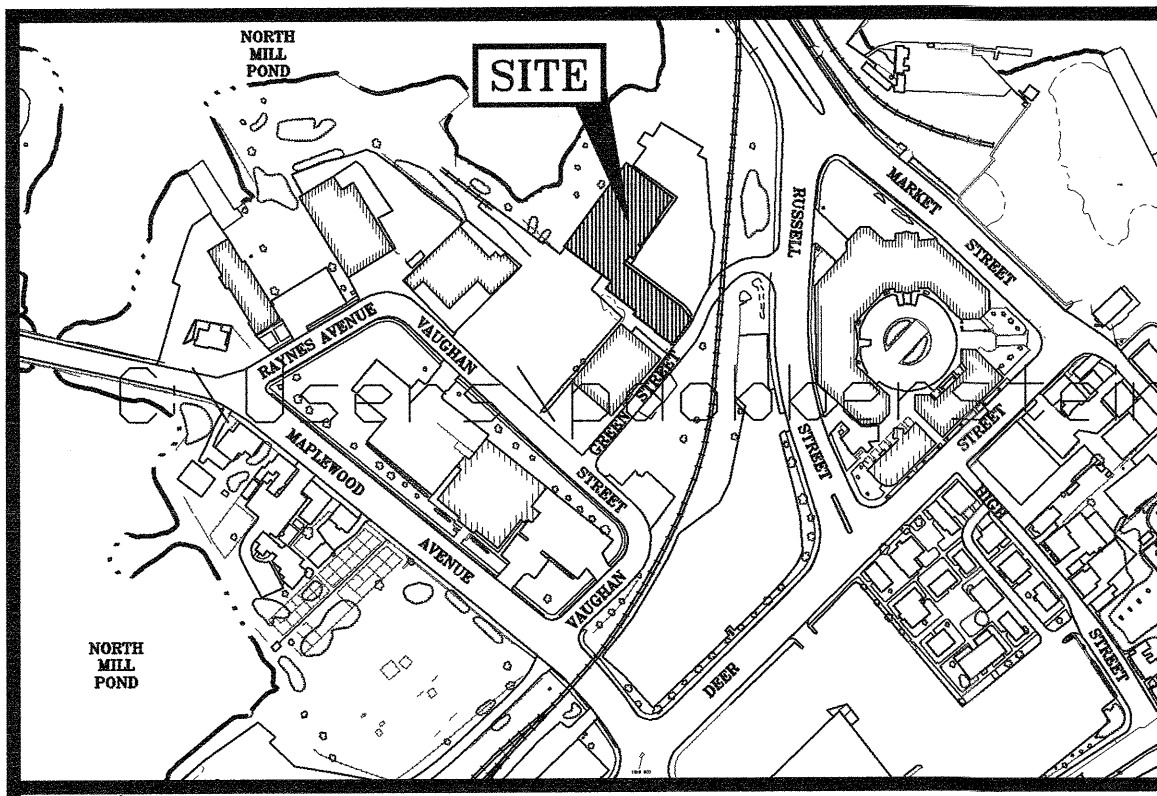
<input checked="" type="checkbox"/>	<b>14. Erosion and Sedimentation Control (VI.14)</b>		
<input checked="" type="checkbox"/>	<b>Required Items for Submittal</b>	<b>Item Location (e.g. Page/line or Plan Sheet/Note #)</b>	<b>Waiver Requested</b>
<input checked="" type="checkbox"/>	<b>15. Easements (VI.15)</b>	Existing Conditions Plan	
<input checked="" type="checkbox"/>	a. Utilities		
<input type="checkbox"/>	b. Drainage		
<input checked="" type="checkbox"/>	<b>16. Monuments: (VI.16)</b>	Existing Conditions Plan	
<input checked="" type="checkbox"/>	<b>17. Benchmarks: (VI.17)</b>	Existing Conditions Plan	
<input type="checkbox"/>	<b>18. House Numbers (VI.18)</b>	N/A	

<b>Design Standards</b>			
	<b>Required Items for Submittal</b>	<b>Indicate compliance and/or provide explanation as to alternative design</b>	<b>Waiver Requested</b>
<input checked="" type="checkbox"/>	<b>1. Streets have been designed according to the design standards required under Section (VII.1).</b> a. Clearing b. Excavation c. Rough Grade and Preparation of Sub-Grade d. Base Course e. Street Paving f. Side Slopes g. Approval Specifications h. Curbing i. Sidewalks j. Inspection and Methods	See Site Plan C.102.1	
<input checked="" type="checkbox"/>	<b>2. Storm water Sewers and Other Drainage Appurtenances have been designed according to the design standards required under Section (VII.2).</b> a. Design b. Standards of Construction	See Grading and Drainage Sheet C.103	
<input checked="" type="checkbox"/>	<b>3. Sanitary Sewers have been designed according to the design standards required under Section (VII.3).</b> a. Design b. Lift Stations c. Materials d. Construction Standards	See Utility Plan C.104	
<input checked="" type="checkbox"/>	<b>4. Water Mains and Fire Hydrants have been designed according to the design standards required under Section (VII.4).</b> a. Connections to Lots b. Design and Construction c. Materials d. Notification Prior to Construction	See Utility Plan C.104	

<sup>1</sup> See City of Portsmouth, NH Subdivision Rules and Regulations for details.  
 Subdivision Application Checklist/September 2020





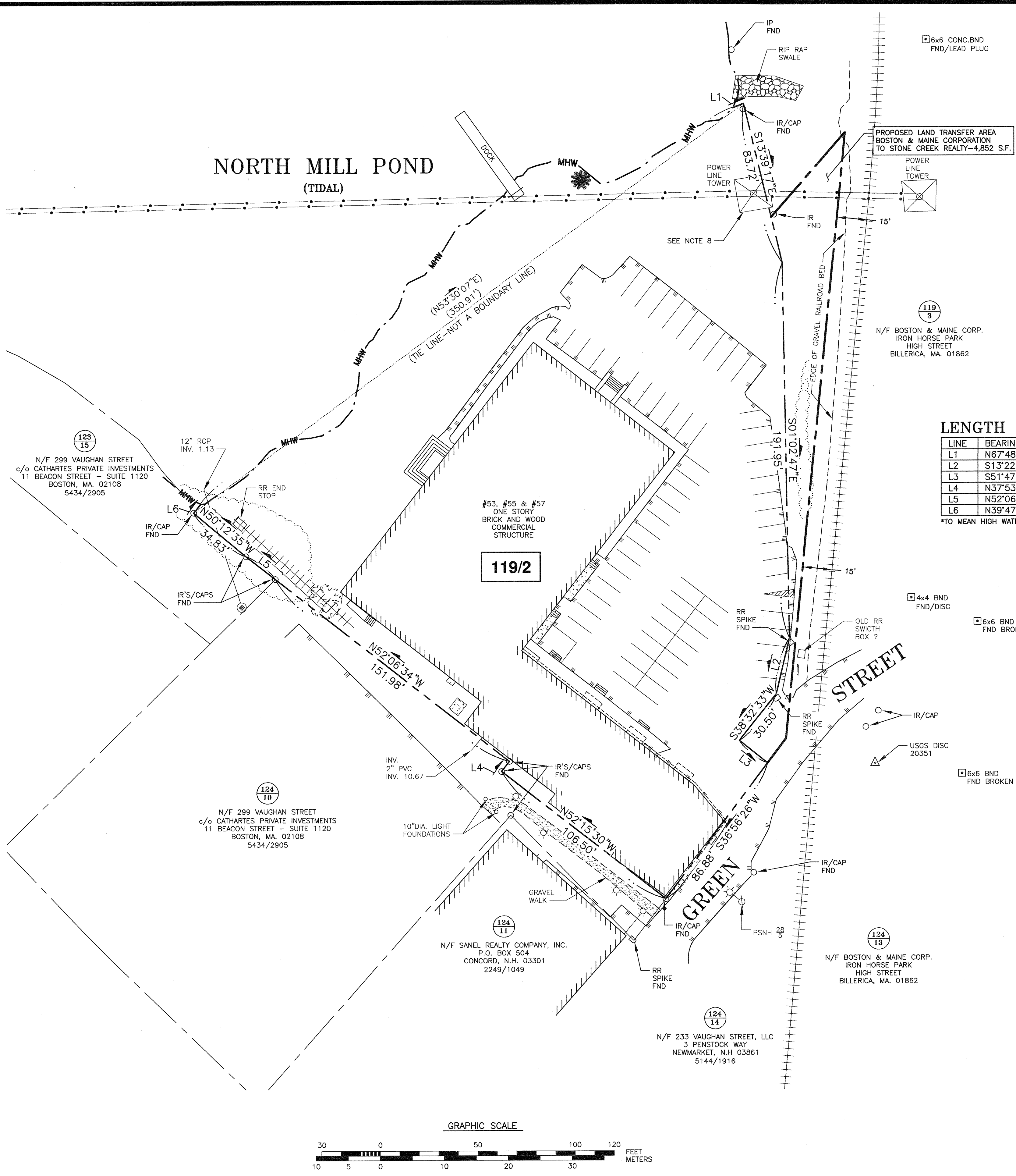


LOCATION MAP SCALE: 1" = 300'

- LEGEND:**
- N/F NOW OR FORMERLY
  - RP RECORD OF PROBATE
  - RCRD ROCKINGHAM COUNTY REGISTRY OF DEEDS
  - RR SPK RAILROAD SPIKE
  - MAP 11/LOT 21
  - IR FND IRON ROD FOUND
  - IP FND IRON PIPE FOUND
  - IR SET IRON ROD SET
  - RR SPIKE RAILROAD SPIKE FOUND
  - MHW MEAN HIGH WATER LINE, ELEV. 4.6 (NAVD88)

**PLAN REFERENCES:**

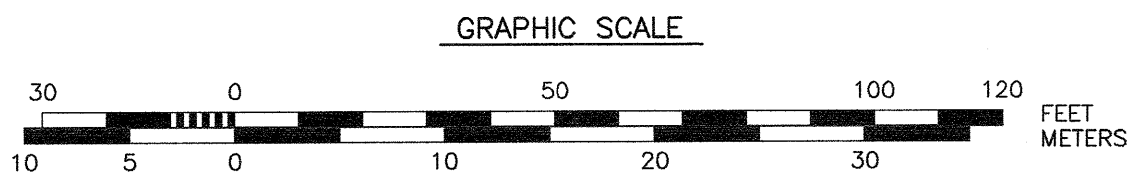
- 1) "PLAN SHOWING LAND AND WHARFAGE OWNED BY SILAS PEIRCE AND CO, L'TD. PORTSMOUTH, N.H.", SCALE: 20 FT = 1 INCH. AUG. 8, 1902 BY A.C. HOYT, SURVEYOR, RCRD 00266.
- 2) "PLAN OF PROPERTY CORNER VAUGHN AND GREEN STREET, PORTSMOUTH, N.H." SCALE: ONE INCH = 20 FEET, FEBRUARY 1907, RCRD 00306.
- 3) "PLAN OF PROPERTY IN PORTSMOUTH, N.H. OWNED BY R.I. SUGDEN" APRIL 15, 1919, SCALE 1" = 20' BY WM. A. GROVER, CIVIL ENGINEER, COPIED BY ROBERT DURGIN PORTS, N.H. 1937, NOT RECORDED.
- 4) "PLAN OF LAND, PORTSMOUTH, N.H. FOR GEORGE D. EMERSON CO." SCALE: 1 IN. = 10 FT, APR. 1952, BY JOHN W. DURGIN, CIVIL ENGINEER, FILE NO 1828, PLAN 7181, NOT RECORDED.
- 5) "LAND IN PORTSMOUTH, N.H. BOSTON AND MAINE RAILROAD TO GEORGE D. EMERSON COMPANY" SCALE: 1" = 40 FT. JUNE 1954 RCRD BOOK 1339 PAGE 305.
- 6) "PLAN OF LAND, VAUGHAN AND GREEN STREETS, PORTSMOUTH, N.H. FOR SAMUEL W. POORVU" SCALE: 1 IN. = 10 FT. JULY 1955 BY JOHN W. DURGIN, CIVIL ENGINEERS, FILE NO. 1828 PLAN NO. 8305, RCRD 02541.
- 7) "PLAN OF LAND, VAUGHAN AND GREEN STREETS, PORTSMOUTH, N.H. FOR SAMUEL W. POORVU & SUMNER L. POORVU" SCALE: 1 IN. = 10 FT. JAN. 1956 BY JOHN W. DURGIN, CIVIL ENGINEERS, FILE NO. 1828 PLAN NO. 8305-1, NOT RECORDED.
- 8) "VAUGHAN STREET URBAN RENEWAL PROJECT, N.H. R-10, PORTSMOUTH, N.H." CONDEMNATION MAP BY ANDERSON-NICHOLS & CO., INC. SCALE: 1" = 40', FEB., 1971, SHEET 3 OF 3, RCRD 2425.
- 9) "LAND IN PORTSMOUTH BOSTON AND MAINE CORPORATION TO HARBORCORP, LLC" SCALE: 1 IN. = 30', MARCH 14, 2005, FINAL REVISION 5/3/2005, BY AMES MSC, RCRD D-32675.



**LENGTH TABLE**

LINE	BEARING	DISTANCE
L1	N67°48'00"E	6'±*
L2	S13°22'13"W	29.13'
L3	S51°47'14"E	18.50'
L4	N37°53'26"E	6.50'
L5	N52°06'34"W	19.02'
L6	N39°47'25"E	6'±*

\*TO MEAN HIGH WATER



**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) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 119 AS LOT 2.
  - 2) OWNER OF RECORD:  
 STONE CREEK REALTY  
 c/o DOUGLAS PINCIARO, Mgr.  
 P.O. BOX 121  
 NEW CASTLE, N.H. 03854-0121  
 3378/2467
  - 3) PORTIONS OF THE SUBJECT PARCEL ARE IN A SPECIAL FLOOD HAZARD AREA, ZONE AE (EL 9-NGVD29), AS SHOWN ON FIRM PANEL 33015C0259E, EFFECTIVE MAY 18, 2005. STRUCTURE ON PARCEL WAS REMOVED FROM THE SHFA, SEE LOMA CASE #19-01-0417A.
  - 4) EXISTING LOT AREA:  
 70,613± S.F. (TO MEAN HIGH WATER)  
 1.6211± ACRES (TO MEAN HIGH WATER)
  - 5) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 5 (CD5) ZONING DISTRICT, AND IS SUBJECT TO THE DOWNTOWN OVERLAY (DOD) AND HISTORIC OVERLAY DISTRICTS.
  - 6) DIMENSIONAL REQUIREMENTS:  
 SEE ZONING ORDINANCE
  - 7) THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULT OF A STANDARD BOUNDARY SURVEY OF LOT 2 ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 119.
  - 8) SEE POLE AND WIRE AGREEMENT DATED NOVEMBER 25, 1927 BETWEEN BOSTON AND MAINE RAILROAD & PORTSMOUTH POWER COMPANY. SEE ALSO 1339/298, BOSTON AND MAINE RAILROAD TO GEORGE D. EMERSON COMPANY. NO WIDTH OF RIGHT TO ERECT POLES AND WIRES ON THE SUBJECT PARCEL IS GIVEN.
  - 9) VERTICAL DATUM NAVD88. BASIS OF VERTICAL DATUM NGS PID OC0289 - V 31 USGS 1943.

0	ISSUED FOR COMMENT	10/22/19
NO.	DESCRIPTION	DATE

**PROPERTY ACQUISITION WORKSHEET**  
**TAX MAP 119 - LOT 2**  
 LAND OF  
**STONE CREEK REALTY**  
 53, 55 & 57 GREEN STREET  
 CITY OF PORTSMOUTH  
 COUNTY OF ROCKINGHAM  
 STATE OF NEW HAMPSHIRE

C0906-011  
April 21, 2021

Ms. Juliet Walker Planning Director  
City of Portsmouth Planning Department  
1 Junkins Avenue  
Portsmouth, New Hampshire 03801

**Re: Site Review Permit & Lot Line Revision Applications  
Proposed Mixed Use Development 53 Green Street, Portsmouth, NH**

Dear Juliet:

On behalf of Stone Creek Realty, LLC (owner), and CPI Management, LLC (applicant), we are pleased to submit the following supplemental information to support a request for a Site Review Permit and Lot Line Revision Permit for the above referenced project:

- One (1) full size & one (1) half size copy of the Site Plan Set, last revised April 21, 2021;
- One (1) copy of the Aerial Site Plan, last revised April 21, 2021;
- One (1) copy of the Grade Plane Exhibit, last revised April 21, 2021;
- One (1) copy of the Community Space Exhibit, last revised April 21, 2021;
- One (1) copy of the Fire Truck Turning Exhibit, last revised April 21, 2021;
- One (1) copy of the Wetland Buffer Impervious Surface Exhibit, last revised April 21, 2021;
- One (1) copy of the Site Traffic Exhibit, dated April 21, 2021;
- One (1) copy of the Drainage Analysis, last revised April 21, 2021;
- One (1) copy of the Trip Generation Analysis, last revised April 21, 2021;
- One (1) copy of the TAC Comment Response, dated April 21, 2021

The enclosed revised plans and supplemental materials have been provided to address comments received from the Technical Advisory Committee (TAC) in correspondence dated April 5, 2021 and at their meeting held on April 6, 2021.

We respectfully request to be placed on the TAC meeting agenda for May 4, 2021. If you have any questions or need any additional information, please contact Patrick Crimmins by phone at (603) 433-8818 or by email at [pmcrimmins@tighebond.com](mailto:pmcrimmins@tighebond.com).

Sincerely,

**TIGHE & BOND, INC.**



Patrick M. Crimmins, PE  
Senior Project Manager



Neil A. Hansen, PE  
Project Engineer

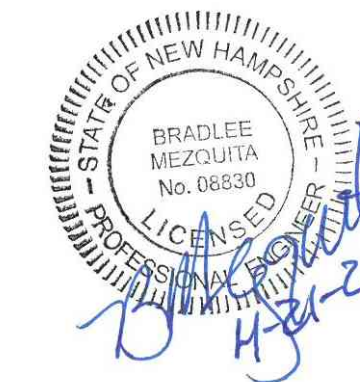
Cc: Stone Creek Realty, LLC (via e-mail)  
CPI Management, LLC (via e-mail)



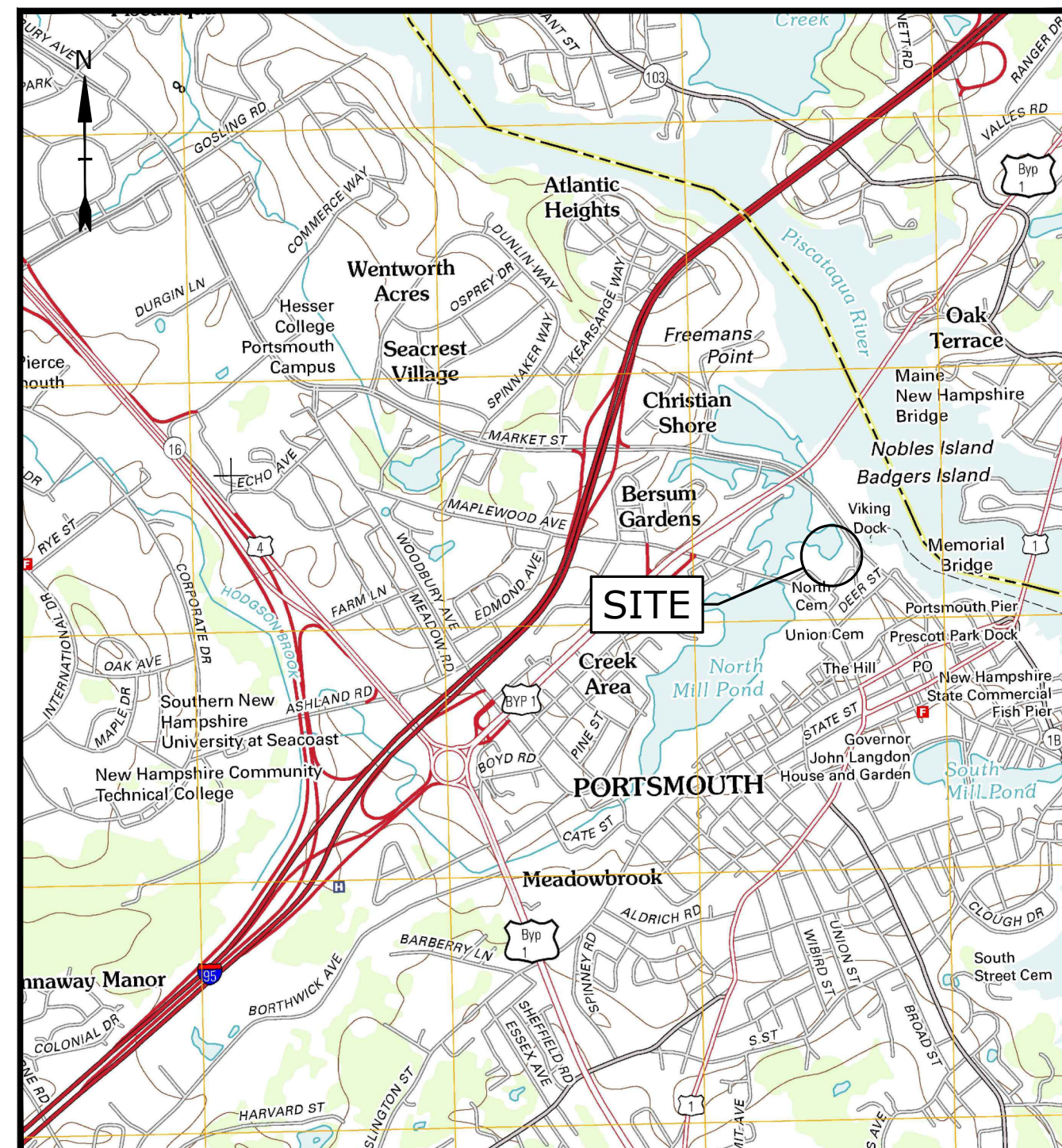


# PROPOSED MIXED USE DEVELOPMENT

53 GREEN STREET  
 PORTSMOUTH, NEW HAMPSHIRE  
 JANUARY 27, 2021  
 LAST REVISED: APRIL 21, 2021



LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	4/21/2021
1 OF 2	EXISTING CONDITIONS PLAN	11/1/2019
2 OF 2	EXISTING CONDITIONS PLAN	11/1/2019
C-101	DEMOLITION PLAN	4/21/2021
C-102.1	SITE PLAN	4/21/2021
C-102.2	BASEMENT & UPPER FLOOR PLAN	4/21/2021
C-103	GRADING, DRAINAGE AND EROSION CONTROL PLAN	4/21/2021
C-104	UTILITIES PLAN	4/21/2021
C-201	WATER MAIN REPLACEMENT PLAN	4/21/2021
C-301	EASEMENT PLAN	4/21/2021
C-501	EROSION CONTROL NOTES AND DETAILS SHEET	4/21/2021
C-502	DETAILS SHEET	4/21/2021
C-503	DETAILS SHEET	4/21/2021
C-504	DETAILS SHEET	4/21/2021
C-505	DETAILS SHEET	4/21/2021
C-506	DETAILS SHEET	4/21/2021
C-507	DETAILS SHEET	4/21/2021
C-508	DETAILS SHEET	4/21/2021
L-1	LANDSCAPE PLAN	4/21/2021
1 OF 1	PHOTOMETRIC PLAN	3/22/2021
1	BUILDING ELEVATION	3/22/2021



LOCATION MAP  
 SCALE: 1" = 2,000'

PREPARED BY:  
**Tighe & Bond**  
 177 CORPORATE DRIVE  
 PORTSMOUTH, NEW HAMPSHIRE 03801  
 603-433-8818

APPLICANT:  
 CPI MANAGEMENT, LLC  
 100 SUMMER STREET, SUITE 1600  
 BOSTON, MASSACHUSETTS 02110

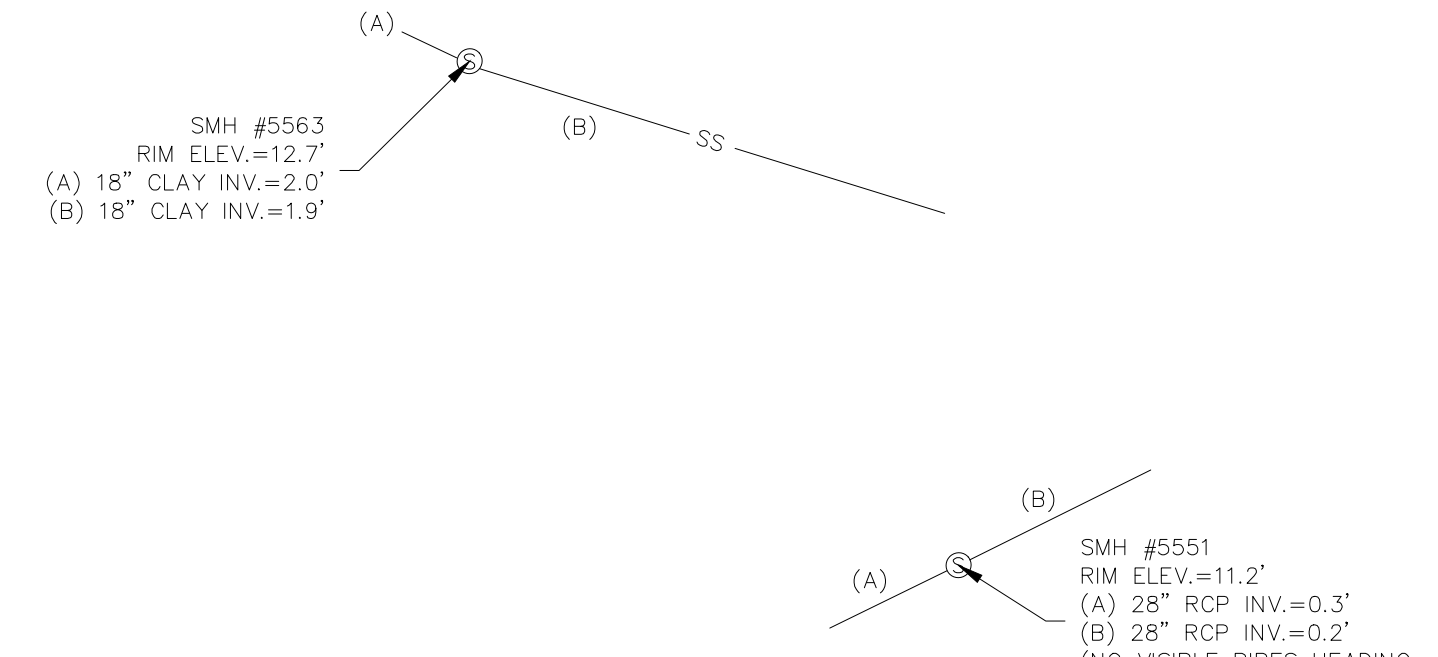
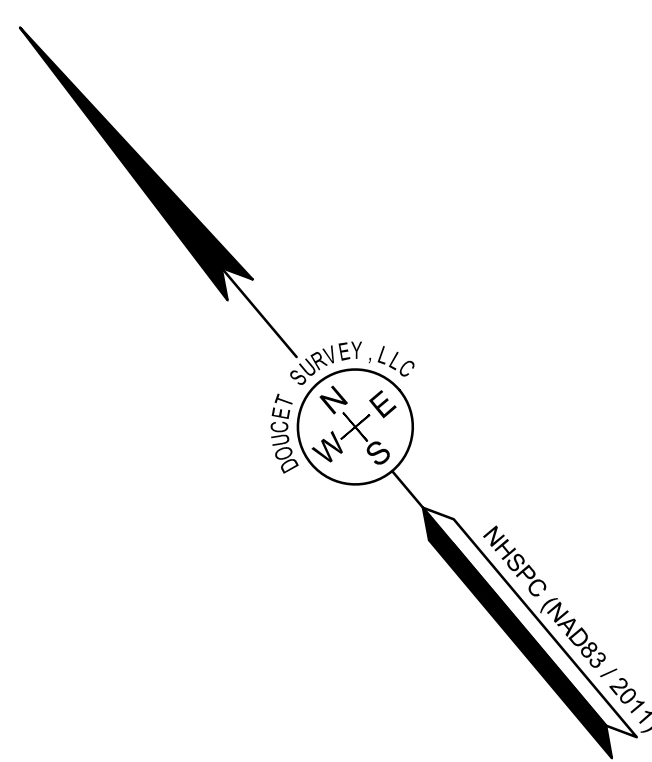
OWNER:  
 TAX MAP 119, LOT 12  
 STONE CREEK REALTY, LLC  
 C/O DOUGLAS PINCIARO  
 PO BOX 121  
 NEW CASTLE, NEW HAMPSHIRE 03854

SURVEYOR:  
 DOUCET SURVEY, LLC  
 192 KENT PLACE  
 NEWMARKET, NEW HAMPSHIRE 30857

LIST OF PERMITS		
LOCAL	STATUS	DATE
SITE PLAN REVIEW PERMIT	PENDING	
LOT LINE REVISION PERMIT	PENDING	
CONDITIONAL USE PERMIT - WETLAND BUFFER	PENDING	
STATE		
NHDES - SEWER CONNECTION PERMIT	PENDING	
NHDES - ALTERATION OF TERRAIN PERMIT	PENDING	
NHDES - WETLAND PERMIT	PENDING	

**TAC RESUBMISSION SET  
 COMPLETE SET 21 SHEETS**





I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE (N.H.R.S.A. TITLE LXIV) AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN. I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000.

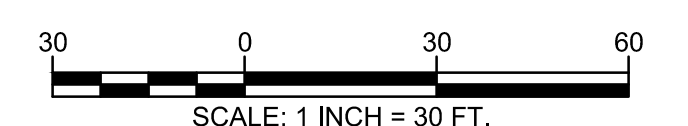
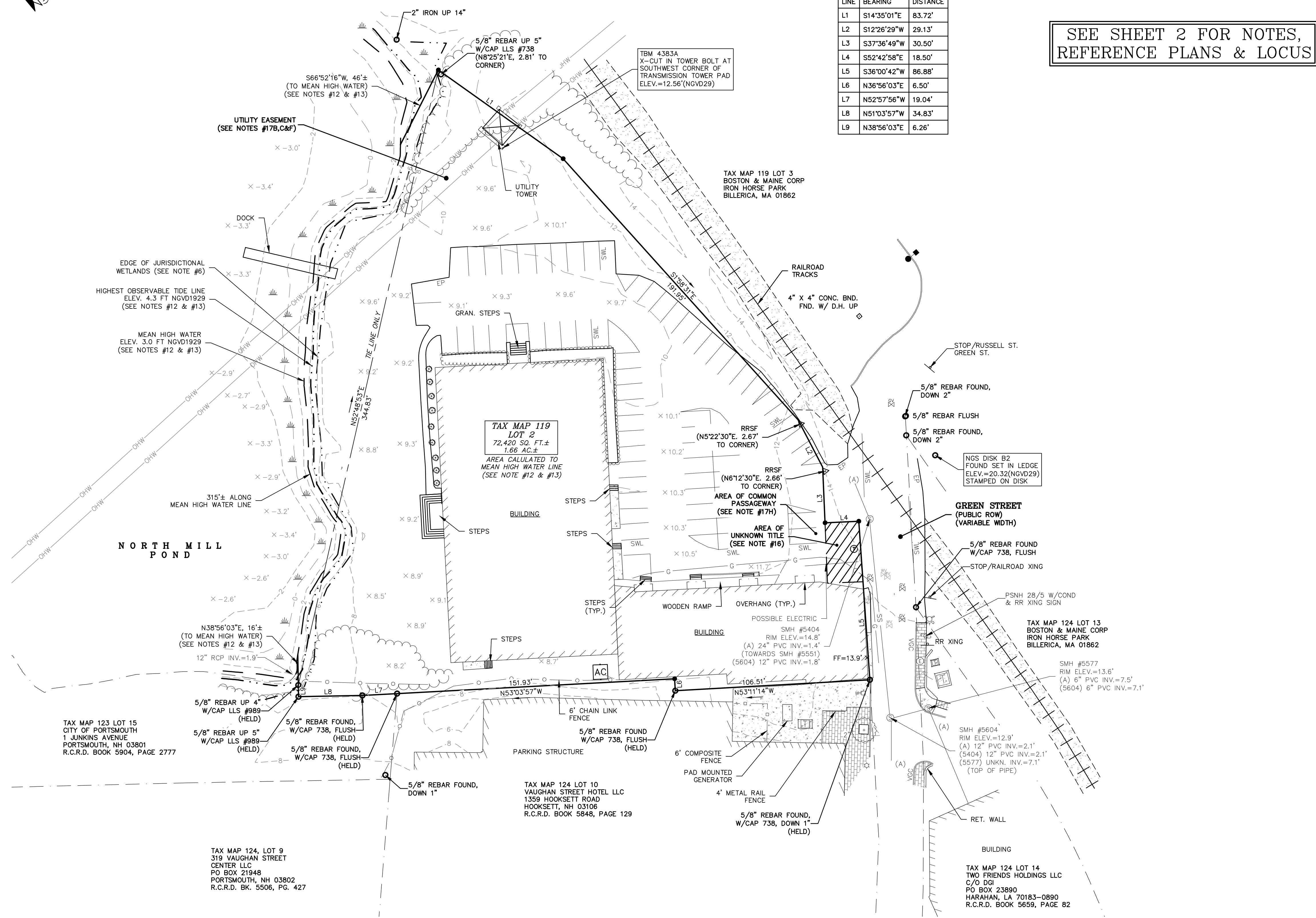
LL.S. #989  
DATE

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEED REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.

**SEE SHEET 2 FOR NOTES, REFERENCE PLANS & LOCUS**

LINE	BEARING	DISTANCE
L1	S14°35'01"E	83.72'
L2	S12°28'29"W	29.13'
L3	S37°36'49"W	30.50'
L4	S52°42'58"E	18.50'
L5	S36°00'42"W	86.88'
L6	N36°56'03"E	6.50'
L7	N52°57'56"W	19.04'
L8	N51°03'57"W	34.83'
L9	N38°56'03"E	6.26'

- LEGEND**
- LOT LINE
  - - - APPROXIMATE ABUTTERS LOT LINE
  - STOCKADE FENCE
  - CHAIN LINK FENCE
  - OVERHEAD WIRE
  - SS SEWER LINE
  - SD DRAIN LINE
  - G GAS LINE
  - 100 MAJOR CONTOUR LINE
  - 98 MINOR CONTOUR LINE
  - MEAN HIGH WATER LINE
  - HIGH TIDE LINE
  - TREE LINE
  - SHRUB LINE
  - EDGE OF WETLAND
  - WETLAND AREA
  - CONCRETE
  - CRUSHED STONE
  - BRICK
  - UTILITY POLE
  - LIGHT POLE
  - LIGHT POLE W/ARM
  - SIGN
  - BOUND FOUND
  - IRON PIPE/ROD FOUND
  - FIRE HYDRANT
  - WATER GATE VALVE
  - WATER SHUTOFF VALVE
  - GAS GATE VALVE
  - URBAN MANHOLE
  - ELECTRIC MANHOLE
  - SEWER MANHOLE
  - HAND HOLE
  - DECIDUOUS TREE
  - CONIFEROUS SHRUB
  - TYP. BOUND. FND.
  - CONC.
  - FF FINISHED FLOOR ELEVATION
  - EP EDGE OF PAVEMENT
  - VGC VERTICAL GRANITE CURB
  - SWL SINGLE WHITE LINE
  - 5/8" REBAR W/D CAP TO BE SET



**EXISTING CONDITIONS PLAN FOR TIGHE & BOND OF**  
**STONE CREEK REALTY LLC**  
 (TAX MAP 119, LOT 2)  
 53 GREEN STREET  
 PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY

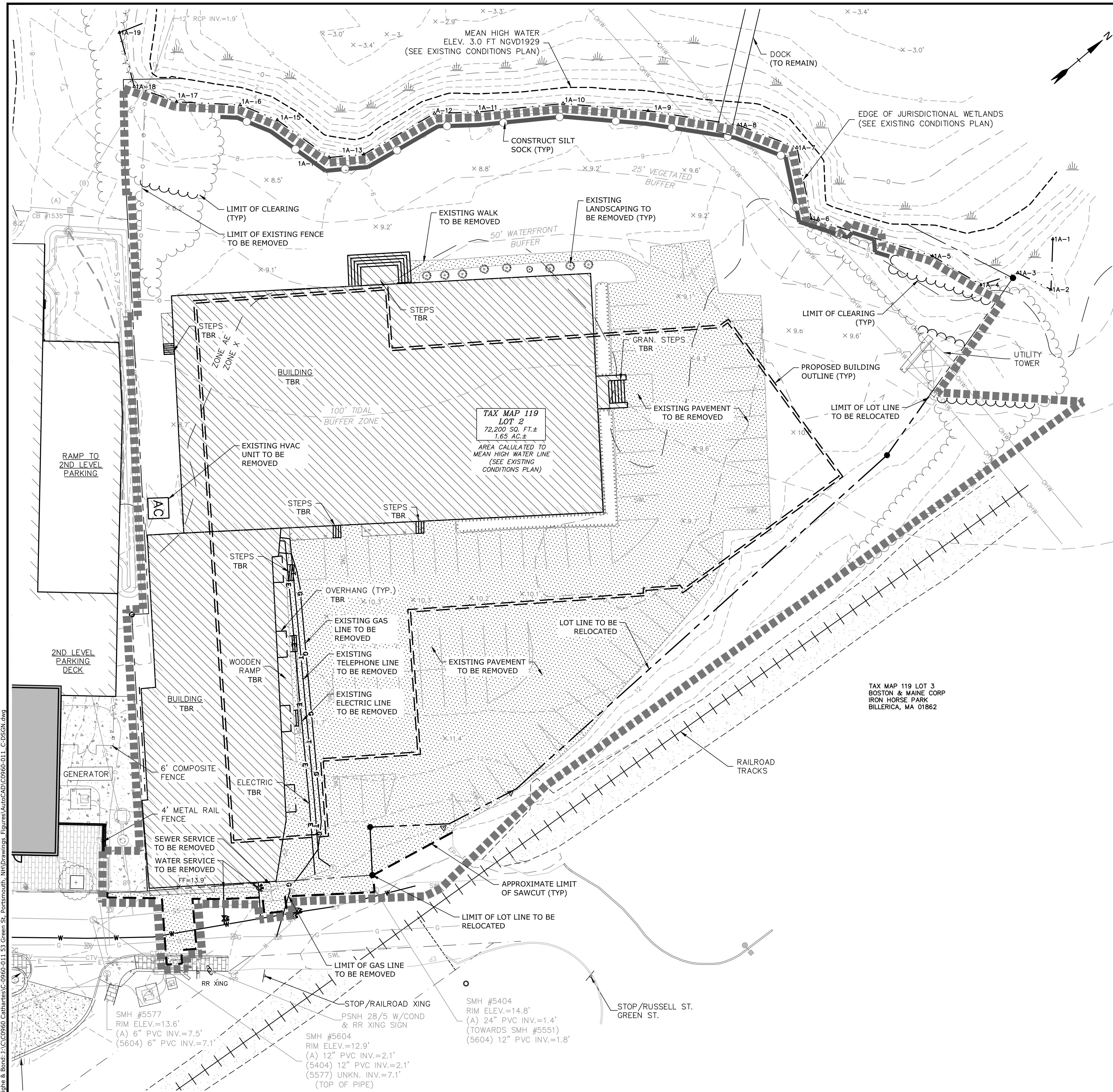
DRAWN BY:	E.D.P.	DATE:	NOVEMBER 2019
CHECKED BY:	M.W.F.	DRAWING NO.:	4383F
JOB NO.:	4383	SHEET	1 OF 2

**DOUCET SURVEY**  
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<http://www.doucetsurvey.com>

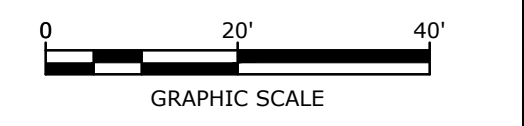
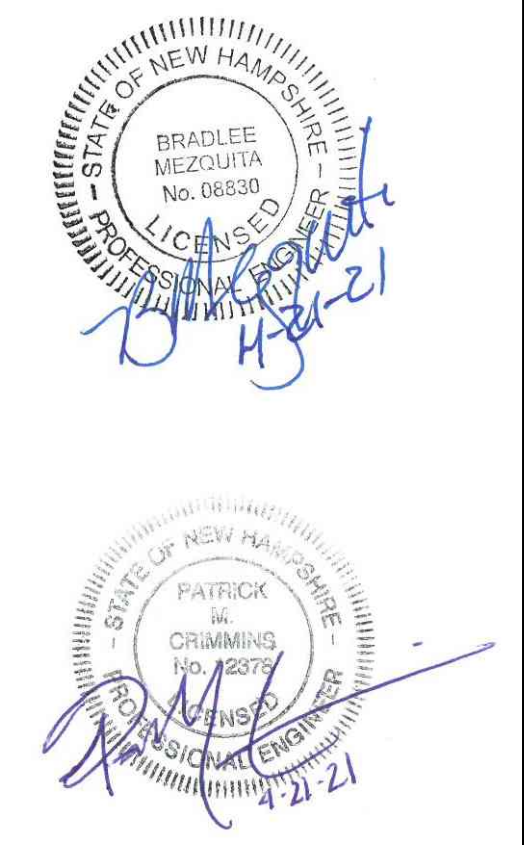
FILE NAME: Y:\PROJECTS\MAINE\_CAD\MAINE\119-10-16 (T) 119-10-16.dwg (119-10-16) LAYOUT NAME: 11901 PLAN (1) PLOTTED: Monday, December 16, 2018 10:31:11 AM







- DEMOLITION NOTES:**
1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
  2. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
  3. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
  4. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
  5. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
  6. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
  7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
  8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
  9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
  10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
  11. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
  12. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDING SLABS, FOUNDATION, TREES AND LANDSCAPING.
  13. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
  14. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
  15. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
  16. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT MAY RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
  17. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
  18. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
  19. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
  20. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.



**Proposed Mixed Use Development**

**CPI Management, LLC**

53 Green Street  
Portsmouth, NH

**LEGEND**

	APPROXIMATE LIMIT OF PROPOSED SAW CUT
	PROPERTY LINE
	PROPERTY LINE TO BE REMOVED
	LIMIT OF WORK
	PROPOSED SILT SOCK
	APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
	LOCATION OF PROPOSED BUILDING
	BUILDING TO BE REMOVED
TBR	TO BE REMOVED
TYP	TYPICAL

MARK	DATE	DESCRIPTION
C	4/21/2021	TAC Resubmission
B	3/22/2021	TAC & CC Submission
A	1/27/2021	CC Work Session

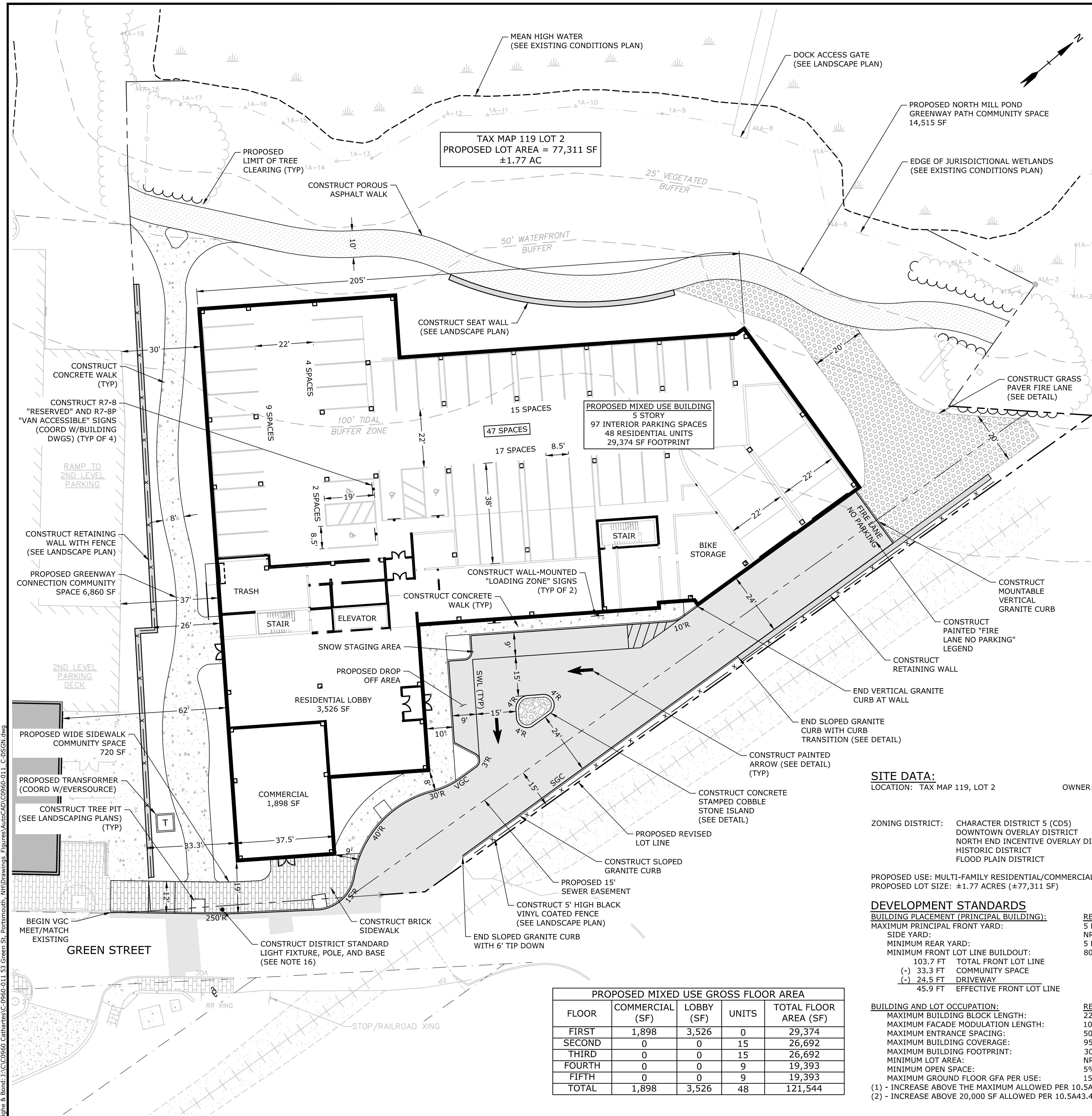
PROJECT NO:	C0960-011
DATE:	January 27, 2021
FILE:	C0960-011_C-DSGN.DWG
DRAWN BY:	AFS
CHECKED:	NAH/PMC
APPROVED:	BLM

**DEMOLITION PLAN**

SCALE: AS SHOWN

Last Saved: 4/21/2021 12:14pm By: asellier  
 Plotted On: Apr 21, 2021 12:14pm  
 Tighe & Bond 210 Corporate Center  
 Portsmouth, NH 03801  
 Figures: AutoCAD (C0960-011\_C-DSGN.dwg)





- SITE NOTES:**
1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES SHALL BE THERMOPLASTIC MATERIAL. THERMOPLASTIC MATERIAL SHALL MEET THE REQUIREMENTS OF AASHTO M249. (ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
  2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
  3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
  4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
  5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
  6. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
  7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
  8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND CITY CODES & SPECIFICATIONS.
  9. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
  10. CONTRACTOR TO SUBMIT AS-BUILT PLANS ON REPRODUCIBLE MYLARS AND IN DIGITAL FORMAT (.DWG FILE) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
  11. SEE BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
  12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS.
  13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
  14. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING CONTRACTOR.
  15. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
  16. THE STREET LIGHTING TYPE TO BE DISTRICT STYLE FIXTURE AND POLE TO MATCH EXISTING LIGHTING ON GREEN STREET.
  17. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
  18. THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY.
  19. ALL TREES PLANTED ARE TO BE INSTALLED UNDER THE SUPERVISION OF THE CITY OF PORTSMOUTH DPW USING STANDARD INSTALLATION METHODS.
  20. THE APPLICANT SHALL PREPARE A CONSTRUCTION MITIGATION AND MANAGEMENT PLAN (CMMP) FOR REVIEW AND APPROVAL BY THE CITY'S LEGAL AND PLANNING DEPARTMENTS.
  21. A TEMPORARY SUPPORT OF EXCAVATION (SOE) PLAN SHALL BE PREPARED BY THE APPLICANT'S CONTRACTOR TO CONFIRM ANY TEMPORARY ENCUMBRANCES OF THE CITY'S RIGHT-OF-WAY. IF LICENSES ARE REQUIRED FOR THE SOE, THE APPLICANT WILL BE REQUIRED TO OBTAIN THESE FROM THE CITY PRIOR TO CONSTRUCTION.
  22. ALL EXCESS SNOW SHALL BE HAULED OFF-SITE IN ACCORDANCE TO ALL LOCAL AND STATE LAWS. PROPOSED SNOW STAGING AREAS HAVE BEEN PROVIDED TO SHOW TEMPORARY SNOW STORAGE AREAS.

- SITE RECORDING NOTES:**
1. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
  2. 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.
  3. THIS IS NOT A BOUNDARY SURVEY AND SHALL NOT BE USED AS SUCH.

**LEGEND**

---	PROPERTY LINE	---	PROPOSED POROUS PAVEMENT
---	PROPOSED PROPERTY LINE	---	PROPOSED PAVEMENT
---	ABUTTER PROPERTY LINE	---	PROPOSED GRASS PAVER FIRE LANE TYPICAL
---	PROPOSED EASEMENT	---	PROPOSED CURB RADIUS
---	PROPOSED EDGE OF PAVEMENT	---	PROPOSED VERTICAL GRANITE CURB
---	PROPOSED CURB	---	PROPOSED SLOPED GRANITE CURB
---	PROPOSED BUILDING	---	SOLID WHITE LINE
---	PROPOSED BRICK SIDEWALK	---	
---	PROPOSED CONCRETE SIDEWALK	---	

**SITE DATA:**

LOCATION: TAX MAP 119, LOT 2      OWNER: STONE CREEK REALTY LLC  
C/O DOUGLAS PINCIARO  
PO BOX 121  
NEW CASTLE, NH 03854

ZONING DISTRICT: CHARACTER DISTRICT 5 (CD5)  
DOWNTOWN OVERLAY DISTRICT  
NORTH END INCENTIVE OVERLAY DISTRICT  
HISTORIC DISTRICT  
FLOOD PLAIN DISTRICT

PROPOSED USE: MULTI-FAMILY RESIDENTIAL/COMMERCIAL  
PROPOSED LOT SIZE: ±1.77 ACRES (±77,311 SF)

**BUILDING FORM (PRINCIPAL BUILDING):**

BUILDING HEIGHT:	REQUIRED 5 STORIES <sup>(3)</sup> 60 FT	PROPOSED 5 STORIES <60 FT
MAXIMUM FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE:	36 IN	0 IN
MINIMUM GROUND STORY HEIGHT:	12 FT	>12 FT
MINIMUM SECOND STORY HEIGHT:	10 FT	>10 FT
FACADE GLAZING:		
SHOP FRONT	20% - 50%	20% - 50%
ALLOWED ROOF TYPES		
FLAT, GABLE, HIP, GAMBREL, MANSARD		FLAT

(3) - ADDITIONAL 1 STORY UP TO 10FT ALLOWED FOR PROVIDING AT LEAST 20% OF THE SITE TO BE ASSIGNED AS COMMUNITY SPACE PER 10.5A46.10.

**DEVELOPMENT STANDARDS**

**BUILDING PLACEMENT (PRINCIPAL BUILDING):**

REQUIRED	PROPOSED
5 FT	16 FT <sup>(1)</sup>
NR	
5 FT	>5 FT
80% (36.7 FT)	81% (37.5 FT)

**COMMUNITY SPACE:**

REQUIRED	PROPOSED
20%	28%
15,462 SF	22,095 SF

**PARKING REQUIREMENTS**

RESIDENTIAL UNITS (>750 SF)	48 UNITS x 1.3 SPACES	63 SPACES
VISITOR SPACES	1 SPACE / 5 UNITS	10 SPACES
DOWNTOWN OVERLAY DISTRICT		4 SPACES
TOTAL MINIMUM PARKING SPACES REQUIRED =		69 SPACES

\*15 PROPOSED SPACES ARE TANDEM SPACES

**PARKING SPACES**

REQUIRED	PROPOSED
69 SPACES	97 SPACES

**ADA PARKING SPACES**

REQUIRED	PROPOSED
4 SPACES	4 SPACES

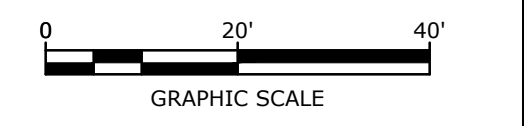
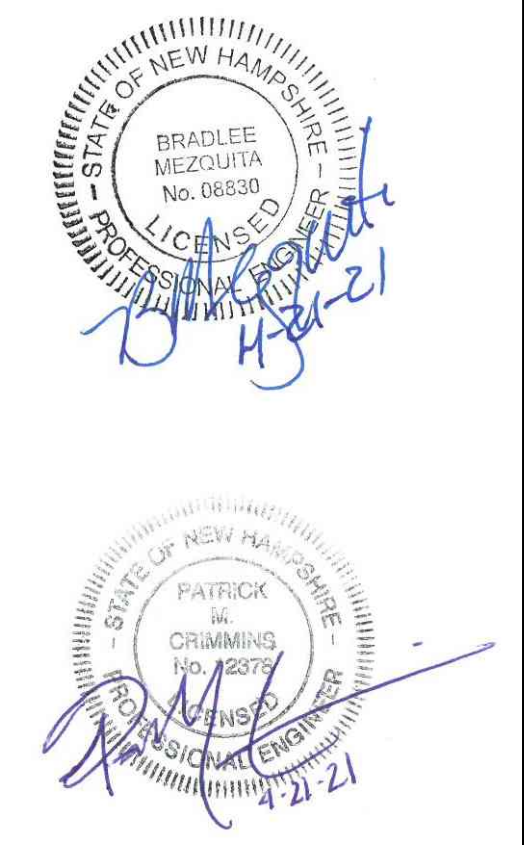
**BICYCLE SPACES**

REQUIRED	PROPOSED
1 BICYCLE SPACE / 10 PARKING SPACES	10 SPACES

\*INDOOR BIKE STORAGE WILL BE PROVIDED THAT MEETS OR EXCEEDS REQUIRED.

**PROPOSED MIXED USE GROSS FLOOR AREA**

FLOOR	COMMERCIAL (SF)	LOBBY (SF)	UNITS	TOTAL FLOOR AREA (SF)
FIRST	1,898	3,526	0	29,374
SECOND	0	0	15	26,692
THIRD	0	0	15	26,692
FOURTH	0	0	9	19,393
FIFTH	0	0	9	19,393
TOTAL	1,898	3,526	48	121,544



**Proposed Mixed Use Development**

CPI Management, LLC

53 Green Street  
Portsmouth, NH

MARK	DATE	DESCRIPTION
C	4/21/2021	TAC Resubmission
B	3/22/2021	TAC & CC Submission
A	1/27/2021	CC Work Session

PROJECT NO: C0960-011  
DATE: January 27, 2021  
FILE: C0960-011\_C-DSGN.DWG  
DRAWN BY: AFS  
CHECKED: NAH/PMC  
APPROVED: BLM

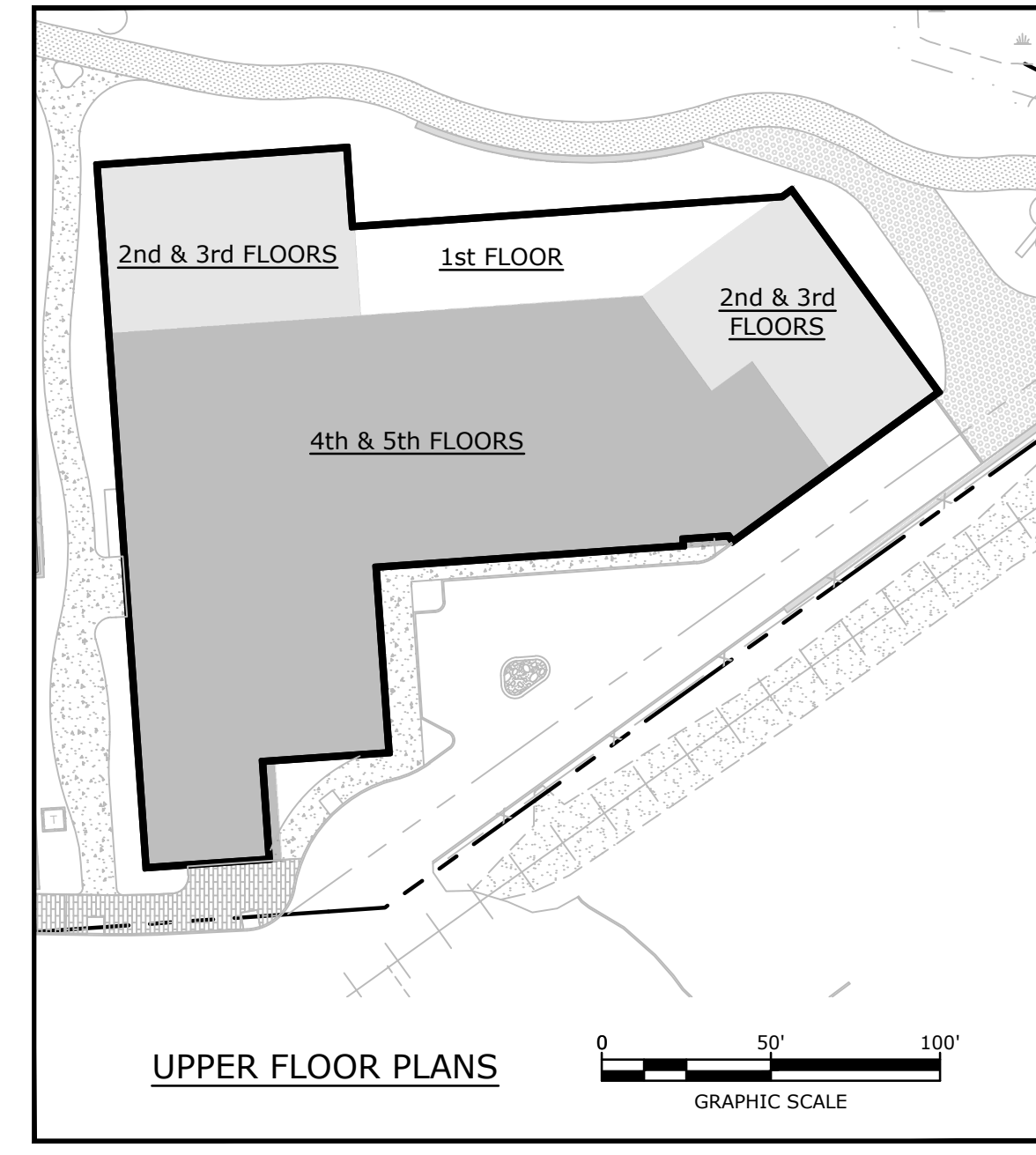
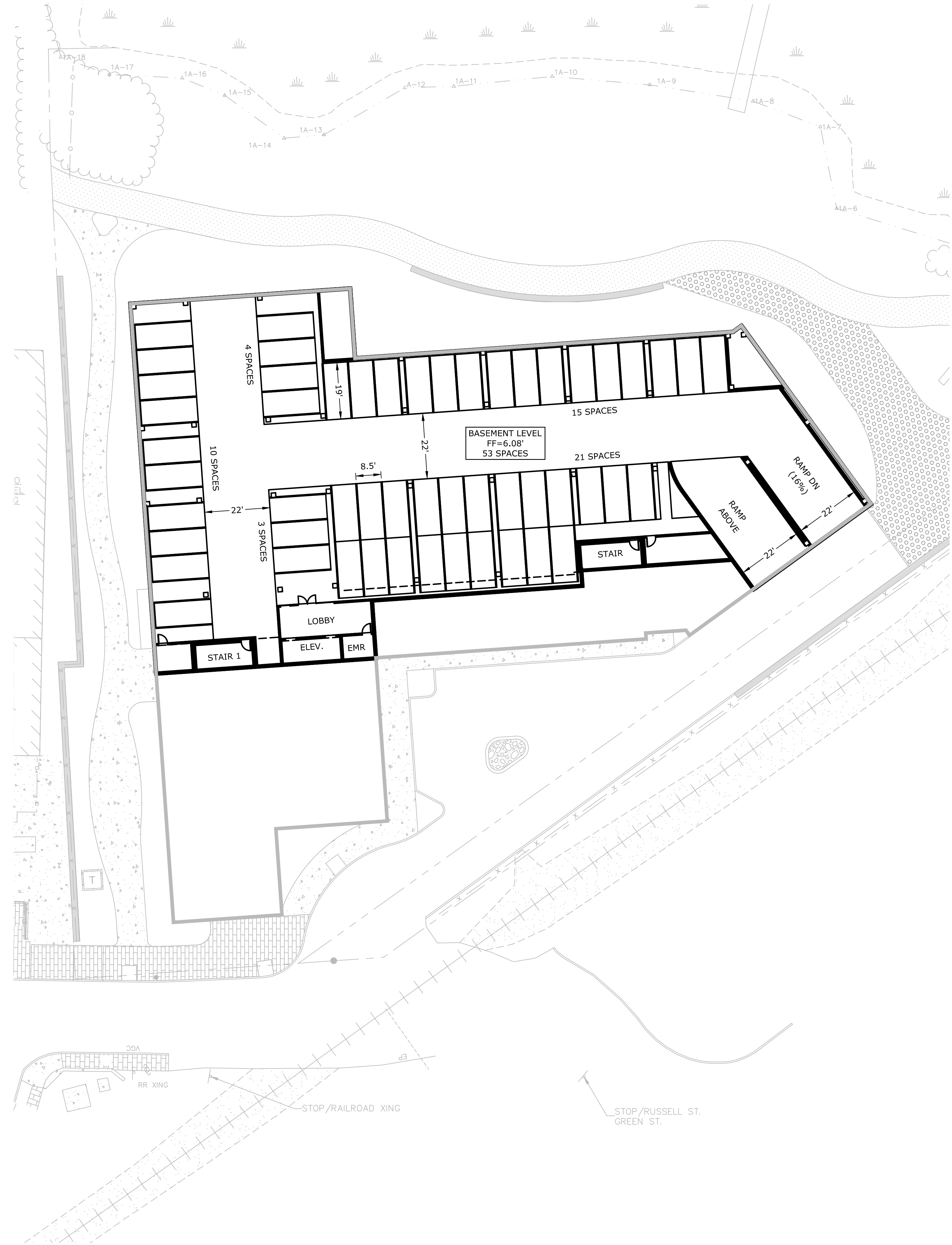
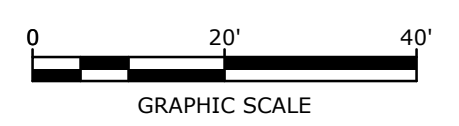
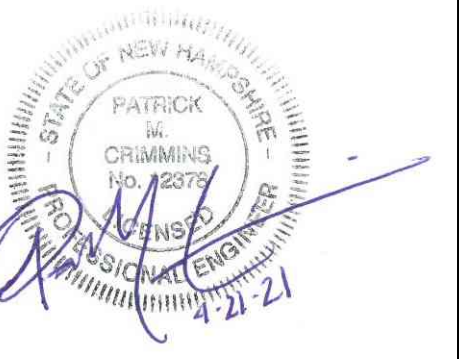
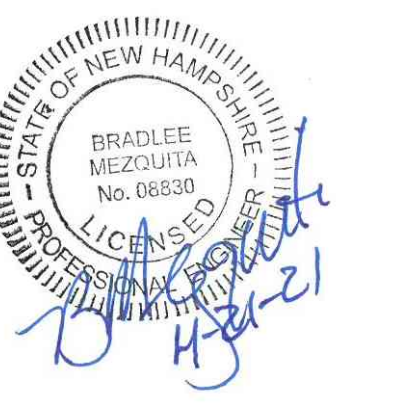
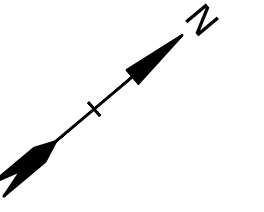
**SITE PLAN**

SCALE: AS SHOWN

C-102.1

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**Proposed Mixed Use Development**

CPI Management, LLC

53 Green Street  
Portsmouth, NH

MARK	DATE	DESCRIPTION
C	4/21/2021	TAC Resubmission
B	3/22/2021	TAC & CC Submission
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PROJECT NO:	C0960-011
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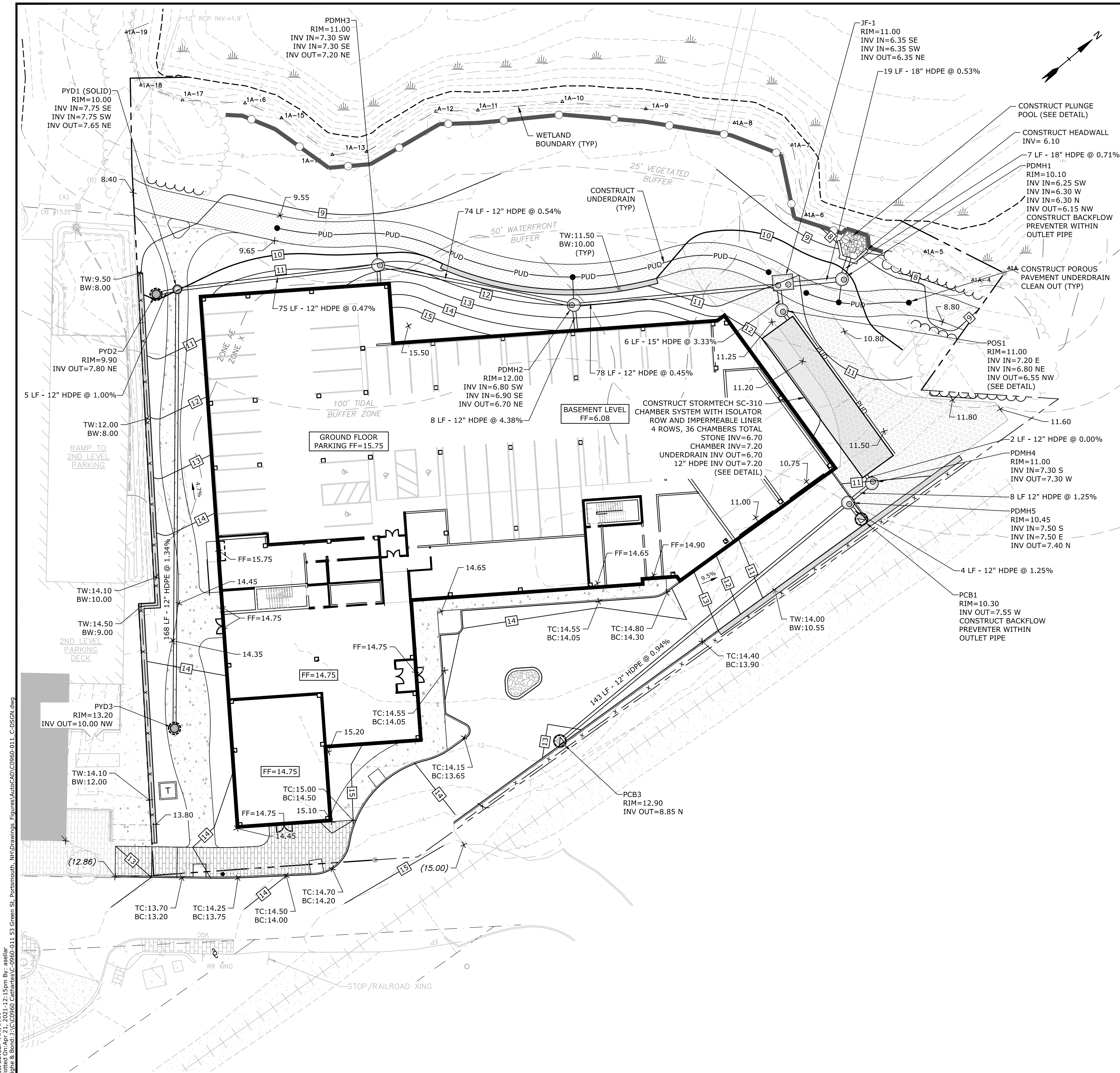
**BASEMENT & UPPER FLOOR PLAN**

SCALE: AS SHOWN

**C-102.2**

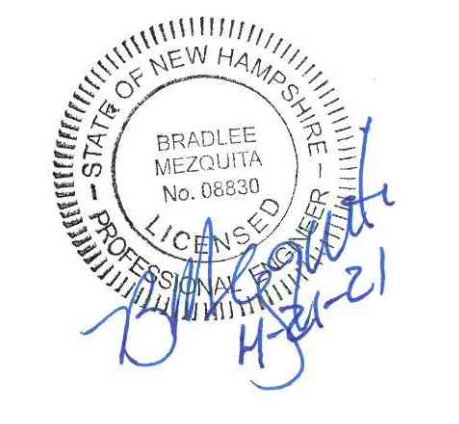
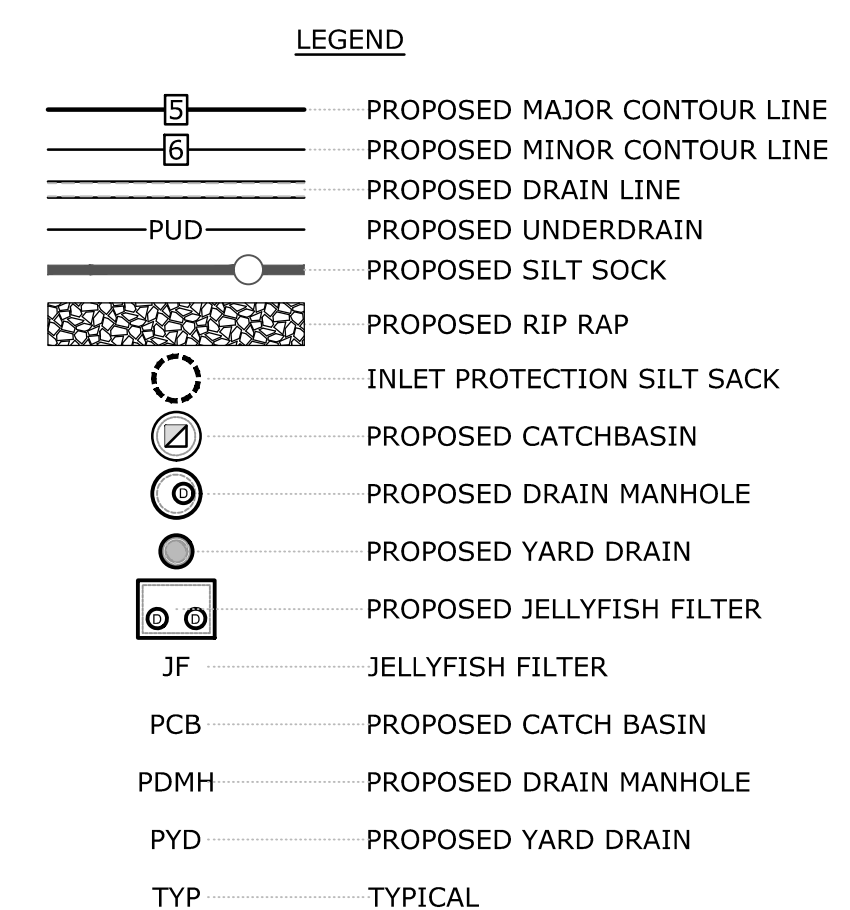
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 Tighe & Bond 2375 Crimmins Ave Portsmouth, NH 03801  
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- GRADING AND DRAINAGE NOTES:**
1. COMPACTION REQUIREMENTS:  
BELOW PAVED OR CONCRETE AREAS 95%  
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL 95%  
BELOW LOAM AND SEED AREAS 90%  
\* ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
  2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL), UNLESS OTHERWISE SPECIFIED.
  3. SEE UTILITY PLAN FOR ALL SITE UTILITY INFORMATION.
  4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
  5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
  6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
  7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
  8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
  9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
  10. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
  11. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION SPECIFICATIONS, LATEST REVISIONS.
  12. CONTRACTOR TO SUBMIT AS-BUILT PLANS ON REPRODUCIBLE MYLARS AND IN DIGITAL FORMAT (.DWG FILE) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER.
  13. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.
  14. ALL DRAIN LINES WITH LESS THAN FOUR (4) FEET OF COVER SHALL BE INSULATED.

- EROSION CONTROL NOTES:**
1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
  2. SEE GENERAL EROSION CONTROL NOTES ON "EROSION CONTROL NOTES & DETAILS SHEET".
  3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED.
  4. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
  5. INSPECT INLET PROTECTION AND PERIMETER EROSION CONTROL MEASURES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
  6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
  7. CONSTRUCT EROSION CONTROL BLANKET ON ALL SLOPES STEEPER THAN 3:1.
  8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
  9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
  10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
  11. ALL CATCH BASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN FULLY PAVED.
  12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED BY SILT FENCE AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLANDS.
  13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
  14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.



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53 Green Street  
Portsmouth, NH

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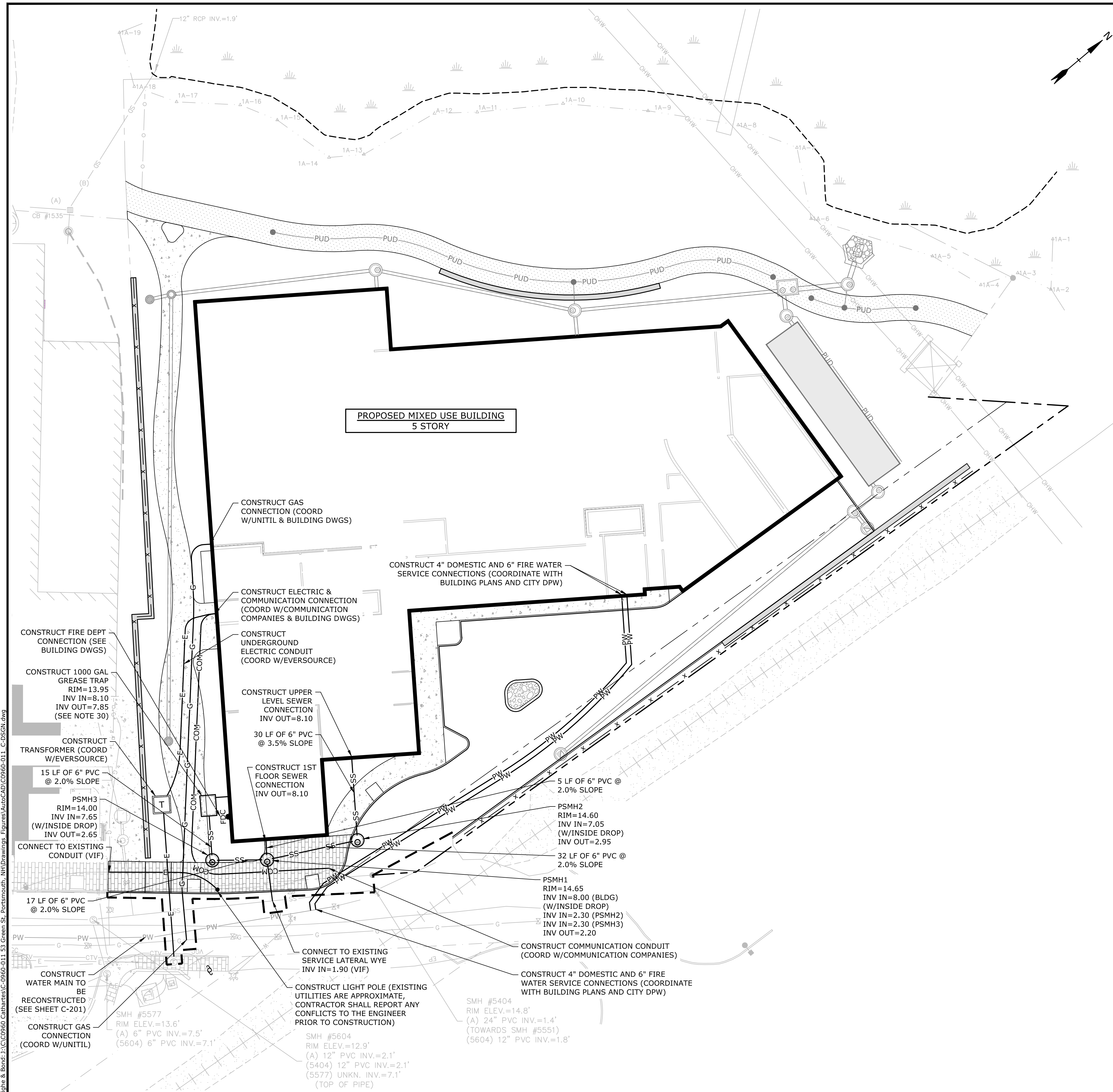
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DRAWN BY:	AFS
CHECKED:	NAH/PMC
APPROVED:	BLM

**GRADING, DRAINAGE, AND EROSION CONTROL PLAN**

SCALE: AS SHOWN

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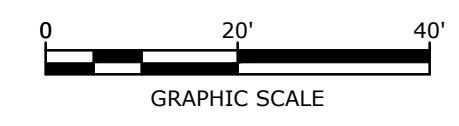


- UTILITY NOTES:**
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
  - COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
    - NATURAL GAS - UNITIL
    - WATER/SEWER - CITY OF PORTSMOUTH
    - ELECTRIC - EVERSOURCE
    - COMMUNICATIONS - FAIRPOINT AND COMCAST
  - SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
  - SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
  - ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
  - ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE PORTSMOUTH WATER DEPARTMENT.
  - ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
  - COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
  - CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ADJUTING PROPERTIES THROUGHOUT CONSTRUCTION.
  - CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
  - 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.
  - ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
  - THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
  - ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
  - ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
  - THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
  - THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
  - CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
  - 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.
  - THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
  - CONTRACTOR TO SUBMIT AS-BUILT PLANS ON REPRODUCIBLE MYLARS AND IN DIGITAL FORMAT (.DWG FILES) TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER.
  - SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
  - HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
  - COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
  - ALL SEWER PIPE WITH LESS THAN 5' OF COVER SHALL BE INSULATED.
  - 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.
  - CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ADJUTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ADJUTING PROPERTIES WITH THE UTILITY COMPANY AND AFFECTED ADJUTING PROPERTIES.
  - SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
  - CONTRACTOR SHALL PERFORM TEST PITS TO VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF LOCATIONS DIFFER FROM PLAN.
  - PROPOSED GREASE TRAP AND GREASE WASTE SERVICE CONNECTION TO BE CONSTRUCTED IF PROPOSED COMMERCIAL SPACE BECOMES RESTAURANT USE.

**LEGEND**

SD	EXISTING STORM DRAIN
SS	EXISTING SANITARY SEWER
SS	EXISTING SANITARY SEWER TO BE ABANDONED
W	EXISTING WATER SERVICE
G	EXISTING GAS SERVICE
E	EXISTING UNDERGROUND ELECTRIC SERVICE
OHW	EXISTING OVERHEAD UTILITY SERVICE
SS	PREVIOUSLY APPROVED SEWER
SS	PROPOSED STORM DRAIN
SS	PROPOSED SANITARY SEWER
PW	PROPOSED WATER SERVICE
G	PROPOSED GAS SERVICE
E	PROPOSED STREET LIGHTING CONDUIT
PE&C	PROPOSED UNDERGROUND ELECTRIC AND COMMUNICATION SERVICE

⊙	EXISTING DRAIN MANHOLE	⊙	PROPOSED CATCHBASIN
⊙	EXISTING SEWER MANHOLE	⊙	PROPOSED DRAIN MANHOLE
⊙	PREVIOUSLY APPROVED SEWER MANHOLE	⊙	PROPOSED SEWER MANHOLE
⊙	EXISTING HYDRANT	⊙	PROPOSED WATER VALVE
⊙	EXISTING WATER VALVE	⊙	PROPOSED FIRE DEPARTMENT BUILDING CONNECTION
⊙	EXISTING WATER SHUTOFF	⊙	PROPOSED GAS VALVE
⊙	EXISTING ELECTRIC MANHOLE	⊙	PROPOSED LIGHT POLE BASE
⊙	EXISTING PAD MOUNTED TRANSFORMER	BLDG	BUILDING
⊙	EXISTING GAS VALVE	TYP	TYPICAL
⊙	EXISTING HANDHOLE	COORD	COORDINATE
⊙	EXISTING COMMUNICATION MANHOLE	VIF	VERIFY IN FIELD



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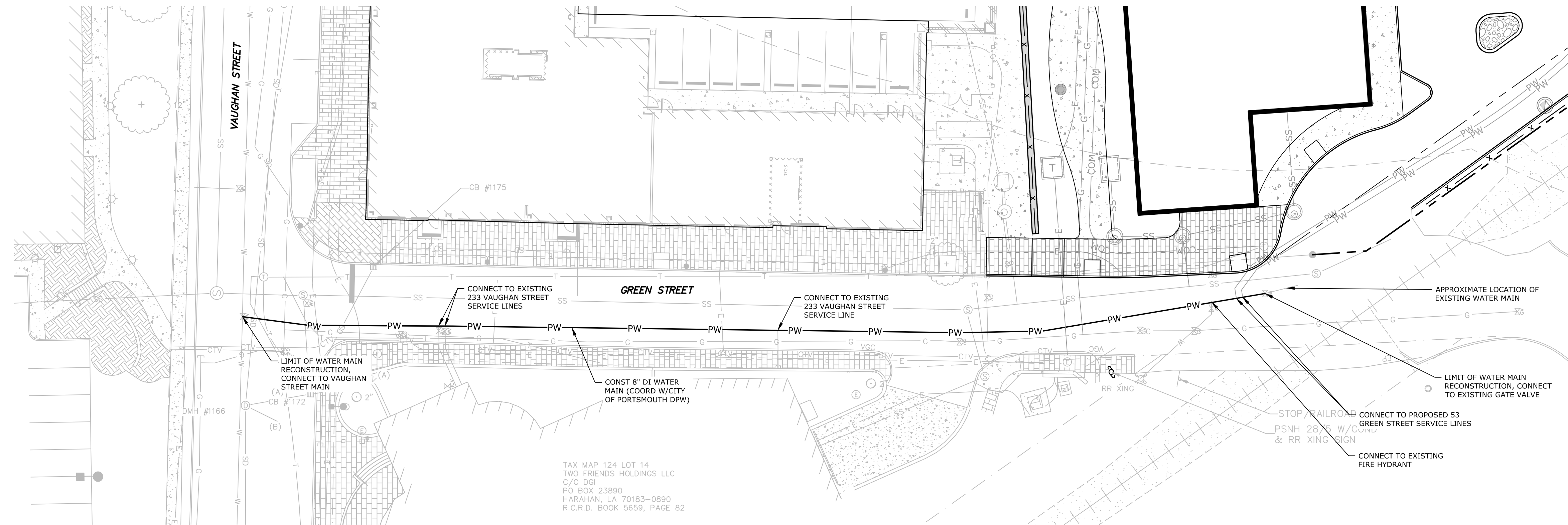
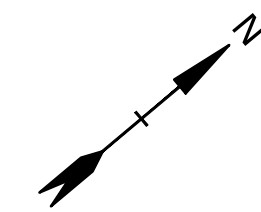
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**UTILITIES PLAN**

SCALE: AS SHOWN

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- COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
- CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
- CONNECTIONS TO EXISTING WATER LINES SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
- 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.
- THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
- ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
- THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
- 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.
- THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
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- SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
- HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
- CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
- CONTRACTOR SHALL PERFORM TEST PITS TO VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF LOCATIONS DIFFER FROM PLAN.

**GREEN STREET PAVING:**

- AFTER UTILITY CONSTRUCTION, CONTRACTOR SHALL MILL GREEN STREET PAVEMENT AT A DEPTH OF 1.5" AND PAVE WEARING COURSE TO EXISTING GRADE. LIMITS OF MILL AND PAVING SHALL BE COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION.

**LEGEND**

—SD—	EXISTING STORM DRAIN	⊕	PROPOSED CATCHBASIN
—SS—	EXISTING SANITARY SEWER	⊙	PROPOSED DRAIN MANHOLE
—SS—	EXISTING SANITARY SEWER TO BE ABANDONED	⊙	PROPOSED SEWER MANHOLE
—W—	EXISTING WATER SERVICE	⊕	PROPOSED WATER VALVE
—G—	EXISTING GAS SERVICE	⊕	PROPOSED GAS VALVE
—E—	EXISTING UNDERGROUND ELECTRIC SERVICE	•	PROPOSED LIGHT POLE BASE
—OHW—	EXISTING OVERHEAD UTILITY SERVICE	BLDG	BUILDING
—SS—	PREVIOUSLY APPROVED SEWER	TYP	TYPICAL
====	PROPOSED STORM DRAIN	COORD	COORDINATE
—SS—	PROPOSED SANITARY SEWER	VIF	VERIFY IN FIELD
—PW—	PROPOSED WATER SERVICE	DWGS	DRAWINGS
—G—	PROPOSED GAS SERVICE		
—E—	PROPOSED STREET LIGHTING CONDUIT		
—PE&C—	PROPOSED UNDERGROUND ELECTRIC AND COMMUNICATION SERVICE		
⊕	EXISTING DRAIN MANHOLE		
⊙	EXISTING SEWER MANHOLE		
⊕	PREVIOUSLY APPROVED SEWER MANHOLE		
⊕	EXISTING HYDRANT		
⊕	EXISTING WATER VALVE		
⊕	EXISTING WATER SHUTOFF		
⊕	EXISTING ELECTRIC MANHOLE		
⊕	EXISTING PAD MOUNTED TRANSFORMER		
⊕	EXISTING GAS VALVE		
⊕	EXISTING HANDHOLE		
⊕	EXISTING COMMUNICATION MANHOLE		

**Proposed Mixed Use Development**

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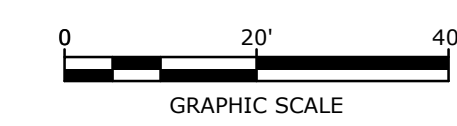
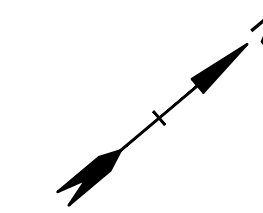
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**WATER MAIN REPLACEMENT PLAN**

SCALE: AS SHOWN

C-201





**Proposed Mixed Use Development**

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Portsmouth, NH

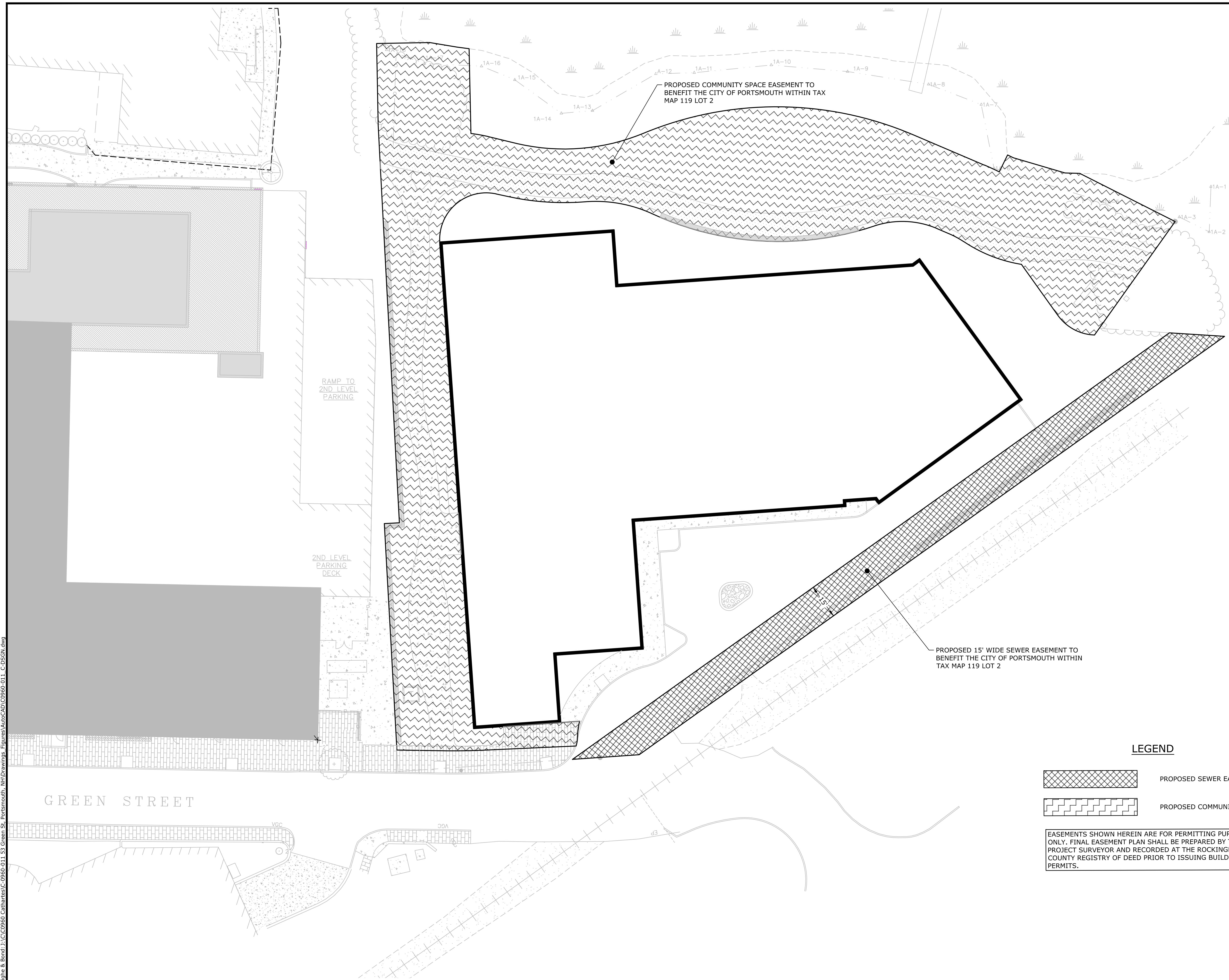
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**EASEMENT PLAN**

SCALE: AS SHOWN

**C-301**



**LEGEND**

- PROPOSED SEWER EASEMENT
- PROPOSED COMMUNITY SPACE EASEMENT

EASEMENTS SHOWN HEREIN ARE FOR PERMITTING PURPOSES ONLY. FINAL EASEMENT PLAN SHALL BE PREPARED BY THE PROJECT SURVEYOR AND RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEED PRIOR TO ISSUING BUILDING PERMITS.

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**PROJECT NAME AND LOCATION**

PROPOSED MIXED USE DEVELOPMENT  
53 GREEN STREET  
PORTSMOUTH, NH 03801  
43°-04'-48"N  
70°-45'-43"W

**PROJECT DESCRIPTION**

THE PROJECT CONSISTS OF THE CONSTRUCTION OF A FIVE-STORY MIXED USE RESIDENTIAL BUILDING WITH ASSOCIATED SITE IMPROVEMENTS.

**DISTURBED AREA**

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 1.75 ACRES.

**SOIL CHARACTERISTICS**

BASED ON THE NRCS WEB SOIL SURVEY FOR ROCKINGHAM COUNTY - NEW HAMPSHIRE, THE SOILS ON SITE CONSIST OF URBAN LAND.

**NAME OF RECEIVING WATERS**

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA A PROPOSED OUTLET PIPE TO NORTH MILL POND AND WILL ULTIMATELY FLOW TO THE PISCATAQUA RIVER.

**CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:**

- 1. CUT AND CLEAR TREES.
2. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
- NEW CONSTRUCTION
- CONTROL OF DUST
- NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS
- CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPs PRIOR TO DIRECTING RUNOFF TO THEM.
4. CLEAR AND DISPOSE OF DEBRIS.
5. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
6. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
7. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
8. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
9. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
10. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
11. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

**SPECIAL CONSTRUCTION NOTES:**

- 1. THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.
2. 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.

**EROSION CONTROL NOTES:**

- 1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY THE NHDES.
2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
3. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALE, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
4. SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
5. PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
7. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
8. INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
9. CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

**STABILIZATION:**

- 1. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
2. WINTER STABILIZATION PRACTICES:
A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING 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;
B. 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;
C. AFTER NOVEMBER 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 WIDTH ITEM 204.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;
3. 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:
A. TEMPORARY SEEDING;
B. MULCHING.
4. 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 AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
5. 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 FENCES, 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 NOVEMBER 15.

**DUST CONTROL:**

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
2. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY

- MULCHING.
3. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

**STOCKPILES:**

- 1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
3. 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.
4. 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.

**OFF SITE VEHICLE TRACKING:**

- 1. THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

**VEGETATION:**

- 1. TEMPORARY GRASS COVER:
A. SEEDBED PREPARATION:
a. APPLY FERTILIZATION AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE;
B. SEEDING:
a. UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE;
b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED;
c. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING;
C. MAINTENANCE:
a. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
2. VEGETATIVE PRACTICE:
A. FOR PERMANENT MEASURES AND PLANTINGS:
a. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF THREE (3) TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5;
b. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER;
c. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH;
d. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH;
e. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE;
f. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEDED, AND ALL NOXIOUS WEEDS REMOVED;
g. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED;
h. A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE APPLIED AT THE INDICATED RATE:
SEED MIX APPLICATION RATE
CREEPING RED FESCUE 20 LBS/ACRE
TALL FESCUE 20 LBS/ACRE
REDFEST 2 LBS/ACRE
IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.
3. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
A. FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

**CONCRETE WASHOUT AREA:**

- 1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
A. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
B. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
C. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
D. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

**ALLOWABLE NON-STORMWATER DISCHARGES:**

- 1. FIRE-FIGHTING ACTIVITIES;
2. FIRE HYDRANT FLUSHING;
3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
4. WATER USED TO CONTROL DUST;
5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
11. UNCONTAMINATED EXCAVATION DEWATERING;
12. LANDSCAPE IRRIGATION.

**WASTE DISPOSAL:**

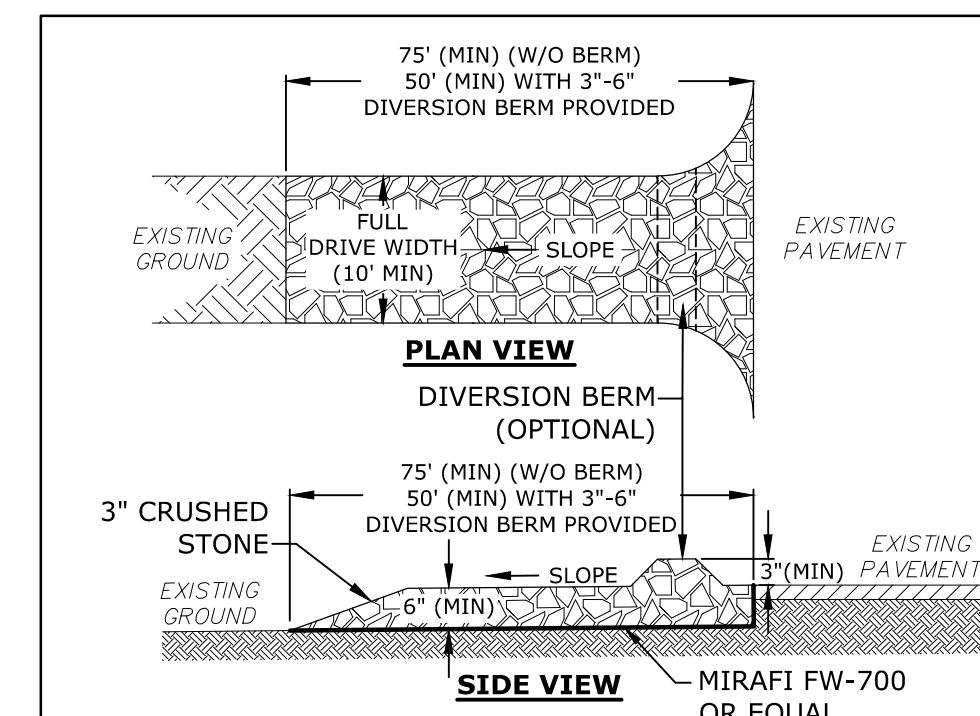
- 1. WASTE MATERIAL:
A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE:
A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
B. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE:
A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

**SPILL PREVENTION:**

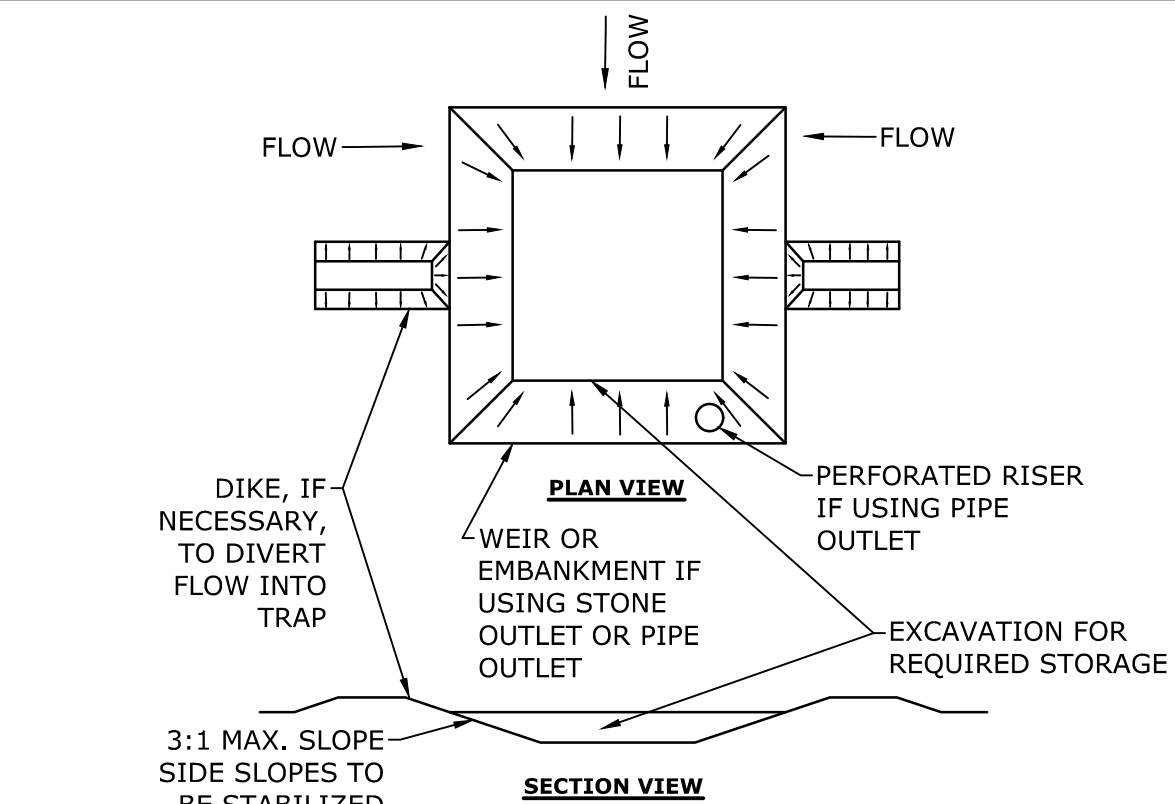
- 1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
A. GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
b. ALL MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE;
c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED;
d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
g. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
h. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
i. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
a. PETROLEUM PRODUCTS:
a.1. ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
a.2. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
b. FERTILIZERS:
b.1. FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
b.2. ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
b.3. STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
c. PAINTS:
c.1. ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
c.2. EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
c.3. EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
D. SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE;
c. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
f. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
E. VEHICLE FUELING AND MAINTENANCE PRACTICE:
a. CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPMENT/VEHICAL FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
b. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
c. IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
d. CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
e. CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
f. CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

**EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES**

- 1. THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRES A SWPPP. THE SWPPP SHALL BE PREPARED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SWPPP AND KEEP AN UPDATED COPY OF THE SWPPP ONSITE AT ALL TIMES.
2. THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:
A. 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;
B. AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR;
C. A REPRESENTATIVE OF THE SITE CONTRACTOR, SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
D. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.

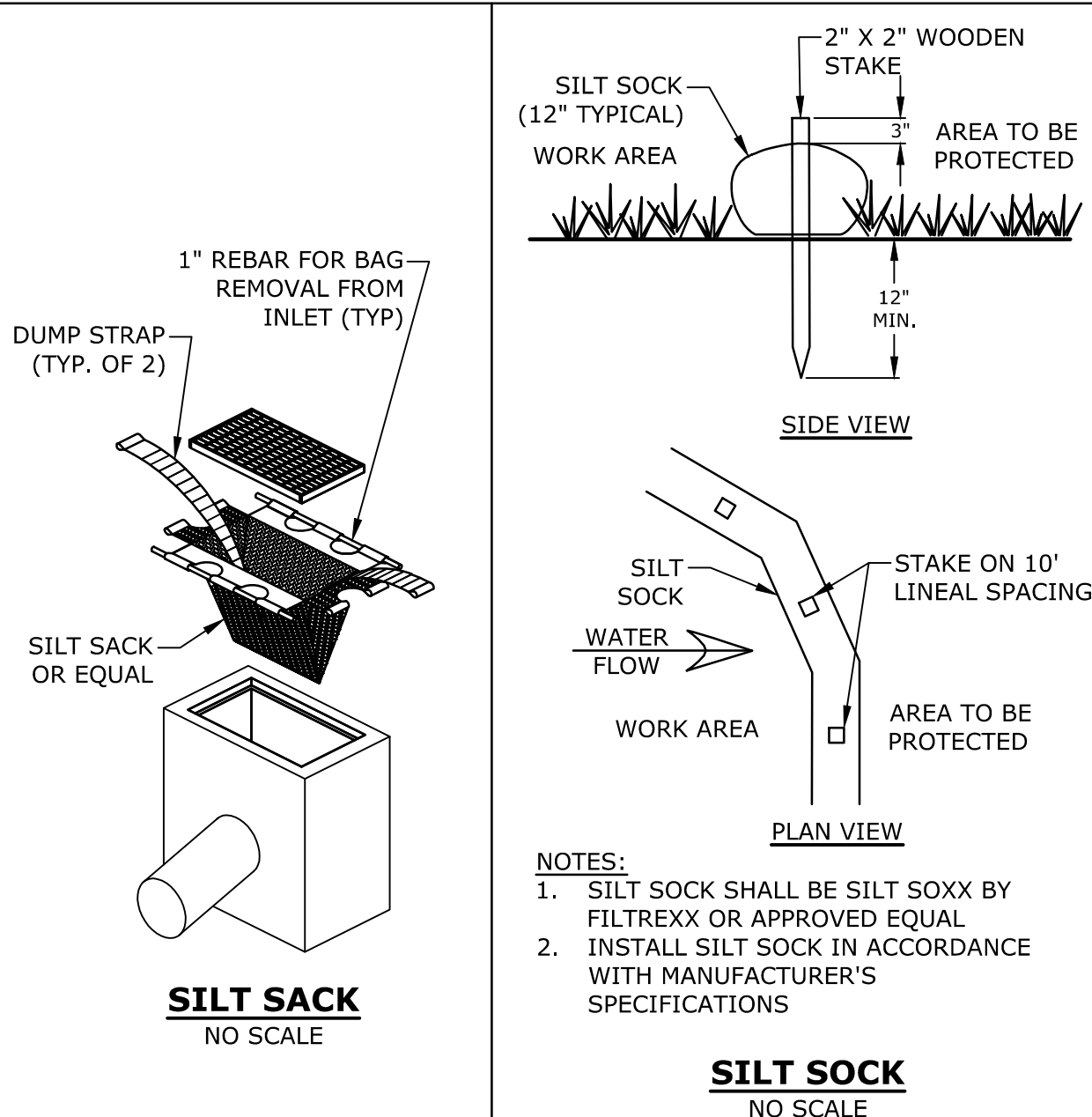


**STABILIZED CONSTRUCTION ENTRANCE**  
NO SCALE



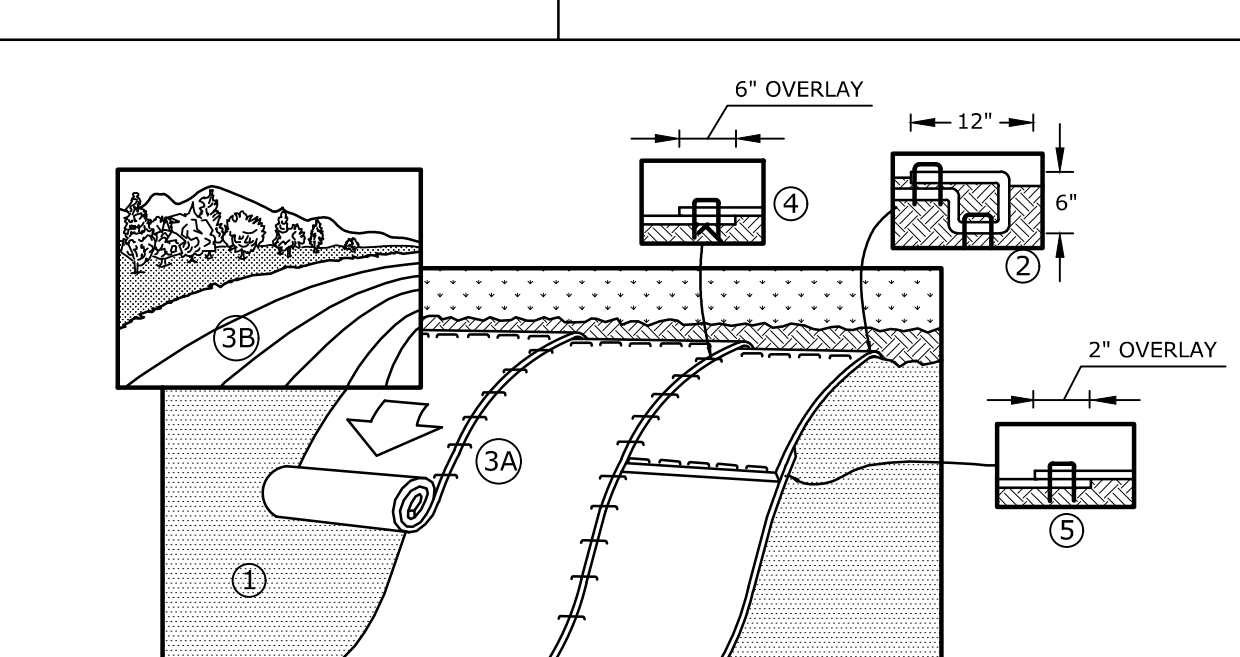
- NOTES:
1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING AREA TO A SINGLE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. TRAP OUTLET SHALL BE MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP.
5. TRAP SHALL DISCHARGE TO A STABILIZED AREA.
6. TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
8. SEDIMENT TRAPS MUST BE USED AS NEEDED TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.

**SEDIMENT TRAP**  
NO SCALE



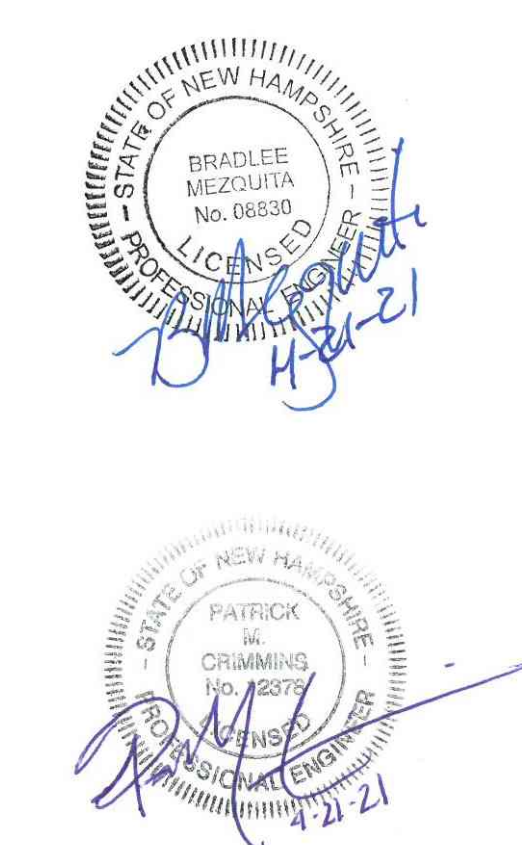
- NOTES:
1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL
2. INSTALL SILT SOCK IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS

**SILT SOCK**  
NO SCALE



- NOTES:
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE, 36" OVER THE GRADE BREAK, BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UPSLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF TABLES/STAKES 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES SPACED 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS DOWN THE SLOPE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES IN APPROPRIATE LOCATIONS AS SHOWN ON THE STAPLE PATTERN GUIDE.
4. STAPLE LENGTHS SHALL BE A MINIMUM OF 8 INCHES.

**EROSION CONTROL BLANKET**  
NO SCALE



**Proposed Mixed Use Development**

CPI Management, LLC

53 Green Street  
Portsmouth, NH

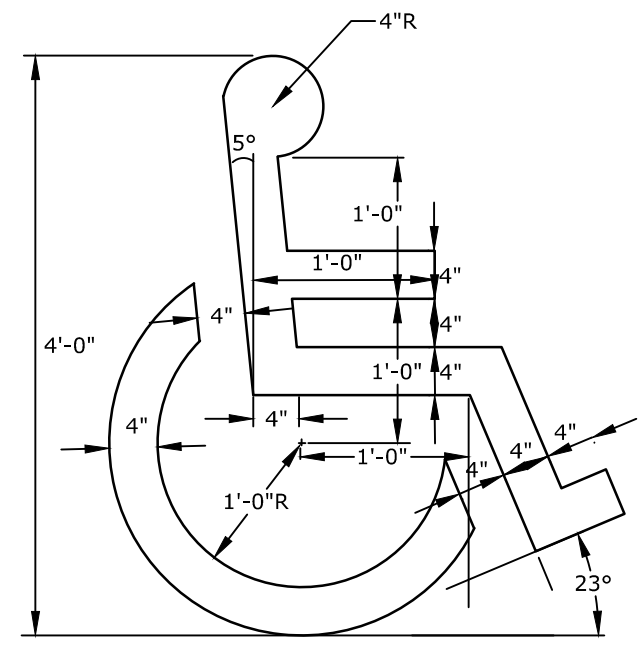
Table with 4 columns: MARK, DATE, DESCRIPTION, and a blank column. Rows include C 4/21/2021 TAC Resubmission, B 3/22/2021 TAC & CC Submission, and A 1/27/2021 CC Work Session.

Table with 2 columns: FIELD and VALUE. Fields include PROJECT NO (C0960-011), DATE (January 27, 2021), FILE (C0960-011\_C-DTLS.DWG), DRAWN BY (AFS), CHECKED BY (NAH/PMC), and APPROVED (BLM).

**EROSION CONTROL NOTES AND DETAILS SHEET**

SCALE: AS SHOWN

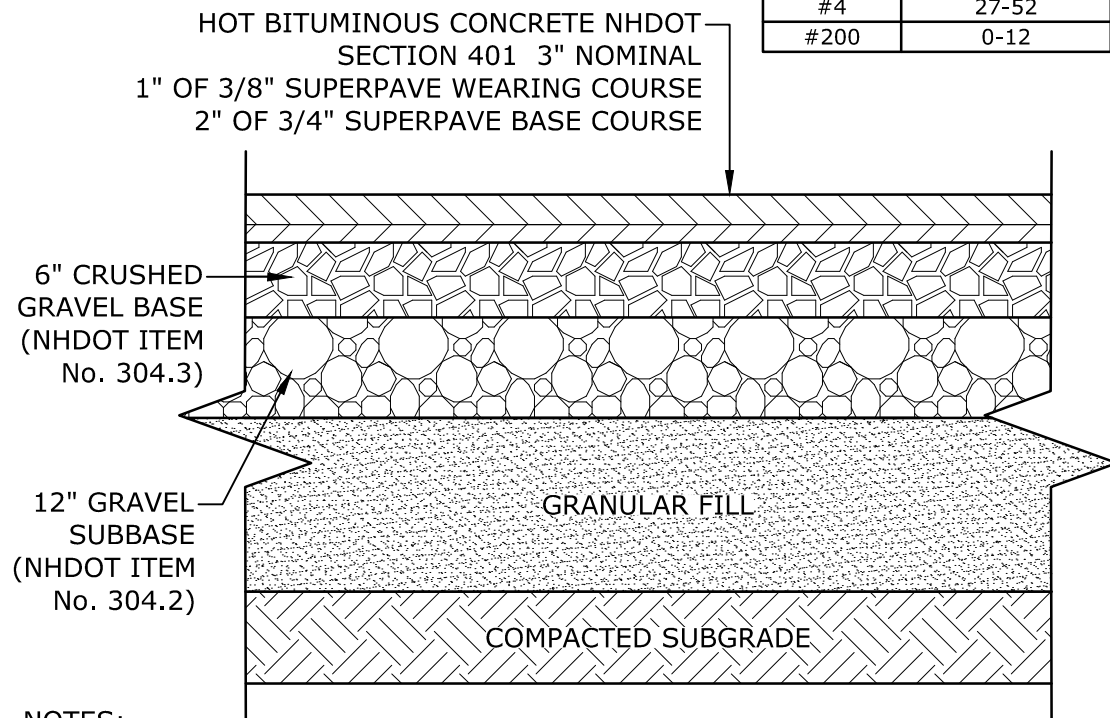




- NOTES:**
1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
  2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

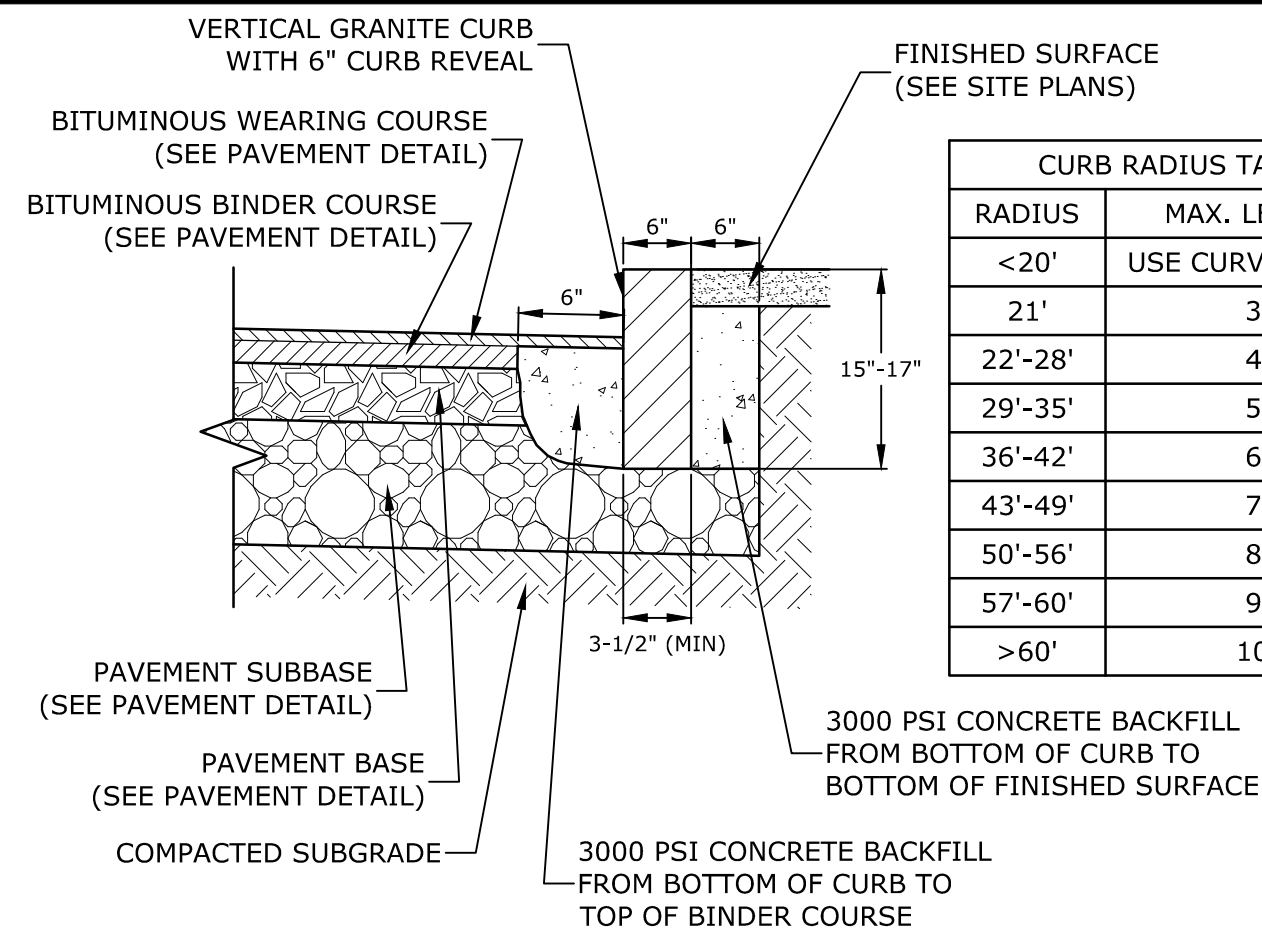
**ACCESSIBLE SYMBOL**  
NO SCALE

NHDOT ITEM No. 304.2 (GRAVEL)		NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING	SIEVE SIZE	% PASSING
6"	100	3"	100
#4	25-70	2"	95-100
#200	0-12	1"	55-85
		#4	27-52
		#200	0-12



- NOTES:**
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
  2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
  3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
  4. REFER TO CITY SPECIFICATIONS FOR ASPHALT MIX DESIGN.
  5. CONTRACTOR SHALL CONFIRM THIS PAVEMENT SECTION WITH THE PROJECT'S GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.

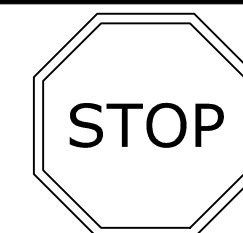
**ON-SITE PAVEMENT SECTION**  
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX. LENGTH
<20'	USE CURVED CURB
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
>60'	10'

- NOTES:**
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
  2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
  3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
  4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
  5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
  6. ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
  7. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

**VERTICAL GRANITE CURB**  
NO SCALE



R1-1  
30" X 30"  
WHITE ON RED

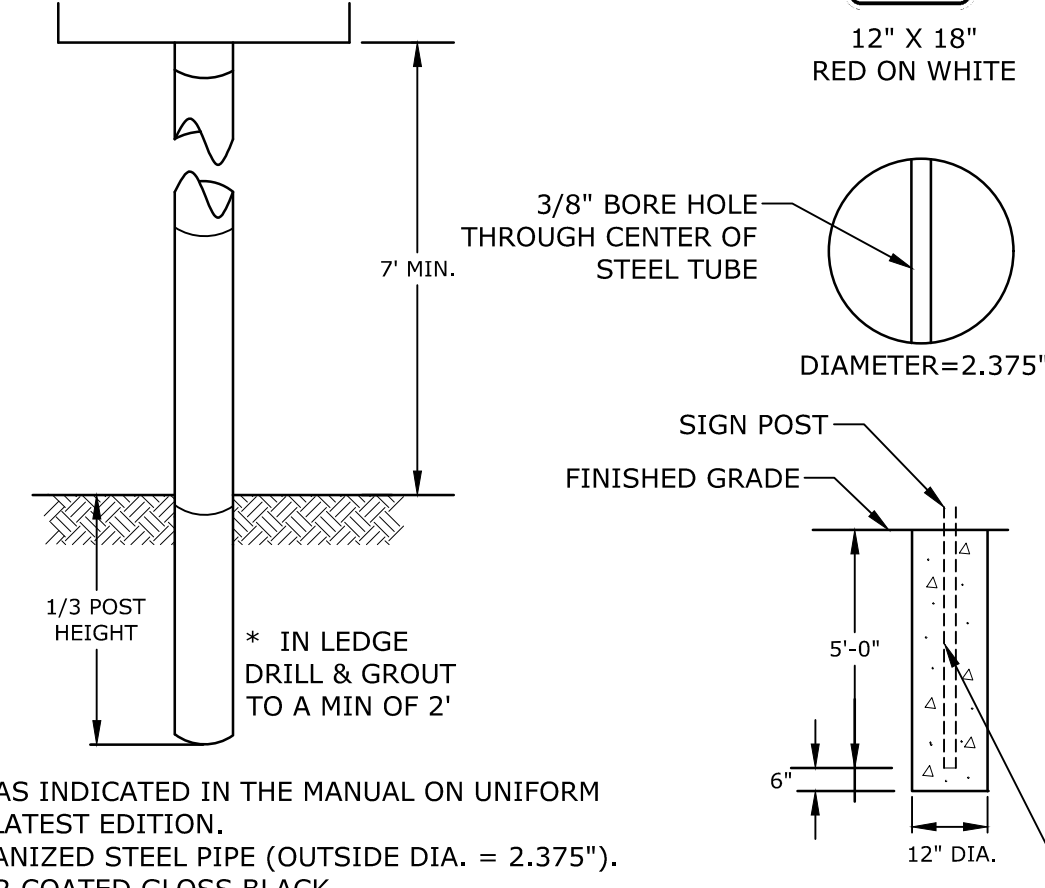


R7-8  
12" X 18"  
BLUE AND GREEN  
ON WHITE

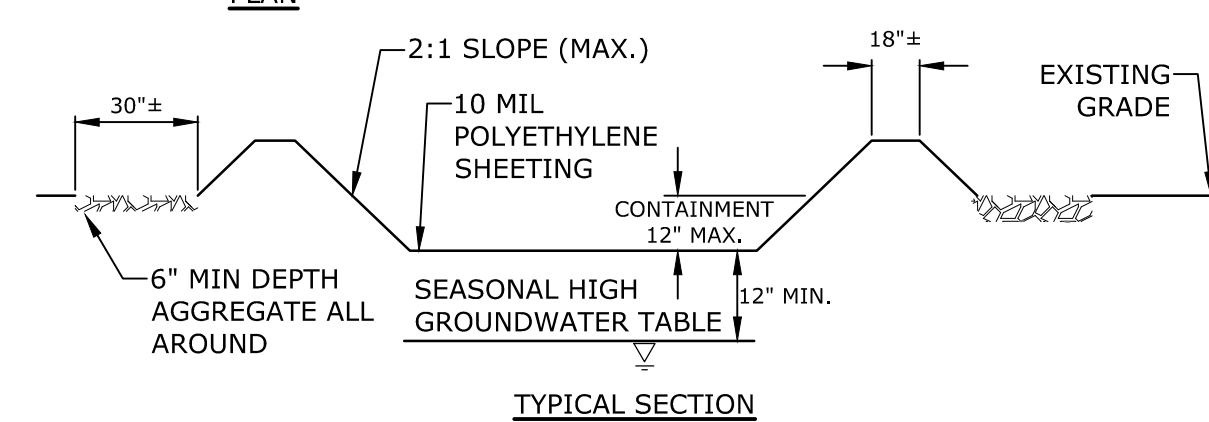
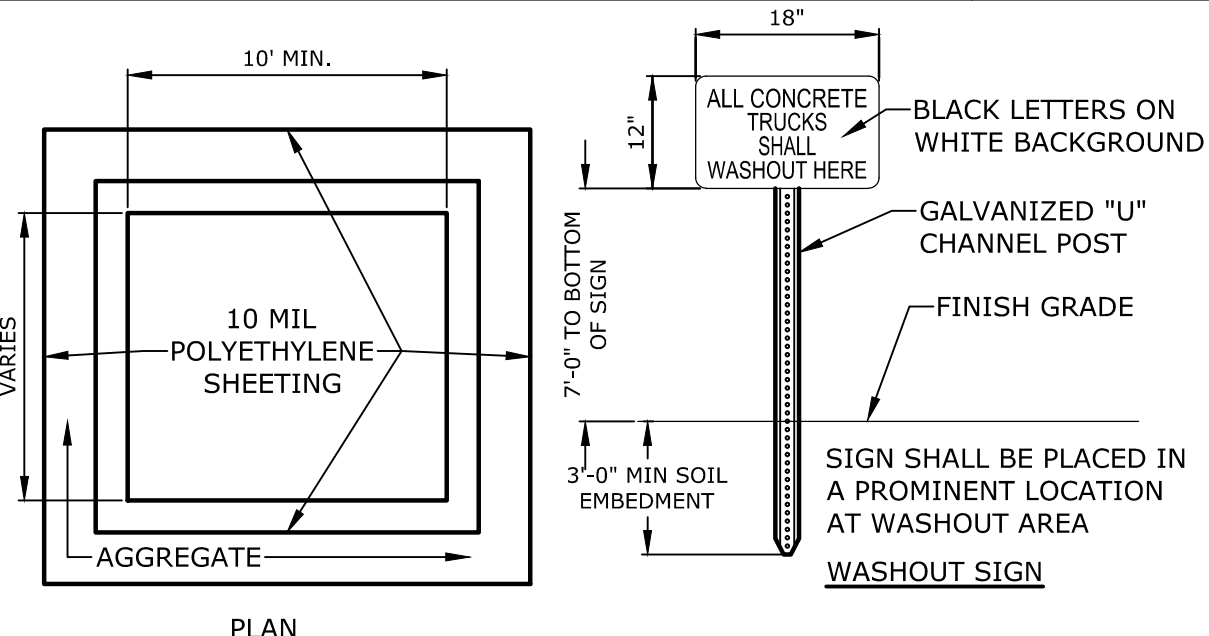


R7-8P  
18" X 9"  
GREEN ON WHITE

- NOTES:**
- ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
- POST:** SCHEDULE 40 GALVANIZED STEEL PIPE (OUTSIDE DIA. = 2.375").
- FINISH:** POST TO BE POWDER COATED GLOSS BLACK
- LENGTH:** AS REQUIRED
- WEIGHT PER LINEAR FOOT:** 2.50 LBS (MIN.)
- HOLES:** 3/8" DIAMETER (AS REQUIRED)
- STEEL:** SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070-1080)

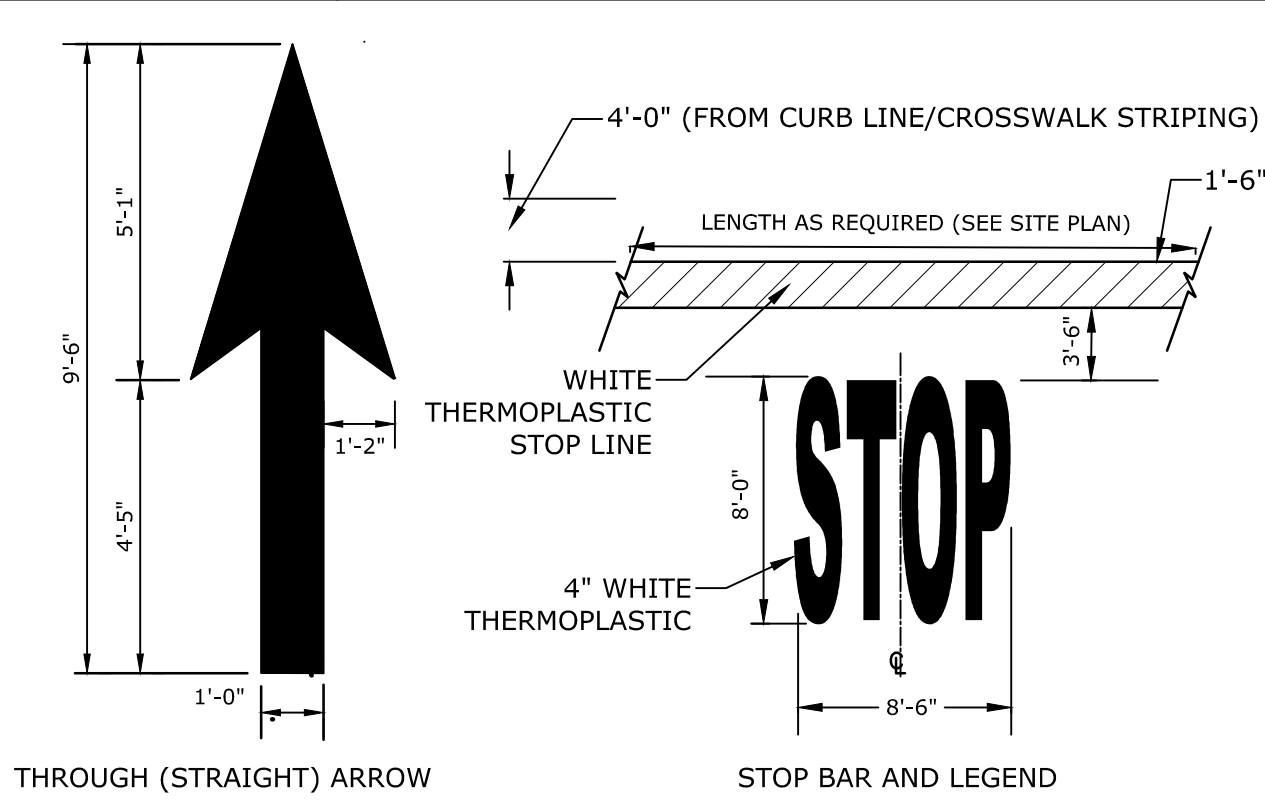


**SIGN LEGEND & SIGN POST**  
NO SCALE



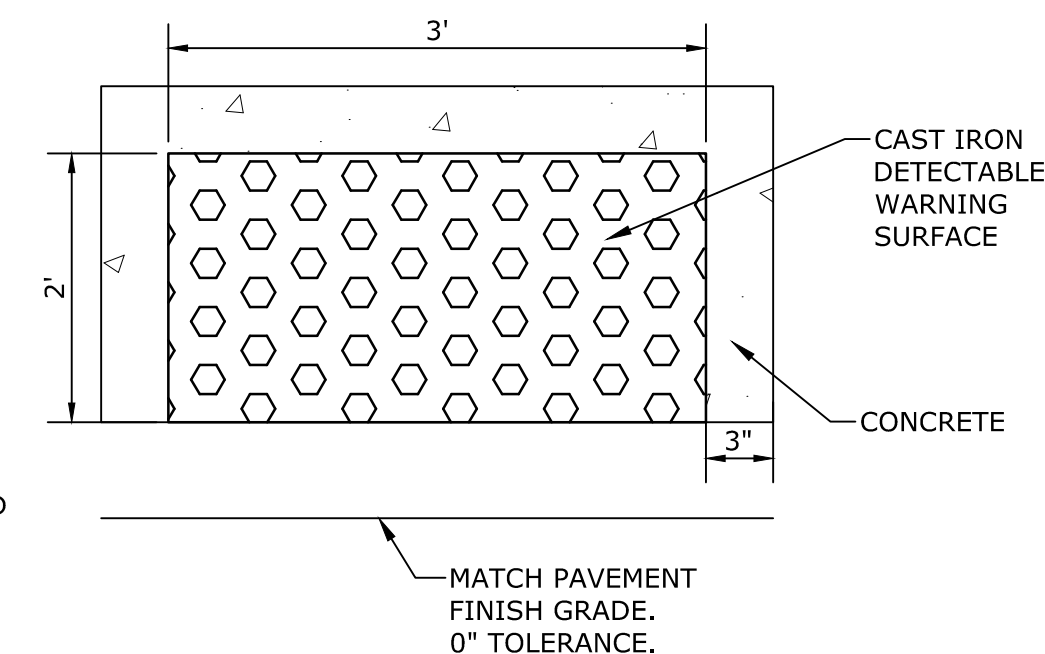
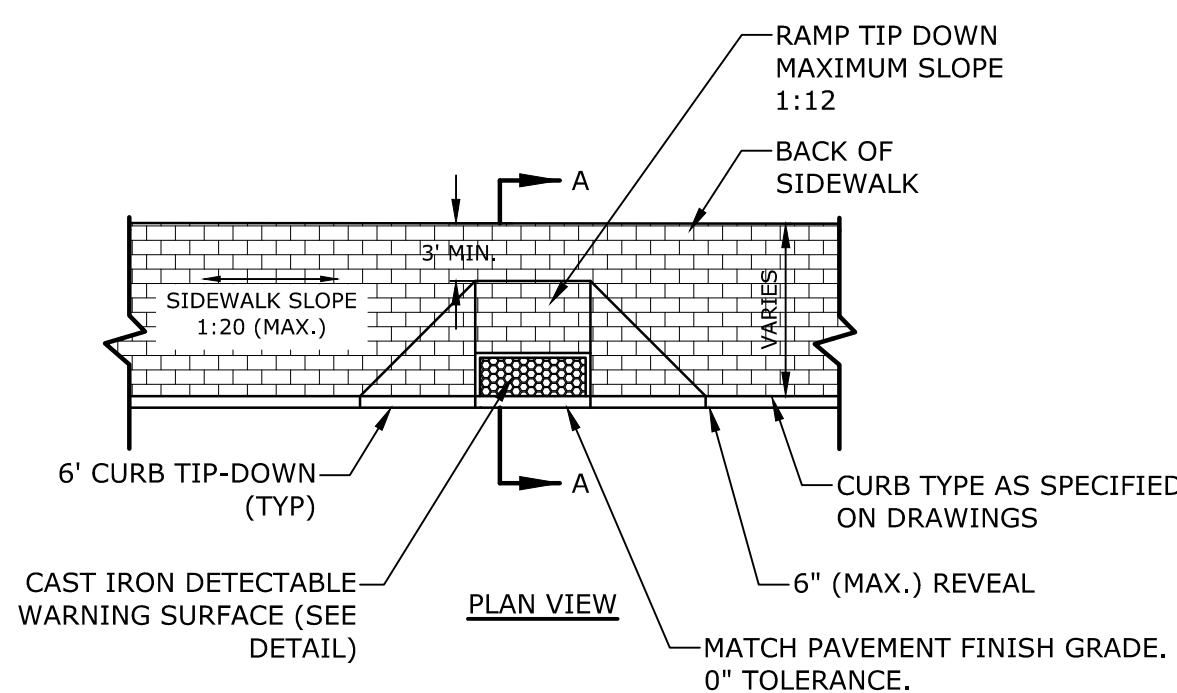
**CONCRETE WASHOUT AREA**  
NO SCALE

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



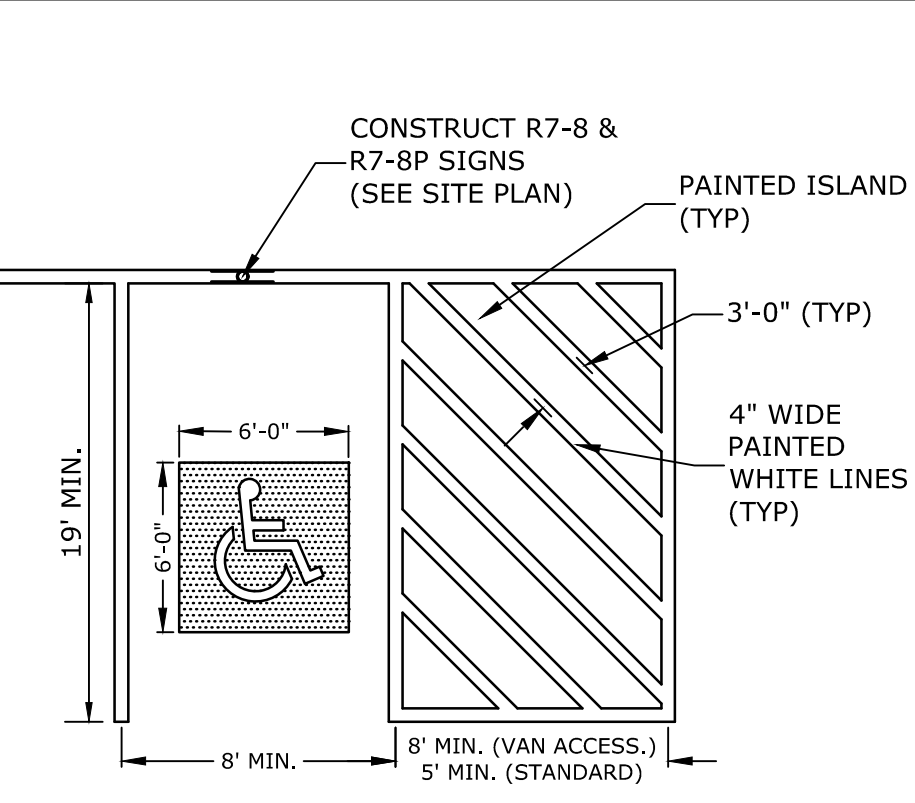
- NOTE:**
1. PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS AS SHOWN ON SITE PLAN.
  2. ALL STOP BARS, WORDS, SYMBOLS AND ARROWS SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTORIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

**PAVEMENT MARKINGS**  
NO SCALE



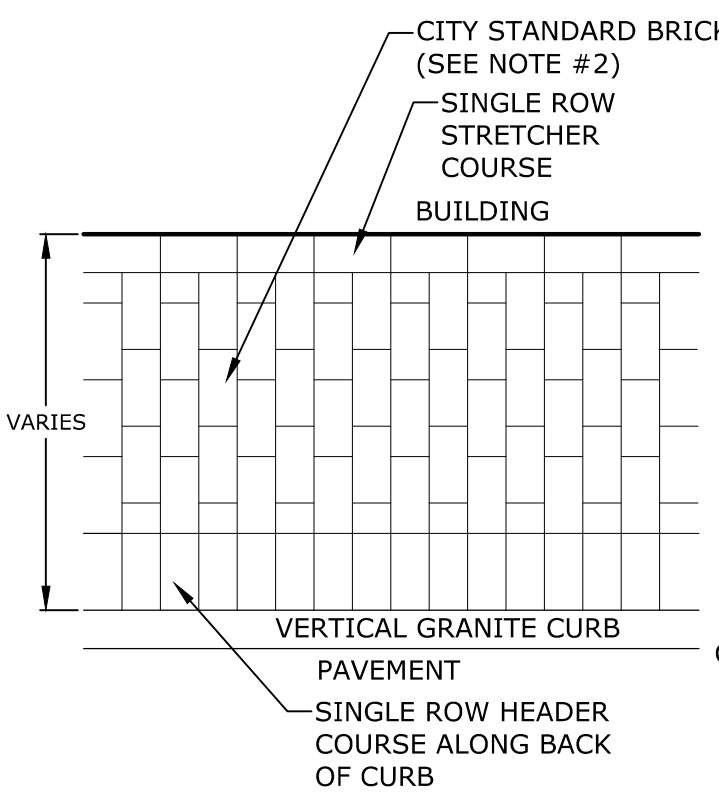
- NOTES:**
1. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

**DETECTABLE WARNING SURFACE**



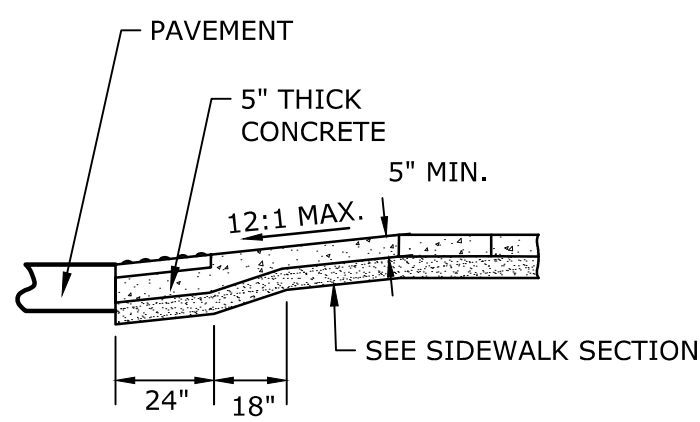
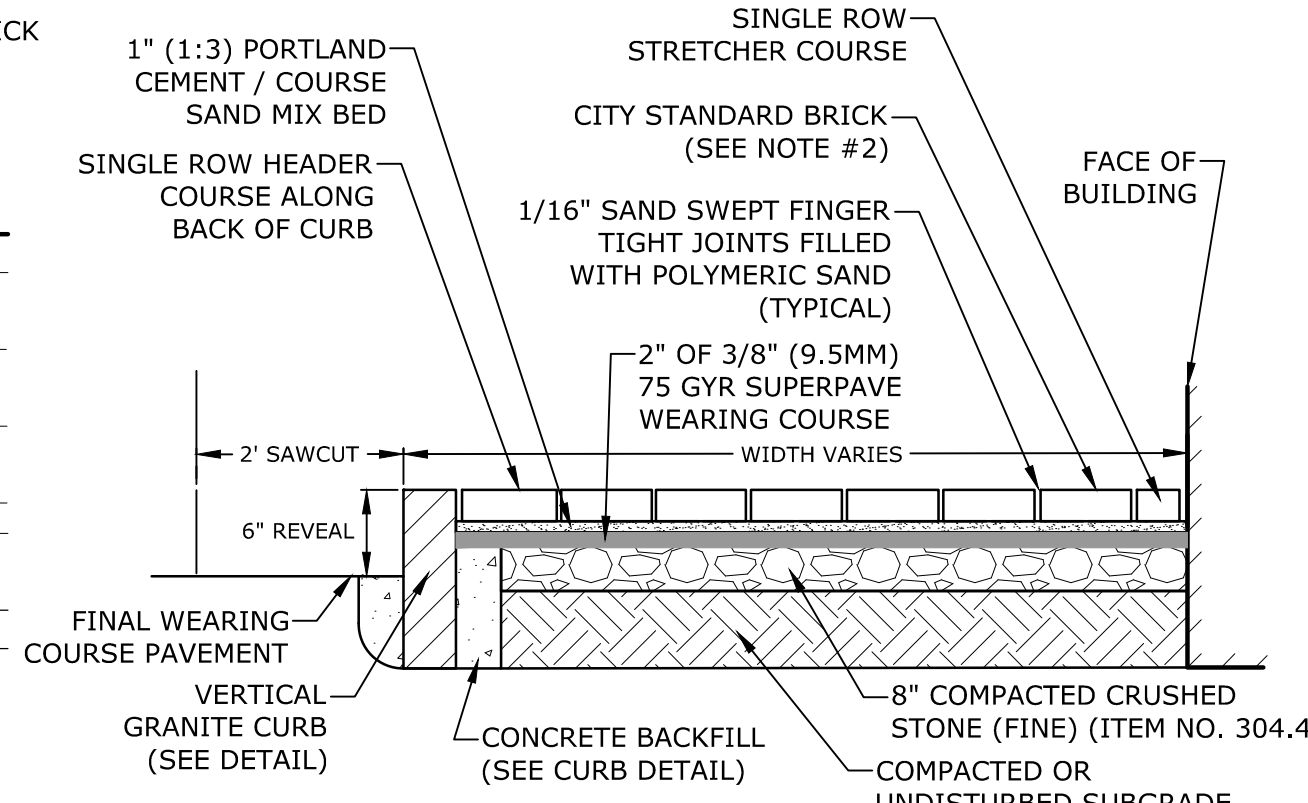
- NOTES:**
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
  2. SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN W/DISABILITIES ACT.

**ACCESSIBLE PARKING STALL**  
NO SCALE



- NOTES:**
1. BRICK SIDEWALK SHALL BE INSTALLED AS DETAILED AND PER CITY OF PORTSMOUTH REQUIREMENTS/SPECIFICATIONS AND SHALL INCLUDE A CONTINUOUS APPROVED PAVER EDGE RESTRAINT SYSTEM AT ALL LOCATIONS NOT ADJACENT TO CURB OR BUILDINGS.
  2. CITY STANDARD BRICK SHALL BE TRADITIONAL EDGE, PATHWAY, FULL RANGE 2.25" X 4" X 8" PAVER, BY PINE HALL BRICK, INC. BRICK MATERIAL SAMPLES SHALL BE PROVIDED TO DPW PRIOR TO INSTALLATION FOR REVIEW AND APPROVAL.
  3. BEDDING MATERIAL SHALL BE A PORTLAND CEMENT / COURSE SAND MIX THAT IS 1 PART PORTLAND CEMENT AND 3 PARTS COURSE SAND. SAND SHALL CONFORM WITH ASTM C-33 AND CEMENT SHALL BE PORTLAND CEMENT TYPE I/TYPE II.

**BRICK SIDEWALK**  
NO SCALE



**SECTION A-A**

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12

**CONCRETE WHEELCHAIR ACCESSIBLE RAMP**  
NO SCALE

- NOTES:**
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
  2. A 6" COMPACTED CRUSHED GRAVEL BASE (NHDOT ITEM No. 304.3) SHALL BE PROVIDED BENEATH RAMPS.
  3. DETECTABLE WARNING PANEL SHALL BE CAST IRON SET IN CONCRETE (SEE DETAIL.)
  4. PROVIDE DETECTABLE WARNING SURFACES ANYTIME THAT A CURB RAMP, BLENDED TRANSITION, OR LANDING CONNECTS TO A STREET.
  5. LOCATE THE DETECTABLE WARNING SURFACES AT THE BACK OF THE CURB ALONG THE EDGE OF THE LANDING.
  6. THE MAXIMUM RUNNING SLOPE OF ANY SIDEWALK CURB RAMP IS 12:1. THE MAXIMUM CROSS SLOPE IS 2%. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.
  7. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. ROADWAY SHOULDER SLOPES ADJOINING SIDEWALK CURB RAMPS SHALL BE A MAXIMUM OF 5% (FULL WIDTH) FOR A DISTANCE OF 2 FT. FROM THE ROADWAY CURBLINE.
  8. THE BOTTOM OF THE SIDEWALK CURB RAMP OR LANDING, EXCLUSIVE OF THE FLARED SIDES, SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK MARKINGS.
  9. DETECTABLE WARNING PANELS SHALL BE A MINIMUM OF 2 FEET IN DEPTH. THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP, BLENDED TRANSITION, OR LANDING AND THE STREET.
  10. THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST VISUALLY WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT).



**Proposed Mixed Use Development**

CPI Management, LLC

53 Green Street  
Portsmouth, NH

MARK	DATE	DESCRIPTION
C	4/21/2021	TAC Resubmission
B	3/22/2021	TAC & CC Submission
A	1/27/2021	CC Work Session

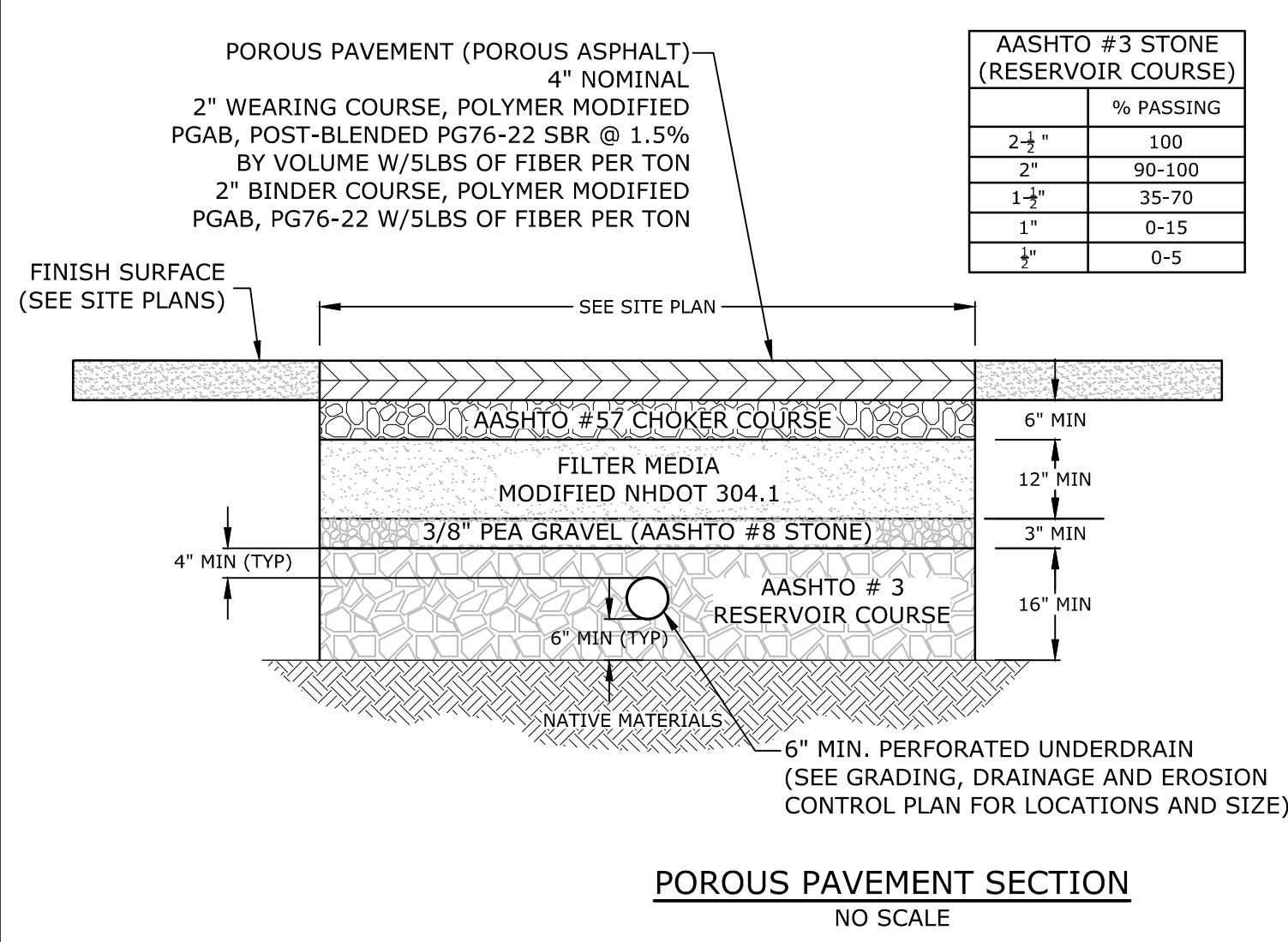
PROJECT NO: C0960-011  
DATE: January 27, 2021  
FILE: C0960-011\_C-DTLS.DWG  
DRAWN BY: AFS  
CHECKED: NAH/PMC  
APPROVED: BLM

DETAILS SHEET

SCALE: AS SHOWN

C-502





AASHTO #3 STONE (RESERVOIR COURSE)	
SIEVE SIZE	% PASSING
2 1/4"	100
2"	90-100
1 1/2"	35-70
1"	0-15
3/4"	0-5

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12

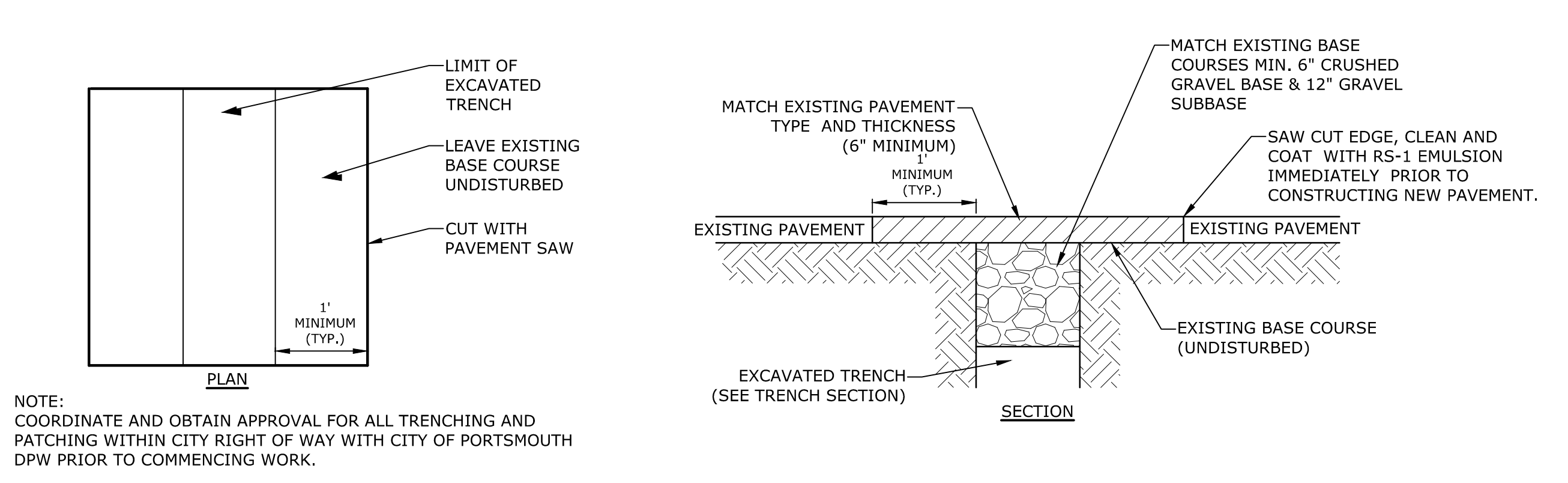
  

MODIFIED NHDOT 304.1	
SIEVE SIZE	% PASSING
6"	100
#4	70-100
#200	0-6*

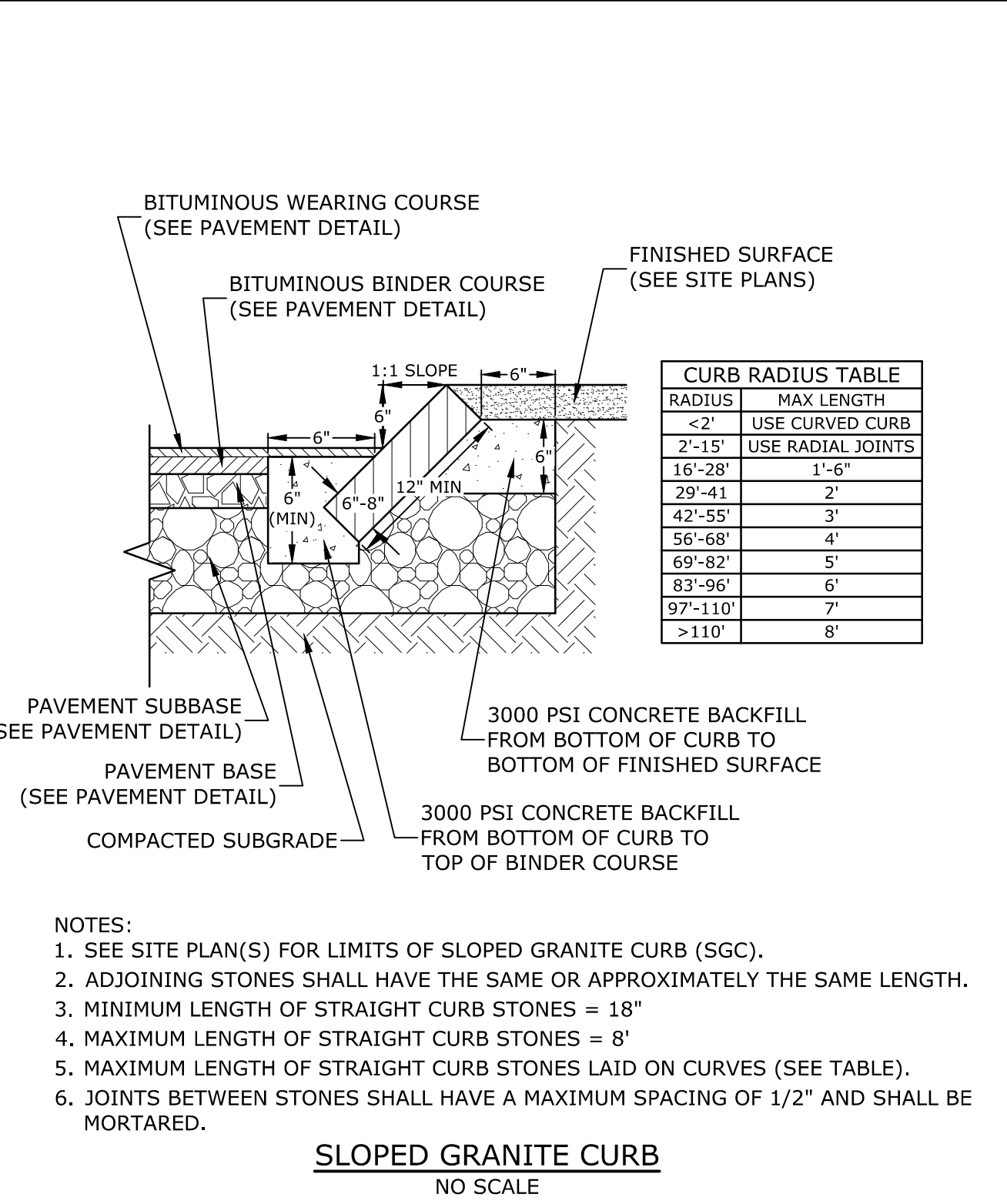
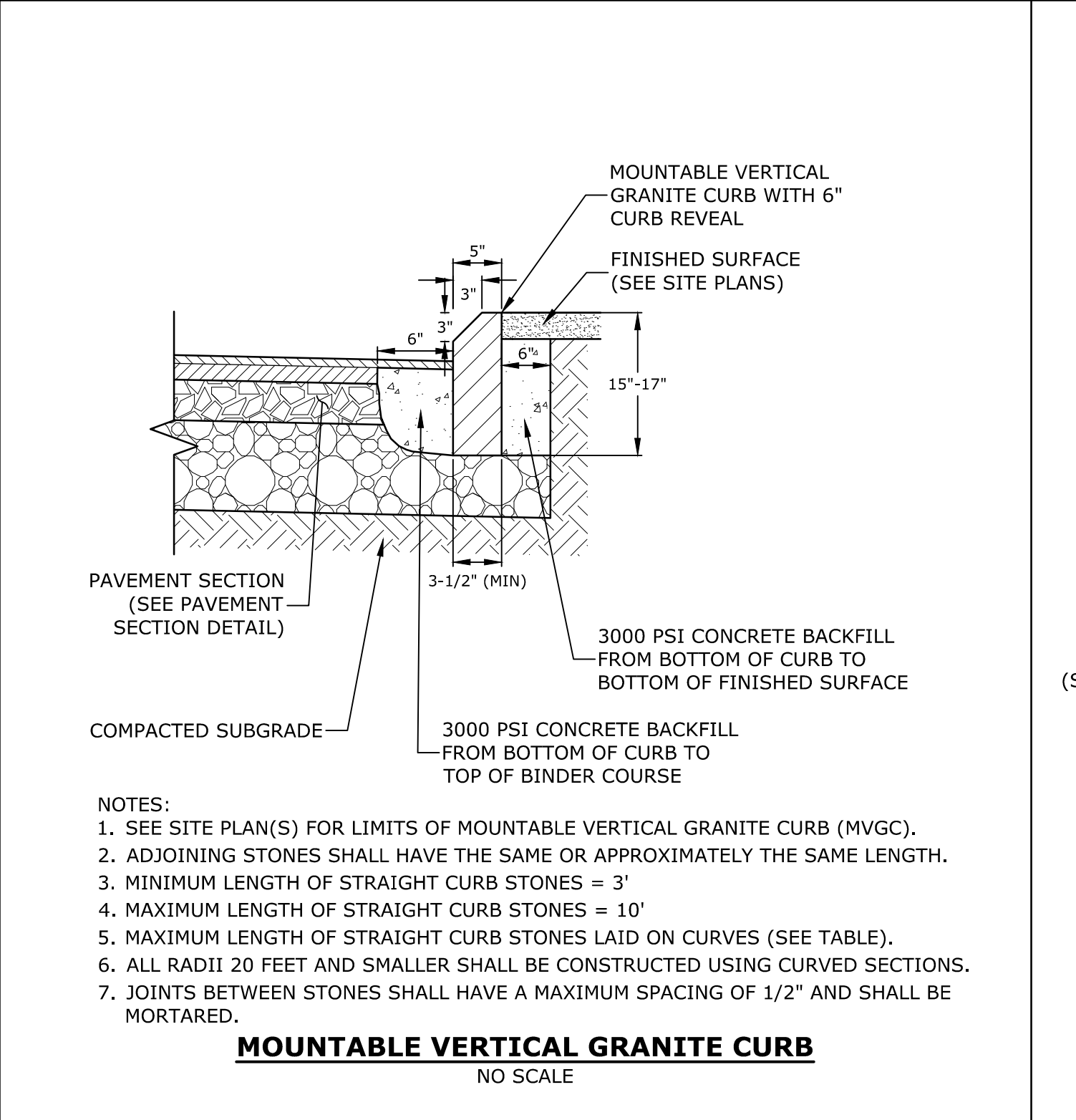
  

AASHTO #8 STONE (PEA GRAVEL)	
SIEVE SIZE	% PASSING
3/4"	100
#8	85-100
#4	10-30
#8	0-10
#16	0-5

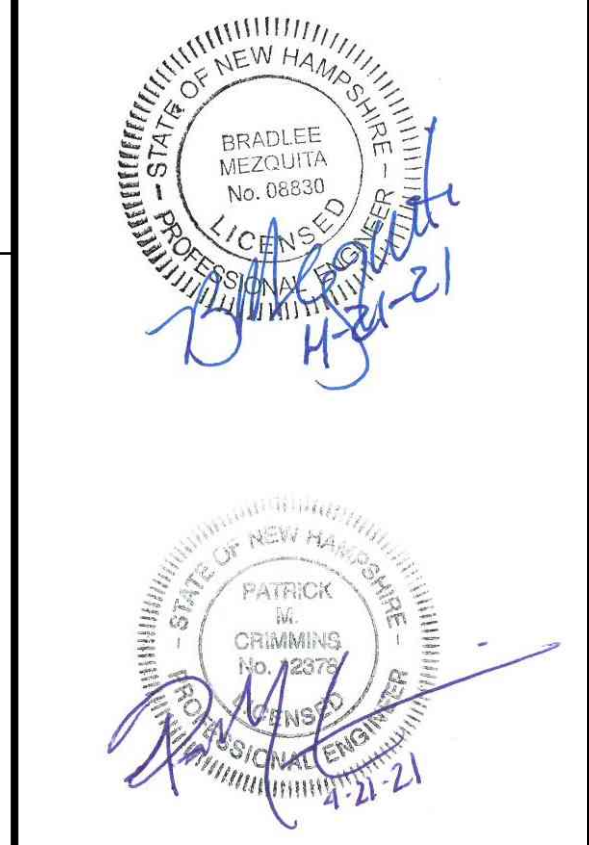
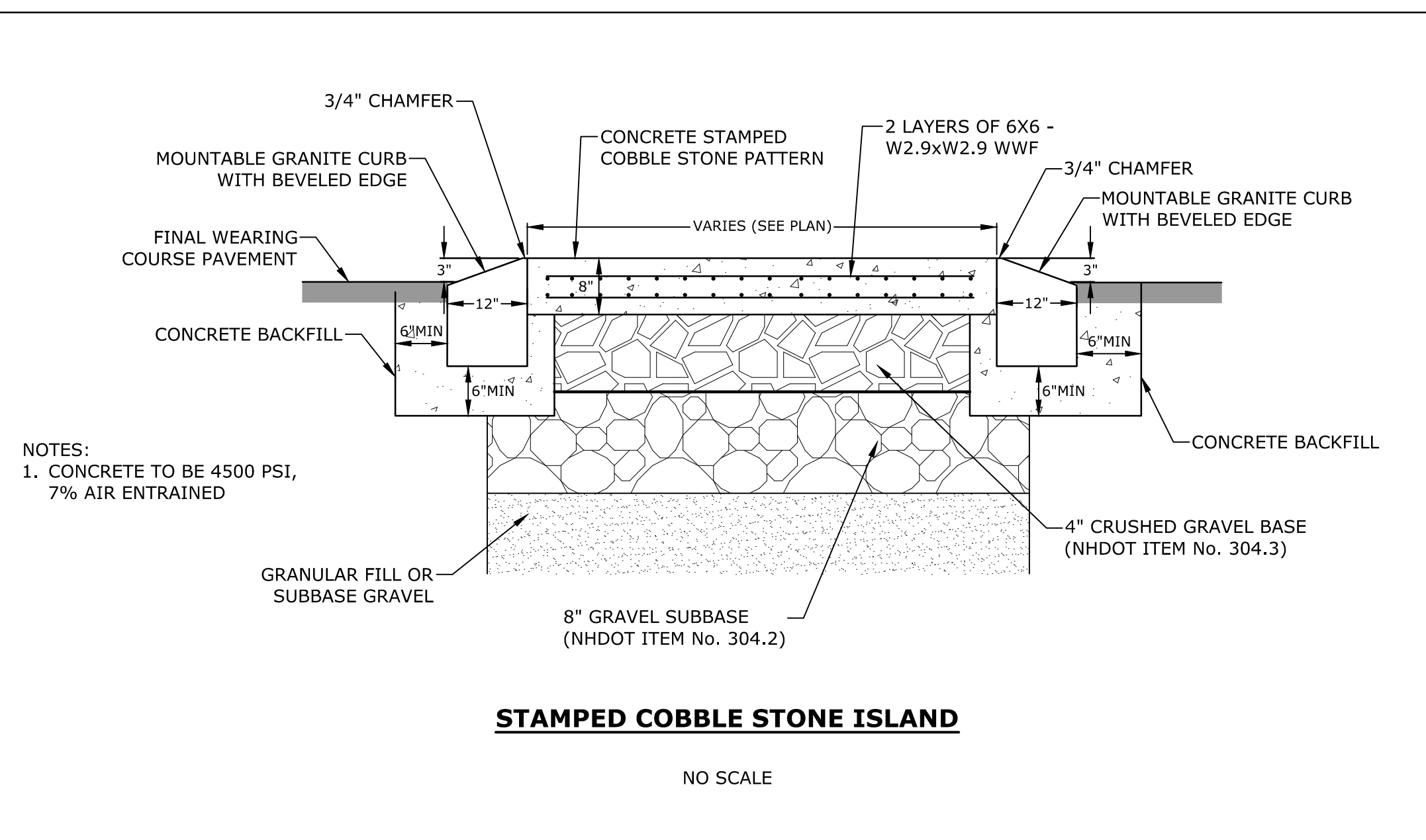
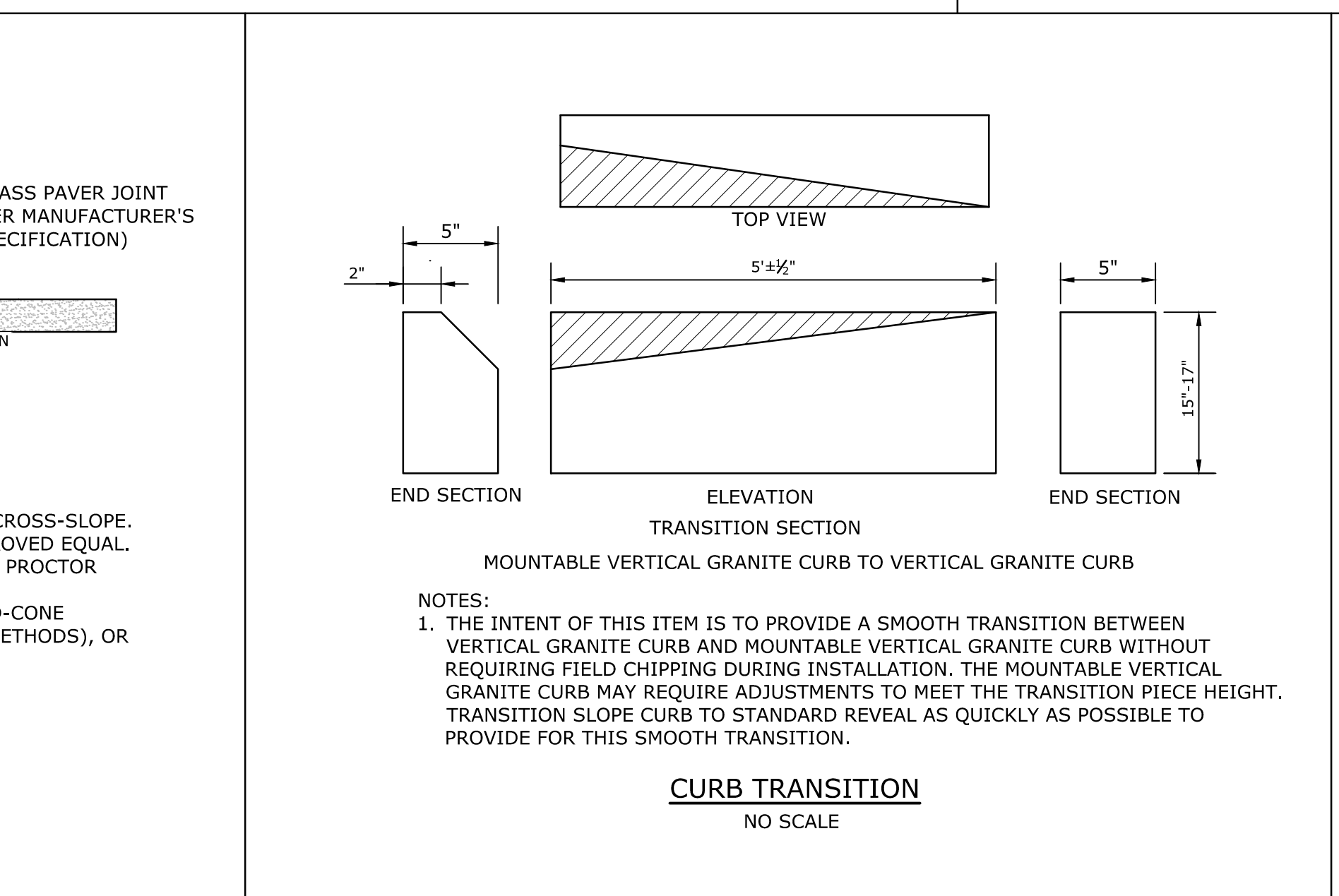
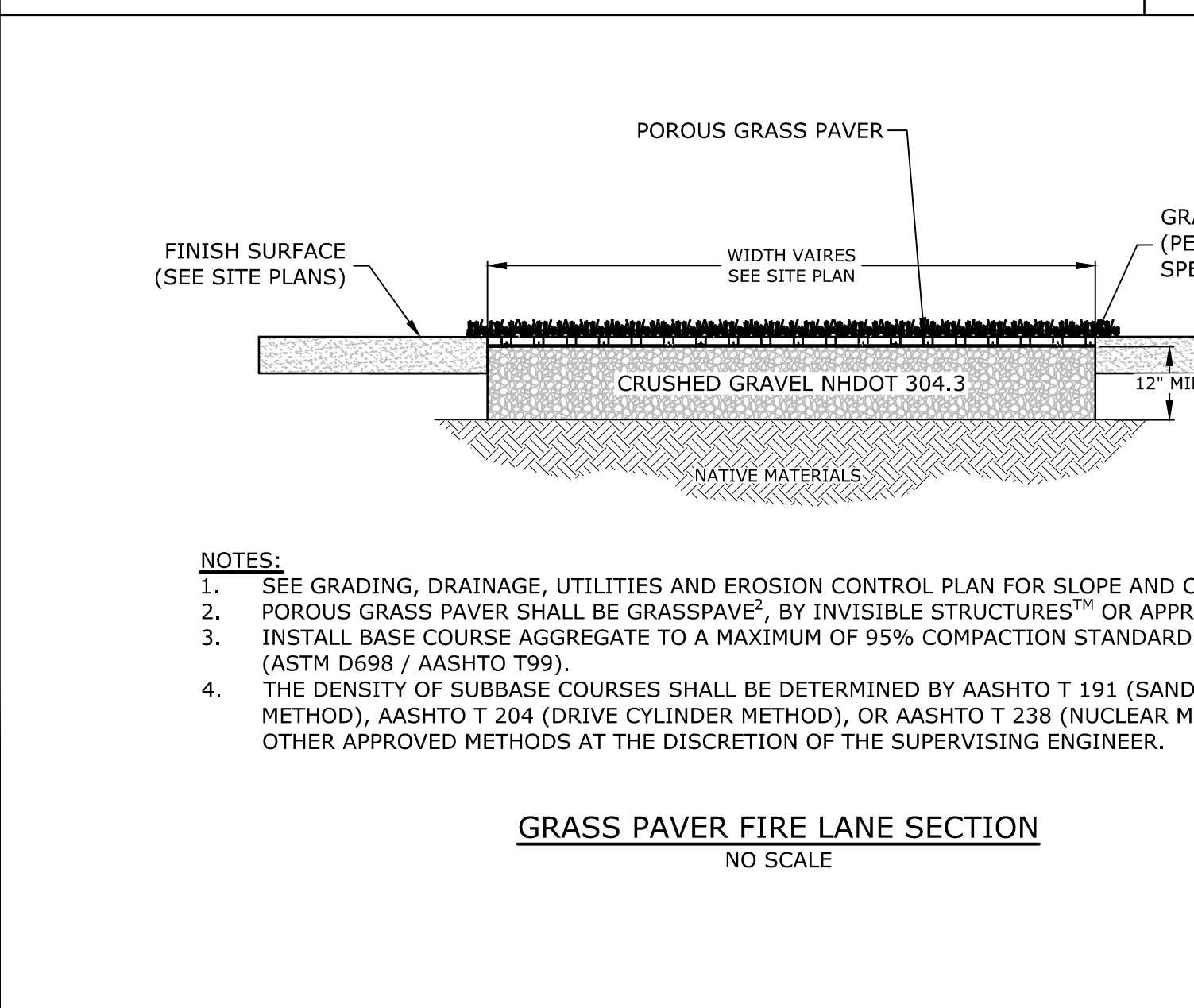
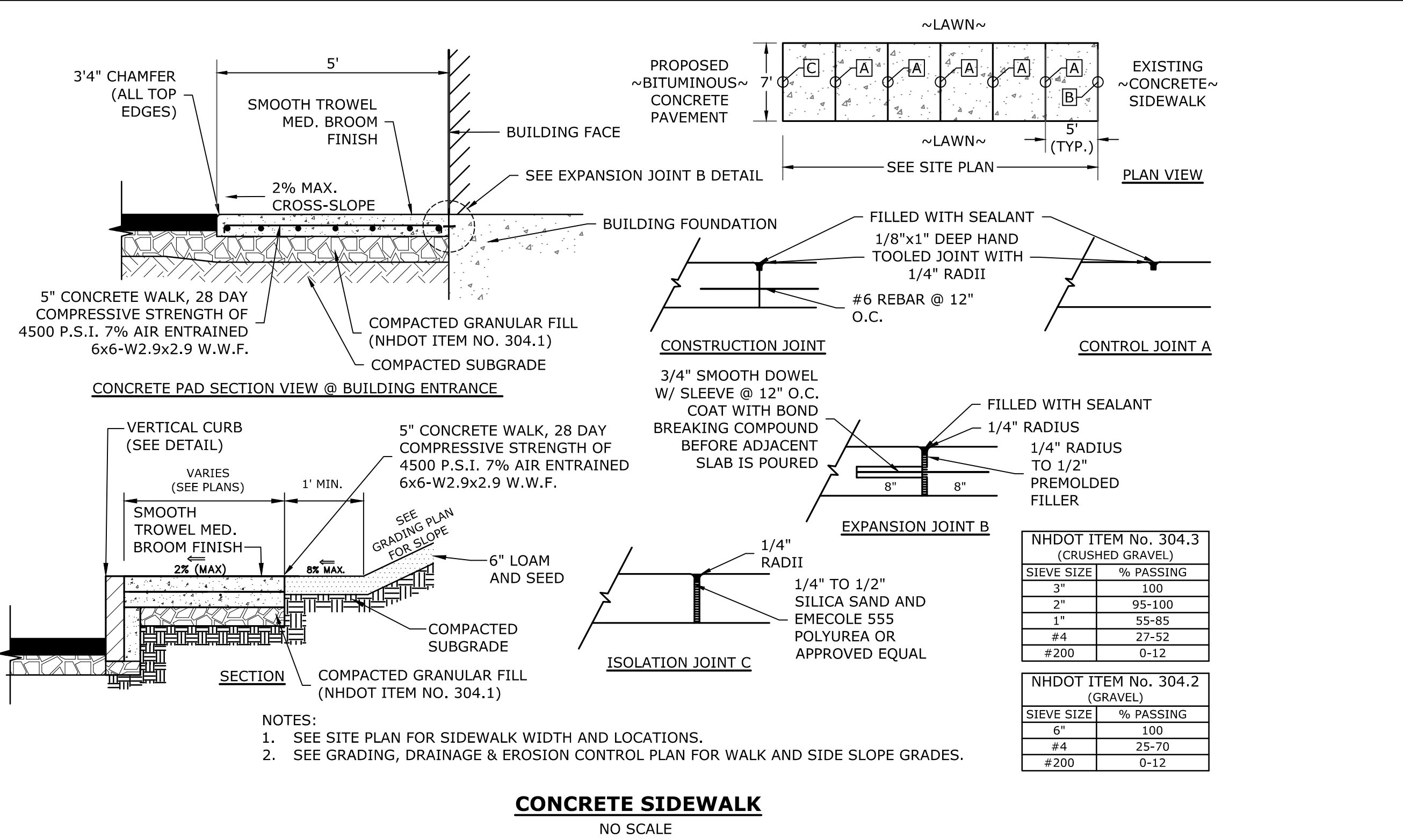
- NOTES:**
- SEE GRADING, DRAINAGE, UTILITIES AND EROSION CONTROL PLAN FOR SLOPE AND CROSS-SLOPE.
  - GRAVEL SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS FROM THE UNH STORMWATER CENTER FOR POROUS ASPHALT.
  - FILTER COURSE TO BE INCREASED AS NECESSARY TO MEET PROPOSED GRADES.
  - INSTALL FILTER COURSE AGGREGATE IN 8-INCH MAXIMUM LIFTS TO A MAXIMUM OF 95% STANDARD PROCTOR COMPACTION (ASTM D698 / AASHTO T99). INSTALL AGGREGATE TO GRADES INDICATED ON THE DRAWINGS.
  - INSTALL CHOKER, GRAVEL, AND STONE BASE COURSE AGGREGATE TO A MAXIMUM OF 95% COMPACTION STANDARD PROCTOR (ASTM D698 / AASHTO T99). CHOKER SHOULD BE PLACED EVENLY OVER SURFACE OF FILTER COURSE BED, SUFFICIENT TO ALLOW PLACEMENT OF PAVEMENT, AND NOTIFY ENGINEER FOR APPROVAL. CHOKER BASE COURSE THICKNESS SHALL BE SUFFICIENT TO ALLOW FOR EVEN PLACEMENT OF THE POROUS ASPHALT BUT NO LESS THAN 6-INCHES IN DEPTH.
  - THE DENSITY OF SUBBASE COURSES SHALL BE DETERMINED BY AASHTO T 191 (SAND-CONE METHOD), AASHTO T 204 (DRIVE CYLINDER METHOD), OR AASHTO T 238 (NUCLEAR METHODS), OR OTHER APPROVED METHODS AT THE DISCRETION OF THE SUPERVISING ENGINEER.



**NOTE:**  
COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN CITY RIGHT OF WAY WITH CITY OF PORTSMOUTH DPW PRIOR TO COMMENCING WORK.



CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<2'	USE CURVED CURB
2'-15'	USE RADIAL JOINTS
16'-28'	1'-6"
29'-41'	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
>110'	8'



**Proposed Mixed Use Development**

CPI Management, LLC

53 Green Street  
Portsmouth, NH

MARK	DATE	DESCRIPTION
C	4/21/2021	TAC Resubmission
B	3/22/2021	TAC & CC Submission
A	1/27/2021	CC Work Session

PROJECT NO:	C0960-011
DATE:	January 27, 2021
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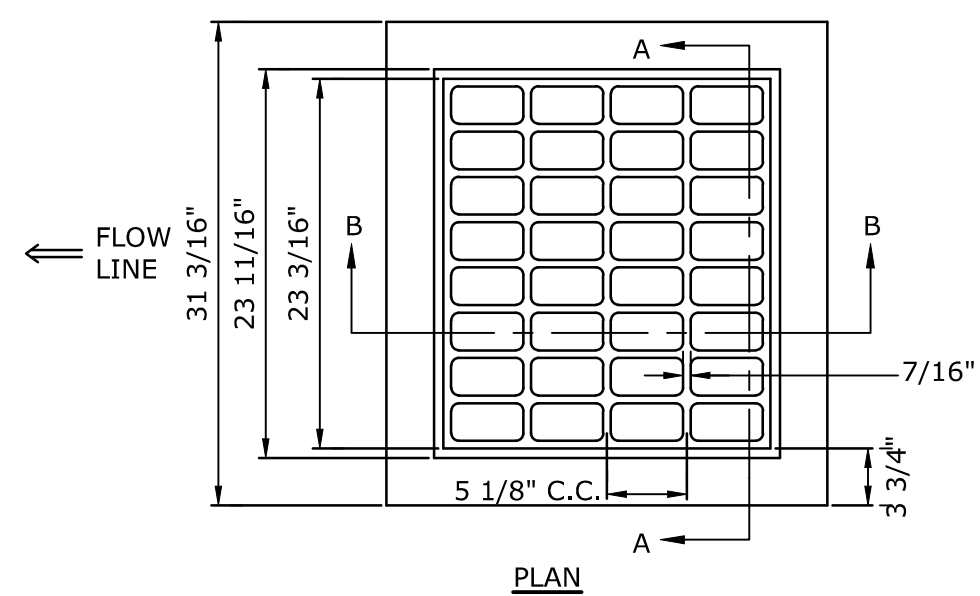
**DETAILS SHEET**

SCALE: AS SHOWN

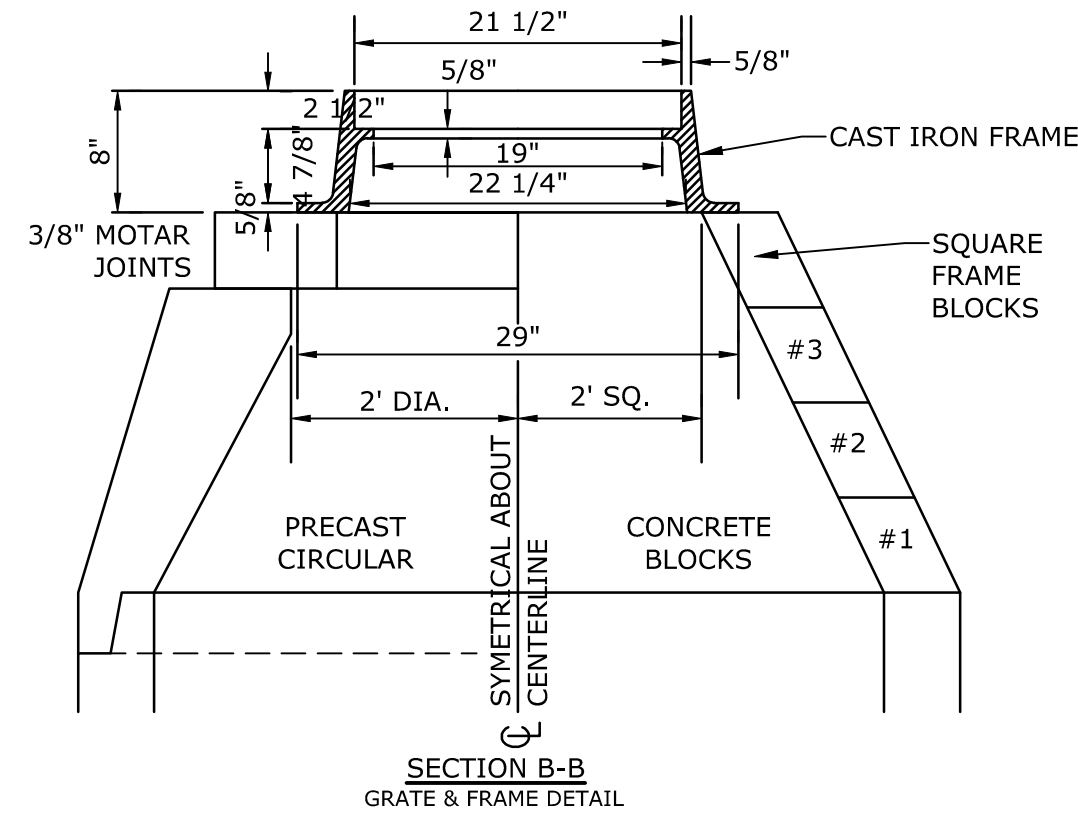
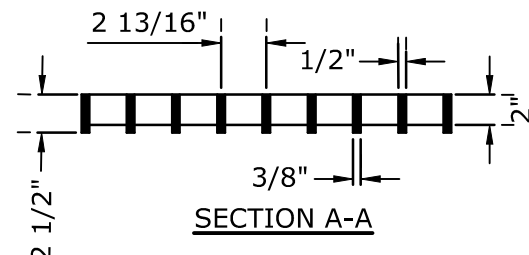
**C-503**

Last Saved: 4/19/2021  
 Plotted On: Apr 20, 2021 1:22:28pm By: asellier  
 Tighe & Bond 210 Commercial Center Portsmouth, NH 03801  
 Figures: AutoCAD, Figures: AutoCAD, C:\0960-011\_C-DTLS.dwg

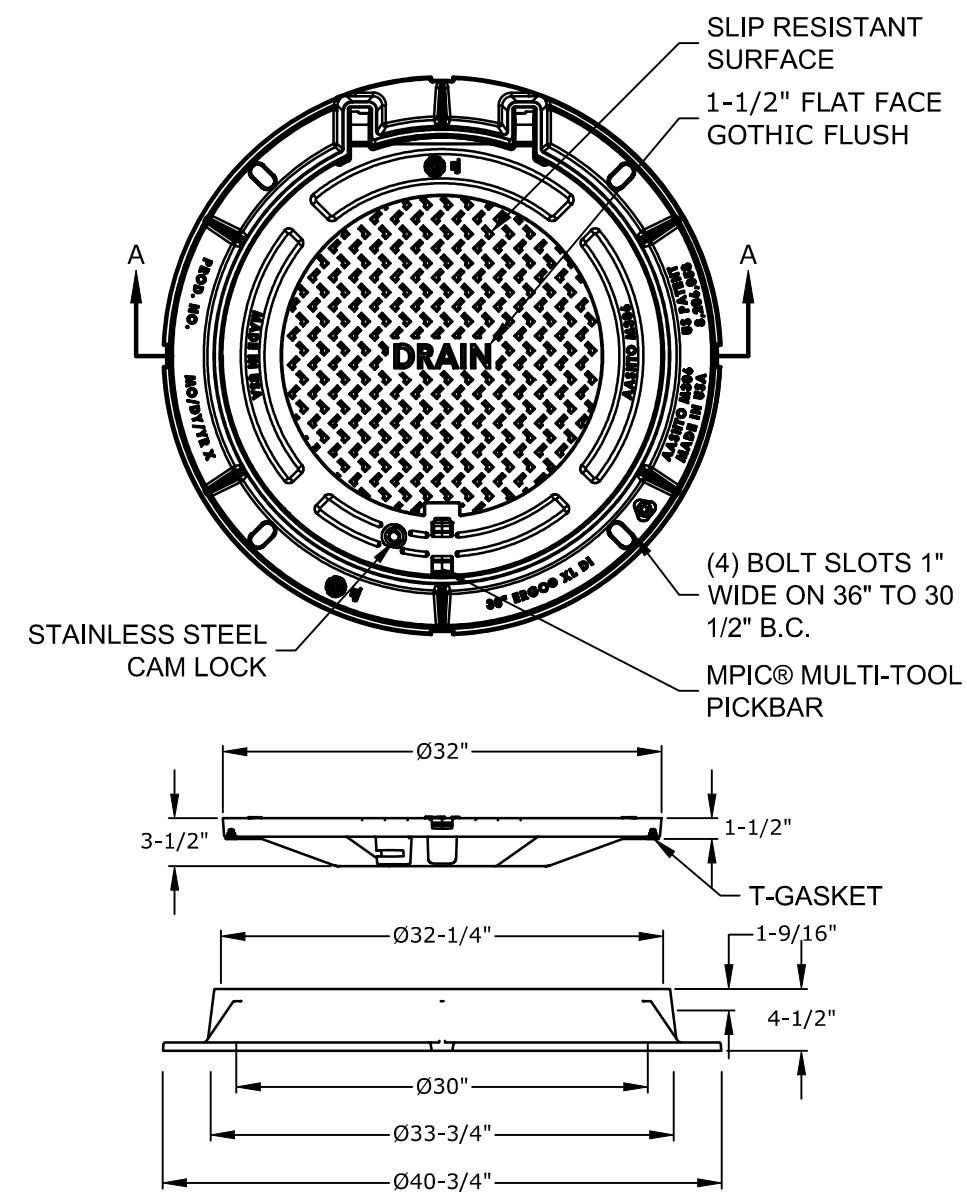




- NOTE:**  
 1. GRATE TO BE CAST IRON (NHDOT TYPE B)  
 2. FRAME AND GRATE TO BE MANUFACTURED IN THE USA

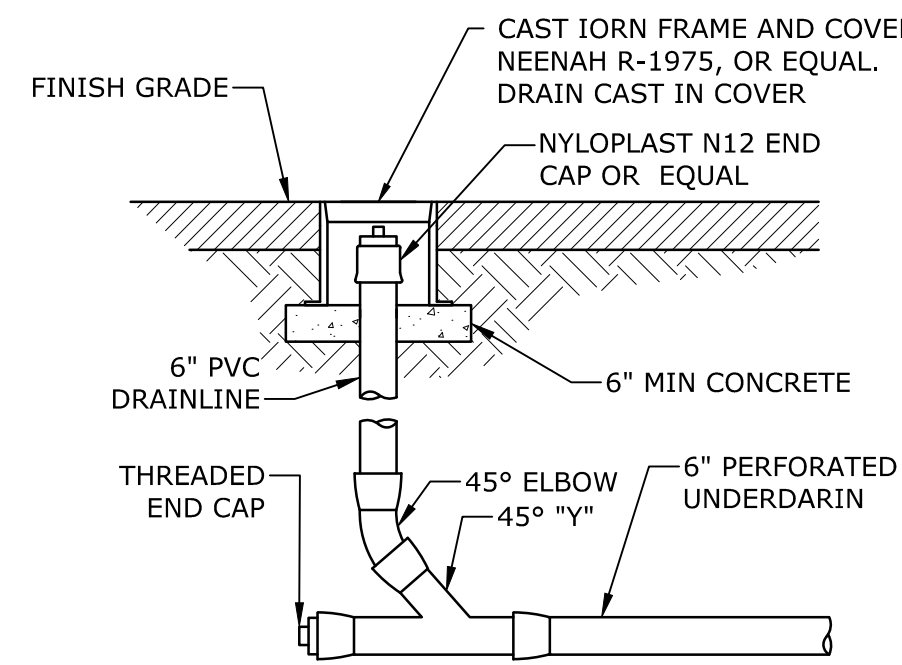


**CATCH BASIN FRAME & GRATE**  
NO SCALE

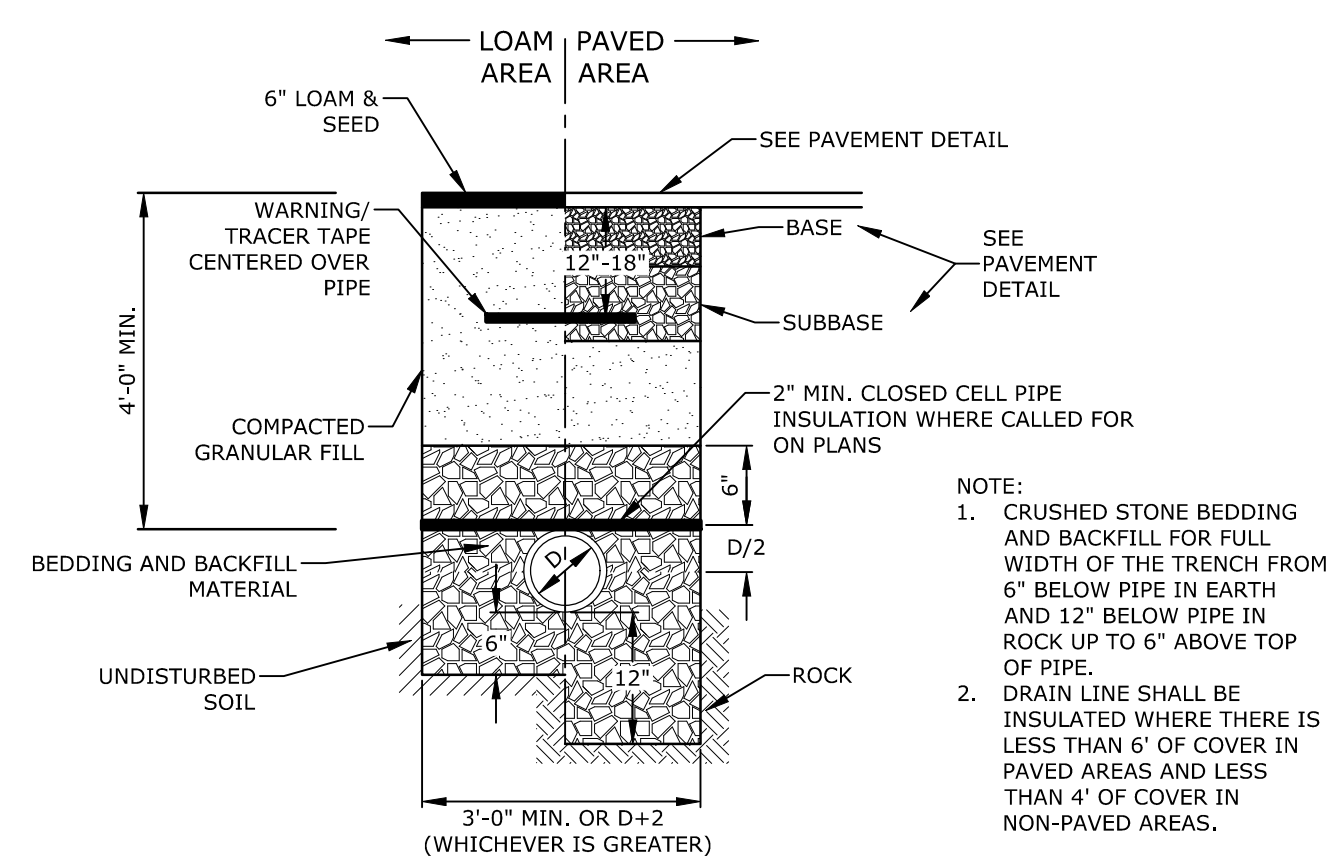


- NOTES:**  
 1. MANHOLE FRAME AND COVER SHALL BE 32" HINGED ERGO XL BY EJ CO.  
 2. ALL DIMENSIONS ARE NOMINAL.  
 3. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:  
 A. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.  
 B. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.  
 C. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.  
 4. LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN THE CENTER OF THE COVER.

**DRAIN MANHOLE FRAME & COVER**  
NO SCALE

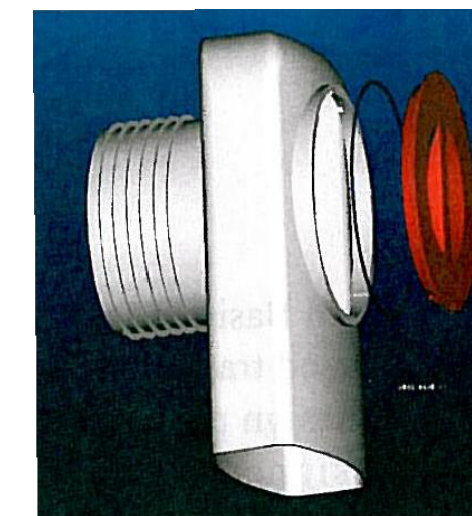


**DRAIN CLEAN-OUT**  
NO SCALE



- NOTE:**  
 1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.  
 2. DRAIN LINE SHALL BE INSULATED WHERE THERE IS LESS THAN 6" OF COVER IN PAVED AREAS AND LESS THAN 4" OF COVER IN NON-PAVED AREAS.

**STORM DRAIN TRENCH**  
NO SCALE

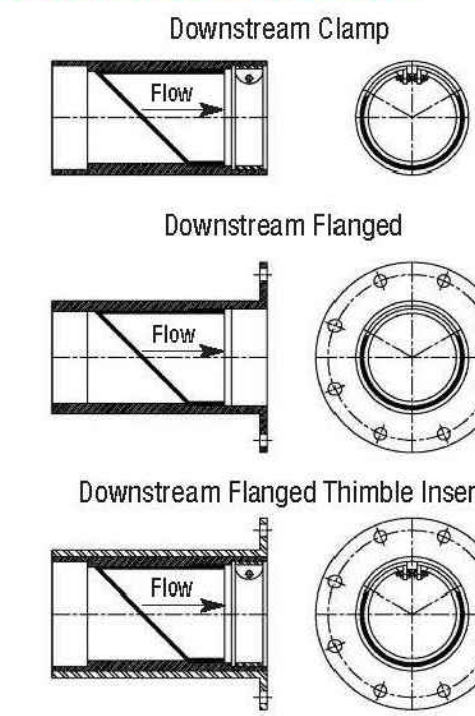


- NOTES:**  
 1. ALL CATCH BASIN OUTLETS TO HAVE "ELIMINATOR" OIL AND FLOATING DEBRIS TRAP MANUFACTURED BY KLEANSTREAM (NO EQUAL)  
 2. INSTALL DEBRIS TRAP TIGHT TO INSIDE OF STRUCTURE.  
 3. 1/4" HOLE SHALL BE DRILLED IN TOP OF DEBRIS TRAP

**"ELIMINATOR" OIL FLOATING DEBRIS TRAP**  
NO SCALE

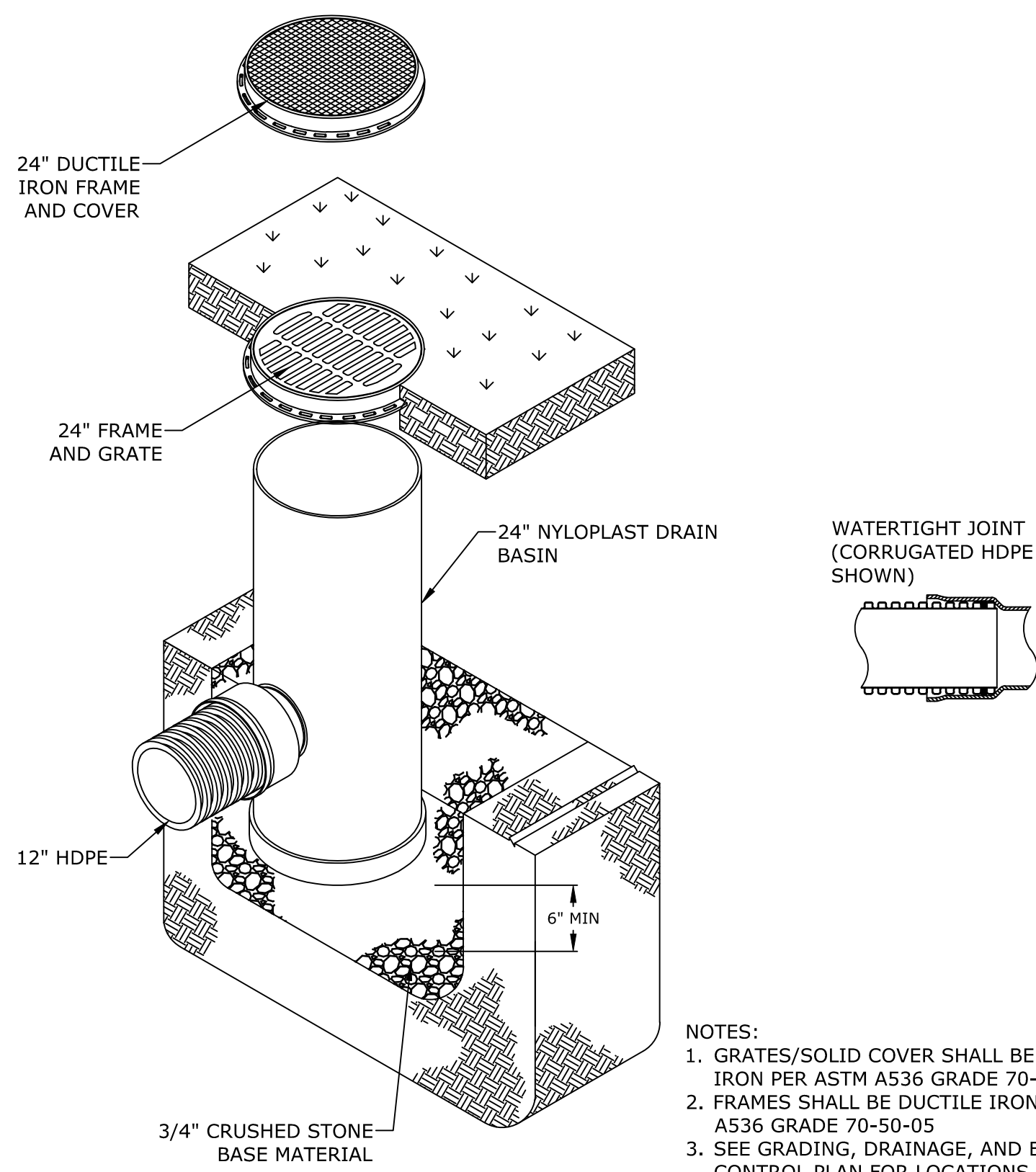
NOMINAL PIPE SIZE I.D.*		OVERALL LENGTH**		NUMBER OF CLAMPS	CUFF DEPTH		BACK PRESSURE RATING	
Inches	Millimeters	Inches	Millimeters		Inches	Millimeters	Feet	Meters
18	450	31	787	1	4	102	20	6

**Mounting Styles and Configurations**



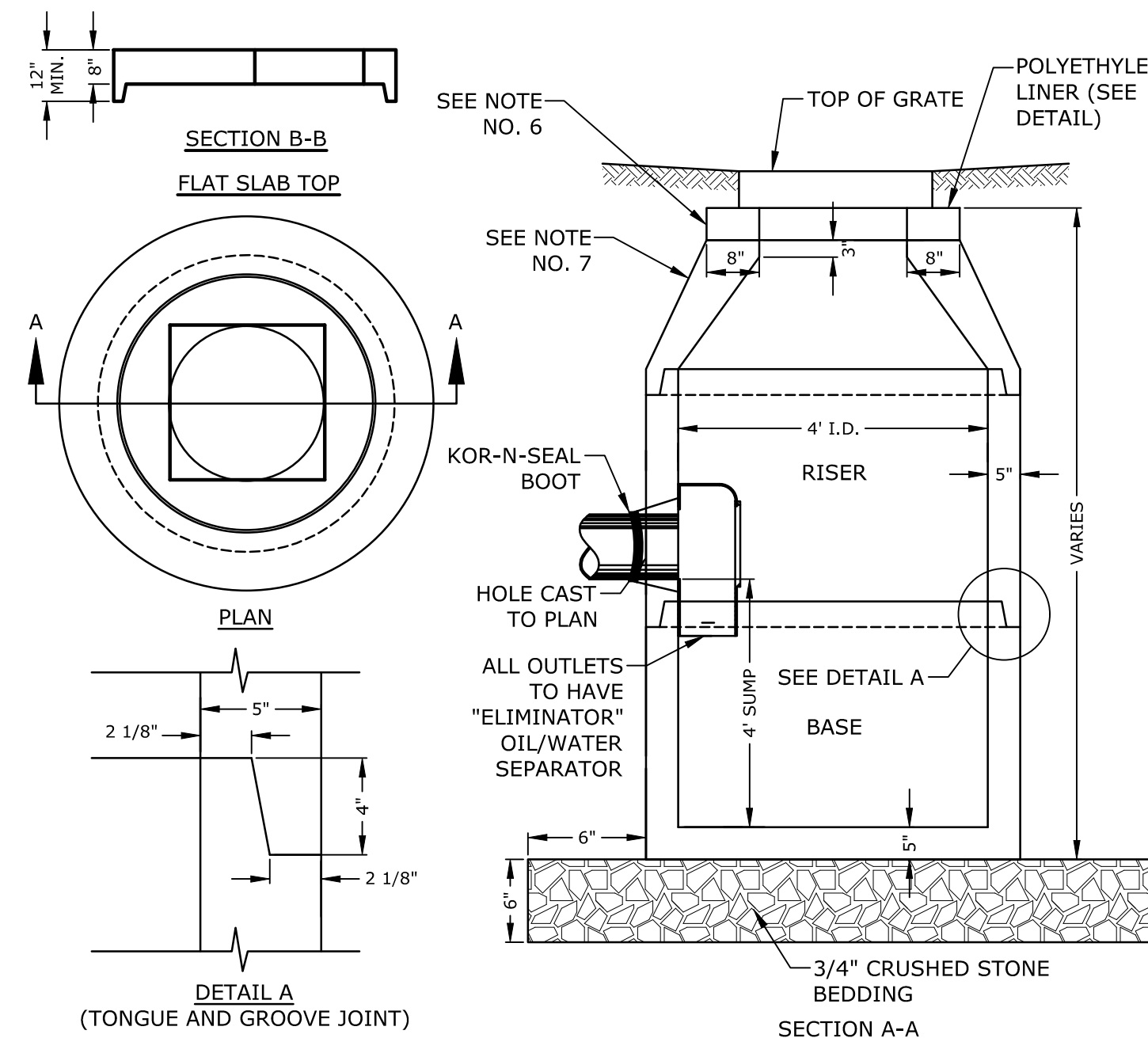
Flange shape and bolt pattern can be customized.  
 Flangeless thimble inserts are available.

**TYPICAL BACK FLOW PREVENTER**  
NO SCALE



- NOTES:**  
 1. GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.  
 2. FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05  
 3. SEE GRADING, DRAINAGE, AND EROSION CONTROL PLAN FOR LOCATIONS.

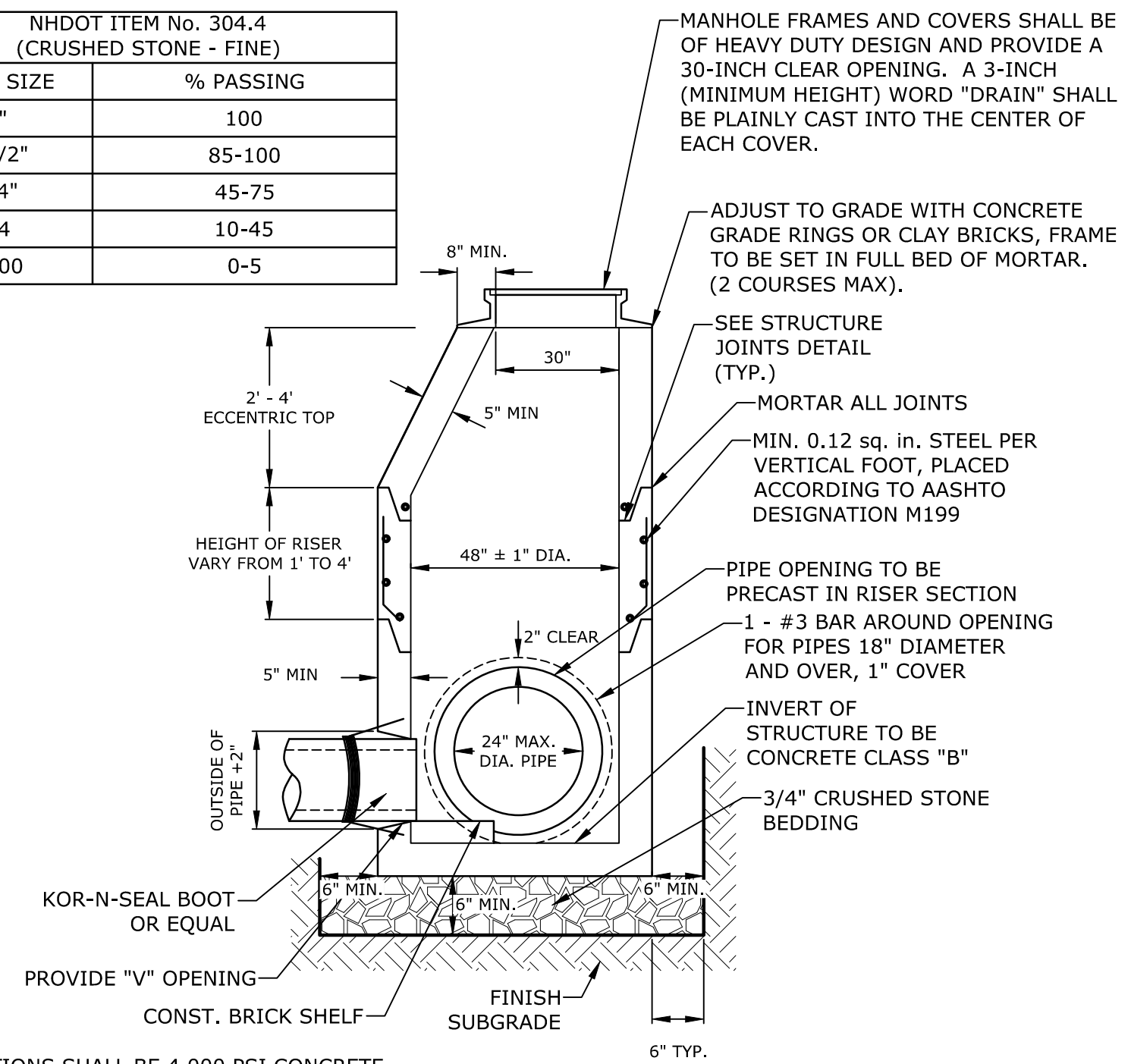
**YARD DRAIN**  
NO SCALE



- NOTES:**  
 1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 PSI).  
 2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.  
 3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.  
 4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.  
 5. THE STRUCTURES SHALL BE DESIGNED FOR H2O LOADING.  
 6. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).  
 7. 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.  
 8. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.  
 9. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.  
 10. 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.  
 11. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.  
 12. "ELIMINATOR" OIL/WATER SEPARATOR SHALL BE INSTALLED TIGHT TO INSIDE OF CATCHBASIN.

**4' DIAMETER CATCHBASIN**  
NO SCALE

NHDOT ITEM No. 304.4 (CRUSHED STONE - FINE)	
SIEVE SIZE	% PASSING
2"	100
1-1/2"	85-100
3/4"	45-75
#4	10-45
#200	0-5



- NOTES:**  
 1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.  
 2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.  
 3. THE TONGUE AND THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.  
 4. THE STRUCTURES SHALL BE DESIGNED FOR H2O LOADING.  
 5. CONSTRUCT CRUSHED STONE BEDDING AND BACKFILL UNDER (6" MINIMUM THICKNESS)  
 6. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.  
 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. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.

**4' DIAMETER DRAIN MANHOLE**  
NO SCALE

**Proposed Mixed Use Development**

CPI Management, LLC

53 Green Street  
 Portsmouth, NH

MARK	DATE	DESCRIPTION
C	4/21/2021	TAC Resubmission
B	3/22/2021	TAC & CC Submission
A	1/27/2021	CC Work Session

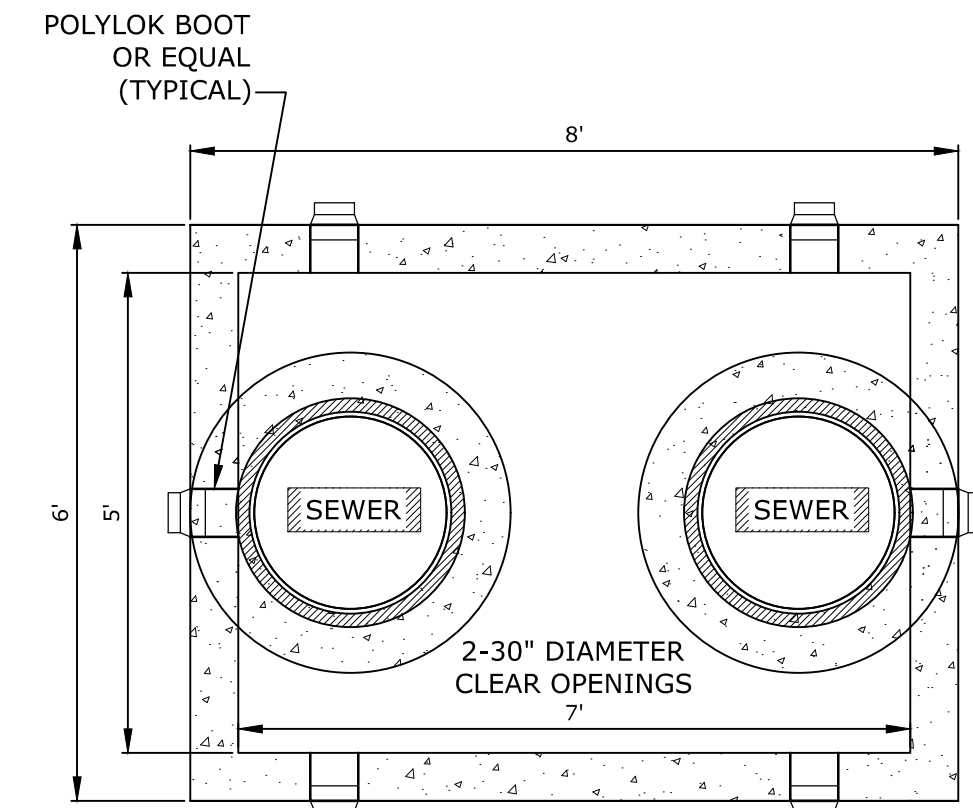
PROJECT NO: C0960-011  
 DATE: January 27, 2021  
 FILE: C0960-011\_C-DTLS.DWG  
 DRAWN BY: AFS  
 CHECKED: NAH/PMC  
 APPROVED: BLM

**DETAILS SHEET**

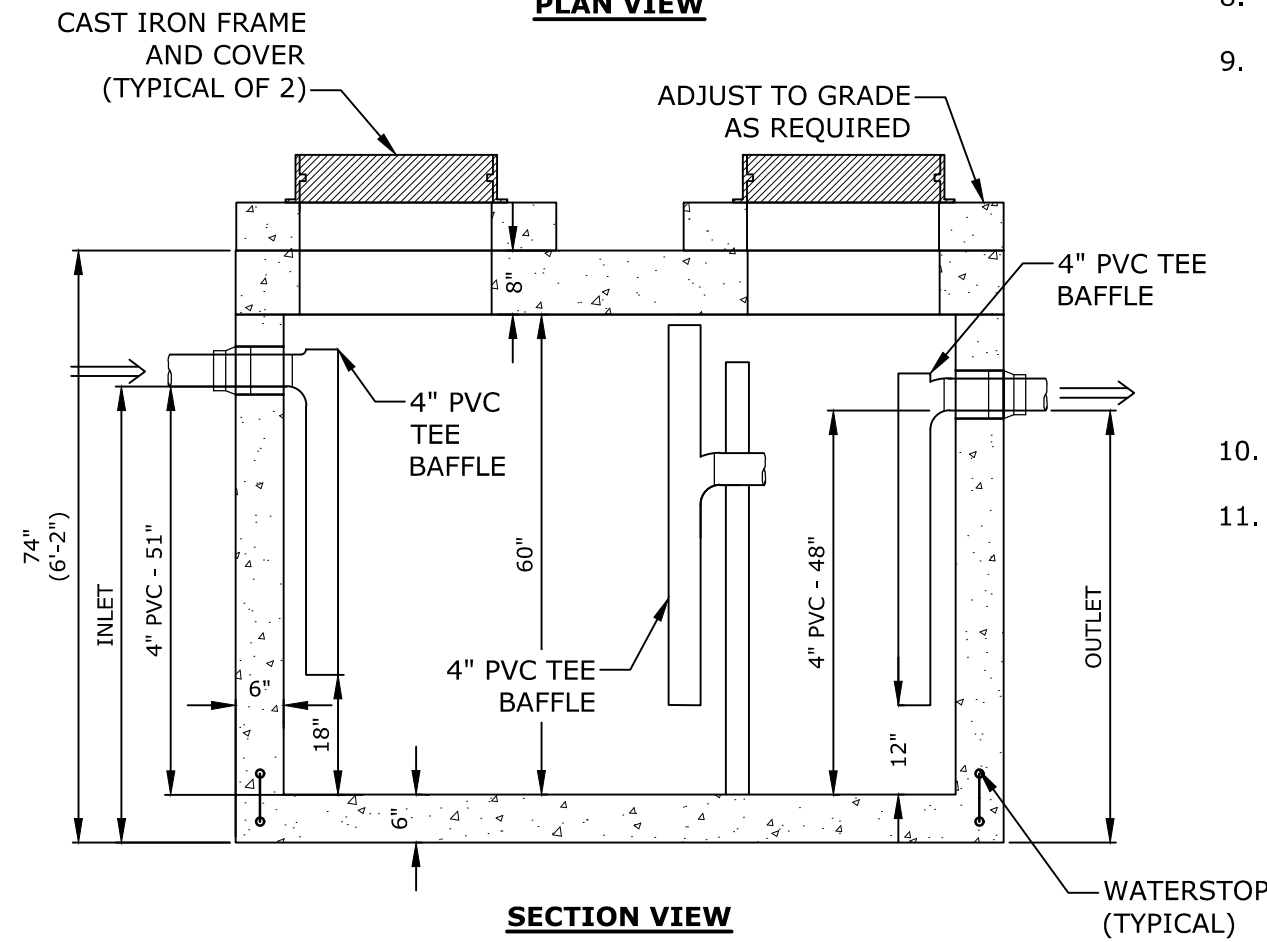
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**C-504**





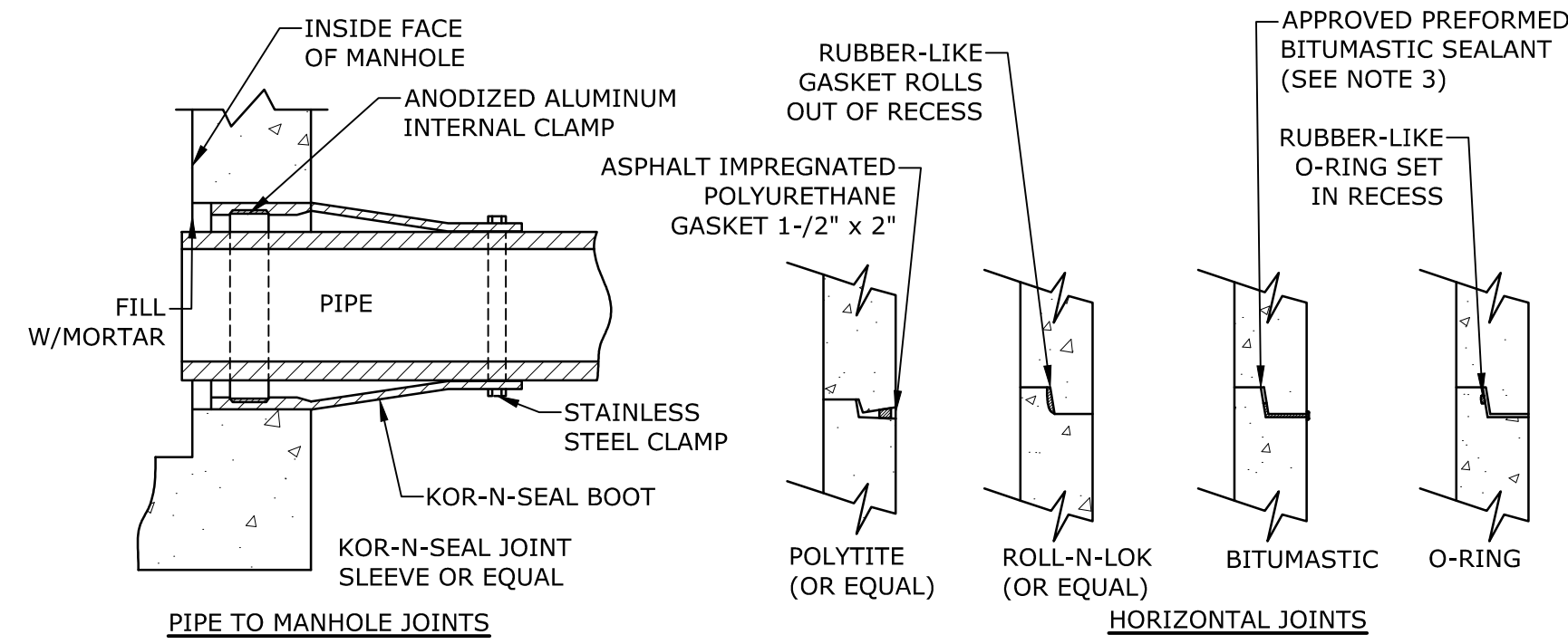
**PLAN VIEW**



**SECTION VIEW**

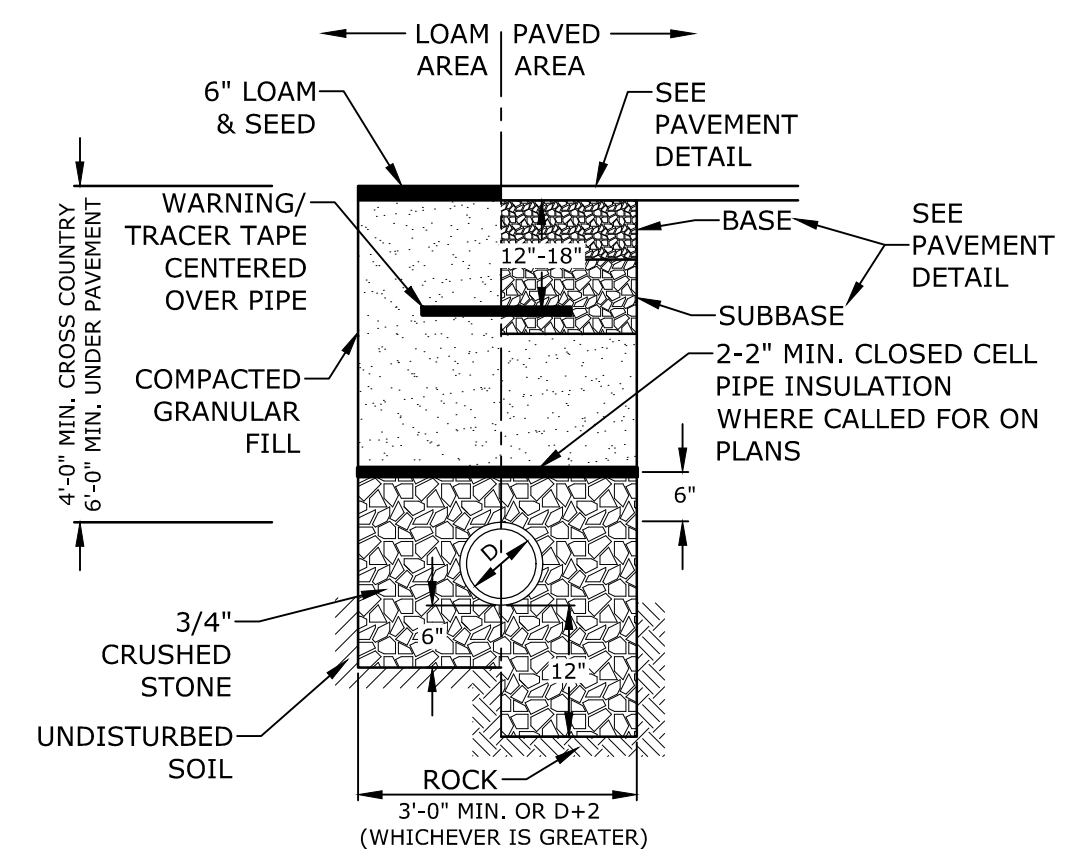
**1,000 GALLON GREASE TRAP**  
NO SCALE

- NOTES:**
1. STEEL REINFORCEMENT SHALL CONFORM TO LATEST ASTM SPECIFICATIONS: ASTM-A615 GRADE 60 REBAR.
  2. CONCRETE SHALL BE  $F_c=5,000$  PSI @ 28 DAYS MINIMUM.
  3. FLEXIBLE SLEEVES SHALL BE PROVIDED ON ALL PIPE CONNECTIONS.
  4. JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
  5. INLET SHALL PENETRATE AT LEAST 9" BELOW THE LIQUID LEVEL, BUT NOT DEEPER THAN THE OUTLET BAFFLE.
  6. OUTLET SHALL EXTEND BELOW THE SURFACE OF THE LIQUID EQUAL TO 40% OF THE LIQUID DEPTH (19").
  7. DESIGN LOADING SHALL BE: AASHTO-HS20-44, ASTM C-890-06.
  8. DESIGN SPECIFIED AS: ASTM C-1227-08, ASTM C-913-08.
  9. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY EJ. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
  10. GREASE TRAP SHALL BE PHOENIX PRECAST CONCRETE P/N: C-6420 OR EQUAL.
  11. TANK SHALL BE PUMPED AS NEEDED.



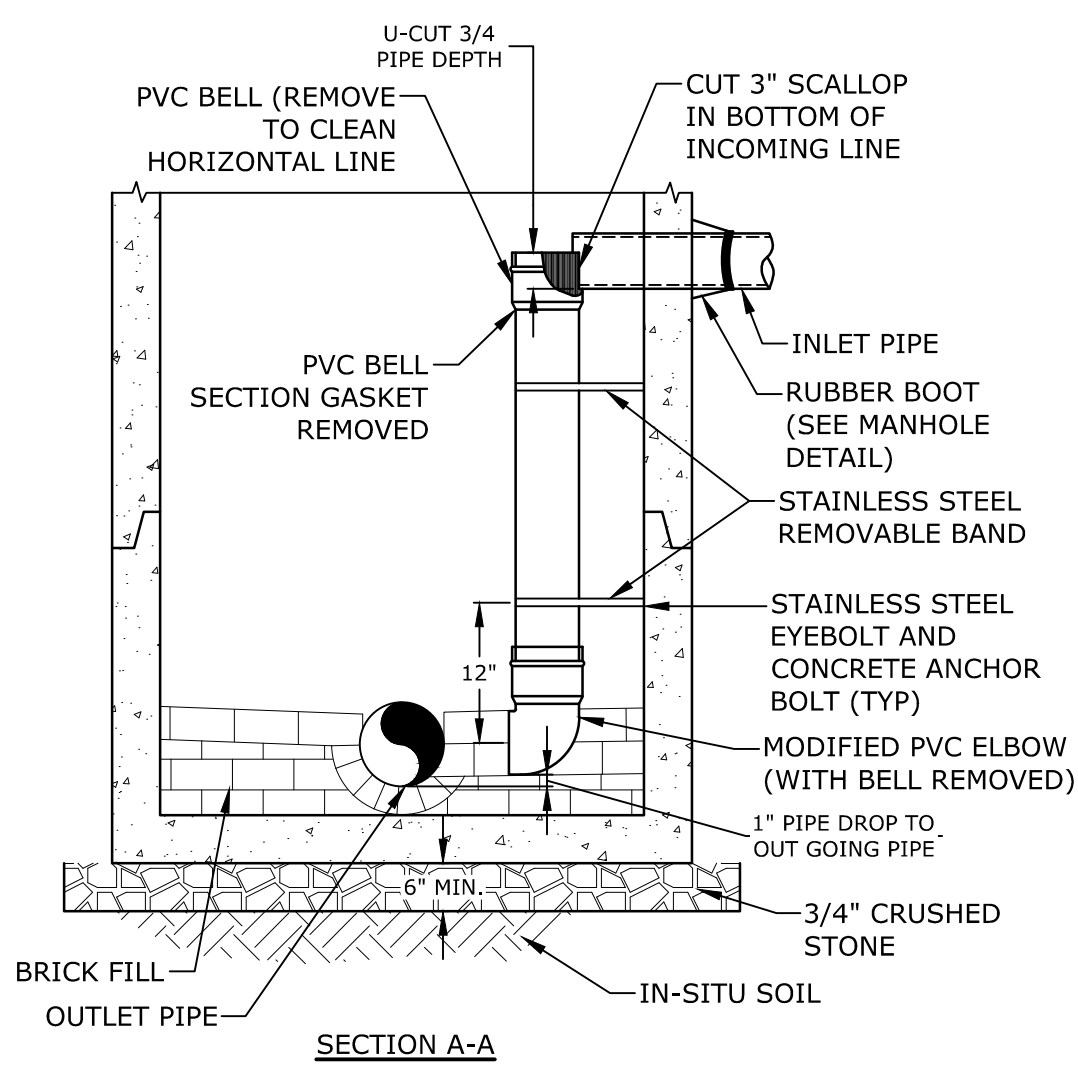
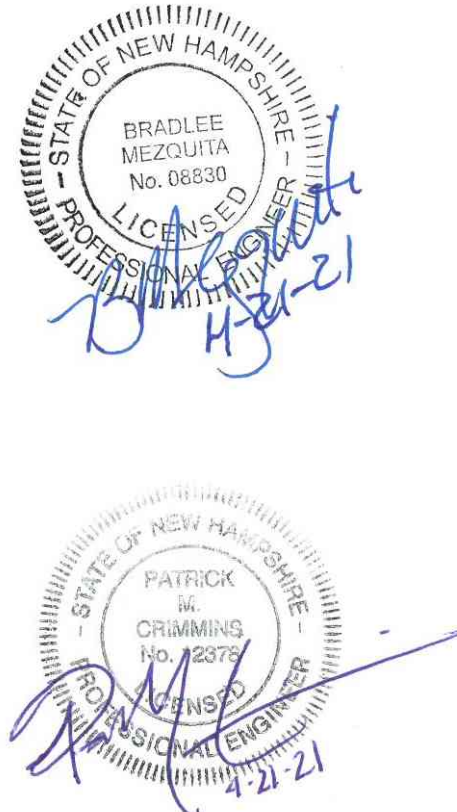
**MANHOLE JOINTS**  
NO SCALE

- NOTES:**
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF PORTSMOUTH DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
  2. PIPE TO MANHOLE JOINTS SHALL BE PER CITY OF PORTSMOUTH STANDARD.
  3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
  4. ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

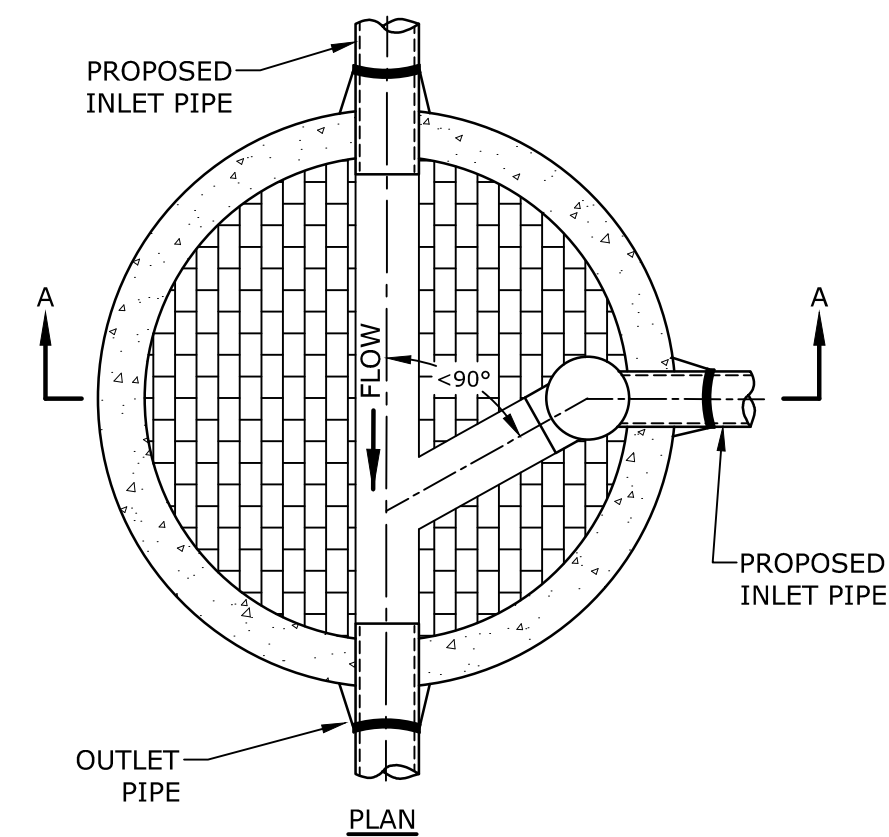


- NOTE:**
1. CRUSHED STONE BEDDING FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK. CRUSHED STONE SHALL ALSO COMPLETELY ENCASE THE PIPE AND COVER THE PIPE TO A GRADE 6" OVER THE TOP OF THE PIPE FOR THE ENTIRE WIDTH OF THE TRENCH.
  2. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

**SEWER SERVICE TRENCH**  
NO SCALE

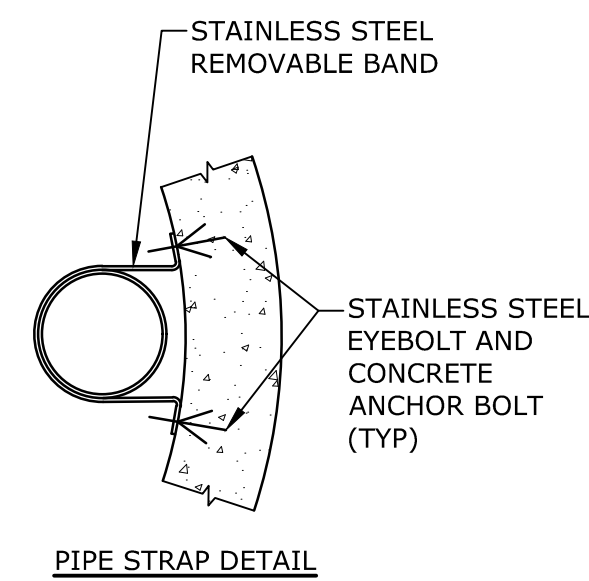


**SECTION A-A**

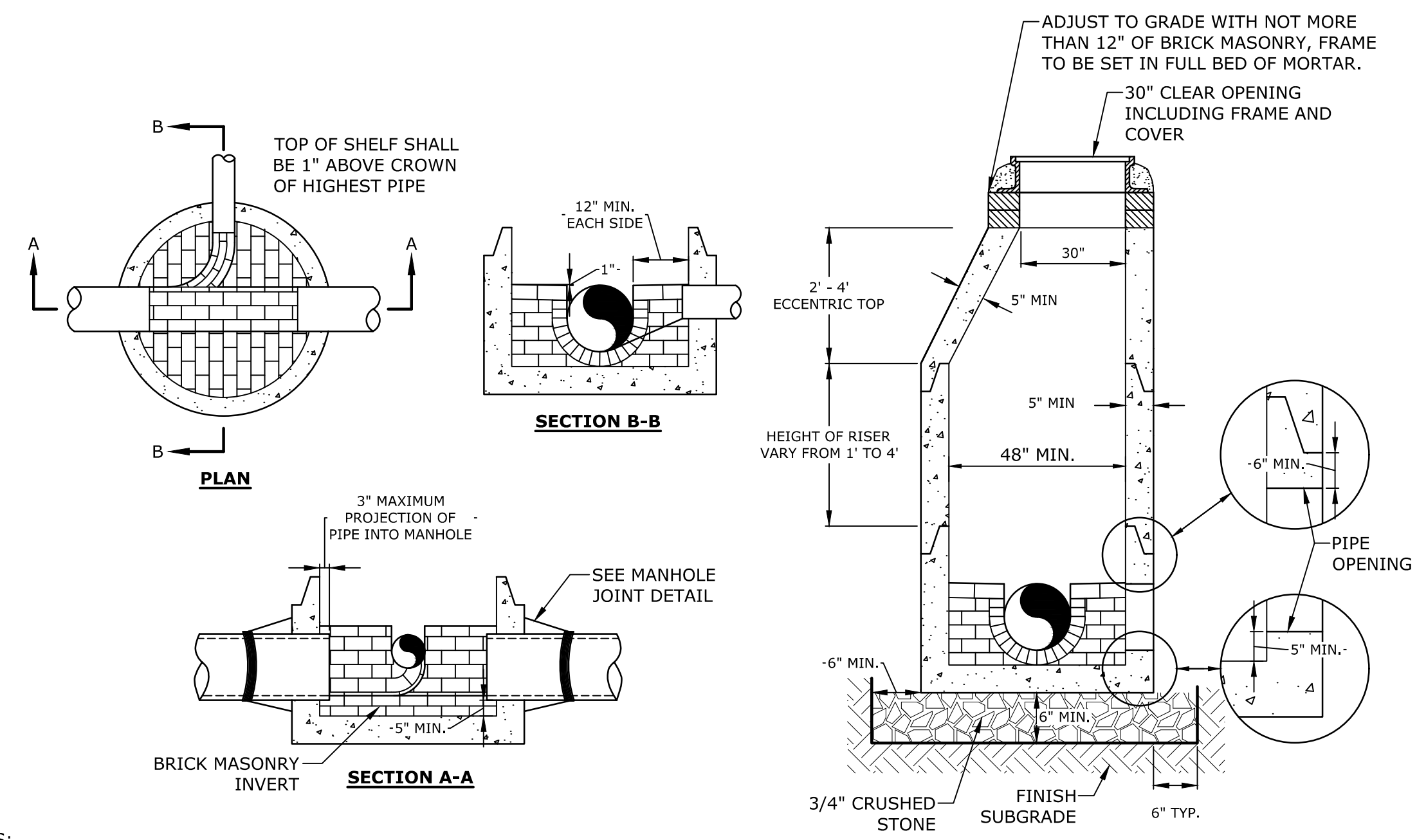


- NOTES:**
1. RISER PIPE AND FITTINGS SHALL BE THE SAME DIAMETER AS THE INLET PIPE AND SHALL BE CONSTRUCTED OF SDR35 PVC PIPE.
  2. SANITARY SEWER SHALL BE INSTALLED PER THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARDS.
  3. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

**INSIDE DROP MANHOLE**  
NO SCALE



**PIPE STRAP DETAIL**



**SEWER MANHOLE**  
NO SCALE

- NOTES:**
1. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.
  2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.
  3. INVERT BRICKS SHALL BE LAID ON EDGE.
  4. TWO (2) COATS OF BITUMINOUS WATERPROOF COATING SHALL BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.
  5. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY EJ. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
  6. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.
  7. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H20 LOADING, AND CONFORMING TO ASTM C478-06.

**Proposed Mixed Use Development**

CPI Management, LLC

53 Green Street  
Portsmouth, NH

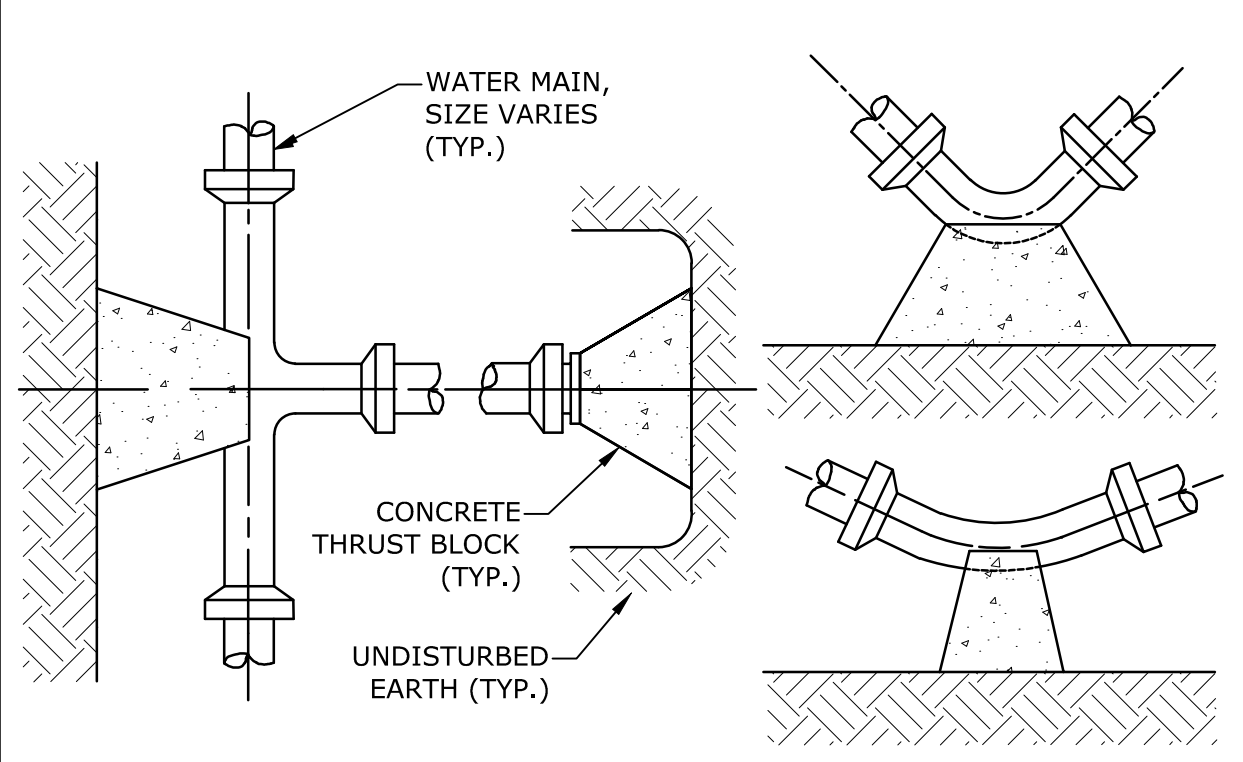
MARK	DATE	DESCRIPTION
C	4/21/2021	TAC Resubmission
B	3/22/2021	TAC & CC Submission
A	1/27/2021	CC Work Session
MARK	DATE	DESCRIPTION
PROJECT NO:	C0960-011	
DATE:	January 27, 2021	
FILE:	C0960-011_C-DTLS.DWG	
DRAWN BY:	AFS	
CHECKED:	NAH/PMC	
APPROVED:	BLM	

**DETAILS SHEET**

SCALE: AS SHOWN

**C-505**

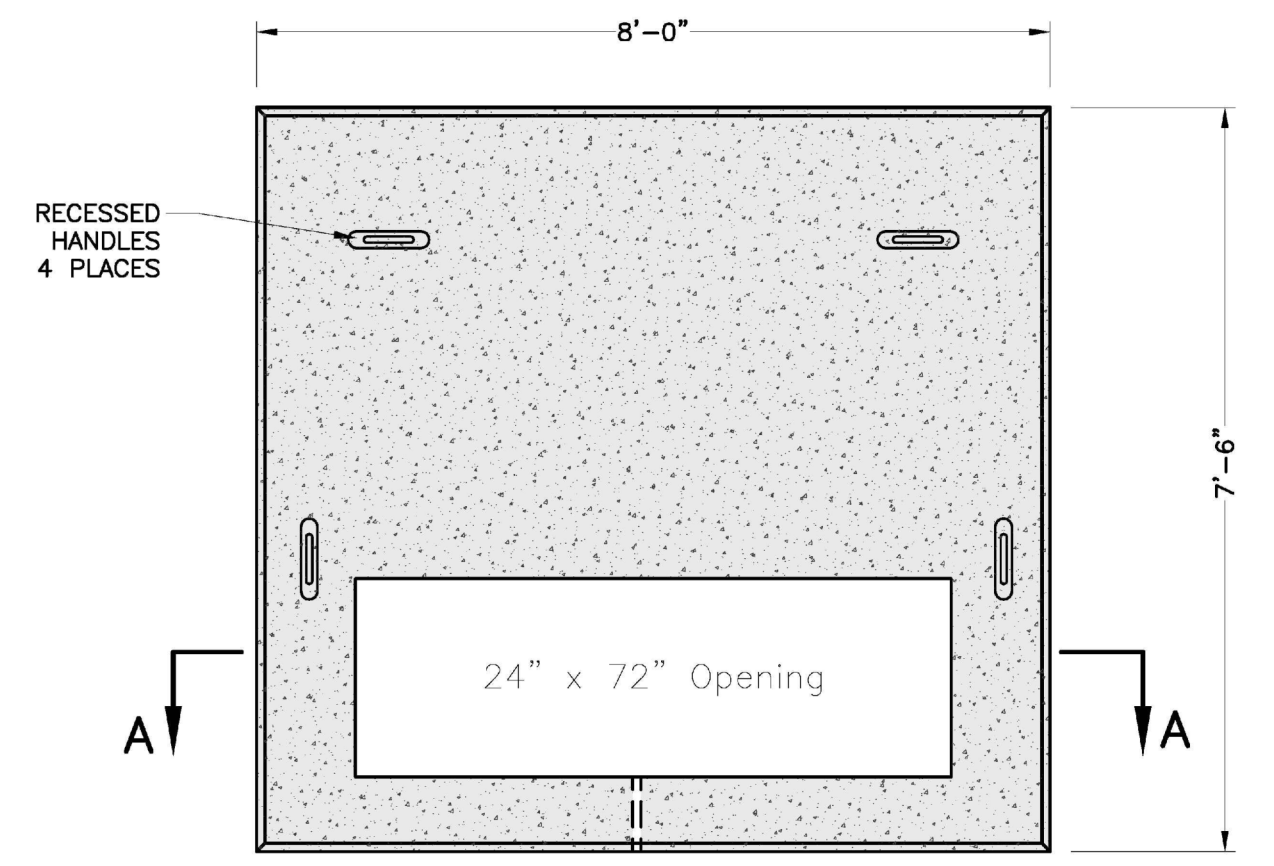




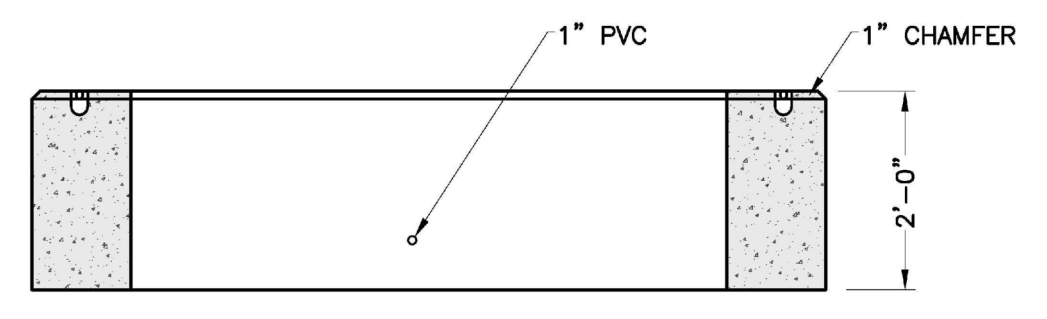
**THRUST BLOCKING DETAIL**  
NO SCALE

REACTION TYPE	PIPE SIZE				
	4"	6"	8"	10"	12"
A 90°	0.89	2.19	3.82	11.14	17.24
B 180°	0.65	1.55	2.78	8.38	12.00
C 45°	0.48	1.19	2.12	6.02	9.32
D 22-1/2°	0.25	0.60	1.06	3.08	4.74
E 11-1/4°	0.13	0.30	0.54	1.54	2.38

- TEST PRESSURE = 200PSI
- NOTES:
- POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
  - ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
  - PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
  - WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
  - INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE WITH CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.



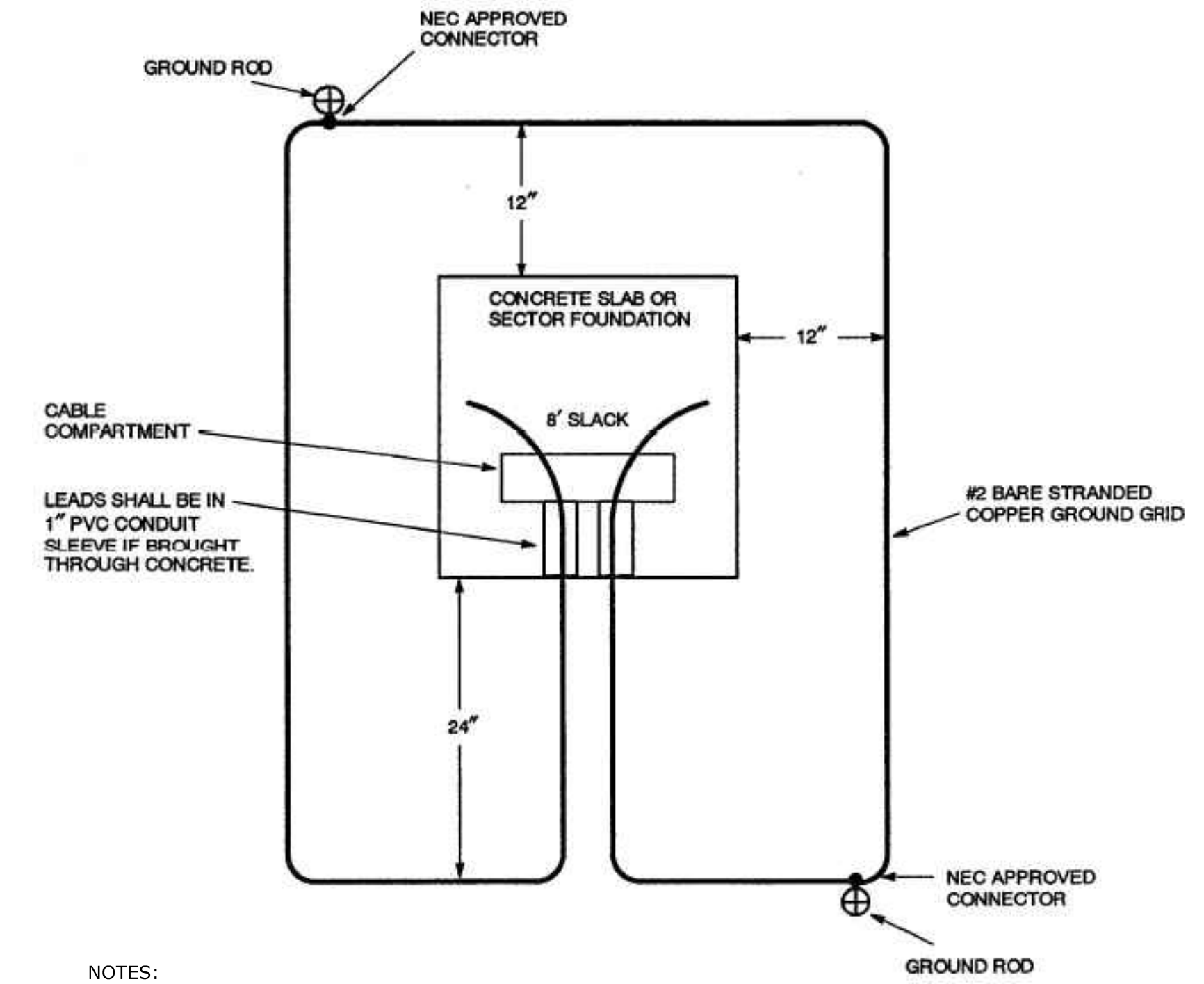
**PLAN**



**SECTION A-A**

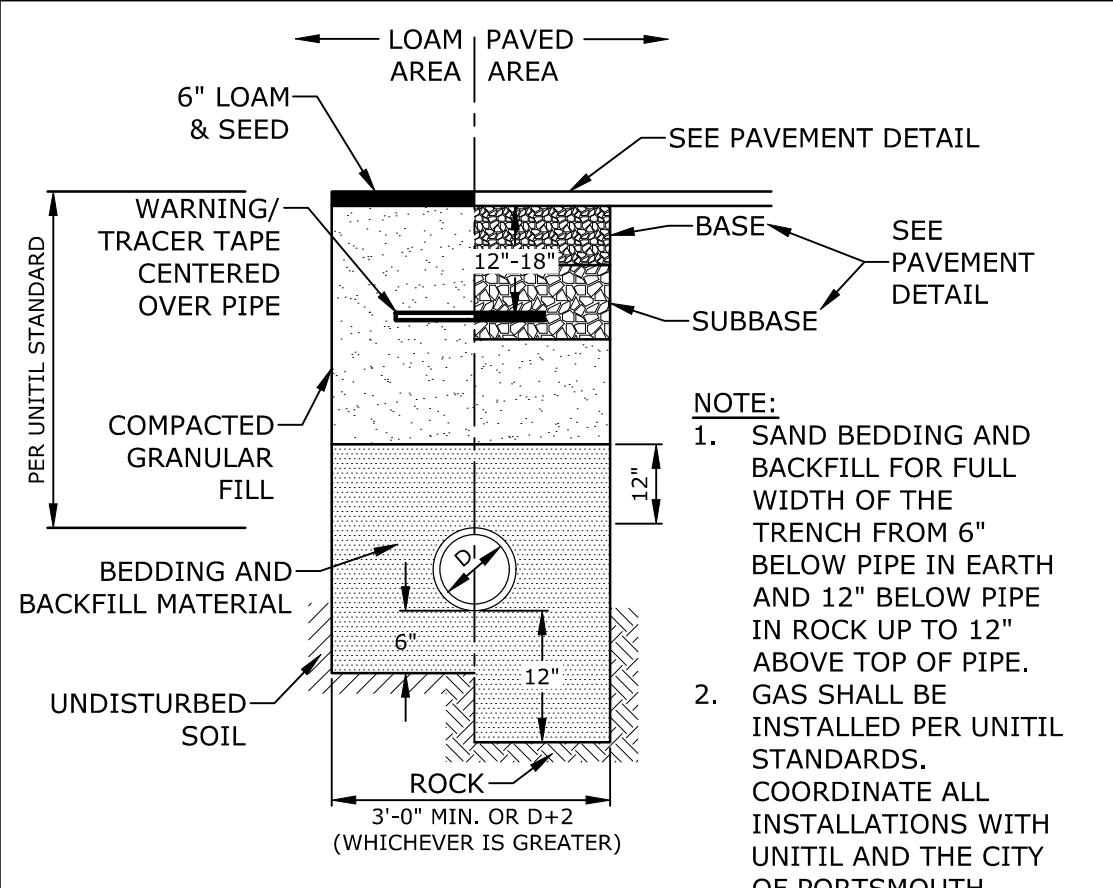
- NOTES:
- DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
  - CONCRETE MINIMUM STRENGTH - 4,000 PSI @ 28 DAYS
  - STEEL REINFORCEMENT - ASTM A615, GRADE 60
  - PAD MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS

**3-PHASE TRANSFORMER PAD**  
NO SCALE

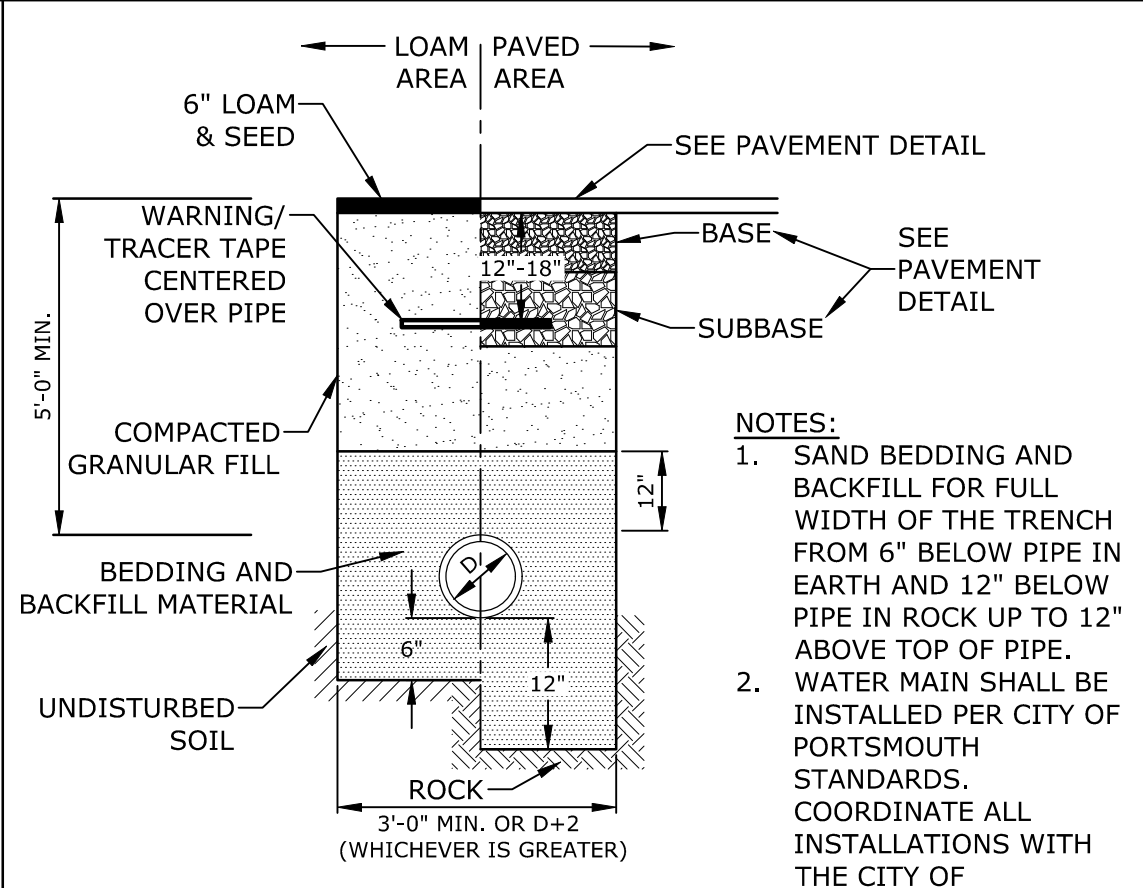


**PAD-MOUNTED EQUIPMENT GROUNDING GRID DETAIL**  
NO SCALE

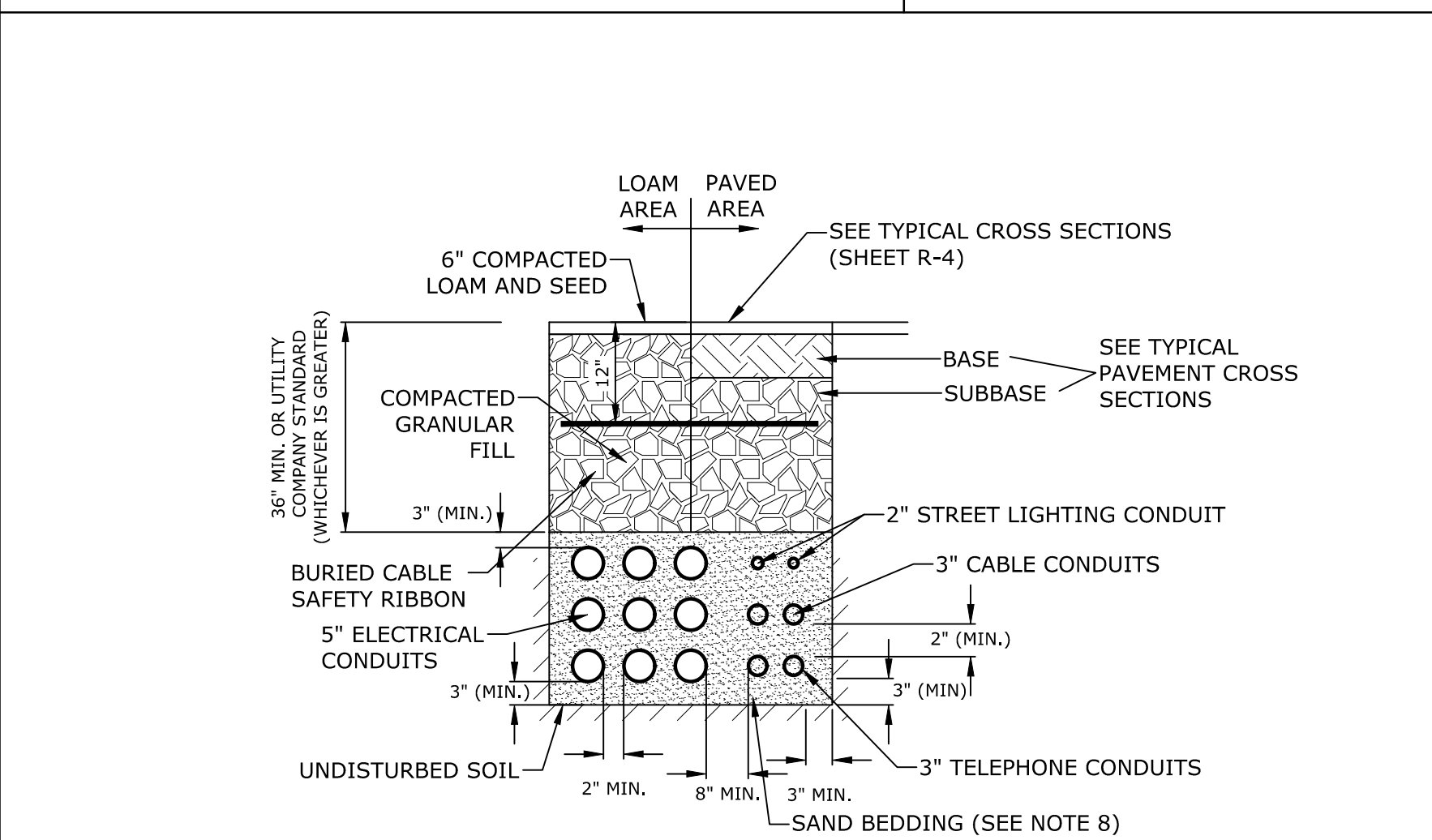
- NOTES:
- THE GROUND GRID SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AND IS TO BE BURIED AT LEAST 12 INCHES BELOW GRADE. EIGHT FEET OF EXTRA WIRE FOR EACH GROUND GRID LEG SHALL BE LEFT EXPOSED IN THE CABLE COMPARTMENT TO ALLOW FOR THE CONNECTION TO THE TRANSFORMER. THE TWO 8-FOOT GROUND RODS MAY BE EITHER GALVANIZED STEEL OR COPPERWELD AND THEY SHALL BE CONNECTED TO THE GRID WITH NEC APPROVED CONNECTORS.



**GAS TRENCH**  
NO SCALE

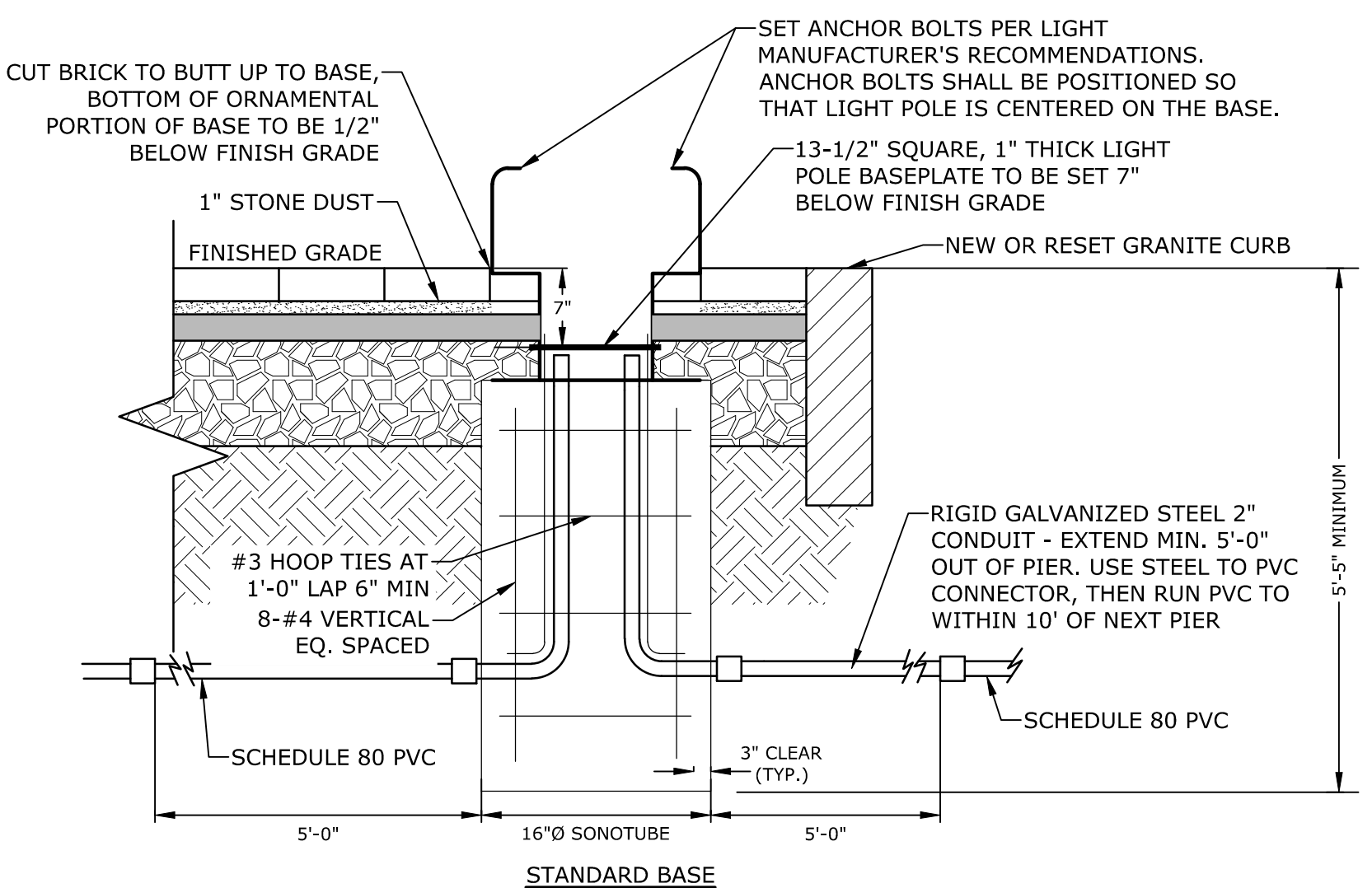


**WATER TRENCH**  
NO SCALE



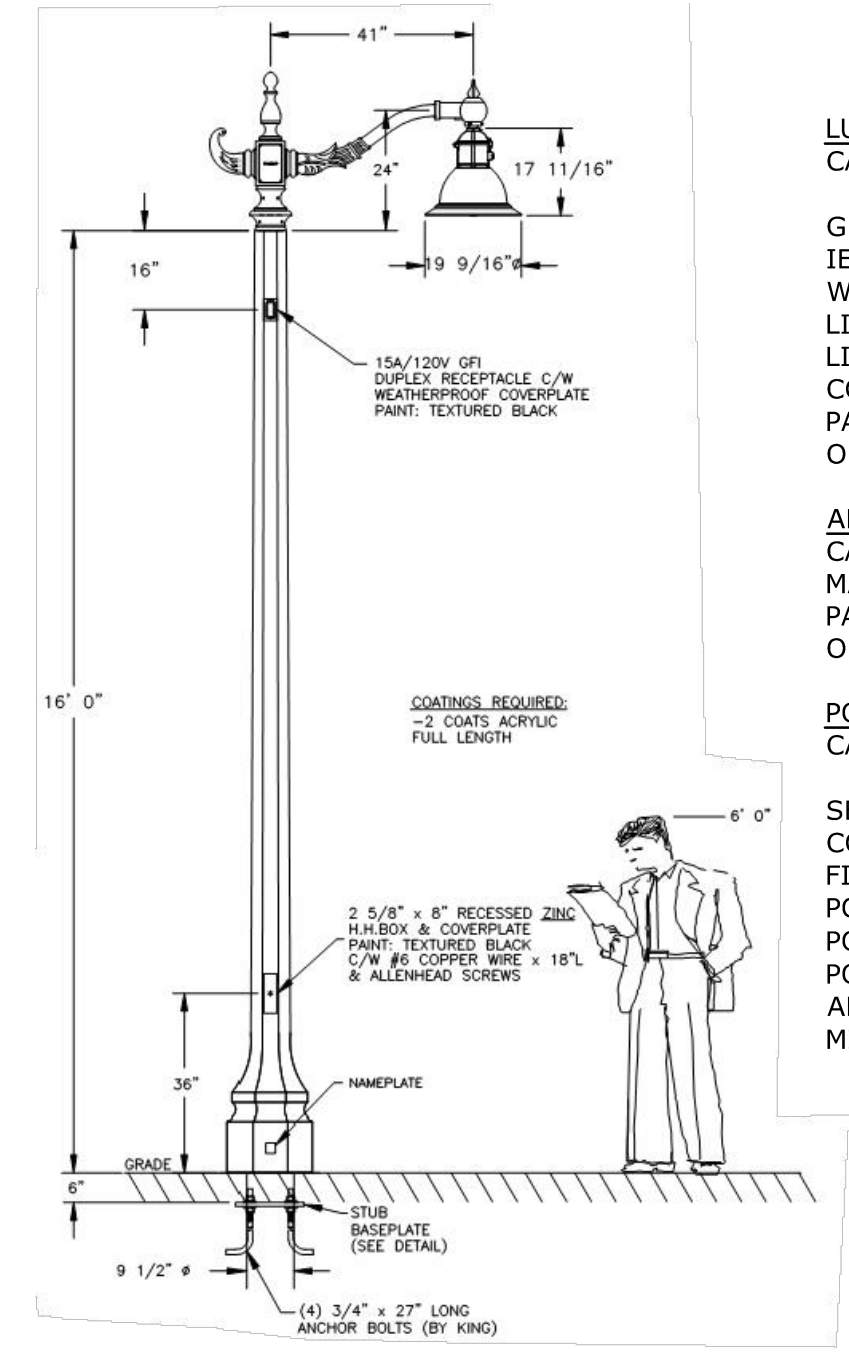
**ELECTRICAL AND COMMUNICATION CONDUIT**  
NO SCALE

- NOTES:
- NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
  - DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
  - NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
  - A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
  - UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
  - ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
  - ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
  - SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, OR WHERE SHOWN ON THE UTILITIES PLAN.



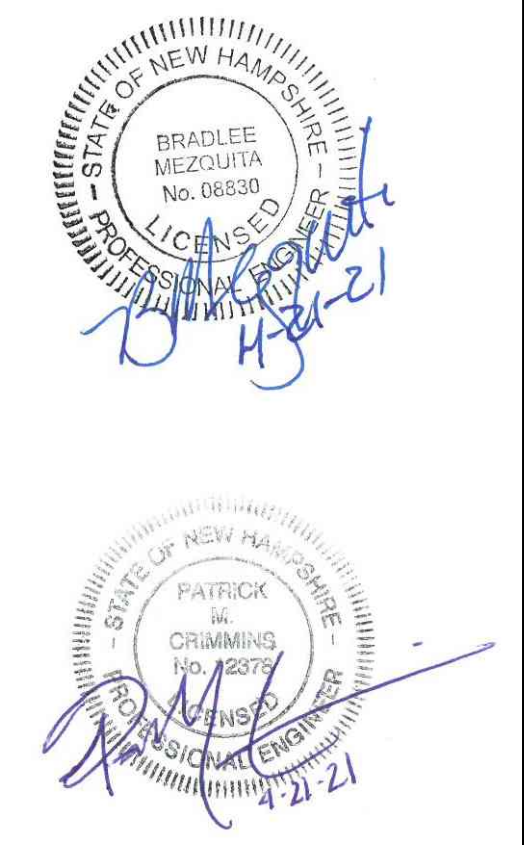
**NORTH END LIGHT FIXTURE BASE**  
NO SCALE

- NOTES:
- REFER TO ELECTRICAL PLANS FOR WIRING DETAILS.
  - CONCRETE: 4000 PSI, AIR ENTRAINED STEEL: 60 KSI
  - LIGHT POLE FOUNDATIONS SHALL BE PLACED PRIOR TO INSTALLATION OF BRICK PAVERS.
  - CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL, TO INCLUDE PERFORMANCE SPECIFICATIONS, CALCULATIONS AND NH LICENSED STRUCTURAL ENGINEER'S STAMP FOR LIGHT POLE FOUNDATION.
  - STANDARD BASE SHALL BE CONSTRUCTED UNLESS THERE IS CONFLICT WITH THE EXISTING DUCT BANK. SPREAD FOOTING BASE SHALL BE USED IN LIEU OF STANDARD BASE IN LOCATIONS WHERE TOP OF DUCT BANK ELEVATION WILL CONFLICT WITH STANDARD POLE BASE DEPTH. CONTRACTOR SHALL VERIFY LOCATIONS WHERE SPREAD FOOTINGS ARE REQUIRED PRIOR TO CONSTRUCTION. SEE NOTE#4 FOR SUBMITTAL REQUIREMENTS.



**DISTRICT STANDARD LIGHT POLE & FIXTURE**  
NO SCALE

- LUMINAIRE SPECIFICATIONS:**  
 CATALOGUE NO.: K729-P4FL-II-60(SSL)  
 -7030-120:277-3K S/F KPL20  
 GLOBE MAT'L: FLAT ARRAY, CLEAR FLAT LENS  
 TYPE II  
 WATTAGE: 60W (7030 SERIES)  
 LIGHT SOURCE: SOLID STATE LIGHTING  
 LINE VOLTAGE: 120:277V  
 CCT: 3000K  
 PAINT: TEXTURED BLACK  
 OPTIONS: S/F KPL-20 LEVELING DEVICE
- ARM SPECIFICATIONS:**  
 CATALOGUE NO.: (MOD.) KA72-T-1-3  
 MATERIAL: ALUMINUM  
 PAINT: TEXTURED BLACK  
 OPTIONS: KPL20 LEVELING DEVICE
- POLE SPECIFICATIONS:**  
 CATALOGUE NO.: KBH16-G-S11-SBP  
 C/W 140-30/100 & DR  
 OCTAGONAL  
 ECLIPSE  
 FINISH: POLISHED  
 POLE TOP: 6 3/8\"/>



**Proposed Mixed Use Development**

CPI Management, LLC

53 Green Street  
Portsmouth, NH

MARK	DATE	DESCRIPTION
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PROJECT NO: C0960-011  
 DATE: January 27, 2021  
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 DRAWN BY: AFS  
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 APPROVED: BLM

**DETAILS SHEET**

SCALE: AS SHOWN

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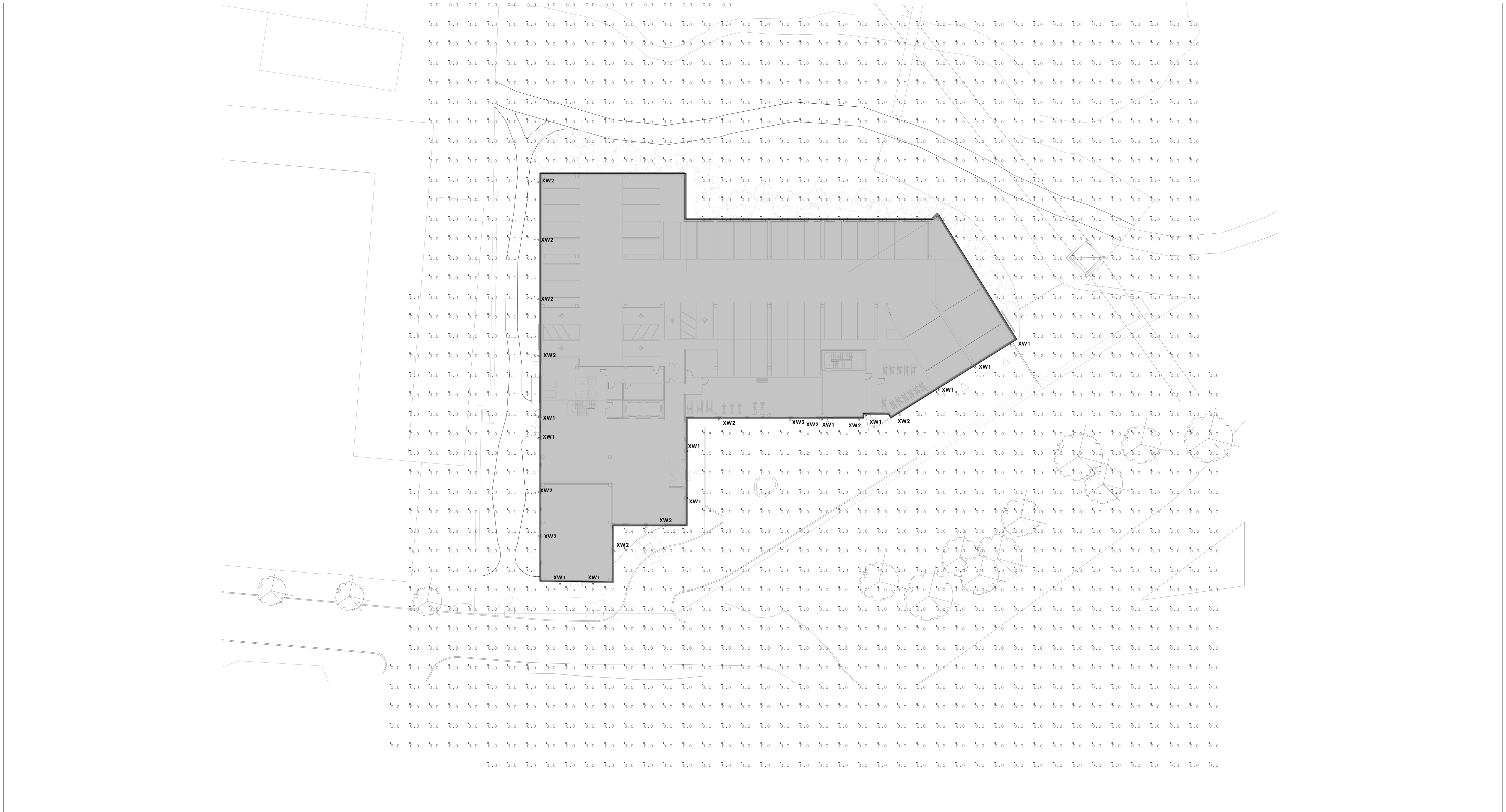












Luminaire Schedule				
Symbol	Qty	Label	Arrangement	Description
☐	11	XW1	SINGLE	WS-W54614-XX
☐	13	XW2	SINGLE	WP-LED119-30

Calculation Summary						
Label	Units	Avg	Max	Min	Avg/Min	Max/Min
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Date	Comments
XX/XX/XX	XXXXXXXXXX

Drawn By:	Checked By:	Date:	Specifier:	Scale:
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**53 Green Street**  
Portsmouth, NH





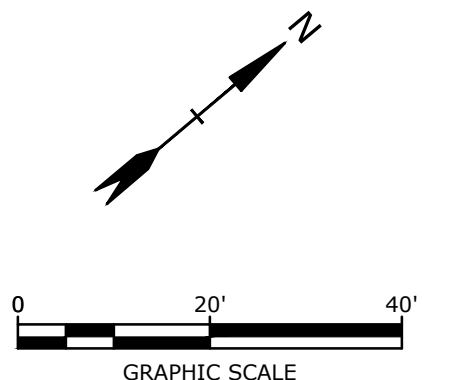


PROPOSED MIXED USE DEVELOPMENT  
53 GREEN STREET  
PORTSMOUTH, NEW HAMPSHIRE

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SITE OVERLAY EXHIBIT



**Tighe & Bond**

Last Save Date: April 20, 2021, 10:45 AM By: ASELLAR  
Plot Date: Wednesday, April 21, 2021 Plotted By: Alexander Seiler  
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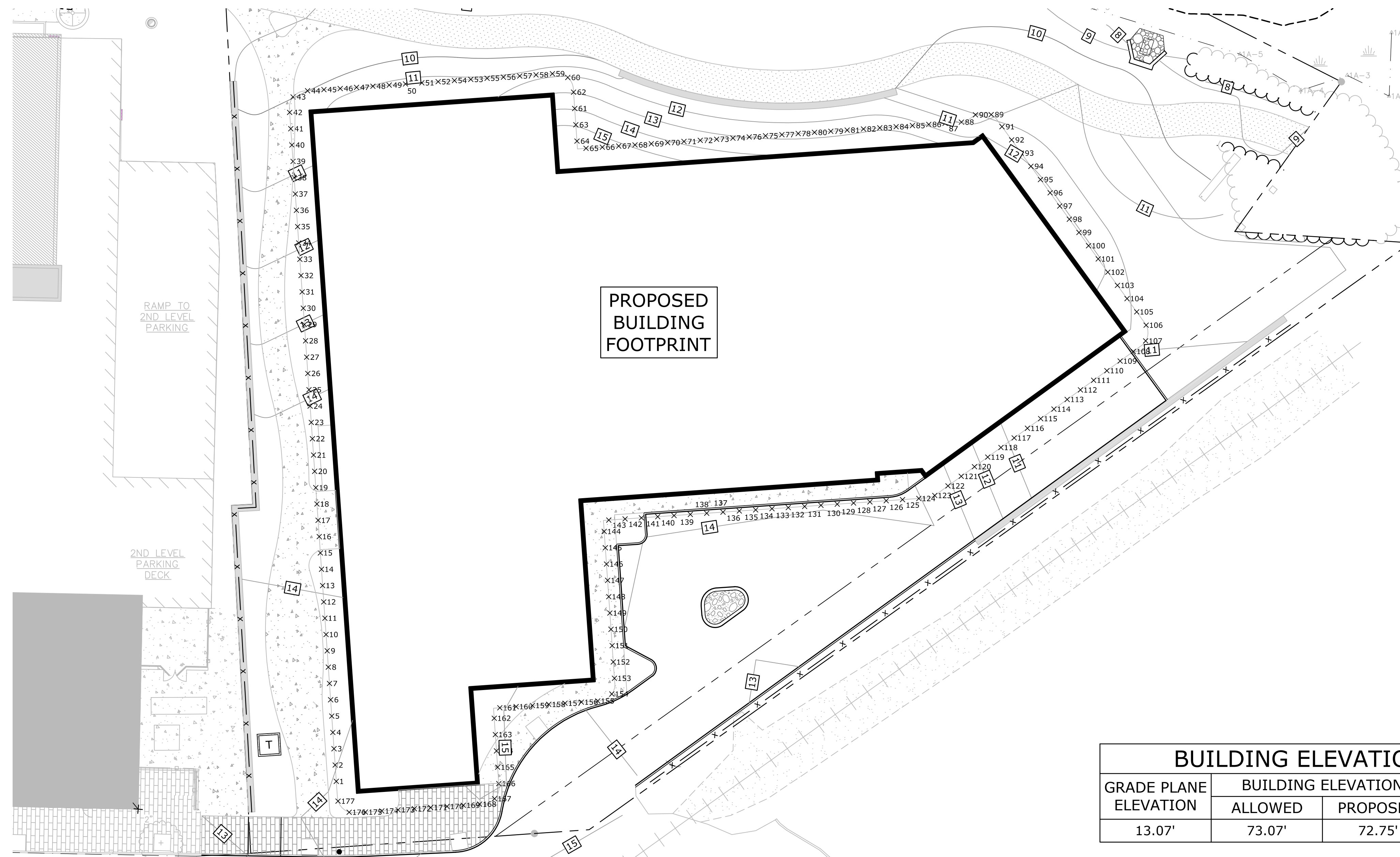


**PROPOSED MIXED USE DEVELOPMENT  
53 GREEN STREET  
PORTSMOUTH, NEW HAMPSHIRE**

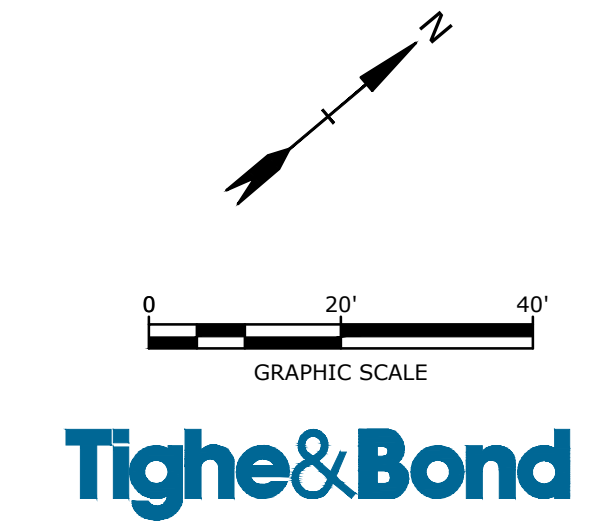
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**GRADE PLANE EXHIBIT**

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2	13.950	22	14.450	42	10.250	62	11.250	82	14.250	102	11.900	122	13.000	142	14.150
3	13.900	23	14.350	43	10.000	63	13.000	83	14.000	103	11.750	123	13.700	143	14.650
4	13.850	24	14.150	44	10.000	64	14.750	84	13.000	104	11.400	124	14.000	144	14.650
5	13.900	25	13.950	45	11.000	65	15.500	85	13.000	105	11.300	125	14.100	145	14.650
6	13.850	26	13.750	46	11.250	66	15.000	86	12.750	106	11.200	126	14.100	146	14.700
7	13.850	27	13.500	47	11.500	67	15.000	87	12.500	107	11.100	127	14.100	147	14.700
8	13.800	28	13.250	48	11.500	68	15.000	88	12.000	108	11.000	128	14.050	148	14.700
9	13.850	29	13.050	49	11.500	69	15.000	89	11.000	109	10.150	129	14.050	149	14.700
10	13.900	30	12.750	50	11.500	70	15.000	90	11.500	110	10.600	130	14.050	150	14.600
11	13.950	31	12.500	51	11.500	71	15.000	91	11.000	111	10.600	131	14.050	151	14.500
12	13.950	32	12.250	52	11.500	72	15.000	92	11.500	112	10.600	132	14.050	152	14.400
13	14.250	33	12.150	53	11.250	73	15.000	93	12.000	113	10.750	133	14.050	153	14.400
14	14.550	34	11.950	54	11.500	74	15.000	94	12.000	114	10.750	134	14.050	154	14.300
15	14.650	35	11.700	55	11.250	75	15.000	95	12.000	115	10.750	135	14.100	155	14.300
16	14.750	36	11.500	56	11.150	76	15.000	96	12.000	116	10.850	136	14.100	156	14.350
17	14.750	37	11.250	57	11.000	77	15.000	97	12.000	117	10.950	137	14.100	157	14.450
18	14.750	38	11.050	58	11.000	78	15.000	98	12.000	118	11.050	138	14.100	158	14.500
19	14.750	39	10.900	59	11.000	79	15.000	99	12.000	119	11.700	139	14.100	159	14.550
20	14.650	40	10.700	60	11.100	80	15.000	100	12.250	120	12.250	140	14.150	160	14.550
														AVERAGE GRADE PLANE	13.07



BUILDING ELEVATION AND HEIGHT				
GRADE PLANE ELEVATION	BUILDING ELEVATION		BUILDING HEIGHT	
	ALLOWED	PROPOSED	ALLOWED	PROPOSED
13.07'	73.07'	72.75'	60.00'	59.55



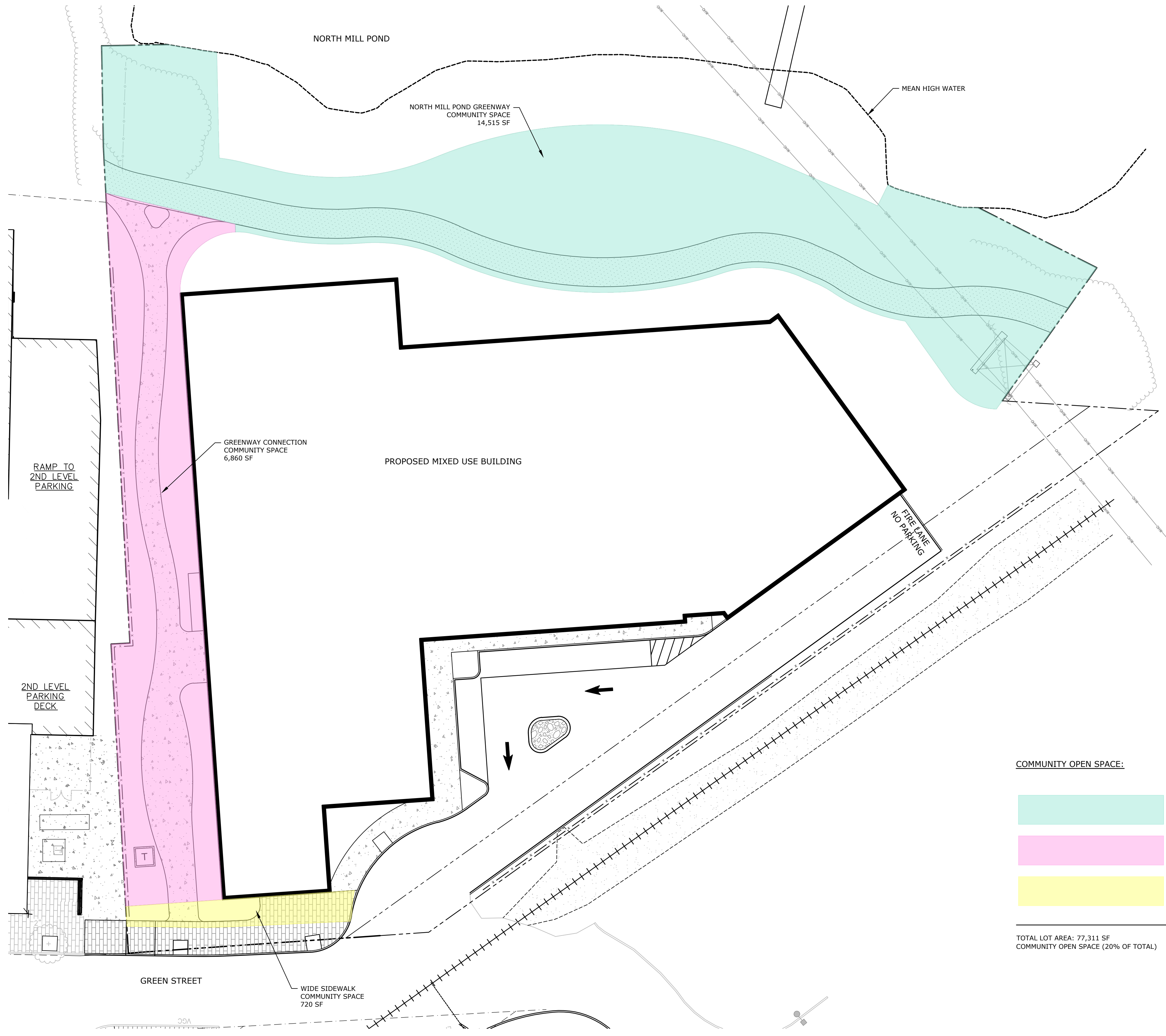
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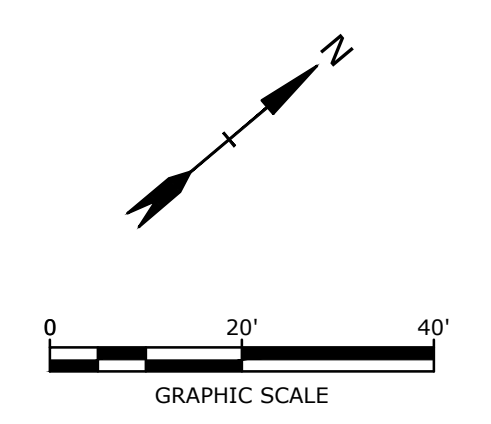
**PROPOSED MIXED USE DEVELOPMENT  
53 GREEN STREET  
PORTSMOUTH, NEW HAMPSHIRE**

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**COMMUNITY SPACE EXHIBIT**



COMMUNITY OPEN SPACE:		REQUIRED	PROVIDED
<span style="display: inline-block; width: 20px; height: 10px; background-color: #ADD8E6; border: 1px solid black;"></span>	NORTH MILL POND GREENWAY COMMUNITY SPACE		14,515 SF
<span style="display: inline-block; width: 20px; height: 10px; background-color: #FF69B4; border: 1px solid black;"></span>	GREENWAY CONNECTION COMMUNITY SPACE		6,860 SF
<span style="display: inline-block; width: 20px; height: 10px; background-color: #FFFF00; border: 1px solid black;"></span>	WIDE SIDEWALK COMMUNITY SPACE		720 SF
<b>TOTAL LOT AREA: 77,311 SF</b>			
<b>COMMUNITY OPEN SPACE (20% OF TOTAL)</b>		<b>15,462 SF</b>	<b>22,095 SF</b>



**Tighe & Bond**

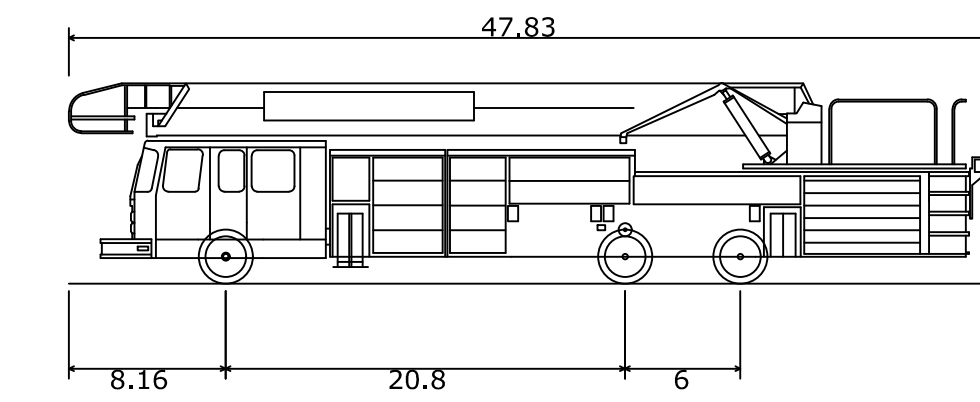
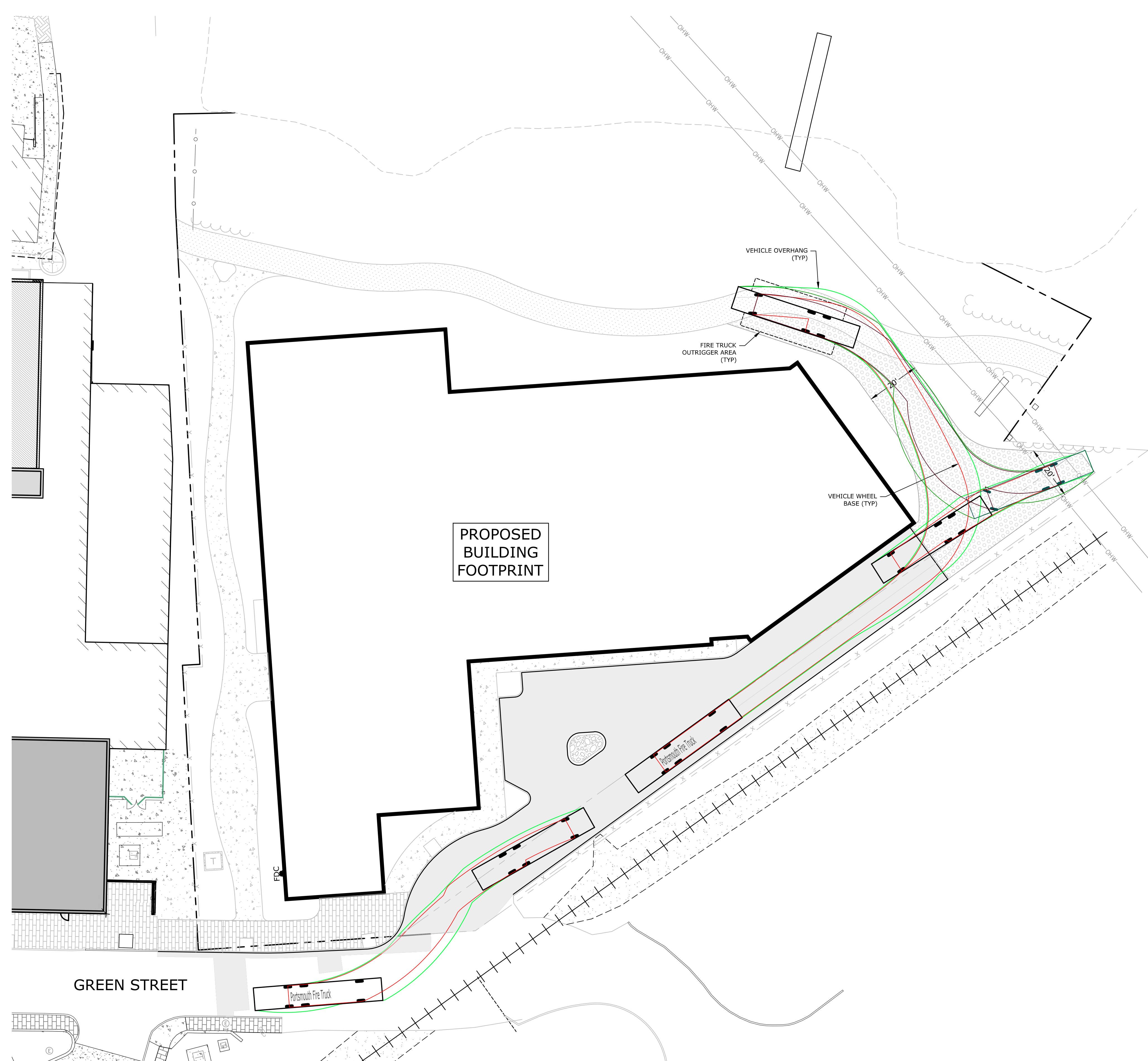
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**PROPOSED MIXED USE DEVELOPMENT  
53 GREEN STREET  
PORTSMOUTH, NEW HAMPSHIRE**

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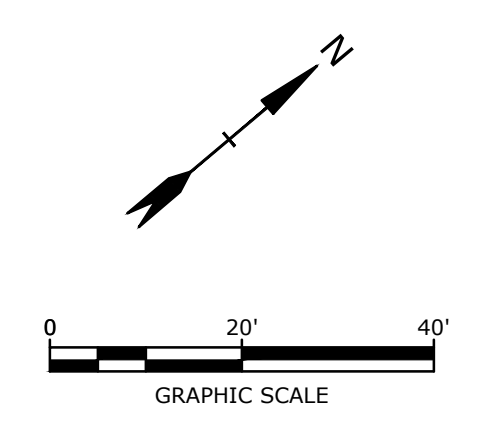
**FIRE TRUCK TURNING EXHIBIT**



Portsmouth Fire Truck	
Overall Length	47.830ft
Overall Width	8.500ft
Overall Body Height	10.432ft
Min Body Ground Clearance	0.862ft
Track Width	8.000ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	38.00°

**LEGEND**

- VEHICLE WHEEL BASE
- VEHICLE OVERHANG
- VEHICLE WHEEL BASE (REVERSE)
- VEHICLE OVERHANG (REVERSE)



**Tighe & Bond**

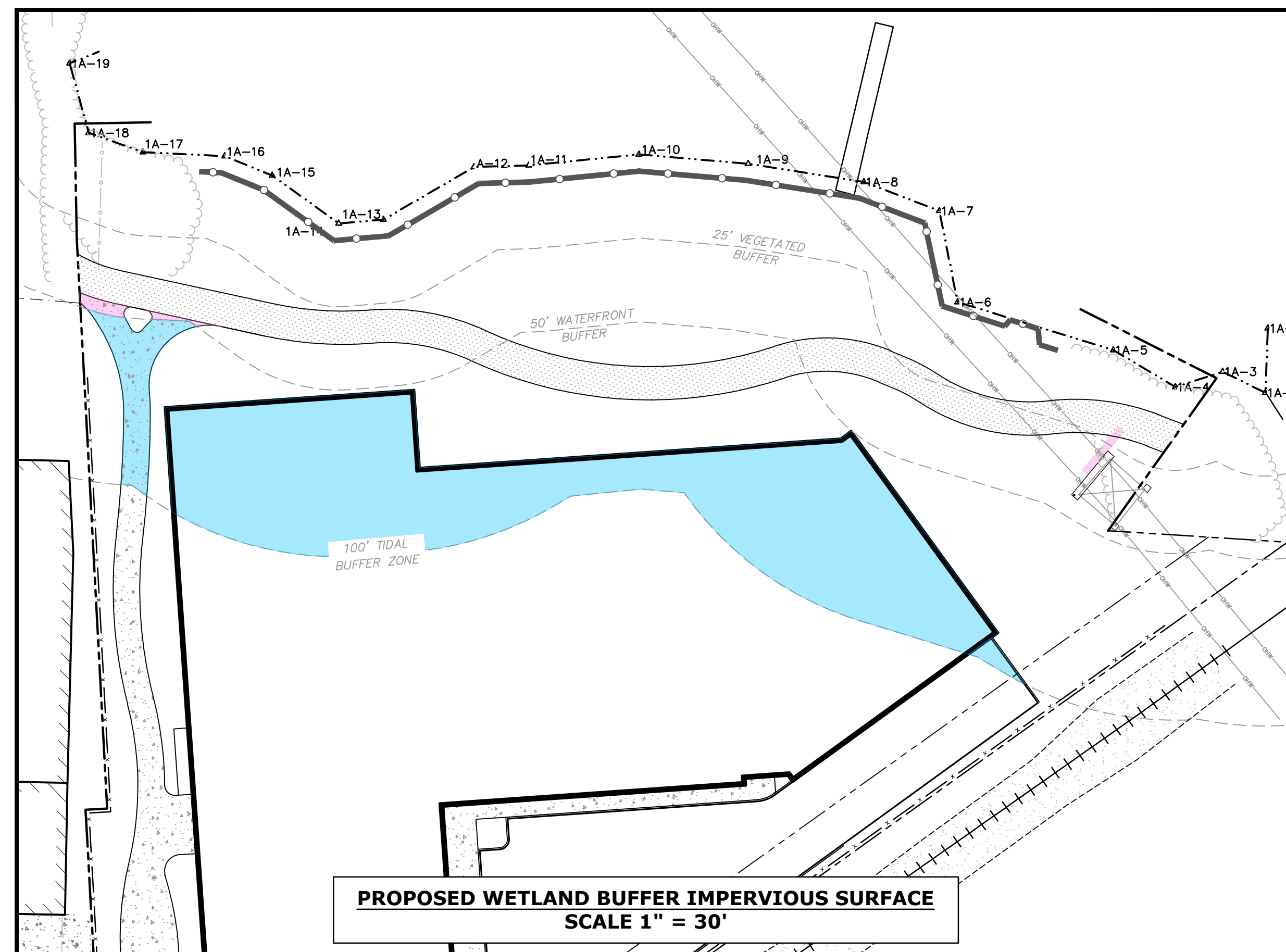
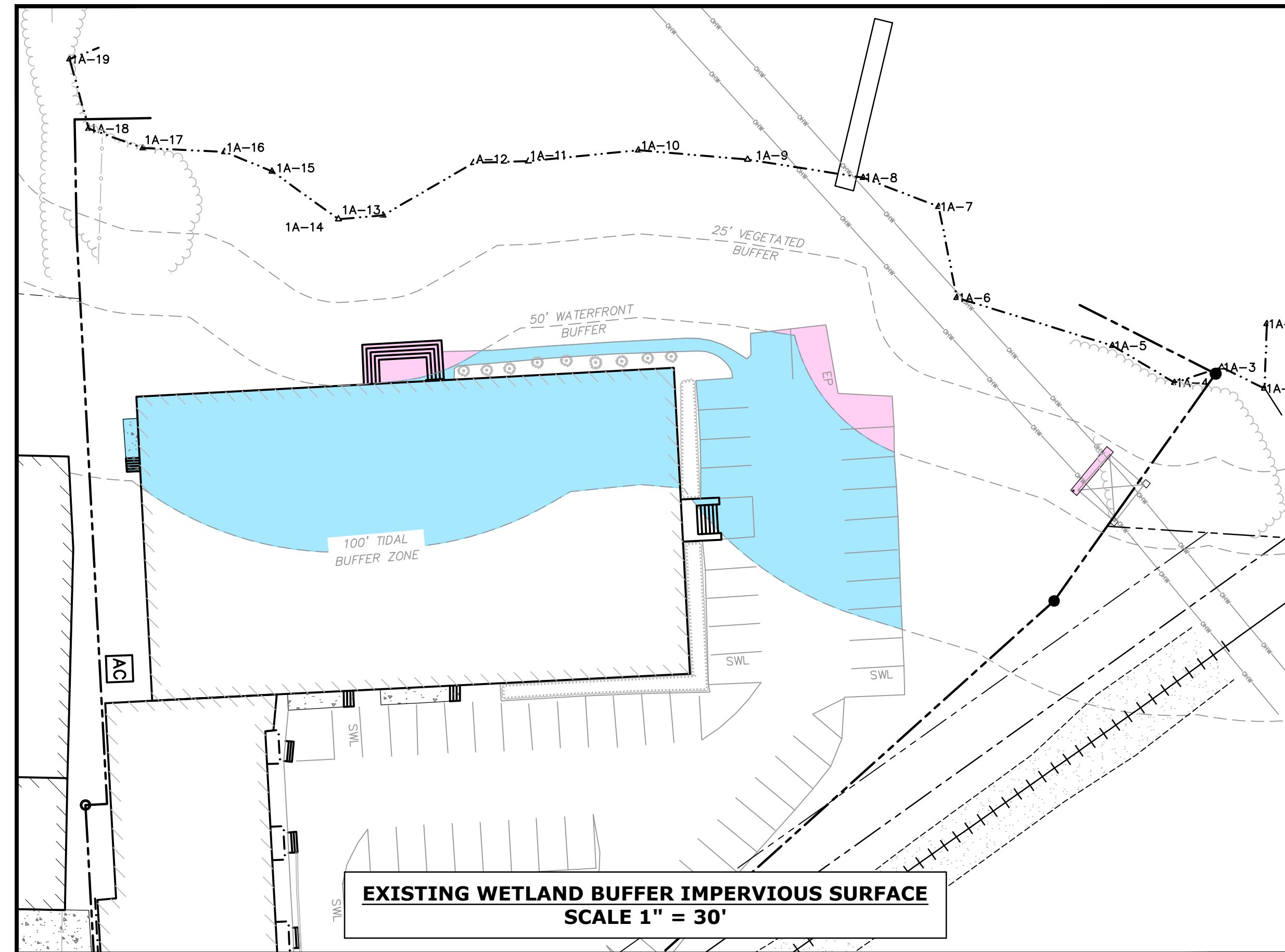
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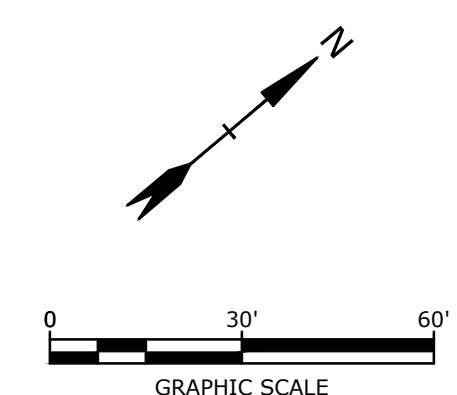
**PROPOSED MIXED USE DEVELOPMENT  
53 GREEN STREET**

---

**WETLAND BUFFER IMPERVIOUS  
SURFACE EXHIBIT**



Impervious Surface Within Buffer Area		
Local Wetland Buffer Setback	Impervious Surface	
	Existing Condition	Proposed Development
0 - 25 FT	0 SF	0 SF
25 - 50 FT	745 SF	118 SF
50 - 100 FT	10,836 SF	8,539 SF
<b>Total Impervious Surface</b>	<b>11,581 SF</b>	<b>8,657 SF</b>
<b>Net Impervious Surface</b>	<b>-2,924 SF</b>	



**Tighe & Bond**

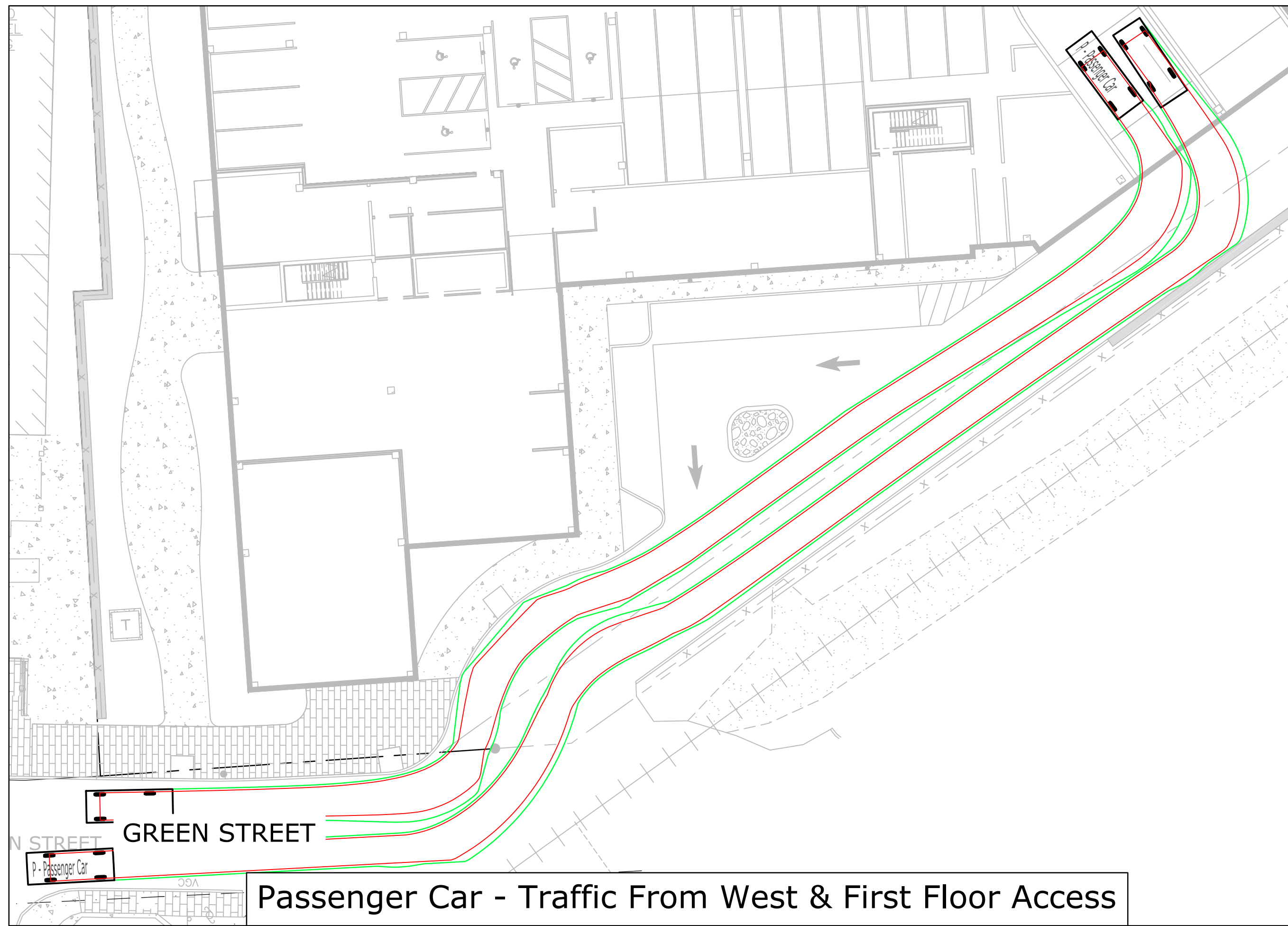
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**PROPOSED MIXED USE DEVELOPMENT  
53 GREEN STREET  
PORTSMOUTH, NEW HAMPSHIRE**

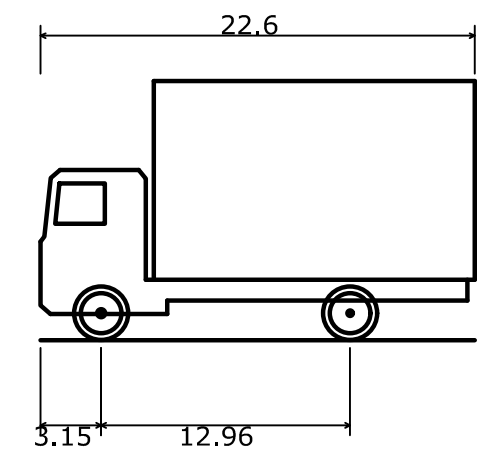
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**SITE TRAFFIC EXHIBIT**

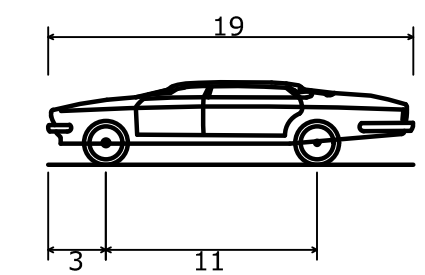


**Passenger Car - Traffic From West & First Floor Access**

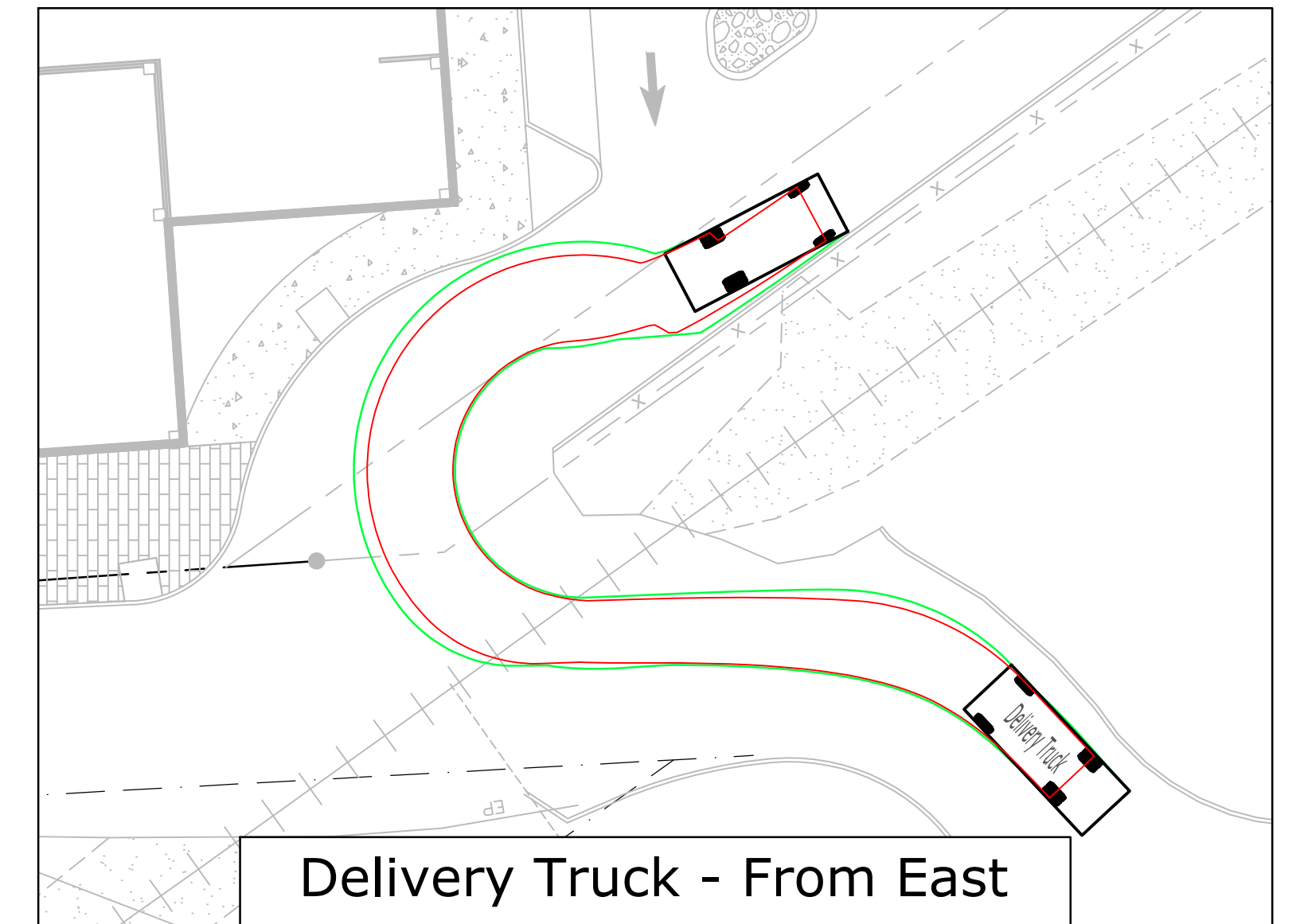
- LEGEND**
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  - VEHICLE OVERHANG
  - VEHICLE WHEEL BASE (REVERSE)
  - VEHICLE OVERHANG (REVERSE)



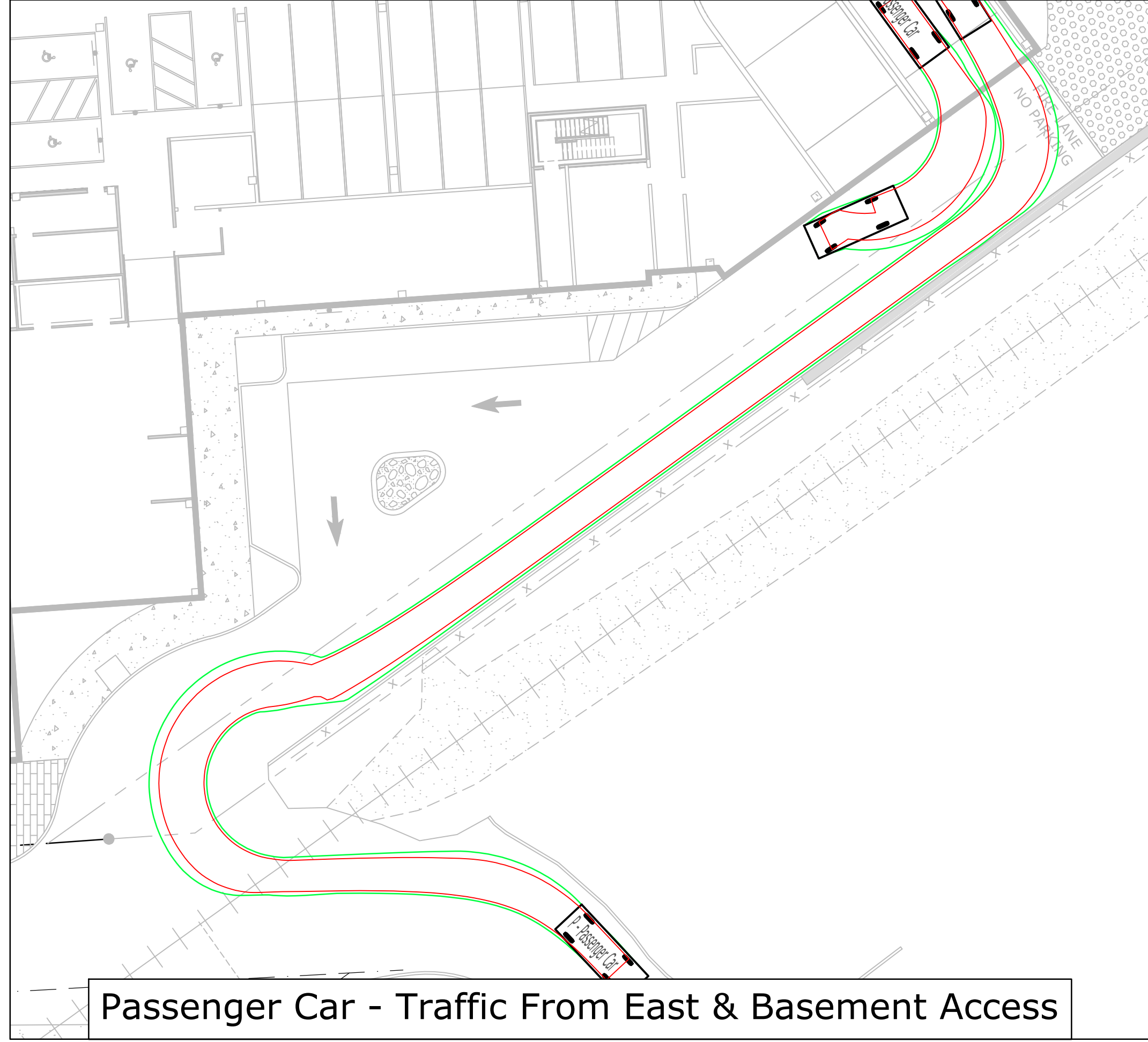
Delivery Truck  
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 Track Width 8.000ft  
 Lock-to-lock time 5.00s  
 Max Steering Angle (Virtual) 31.80°



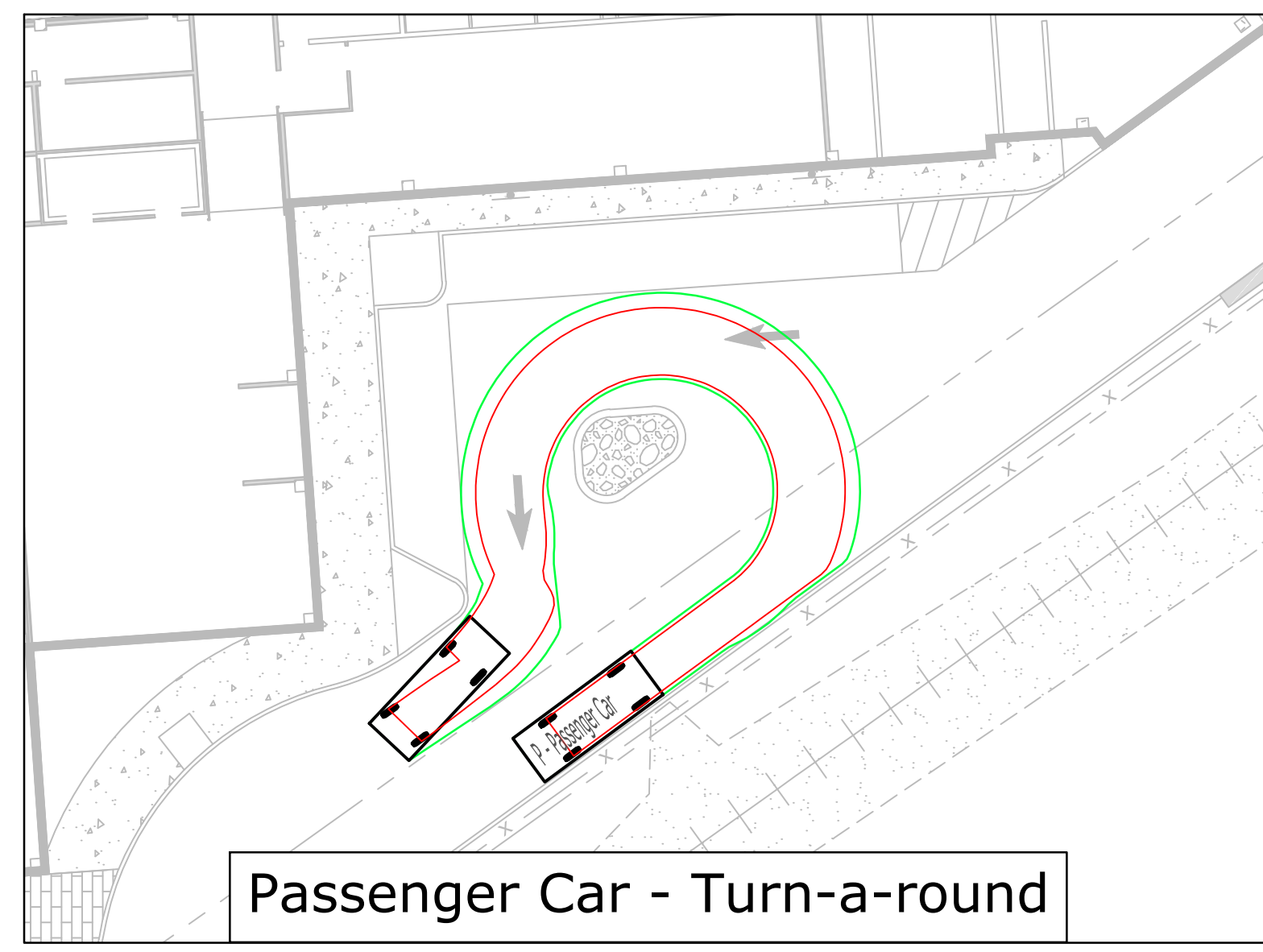
P - Passenger Car  
 Overall Length 19.000ft  
 Overall Width 7.000ft  
 Overall Body Height 4.300ft  
 Min Body Ground Clearance 1.115ft  
 Track Width 6.000ft  
 Lock-to-lock time 4.00s  
 Max Steering Angle (Virtual) 31.60°



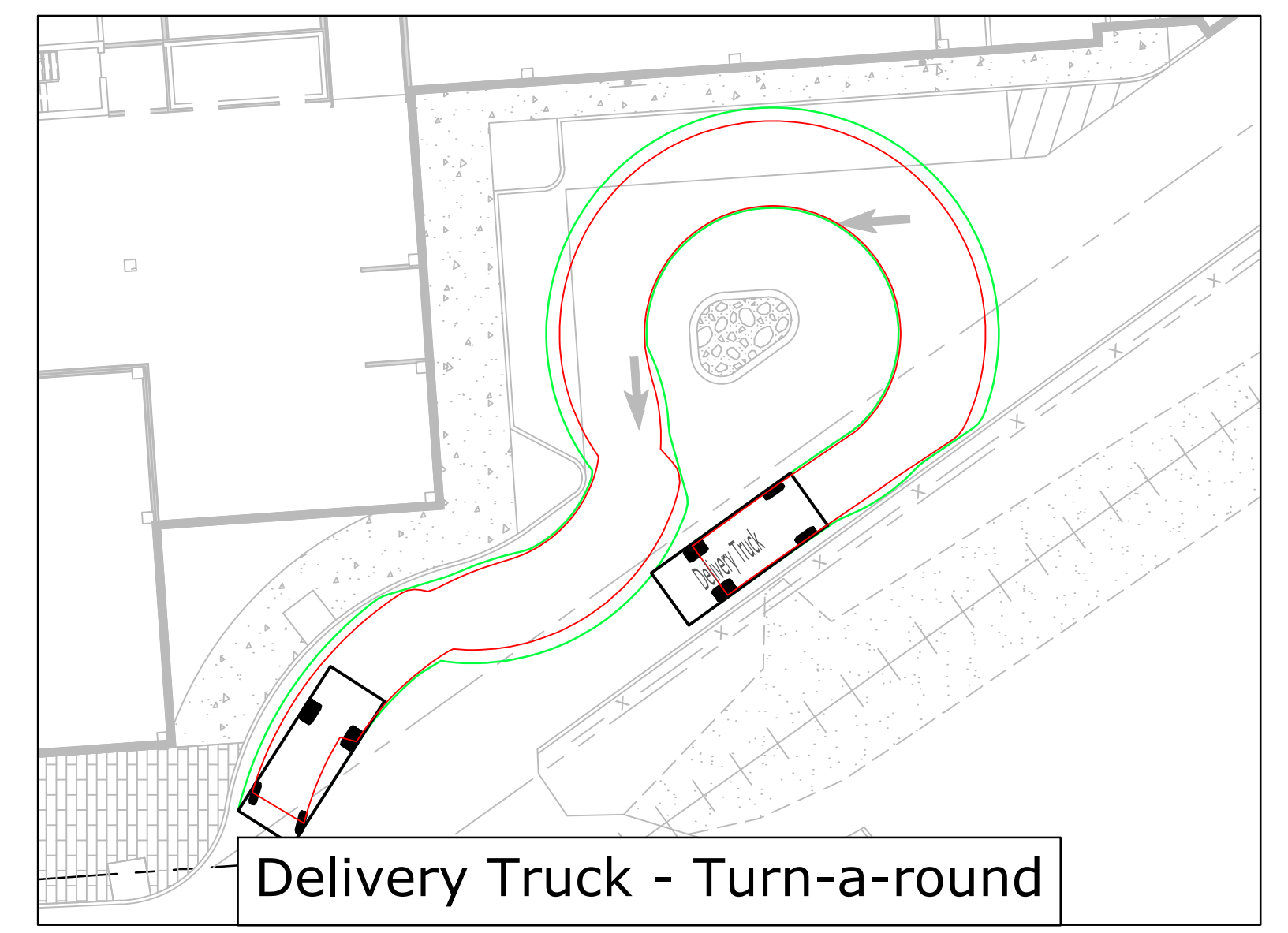
**Delivery Truck - From East**



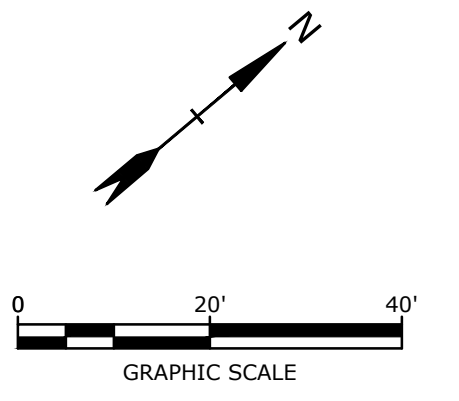
**Passenger Car - Traffic From East & Basement Access**



**Passenger Car - Turn-a-round**



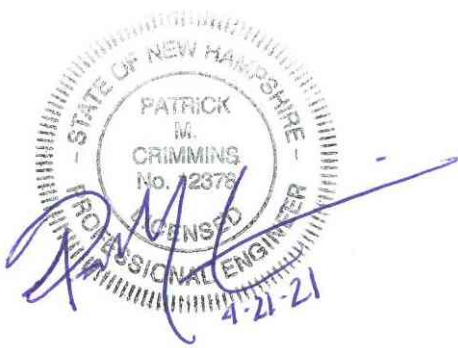
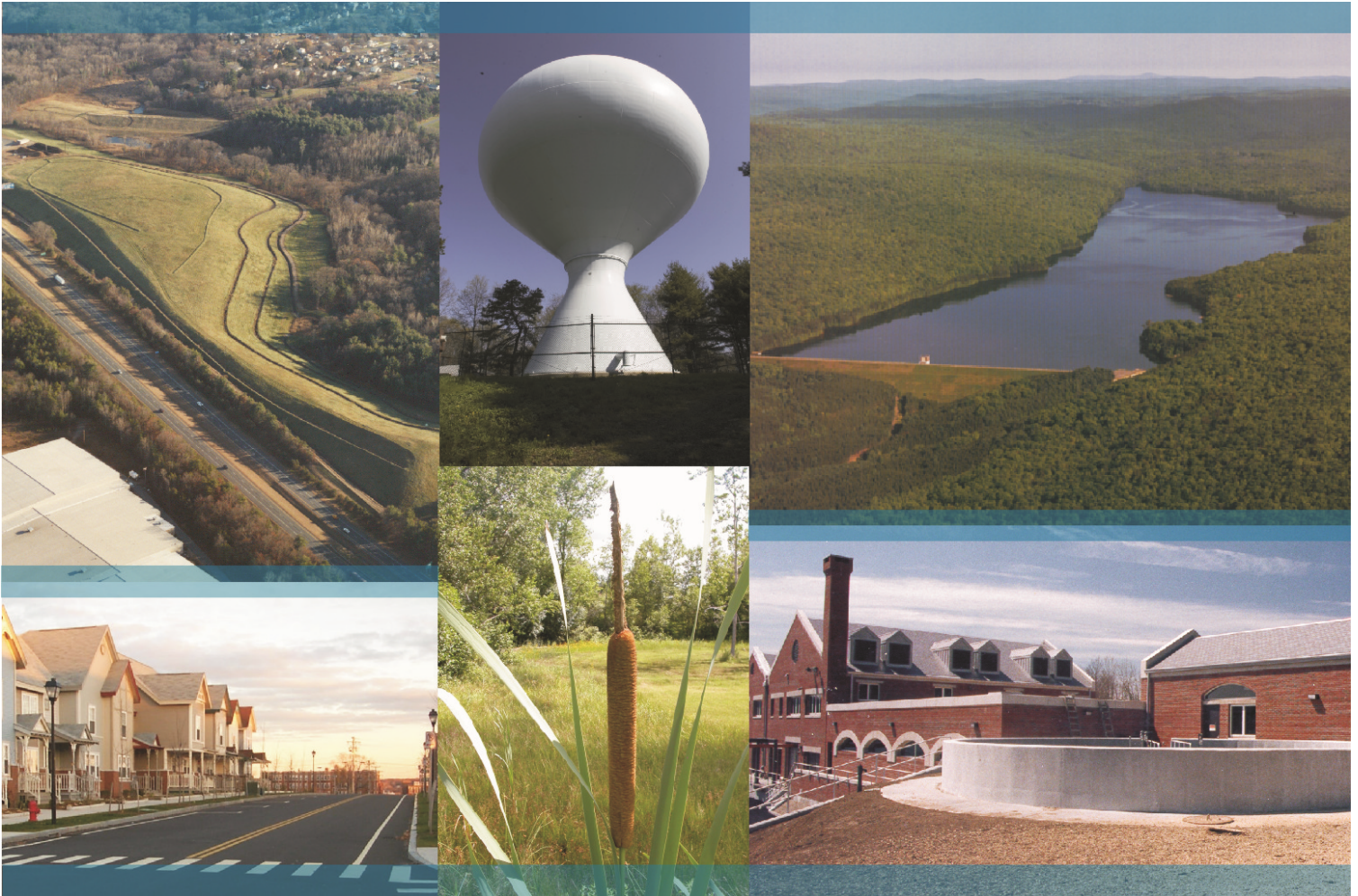
**Delivery Truck - Turn-a-round**



**Tighe&Bond**

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**Tighe & Bond**

Proposed Mixed-Use Development  
53 Green Street  
Portsmouth, NH

## Drainage Analysis

Prepared For:  
**CPI Management, LLC**  
**100 Summer Street**  
**Boston, Massachusetts 02110**

April 21, 2021





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1.2 Pre- and Post-Development Comparison .....1-1  
1.3 Calculation Methods.....1-2

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A Site Specific Soils Report  
B Extreme Precipitation Tables  
C “Examination of Thermal Impacts from Stormwater BMPs”, By The University of  
New Hampshire Stormwater Center



# **Section 1**

## **Project Description**

The proposed project is located at 53 Green Street in Portsmouth and is identified as Map 119, Lot 2 on the City of Portsmouth's Tax Maps. This parcel is approximately 1.65 acres. As part of this project, this parcel will acquire a portion of the adjacent lot that contains the rail line, identified as Tax Map 119 Lot 3. This will result in a total acreage of approximately 1.77 acres for the proposed parcel. The parcel is bounded to the north and west by North Mill Pond, to the south by an adjacent parcel, and to the east by Green Street and the Boston and Maine (B&M) railroad.

The lot is currently occupied by two (2) single-story commercial tenant buildings, which total approximately 21,000 square feet, and associated parking. The lot is predominantly impervious and has a maintained lawn area along the North Mill Pond shoreline. There is an existing utility easement on the north corner of the parcel which contains a utility tower with overhead wire connections, not directly associated with the site.

The proposed project includes the demolition of the two existing single-story structures and construction of a single five story mixed-use building. The project will include associated site improvements that consist of below grade parking, utilities, stormwater management and treatment, landscaping, lighting, and a public recreation trail in coordination with the City. Additionally, the land associated with the public recreation trail will be deeded to the City of Portsmouth and designated as community space for the City's North Mill Pond Trail project.

### **1.1 On-Site Soil Description**

The site is a highly disturbed site along the North Mill Pond. The property shows evidence of what appears to be very old filling and grading associated with the existing development. The site consists of terrain that is generally flat and slopes from the south to the north to North Mill Pond. The existing property has an approximate high point of elevation of 14 near Green Street

A site specific soils survey was conducted by Leonard Lord, PhD, CSS, CWS of Tighe & Bond, Inc and can be found in Appendix A of this Report. Based on the soil survey, the runoff analyzed within these studies has been modeled using mostly Hydrologic Soil Group B soils and some portions of Hydrologic Soil Group C soils, as much of the site is comprised of Udorthents with two drainage classifications, moderately poorly drained soils and portions of well drained soils.

### **1.2 Pre- and Post-Development Comparison**

The pre-development and post-development watershed areas have been analyzed at a single point of analysis. While the point of analysis remained unchanged, its contributing sub-catchment areas varied between pre-development and post-development conditions. These adjustments were made to reflect the differences in drainage patterns between the existing and proposed conditions. The overall area analyzed as part of this drainage analysis was held constant. For reference, PA-1 assesses flows that discharge directly to North Mill Pond via overland flow or various outlets.

Since North Mill Pond is a tidal water, NHDES does not require peak runoff control requirements to be met (Env-Wq 1507.06(d)). However, a Stormtech Isolator Row and detention system is proposed on the development site for the purpose of mitigating temperature differences between the stormwater runoff and the North Mill Pond.

### 1.3 Calculation Methods

The design storms analyzed in this study are the 2-year, 10-year, 25-year and 50-year 24-hour duration storm events. The stormwater modeling system, HydroCAD 10.0 was utilized to predict the peak runoff rates from these storm events. The peak discharge rates were determined by analyzing Type III 24-hour storm events. The rainfall data for these storm events was obtained from the data published by the Northeast Regional Climate Center at Cornell University, with an additional 15% added factor of safety as required by Env-Wq 1503.08(l).

**Table 1.2:** Extreme Precipitation Estimates (NRCC)

<b>YEAR</b>	<b>24-hr Estimate (inches)</b>	<b>+ 15% (inches)</b>
<b>2</b>	3.20	3.68
<b>10</b>	4.86	5.59
<b>25</b>	6.16	7.08
<b>50</b>	7.37	8.48

The time of concentration was computed using the TR-55 Method, which provides a means of determining the time for an entire watershed to contribute runoff to a specific location via sheet flows, shallow concentrated flow and channel flow. Runoff curve numbers were calculated by estimating the coverage areas and then summing the curve number for the coverage area as a percent of the entire watershed.

#### References:

1. HydroCAD Stormwater Modeling System, by HydroCAD Software Solutions LLC, Chocorua, New Hampshire.
2. New Hampshire Stormwater Management Manual, Volume 2, Post-Construction Best Management Practices Selection and Design, December 2008.
3. "Extreme Precipitation in New York & New England." Extreme Precipitation in New York & New England by Northeast Regional Climate Center (NRCC), 26 June 2012.



## **Section 2**

# **Pre-Development Conditions**

In order to analyze the pre-development condition, the site has been divided into one (1) watershed area modeled at one (1) point of analysis. This point of analysis and watershed are depicted on the plan entitled "Pre-Development Watershed Plan", Sheets C-801.

The point of analysis and its contributing watershed area is described below:

### **Point of Analysis (PA-1)**

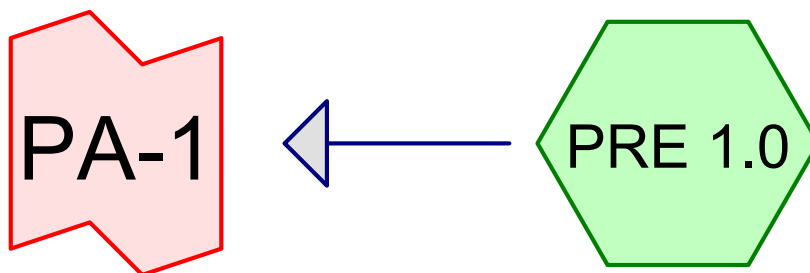
Point of Analysis 1 (PA-1) is the North Mill Pond which borders the northwest boundary of the site. The North Mill Pond is a tidal wetland which directly feeds into the Piscataqua River.

Pre-development Watershed 1.0 (PRE 1.0) is the single watershed analyzed in the pre-development condition. It is comprised of mostly impervious surfaces including paved parking and structures, disturbed forested areas to the north and west adjacent to the North Mill Pond shoreline and a maintained lawn between the building and shoreline. Runoff from this watershed area travels via overland flow to discharge into North Mill Pond. The runoff is currently untreated before discharge.

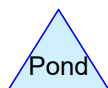
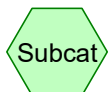
## **2.1 Pre-Development Calculations**

## **2.2 Pre-Development Watershed Plans**





## POINT OF ANALYSIS 1



**C0960-011 PRE**

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Page 2

**Area Listing (all nodes)**

Area (sq-ft)	CN	Description (subcatchment-numbers)
26,605	61	>75% Grass cover, Good, HSG B (PRE 1.0)
2,659	74	>75% Grass cover, Good, HSG C (PRE 1.0)
23,291	98	Paved parking, HSG B (PRE 1.0)
21,715	98	Roofs, HSG B (PRE 1.0)
4,041	55	Woods, Good, HSG B (PRE 1.0)
<b>78,311</b>	<b>82</b>	<b>TOTAL AREA</b>

**C0960-011 PRE**

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Page 3

**Soil Listing (all nodes)**

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
75,652	HSG B	PRE 1.0
2,659	HSG C	PRE 1.0
0	HSG D	
0	Other	
<b>78,311</b>		<b>TOTAL AREA</b>



**C0960-011 PRE**

*Type III 24-hr 2 Year Storm Rainfall=3.68"*

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Page 4

Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**SubcatchmentPRE 1.0:**

Runoff Area=78,311 sf 57.47% Impervious Runoff Depth=1.93"  
Flow Length=380' Tc=5.0 min CN=82 Runoff=4.17 cfs 12,610 cf

**Link PA-1: POINT OF ANALYSIS1**

Inflow=4.17 cfs 12,610 cf  
Primary=4.17 cfs 12,610 cf

**Total Runoff Area = 78,311 sf Runoff Volume = 12,610 cf Average Runoff Depth = 1.93"**  
**42.53% Pervious = 33,305 sf 57.47% Impervious = 45,006 sf**

**C0960-011 PRE**

*Type III 24-hr 10 Year Storm Rainfall=5.59"*

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Page 5

Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**SubcatchmentPRE 1.0:**

Runoff Area=78,311 sf 57.47% Impervious Runoff Depth=3.61"  
Flow Length=380' Tc=5.0 min CN=82 Runoff=7.74 cfs 23,570 cf

**Link PA-1: POINT OF ANALYSIS1**

Inflow=7.74 cfs 23,570 cf  
Primary=7.74 cfs 23,570 cf

**Total Runoff Area = 78,311 sf Runoff Volume = 23,570 cf Average Runoff Depth = 3.61"**  
**42.53% Pervious = 33,305 sf 57.47% Impervious = 45,006 sf**

**Summary for Subcatchment PRE 1.0:**

Runoff = 7.74 cfs @ 12.08 hrs, Volume= 23,570 cf, Depth= 3.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

Area (sf)	CN	Description
21,715	98	Roofs, HSG B
23,291	98	Paved parking, HSG B
26,605	61	>75% Grass cover, Good, HSG B
4,041	55	Woods, Good, HSG B
2,659	74	>75% Grass cover, Good, HSG C
78,311	82	Weighted Average
33,305		42.53% Pervious Area
45,006		57.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0330	1.80		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.68"
1.9	223	0.0090	1.93		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	57	0.0400	1.40		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
3.5	380	Total, Increased to minimum Tc = 5.0 min			

**Summary for Link PA-1: POINT OF ANALYSIS 1**

Inflow Area = 78,311 sf, 57.47% Impervious, Inflow Depth = 3.61" for 10 Year Storm event  
 Inflow = 7.74 cfs @ 12.08 hrs, Volume= 23,570 cf  
 Primary = 7.74 cfs @ 12.08 hrs, Volume= 23,570 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

**C0960-011 PRE**

*Type III 24-hr 25 Year Storm Rainfall=7.08"*

Prepared by Tighe & Bond

Printed 3/22/2021

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Page 1

Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**SubcatchmentPRE 1.0:**

Runoff Area=78,311 sf 57.47% Impervious Runoff Depth=4.99"  
Flow Length=380' Tc=5.0 min CN=82 Runoff=10.58 cfs 32,572 cf

**Link PA-1: POINT OF ANALYSIS1**

Inflow=10.58 cfs 32,572 cf  
Primary=10.58 cfs 32,572 cf

**Total Runoff Area = 78,311 sf Runoff Volume = 32,572 cf Average Runoff Depth = 4.99"**  
**42.53% Pervious = 33,305 sf 57.47% Impervious = 45,006 sf**

**C0960-011 PRE**

*Type III 24-hr 50 Year Storm Rainfall=8.48"*

Prepared by Tighe & Bond

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Page 2

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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

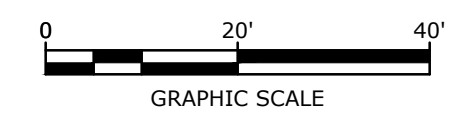
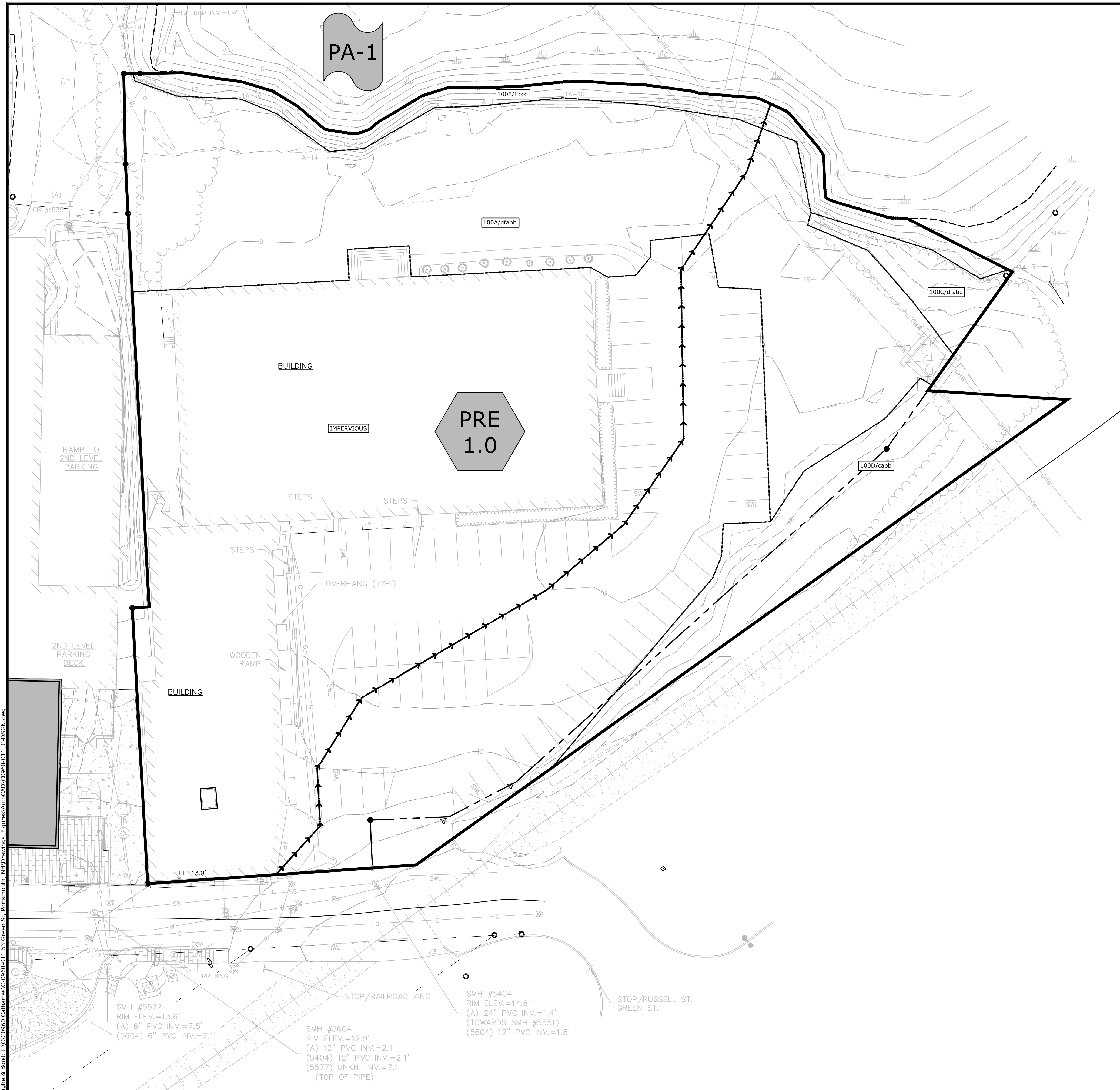
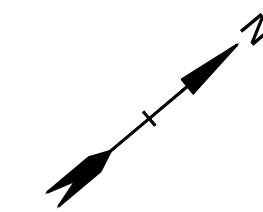
**SubcatchmentPRE 1.0:**

Runoff Area=78,311 sf 57.47% Impervious Runoff Depth=6.32"  
Flow Length=380' Tc=5.0 min CN=82 Runoff=13.25 cfs 41,222 cf

**Link PA-1: POINT OF ANALYSIS1**

Inflow=13.25 cfs 41,222 cf  
Primary=13.25 cfs 41,222 cf

**Total Runoff Area = 78,311 sf Runoff Volume = 41,222 cf Average Runoff Depth = 6.32"**  
**42.53% Pervious = 33,305 sf 57.47% Impervious = 45,006 sf**



**Proposed Mixed Use Development**

CPI Management, LLC

53 Green Street  
Portsmouth, NH

**LEGEND**

- PRE-DEVELOPMENT WATERSHED BOUNDARY
- LONGEST FLOW PATH
- SOIL TYPE BOUNDARY
- SOIL TYPE (SEE SITE SPECIFIC SOIL MAP)
- PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- POINT OF ANALYSIS


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DATE: January 27, 2021		
FILE: C0960-011_C-DSGN.DWG		
DRAWN BY: AFS		
CHECKED: NAH/PMC		
APPROVED: BLM		

PRE-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

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## Section 3

# Post-Development Conditions

The post-development condition was analyzed by dividing the watersheds into five (5) watershed areas. Stormwater runoff from these sub-catchments predominantly flows via subsurface drainage systems prior to discharging into North Mill Pond (PA-1). A negligible amount of runoff from the sidewalk along Green Street will sheet flow into the City's closed drainage system due to the existing grades of the street sloping away from the site. The City's drainage system eventually discharges into North Mill Pond (PA-1), and, therefore, has been included in the single point of analysis.

A Stormtech Isolator Row and detention system is included on the development site for the purpose of mitigating temperature differences between the stormwater runoff and the North Mill Pond. This system and outlet structure have been designed to mitigate temperature of the water quality volume (WQV). Runoff that exceeds this volume will utilize an overflow and discharge into North Mill Pond (PA-1). This detention basin is used to mitigate increased temperature of the initial surface runoff, based on data provided in a publication by the University of New Hampshire Stormwater Center (UNHSC), titled "Examination of Thermal Impacts from Stormwater BMPs" and can be found in Appendix C. Due to this system being included in the design, post-development flows from the site have been reduced from the pre-development condition. As previously described, North Mill Pond is a tidal water, therefore, NHDES does not require peak runoff control requirements to be met (per Env-Wq 1507.06(d)).

The point of analysis and sub-catchment areas are depicted on the plan entitled "Post-Development Watershed Plan," Sheet C-802. The points of analysis and its contributing watershed areas are described below:

### **Point of Analysis (PA-1)**

Point of Analysis 1 (PA-1), North Mill Pond, has the same overall contributing area as in the pre-development condition. PA-1 includes an underground detention basin, which is designed to detain the water quality volume of the paved surface runoff. Additional impervious surface runoff will be collected and filtered prior to discharging into the North Mill Pond.

Post-development Watershed 1.1 (POST-1.1) is approximately 74% impervious surface of either pavement or concrete surface. The area includes in the site access driveway and entrance turnaround. The pervious portion of this watershed includes a porous grass paver section intended for emergency use for fire truck access. Additional pervious areas that contribute to this watershed include a small amount of landscaped areas along the building façade. The stormwater runoff created from this area is collected via offline deep-sump and hooded catch basins and conveyed via a closed drainage system to the underground stormtech chamber system (POND-1). The detention basin is equipped with an isolator row as recommended by the UNHSC publication and is lined due to high seasonal high water table in the area. The system is underdrained and treatment is attained post detention by use of a proprietary membrane filtration treatment device identified as Jellyfish Filter 1 (JF-1). All collected runoff from this catchment is discharged into the North Mill Pond (PA-1).

Post-development Watershed 1.2 (POST-1.2) is 100% impervious roof surface that is collected via internal building plumbing system and conveyed via piping to a proprietary membrane filtration treatment device identified as Jellyfish Filter 1 (JF-1). The treated runoff eventually discharges into North Mill Pond (PA-1).

Post-development Watershed 1.3 (POST-1.3) is the connection path for public access to the public recreation trail along the shoreline. The area is approximately 45% impervious surface and consists of landscaping and grassed lawn areas in the post-development condition. The runoff associated with this area is captured via yard drains and is conveyed via piping to a proprietary membrane filtration treatment device identified as Jellyfish Filter 1 (JF-1). The treated runoff eventually discharges into North Mill Pond (PA-1).

Post-development Watershed 1.4 (POST-1.4) is 100% pervious surface. The area consists mostly of lawn, wooded, and landscaped areas. Runoff from this area remains similar to existing conditions and flows overland and discharges into the North Mill Pond.

Post-development Watershed 1.5 (POST-1.5) is 100% impervious sidewalk surface and flows overland onto Green Street. This subcatchment represents a proposed city sidewalk which flows onto the city street for collection. The closed drainage system associated with Green Street eventually discharges into North Mill Pond (PA-1).

Post-development Watershed 1.6 (POST-1.6) includes a city recreation trail which the city requested that be porous pavement, as not to increase impervious area so close to the waterfront. The runoff associated with this area flows overland and is captured and treated by the porous pavement section and is conveyed via piping to discharge into North Mill Pond.

### **3.1 Peak Rate Comparison**

The following table summarizes and compares the pre- and post-development peak runoff rates for the 2-year, 10-year, 25-year and 50-year storm events at each point of analysis. Though peak flow mitigation is not required, the following table is provided for reference.

Point of Analysis	Pre/ <b>Post</b> 2-Year Storm (cfs)	Pre/ <b>Post</b> 10-Year Storm (cfs)	Pre/ <b>Post</b> 25-Year Storm (cfs)	Pre/ <b>Post</b> 50-Year Storm (cfs)
PA1	4.17/ <b>3.35</b>	7.74/ <b>5.68</b>	10.58/ <b>8.38</b>	13.25/ <b>10.87</b>

### **3.2 Post-Development Calculations**

### **3.3 Post-Development Watershed Plans**



## Section 4

# Stormwater Treatment

The stormwater management system has been designed to provide stormwater treatment as required by the City of Portsmouth Site Review Regulations and NHDES AoT Regulations (Env-Wq 1500).

### 4.1 Pre-Treatment Methods for Protecting Water Quality

Pre-treatment for the stormwater that is collected on-site is pretreated through use of offline deep-sump and hooded catch basins .

### 4.2 Treatment Methods for Protecting Water Quality

The runoff from proposed impervious areas will be treated by a Contech Jellyfish stormwater filtration system. The Jellyfish system is sized to treat the Water Quality Flow from the contributing subcatchment areas. The system is outfitted with an internal bypass that diverts peak flows away from treatment. The BMP worksheet for this practice has been included in Section 5 of this report.

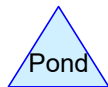
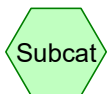
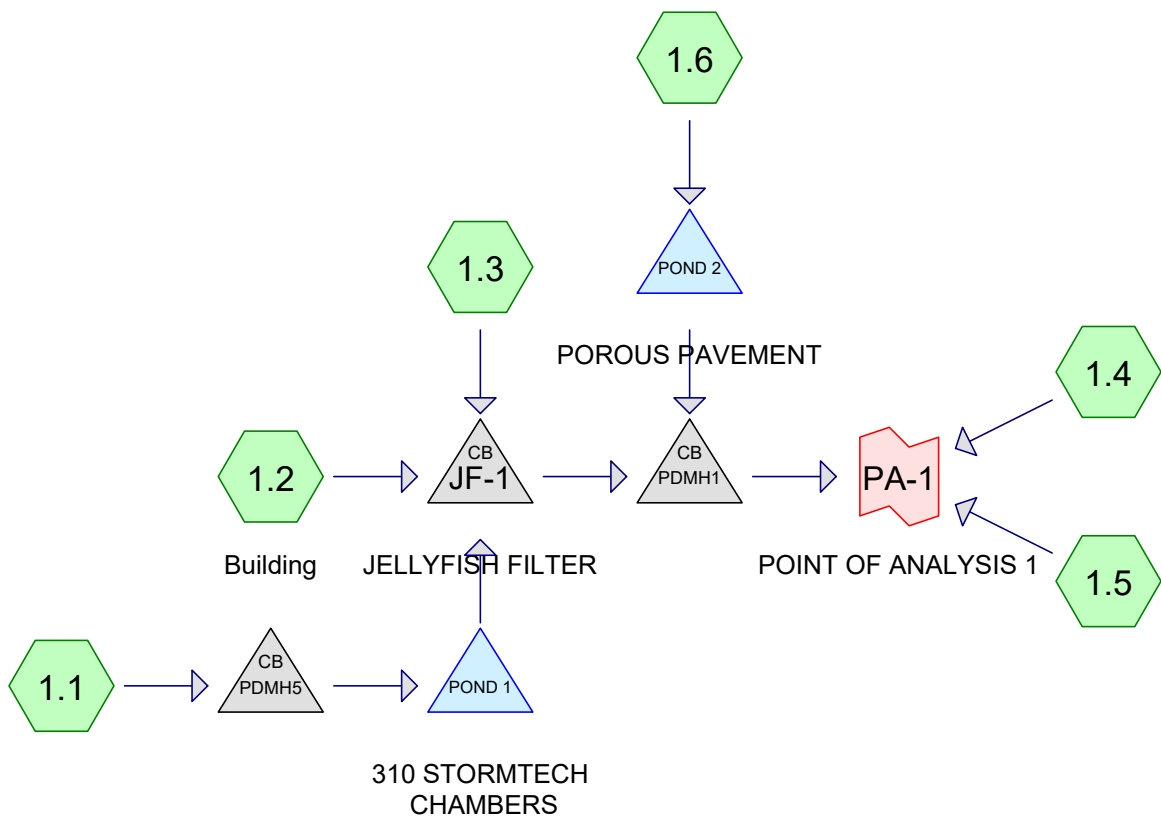
The multiuse path along the North Mill Pond will be constructed as porous pavement with and underdrain. The underdrain will discharge to the onsite closed drainage system prior to discharging to the Pond.

BMP	Total Suspended Solids	Total Nitrogen	Total Phosphorus
Jellyfish Filter w/Pretreatment <sup>1</sup>	91%	53%	61%
Porous Pavement w/Underdrain <sup>2</sup>	90%	10%	45%

1. Pollutant removal calculations for Jellyfish Filter with deep sump catch basin pretreatment shown in Table 4.2.
2. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix B.

<b>Table 4.2 – Pollutant Removal Calculations</b>				
<b>Contech Jellyfish Filter</b>				
BMP	TSS Removal Rate	Starting TSS Load	TSS Removed	Remaining TSS Load
Deep Sump Catchbasin w/Hood <sup>1</sup>	0.15	1.00	0.15	0.85
Jellyfish Filter <sup>2</sup>	0.89	0.85	0.76	0.09
<b>Total Suspended Solids Removed:</b>				<b>91%</b>
	TN Removal Rate	Starting TN Load	TN Removed	Remaining TN Load
Deep Sump Catchbasin w/Hood <sup>1</sup>	0.05	1.00	0.05	0.95
Jellyfish Filter <sup>2</sup>	0.51	0.95	0.48	0.47
<b>Total Nitrogen Removed:</b>				<b>53%</b>
	TP Removal Rate	Starting TP Load	TP Removed	Remaining TP Load
Deep Sump Catchbasin w/Hood <sup>1</sup>	0.05	1.00	0.05	0.95
Jellyfish Filter <sup>2</sup>	0.59	0.95	0.56	0.39
<b>Total Phosphorus Removed:</b>				<b>61%</b>

1. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix E.
2. Pollutant removal efficiencies from Contech Engineered Solutions, Jellyfish Filter Stormwater Treatment performance testing results.





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**Area Listing (all nodes)**

Area (sq-ft)	CN	Description (subcatchment-numbers)
26,191	61	>75% Grass cover, Good, HSG B (1.1, 1.3, 1.4, 1.6)
2,659	74	>75% Grass cover, Good, HSG C (1.4)
14,240	98	Paved parking, HSG B (1.1, 1.3, 1.5, 1.6)
3,421	98	Porous Paved Path, HSG B (1.6)
29,373	98	Roofs, HSG B (1.2)
1,427	55	Woods, Good, HSG B (1.4)
<b>77,311</b>	<b>84</b>	<b>TOTAL AREA</b>

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**Soil Listing (all nodes)**

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
74,652	HSG B	1.1, 1.2, 1.3, 1.4, 1.5, 1.6
2,659	HSG C	1.4
0	HSG D	
0	Other	
<b>77,311</b>		<b>TOTAL AREA</b>

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Type III 24-hr 2 Year Storm Rainfall=3.68"

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Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points x 2  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

<b>Subcatchment 1.1:</b>	Runoff Area=13,620 sf 74.19% Impervious Runoff Depth=2.43" Tc=5.0 min CN=88 Runoff=0.91 cfs 2,762 cf
<b>Subcatchment 1.2: Building</b>	Runoff Area=29,373 sf 100.00% Impervious Runoff Depth=3.45" Tc=5.0 min CN=98 Runoff=2.47 cfs 8,435 cf
<b>Subcatchment 1.3:</b>	Runoff Area=5,929 sf 44.53% Impervious Runoff Depth=1.57" Tc=5.0 min CN=77 Runoff=0.25 cfs 774 cf
<b>Subcatchment 1.4:</b>	Runoff Area=16,182 sf 0.00% Impervious Runoff Depth=0.75" Tc=5.0 min CN=63 Runoff=0.27 cfs 1,010 cf
<b>Subcatchment 1.5:</b>	Runoff Area=1,145 sf 100.00% Impervious Runoff Depth=3.45" Tc=5.0 min CN=98 Runoff=0.10 cfs 329 cf
<b>Subcatchment 1.6:</b>	Runoff Area=11,062 sf 34.09% Impervious Runoff Depth=1.37" Tc=5.0 min CN=74 Runoff=0.41 cfs 1,259 cf
<b>Pond JF-1: JELLYFISH FILTER</b>	Peak Elev=7.41' Inflow=2.98 cfs 11,970 cf 24.0" Round Culvert n=0.013 L=70.0' S=0.0043 '/' Outflow=2.98 cfs 11,970 cf
<b>Pond PDMH1:</b>	Peak Elev=7.03' Inflow=2.98 cfs 12,538 cf 24.0" Round Culvert n=0.013 L=7.0' S=0.0071 '/' Outflow=2.98 cfs 12,538 cf
<b>Pond PDMH5:</b>	Peak Elev=7.92' Inflow=0.91 cfs 2,762 cf 12.0" Round Culvert n=0.013 L=2.0' S=0.0000 '/' Outflow=0.91 cfs 2,762 cf
<b>Pond POND 1: 310 STORMTECH CHAMBERS</b>	Peak Elev=7.61' Storage=506 cf Inflow=0.91 cfs 2,762 cf Outflow=0.60 cfs 2,761 cf
<b>Pond POND 2: POROUS PAVEMENT</b>	Peak Elev=6.53' Storage=806 cf Inflow=0.41 cfs 1,259 cf Outflow=0.02 cfs 569 cf
<b>Link PA-1: POINT OF ANALYSIS 1</b>	Inflow=3.35 cfs 13,877 cf Primary=3.35 cfs 13,877 cf

**Total Runoff Area = 77,311 sf Runoff Volume = 14,568 cf Average Runoff Depth = 2.26"**  
**39.16% Pervious = 30,277 sf 60.84% Impervious = 47,034 sf**

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Type III 24-hr 10 Year Storm Rainfall=5.59"

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Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points x 2  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 1.1:** Runoff Area=13,620 sf 74.19% Impervious Runoff Depth=4.23"  
 Tc=5.0 min CN=88 Runoff=1.54 cfs 4,803 cf

**Subcatchment 1.2: Building** Runoff Area=29,373 sf 100.00% Impervious Runoff Depth=5.35"  
 Tc=5.0 min CN=98 Runoff=3.77 cfs 13,101 cf

**Subcatchment 1.3:** Runoff Area=5,929 sf 44.53% Impervious Runoff Depth=3.12"  
 Tc=5.0 min CN=77 Runoff=0.51 cfs 1,543 cf

**Subcatchment 1.4:** Runoff Area=16,182 sf 0.00% Impervious Runoff Depth=1.89"  
 Tc=5.0 min CN=63 Runoff=0.81 cfs 2,555 cf

**Subcatchment 1.5:** Runoff Area=1,145 sf 100.00% Impervious Runoff Depth=5.35"  
 Tc=5.0 min CN=98 Runoff=0.15 cfs 511 cf

**Subcatchment 1.6:** Runoff Area=11,062 sf 34.09% Impervious Runoff Depth=2.84"  
 Tc=5.0 min CN=74 Runoff=0.87 cfs 2,621 cf

**Pond JF-1: JELLYFISH FILTER** Peak Elev=7.70' Inflow=4.73 cfs 19,447 cf  
 24.0" Round Culvert n=0.013 L=70.0' S=0.0043 '/' Outflow=4.73 cfs 19,447 cf

**Pond PDMH1:** Peak Elev=7.29' Inflow=4.73 cfs 21,378 cf  
 24.0" Round Culvert n=0.013 L=7.0' S=0.0071 '/' Outflow=4.73 cfs 21,378 cf

**Pond PDMH5:** Peak Elev=8.26' Inflow=1.54 cfs 4,803 cf  
 12.0" Round Culvert n=0.013 L=2.0' S=0.0000 '/' Outflow=1.54 cfs 4,803 cf

**Pond POND 1: 310 STORMTECH CHAMBERS** Peak Elev=8.18' Storage=886 cf Inflow=1.54 cfs 4,803 cf  
 Outflow=1.07 cfs 4,803 cf

**Pond POND 2: POROUS PAVEMENT** Peak Elev=6.89' Storage=1,297 cf Inflow=0.87 cfs 2,621 cf  
 Outflow=0.29 cfs 1,931 cf

**Link PA-1: POINT OF ANALYSIS 1** Inflow=5.68 cfs 24,444 cf  
 Primary=5.68 cfs 24,444 cf

**Total Runoff Area = 77,311 sf Runoff Volume = 25,135 cf Average Runoff Depth = 3.90"**  
**39.16% Pervious = 30,277 sf 60.84% Impervious = 47,034 sf**



**Summary for Subcatchment 1.1:**

Runoff = 1.54 cfs @ 12.07 hrs, Volume= 4,803 cf, Depth= 4.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

Area (sf)	CN	Description
10,105	98	Paved parking, HSG B
3,515	61	>75% Grass cover, Good, HSG B
13,620	88	Weighted Average
3,515		25.81% Pervious Area
10,105		74.19% Impervious Area

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

**Summary for Subcatchment 1.2: Building**

Runoff = 3.77 cfs @ 12.07 hrs, Volume= 13,101 cf, Depth= 5.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

Area (sf)	CN	Description
29,373	98	Roofs, HSG B
29,373		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 Subcatchment 1.3:**

Runoff = 0.51 cfs @ 12.08 hrs, Volume= 1,543 cf, Depth= 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

Area (sf)	CN	Description
2,640	98	Paved parking, HSG B
3,289	61	>75% Grass cover, Good, HSG B
5,929	77	Weighted Average
3,289		55.47% Pervious Area
2,640		44.53% Impervious Area

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Type III 24-hr 10 Year Storm Rainfall=5.59"

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

**Summary for Subcatchment 1.4:**

Runoff = 0.81 cfs @ 12.08 hrs, Volume= 2,555 cf, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

Area (sf)	CN	Description
12,096	61	>75% Grass cover, Good, HSG B
1,427	55	Woods, Good, HSG B
2,659	74	>75% Grass cover, Good, HSG C
16,182	63	Weighted Average
16,182		100.00% Pervious Area

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

**Summary for Subcatchment 1.5:**

Runoff = 0.15 cfs @ 12.07 hrs, Volume= 511 cf, Depth= 5.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

Area (sf)	CN	Description
1,145	98	Paved parking, HSG B
1,145		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 Subcatchment 1.6:**

Runoff = 0.87 cfs @ 12.08 hrs, Volume= 2,621 cf, Depth= 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

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Type III 24-hr 10 Year Storm Rainfall=5.59"

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Area (sf)	CN	Description
350	98	Paved parking, HSG B
7,291	61	>75% Grass cover, Good, HSG B
* 3,421	98	Porous Paved Path, HSG B
11,062	74	Weighted Average
7,291		65.91% Pervious Area
3,771		34.09% Impervious Area

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

**Summary for Pond JF-1: JELLYFISH FILTER**

Inflow Area = 48,922 sf, 86.09% Impervious, Inflow Depth = 4.77" for 10 Year Storm event  
 Inflow = 4.73 cfs @ 12.08 hrs, Volume= 19,447 cf  
 Outflow = 4.73 cfs @ 12.08 hrs, Volume= 19,447 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 4.73 cfs @ 12.08 hrs, Volume= 19,447 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs / 2  
 Peak Elev= 7.70' @ 12.08 hrs  
 Flood Elev= 12.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.45'	<b>24.0" Round Culvert</b> L= 70.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 6.45' / 6.15' S= 0.0043 ' / ' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

**Primary OutFlow** Max=4.75 cfs @ 12.08 hrs HW=7.70' TW=7.29' (Dynamic Tailwater)  
 ↑**1=Culvert** (Outlet Controls 4.75 cfs @ 3.29 fps)

**Summary for Pond PDMH1:**

[80] Warning: Exceeded Pond POND 2 by 0.84' @ 12.04 hrs (0.69 cfs 1,147 cf)

Inflow Area = 59,984 sf, 76.50% Impervious, Inflow Depth = 4.28" for 10 Year Storm event  
 Inflow = 4.73 cfs @ 12.08 hrs, Volume= 21,378 cf  
 Outflow = 4.73 cfs @ 12.08 hrs, Volume= 21,378 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 4.73 cfs @ 12.08 hrs, Volume= 21,378 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs / 2  
 Peak Elev= 7.29' @ 12.08 hrs  
 Flood Elev= 10.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.15'	<b>24.0" Round Culvert</b> L= 7.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 6.15' / 6.10' S= 0.0071 ' / ' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf



**Primary OutFlow** Max=4.72 cfs @ 12.08 hrs HW=7.29' TW=0.00' (Dynamic Tailwater)

↳ **1=Culvert** (Barrel Controls 4.72 cfs @ 3.67 fps)

**Summary for Pond PDMH5:**

Inflow Area = 13,620 sf, 74.19% Impervious, Inflow Depth = 4.23" for 10 Year Storm event  
 Inflow = 1.54 cfs @ 12.07 hrs, Volume= 4,803 cf  
 Outflow = 1.54 cfs @ 12.07 hrs, Volume= 4,803 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 1.54 cfs @ 12.07 hrs, Volume= 4,803 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs / 2

Peak Elev= 8.26' @ 12.15 hrs

Flood Elev= 11.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	7.30'	<b>12.0" Round Culvert</b> L= 2.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 7.30' / 7.30' S= 0.0000 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.52 cfs @ 12.07 hrs HW=8.13' TW=7.88' (Dynamic Tailwater)

↳ **1=Culvert** (Barrel Controls 1.52 cfs @ 2.94 fps)

**Summary for Pond POND 1: 310 STORMTECH CHAMBERS**

Exfiltration Rate derived from Site Specific Soil Survey report which compares existing soil classification to Sutton Soil HSG-B, which has a low Hydraulic conductivity rate of 0.6 in/hr, per NHDES regulations shall be modeling as 0.3 in/hr.

Inflow Area = 13,620 sf, 74.19% Impervious, Inflow Depth = 4.23" for 10 Year Storm event  
 Inflow = 1.54 cfs @ 12.07 hrs, Volume= 4,803 cf  
 Outflow = 1.07 cfs @ 12.17 hrs, Volume= 4,803 cf, Atten= 31%, Lag= 5.9 min  
 Primary = 1.07 cfs @ 12.17 hrs, Volume= 4,803 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs / 2

Peak Elev= 8.18' @ 12.17 hrs Surf.Area= 998 sf Storage= 886 cf

Flood Elev= 9.36' Surf.Area= 998 sf Storage= 1,250 cf

Plug-Flow detention time= 16.5 min calculated for 4,799 cf (100% of inflow)

Center-of-Mass det. time= 16.7 min ( 809.7 - 793.0 )

Volume	Invert	Avail.Storage	Storage Description
#1A	6.70'	719 cf	<b>14.83'W x 67.28'L x 2.33'H Field A</b> 2,329 cf Overall - 531 cf Embedded = 1,798 cf x 40.0% Voids
#2A	7.20'	531 cf	<b>ADS_StormTech SC-310 +Cap</b> x 36 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 4 Rows of 9 Chambers
		1,250 cf	Total Available Storage

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Type III 24-hr 10 Year Storm Rainfall=5.59"

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Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	6.40'	<b>15.0" Round Culvert</b> L= 12.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 6.40' / 6.30' S= 0.0083 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	6.70'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600
#3	Device 1	8.10'	<b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#4	Device 3	7.20'	<b>12.0" Vert. Orifice/Grate</b> C= 0.600

**Primary OutFlow** Max=1.04 cfs @ 12.17 hrs HW=8.17' TW=7.50' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 1.04 cfs of 4.84 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.77 cfs @ 3.95 fps)
- ↑ **3=Sharp-Crested Rectangular Weir** (Weir Controls 0.26 cfs @ 0.89 fps)
- ↑ **4=Orifice/Grate** (Passes 0.26 cfs of 1.02 cfs potential flow)

**Summary for Pond POND 2: POROUS PAVEMENT**

Inflow Area = 11,062 sf, 34.09% Impervious, Inflow Depth = 2.84" for 10 Year Storm event  
 Inflow = 0.87 cfs @ 12.08 hrs, Volume= 2,621 cf  
 Outflow = 0.29 cfs @ 12.57 hrs, Volume= 1,931 cf, Atten= 67%, Lag= 29.7 min  
 Primary = 0.29 cfs @ 12.57 hrs, Volume= 1,931 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs / 2  
 Peak Elev= 6.89' @ 12.47 hrs Surf.Area= 3,421 sf Storage= 1,297 cf  
 Flood Elev= 9.35' Surf.Area= 3,421 sf Storage= 3,017 cf

Plug-Flow detention time= 204.2 min calculated for 1,929 cf (74% of inflow)  
 Center-of-Mass det. time= 114.0 min ( 945.2 - 831.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	5.94'	3,017 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.94	3,421	0.0	0	0
7.52	3,421	40.0	2,162	2,162
8.52	3,421	10.0	342	2,504
9.02	3,421	30.0	513	3,017
9.35	3,421	0.0	0	3,017

Device	Routing	Invert	Outlet Devices
#1	Primary	6.44'	<b>6.0" Vert. Underdrain</b> C= 0.600
#2	Device 1	5.94'	<b>10.000 in/hr Filter Media Infiltration over Surface area</b>

**Primary OutFlow** Max=0.27 cfs @ 12.57 hrs HW=6.86' TW=6.77' (Dynamic Tailwater)

- ↑ **1=Underdrain** (Orifice Controls 0.27 cfs @ 1.50 fps)
- ↑ **2=Filter Media Infiltration** (Passes 0.27 cfs of 0.79 cfs potential flow)



**Summary for Link PA-1: POINT OF ANALYSIS 1**

Inflow Area = 77,311 sf, 60.84% Impervious, Inflow Depth = 3.79" for 10 Year Storm event  
Inflow = 5.68 cfs @ 12.08 hrs, Volume= 24,444 cf  
Primary = 5.68 cfs @ 12.08 hrs, Volume= 24,444 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

**C0960-011 POST**

Type III 24-hr 25 Year Storm Rainfall=7.08"

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Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points x 2  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 1.1:** Runoff Area=13,620 sf 74.19% Impervious Runoff Depth=5.67"  
 Tc=5.0 min CN=88 Runoff=2.03 cfs 6,437 cf

**Subcatchment 1.2: Building** Runoff Area=29,373 sf 100.00% Impervious Runoff Depth=6.84"  
 Tc=5.0 min CN=98 Runoff=4.78 cfs 16,745 cf

**Subcatchment 1.3:** Runoff Area=5,929 sf 44.53% Impervious Runoff Depth=4.44"  
 Tc=5.0 min CN=77 Runoff=0.72 cfs 2,193 cf

**Subcatchment 1.4:** Runoff Area=16,182 sf 0.00% Impervious Runoff Depth=2.96"  
 Tc=5.0 min CN=63 Runoff=1.30 cfs 3,993 cf

**Subcatchment 1.5:** Runoff Area=1,145 sf 100.00% Impervious Runoff Depth=6.84"  
 Tc=5.0 min CN=98 Runoff=0.19 cfs 653 cf

**Subcatchment 1.6:** Runoff Area=11,062 sf 34.09% Impervious Runoff Depth=4.11"  
 Tc=5.0 min CN=74 Runoff=1.25 cfs 3,790 cf

**Pond JF-1: JELLYFISH FILTER** Peak Elev=8.02' Inflow=6.91 cfs 25,374 cf  
 24.0" Round Culvert n=0.013 L=70.0' S=0.0043 '/' Outflow=6.91 cfs 25,374 cf

**Pond PDMH1:** Peak Elev=7.57' Inflow=6.91 cfs 28,474 cf  
 24.0" Round Culvert n=0.013 L=7.0' S=0.0071 '/' Outflow=6.91 cfs 28,474 cf

**Pond PDMH5:** Peak Elev=8.57' Inflow=2.03 cfs 6,437 cf  
 12.0" Round Culvert n=0.013 L=2.0' S=0.0000 '/' Outflow=2.03 cfs 6,437 cf

**Pond POND 1: 310 STORMTECH CHAMBERS** Peak Elev=8.32' Storage=960 cf Inflow=2.03 cfs 6,437 cf  
 Outflow=1.93 cfs 6,436 cf

**Pond POND 2: POROUS PAVEMENT** Peak Elev=7.22' Storage=1,750 cf Inflow=1.25 cfs 3,790 cf  
 Outflow=0.50 cfs 3,100 cf

**Link PA-1: POINT OF ANALYSIS 1** Inflow=8.38 cfs 33,119 cf  
 Primary=8.38 cfs 33,119 cf

**Total Runoff Area = 77,311 sf Runoff Volume = 33,810 cf Average Runoff Depth = 5.25"**  
**39.16% Pervious = 30,277 sf 60.84% Impervious = 47,034 sf**



**C0960-011 POST**

Type III 24-hr 50 Year Storm Rainfall=8.48"

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Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points x 2  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 1.1:** Runoff Area=13,620 sf 74.19% Impervious Runoff Depth=7.04"  
 Tc=5.0 min CN=88 Runoff=2.49 cfs 7,988 cf

**Subcatchment 1.2: Building** Runoff Area=29,373 sf 100.00% Impervious Runoff Depth=8.24"  
 Tc=5.0 min CN=98 Runoff=5.73 cfs 20,169 cf

**Subcatchment 1.3:** Runoff Area=5,929 sf 44.53% Impervious Runoff Depth=5.72"  
 Tc=5.0 min CN=77 Runoff=0.92 cfs 2,824 cf

**Subcatchment 1.4:** Runoff Area=16,182 sf 0.00% Impervious Runoff Depth=4.05"  
 Tc=5.0 min CN=63 Runoff=1.80 cfs 5,461 cf

**Subcatchment 1.5:** Runoff Area=1,145 sf 100.00% Impervious Runoff Depth=8.24"  
 Tc=5.0 min CN=98 Runoff=0.22 cfs 786 cf

**Subcatchment 1.6:** Runoff Area=11,062 sf 34.09% Impervious Runoff Depth=5.36"  
 Tc=5.0 min CN=74 Runoff=1.63 cfs 4,938 cf

**Pond JF-1: JELLYFISH FILTER** Peak Elev=8.31' Inflow=8.85 cfs 30,981 cf  
 24.0" Round Culvert n=0.013 L=70.0' S=0.0043 '/' Outflow=8.85 cfs 30,981 cf

**Pond PDMH1:** Peak Elev=7.80' Inflow=8.85 cfs 35,229 cf  
 24.0" Round Culvert n=0.013 L=7.0' S=0.0071 '/' Outflow=8.85 cfs 35,229 cf

**Pond PDMH5:** Peak Elev=8.85' Inflow=2.49 cfs 7,988 cf  
 12.0" Round Culvert n=0.013 L=2.0' S=0.0000 '/' Outflow=2.49 cfs 7,988 cf

**Pond POND 1: 310 STORMTECH CHAMBERS** Peak Elev=8.46' Storage=1,021 cf Inflow=2.49 cfs 7,988 cf  
 Outflow=2.33 cfs 7,987 cf

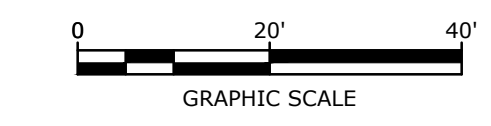
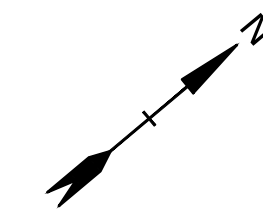
**Pond POND 2: POROUS PAVEMENT** Peak Elev=7.70' Storage=2,224 cf Inflow=1.63 cfs 4,938 cf  
 Outflow=0.68 cfs 4,248 cf

**Link PA-1: POINT OF ANALYSIS 1** Inflow=10.87 cfs 41,476 cf  
 Primary=10.87 cfs 41,476 cf

**Total Runoff Area = 77,311 sf Runoff Volume = 42,167 cf Average Runoff Depth = 6.55"**  
**39.16% Pervious = 30,277 sf 60.84% Impervious = 47,034 sf**







**Proposed  
Mixed Use  
Development**

CPI  
Management,  
LLC

53 Green Street  
Portsmouth, NH

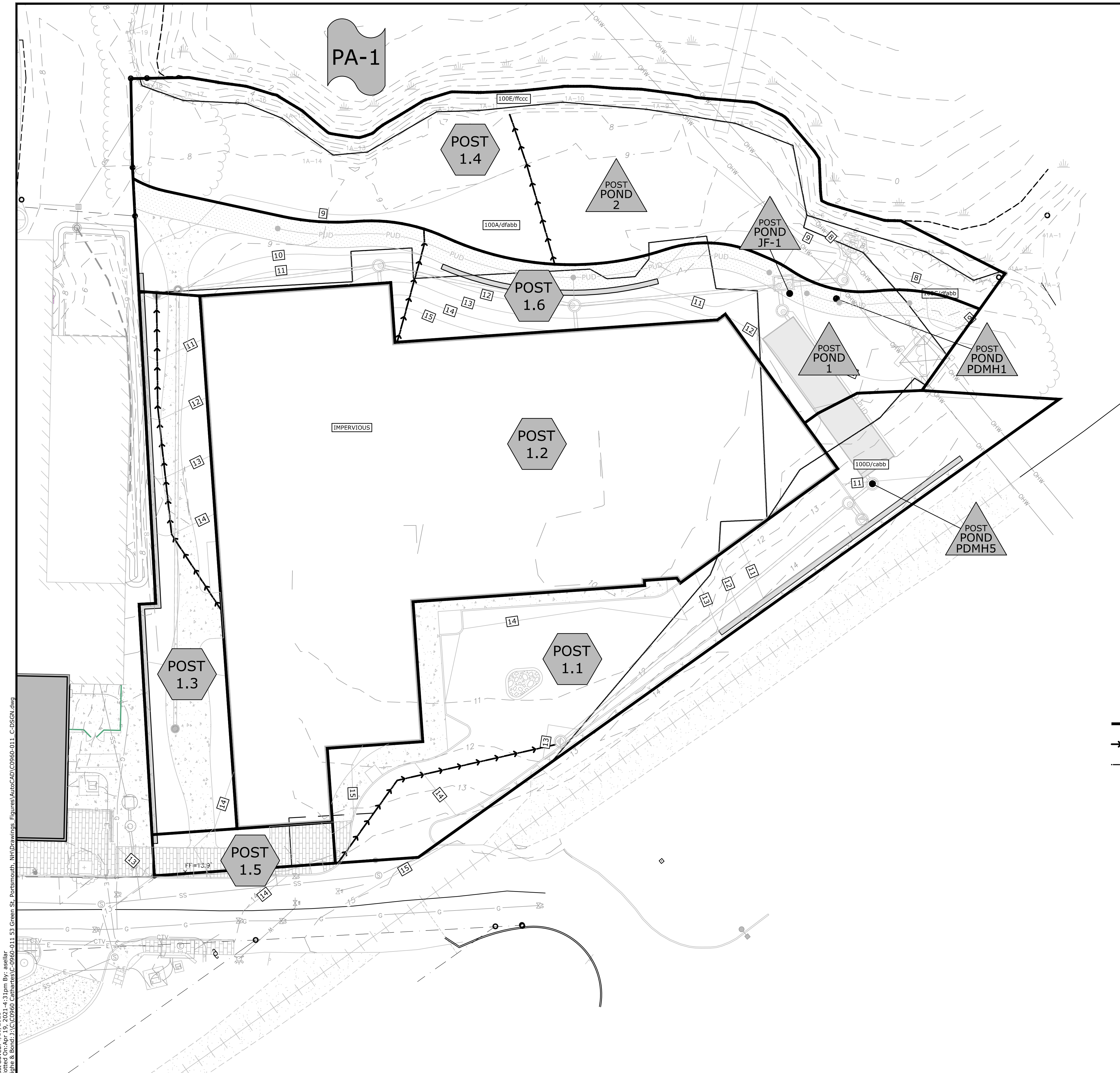
MARK	DATE	DESCRIPTION
C	4/20/2021	NHDES AOT Submission
B	3/22/2021	TAC & CC Submission
A	1/27/2021	CC Work Session

PROJECT NO:	C0960-011
DATE:	January 27, 2021
FILE:	C0960-011_C-DSGN.DWG
DRAWN BY:	AFS
CHECKED:	NAH/PMC
APPROVED:	BLM

**POST-DEVELOPMENT  
WATERSHED PLAN**

SCALE: AS SHOWN

C-802



**LEGEND**

- POST-DEVELOPMENT WATERSHED BOUNDARY
- LONGEST FLOW PATH
- SOIL TYPE BOUNDARY
- SOIL TYPE (SEE SITE SPECIFIC SOIL MAP)
- PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- POST-DEVELOPMENT POND DESIGNATION
- POINT OF ANALYSIS

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# **Section 5**

## **BMP Worksheet and Sizing Memos**







## GENERAL CALCULATIONS - WQV and WQF (optional worksheet)

This worksheet may be useful when designing a BMP **that does not fit into one of the specific worksheets already provided** (i.e. for a technology which is not a stormwater wetland, infiltration practice, etc.)

### Water Quality Volume (WQV)

1.12 ac	A = Area draining to the practice
0.97 ac	A <sub>i</sub> = Impervious area draining to the practice
0.87 decimal	I = Percent impervious area draining to the practice, in decimal form
0.83 unitless	R <sub>v</sub> = Runoff coefficient = 0.05 + (0.9 x I)
0.93 ac-in	WQV = 1" x R <sub>v</sub> x A
3,372 cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

### Water Quality Flow (WQF)

1 inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.83 inches	Q = Water quality depth. Q = WQV/A
98 unitless	CN = Unit peak discharge curve number. CN = 1000 / (10 + 5P + 10Q - 10 * [Q <sup>2</sup> + 1.25 * Q * P] <sup>0.5</sup> )
0.2 inches	S = Potential maximum retention. S = (1000/CN) - 10
0.032 inches	I <sub>a</sub> = Initial abstraction. I <sub>a</sub> = 0.2S
5.0 minutes	T <sub>c</sub> = Time of Concentration
655.0 cfs/mi <sup>2</sup> /in	q <sub>u</sub> is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
0.951 cfs	WQF = q <sub>u</sub> x WQV. Conversion: to convert "cfs/mi <sup>2</sup> /in * ac-in" to "cfs" multiply by 1mi <sup>2</sup> /640ac.

Designer's Notes:

This calculation represents the treatment train directed to the Contech Jellyfish Filter (JF-1).

Full Treatment in compliance with Env-Wq 1508.10 shall be achieved by use of a proprietary flow-through device. A Contech Jellyfish Filter model JFPD0806-5-1 will be used to treat the WQF as calculated in the above spreadsheet. The specified device is designed to treat up to 0.80 cfs of flow.

See attached sizing calculation sheet from manufacturer.



CONTECH Stormwater Solutions Inc. Engineer: **DRA**  
Date Prepared: **3/17/2021**

**Site Information**

Project Name **53 Green Street**  
Project State **NH**  
Project City **Portsmouth**

Total Drainage Area, Ad **1.12** ac  
Post Development Impervious Area, Ai **0.97** ac  
Pervious Area, Ap **0.15** ac  
% Impervious **87%**  
Runoff Coefficient, Rc **0.83**

**Mass Loading Calculations**

Mean Annual Rainfall, P **50** in  
Agency Required % Removal **80%**  
Percent Runoff Capture **90%**  
Mean Annual Runoff, Vt **151752** ft<sup>3</sup>  
Event Mean Concentration of Pollutant, EMC **75** mg/l  
Annual Mass Load, M total **710.10** lbs

**Filter System**

Filtration Brand **Jelly Fish**  
Cartridge Length **54** in

**Jelly Fish Sizing**

Mass to be Captured by System **568.08** lbs  
Water Quality Flow **0.95** cfs

**Method to Use** **FLOW BASED**

Summary		
Flow	Treatment Flow Rate	0.98 cfs
	Required Size	JFPD0806-5-1



## GENERAL CALCULATIONS - WQV and WQF (optional worksheet)

This worksheet may be useful when designing a BMP **that does not fit into one of the specific worksheets already provided** (i.e. for a technology which is not a stormwater wetland, infiltration practice, etc.)

### Water Quality Volume (WQV)

0.31	ac	A = Area draining to the practice
0.23	ac	A <sub>i</sub> = Impervious area draining to the practice
0.74	decimal	I = Percent impervious area draining to the practice, in decimal form
0.72	unitless	R <sub>v</sub> = Runoff coefficient = 0.05 + (0.9 x I)
0.22	ac-in	WQV = 1" x R <sub>v</sub> x A
815	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

### Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.72	inches	Q = Water quality depth. Q = WQV/A
97	unitless	CN = Unit peak discharge curve number. CN = 1000 / (10 + 5P + 10Q - 10 * [Q <sup>2</sup> + 1.25 * Q * P] <sup>0.5</sup> )
0.3	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.059	inches	I <sub>a</sub> = Initial abstraction. I <sub>a</sub> = 0.2S
5.0	minutes	T <sub>c</sub> = Time of Concentration
655.0	cfs/mi <sup>2</sup> /in	q <sub>u</sub> is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
0.230	cfs	WQF = q <sub>u</sub> x WQV. Conversion: to convert "cfs/mi <sup>2</sup> /in * ac-in" to "cfs" multiply by 1mi <sup>2</sup> /640ac.

Designer's Notes: \_\_\_\_\_

This calculation represents the treatment train directed to the underground detention pond.

Pretreatment is accomplished by use a offline deep sump/hooded catch basins prior to entering the underground detention structure.

Treatment is achieved by use of the Jellyfish filter structure (JF-1). This treatment is represented

Temperature mitigation is achieved by detaining WQV and dispersing through stone and underdrain.



**C0960-011 POST**

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Type III 24-hr 50 Year Storm Rainfall=8.48"

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**Stage-Area-Storage for Pond POND 1: 310 STORMTECH CHAMBERS**

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
6.70	0	7.74	600	8.78	1,149
6.72	8	7.76	614	8.80	1,157
6.74	16	7.78	628	8.82	1,165
6.76	24	7.80	642	8.84	1,173
6.78	32	7.82	655	8.86	1,181
6.80	40	7.84	669	8.88	1,189
6.82	48	7.86	683	8.90	1,197
6.84	56	7.88	696	8.92	1,205
6.86	64	7.90	709	8.94	1,213
6.88	72	7.92	723	8.96	1,221
6.90	80	7.94	736	8.98	1,229
6.92	88	7.96	749	9.00	1,237
6.94	96	7.98	762	9.02	1,245
6.96	104	8.00	774	9.04	<b>1,250</b>
6.98	112	8.02	787	9.06	1,250
7.00	120	8.04	800	9.08	1,250
7.02	128	8.06	812	9.10	1,250
7.04	136	8.08	824	9.12	1,250
7.06	144	<b>8.10</b>	<b>836</b>	9.14	1,250
7.08	152	8.12	848	9.16	1,250
7.10	160	8.14	860	9.18	1,250
7.12	168	8.16	872	9.20	1,250
7.14	176	8.18	883	9.22	1,250
7.16	184	8.20	895	9.24	1,250
7.18	192	8.22	906	9.26	1,250
7.20	200	8.24	917	9.28	1,250
7.22	215	8.26	927	9.30	1,250
7.24	230	8.28	937	9.32	1,250
7.26	246	8.30	948	9.34	1,250
7.28	261	8.32	957	9.36	1,250
7.30	276	8.34	967		
7.32	292	8.36	976		
7.34	307	8.38	985		
7.36	322	8.40	994		
7.38	337	8.42	1,003		
7.40	352	8.44	1,012		
7.42	367	8.46	1,020		
7.44	382	8.48	1,028		
7.46	397	8.50	1,037		
7.48	412	8.52	1,045		
7.50	427	8.54	1,053		
7.52	442	8.56	1,061		
7.54	457	8.58	1,069		
7.56	471	8.60	1,077		
7.58	486	8.62	1,085		
7.60	500	8.64	1,093		
7.62	515	8.66	1,101		
7.64	529	8.68	1,109		
7.66	544	8.70	1,117		
7.68	558	8.72	1,125		
7.70	572	8.74	1,133		
7.72	586	8.76	1,141		

## Section 6 Long-Term Operation & Maintenance Plan

It is the intent of this Operation and Maintenance Plan to identify the areas of this site that need special attention and consideration, as well as implementing a plan to assure routine maintenance. By identifying the areas of concern as well as implementing a frequent and routine maintenance schedule the site will maintain a high-quality stormwater runoff.

### 6.1 Contact/Responsible Party

Maintenance Area	Contact/Responsible Party
Map 119 Lot 2	CPI Management, LLC 100 Summer Street, Suite 1600 Boston, MA 02110
North Mill Pond Trail (City Easement)	City of Portsmouth DPW 680 Peverly Hill Road Portsmouth, NH 03801

(Note: The contact information for the Contact/Responsible Party shall be kept current. If ownership changes, the Operation and Maintenance Plan must be transferred to the new party.)

### 6.2 Maintenance Items

Maintenance of the following items shall be recorded:

- Litter/Debris Removal
- Landscaping
- Catchbasin Cleaning
- Pavement Sweeping
- Contech Jellyfish Filtration System
- ADS Stormtech Isolator Row
- Porous Pavement

The following maintenance items and schedule represent the minimum action required. Periodic site inspections shall be conducted, and all measures must be maintained in effective operating condition. The following items shall be observed during site inspection and maintenance:

- Inspect vegetated areas, particularly slopes and embankments for areas of erosion. Replant and restore as necessary
- Inspect catch basins for sediment buildup
- Inspect site for trash and debris

### 6.3 Overall Site Operation & Maintenance Schedule

Maintenance Item	Frequency of Maintenance	Responsible Party
Litter/Debris Removal	Weekly	CPI Management, LLC
Pavement Sweeping - Sweep impervious areas to remove sand and litter.	Bi-annually	CPI Management, LLC
Landscaping - Landscaped islands to be maintained and mulched.	Maintained as required and mulched each Spring	CPI Management, LLC
Catch Basin (CB) Cleaning - CB to be cleaned of solids and oils.	Annually	CPI Management, LLC
Jelly Fish Units	In accordance with Manufacturer's Recommendations	CPI Management, LLC
Underground Detention Basin & Isolator Row - Visual observation of sediment levels within system	In accordance with Manufacturer's Recommendations	CPI Management, LLC
Porous Pavement - Clean using a vacuum sweeper	Bi-Annually	City of Portsmouth DPW



<b>Contech Jellyfish Filter System Inspection/Maintenance Requirements</b>		
<b>Inspection/ Maintenance</b>	<b>Frequency</b>	<b>Action</b>
Inspect vault for sediment build up, static water, plugged media and bypass condition	One (1) time annually and after any rainfall event exceeding 2.5" in a 24-hr period	Maintenance required for any of the following: <ul style="list-style-type: none"> <li>- &gt;4" of sediment on the vault floor</li> <li>- &gt;1/4" of sediment on top of the cartridge</li> <li>- .4" of static water above the cartridge bottom more than 24 hours after a rain event</li> <li>- If pore space between media is absent.</li> <li>- If vault is in bypass condition during an average rainfall event.</li> </ul>
Replace Cartridges	As required by inspection, 1-5 years.	<ul style="list-style-type: none"> <li>- Remove filter cartridges per manufacturer methods.</li> <li>- Vacuum sediment from vault.</li> <li>- Install new cartridges per manufacturer methods</li> </ul>

<b>Stormtech Isolator Row Inspection/Maintenance Requirements</b>		
<b>Inspection/ Maintenance</b>	<b>Frequency</b>	<b>Action</b>
Inspect Isolator Row for sediment	6 months for the first year, then adjust based on previous observations of sediment accumulation and high water elevations.	<ul style="list-style-type: none"> <li>- Inspect inside the isolator row through inspection ports (if provided) or through the upstream structure.</li> </ul>
Jetting and Vactoring	Annually or as required by inspection.	<ul style="list-style-type: none"> <li>- If sediment is 3" or above, then clean out isolator row using the jetvac process.</li> <li>- Vacuum structure sump as required.</li> </ul>

<b>Porous Asphalt Inspection/Maintenance Requirements</b>		
<b>Inspection/ Maintenance</b>	<b>Frequency</b>	<b>Action</b>
Monitor for sediment build up, particularly in the winter.	Two (2) – Four (4) Times Annually.	- Clean with vacuum sweeper, bi-annually - Loose debris such as leaves or can be removed using a power/leaf blower or gutter broom. Fall and spring cleanup should be accompanied by pavement vacuuming.
Inspect Adjacent Vegetation	Two (2) – Four (4) Times Annually.	- Repair or replace any eroded areas.
Inspect for standing water -Within 30 minutes following a rain event.	One (1) – Two (2) Times Annually	- Use of a power washer or compressed air blower at an angle of 30 degrees or less can be effective, vacuum or vacuum sweeper if necessary.
Damage to pavement	As needed	- Repairs should be made as identified.

**Additional Porous Asphalt Operation and Maintenance Requirements:**

- ***No winter sanding or salting of porous pavements is permitted***
- Never reseal or repave with impermeable materials.
- Inspect annually for pavement deterioration or spalling.
- Monitor periodically to ensure the pavement surface drains effectively after storms.

### **6.3.1 Disposal Requirements**

Disposal of debris, trash, sediment and other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste regulations.

### **6.3.2 Snow & Ice Management for Standard Asphalt and Walkways**

Snow storage areas shall be located such that no direct untreated discharges are possible to receiving waters from the storage site (snow storage areas have been shown on the Site Plan). The property manager will be responsible for timely snow removal from all private sidewalks, driveways, and parking areas. Snow removal will be hauled off-site and legally disposed of when snowbanks exceed 6 feet in height. Salt storage areas shall be covered or located such that no direct untreated discharges are possible to receiving waters from the storage site. Salt and sand shall be used to the minimum extent practical (refer to the attached for de-icing application rate guideline from the New Hampshire Stormwater Management Manual, Volume 2,).

## **6.4 Chloride Management Plan**

### **Winter Operational Guidelines**

The following Chloride Management Plan is for the Raynes Avenue, Mixed Use Development in Portsmouth, New Hampshire. The Plan includes operational guidelines including winter operator certification requirements, weather monitoring, equipment calibration requirements, mechanical removal, and salt usage evaluation and monitoring. Due to the evolving nature of chloride management efforts, the Chlorides Management Plan will be reviewed annually, in advance of the winter season, to reflect the current management standards.

#### **6.4.1 Background Information**

The Green Street, Mixed Use Development is located along the North Mill Pond in Portsmouth, New Hampshire.

#### **6.4.2 Operational Guidelines – Chloride Management**

All private contractors engaged at the development site for the purposes of winter operational snow removal and surface maintenance, are responsible for assisting in meeting compliance for the following protocols. Private contractors are expected to minimize the effects of the use of de-icing, anti-icing and pretreatment materials by adhering to the strict guidelines outlined below.

The winter operational de-icing, anti-icing and pretreatment materials will adhere to the following protocols



**6.4.2.1 Winter Operator Certification Requirements**

All private contractors engaged at the premises for the purpose of winter operational snow removal and surface maintenance must be current UNHT2 Green SnowPro Certified operators or equivalent and will use only pre-approved methods for spreading abrasives on private roadways and parking lots. All private contractors engaged at the premises for the purpose of winter operational snow removal and surface maintenance shall provide to the property management two copies of the annual UNHT2 Green SnowPro certificate or equivalent for each operator utilized on the premises. The annual UNHT2 Green SnowPro certificate or equivalent for each operator will be available on file in the Facilities Management office and be present in the vehicle/carrier at all times.

**6.4.2.2 Improved Weather Monitoring**

The property manager will coordinate weather information for use by winter maintenance contractors. This information in conjunction with site specific air/ground surface temperature monitoring will ensure that private contractors engaged at the premises for the purpose of winter operational snow removal and surface maintenance will make more informed decisions as to when and to what extent de-icing, anti-icing and pretreatment materials are applied to private roadways, sidewalks, and parking lots.

**6.4.2.3 Equipment Calibration Requirements**

All equipment utilized on the premises for the purpose of winter operational snow removal and surface maintenance will conform to the following calibration requirements.

**6.4.2.3.1 Annual Calibration Requirements**

All private contractors engaged at the premises for the purpose of winter operational snow removal and surface maintenance shall provide two copies of the annual calibration report for each piece of equipment utilized on the premises. Each calibration report shall include the vehicle/carrier VIN number and the serial numbers for each component including, but not limited to, spreader control units, salt aggregate spreader equipment, brining/pre-wetting equipment, ground speed orientation unit, and air/ground surface temperature monitor. Annual calibration reports will be available on file in the Facilities Management office and be present in the vehicle/carrier at all times.

Prior to each use, each vehicle/carrier operator will perform a systems check to verify that unit settings remain within the guidelines established by the Management Team in order to accurately dispense material. All private contractors engaged at the premises for the purpose of winter operational snow removal and surface maintenance will be subject to spot inspections by members of the Property Management Team to ensure that each vehicle/carrier is operating in a manner consistent with the guidelines set herein or State and Municipal regulations. All units will be recalibrated, and the updated calibration

reports will be provided each time repairs or maintenance procedures affect the hydraulic system of the vehicle/carrier.

#### **6.4.2.4 Increased Mechanical Removal Capabilities**

All private contractors engaged at the premises will endeavor to use mechanical removal means on a more frequent basis for roadways, parking lots and sidewalks. Dedicating more manpower and equipment to increase snow removal frequencies prevents the buildup of snow and the corresponding need for de-icing, anti-icing and pretreatment materials. Shortened maintenance routes, with shorter service intervals, will be used to stay ahead of snowfall. Minimized snow and ice packing will reduce the need for abrasives, salt aggregates, and/or brining solution to restore surfaces back to bare surface states after winter precipitation events.

After storm events the management team will be responsible for having the streets swept to recapture un-melted de-icing materials, when practical.

#### **6.4.3 Salt Usage Evaluation and Monitoring**

All private contractors engaged at the premises for the purpose of winter operational snow removal and surface maintenance shall provide two copies of a storm report, which includes detailed information regarding treatment areas and the use of de-icing, anti-icing and pretreatment materials applied for the removal of snow and surface maintenance on the premises. The property manager will maintain copies of Summary Documents, including copies of the Storm Reports, operator certifications, equipment used for roadway and sidewalk winter maintenance, calibration reports and amount of de-icing materials used.

#### **6.4.4 Summary**

The above-described methodologies are incorporated into the Operational Manual and are to be used to qualify and retain all private contractors engaged at the 105 Bartlett Street premises for the purpose of winter operational snow removal and surface maintenance. This section of the Manual is intended to be an adaptive management document that is modified as required based on experience gained from past practices and technological advancements that reflect chloride BMP standards. All employees directly involved with winter operational activities are required to review this document and the current standard Best Management Practices published by the UNH Technology Transfer (T2) program annually. All employees directly involved with winter operational activities, and all private contractors engaged at the premises for the purposes of winter operational snow removal and surface maintenance, must be current UNHT2 Green SnowPro Certified operators or equivalent and undergo the necessary requirements to maintain this certification annually.

**Deicing Application Rate Guidelines**

24' of pavement (typical two-lane road)

These rates are not fixed values, but rather the middle of a range to be selected and adjusted by an agency according to its local conditions and experience.

Pavement Temp. (°F) and Trend (↑↓)	Weather Condition	Maintenance Actions	Pounds per two-lane mile			
			Salt Prewetted / Pretreated with Salt Brine	Salt Prewetted / Pretreated with Other Blends	Dry Salt*	Winter Sand (abrasives)
> 30° ↑	Snow	Plow, treat intersections only	80	70	100*	Not recommended
	Freezing Rain	Apply Chemical	80 - 160	70 - 140	100 - 200*	Not recommended
30° ↓	Snow	Plow and apply chemical	80 - 160	70 - 140	100 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↑	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↓	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↑	Snow or Freezing Rain	Plow and apply chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↓	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↑	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↓	Snow or Freezing Rain	Plow and apply chemical	240 - 320	210 - 280	300 - 400*	500 for freezing rain
0° - 15° ↑↓	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	300 - 400	Not recommended	500 - 750 spot treatment as needed
< 0°	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	400 - 600**	Not recommended	500 - 750 spot treatment as needed

\* Dry salt is not recommended. It is likely to blow off the road before it melts ice.

\*\* A blend of 6 - 8 gal/ton MgCl<sub>2</sub> or CaCl<sub>2</sub> added to NaCl can melt ice as low as -10°.



<b>Anti-icing Route Data Form</b>				
Truck Station:				
Date:				
Air Temperature	Pavement Temperature	Relative Humidity	Dew Point	Sky
Reason for applying:				
Route:				
Chemical:				
Application Time:				
Application Amount:				
Observation (first day):				
Observation (after event):				
Observation (before next application):				
Name:				

## **6.5 Invasive Species**

With respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem is classified as an invasive species. Refer to the following fact sheet prepared by the University of New Hampshire Cooperative Extension entitled Methods for Disposing Non-Native Invasive Plants for recommended methods to dispose of invasive plant species.

## **6.6 Annual Updates and Log Requirements**

The Owner and/or Contact/Responsible Party shall review this Operation and Maintenance Plan once per year for its effectiveness and adjust the plan and deed as necessary.

A log of all preventative and corrective measures for the stormwater system shall be kept on-site and be made available upon request by any public entity with administrative, health environmental or safety authority over the site including NHDES.

Copies of the Stormwater Maintenance report shall be submitted to the City of Portsmouth on an annual basis.

<b>Stormwater Management Report</b>						
<b>Mixed Use Development</b>		<b>53 Green Street – Map 119, Lot 2</b>				
<b>BMP Description</b>	<b>Date of Inspection</b>	<b>Inspector</b>	<b>BMP Installed and Operating Properly?</b>	<b>Cleaning / Corrective Action Needed</b>	<b>Date of Cleaning / Repair</b>	<b>Performed By</b>
Deep Sump CB's			<input type="checkbox"/> Yes <input type="checkbox"/> No			
Underground Detention			<input type="checkbox"/> Yes <input type="checkbox"/> No			
Jellyfish Filter 1			<input type="checkbox"/> Yes <input type="checkbox"/> No			



Stormwater Management Report						
City of Portsmouth		North Mill Pond Trail				
BMP Description	Date of Inspection	Inspector	BMP Installed and Operating Properly?	Cleaning / Corrective Action Needed	Date of Cleaning / Repair	Performed By
Porous Pavement			<input type="checkbox"/> Yes <input type="checkbox"/> No			

J:\C\C0960 Cathartes\C-0960-011 53 Green St, Portsmouth, NH\Report\_Evaluation\Applications\City of Portsmouth\20210322 TAC Submission\Drainage\C-0960-011\_Drainage Report.docx

**APPENDIX A**





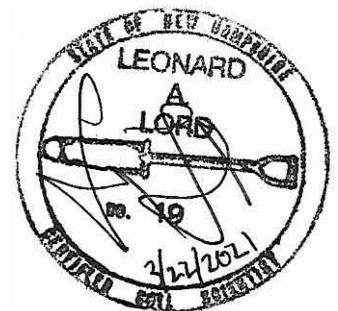


Proposed Mixed Use Development  
53 Green Street, Portsmouth, NH

## **SITE SPECIFIC SOIL MAP REPORT**

CPI Management, LLC

March 2021



**Tighe&Bond**

## 1.0 Introduction

This report is provided in conjunction with a 1.81 +/- acre Site Specific Soil Map (SSSM) prepared by Tighe & Bond for a parcel at 53 Green Street in Portsmouth, NH. The purpose of the mapping was to assist in the evaluation of drainage and other soil-related uses associated with site improvements, and may be used as part of an Alteration of Terrain (AoT) permit application.

## 2.0 Methods

Fieldwork for the soil mapping was completed October 22 and December 2, 2019 based on *Site-Specific Soil Mapping Standards for New Hampshire and Vermont, Version 5.0*, (Society of Soil Scientists of Northern New England [SSSNNE] Special Publication No. 3, December 2017). The poorly and very poorly drained soil types under this system are based on the most recent version of *Field Indicators for Identifying Hydric Soils in New England, Version 4* (New England Interstate Water Pollution Control Commission, 2018).

The soil legend for this map is based on the soil series currently mapped in the State of New Hampshire as published in the *New Hampshire State-Wide Numerical Soils Legend* (USDA Natural Resources Conservation Service, Issue #10, 2011). Since this soil map includes disturbed soils and may be used for an AoT application, the map symbols are composed of two major parts separated by a forward slash (/). The first part of the soil symbol includes a numerical identifier from the state-wide soil legend, followed by a letter indicating the slope class (e.g., 299A). Slope class identifiers are as follows:

A	0-3%	D	15-25%
B	3-8%	E	25-50%
C	8-15%	F	>50%

The second part of the symbol is based on the SSSNNE Disturbed Soil Supplemental Symbols, which are included within the Site Specific Soil Map (SSSM) standards. This portion of the symbol translates as follows:

### **Character 1: Drainage Class**

- a-Excessively Drained
- b-Somewhat Excessively Drained
- c-Well Drained
- d-Moderately Well Drained
- e-Somewhat Poorly Drained
- f-Poorly Drained
- g-Very Poorly Drained
- h-Not Determined

**Character 2: Parent Material** (of naturally formed soil only, if present)

- a-No natural soil within 60 inches
- b-Glaciofluvial deposits (outwash/terraces of sand or sand and gravel)
- c-Glacial till material (active ice)
- d-Glaciolacustrine very fine sand and silt deposits (glacial lakes)
- e-Loamy/sandy over silt/clay deposits
- f-Marine silt and clay deposits (ocean waters)
- g-Alluvial deposits (floodplains)
- h-Organic materials-fresh water wetlands
- i-Organic materials-tidal wetlands

**Character 3: Restrictive Properties**

- a-None
- b-Bouldery surface with more than 15% of the surface covered with boulders
- c-Mineral restrictive layer(s) are present in the soil profile less than 40 inches below the soil surface such as hard pan, platy structure or clayey texture with consistence of at least firm (i.e. more than 20 newtons).
- d-Bedrock in the soil profile; 0-20 inches
- e-Bedrock in the soil profile; 20-60 inches
- f-Areas where depth to bedrock is so variable that a single soil type cannot be applied, will be mapped as a complex of soil types
- g-Subject to flooding
- h-Manufactured impervious surface including pavement, concrete, or built-up surfaces (e.g. buildings) with no morphological restrictive layer within control section

**Character 4: Estimated Ksat** (most limiting layer excluding symbol 3h above)

- a-High
- b-Moderate
- c-Low
- d-Not determined \*See "Guidelines for Ksat Class Placement" in Chapter 3 of the Soil Survey Manual, USDA



**Character 5: Hydrologic Soil Group**

- a-Group A
- b-Group B
- c-Group C
- d-Group D
- e-Not determined

SSSM report standards require estimates of the maximum size of *limiting* inclusions for the entire soil map and an estimate of the percentage of *dissimilar* inclusions within each map unit. *Limiting* inclusions are soils "...that differ appreciably in one or more soil properties from the named soil in a map unit. The difference in soil properties is more restrictive and may affect use and management." *Dissimilar* inclusions are "...soils that either do not share limits of some important diagnostic properties of the named taxon, or, in the professional judgment of the soil scientist, have different use or management requirements." The maximum size of any limiting inclusions in this soil map is estimated to be less than 2,000 square feet. Any dissimilar inclusions noted during the mapping are listed below within the map unit descriptions.

### **3.0 Site Features**

The parcel is a highly disturbed site along the North Mill Pond. The property shows evidence of what appears to be very old filling and grading associated with the existing development.

### **4.0 Soil Map Unit Descriptions**

Below are descriptions for the map unit found on the accompanying SSSM. The "\*" after the numerical map unit symbol represents a placeholder for the slope class indicators described above.

#### **100\*/cfabb—Udorthents, wet substratum**

Landscape Setting: Soils that have been filled over what was originally hydric soils

Drainage Class: Well drained

Parent Material: Fill over marine silts and clays at <60 inches.

Typical Textures: Gravelly sandy loam fill

Hydrologic Soil Group: B

Dissimilar Inclusions: None noted

Limiting Inclusions: Upper slopes along the shore are steeper than the mapped unit and are affected by tidal inundation. These areas comprise less than 10% of the unit

Additional Notes: Soils in these areas have properties that are similar to the Charlton soil series for Hydrologic Soil Group determination

**100\*/dfabb—Udorthents, wet substratum**

Landscape Setting: Soils that have been filled and leveled over what was originally hydric soils

Drainage Class: Moderately well drained

Parent Material: Fill over marine silts and clays at <60 inches.

Typical Textures: Very gravelly sandy loam fill

Hydrologic Soil Group: B

Dissimilar Inclusions: None noted

Limiting Inclusions: Slopes along the shore are steeper than the mapped unit and are affected by tidal inundation. These areas comprise less than 10% of the unit

Additional Notes: Soils in these areas have properties that are similar to the Sutton soil series for Hydrologic Soil Group determination

**100\*/ffccc—Udorthents, wet substratum**

Landscape Setting: Soils that have been filled over what was originally hydric soils

Drainage Class: Poorly drained

Parent Material: Fill over marine silts and clays at <60 inches.

Typical Textures: Gravelly and cobbly sandy loam fill with some anthropogenic debris, such as bricks, over silt loam

Hydrologic Soil Group: C

Dissimilar Inclusions: None noted

Limiting Inclusions: None noted

Additional Notes: Soils in these areas have properties that are similar to the Shaker soil series for Hydrologic Soil Group determination. These soils are regularly inundated by the tides.

## Site Specific Soil Map Legend

### 53 Green Street, Portsmouth, NH

#### Slope Class Identifiers

A 0-3%	D 15-25%
B 3-8%	E 25-50%
C 8-15%	F >50%

#### Map Unit Symbols

<u>Map Number* /Disturbed Soil Numerator**</u>	<u>Soil Map Unit Name</u>	<u>Hydrologic Soil Group</u>
100*/cfabb	Udorthents, wet substratum / well drained, fill over marine silts and clays, no restrictive layer within 40 inches, moderate Ksat, Hydrologic Soil Group B	B
100*/dfabb	Udorthents, wet substratum, 0-3% slopes / moderately well drained, fill over marine silts and clays, no restrictive layer within 40 inches, moderate Ksat, Hydrologic Soil Group B	B
100*/ffccc	Udorthents, wet substratum, 0-3% slopes / poorly drained, fill over marine silts and clays, restrictive layer is present within 40 inches, low Ksat, Hydrologic Soil Group C	C

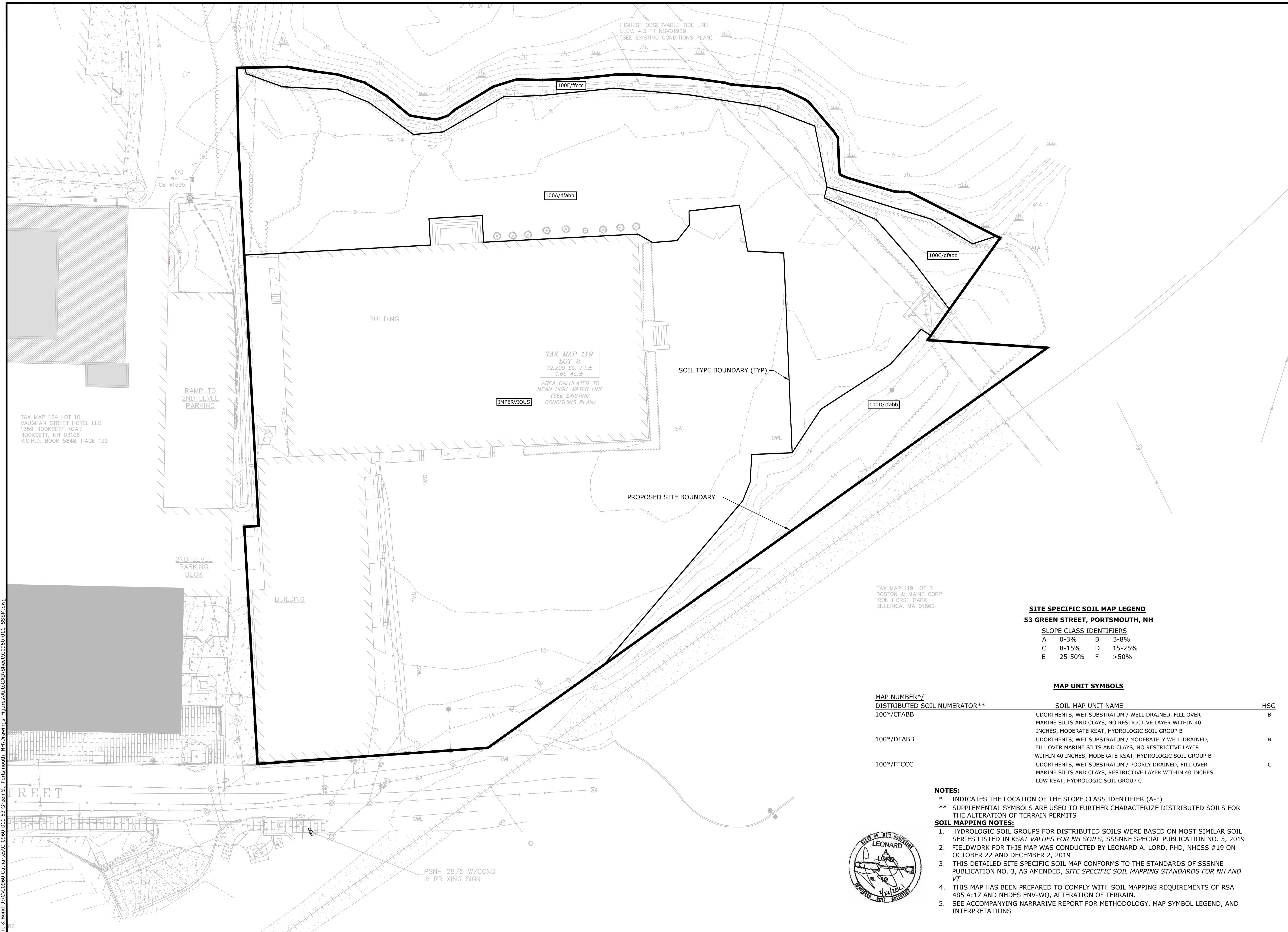
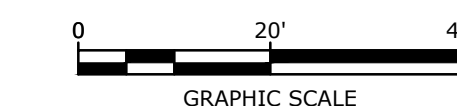
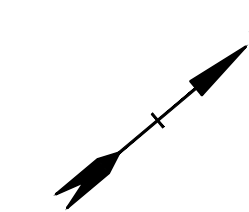
\*Indicates the location of the slope class identifier (A-F)

\*\*Supplemental symbols are used to further characterize disturbed soils for Alteration of Terrain permits

#### **Soil Mapping Notes:**

1. Hydrologic soil groups for disturbed soils were based on most similar soil series listed in *Ksat Values for NH Soils*, SSSNNE Special Publication No. 5, 2009.
2. Fieldwork for this map was conducted by Leonard A. Lord, PhD, NHCSS #19 on October 22 and December 2, 2019.
3. This detailed Site Specific Soil Map conforms to the standards of SSSNNE Publication No. 3, as amended, *Site Specific Soil Mapping Standards for NH and VT*.
4. This map has been prepared to comply with soil mapping requirements of RSA 485 A:17 and NHDES Env-Wq, Alteration of Terrain.
5. See accompanying narrative report for methodology, map symbol legend, and interpretations.





**Proposed Mixed Use Development**

CPI Management, LLC

53 Green Street  
Portsmouth, NH

**SITE SPECIFIC SOIL MAP LEGEND**  
53 GREEN STREET, PORTSMOUTH, NH

**SLOPE CLASS IDENTIFIERS**

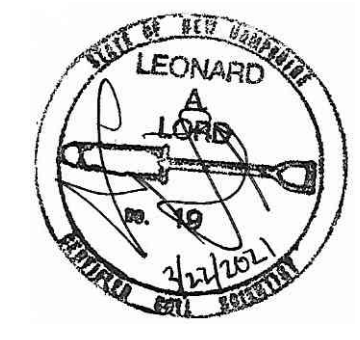
A	0-3%	B	3-8%
C	8-15%	D	15-25%
E	25-50%	F	>50%

**MAP UNIT SYMBOLS**

MAP NUMBER*/ DISTRIBUTED SOIL NUMERATOR**	SOIL MAP UNIT NAME	HSG
100*/CFABB	UDORTMENTS, WET SUBSTRATUM / WELL DRAINED, FILL OVER MARINE SILTS AND CLAYS, NO RESTRICTIVE LAYER WITHIN 40 INCHES, MODERATE KSAT, HYDROLOGIC SOIL GROUP B	B
100*/DFABB	UDORTMENTS, WET SUBSTRATUM / MODERATELY WELL DRAINED, FILL OVER MARINE SILTS AND CLAYS, NO RESTRICTIVE LAYER WITHIN 40 INCHES, MODERATE KSAT, HYDROLOGIC SOIL GROUP B	B
100*/FFCCC	UDORTMENTS, WET SUBSTRATUM / POORLY DRAINED, FILL OVER MARINE SILTS AND CLAYS, RESTRICTIVE LAYER WITHIN 40 INCHES LOW KSAT, HYDROLOGIC SOIL GROUP C	C

**NOTES:**  
\* INDICATES THE LOCATION OF THE SLOPE CLASS IDENTIFIER (A-F)  
\*\* SUPPLEMENTAL SYMBOLS ARE USED TO FURTHER CHARACTERIZE DISTRIBUTED SOILS FOR THE ALTERATION OF TERRAIN PERMITS

- SOIL MAPPING NOTES:**
1. HYDROLOGIC SOIL GROUPS FOR DISTRIBUTED SOILS WERE BASED ON MOST SIMILAR SOIL SERIES LISTED IN *KSAT VALUES FOR NH SOILS*, SSSNNE SPECIAL PUBLICATION NO. 5, 2019
  2. FIELDWORK FOR THIS MAP WAS CONDUCTED BY LEONARD A. LORD, PHD, NHCSS #19 ON OCTOBER 22 AND DECEMBER 2, 2019
  3. THIS DETAILED SITE SPECIFIC SOIL MAP CONFORMS TO THE STANDARDS OF SSSNNE PUBLICATION NO. 3, AS AMENDED, *SITE SPECIFIC SOIL MAPPING STANDARDS FOR NH AND VT*
  4. THIS MAP HAS BEEN PREPARED TO COMPLY WITH SOIL MAPPING REQUIREMENTS OF RSA 485 A:17 AND NHDES ENV-WQ, ALTERATION OF TERRAIN.
  5. SEE ACCOMPANYING NARRATIVE REPORT FOR METHODOLOGY, MAP SYMBOL LEGEND, AND INTERPRETATIONS



Last Saved: 3/19/2021  
 Plotted On: Mar 19, 2021 1:31:13pm  
 By: A.Selbir  
 Tighe & Bond\T&B\CAD\CAD\53 Green St. Portsmouth, NH Drawings\Figures\AutoCAD\Sheet\C0960-011\_SSSM.dwg

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DATE:	MARCH 22, 2021	
FILE:	C0960-011_SSSM.DWG	
DRAWN BY:	AFS	
CHECKED:	LAL	
APPROVED:	LAL	

**SITE SPECIFIC SOIL MAP**

SCALE: AS SHOWN



**APPENDIX B**

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# Extreme Precipitation Tables

## Northeast Regional Climate Center

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

<b>Smoothing</b>	Yes
<b>State</b>	New Hampshire
<b>Location</b>	
<b>Longitude</b>	70.764 degrees West
<b>Latitude</b>	43.080 degrees North
<b>Elevation</b>	0 feet
<b>Date/Time</b>	Fri, 24 Jul 2020 12:23:19 -0400

### Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.26	0.40	0.50	0.65	0.81	1.04	<b>1yr</b>	0.70	0.98	1.21	1.56	2.03	2.65	2.92	<b>1yr</b>	2.35	2.81	3.22	3.94	4.54	<b>1yr</b>
<b>2yr</b>	0.32	0.50	0.62	0.81	1.02	1.30	<b>2yr</b>	0.88	1.18	1.52	1.94	2.48	3.20	3.57	<b>2yr</b>	2.84	3.43	3.93	4.67	5.32	<b>2yr</b>
<b>5yr</b>	0.37	0.58	0.73	0.97	1.25	1.61	<b>5yr</b>	1.08	1.47	1.89	2.43	3.14	4.06	4.57	<b>5yr</b>	3.59	4.40	5.03	5.93	6.69	<b>5yr</b>
<b>10yr</b>	0.41	0.65	0.82	1.11	1.45	1.89	<b>10yr</b>	1.25	1.72	2.23	2.89	3.74	4.86	5.52	<b>10yr</b>	4.30	5.31	6.07	7.09	7.96	<b>10yr</b>
<b>25yr</b>	0.48	0.76	0.97	1.33	1.77	2.33	<b>25yr</b>	1.53	2.14	2.77	3.62	4.73	6.16	7.09	<b>25yr</b>	5.45	6.81	7.78	9.00	10.03	<b>25yr</b>
<b>50yr</b>	0.53	0.86	1.10	1.53	2.07	2.75	<b>50yr</b>	1.78	2.52	3.28	4.31	5.65	7.37	8.57	<b>50yr</b>	6.53	8.24	9.40	10.79	11.95	<b>50yr</b>
<b>100yr</b>	0.59	0.96	1.24	1.76	2.41	3.25	<b>100yr</b>	2.08	2.97	3.90	5.15	6.75	8.83	10.36	<b>100yr</b>	7.82	9.96	11.35	12.93	14.24	<b>100yr</b>
<b>200yr</b>	0.67	1.10	1.42	2.04	2.82	3.82	<b>200yr</b>	2.43	3.51	4.60	6.11	8.06	10.58	12.52	<b>200yr</b>	9.37	12.04	13.71	15.50	16.98	<b>200yr</b>
<b>500yr</b>	0.80	1.31	1.71	2.48	3.47	4.75	<b>500yr</b>	2.99	4.37	5.75	7.68	10.19	13.45	16.11	<b>500yr</b>	11.90	15.49	17.61	19.72	21.44	<b>500yr</b>

### Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.23	0.36	0.44	0.59	0.73	0.88	<b>1yr</b>	0.63	0.86	0.92	1.33	1.68	2.23	2.48	<b>1yr</b>	1.97	2.39	2.86	3.18	3.88	<b>1yr</b>
<b>2yr</b>	0.31	0.49	0.60	0.81	1.00	1.19	<b>2yr</b>	0.86	1.16	1.37	1.82	2.34	3.05	3.45	<b>2yr</b>	2.70	3.31	3.82	4.54	5.07	<b>2yr</b>
<b>5yr</b>	0.35	0.54	0.67	0.92	1.17	1.40	<b>5yr</b>	1.01	1.37	1.61	2.12	2.73	3.78	4.18	<b>5yr</b>	3.34	4.02	4.71	5.52	6.23	<b>5yr</b>
<b>10yr</b>	0.38	0.59	0.73	1.02	1.32	1.60	<b>10yr</b>	1.14	1.56	1.80	2.39	3.06	4.36	4.85	<b>10yr</b>	3.86	4.66	5.42	6.39	7.17	<b>10yr</b>
<b>25yr</b>	0.44	0.67	0.83	1.18	1.56	1.90	<b>25yr</b>	1.34	1.86	2.10	2.76	3.54	4.70	5.87	<b>25yr</b>	4.16	5.64	6.62	7.76	8.65	<b>25yr</b>
<b>50yr</b>	0.48	0.73	0.91	1.31	1.76	2.17	<b>50yr</b>	1.52	2.12	2.34	3.07	3.93	5.31	6.77	<b>50yr</b>	4.70	6.51	7.68	9.00	9.98	<b>50yr</b>
<b>100yr</b>	0.53	0.81	1.01	1.46	2.00	2.47	<b>100yr</b>	1.73	2.41	2.62	3.42	4.35	5.96	7.81	<b>100yr</b>	5.28	7.51	8.92	10.45	11.52	<b>100yr</b>
<b>200yr</b>	0.59	0.89	1.12	1.63	2.27	2.81	<b>200yr</b>	1.96	2.75	2.93	3.79	4.79	6.68	9.01	<b>200yr</b>	5.91	8.66	10.34	12.15	13.31	<b>200yr</b>
<b>500yr</b>	0.68	1.02	1.31	1.90	2.70	3.36	<b>500yr</b>	2.33	3.28	3.41	4.32	5.46	7.76	10.87	<b>500yr</b>	6.87	10.45	12.58	14.86	16.11	<b>500yr</b>

### Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.28	0.44	0.54	0.72	0.89	1.08	<b>1yr</b>	0.77	1.06	1.26	1.74	2.21	2.98	3.16	<b>1yr</b>	2.64	3.04	3.58	4.37	5.04	<b>1yr</b>
<b>2yr</b>	0.34	0.52	0.64	0.86	1.07	1.27	<b>2yr</b>	0.92	1.24	1.48	1.96	2.52	3.42	3.70	<b>2yr</b>	3.03	3.56	4.08	4.83	5.62	<b>2yr</b>
<b>5yr</b>	0.40	0.62	0.76	1.05	1.34	1.62	<b>5yr</b>	1.15	1.58	1.88	2.53	3.25	4.33	4.96	<b>5yr</b>	3.84	4.77	5.37	6.37	7.15	<b>5yr</b>
<b>10yr</b>	0.47	0.72	0.89	1.24	1.61	1.97	<b>10yr</b>	1.39	1.93	2.28	3.11	3.95	5.33	6.20	<b>10yr</b>	4.72	5.96	6.82	7.83	8.74	<b>10yr</b>
<b>25yr</b>	0.57	0.87	1.09	1.55	2.04	2.57	<b>25yr</b>	1.76	2.51	2.95	4.07	5.15	7.77	8.34	<b>25yr</b>	6.88	8.02	9.15	10.33	11.40	<b>25yr</b>
<b>50yr</b>	0.67	1.02	1.27	1.82	2.46	3.12	<b>50yr</b>	2.12	3.05	3.59	5.00	6.32	9.73	10.46	<b>50yr</b>	8.62	10.06	11.45	12.71	13.95	<b>50yr</b>
<b>100yr</b>	0.79	1.19	1.49	2.15	2.95	3.80	<b>100yr</b>	2.55	3.72	4.37	6.15	7.76	12.18	13.11	<b>100yr</b>	10.78	12.61	14.32	15.68	17.08	<b>100yr</b>
<b>200yr</b>	0.92	1.39	1.76	2.54	3.55	4.64	<b>200yr</b>	3.06	4.54	5.33	7.58	9.53	15.29	16.45	<b>200yr</b>	13.53	15.82	17.94	19.34	20.91	<b>200yr</b>
<b>500yr</b>	1.14	1.70	2.19	3.18	4.52	6.02	<b>500yr</b>	3.90	5.89	6.92	10.01	12.54	20.67	22.22	<b>500yr</b>	18.29	21.37	24.18	25.50	27.33	<b>500yr</b>







**APPENDIX C**

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# Examination of Thermal Impacts from Stormwater BMPs



In a study in Durham, New Hampshire, four years of runoff temperature data were examined for a range of stormwater best management practices (BMPs) in relation to established environmental indicators.

## The stormwater BMPs examined included:

Conventional	Low Impact Development	Manufactured Treatment Devices
<ul style="list-style-type: none"> <li>• Vegetated Swale</li> <li>• Detention Pond</li> <li>• Retention Pond</li> </ul>	<ul style="list-style-type: none"> <li>• Bioretention</li> <li>• Gravel Wetland</li> </ul>	<ul style="list-style-type: none"> <li>• Storm Tech Isolator Row</li> <li>• ADS Infiltration System</li> <li>• Hydrodynamic Separator</li> </ul>



Surface systems that are exposed to direct sunlight have been shown to increase already elevated summer runoff temperatures, while systems that provide treatment by infiltration and filtration can moderate runoff temperatures by thermal exchange with cool subsurface materials.

The storm drain system in this study had an annual average event mean temperature (EMT) greater than the mean groundwater temperature of 47°F that commonly feeds coldwater streams.

The examination of BMPs indicates that outflow from the larger surface systems is warmer and more variable than from parking lots. The filtration and infiltration systems cooled stormwater runoff to temperatures close to groundwater temperature.



*Top: A view of a healthy coldwater fishery. Center: Large parking areas store tremendous amounts of heat which is transferred into stormwater runoff. Bottom: Subsurface treatment systems such as gravel wetlands can buffer temperature impacts for stormwater runoff.*



## SURFACE SYSTEMS: Thermal Extremes

The summer temperatures of the two stormwater ponds, vegetated swale, and HDS (Hydrodynamic Separators) systems, indicate that they **provide little to no reduction of high runoff temperatures.**

The Retention and Detention ponds have the largest variation in temperature. The Retention Pond is the only system to exceed both the Upper Optimum Limit (UOL) and the Lethal Limit of 80°F, however, the Detention Pond with a maximum temperature of 79.4°F comes very close.

The permanent pool of water in the Retention Pond appears to act as a heat sink during periods of extreme heat.

## FILTRATION & INFILTRATION SYSTEMS: Thermal Buffers

Filtration and infiltration systems **showed the strongest ability to reduce temperature variations.** The gravel wetland, the ADS (Advanced Drainage Systems™) Infiltration System, and the StormTech Isolator Row have a strong capacity to reduce temperatures of runoff.

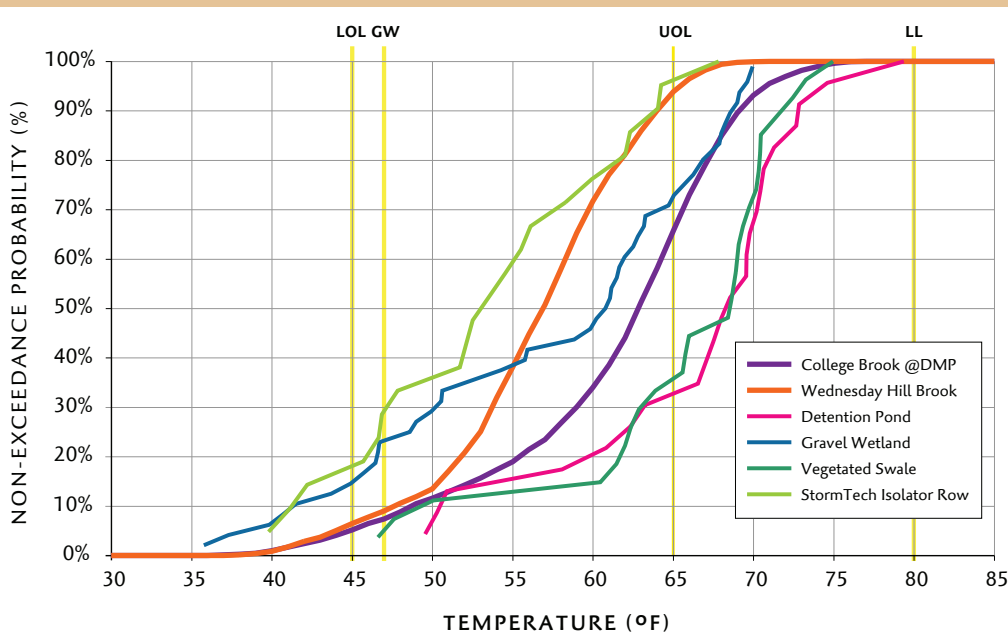
The Bioretention system showed minor buffering capacity and was consistently cooler in the summer and warmer in the winter than the runoff. These filtration and infiltration systems are, on average, reducing the summer temperatures and increasing the winter temperatures of the runoff to near the average groundwater temperature of 47°F.

The two subsurface infiltration systems, ADS and STIR, are the only systems with mean July temperatures within the optimum zone of 45°F to 65°F for coldwater aquatic species. All other systems result in runoff within the stress zone for aquatic species, between 65°F and 80°F.

The Gravel Wetland, the ADS infiltration system, and the Isolator Row systems have the lowest exceedance values of the UOL at 13.0%, 5.0%, 1.5% respectively.



*StormTech Isolator Row.*



Comparison of summer temperatures for two streams: Wednesday Hill Brook (unimpacted) and College Brook (impacted); a wet and dry pond, a gravel wetland, and subsurface infiltration (Stormtech Isolator Row) with environmental indicators for cold water fisheries:

**Average Annual Groundwater Temperature (GW) = 47°F**

**Lower Optimum Limit (LOL) = 45°F**

**Upper Optimum Limit (UOL) = 65°F**

**Lethal Limit (LL) = 80°F**

C-0960-011  
 April 21, 2021

Mr. Eric Eby, City Traffic Engineer  
 City of Portsmouth  
 Department of Public Works  
 680 Peverly Hill Road  
 Portsmouth New Hampshire

Re: **Trip Generation Analysis**  
**Proposed Mixed Use Development – 53 Green Street, Portsmouth, NH**

Dear Eric:

Tighe & Bond has performed a trip generation analysis for traffic related to a proposed mixed-use development on a parcel of land located at 53 Green Street that is identified as Map 119 Lot 2 on the City of Portsmouth Tax Maps.

This analysis was performed utilizing Institute of Transportation Engineers (ITE) Trip Generation Manual, latest edition. For purposes of analysis, we have compared the existing and proposed uses for the parcel. The parcel’s existing uses consists of 14,600 SF of office, 3,000 SF of medical office and 4,070 SF of spa with on-site parking. These buildings will be demolished. The proposed building consists 48 dwelling units with associated on-site parking. The proposed building also includes ±1,900 SF of first floor commercial space along Green Street but there are no on-site parking spaces required for this use, however it was included as part of this Trip Generation Analysis to provide a more conservative analysis.

	Existing			Proposed		Net Trips
	Office	Spa	Medical Office	Multifamily Housing	Commercial	
<b>Weekday AM Peak Hour</b>						
Trips Entering	15	5	6	4	3	-19
Trips Exiting	2	0	2	13	1	+10
<b>Total Vehicle Trips</b>	<b>17</b>	<b>5</b>	<b>8</b>	<b>17</b>	<b>4</b>	<b>-9</b>
<b>Weekday PM Peak Hour</b>						
Trips Entering	3	1	3	13	1	+7
Trips Exiting	15	5	7	8	4	-15
<b>Total Vehicle Trips</b>	<b>18</b>	<b>6</b>	<b>10</b>	<b>21</b>	<b>5</b>	<b>-8</b>
<b>Saturday Peak Hour</b>						
Trips Entering	4	8	5	10	0	-7
Trips Exiting	4	13	4	11	1	-9
<b>Total Vehicle Trips</b>	<b>8</b>	<b>21</b>	<b>9</b>	<b>21</b>	<b>1</b>	<b>-16</b>

**Source:** Institute of Transportation Engineering, Trip Generation, 10<sup>th</sup> Edition  
 Land Uses – 221 Multifamily Housing (Mid-Rise), 710 General Office, 712 Small Office Building, 720 Medical Office, 918 Hair Salon



As depicted above, the proposed 48 residential units and 1,900 SF of small office space in place of the existing 14,600 SF of office use, 3,000 SF of medical office use and 4,070 SF of spa use will result in a reduction of 9 vehicle trips during the Weekday AM Peak Hour, 8 vehicle trips during the Weekday PM Peak Hour and 16 vehicle trips during the Saturday Peak Hour. It is anticipated there will be a reduced number of vehicle trips associated with this project resulting in no additional impact to the surrounding roadway network during peak hour times.

Please feel free to contact us if you have any questions or need any additional information.

Sincerely,

**TIGHE & BOND, INC.**



Neil A. Hansen, PE  
Project Engineer



Patrick M. Crimmins, PE  
Senior Project Manager



City of Portsmouth TAC, April 06, 2021:			
	TAC Comment	Applicant Response	Sheet
<b>TAC Comments from 4/5 Correspondence:</b>			
1	Please show the proposed sewer easement to the City of Portsmouth on the lot line revision plan	Lot Line Revision plan will include the proposed sewer easement. The proposed sewer easement is shown on the Easement Plan and has been added to the Site Plan.	C-102.1, C-301
2	The Community Space easement should include the pedestrian passageway between the proposed new building and the AC Hotel. This is the only connection between Green Street and the Greenway along the North Mill Pond. Additionally, the easement should include the proposed access to the seat wall behind the building.	The Community Space easement has been adjusted on the Easement Plan.	C-301
3	The minimum width of the community space pedestrian pathway should be 8 feet.	The width of the path has been adjusted.	C-102.1
4	Min. Front Lot Line Buildout (FLLB) compliance needs to be verified.	Additional calculations have been added to the Site Data table to verify compliance.	C-102.1
5	Sheet C-102 Development standards footnote (2) needs to be reassigned to reflect the Overlay Incentive District requirements as Section 10.5A43.43 does not apply to this project.	The footnote has been revised.	C-102.1
6	Footnote #3 in the development standards chart should reference Section 10.5A46.10.	The footnote has been revised.	C-102.1
7	It appears that only 69 off-street parking spaces are required (versus 73) due to the DOD credit. Perhaps the three parallel spaces along the building frontage could be removed in order to support a larger raised and landscaped island to soften the impervious surface of the driveway, drop off area and sidewalks.	This area is required to remain as pavement for access purposes. The area will be reserved as short-term loading spaces.	C-102.1, Site Traffic Exhibit
8	The landscaping plan should show the grass paver fire lane as shown on the site plan.	The grass paver fire lane has been added to the landscaping plan.	L-1
9	Drop off area in front appears to be too small. Show turning paths for expected vehicles. Delivery trucks will not be able to turn in this area, passenger cars will have a difficult time. How will moving vans access the site?	Refer to Site Traffic Exhibit for anticipated traffic patterns.	Site Traffic Exhibit
10	Due to narrow driveway approach and 90 degree turn into ramps, entrance into parking garage ramps should be wider to allow for both entering and exiting vehicles at the same time. No Parking signs and pavement markings should be installed along the retaining wall. Vehicles exiting from the garage will require the entire 24-foot driveway width to make the turn in order to clear the side of the garage on their right turn. The building should be recessed in the area of the garage entrance to provide more turning radius area to allow for two way traffic.	Garage entrances are 22 feet. See Traffic Exhibit to show anticipated traffic patterns for 2-way traffic flow. The retaining wall is less than 4' high, therefore, traffic signs would not be at an appropriate height if mounted to the wall. The driveway width is 24 feet.	C-102.1, Site Traffic Exhibit
11	Driveway throat at Green Street is too short, too narrow and angled too sharply to allow for two way traffic. Vehicles exiting the site will not likely follow the curve of the driveway, and will block vehicles trying to turn right to enter the site. It will not be possible for any vehicle larger than a passenger car to turn right into the site driveway from Green Street, even if no vehicles are exiting the site at that time. The driveway geometry needs to be reconfigured.	The driveway geometry has been adjusted to allow for larger vehicle access.	C-102.1, Site Traffic Exhibit
12	The commercial space, while not requiring parking, will still likely generate vehicle trips. These trips should be accounted for in the vehicle trip generation analysis.	Vehicle Trip Generation Analysis has been updated.	N/A
13	Where the pedestrian/bike path parallels the grass paver fire access, can the path be moved further inland to overlap with the fire lane and reduce impacts in the 25' wetland buffer?	The path has been adjusted as described.	C-102.1
14	Eversource needs power conduits in Green/Russell St and transformer space on the lot or they will not be able to service this building. Decide on which project (Raynes/Green) is doing what portion of the offsite work that is needed.	Confirmed. The project will coordinate with Eversource on any required off site improvements.	N/A

15	Green St to be milled and repaved 1.5" after main/ building utility services installations.	A note was added to the plans to clarify this requirement.	C-201
16	Temporary water plan to be approved by Portsmouth Water and Portsmouth FD	Confirmed	N/A
17	The greenway path should be at elevation 9 or above or otherwise designed to withstand periodic inundation	Path was adjusted as described except in areas where boundary elevations dictate grade.	C-103
18	Eversource to approve transformer location and confirm if the path is sufficient to get to the transformer	Final location of the transformer will be coordinated with Eversource.	C-104
19	On right side of driveway, wrap curb another 90 degrees around the arc shown toward the tracks	Curb has been adjusted in this locations as required.	C-102.1
20	Upgrade 'district standard light fixture base' detail to match what the bottom of lights actually look like. Bottom of ornamental portion of pole to be buried ½" below brick elevation	Detail has been updated.	C-506
21	Provide low shrubs or other landscaping on right side of driveway inside semicircle of curbing	Due to the reconfiguration of the entrance drive the remaining area between the curb and property lines is very small. The viability of shrubs in this area presents a concern with snow plowing along that edge.	L-1
22	Confirm that all the plants shown between this building and AC hotel will thrive in darker conditions.	The plants illustrated in the connector pathway between AC and 53 Green are all partial shade tolerant and should grow well in this location. This pathway has a north south orientation and will have full sun for a portion of the day.	N/A
23	Any trees located in the City's right-of-way will require review and approval by the City's Trees & Greenery Committee.	Confirmed	N/A
24	Confirm sewer flows match the projected flows for the sewer construction in Vaughn and Green from 2018	The sewer flows are less than the projected sewer flows from the sewer capacity study for this lot.	N/A
25	Please adjust curb so that it is no higher than 6" reveal. Confirm no more than 2%, no less than 1% on City sidewalks	Curb is detailed to have 6" reveal. Sidewalk cross slopes will have no greater than 2% slope.	C-103

P0595-007  
April 21, 2021

Ms. Juliet Walker, Planning Director  
City of Portsmouth Planning Department  
1 Junkins Avenue  
Portsmouth, New Hampshire 03801

**Re: Site Review Permit Application  
Proposed Mixed Use Development, Raynes Avenue, Portsmouth, NH**

Dear Juliet:

On behalf of One Raynes Ave, LLC, 31 Raynes Ave, LLC & 203 Maplewood Ave, LLC (owners), and North Mill Pond Holdings, LLC (applicant), we are pleased to submit the following revised information to support a request for a Site Review Permit for the above referenced project:

- One (1) full size & one (1) half size copy of the Site Plan Set, last revised April 21, 2021
- One (1) copy of the TAC Comment Response Report, dated April 21, 2021
- One (1) copy of the Parking Conditional Use Permit Request, last revised April 21, 2021;
- One (1) copy of the Drainage Analysis, last revised April 21, 2021
- One (1) copy of the Grade Plane Exhibit, last revised April 21, 2021
- One (1) copy of the Building Height Exhibit, dated April 21, 2021;
- One (1) copy of the Colored Landscape Plan, last revised April 21, 2021;
- One (1) copy of the Community Space Exhibit, last revised April 21, 2021

The enclosed revised plans and supplemental materials have been provided to address comments received from the Technical Advisory Committee (TAC) in correspondence dated April 5, 2021 and at their meeting held on April 6, 2021.

We respectfully request to be placed on the TAC meeting agenda for May 4, 2021. If you have any questions or need any additional information, please contact Patrick Crimmins by phone at (603) 433-8818 or by email at [pmcrimmins@tighebond.com](mailto:pmcrimmins@tighebond.com).

Sincerely,

**TIGHE & BOND, INC.**



Patrick M. Crimmins, PE  
Senior Project Manager



Neil A. Hansen, PE  
Project Engineer

Cc: North Mill Pond Holdings, LLC (via e-mail)



P0595-007  
April 21, 2021

Mr. Dexter Legg, Chairman  
City of Portsmouth Planning Department  
1 Junkins Avenue  
Portsmouth, New Hampshire 03801

Re: **Conditional Use Permit Request for Reduced Off-Street Parking  
& Shared Parking on Separate Lots,  
Proposed Mixed-Use Development, Raynes Avenue, Portsmouth, NH**

Dear Chairman Legg:

On behalf of One Raynes Ave, LLC, 31 Raynes Ave, LLC & 203 Maplewood Ave, LLC (owners), and North Mill Pond Holdings, LLC (applicant), this letter is to request that a Conditional Use Permit be granted by the Planning Board to allow for reduced off-street parking and parking on a separate lot as allowed by Section 10.1112.14 and 10.1112.62 of the Zoning Ordinance.

The total parking provided on the proposed site plan is 111 spaces. The City Zoning Ordinance requires 159 parking spaces for the proposed mixed-use development. The project team has prepared a parking demand analysis for this mixed-used development based on Institute of Transportation Engineers (ITE) Parking Generation manual, 5<sup>th</sup> edition (latest).

For this project, parking demand was reviewed for the proposed multi-family and hotel uses using ITE land use code 221 and land use code 310 respectively. We excluded the 1<sup>st</sup> floor commercial uses for this analysis since parking is not required for these uses in the Downtown Overlay District (DOD) parking regulations. With the project being in the DOD, we studied the ITE parking generation assuming a dense multi-use urban setting, with no nearby rail transit. For a 128-key hotel in this setting, peak parking demand based on ITE Parking Generation is 97 parking spaces. For the proposed 60 dwelling unit multi-family use, we calculated peak parking demand based on the 70 total bedrooms that will be provided in these units. Based on ITE Parking Generation, 70 bedrooms generates an average peak parking demand in this dense multi-use setting of 34 spaces. Thus, based on ITE Parking Generation, the total average peak parking demand for the project is 131 spaces. The applicant will have the ability to share private parking with the office building that is currently being constructed across the street at 145 Maplewood Avenue. With the off-setting peaks of these complimenting uses, the applicant intends to enter into a shared parking agreement with 145 Maplewood Avenue LLC for the use of 25 parking spaces on the 145 Maplewood parcel. As demonstrated in the shared parking analysis provided, the hotel and residential uses on the development parcel are complimentary to the office use on the 145 Maplewood Parcel, a use that does not have a parking requirement in the DOD, providing a total of 136 spaces for the project which exceeds the ITE peak parking demand of 131 spaces.

Per Article 11 Section 10.1112.62 the shared parking arrangement shall be secured by a covenant acceptable to the City and recorded at the Rockingham County Registry of Deeds. The applicant understands that should the Planning Board grant the shared parking CUP, as a condition of approval the applicant will be required to record the agreement. The applicant has shared the shared parking analysis with the Kane Company / 145 Maplewood LLC and they support the analysis and have committed to entering into a shared parking agreement to be secured with a covenant acceptable to the City and recorded at the RCRD.



In addition to seeking the Conditional Use Permit for reduced parking, the applicant has explored creative parking solutions to achieve the City's parking requirements. The applicant has designed the mixed-use building such that parking lift systems can be installed in the locations of the tandem spaces that are covered by the multi-family units above in the mixed-use building. The lift systems would provide an additional 23 parking spaces on top of the 136 that the project is providing, bringing the total parking provided to 159 spaces. The applicant does not anticipate these will ever be needed but to show that the project could meet the City's parking requirements, the applicant proposes to include these lift systems as "reserve spaces" that could be constructed in the future if the applicant deems that this additional parking is in fact needed to support the developments building program.

The applicant respectfully requests a Conditional Use Permit for Reduced Off-Street Parking & Shared Parking on Separate Lots be granted. If you have any questions or need any additional information, please contact Patrick Crimmins by phone at (603) 433-8818 or by email at [pmcrimmins@tighebond.com](mailto:pmcrimmins@tighebond.com).

Sincerely,

**TIGHE & BOND, INC.**



Patrick M. Crimmins, PE  
Senior Project Manager



Neil A. Hansen, PE  
Project Engineer

Copy: North Mill Pond Holdings, LLC

City of Portsmouth TAC, April 06, 2021:			
	TAC Comment	Applicant Response	Sheet
<b>TAC Comments from 4/5 Correspondence:</b>			
1	Pending final HDC approval, the applicant should confirm that the building block length, façade composition and window glazing complies with the requirements.	Agreed.	N/A
2	Although the proposed building height appears to comply with the standards and requirements outlined in the Norther End Overlay District, the HDC review will govern the final height, volume and massing of the building(s). A detailed building height map should be provided showing the average grade plane and the proposed height around the perimeter of the building(s).	The final building height and footprint will comply with the City's zoning ordinance. A detailed grade plane exhibit and building height exhibit have been provided showing average grade plane and proposed building heights.	Grade Plane Exhibit & A3.01
3	Footnote #2 in the development standards chart on Sheet C-102 should reference Section 10.5A46.10 instead of Section 10.5A43.43.	Footnote #2 in the development standards chart has been revised to reference Section 10.5A46.10 instead of Section 10.5A43.43.	C-102
4	As you know, these properties front on multiple height districts, please provide more details on how your base building height was calculated.	The final building height and footprint will comply with the City's zoning ordinance. A detailed grade plane exhibit and building height exhibit have been provided showing average grade plane and proposed building heights.	Grade Plane Exhibit & A3.01
5	Footnote #3 in the development standards chart should reference Section 10.5A46.10.	Footnote #3 in the development standards chart has been revised reference Section 10.5A46.10.	C-102
6	The parking demand analysis letter provided references the ability to share parking spaces with 145 Maplewood Ave office building. Is there an existing agreement in place?	Per Article 11 Section 10.1112.62 the shared parking arrangement shall be secured by a covenant acceptable to the City and recorded at the Rockingham County Registry of Deeds (RCRD). The applicant understands that should the Planning Board grant the shared parking CUP, as a condition of approval the applicant will be required to record the agreement. The applicant has shared the shared parking analysis with the Kane Company / 145 Maplewood LLC and they support the analysis and have committed to entering into a shared parking agreement to be secured with a covenant acceptable to the City and recorded at the RCRD. The enclosed CUP request has been revised to indicate this as well.	CUP Letter
7	We note you use ITE in your analysis for parking demand, wherever possible, you should use local data if there are comparable uses available where observations could be conducted	ITE parking generation for the hotel use matches the City of Portsmouth Zoning Ordinance requirement and the applicant concurs this calculation is accurate based on other hotels they operate in the downtown. The applicant currently does not operate any multi-family buildings in the downtown with a similar unit mix and therefore feels ITE is the most appropriate method for calculating peak parking demand for the site.	CUP Letter
8	Please respond to the Planning Board's comment regarding an excess of surface parking and suggestion to consider underground parking.	Due to a number of site constraints underground parking on this project is not practical. The existing grades of the site are fairly level which would require full basements to be built. This would put the finish floor elevation of the basements below the mean high water elevation of North Mill Pond. This would also require constructing ramps to get down approximately eleven feet below grade. With the amount of room a ramp of that length would use and the need for a fire lane around both proposed buildings, the site would end up with less parking than currently proposed and approximately the same impervious surface.	N/A
9	I would suggest the applicant consider replacing this parking with a landscaped park area or a 5-800 SF, single-story, hipped roof structure that could be utilized as a community building or leased space for kayak, bike, scooter, or moped rentals.	A kayak storage area has been added to the landscape plan along the North Mill Pond trail.	L-101
10	Please provide a photometrics/lighting plan	A photometric plan has been added to the plan set.	Sheet 1 of 1
11	Third party peer review is required for the traffic study	Agreed.	N/A



12	No tree planting specification were included as part of this plan set, please add City's tree planting details.	Tree planting details and City tree planting requirements have been added to Sheet L-102.	L-102
13	Any trees located in the City's right-of-way will require review and approval by the City's Trees & Greenery Committee.	Agreed.	L-101
14	Serious consideration should be given to converting the entire length of Raynes Ave and Vaughan Street to one-way counterclockwise flow, due to narrowness of road, delivery trucks loading zones and parking on both sides, and corner radii at driveway. Otherwise, the road would need to be widened to accommodate improved two-way flow with the increase in traffic flow and on-street parking demand created by the density of uses.	The applicant is agreement that Raynes Avenue be converted to a one-way road and the Site Plan has been revised to show this.	C-102.1
15	Crosswalk across Maplewood Ave should have RRFB installed due to volume and speed of traffic, and limited sight lines.	Rectangular Rapid-Flashing Beacons (RRFB) have been added to the crosswalk signage at the Maplewood Ave crosswalk location.	C-102.1
16	Signs on sidewalks should be at least 7'3" to provide clearance for sidewalk plow.	Sign post detail has been revised to provide 7'-3" clearance.	C-503
17	Bike racks seem to be far away from any entrance. Any place closer to a doorway would be preferable.	Bike storage for the residential building will be located inside the building. The bike racks shown at the entrance to the North Mill Pond trail are intended to be used by the public when utilizing the trail. The bike racks for the hotel are located under the covered area of the hotel entrance near the stairwell exit and in the proximity of the hotel drop off, but in an area that does not interfere with the loading/unloading operations of the hotel.	C-102.1
18	ADA parking spaces should be closer to accessible entrance than non-ADA spaces. Accessible route should not have to cross traffic aisles, if possible.	The ADA parking spaces for the residential building are located at the closest non-tandem spaces to the residential entrance. The ADA spaces for the hotel are located in the closest covered spaces to the main entrance of the hotel.	C-102.1
19	A loading zone on a curve on Raynes Ave is not practical. Large trucks will encroach on travel lane, which is only 10 feet. Another reason for one-way flow.	The striped area on the Raynes Avenue curve is not intended to be a loading zone. It is striped as a no parking/ fire access aisle. On street loading is located in the two spaces closest to Maplewood Avenue.	C-102.1
20	Is it possible to move the pedestrian/bike path further outside of the 25' vegetated buffer?	The path is located out of the 25' vegetated buffer where possible. The areas within the 25' buffer are for access to the pier and boat ramp, and to connect to the City's access easement across lot 15-1.	N/A
21	The path should be at elevation 9 or above or otherwise designed to withstand periodic inundation	The path has been regraded to have a minimum elevation of 9 with the exception of where it ties into existing grade at the property boundary.	C-103
22	Please elaborate on your proposed connection to the greenway between your project and 3S Artspace. This was not part of the original concept plan for the North Mill Pond trail. Is it your intention to make this a public entrance?	The design intent is that this will be a public access points to the North Mill Pond trail. This would allow for two public access point to the trail through the development site, one on each end of the property. A public access easement has been added to the easement plan.	C-201
23	The proposed community space meets the minimum area requirements of 20% but does not include the pedestrian access between the two proposed buildings. An access easement should include this area as well as the wide pedestrian sidewalk that is partially located on the property(s) and any secondary access ways proposed between the proposed hotel and 3S Artspace. Consideration should also be given to provide deeded public access to the kayak launch as well as the proposed timber deck.	A public access easement has been included on the easement plan for the second access point between the proposed hotel and 3S. The community space easement has been expanded to include the kayak storage area, kayak launch ramp and pier. A sidewalk access and maintenance easement has also been added to the plan.	C-201
24	Raynes Ave needs new water main	The Utility Plan has been updated to show a water main replacement in Raynes. In addition, the applicant agrees to pay a fair share contribution toward the water main replacement as indicated on Utility Note #27.	G-100 & C-104
25	Provide 2 additional catch basins in Raynes to capture more stormwater before it goes down to Vaughn	The grading in Raynes Avenue has been revised and additional drainage structures have been added.	C-103

26	Eversource needs power conduits in Green/Russell St and transformer and switch space on the lot or they will not be able to service these buildings. Decide on which project (Raynes/Green) is doing what portion of the offsite work that is needed.	Confirmed. The project will coordinate with Eversource on any required off site improvements.	N/A
27	The street needs to be shaped properly with a crown in the center with equal cross slopes. Grading that is shown is not appropriate	The grading in Raynes Avenue has been revised and additional drainage structures have been added.	C-103
28	Mount a Redvalve check valve to the headwall at outfall, not inside the manhole using flanged bolt on connection. Show details including grouting around pipe and using water tight pipe joints so the high tide water does not circumvent the valve.	The drainage plan has been revised to have the check valve bolted onto the concrete headwall. A detail for a Redvalve Tideflex flanged check valve has been included in the details	C-103 & C-506
29	For SMH inverts, match pipe crowns	A note has been added to the wye connection locations on the utility plan	C-104
30	Confirm sewer flows match the projected flows for the sewer construction in Vaughn and Green from 2018	The sewer demand calculations for this development program are less than the projected sewer demand calculations estimated in the 2018 Sewer Capacity study for these parcels.	N/A
31	Gas meter on hotel building will block sidewalk in that location	The gas meter location has been moved away from the sidewalk.	C-104
32	PDMH2 should have private check valves protecting both left and right jellyfish and chamber systems from city backflow	Check valves are called out for both Jellyfish filtration outlets.	C-103
33	Provide easement for stormwater pipes from Raynes to outfall	A drainage easement is include for the stormwater pipe from Raynes Ave to the outfall.	C-201
34	What is the purpose of the storm drain pipe that is planned along the edge of 3S? Roof drains only? If so, does 3S need an easement for it? There seems to be new fill being placed in this area. Is the existing 3S building wall designed to be a retaining wall structure? Do you have permission to fill against it?	The storm drain pipe along 3S is for the roof drains of 3S that currently spill into the existing parking area for the Vanguard building. This area is approximately 6" above existing grade and is not anticipated to impact to the existing building.	N/A
35	The Water Department will need an access easement to get to valves and meters and for leak detection.	The easement for the drain line through the site has been revised to include the water line, access and maintenance.	C-201
36	The sewer line in Raynes Ave is AC pipe. Please label as such so that precautions are made when cutting it.	A note has been added to the plans.	G-100 & C-104
37	What is the plan for Lot 15-1?	Lot 15-1 is under separate ownership and is not part of this project.	N/A
38	All water and sewer services for the existing buildings need to be terminated at the respective mains	Demolition note 7 states, all utilities shall be terminated at the main line.	G-100
39	Provide HC/loading ramp from the street grade up to sidewalk for the HC spot being moved in front of Barrio's kitchen.	A HC/loading ramp from the street grade up to sidewalk for the HC spot in front of Barrio has been added to the plans.	C-102.1 & C-103
40	Please adjust curb so that it is no higher than 6" reveal. Confirm no more than 2%, no less than 1% on City sidewalks	Grading plan includes 6" curb reveals and between 1% and 2% cross slopes on City sidewalks.	C-103
41	The grease trap for the west building is so remote to the structure that an internal grease trap may be needed as well. Grease waste line should be 6"	Grease waste lines have been revised to be 6". Any internal grease traps will be coordinated with the building drawings.	C-104
42	There should not be any utilities within 5' either side of the edges of the City's new drain line (unless crossing transversely).	Utilities have been relocated to be a minimum of 5' from the outside of the new drain line.	C-104
43	The pavement on Raynes Ave should be 5" thick. 3.5" of binder and 1.5" of surface. Of note is that the applicant is showing 3" of pavement on the private lot, this will not hold up to the construction activity and should be thickened for longevity.	The pavement on Raynes Ave has been revised to be 5" thick, 3.5" of binder and 1.5" of wearing. The final on-site pavement section will be determined by the projects geotechnical engineer.	C-502
44	Use 18" of 304.4 under pavement and sidewalks.	The details have been revised to use 18" of 304.4 under the City pavement section and 8" of 304.4 under sidewalks.	C-502 & C-503
45	Do not use wire reinforcement in any City owned sidewalks, use poly fiber mesh instead	Sidewalk detail has been revised to include poly fiber mesh.	C-503
46	City CB's need liners, please add to detail	Polyethylene liner detail has been added to the plan.	C-504
47	Maintenance of the stormwater system needs to happen at least yearly with reports to DPW	As stated in section 7.6 of the Drainage Analysis, Copies of the Stormwater Maintenance report shall be submitted to the City of Portsmouth on an annual basis	N/A
48	Provide a higher (24') North End light pole for Raynes Maplewood Intersection like Vaughn/Maplewood existing pole	The pole at the corner of Raynes and Maplewood has been revised to a 24' pole.	C-102.1

49	Move downstream defender to upstream of DMH 2 so it is not trying to treat private stormwater as well as City flow.	The downstream defender has been relocated upstream of DMH 2.	C-103
50	Temporary Access Easement for the bridge replacement will be needed	A Temporary Access Easement for the bridge replacement has been added to the easement plan.	C-201
51	Raynes Ave is to be paved as part of 111 (145) Maplewood project. The street will need to be milled, paved and striped again during this project.	A note and hatched area have been added to the plans to show the limit of finish paving and striping that will be done by this project.	G-100 & C-102.1



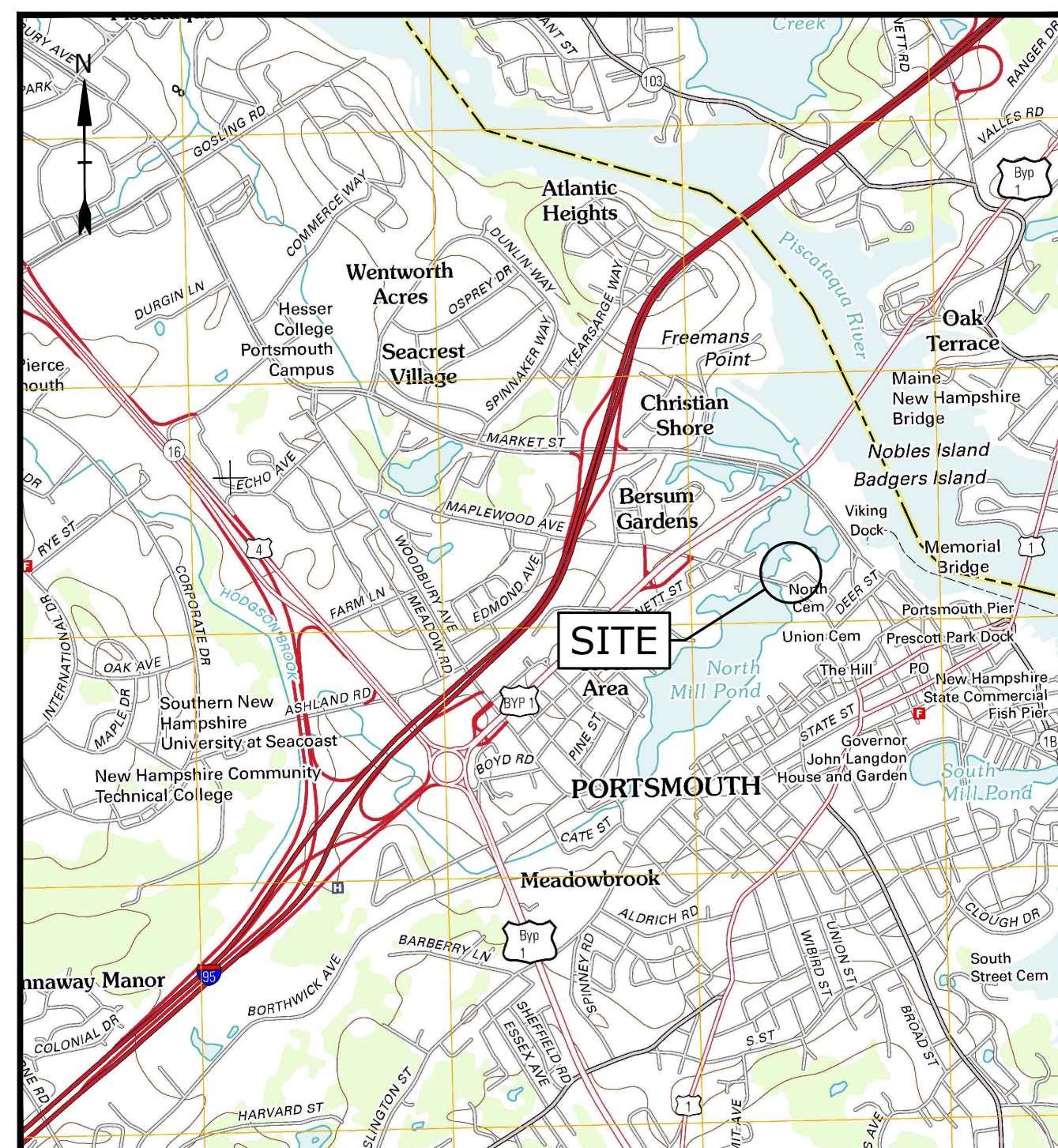
# PROPOSED MIXED USE DEVELOPMENT

## RAYNES AVENUE PORTSMOUTH, NEW HAMPSHIRE

MARCH 22, 2021

LAST REVISED: APRIL 21, 2021

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	4/21/2021
G-100	GENERAL NOTES AND LEGEND	4/21/2021
1 OF 3	EXISTING CONDITIONS PLAN	6/17/2020
2 OF 3	EXISTING CONDITIONS PLAN	6/17/2020
3 OF 3	EXISTING CONDITIONS PLAN	6/17/2020
G-100	GENERAL NOTES AND LEGEND	4/21/2021
C-101	DEMOLITION PLAN	4/21/2021
C-102	OVERALL SITE PLAN	4/21/2021
C-102.1	SITE PLAN	4/21/2021
C-103	GRADING, DRAINAGE AND EROSION CONTROL PLAN	4/21/2021
C-104	UTILITIES PLAN	4/21/2021
C-201	EASEMENT PLAN	4/21/2021
L-100	LANDSCAPE MATERIAL PLAN LEGEND AND NOTES	4/21/2021
L-101	LANDSCAPE PLANTING PLAN	4/21/2021
L-102	LANDSCAPE DETAILS	4/21/2021
C-501	EROSION CONTROL NOTES AND DETAILS SHEET	4/21/2021
C-502	DETAILS SHEET	4/21/2021
C-503	DETAILS SHEET	4/21/2021
C-504	DETAILS SHEET	4/21/2021
C-505	DETAILS SHEET	4/21/2021
C-506	DETAILS SHEET	4/21/2021
C-507	DETAILS SHEET	4/21/2021
C-508	DETAILS SHEET	4/21/2021
A3.00	EXTERIOR ELEVATIONS	4/21/2021
1 of 1	LIGHTING PLAN	4/21/2021



LOCATION MAP  
SCALE: 1" = 2,000'

PREPARED BY:  
**Tighe & Bond**  
177 CORPORATE DRIVE  
PORTSMOUTH, NEW HAMPSHIRE 03801  
603-433-8818

APPLICANT:  
NORTH MILL POND HOLDINGS LLC  
1359 HOOKSETT ROAD  
HOOKSETT, NEW HAMPSHIRE 03106

OWNERS:  
TAX MAP 123, LOT 10 & 13  
31 RAYNES LLC C/O  
PORTSMOUTH CHEVROLET  
549 ROUTE 1 BYPASS  
PORTSMOUTH, NEW HAMPSHIRE 03801

SURVEYOR:  
DOUCET SURVEY, LLC  
102 KENT PLACE  
NEWMARKET, NH 03857

TAX MAP 123, LOT 12  
203 MAPLEWOOD AVENUE LLC  
549 HIGHWAY 1 BYPASS  
PORTSMOUTH, NH 03801

TAX MAP 123, LOT 14  
ONE RAYNES AVE LLC  
1359 HOOKSETT RD  
HOOKSETT, NEW HAMPSHIRE 03106

LIST OF PERMITS		
LOCAL	STATUS	DATE
SITE PLAN REVIEW PERMIT		
CONDITIONAL USE PERMIT- WETLAND BUFFER		
CONDITIONAL USE PERMIT- PARKING		
STATE		
NHDES - ALTERATION OF TERRAIN PERMIT		
NHDES - WETLAND PERMIT		
NHDES - SEWER CONNECTION PERMIT		



**TAC RESUBMISSION  
COMPLETE SET 25 SHEETS**



- NOTES:**
- REFERENCE:
    - TAX MAP 123, LOT 10
    - TAX MAP 123, LOT 12
    - TAX MAP 123, LOT 13
    - TAX MAP 123, LOT 14
    - RAYNES AVENUE & MAPLEWOOD AVENUE
    - PORTSMOUTH, NEW HAMPSHIRE
    - D.S. PROJECT NO. 6082
  - TOTAL PARCEL AREA: 71,149 SQ. FT. OR 1.633 AC. (COMBINED LOTS 10, 12 & 13) 39,459 SQ. FT. OR 0.906 AC. (LOT 14)
  - OWNER OF RECORD:
 

TAX MAP 123, LOTS 10 & 13 31 RAYNES LLC C/O PORTSMOUTH CHEVROLET 549 ROUTE 1 BYPASS PORTSMOUTH, NH 03801 R.C.R.D. BOOK 4676, PAGE 654 R.C.R.D. BOOK 4676, PAGE 657	TAX MAP 123 LOT 12 203 MAPLEWOOD AVENUE LLC C/O PORTSMOUTH CHEVROLET 549 ROUTE 1 BYPASS PORTSMOUTH, NH 03801 R.C.R.D. BOOK 5621, PAGE 420 R.C.R.D. BOOK 5621, PAGE 420
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- ZONE: CD4
  - OVERLAY DISTRICTS
  - DOWNTOWN OVERLAY DISTRICT
  - HISTORIC DISTRICT
- ZONING DISTRICTS BASED ON THE CITY OF PORTSMOUTH ZONING MAP DATED 11/12/15 AS AVAILABLE ON THE CITY WEBSITE ON 11/18/19. SEE CITY OF PORTSMOUTH ZONING ORDINANCE ARTICLE 5A, SECTION 10.5440 FOR DIMENSIONAL REGULATIONS. THE LAND OWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE MUNICIPAL, STATE AND FEDERAL REGULATIONS.
 

THE SITE IS SUBJECT TO THE STATE OF NH SHORELAND WATER QUALITY PROTECTION ACT. SEE NHDES WEBSITE FOR SPECIFIC DIMENSIONAL REQUIREMENT.
- FIELD SURVEY PERFORMED BY D.C.B. & K.J.L. DURING NOVEMBER 2019 & BY G.M.E. & J.P.E. DURING JUNE 2020 USING A TRIMBLE S7 TOTAL STATION AND A TRIMBLE R8 SURVEY GRADE GPS WITH A TRIMBLE 13C3 DATA COLLECTOR AND A TRIMBLE DINI DIGITAL LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
 

FIELD SURVEY PERFORMED BY M.J.C. ON OCTOBER 2019 USING A LEICA HDS SCANNER. REGISTRATION ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
- JURISDICTIONAL WETLANDS DELINEATED BY TIGHE & BOND, DURING OCTOBER 2019 IN ACCORDANCE WITH 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 AND THE INTERIM REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION (OCTOBER, 2009).
- VERTICAL DATUM IS BASED ON NGVD29 PER DISK B2 1923.
- HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
- PROPER FIELD PROCEDURES WERE FOLLOWED IN ORDER TO GENERATE CONTOURS AT 2' INTERVALS. ANY MODIFICATION OF THIS INTERVAL WILL DIMINISH THE INTEGRITY OF THE DATA, AND DOUCET SURVEY, INC. WILL NOT BE RESPONSIBLE FOR ANY SUCH ALTERATION PERFORMED BY THE USER.
- UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVABLE PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON-SITE.
- THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES/TYPES IS SUBJECT TO NUMEROUS FIELD CONDITIONS, INCLUDING: THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS, MANHOLE CONFIGURATION, ETC.
- WATER BOUNDARIES ARE DYNAMIC IN NATURE AND ARE SUBJECT TO CHANGE DUE TO NATURAL CAUSES SUCH AS EROSION OR ACCRETION.
- MEAN HIGH WATER (EL. 3.0' NGVD1929) AND HIGHEST OBSERVABLE TIDE (EL. 4.3' NGVD1929) ELEVATIONS PER "MAPLEWOOD AVENUE CULVERT REPLACEMENT AND NORTH MILL POND RESTORATION, WATERFRONT/STRUCTURAL BASIS OF DESIGN, BY WATERFRONT ENGINEERS, LLC, DATED DECEMBER 30, 2009", PROVIDED BY TIGHE & BOND ON 11-30-15.
- THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT LEGAL DESCRIPTION, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS OF TITLE.
- DUE TO THE COMPLEXITY OF RESEARCHING ROAD RECORDS AS A RESULT OF INCOMPLETE, UNORGANIZED, INCONCLUSIVE, OBLITERATED, OR LOST DOCUMENTS, THERE IS AN INHERENT UNCERTAINTY INVOLVED WHEN ATTEMPTING TO DETERMINE THE LOCATION AND WIDTH OF A ROADWAY RIGHT OF WAY. THE EXTENT OF GREEN STREET AS DEPICTED HEREON IS/ARE BASED ON RESEARCH CONDUCTED AT THE CITY OF PORTSMOUTH CITY HALL, THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS & THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
 

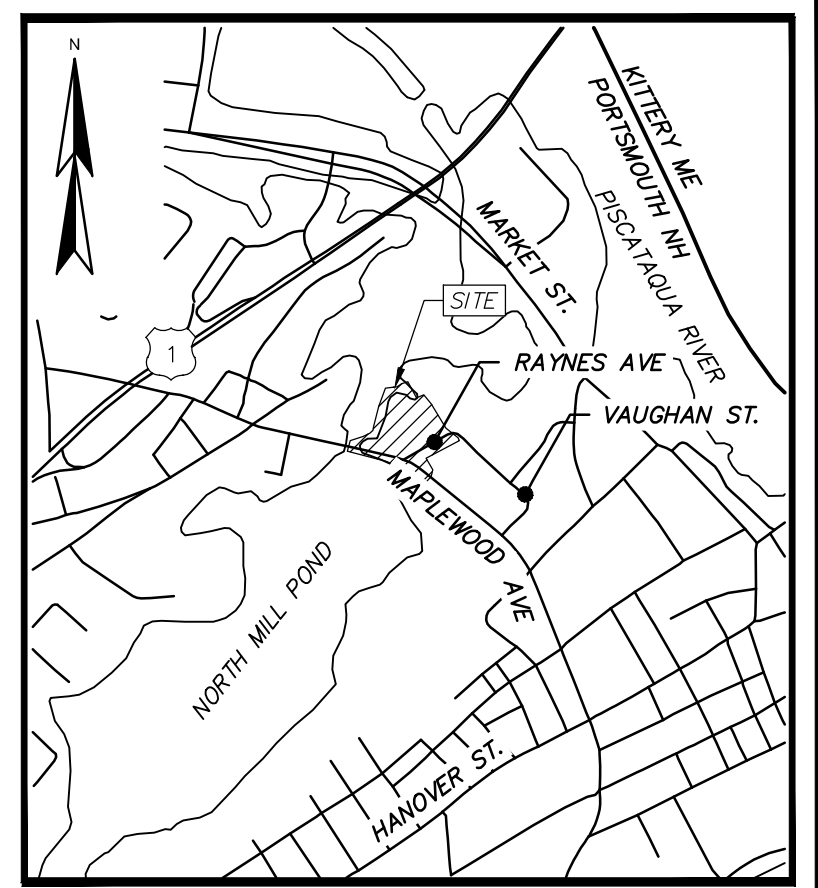
EDGE OF RIGHT OF WAY BASED ON HOLDING 52 FOOT WIDE RIGHT OF WAY ALONG RAYNES AVENUE PER REFERENCE PLANS #10 & #11. THE GEOMETRY FROM REFERENCE PLAN #11 WAS THEN ALIGNED TO THE REBAR SHOWN ON THE NORTHERLY SIDE OF MAPLEWOOD AVENUE.
- ALL UNDERGROUND UTILITIES (ELECTRIC, GAS, TEL, WATER, SEWER DRAIN SERVICES) ARE SHOWN IN SCHEMATIC FASHION. THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE AT 1-888-DIG-SAFE.
- TAX MAP 123, LOTS 10, 12, 13 & 14 IS/ARE EITHER SUBJECT TO OR IN BENEFIT OF, BUT NOT LIMITED TO, THE FOLLOWING EASEMENTS/RIGHTS OF RECORD:
  - 12' WIDE RIGHT OF WAY, SEE R.C.R.D. BOOK 4676, PAGE 657 AND REFERENCE PLAN #11.
  - RIGHT OF WAY, SEE R.C.R.D. BOOK 4676, PAGE 657 & BOOK 5621, PAGE 420.
  - SEWER RIGHTS, SEE R.C.R.D. BOOK 4676, PAGE 657 (LOCATION UNKNOWN).
  - 15' WIDE WALKWAY & LANDSCAPE EASEMENT, SEE R.C.R.D. BOOK 4676, PAGE 657.
  - ELECTRIC EASEMENT, SEE R.C.R.D. BOOK 3205, PAGE 1449.
  - TAX MAP 123, LOT 14 IS SUBJECT TO LEASEHOLD RIGHTS AS LISTED IN R.C.R.D. BOOK 6088, PAGE 1267.

**REFERENCE PLANS:**

- "STANDARD BOUNDARY SURVEY, TAX MAP 123 - LOT 15 & TAX MAP 124 LOT 10" DATED JULY 2008, REVISED 4/25/13 BY AMBIT ENGINEERING, INC. R.C.R.D. PLAN #D-37722.
- "PROPERTY STAKEOUT SKETCH, PORTSMOUTH PROPERTY TRUST, PE SPAULDING REVOCABLE TRUST", BY AMBIT ENGINEERING, INC., DATED JANUARY 30, 2007, NOT RECORDED.
- "VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R-10 PORTSMOUTH, NH, CONDEMNATION MAP", BY ANDERSON-NICHOLS & CO., INC., DATED FEBRUARY 1971, R.C.R.D. PLAN D-2425.
- "STANDARD BOUNDARY SURVEY, TAX MAP 123, LOTS 10 & 13 FOR RAYNES, LLC", BY AMBIT ENGINEERING, INC., NOT RECORDED.
- "EASEMENT PLAN, EGRESS EASEMENT TO 319 VAUGHAN STREET CENTER, LLC, TAX MAP 124, LOT 9 & TAX MAP 123, LOT 15, PROPERTY OF 299 VAUGHAN STREET, LLC C/O CATHARTES PRIVATE INVESTMENTS", BY AMBIT ENGINEERING, INC., DATED MARCH 2014, R.C.R.D. PLAN #D-38358.
- "EASEMENT PLAN SIDEWALK EASEMENT TO CITY OF PORTSMOUTH, TAX MAP 124, LOT 9 PROPERTY OF 319 VAUGHAN STREET CENTER, LLC", BY AMBIT ENGINEERING, INC., DATED FEBRUARY 2014, R.C.R.D. PLAN #D-38315.
- "PLAN OF LAND PORTSMOUTH, NH FOR WILLIAM A. HYDER", BY JOHN W. DURGIN, DATED JUNE 1955, ON FILE AT JAMES VERRA & ASSOCIATES.
- "STANDARD PROPERTY SURVEY FOR PROPERTY AT 111 MAPLEWOOD AVENUE", BY EASTERLY SURVEYING, INC., DATED 1/31/06, R.C.R.D. PLAN #D-33786.
- "VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R-10 PORTSMOUTH, NH, DISPOSITION PLAN PARCEL 3", BY ANDERSON-NICHOLS & CO., INC., DATED JUNE 1973, R.C.R.D. PLAN D-4019.
- "VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R-10 PORTSMOUTH, NH, DISPOSITION MAP", BY ANDERSON-NICHOLS & CO., INC., DATED NOVEMBER 1969, R.C.R.D. PLAN D-2408.
- "LAND OF HEIRS OF JOHN AUGUST HETT", BY JOHN W. DURGIN, DATED APRIL 1938, ON FILE AT JAMES VERRA AND ASSOCIATES.
- "LAND IN PORTSMOUTH, NH OWNED BY ARMOUR & CO.", BY JOHN W. DURGIN DATED OCTOBER 1938, ON FILE AT JAMES VERRA AND ASSOCIATES.
- "LAND ON VAUGHAN STREET PORTSMOUTH, NH ESTATE OF CARRIE HAM TO LAWRENCE V. REGAN", BY JOHN W. DURGIN, DATED AUGUST 1937, ON FILE AT JAMES VERRA AND ASSOCIATES.
- "SKETCH TO RALPH SPINNEY", DATED APRIL 23, 1936, ON FILE AT JAMES VERRA AND ASSOCIATES.
- "PLOT PLAN OF LAND PORTSMOUTH, NH FOR JOHN R. AND WINFIELD R. WELCH", BY JOHN W. DURGIN, DATED APRIL 1973, ON FILE AT JAMES VERRA AND ASSOCIATES.
- "PLAN OF PROPERTY IN PORTSMOUTH, NH OWNED BY R.I. SUGDEN", BY WM A. GROVER, DATED APRIL 15, 1919, ON FILE AT JAMES VERRA AND ASSOCIATES.
- "PLAN OF LAND PORTSMOUTH, NH FOR WILLIAM A. HYDER", BY JOHN W. DURGIN, DATED JUNE 1955, ON FILE AT JAMES VERRA AND ASSOCIATES.
- "PROPERTY OF ELDRD V. AND BARBARA J. STRAW", BY C.RE. LAWSON, DATED JUNE 1971, R.C.R.D. PLAN C-3277.
- "SUBDIVISION PLAN OF TAX MAP 123, LOT 15 FOR 299 VAUGHAN STREET, LLC", BY DOUCET SURVEY, INC., DATED MAY 19, 2017, R.C.R.D. PLAN D-40759.
- "LICENSE, EASEMENT & LAND TRANSFER PLAN FOR 299 VAUGHAN STREET, LLC & VAUGHAN STREET HOTEL, LLC", BY DOUCET SURVEY INC., DATED AUGUST 2017, R.C.R.D. PLAN D-40760.

**LEGEND**

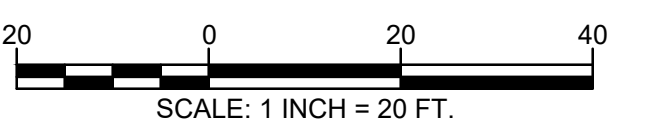
- APPROXIMATE ABUTTERS LOT LINE
- ○ CHAIN LINK FENCE
- SS SEWER LINE
- SD DRAIN LINE
- G GAS LINE
- E UNDERGROUND ELECTRIC LINE
- 100 MAJOR CONTOUR LINE
- 98 MINOR CONTOUR LINE
- OHW OVERHEAD WIRE
- ~ TREE LINE
- ~ SHRUB LINE
- GUARDRAIL
- EDGE OF WETLAND AREA (SEE NOTE #7)
- CONCRETE
- RIP RAP
- LANDSCAPED AREA
- UTILITY POLE & GUY WIRE
- LIGHT POLE W/ARM
- SIGN
- BOUND FOUND
- IRON PIPE/ROD FOUND
- POST
- FIRE HYDRANT
- WATER GATE VALVE
- WATER SHUTOFF VALVE
- GAS GATE VALVE
- PAD MOUNTED TRANSFORMER
- AIR CONDITIONING UNIT
- CATCH BASIN
- DRAIN MANHOLE
- MANHOLE
- ELECTRIC MANHOLE
- SEWER MANHOLE
- HAND HOLE
- CONIFEROUS TREE
- DECIDUOUS TREE
- MONITORING WELL LOCATION
- ROCK/BOULDER
- SPOT GRADE
- BOUND FOUND
- CONCRETE
- EDGE OF PAVEMENT
- VCC VERTICAL GRANITE CURB
- VCC VERTICAL CONCRETE CURB
- SWL SINGLE WHITE LINE
- EM ELECTRIC METER
- GM GAS METER
- PM PARKING METER
- 5/8" REBAR W/D CAP TO BE SET



I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE (NHRSA TITLE LXIV) AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN. I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000.

\_\_\_\_ L.L.S. #999  
\_\_\_\_ DATE

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEED REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.



**EXISTING CONDITIONS PLAN**  
FOR  
**TIGHE & BOND**  
LAND OF  
**31 RAYNES LLC**  
(TAX MAP 123, LOTS 10 & 13)  
**203 MAPLEWOOD AVENUE LLC**  
(TAX MAP 123, LOT 12)  
&  
**ONE RAYNES AVENUE LLC**  
(TAX MAP 123, LOT 14)  
MAPLEWOOD AVENUE & RAYNES AVENUE  
PORTSMOUTH, NEW HAMPSHIRE

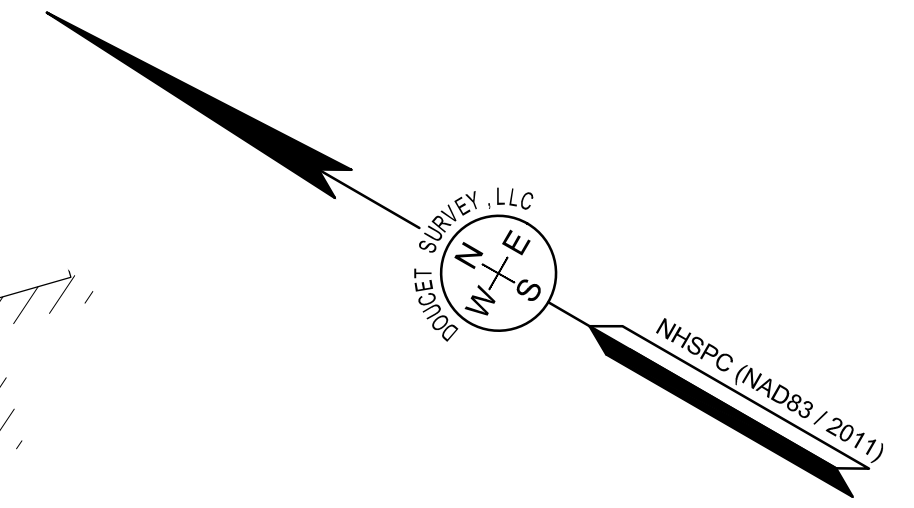
DRAINAGE STRUCTURES		SEWER STRUCTURES	
DMH 1096 RIM ELEV.=8.2' OUTSIDE OF SCOPE	CB 4243 RIM ELEV.=12.9' (4241) 12" CLAY INV.=10.1'	DMH 4827 RIM ELEV.=10.4' (4046) 24" DIP INV.=2.7' (RECESSED) (A) 18" RCP INV.=2.4' (OUTLET NOT FOUND)	SMH 4242 RIM ELEV.=13.4' (4276) 12" DIP INV.=5.1' (4830) 12" DIP INV.=5.1'
DMH 1099 RIM ELEV.=8.2' OUTSIDE OF SCOPE	CB 4270 RIM ELEV.=11.7' (A) 10" CLAY INV.=8' SUMP ELEV.=6.9'	(B) 18" RCP INV.=2.3' (C) 12" RCP INV.=6.2'	SMH 4271 RIM ELEV.=13.2' (A) 12" CLAY TOP OF PIPE=7.2' (4411) 24" CLAY INV.=3.0' (4831) 24" CLAY INV.=3.0'
MH 4046 RIM ELEV.=11.8' (4275) 12" UNKN INV.=3.2' (4827) 24" DIP INV.=2.5' (4839) 24" DIP INV.=2.3'	DMH 4275 RIM ELEV.=13.4' (4099) 12" CLAY INV.=10.9' (4408) 12" CLAY INV.=9.7' (4046) 12" CLAY INV.=5.6' (4241) 12" CLAY INV.=0.5'	DMH 4829 RIM ELEV.=15.8' (A) 12" CLAY INV.=12' (B) 12" CLAY INV.=11.9' (C) UNKN INV.=9.2' (4241) UNKN INV.=9.2'	SMH 4276 RIM ELEV.=13.3' (5419) 10" PVC INV.=5.5' (4242) 10" CLAY INV.=4.9'
CB 4099 RIM ELEV.=13.3' (4275) 12" RCP INV.=11.1' SUMP ELEV.=10.3'	MH 4290 RIM ELEV.=13.8' NOT OPENED	DMH 4839 RIM ELEV.=9.8' (4046) 24" RCP INV.=1.8' (4840) 24" RCP INV.=1.7'	SMH 4411 RIM ELEV.=12.0' (4412) 24" CLAY INV.=3.5' (4271) 24" CLAY INV.=3.5'
CB 4237 RIM ELEV.=12.9' (4241) 12" CLAY INV.=10.1' SUMP ELEV.=9.3'	CB 4408 RIM ELEV.=12.6' (4275) 12" RCP INV.=10.0' SUMP ELEV.=9.5'	DMH 4840 RIM ELEV.=9.4' (4839) 24" RCP INV.=1.6' (OUTFALL) 24" RCP INV.=1.6'	SMH 4412 RIM ELEV.=12.0' NOT OPENED
DMH 4241 RIM ELEV.=13.3' (4243) 12" CLAY INV.=9.8' (4237) 12" CLAY INV.=9.5' (4275) 12" CLAY INV.=7.0' (4829) 12" CLAY INV.=7.0'	CB 4410 RIM ELEV.=11.6' (4270) 10" CLAY INV.=6.8' SUMP ELEV.=6.1'	CB 5564 RIM ELEV.=10.1' (A) 12" RCP INV.=6.3'	SMH 4830 RIM ELEV.=18.2' (A) 12" DIP INV.=10.4' (4242) 12" DIP INV.=10.2'

NO.	DATE	DESCRIPTION	BY

DRAWN BY: E.D.P.	DATE: JUNE 17, 2020
CHECKED BY: M.W.F.	DRAWING NO. 6082B
JOB NO. 6082	SHEET 1 OF 3

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- LEGEND**
- APPROXIMATE ABUTTERS LOT LINE
  - CHAIN LINK FENCE
  - SS SEWER LINE
  - SD DRAIN LINE
  - G GAS LINE
  - UNDERGROUND ELECTRIC LINE
  - 100 MAJOR CONTOUR LINE
  - 98 MINOR CONTOUR LINE
  - OHW OVERHEAD WIRE
  - TREE LINE
  - SHRUB LINE
  - GUARDRAIL
  - EDGE OF WETLAND AREA (SEE NOTE #7)
  - CONCRETE
  - RIP RAP
  - LANDSCAPED AREA
  - UTILITY POLE & GUY WIRE
  - LIGHT POLE W/ARM
  - SIGN
  - BOUND FOUND
  - IRON PIPE/ROD FOUND
  - POST
  - FIRE HYDRANT
  - WATER GATE VALVE
  - WATER SHUTOFF VALVE
  - GAS GATE VALVE
  - PAD MOUNTED TRANSFORMER
  - AIR CONDITIONING UNIT
  - CATCH BASIN
  - DRAIN MANHOLE
  - MANHOLE
  - ELECTRIC MANHOLE
  - SEWER MANHOLE
  - HAND HOLE
  - CONIFEROUS TREE
  - DECIDUOUS TREE
  - MONITORING WELL LOCATION
  - ROCK/BOULDER
  - SPOT GRADE
  - BOUND FOUND
  - CONC.
  - EP EDGE OF PAVEMENT
  - VCC VERTICAL GRANITE CURB
  - VCC VERTICAL CONCRETE CURB
  - SWL SINGLE WHITE LINE
  - EM ELECTRIC METER
  - GM GAS METER
  - PM PARKING METER
  - 5/8" REBAR W/ID CAP TO BE SET



TAX MAP 123, LOT 15  
CITY OF PORTSMOUTH  
1 JUNKINS AVE  
PORTSMOUTH, NH, 03801  
R.C.R.D. BOOK 5904 PAGE 2777

TAX MAP 124, LOT 9  
319 VAUGHAN STREET CENTER LLC  
104 GRAFTON DRIVE  
PORTSMOUTH, NH 03801  
R.C.R.D. BOOK 5506, PAGE 427

TAX MAP 123, LOT 15-1  
299 VAUGHAN STREET LLC  
C/O CATHARTES PRIVATE INVESTMENTS  
100 SUMMER STREET, SUITE 1600  
BOSTON, MA 02110  
R.C.R.D. BOOK 5434, PAGE 2905

TAX MAP 123, LOT 15  
CITY OF PORTSMOUTH  
1 JUNKINS AVE  
PORTSMOUTH, NH, 03801  
R.C.R.D. BOOK 5904 PAGE 2777

TAX MAP 124 LOT 8  
111 MAPLEWOOD AVENUE LLC  
210 COMMERCE WAY SUITE 300  
PORTSMOUTH, NH, 03801  
R.C.R.D. BOOK 6026 PAGE 2219

TOTAL PARCEL AREA  
TAX MAP 123 LOT 14  
39,459 SQ. FT.  
0.906 ACRES  
(SEE NOTES #13 & #14)

TOTAL PARCEL AREA  
TAX MAP 123  
LOTS 10, 12 & 13  
71,149 SQ. FT.  
1.633 ACRES  
(SEE NOTES #13 & #14)

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE (NHRSA TITLE LXIV) AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN. I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000.

\_\_\_\_ L.L.S. #989  
\_\_\_\_ DATE

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEED REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N45°28'14"W	18.36'
L2	S59°09'46"W	74.62'



**EXISTING CONDITIONS PLAN**  
FOR  
**TIGHE & BOND**  
LAND OF  
**31 RAYNES LLC**  
(TAX MAP 123, LOTS 10 & 13)  
**203 MAPLEWOOD AVENUE LLC**  
(TAX MAP 123, LOT 12)  
&  
**ONE RAYNES AVENUE LLC**  
(TAX MAP 123, LOT 14)  
MAPLEWOOD AVENUE & RAYNES AVENUE  
PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY

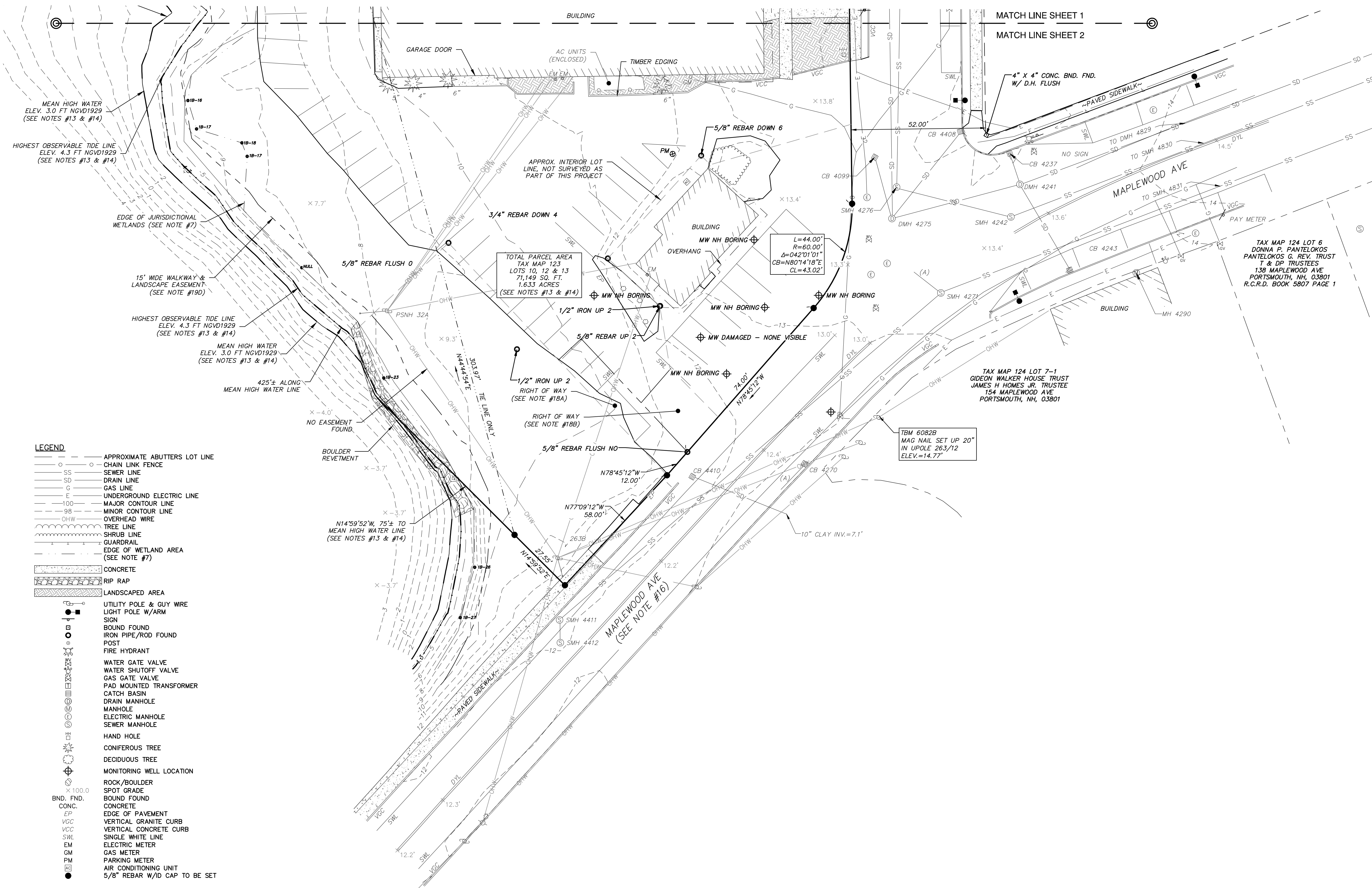
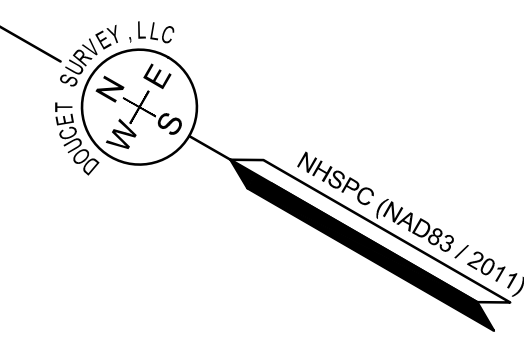
DRAWN BY:	E.D.P.	DATE:	JUNE 17, 2020
CHECKED BY:	M.W.F.	DRAWING NO.:	6082B
JOB NO.:	6082	SHEET	2 OF 3

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MATCH LINE SHEET 1  
MATCH LINE SHEET 2

FILE NAME: Y:\PROJECTS\6082\6082-DRAWING\6082-DRAWING-001.DWG (SHEET) 19-03-2020 10:00:00 AM LAYOUT NAME: TIGHE & BOND PLAN (2) PLOTTED: 16/06/2020 10:00:00 AM





- LEGEND**
- APPROXIMATE ABUTTERS LOT LINE
  - CHAIN LINK FENCE
  - SS SEWER LINE
  - SD DRAIN LINE
  - G GAS LINE
  - E UNDERGROUND ELECTRIC LINE
  - 100 MAJOR CONTOUR LINE
  - 95 MINOR CONTOUR LINE
  - OHW OVERHEAD WIRE
  - TREE LINE
  - SHRUB LINE
  - GUARDRAIL
  - EDGE OF WETLAND AREA (SEE NOTE #7)
  - CONCRETE
  - RIPP RAP
  - LANDSCAPED AREA
  - UTILITY POLE & GUY WIRE
  - LIGHT POLE W/ARM
  - SIGN
  - BOUND FOUND
  - IRON PIPE/ROD FOUND
  - POST
  - FIRE HYDRANT
  - WATER GATE VALVE
  - WATER SHUTOFF VALVE
  - GAS GATE VALVE
  - PAD MOUNTED TRANSFORMER
  - CATCH BASIN
  - DRAIN MANHOLE
  - MANHOLE
  - ELECTRIC MANHOLE
  - SEWER MANHOLE
  - HAND HOLE
  - CONIFEROUS TREE
  - DECIDUOUS TREE
  - MONITORING WELL LOCATION
  - ROCK/BOULDER
  - SPOT GRADE
  - BOUND FOUND
  - CONCRETE
  - EDGE OF PAVEMENT
  - VERTICAL GRANITE CURB
  - VCC VERTICAL CONCRETE CURB
  - SWL SINGLE WHITE LINE
  - EM ELECTRIC METER
  - GM GAS METER
  - PM PARKING METER
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  - 5/8" REBAR W/ID CAP TO BE SET

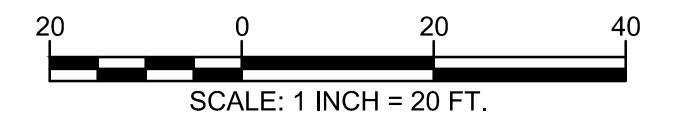
I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE (NH RSA TITLE LXIV) AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN. I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000.

L.L.S. #989  
DATE

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TAX MAP 124 LOT 6  
DONNA P. PANTELAKOS  
PANTELAKOS & REV. TRUST  
T & DP TRUSTEES  
138 MAPLEWOOD AVE  
PORTSMOUTH, NH, 03801  
R.C.R.D. BOOK 5807 PAGE 1

TAX MAP 124 LOT 7-1  
GIDEON WALKER HOUSE TRUST  
JAMES H HOMES JR. TRUSTEE  
154 MAPLEWOOD AVE  
PORTSMOUTH, NH, 03801



**EXISTING CONDITIONS PLAN**  
FOR  
**TIGHE & BOND**  
LAND OF  
**31 RAYNES LLC**  
(TAX MAP 123, LOTS 10 & 13)  
**203 MAPLEWOOD AVENUE LLC**  
(TAX MAP 123, LOT 12)  
&  
**ONE RAYNES AVENUE LLC**  
(TAX MAP 123, LOT 14)  
**MAPLEWOOD AVENUE & RAYNES AVENUE**  
PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY

DRAWN BY:	E.D.P.	DATE:	JUNE 17, 2020
CHECKED BY:	M.W.F.	DRAWING NO.:	6082B
JOB NO.:	6082	SHEET	3 OF 3

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FILE NAME: Y:\PROJECTS\6082-DRAWING\6082-DRAWING.DWG (SHEETED 6/19/2020) PLOTTED: 6/19/2020 10:59:49 AM LAYOUT NAME: TIGHE PLAN (3) PLOTTED: 6/19/2020 10:59:49 AM





# Proposed Mixed Use Development

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
D	4/21/2021	TAC Resubmission
C	3/22/2021	TAC Submission
B	3/10/2021	Design Review Resubmission
A	12/1/2020	TAC Work Session

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-C-DSGN.DWG
DRAWN BY:	CIK
CHECKED BY:	NAH/PMC
APPROVED BY:	BLM

## GENERAL NOTES AND LEGEND

SCALE: AS SHOWN

### ABBREVIATIONS

TBR	TO BE REMOVED
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
30'R	CURB RADIUS
SWL	SOLID WHITE LINE
VGC	VERTICAL GRANITE CURB
SGC	SLOPED GRANITE CURB
MVGC	MOUNTABLE VERTICAL GRANITE CURB
TC	TOP OF CURB
BC	BOTTOM OF CURB
TW	TOP OF WALL
BW	BOTTOM OF WALL
TS	TOP OF STEP
BS	BOTTOM OF STEP
HDPE	HIGH-DENSITY POLYETHYLENE
FF	FINISH FLOOR
VIF	VERIFY IN FIELD

### LEGEND

	APPROXIMATE LIMIT OF PROPOSED SAW CUT
	LIMIT OF WORK
	PROPOSED SILT SOCK
	APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
	PROPOSED CONSTRUCTION EXIT
	BUILDING TO BE REMOVED
	LOCATION OF PROPOSED BUILDING
	INLET PROTECTION SILT SACK
	PROPERTY LINE
	PROPOSED PROPERTY LINE
	PROPOSED EDGE OF PAVEMENT
	PROPOSED CURB
	PROPOSED BUILDING
	PROPOSED PAVEMENT SECTION
	PROPOSED CONCRETE SIDEWALK
	PROPOSED BRICK SIDEWALK
	PROPOSED BOLLARD
	PROPOSED MAJOR CONTOUR LINE
	PROPOSED MINOR CONTOUR LINE
	PROPOSED DRAIN LINE (TYP)
	PROPOSED SILT SOCK
	INLET PROTECTION SILT SACK
	PROPOSED CATCHBASIN
	PROPOSED DOUBLE GATE CATCHBASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED YARD DRAIN
	EXISTING STORM DRAIN
	EXISTING SANITARY SEWER
	EXISTING SANITARY SEWER TO BE REMOVED
	EXISTING UNDERGROUND TELECOMMUNICATION
	EXISTING WATER
	EXISTING GAS
	EXISTING UNDERGROUND ELECTRIC
	EXISTING OVERHEAD UTILITY
	PROPOSED SANITARY SEWER
	PROPOSED WATER
	PROPOSED GAS
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED UNDERGROUND TELECOMMUNICATION
	PROPOSED UNDERGROUND COMBINED ELECTRIC & TELECOMMUNICATION
	EXISTING CATCHBASIN
	EXISTING DRAIN MANHOLE
	EXISTING SEWER MANHOLE
	EXISTING HYDRANT
	EXISTING WATER VALVE
	EXISTING ELECTRIC MANHOLE
	EXISTING TELEPHONE MANHOLE
	PROPOSED CATCHBASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED SEWER MANHOLE
	PROPOSED WATER VALVE
	PROPOSED HYDRANT
	PROPOSED GAS VALVE
	PROPOSED ELECTRIC MANHOLE
	PROPOSED LIGHT POLE BASE

### GENERAL NOTES:

- THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
- COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
- THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
- THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES AND COMPLY WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR AND COMPLY WITH ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
- THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES AND SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
- ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
- CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
- CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
- SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.

### DEMOLITION NOTES:

- EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
- ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
- COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
- ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
- ALL UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY AND CITY OF PORTSMOUTH STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
- PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDING SLABS, FOUNDATION, TREES AND LANDSCAPING.
- REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
- CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
- PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
- THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
- SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
- THE CONTRACTOR SHALL REMOVE AND SALVAGE EXISTING GRANITE CURB FOR REUSE.
- DEMOLITION OF DRAINAGE DOWNSTREAM OF DMH 4839 SHALL BE COORDINATED WITH THE CITY OF PORTSMOUTH AND SHALL BE DEMOLISHED BY THE CITY OF PORTSMOUTH.

### SITE NOTES:

- PAVEMENT MARKINGS SHALL BE INSTALLED AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, FIRE LANES, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES. ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE PAVEMENT MARKINGS. ALL THERMOPLASTIC PAVEMENT MARKINGS INCLUDING LEGENDS, ARROWS, CROSSWALKS AND STOP BARS SHALL MEET THE REQUIREMENTS OF AASHTO M249. ALL PAINTED PAVEMENT MARKINGS INCLUDING CENTERLINES, LANE LINES AND PAINTED MEDIANS SHALL MEET THE REQUIREMENTS OF AASHTO M248 "TYPE 1".
- ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
- SEE DETAILS FOR PAVEMENT MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
- CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES.
- PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
- STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE, WHITE THERMOPLASTIC AND CONFORM TO CURRENT MUTCD STANDARDS.
- THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
- CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
- CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
- ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
- COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING CONTRACTOR.
- SEE ARCHITECTURAL/BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
- ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
- THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S RADIO COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY.
- THE PROPOSED LOADING ZONE ON RAYNES AVE SHALL BE REVIEWED BY THE PARKING & TRAFFIC SAFETY COMMITTEE. ANY ADDITIONAL LOADING ZONES WILL REQUIRE THE APPROVAL OF THE PARKING & TRAFFIC SAFETY COMMITTEE.
- RAYNES AVE LAYOUT DESIGNED AS PART OF THE CITY OF PORTSMOUTH'S COMPLETE STREETS IMPROVEMENT PROJECT THAT IS BEING DESIGNED BY THE CITY'S CONSULTANT.
- ALL TREES PLANTED ARE TO BE INSTALLED UNDER THE SUPERVISION OF THE CITY OF PORTSMOUTH DPW USING STANDARD INSTALLATION METHODS.
- THE APPLICANT SHALL PREPARE A CONSTRUCTION MANAGEMENT AND MITIGATION PLAN (CMMP) FOR REVIEW AND APPROVAL BY THE CITY'S LEGAL AND PLANNING DEPARTMENTS.
- A TEMPORARY SUPPORT OF EXCAVATION (SOE) PLAN SHALL BE PREPARED BY THE APPLICANT'S CONTRACTOR TO CONFIRM ANY TEMPORARY ENCUMBRANCES OF THE CITY'S RIGHT-OF-WAY. IF LICENSES ARE REQUIRED FOR THE SOE, THE APPLICANT WILL BE REQUIRED TO OBTAIN THESE FROM THE CITY PRIOR TO CONSTRUCTION.
- APPLICANT SHALL COMPLETE FINAL PAVING AND PAVEMENT STRIPING PER DPW REQUIREMENTS FOR THE ENTIRE WIDTH OF RAYNES AVENUE FROM VAUGHAN STREET TO MAPLEWOOD AVENUE.

### GRADING AND DRAINAGE NOTES:

- COMPACTION REQUIREMENTS:
 

BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREAS	90%
- \* ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.

### EROSION CONTROL NOTES:

- SEE SHEET C-501 FOR GENERAL EROSION CONTROL NOTES AND DETAILS.

### UTILITY NOTES:

- COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
  - NATURAL GAS - UNITIL
  - WATER/SEWER - CITY OF PORTSMOUTH
  - ELECTRIC - EVERSOURCE
  - COMMUNICATIONS - COMCAST/CONSOLIDATED COMMUNICATIONS/FIRST LIGHT
- ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
- ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF PORTSMOUTH WATER DEPARTMENT.
- ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
- CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
- CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
- 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.
- ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
- THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
- ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
- CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
- 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.
- SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
- HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
- COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
- ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAN 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
- 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.
- SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
- CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
- FINAL LOCATIONS OF ALL UTILITY LINES SHALL BE APPROVED BY THE CITY OF PORTSMOUTH DPW PRIOR TO CONSTRUCTION.
- EXISTING SEWER LINE IN RAYNES AVENUE IS AC PIPE. CONTRACTOR SHALL TAKE PROPER PRECAUTIONS WHEN CUTTING INTO EXISTING PIPE.
- THE APPLICANT SHALL PROVIDE A FAIR SHARE CONTRIBUTION FOR THE REPLACEMENT OF THE RAYNES AVENUE WATER MAIN.
- CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
- CONTRACTOR SHALL PERFORM TEST PITS TO VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF LOCATIONS DIFFER FROM PLAN.

### LANDSCAPE NOTES:

- SEE SHEET L-100 FOR LANDSCAPE NOTES.

### EXISTING CONDITIONS PLAN NOTES:

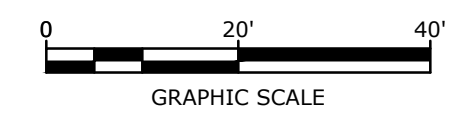
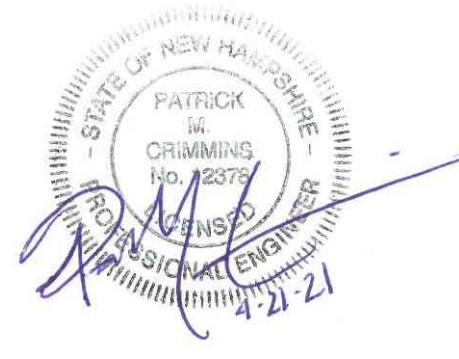
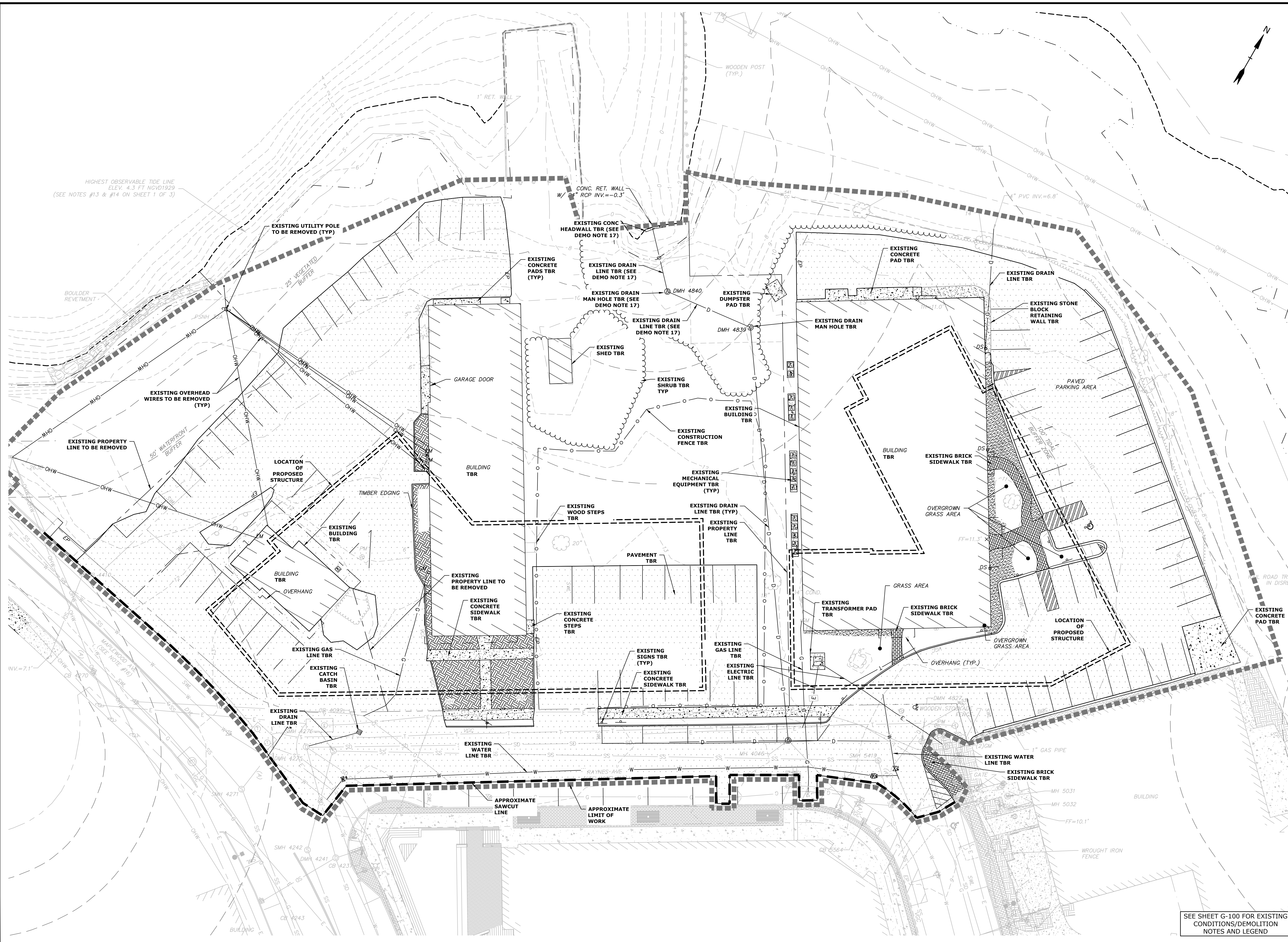
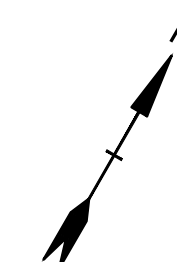
- EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY PERFORMED BY DOUCET SURVEY INC. SEE REFERENCE PLAN #1.
- FLOOD HAZARD ZONE BASED ON REFERENCE PLAN #1.
- HORIZONTAL DATUM BASED ON REFERENCE PLAN #2.
- VERTICAL DATUM BASED ON REFERENCE PLAN #1.

### REFERENCE PLANS:

- "EXISTING CONDITIONS PLAN OF TAX MAP 123, LOT 10, 12, 13 & 14" PREPARED BY DOUCET SURVEY INC., DATED JUNE 17, 2020.
- "SITE PLAN PLAN FOR 111 MAPLEWOOD AVENUE" PREPARED BY TIGHE & BOND INC., DATED MARCH 18, 2019, LAST REVISED NOVEMBER 21, 2019.
- "EXISTING CONDITIONS PLAN OF TAX MAP 123, LOT 15 & TAX MAP 124, LOTS 10 & 11" PREPARED BY DOUCET SURVEY INC., DATED FEBRUARY 3, 2016.
- "UTILITIES PLAN" AC HOTEL AND COMMUNITY SPACE, PREPARED BY TIGHE & BOND INC., DATED JULY 23, 2018
- "DISPOSITION PLAN PARCEL 3" DATED 6/73 BY ANDERSON-NICHOLS & CO., INC., R.C.R.D. PLAN #D-4019.
- "PLAN OF LAND, VAUGHAN AND GREEN STREETS, PORTSMOUTH NH" DATED JULY 1955 BY JOHN W. DURGIN R.C.R.D. PLAN #02541.
- "SEVERINO TRUCKING CO., INC. ELECTRIC DUCT BANK LOCATION PLAN" DATED MARCH 25, 2014.
- "EXISTING FEATURES PLAN, TAX MAP 118 - LOT 28, TAX MAP 119 - LOT 4, TAX MAP 124 - LOT 12 & TAX MAP 125 LOT 121" DATED NOVEMBER 27, 2013, REVISED 1/16/15 BY MSC CIVIL ENGINEERS & LAND SURVEYORS, INC.
- "FIGURE 1 AREA OF INVESTIGATION WITH EMI", 111 MAPLEWOOD AVENUE, DATED JULY 2019, PREPARED BY RADAR SOLUTIONS INTERNATIONAL, INC.
- "VAUGHN ST. BNDER ELEVATIONS AS BUILT DRAWING" BY S.U.R. CONSTRUCTION, INC. DATED 8/12/2019.
- COMPLETE STREETS CONCEPTUAL DESIGN BY SEBAGO TECHNICS. DATED 05/31/2019.

Last Saved: 4/21/2021, 10:07am By: Mahanson  
 Plotted On: Apr 21, 2021, 10:07am  
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**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
D	4/21/2021	TAC Resubmission
C	3/22/2021	TAC Submission
B	3/10/2021	Design Review Resubmission
A	12/1/2020	TAC Work Session

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-C-DSGN.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH/PMC
APPROVED BY:	BLM

**DEMOLITION PLAN**

SCALE: AS SHOWN

**C-101**

SEE SHEET G-100 FOR EXISTING CONDITIONS/DEMOLITION NOTES AND LEGEND

Last Saved: 4/21/2021 10:09am By: M.Hansen  
 Plotted On: Apr 21, 2021 10:09am  
 Title & Content: P-0595-007\_C-DSGN.dwg  
 Figures: AUCAD, Sheets: P-0595-007\_C-DSGN.dwg



**SITE DATA:**

LOCATION: TAX MAP 123, LOT 10  
 TAX MAP 123, LOT 12  
 TAX MAP 123, LOT 13  
 TAX MAP 123, LOT 14  
 TAX MAP 123, LOT 12  
 RAYNES AVENUE

ZONING DISTRICT: CHARACTER DISTRICT 4 (CD4)  
 DOWNTOWN OVERLAY DISTRICT  
 NORTH END INCENTIVE OVERLAY DISTRICT  
 HISTORIC DISTRICT

PROPOSED USE: MULTI FAMILY DWELLING  
 HOTEL  
 RETAIL/RESTAURANT

PROPOSED LOT SIZE: ±2.53 ACRES (±110,415 SF)

**DEVELOPMENT STANDARDS**

BUILDING PLACEMENT (PRINCIPAL BUILDING):	REQUIRED	PROPOSED BUILDING A	PROPOSED BUILDING B
MAXIMUM PRINCIPAL FRONT YARD:	15 FT	±16 FT (1)	7.4 FT
MAXIMUM SECONDARY FRONT YARD:	12 FT	N/A	N/A
SIDE YARD:	NR	NR	NR
MINIMUM REAR YARD:	5 FT	N/A	N/A
MINIMUM FRONT LOT LINE BUILDOUT:	50%	±68.8%	±68.8%

(1) - INCREASE ABOVE THE MAXIMUM ALLOWED PER 10.5A42.12

BUILDING AND LOT OCCUPATION:	REQUIRED	PROPOSED BUILDING A	PROPOSED BUILDING B
MAXIMUM BUILDING BLOCK LENGTH:	200 FT	191 FT	116 FT
MAXIMUM FACADE MODULATION LENGTH:	80 FT	<80 FT	<80 FT
MAXIMUM ENTRANCE SPACING:	50 FT	<50 FT	<50 FT
MAXIMUM BUILDING COVERAGE:	90%	±47.0%	±47.0%
MAXIMUM BUILDING FOOTPRINT:	30,000 SF (2)	17,383 SF	14,628 SF
MINIMUM LOT AREA:	NR	NR	NR
MINIMUM LOT AREA PER DWELLING UNIT:	NR	35.0 SF	7,400 SF
MINIMUM OPEN SPACE:	10%	15,000 SF	7,400 SF
MAXIMUM GROUND FLOOR GFA PER USE:	15,000 SF	8,100 SF	7,400 SF

(2) - INCREASE ABOVE 15,000 SF ALLOWED PER 10.5A46.10

BUILDING FORM (PRINCIPAL BUILDING):	REQUIRED	PROPOSED BUILDING A	PROPOSED BUILDING B
BUILDING HEIGHT:	5 STORY (3)	5 STORY	5 STORY
MAXIMUM FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE:	60 FT	59.77 FT	57.90 FT
MINIMUM SECOND STORY HEIGHT:	36 IN	<36"	<36"
MINIMUM SECOND STORY HEIGHT:	12 FT	15 FT	15 FT
MINIMUM SECOND STORY HEIGHT:	10 FT	10.5 FT	10.5 FT
FACADE GLAZING:	70%	70%	70%
SHOP FRONT FACADE TYPE	70%	70%	70%
ALLOWED ROOF TYPES	FLAT, GABLE, HIP, GAMBREL, MANSARD	FLAT, GABLE, HIP, GAMBREL, MANSARD	FLAT

(3) - ADDITIONAL 1 STORY UP TO 10FT ALLOWED FOR PROVIDING AT LEAST 20% OF THE SITE TO BE ASSIGNED AS COMMUNITY SPACE AS ALLOWED PER 10.5A46.10.

COMMUNITY SPACE:	REQUIRED	PROPOSED
	21,274 SF	27,000 SF
	20%	24.5%

**OFF-STREET PARKING REQUIREMENTS**

PARKING SPACES REQUIRED:	REQUIRED	PROVIDED
DWELLING UNITS:		
0 SF TO 500 SF, 0.5 SPACES PER UNIT	17 UNITS	8.5 SPACES
500 SF TO 750 SF, 1.0 SPACES PER UNIT	33 UNITS	33 SPACES
OVER 750 SF, 1.3 SPACES PER UNIT	10 UNITS	13 SPACES
TOTAL MINIMUM RESIDENTIAL SPACES REQUIRED =		55 SPACES

VISITORS:	REQUIRED	PROVIDED
1 SPACES PER 5 DWELLING UNITS	60 UNITS	12 SPACES

HOTEL:	REQUIRED	PROVIDED
0.75 SPACES PER GUEST ROOM	128 ROOMS	96 SPACES

DOWNTOWN OVERLAY DISTRICT - 4 SPACES  
 TOTAL MINIMUM PARKING SPACES REQUIRED = 159 SPACES

TOTAL PARKING SPACES PROVIDED:	REQUIRED	PROVIDED
RESERVE SPACES, LIFT SYSTEM (4) =		23 SPACES
SHARED PARKING ON SEPARATE LOT (4) =		111 SPACES
SURFACE PARKING SPACES =		159 SPACES
TOTAL PARKING SPACES PROVIDED =		159 SPACES

SIX (6) ADA ACCESSIBLE SPACES REQUIRED

(4) - CONDITIONAL USE PERMIT REQUIRED FOR REDUCTION IN SPACES AND SHARED PARKING ON SEPARATE LOT.

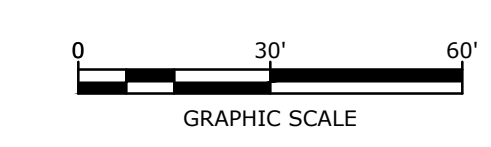
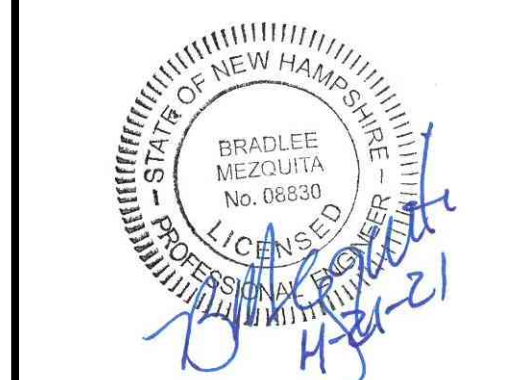
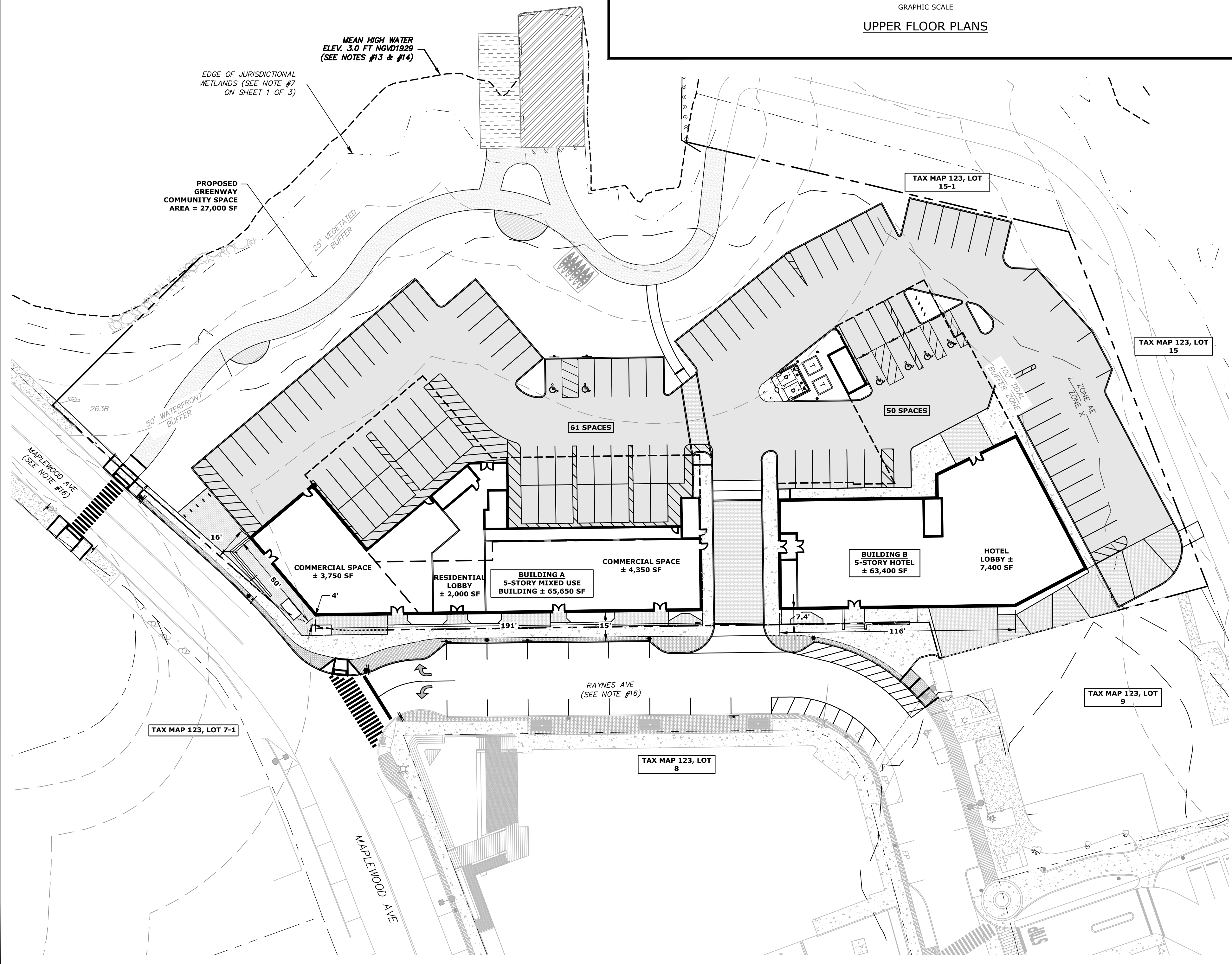
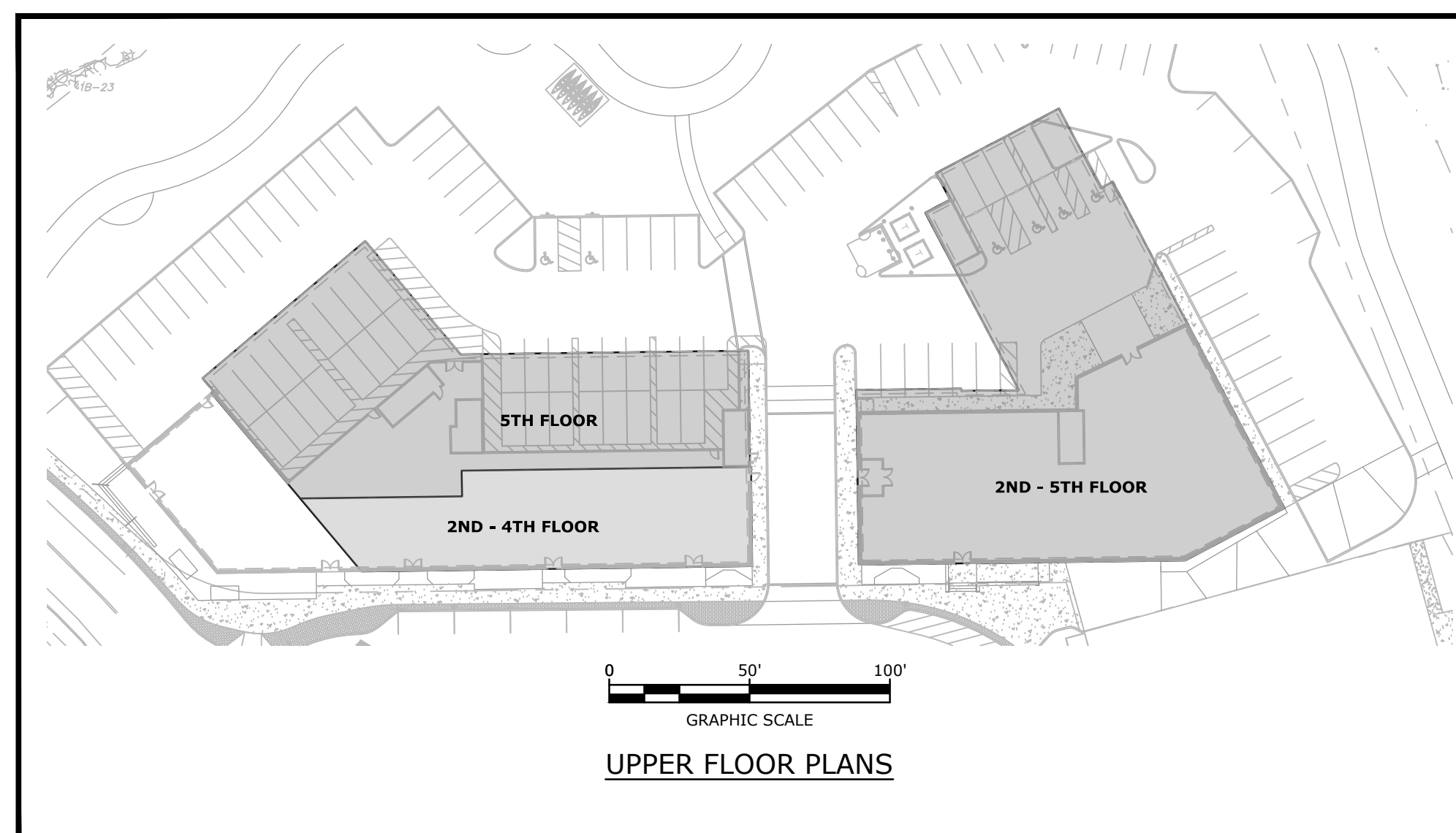
PARKING STALL SIZE:	REQUIRED	PROVIDED
DRIVE AISLE:	8.5' X 19'	8.5' X 19'
	24'	24'

BIKE SPACES REQUIRED:	REQUIRED	PROVIDED
1 BIKE SPACE / 10 PARKING SPACES	16 SPACES	16 SPACES

PROPOSED MIXED USE GROSS FLOOR AREA				PROPOSED HOTEL GROSS FLOOR AREA			
FLOOR	COMMERCIAL (SF)	LOBBY (SF)	TOTAL FLOOR AREA (SF)	FLOOR	LOBBY (SF)	TOTAL FLOOR AREA (SF)	
FIRST	8,100	2,000	10,100	FIRST	7,400	7,400	
SECOND	0	0	15,200	SECOND	0	14,000	
THIRD	0	0	15,200	THIRD	0	14,000	
FOURTH	0	0	15,200	FOURTH	0	14,000	
FIFTH	0	0	9,950	FIFTH	0	14,000	
TOTAL	8,100	2,000	65,550	TOTAL	7,400	63,400	

**SITE RECORDING NOTES:**

- 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.
- THIS IS NOT A BOUNDARY SURVEY AND SHALL NOT BE USED AS SUCH.



**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
D	4/21/2021	TAC Resubmission
C	3/22/2021	TAC Submission
B	3/10/2021	Design Review Resubmission
A	12/1/2020	TAC Work Session

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-C-DSGN.DWG
DRAWN BY:	CKJ
CHECKED BY:	NAH/PMC
APPROVED BY:	BLM

**SITE PLAN**

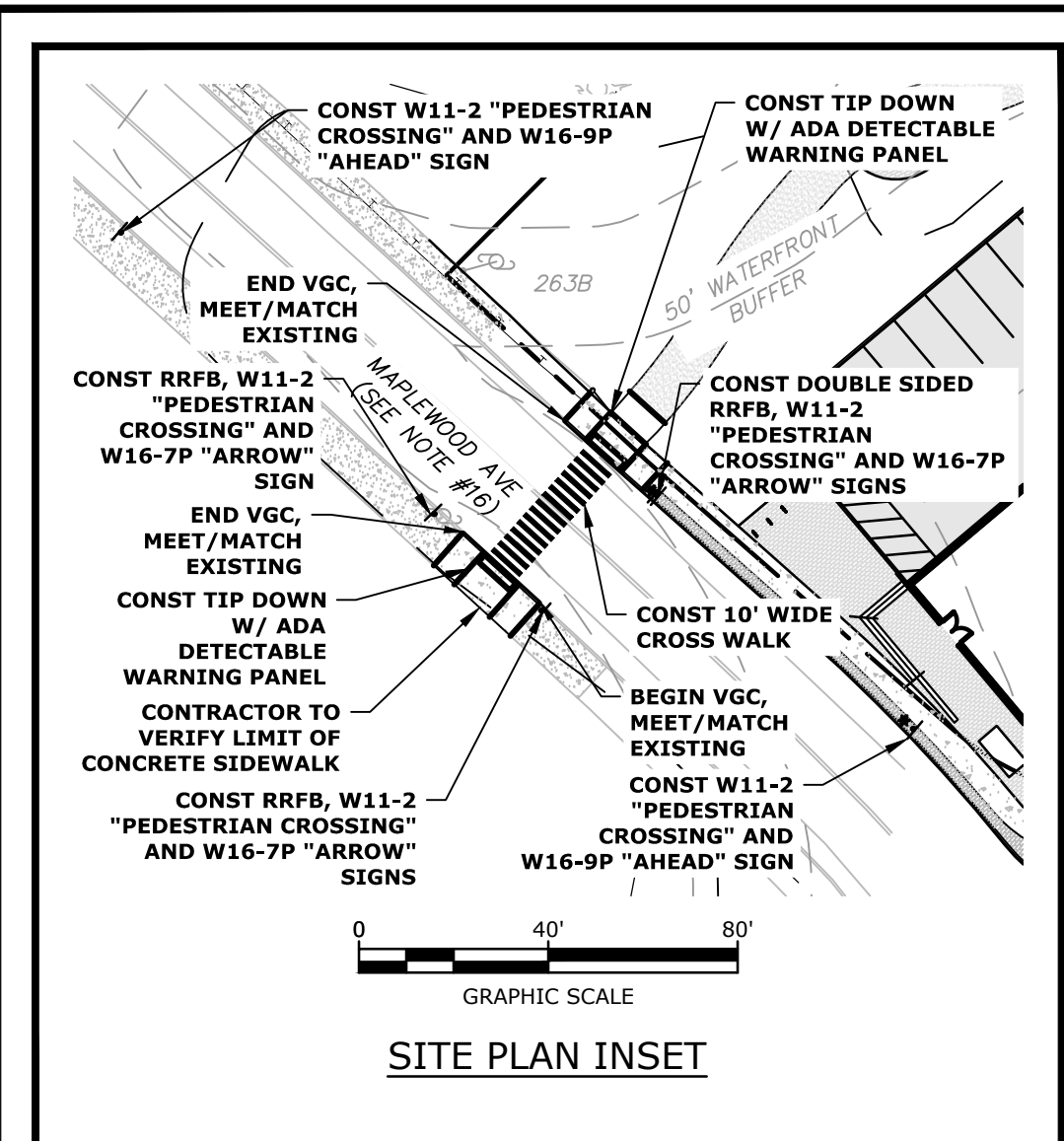
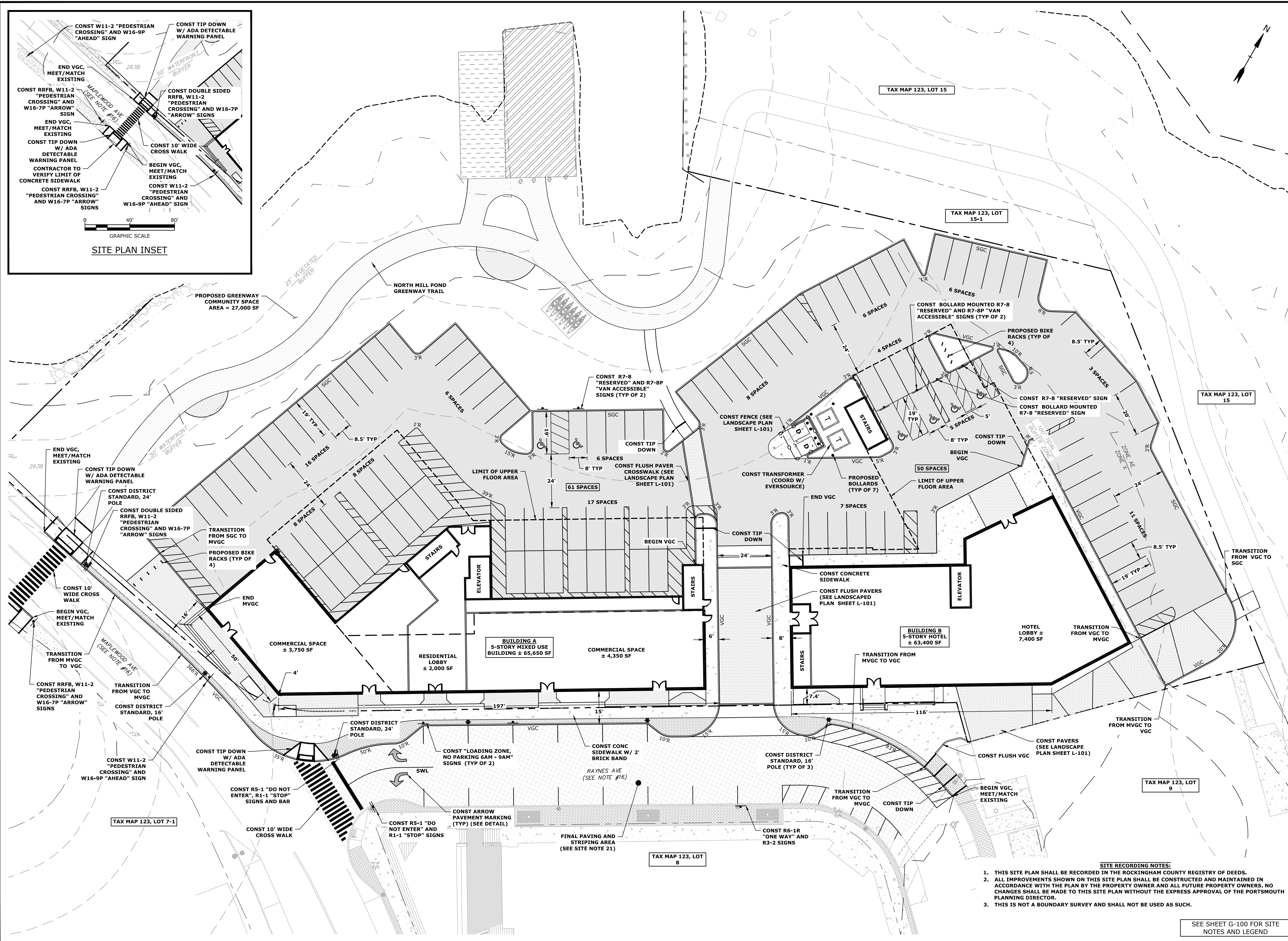
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**C-102**

SEE SHEET G-100 FOR SITE NOTES AND LEGEND

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 Tighe & Bond 231 W. 93rd St. Portsmouth, NH 03801  
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STATE OF NEW HAMPSHIRE  
BRADLEE MEZOUTA  
No. 08830  
LICENSED PROFESSIONAL ENGINEER  
4/21/21

STATE OF NEW HAMPSHIRE  
PATRICK W. CRAMMING  
No. 08830  
LICENSED PROFESSIONAL ENGINEER  
4/21/21

0 20' 40'  
GRAPHIC SCALE

**Proposed Mixed Use Development**

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DATE: December 22, 2020  
FILE: P-0595-007-C-DSGN.DWG  
DRAWN BY: CJK  
CHECKED BY: NAH/PMC  
APPROVED BY: BLM

- SITE RECORDING NOTES:**
- 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.
  - THIS IS NOT A BOUNDARY SURVEY AND SHALL NOT BE USED AS SUCH.

SITE PLAN

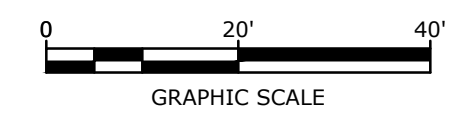
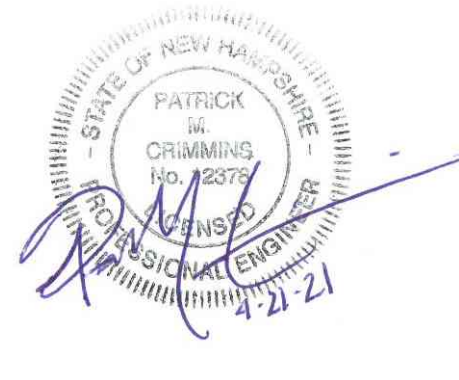
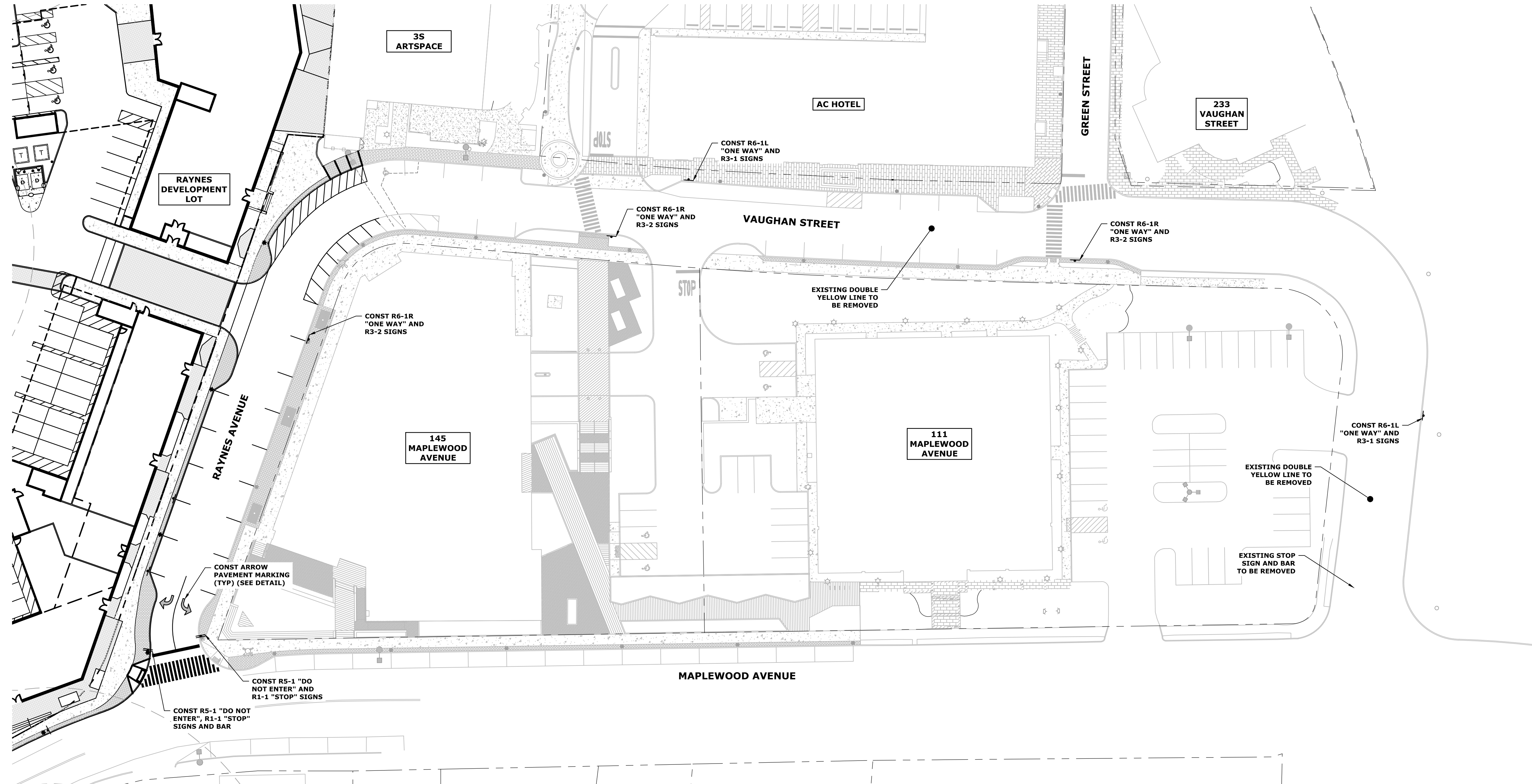
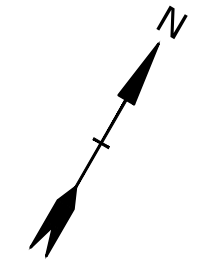
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C-102.1

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SEE SHEET G-100 FOR SITE NOTES AND LEGEND





**Proposed Mixed Use Development**

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 DRAWN BY: CJK  
 CHECKED BY: NAH/PMC  
 APPROVED BY: BLM

NEIGHBORHOOD SIGNAGE PLAN

SCALE: AS SHOWN

SEE SHEET G-100 FOR SITE NOTES AND LEGEND

C-102.2

Last Saved: 4/20/2021 5:11:39pm By: M.Hansen  
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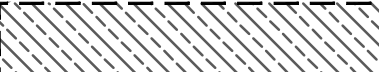


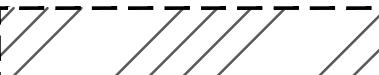

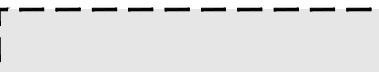




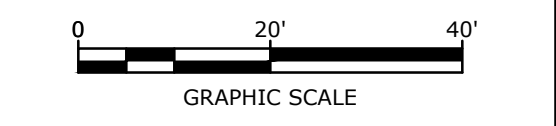
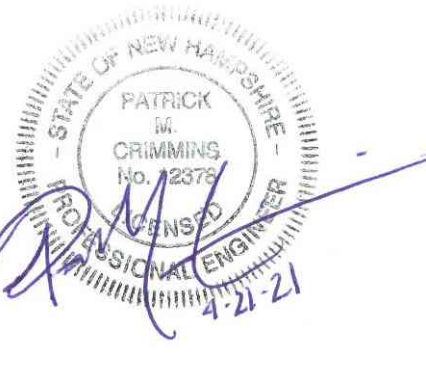
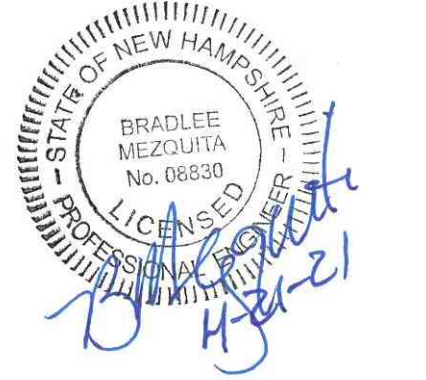
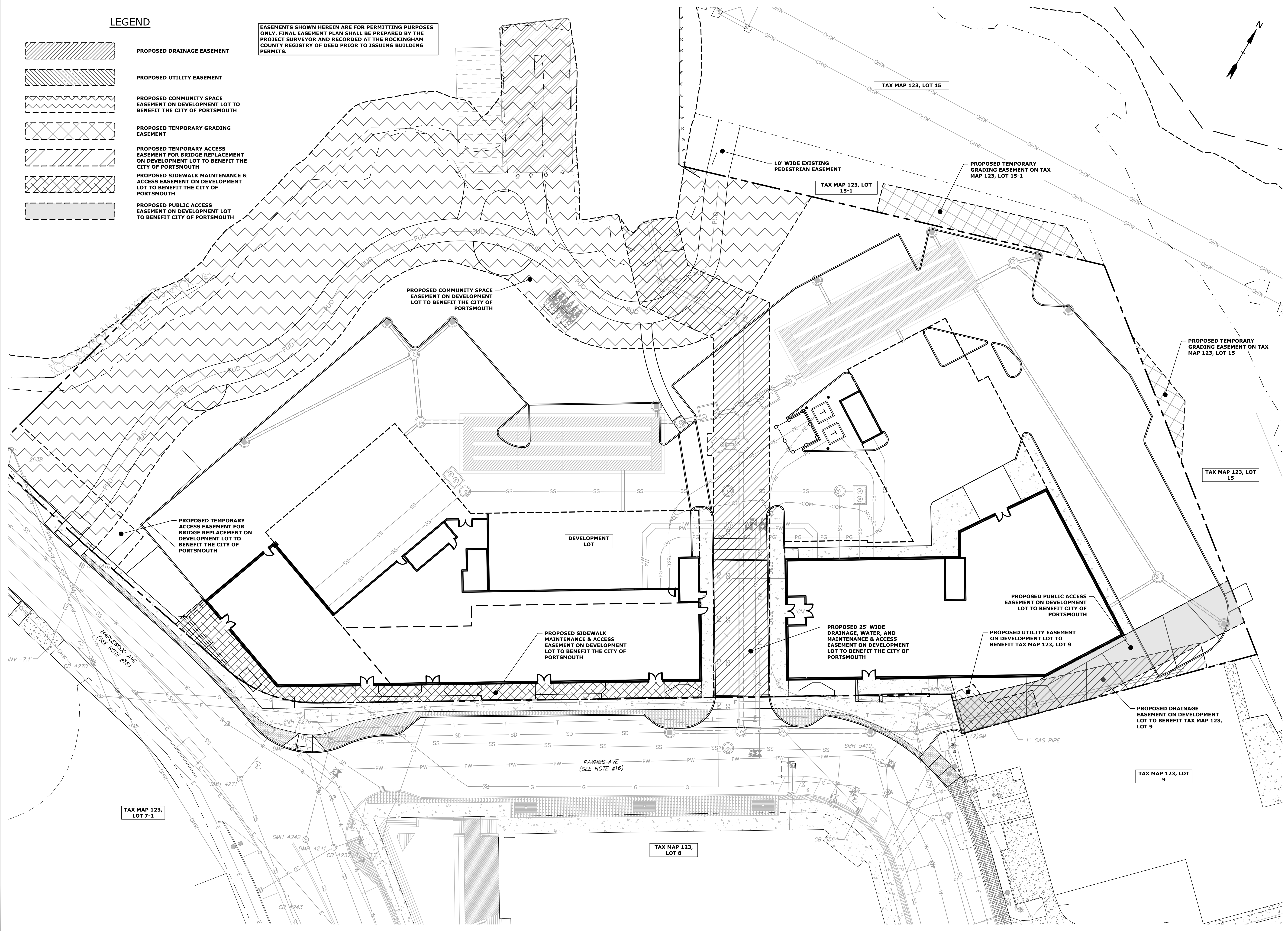




**LEGEND**

-  PROPOSED DRAINAGE EASEMENT
-  PROPOSED UTILITY EASEMENT
-  PROPOSED COMMUNITY SPACE EASEMENT ON DEVELOPMENT LOT TO BENEFIT THE CITY OF PORTSMOUTH
-  PROPOSED TEMPORARY GRADING EASEMENT
-  PROPOSED TEMPORARY ACCESS EASEMENT FOR BRIDGE REPLACEMENT ON DEVELOPMENT LOT TO BENEFIT THE CITY OF PORTSMOUTH
-  PROPOSED SIDEWALK MAINTENANCE & ACCESS EASEMENT ON DEVELOPMENT LOT TO BENEFIT THE CITY OF PORTSMOUTH
-  PROPOSED PUBLIC ACCESS EASEMENT ON DEVELOPMENT LOT TO BENEFIT CITY OF PORTSMOUTH

EASEMENTS SHOWN HEREIN ARE FOR PERMITTING PURPOSES ONLY. FINAL EASEMENT PLAN SHALL BE PREPARED BY THE PROJECT SURVEYOR AND RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEED PRIOR TO ISSUING BUILDING PERMITS.



**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

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C	3/22/2021	TAC Submission
B	3/10/2021	Design Review Resubmission
A	12/1/2020	TAC Work Session

PROJECT NO:	P-0595-007
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DRAWN BY:	CIK
CHECKED BY:	NAH/PMC
APPROVED BY:	BLM

**EASEMENT PLAN**

SCALE: AS SHOWN

**C-201**

Last Saved: 4/21/2021 10:43am By: Mahansen  
 Plotted On: Apr 21, 2021 10:43am  
 Tighe & Bond 21\1\1\0595 Pro Con General Proposals\0595-007 Raynes Ave Hotel Drawings - Figures\AutoCAD\Sheet\P-0595-007-C-DSGN.dwg



PLANT SCHEDULE

Symbol	Quantity	Botanical Name	Common Name	Size	Spacing	Notes
<b>TREES</b>						
AC RU	6	<i>Acer rubrum</i>	Red Maple	4-5" Cal.		B&B; matched
AC KA	2	<i>Acer rubrum</i> 'Karpick'	Karpick Maple	4-5" Cal.		Single-stem, matched
BE AL	3	<i>Betula alleghaniensis</i>	Yellow Birch	4-5" Cal.		Single-stem, matched
CE OC	5	<i>Celtis occidentalis</i>	Hackberry	4-5" Cal.		Single-stem, matched
CH TH	5	<i>Chamaecyparis thuyoides</i>	White Cypress	8-10' Ht, B&B		B&B; matched
CH VI	6	<i>Chionanthus virginicus</i>	Fringe Tree	4-5" Cal.		Multi-stem, matched
HA VE	7	<i>Hamamelis vernalis</i>	Vernal Witch Hazel	6-8' Ht, B&B		Multi-stem, matched
JU VI	8	<i>Juniperus virginiana</i>	Eastern Red Cedar	8-10' Ht, B&B		B&B; matched
QU BI	4	<i>Quercus bicolor</i>	Swamp White Oak	4-5" Cal.		B&B; matched
TH OC	6	<i>Thuja occidentalis</i> 'Hetz Wintergreen'	Hetz Wintergreen Arborvitae	6-8' Ht, B&B		B&B; matched
<b>SHRUBS</b>						
Ae Pa		<i>Aesculus parviflora</i>	Bottlebrush Buckeye	#10 Container	72" O.C.	
Ce Am		<i>Ceanothus americanus</i>	New Jersey Tea	#7 Container	48" O.C.	
Co Pe		<i>Comptonia peregrina</i>	Sweet Fern	#3 Container	36" O.C.	
Co Ra		<i>Cornus racemosa</i>	Gray Dogwood	#7 Container	36" O.C.	
Fo Ga		<i>Fothergilla gardenii</i> 'Mount Airy'	Mount Airy Fothergilla	#7 Container	36" O.C.	
Hy Qu		<i>Hydrangea quercifolia</i>	Oakleaf Hydrangea	#7 Container	48" O.C.	
Li Be		<i>Lindera Benzoin</i>	Spice Bush	#7 Container	36" O.C.	
Ix Gl		<i>Ilex glabra</i> 'Shamrock'	Shamrock Inkberry	#7 Container	36" O.C.	
Il Ji		<i>Ilex verticillata</i> 'Jim Dandy'	Jim Dandy Winterberry	#7 Container	48" O.C.	
Il Ve		<i>Ilex verticillata</i> 'Red Sprite'	Red Sprite Winterberry	#7 Container	48" O.C.	
Iv Fr		<i>Iva frutescens</i>	Bigleaf Marsh Elder	#3 Container	36" O.C.	
My Pe		<i>Myrica pensylvanica</i>	Northern Bayberry	#7 Container	48" O.C.	
Rh Gl		<i>Rhus aromatica</i> 'Gro-Low'	Fro-Low Fragrant Sumac	#3 Container	30" O.C.	
Sp To		<i>Spiraea tomentosa</i>	Steeplebush	#3 Container	30" O.C.	
Vi Ca		<i>Viburnum carlesii</i> 'SMVCB'	Spice Baby Viburnum	#7 Container	36" O.C.	
<b>PERENNIALS</b>						
am hu		<i>Amsonia tabernaemontana</i> 'Walter'	Eastern Bluestar	#2 Container	30" O.C.	
an ma		<i>Anaphalis margaritacea</i>	Pearly Everlasting	#2 Container	15" O.C.	
as in		<i>Asclepias tuberosa</i>	Butterfly Weed	#2 Container	30" O.C.	
as ob		<i>Aster oblongifolius</i> 'Raydon's Favorite'	Raydon's Favorite Aster	#2 Container	24" O.C.	
ba bi		<i>Baptisia australis</i>	Blue False Indigo	#3 Container	24" O.C.	
de pu		<i>Dennstaedtia punctilobula</i>	Hay Scented Fern	#2 Container	30" O.C.	
ec pu		<i>Echinacea purpurea</i>	Purple Coneflower	#2 Container	24" O.C.	
on se		<i>Onoclea sensibilis</i>	Sensitive Fern	#2 Container	30" O.C.	
sa ma		<i>Salvia</i> 'May Night'	May Night Salvia	#2 Container	30" O.C.	
so ca		<i>Solidago simpervirens</i>	Seaside Goldenrod	#2 Container	24" O.C.	
ti co		<i>Tiarella cordifolia</i>	Foamflower	#2 Container	15" O.C.	
<b>ORNAMENTAL GRASSES</b>						
ag pe		<i>Agrostis pernnans</i>	Upland Bentgrass	#3 Container	30" O.C.	
bo cu		<i>Bouteloua curtipendula</i>	Side Oats Grama	#2 Container	30" O.C.	
ca ac		<i>Calamagrostis acutiflora</i> 'Karl Foerster'	Feather Reed Grass	#3 Container	30" O.C.	
de ce		<i>Deschampsia cespitosa</i> 'Pixie Fountain'	Tufted Hair Grass	#2 Container	30" O.C.	
fe ru		<i>Festuca rubra</i> L.	Coastal Red Fescue	Plug	12" O.C.	
mi si		<i>Miscanthus sinensis</i> 'Adagio'	Dwarf Silver Grass	#2 Container	30" O.C.	
pe al		<i>Pennisetum alopecuroides</i> 'Hamelin'	Hameln Dwarf Fountain Grass	#2 Container	24" O.C.	
sc sc		<i>Schizachyrium scoparium</i>	Little Bluestem	Plug	12" O.C.	
so nu		<i>Sorghastrum nutans</i>	Indian Grass			
<b>SEED MIXES</b>						
Buffer Seed Mix		<i>Ernst Seed Fescue Mix composed of 45% Creeping Red Fescue/ 27.5% Hard Fescue 'Minimus' / 27.5% Hard Fescue 'Beacon'</i>				

RESTORATION PLANTING NOTES

1. INVASIVE PLANT MATERIAL WILL BE REMOVED USING MECHANICAL, WHOLE PLANT REMOVAL STRATEGIES AND CHIPPED AND COMPOSTED AT AN APPROPRIATE FACILITY OR BURNED ON SITE ACCORDING TO LOCAL FIRE DEPARTMENT RULES AND REGULATIONS.
2. DISTURBED SOILS WILL BE AUGMENTED AS NEED WITH A CUSTOM BLENDED SOIL OF ONE PART LOAM, ONE PART COMPOST AND ONE PART CLEAN SAND.
3. SEEDED AREAS ARE TO BE COVERED WITH SALT MARSH HAY TO RETAIN SOIL MOISTURE AND PROTECT AGAINST SEED PREDATION BY BIRDS AND SMALL MAMMALS.
4. NATIVE PLANT MATERIAL WILL BE LAID OUT AND INSTALLED BY AN ECOLOGICAL RESTORATION SPECIALIST OR PERSONS TRAINED IN HORTICULTURAL PRACTICES. EXACT PLANT LOCATIONS WILL BE DETERMINED IN THE FIELD BASED ON SITE-SPECIFIC PLANTING CONDITIONS AND MICRO-TOPOGRAPHY.
5. THE NEW PLANTINGS WILL BE IRRIGATED FOR ONE FULL GROWING SEASON OR UNTIL THE SEED AND PLANT MATERIAL IS ESTABLISHED.
6. MONTHLY INSPECTIONS WILL BE CONDUCTED FOR THE FIRST GROWING SEASON AND TREATMENT/REMOVAL OF INVASIVE SPECIES WILL BE IMPLEMENTED AS NEEDED DURING THE ESTABLISHED PERIOD.
7. CARE IS TO BE TAKEN IN REMOVING ANY NEW COLONIZING INVASIVE PLANT MATERIAL TO MINIMIZE DISTURBANCE TO ESTABLISHING NATIVE PLANT SPECIES.

PLANTING NOTES

1. LANDSCAPE ARCHITECT TO APPROVE PLANT MATERIAL PRIOR TO DELIVERY TO SITE.
2. PLANT MATERIAL SHALL CONFORM TO "THE AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
3. NO SUBSTITUTIONS OF PLANT SPECIES WITHOUT LANDSCAPE ARCHITECT'S WRITTEN APPROVAL.
4. SUBSTITUTIONS OF PLANT SPECIES SHALL BE A PLANT OF EQUIVALENT OVERALL FORM, HEIGHT AND BRANCHING HABIT, FLOWER, LEAF AND FRUIT, COLOR AND TIME OF BLOOM, AS APPROVED BY LANDSCAPE ARCHITECT.
5. LOCATE AND VERIFY UTILITY LINE LOCATIONS PRIOR TO STAKING AND REPORT CONFLICTS TO LANDSCAPE ARCHITECT.
6. PLANTING DEMOLITION DEBRIS, GARBAGE, LUMPS OF CONCRETE, STEEL AND OTHER MATERIALS DELETERIOUS TO PLANT'S HEALTH AS DETERMINED BY LANDSCAPE ARCHITECT SHALL BE REMOVED FROM ALL PLANTING AREAS.
7. NO PLANTING TO BE INSTALLED BEFORE ACCEPTANCE OF ROUGH GRADING.
8. ALL PROPOSED TREE LOCATIONS SHALL BE STAKED OR LAID OUT IN THEIR APPROXIMATE LOCATION BY THE CONTRACTOR. REFER TO LAYOUT AND PLANTING SHEETS FOR LAYOUT INFORMATION. THE CONTRACTOR SHALL ADJUST THE LOCATIONS AS REQUESTED BY THE LANDSCAPE ARCHITECT TO ACCOUNT FOR SUBSURFACE UTILITIES AND OTHER FIELD CONDITIONS. FINAL LOCATIONS OF ALL PLANTS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING.
9. INSTALL PLANTS WITH ROOT FLARES FLUSH WITH FINISHED GRADE. IMMEDIATELY REPLANT PLANTS THAT SETTLE OUT OF PLUMB OR BELOW FINISHED GRADE.
10. PLANT UNDER FULL TIME SUPERVISION OF CERTIFIED ARBORIST, NURSERYMAN, OR LICENSED LANDSCAPE ARCHITECT. PROVIDE WRITTEN VERIFICATION OF CERTIFICATION AND/OR LICENSE FOR LANDSCAPE ARCHITECT'S APPROVAL.
11. WATER PLANTS THOROUGHLY AFTER INSTALLATION, A MINIMUM OF TWICE WITHIN THE FIRST 24 HOURS.
12. REPAIR DAMAGE DUE TO OPERATIONS INSIDE AND OUTSIDE OF LIMIT OF WORK
13. SOAK ALL PERENNIALS FOR 24 HOURS PRIOR TO INSTALLATION

ZONING NOTES

10.5A44.40 PARKING LOT LANDSCAPE

10.5A44.42 TREES	
PARKING LOTS SHALL CONTAIN AT LEAST (1) TREE FOR EVERY (7) PARKING SPACES	
TOTAL PARKING LOT SPACES	111
TOTAL REQUIRED PARKING LOT TREES	16
TOTAL PARKING LOT TREES PROPOSED	22

10.5A44.43 LANDSCAPING	
ALL LANDSCAPING REQUIRED PURSUANT TO THIS SECTION SHALL BE LOCATED AND DESIGNED IN A MANNER TO PROTECT VEGETATION FROM VEHICULAR DAMAGE.	YES

10.1130 LANDSCAPING AND SCREENING

10.1132.10 SCREENING OF DUMPSTERS	
NATURAL SCREENING SHALL CONSIST OF EVERGREEN SHRUBS/TREES PLANTED IN A LINE TO FORM A CONTINUOUS SCREEN AND GROWING TO A HEIGHT OF 6 FEET WITHIN 3 YEARS. THE REMAINING PORTION OF THE SCREENING AREA SHALL CONSIST OF LARGE AND SMALL TREES, GRASS, FLOWER BEDS, OR OTHER VEGETATIVE GROUNDCOVER TO FULLY COVER THE GROUND SURFACE OF THE AREA WITHIN 3 YEARS.	YES
10.1132.20 SCREENING OF DUMPSTERS	
A 6-FOOT HIGH FENCE OR MASONRY WALL MAY BE SUBSTITUTED FOR NATURAL SCREENING IF APPROVED.	YES

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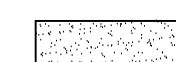

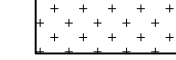
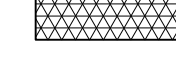


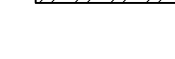


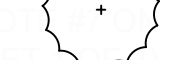

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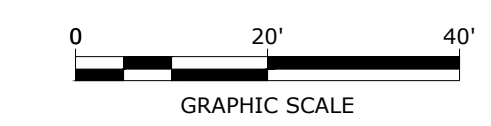
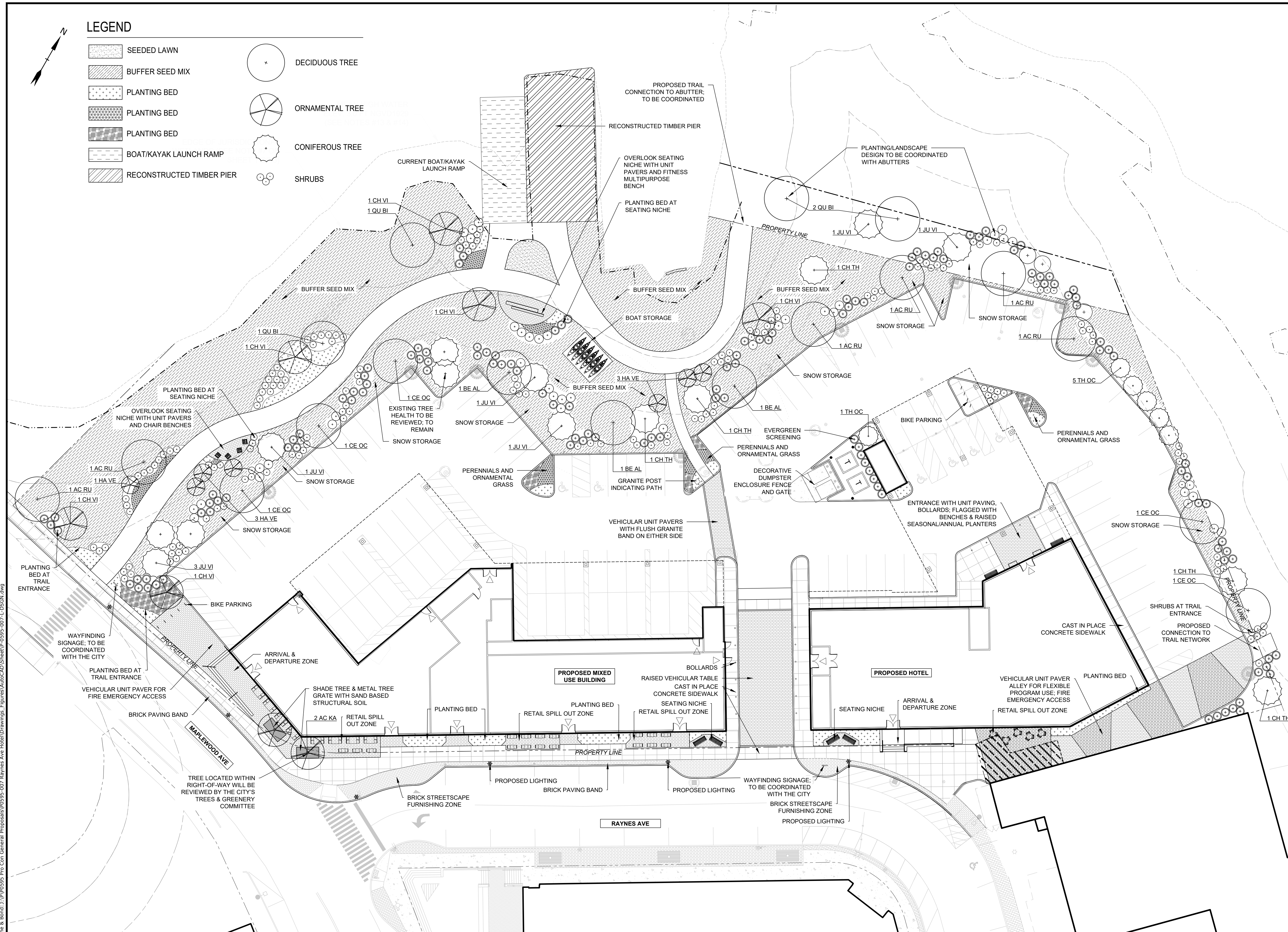
LANDSCAPE MATERIAL PLAN LEGEND AND NOTES

SCALE: AS SHOWN



**LEGEND**

-  SEEDED LAWN
-  BUFFER SEED MIX
-  PLANTING BED
-  PLANTING BED
-  PLANTING BED
-  BOAT/KAYAK LAUNCH RAMP
-  RECONSTRUCTED TIMBER PIER
-  DECIDUOUS TREE
-  ORNAMENTAL TREE
-  CONIFEROUS TREE
-  SHRUBS



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**LANDSCAPE PLANTING PLAN**

SCALE: AS SHOWN

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 Plotted On: Apr 21, 2021 11:11am By: OSTASIN  
 Tighe & Bond 237 P-0595 Pro Con General Proposals P-0595-007 Raynes Ave Hotel Drawings - Figures\AutoCAD\Sheet\P-0595-007-L-DSGN.dwg

CITY OF PORTSMOUTH TREE PLANTING REQUIREMENTS

THE BASE OF THE CITY OF PORTSMOUTH TREE PLANTING REQUIREMENTS IS THE ANSI A300 PART 6 STANDARD PRACTICES FOR PLANTING AND TRANSPLANTING. ANSI A300 PART 6 LAYS OUT TERMS AND BASIC STANDARDS AS SET FORTH BY INDUSTRY BUT IT IS NOT THE 'END ALL' FOR THE CITY OF PORTSMOUTH. THE FOLLOWING ARE THE CITY OF PORTSMOUTH, NH TREE PLANTING REQUIREMENTS THAT IN ADDITION TO OR THAT GO BEYOND THE ANSI A300 PART 6.

- ALL PLANTING HOLES SHALL BE DUG BY HAND- NO MACHINES. THE ONLY EXCEPTIONS ARE NEW CONSTRUCTION WHERE NEW PLANTING PITS, PLANTING BEDS WITH GRANITE CURBING, AND PLANTING SITES WITH SILVA CELLS ARE BEING CREATED. IF A MACHINES USED TO DIG ANY OF THESE SITUATIONS AND PLANTING DEPTH NEEDS TO BE RAISED THE MATERIAL IN THE BOTTOM OF THE PLANTING HOLE MUST BE FIRMED WITH MACHINE TO PREVENT SINKING OF THE ROOT BALL.
- ALL WIRE AND BURLAP SHALL BE REMOVED FROM THE ROOT BALL AND PLANTING HOLE.
- THE ROOT BALL OF THE TREE SHALL BE WORKED SO THAT THE ROOT COLLAR OF THE TREE IS VISIBLE AND NO GIRDLING ROOTS ARE PRESENT.

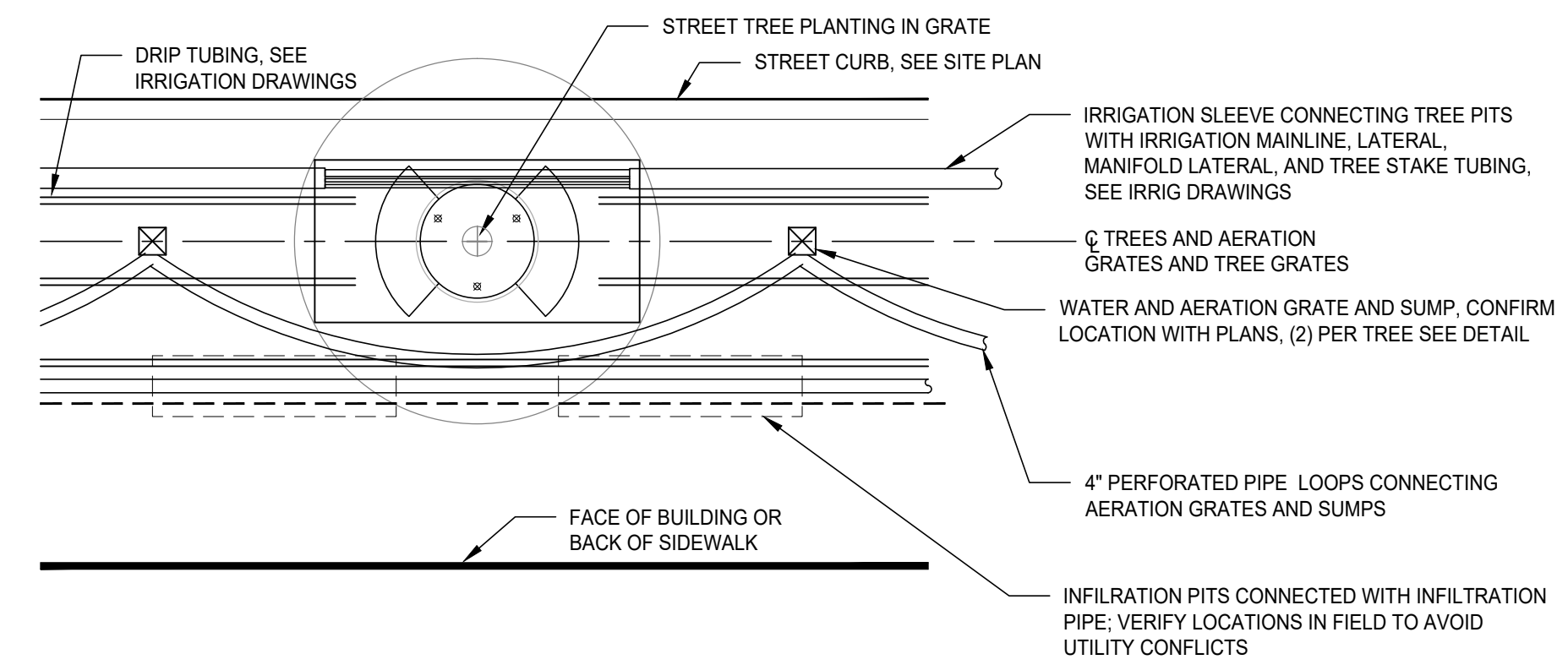
- THE ROOT COLLAR OF THE TREE SHALL BE 2"-3" ABOVE GRADE OF PLANTING HOLE FOR FINISHED DEPTH.
- ALL PLANTINGS SHALL BE BACKFILLED WITH SOIL FROM THE SITE AND AMENDED NO MORE THAN 20% WITH ORGANIC COMPOST. THE ONLY EXCEPTIONS ARE NEW CONSTRUCTION WHERE ENGINEERED SOIL IS BEING USED IN CONJUNCTION WITH SILVA CELLS AND WHERE NEW PLANTING BEDS ARE BEING CREATED.
- ALL PLANTINGS SHALL BE BACKFILLED IN THREE LIFTS AND ALL LIFTS SHALL BE WATERED SO THE PLANTING WILL BE SET AND FREE OF AIR POCKETS- NO EXCEPTIONS.
- AN EARTH BERM SHALL BE PLACED AROUND THE PERIMETER OF THE PLANTING HOLE EXCEPT WHERE CURBED PLANTING BEDS OR PITS ARE BEING USED.
- 2"-3" OF MULCH SHALL BE PLACED OVER THE PLANTING AREA.
- AT THE TIME THE PLANTING IS COMPLETE THE PLANTING SHALL RECEIVE ADDITIONAL WATER TO ENSURE COMPLETE HYDRATION OF THE ROOTS, BACKFILL MATERIAL AND MULCH LAYER.

SAND BASED STRUCTURAL SOIL PLANTING MEDIUM NOTES

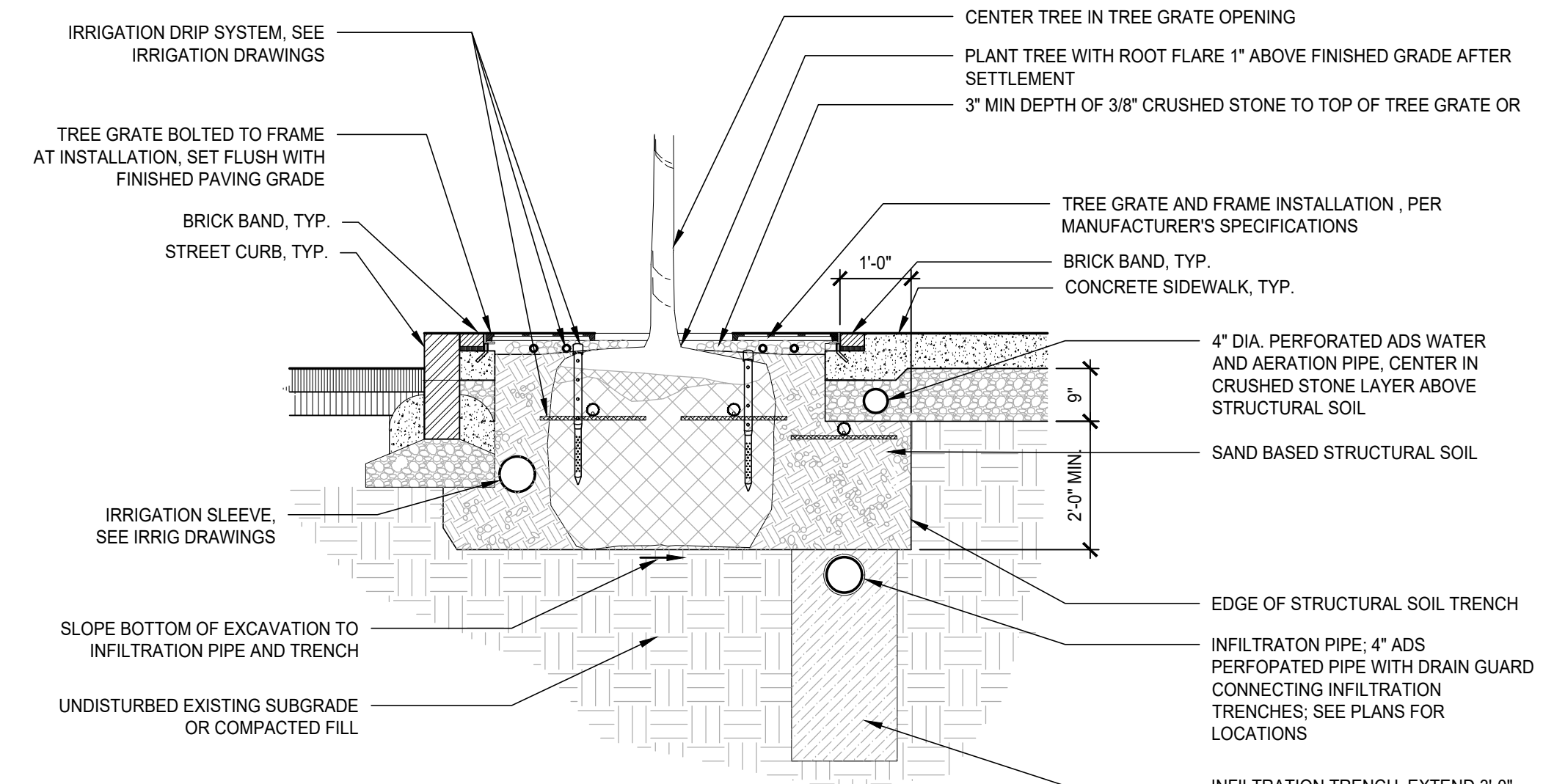
- THE SAND-BASED STRUCTURAL SOIL PLANTING MEDIUM SHALL CONSIST OF A BLEND OF ONE PART COARSE SAND, ONE PART LOAM AND ONE PART ORGANIC AMENDMENT. BLENDING OF THE COMPONENTS SHALL BE CARRIED OUT WITH EARTH MOVING EQUIPMENT PRIOR TO PLACEMENT. THE COMPONENTS SHALL BE BLENDED TO CREATE A UNIFORM MIXTURE.
- PROVIDE A SHOP DRAWING OF SAND BASED STRUCTURAL SOIL PLANTING MEDIUM (SIEVE, PH, ORGANIC CONTENT, SAND/LOAM/ORGANIC AMENDMENT PERCENTAGES) TO A&M FOR APPROVAL PRIOR TO PURCHASE & INSTALLATION.
- THE FINAL BLENDED SAND-BASED STRUCTURAL SOIL PLANTING MEDIUM SHALL CONFORM TO THE FOLLOWING GRAIN SIZE DISTRIBUTION FOR MATERIAL PASSING THE #10 SIEVE:

SIEVE NO. U.S.	%PASSING BY WEIGHT	
	MIN.	MAX.
10	100	----
18	68	90
35	38	63
60	18	39
140	10	18
270	6	9
0.002MM	1	2

- MAXIMUM SIZE SHALL BE ONE INCH LARGEST DIMENSION. THE MAXIMUM RETAINED ON THE #10 SIEVE SHALL BE 15% BY WEIGHT OF THE TOTAL SAMPLE.
- THE RATIO OF THE PARTICLE SIZE FOR 70% PASSING (D70) TO THE PARTICLE SIZE FOR 20% PASSING (D20) SHALL BE 3.5 OR LESS (D70/D20 < 3.5). TESTS SHALL BE BY COMBINED HYDROMETER AND WET SIEVING IN COMPLIANCE WITH ASTM D422 AFTER DESTRUCTION OF ORGANIC MATTER BY IRRIGATION.
- ORGANIC CONTENT SHALL BE BETWEEN 2.0 AND 3.0 PERCENT. PH SHALL BE 6.0 TO 7.0.



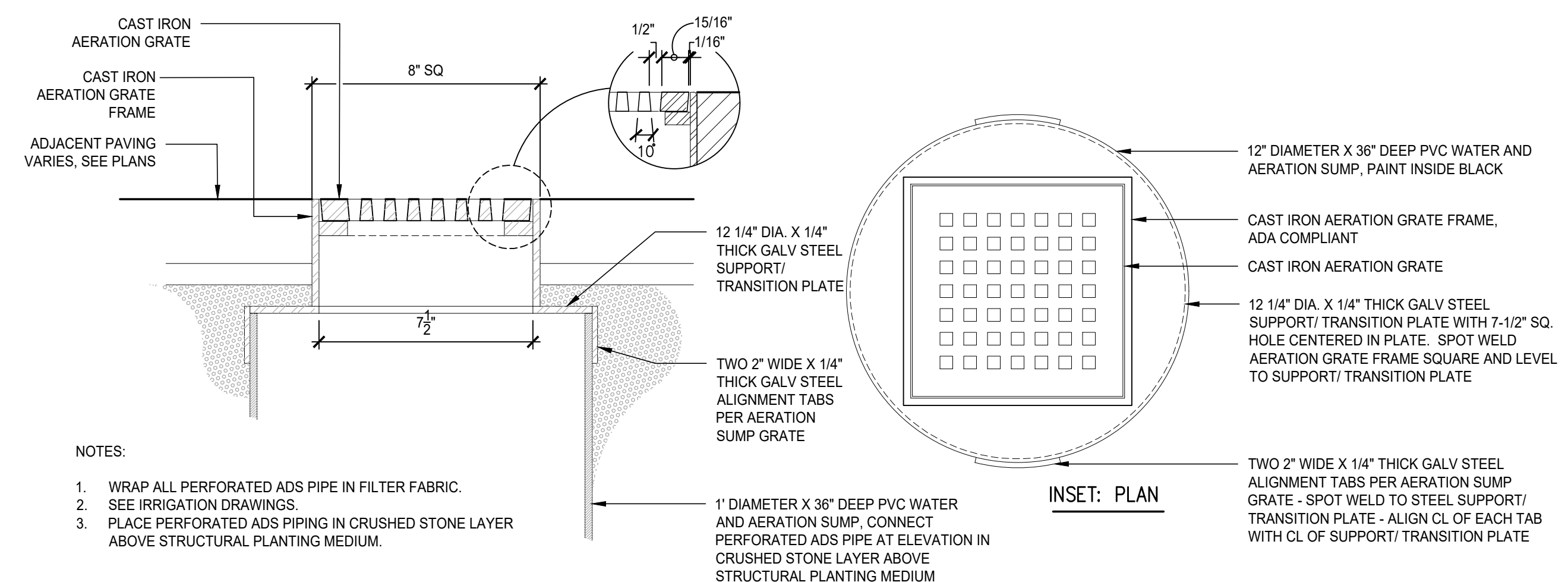
PLAN: WATER AND AERATION SYSTEM IN STREETScape LAYOUT



CROSS SECTION

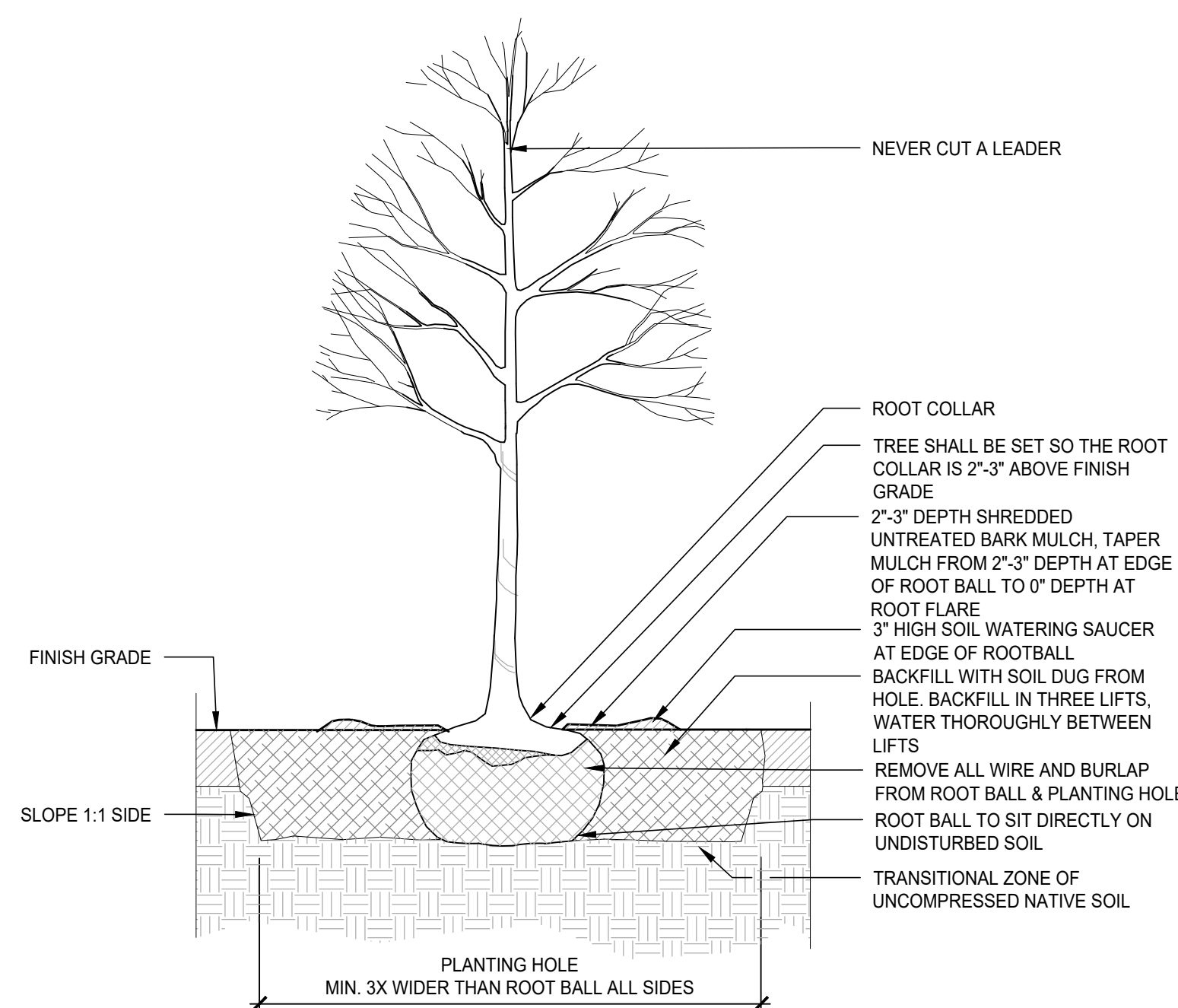
- NOTES:
- PLANTING DETAILS ARE INTENDED TO INDICATE CONSTRUCTION RELATED TO VARIOUS STREETScape ELEMENTS. ACTUAL LOCATIONS OF STREETScape ELEMENTS MAY VARY FROM THOSE SHOWN. SEE PLANS.
  - FINISHED GRADE OF TREE GRATES AND FRAMES SHALL BE FLUSH WITH SURROUNDING PAVEMENT.
  - PROVIDE AUTOMATIC IRRIGATION SYSTEM TO IRRIGATE EACH TREE EXTENDED FROM CENTRAL CONTROLS SYSTEM. IRRIGATION SLEEVING TO CONNECT ALL TREE LOCATIONS BACK TO POINT OF CONNECTION.
  - LIMB BRANCHES TO PROVIDE CLEAR PEDESTRIAN ZONE TO 7'-0\"/>

2 TREE PLANTING IN TREE GRATE OVER SAND-BASED STRUCTURAL SOIL  
SCALE: 1/2"=1'-0"



- NOTES:
- WRAP ALL PERFORATED ADS PIPE IN FILTER FABRIC.
  - SEE IRRIGATION DRAWINGS.
  - PLACE PERFORATED ADS PIPING IN CRUSHED STONE LAYER ABOVE STRUCTURAL PLANTING MEDIUM.

3 WATER AND AERATION SUMP WITH GRATE AND FRAME  
SCALE: 3\"/>



1 TREE PLANTING DETAIL  
SCALE: 3/8"=1'-0"

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LANDSCAPE DETAILS

SCALE: AS SHOWN



**GENERAL PROJECT INFORMATION**

PROJECT APPLICANT: NORTH MILL POND HOLDINGS, LLC  
1359 HOOKSETT ROAD  
HOOKSETT, NH 03106  
PROJECT NAME: PROPOSED MIXED USE DEVELOPMENT  
PROJECT MAP / LOT: MAP 123 / LOTS 10, 12, 13 & 14  
PROJECT ADDRESS: 1 RAYNES AVENUE  
PORTSMOUTH, NH 03801  
PROJECT LATITUDE: 42°-04'-48" N  
PROJECT LONGITUDE: 70°-45'-50" W

**PROJECT DESCRIPTION**  
THE PROPOSED PROJECT INCLUDES TWO BUILDINGS, A 5 STORY MIXED USE BUILDING AND A 5 STORY 128 ROOM HOTEL. THE PROJECT WILL ALSO CONSIST OF ASSOCIATED SITE IMPROVEMENTS SUCH AS PAVING, STORMWATER MANAGEMENT, UTILITIES AND LIGHTING.

**DISTURBED AREA**  
THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 2.40 ACRES.

**SOIL CHARACTERISTICS**  
BASED ON THE USCS SITE SPECIFIC SOIL SURVEY CONDUCTED BY LEONARD LORD, PHD, CSS, CWS OF TIGHE & BOND, INC. THE SOIL SURVEY IDENTIFIES MOSTLY HYDROLOGIC SOIL GROUP C SOILS AND SOME PORTIONS OF HYDROLOGIC SOIL GROUP A SOILS. MUCH OF THE SITE IS COMPRISED OF UDORTHENTS WITH TWO DRAINAGE CLASSIFICATIONS, MODERATELY POORLY DRAINED SOILS AND PORTIONS OF WELL DRAINED SOILS.

**NAME OF RECEIVING WATERS**  
THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA A CLOSED DRAINAGE SYSTEM ULTIMATELY FLOWS TO NORTH MILL POND THEN TO THE PISCATAQUA RIVER.

**CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:**

- 1. CUT AND CLEAR TREES.
- 2. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
  - NEW CONSTRUCTION
  - CONTROL OF DUST
  - NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS
  - CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
- 3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPs PRIOR TO DIRECTING RUNOFF TO THEM.
- 4. CLEAR AND DISPOSE OF DEBRIS.
- 5. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
- 6. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- 7. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- 8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
- 9. SEDIMENT TRAPS AND/OR BASINS SHALL BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.
- 10. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
- 11. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
- 12. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
- 13. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

**SPECIAL CONSTRUCTION NOTES:**

- 1. THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.
- 2. 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.

**EROSION CONTROL NOTES:**

- 1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY THE NHDES.
- 2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
- 3. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALES, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
- 4. SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
- 5. PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
- 6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
- 7. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
- 8. INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
- 9. CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

**STABILIZATION:**

- 1. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
  - A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
  - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
  - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
  - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.;
  - E. 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.
- 2. WINTER STABILIZATION PRACTICES:
  - A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING 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;
  - B. 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;
  - C. 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;
- 3. 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:
  - A. TEMPORARY SEEDING;
  - B. MULCHING.
- 4. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- 5. 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 AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
- 6. 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 FENCES, 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.

**DUST CONTROL:**

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
- 2. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
- 3. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ADJACENT AREAS.

**STOCKPILES:**

- 1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
- 2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
- 3. 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.
- 4. 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.

**OFF SITE VEHICLE TRACKING:**

- 1. THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

**VEGETATION:**

- 1. TEMPORARY GRASS COVER:
  - A. SEEDBED PREPARATION:
    - a. SEE LANDSCAPE PLAN FOR SEEDBED PREPARATION REQUIREMENTS;
  - B. SEEDING:
    - a. SEE LANDSCAPE PLAN FOR SEEDING REQUIREMENTS;
  - C. MAINTENANCE:
    - a. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
- 2. VEGETATIVE PRACTICE:
  - A. SEE LANDSCAPE PLAN FOR PERMANENT MEASURES AND PLANTINGS:
    - a. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED;
    - b. IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.
  - B. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
    - A. FOLLOW PERMANENT MEASURES REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

**CONCRETE WASHOUT AREA:**

- 1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
  - A. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
  - B. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
  - C. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
  - D. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

**ALLOWABLE NON-STORMWATER DISCHARGES:**

- 1. FIRE-FIGHTING ACTIVITIES;
- 2. FIRE HYDRANT FLUSHING;
- 3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
- 4. WATER USED TO CONTROL DUST;
- 5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
- 6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
- 7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
- 8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
- 9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
- 10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
- 11. UNCONTAMINATED EXCAVATION DEWATERING;
- 12. LANDSCAPE IRRIGATION.

**WASTE DISPOSAL:**

- 1. WASTE MATERIAL:
  - A. 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;
  - B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
  - C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
- 2. HAZARDOUS WASTE:
  - A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
  - B. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
- 3. SANITARY WASTE:
  - A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

**SPILL PREVENTION:**

- 1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
- 2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
  - A. GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
    - a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
    - b. ALL REGULATED MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE, ON AN IMPERVIOUS SURFACE;
    - c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED;
    - d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
    - e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
    - f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
  - g. THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.
- B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
  - a. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
  - b. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
  - c. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
- C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:

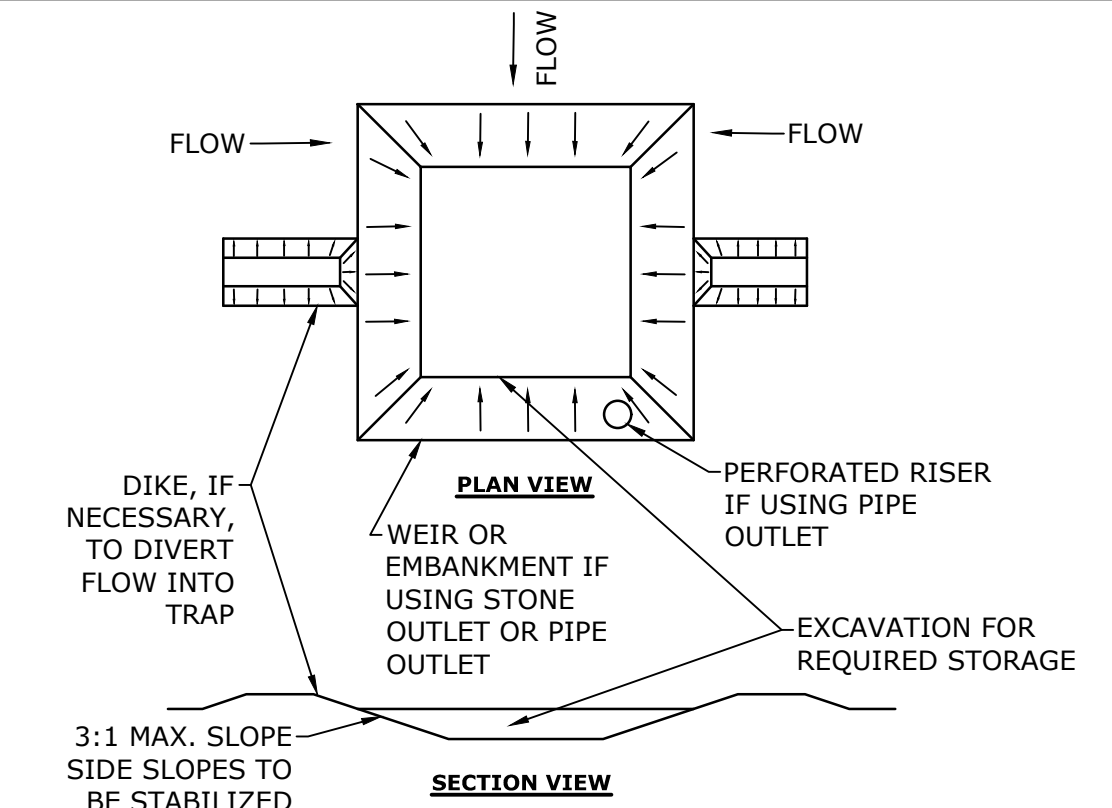
**PETROLEUM PRODUCTS:**

- i. ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
- ii. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- iii. SECURE FUEL STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
- iv. INSPECT FUEL STORAGE AREAS WEEKLY;
- v. WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS;
- vi. COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS;
- vii. SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.
- viii. THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
  - (1) EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED;
  - (2) PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS;
  - (3) HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS;
  - (4) USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES;
  - (5) PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
- ix. FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT SHALL COMPLY WITH THE REGULATIONS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6 BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT, OR ITS SUCCESSOR DOCUMENT. [HTTPS://WWW.DES.NH.GOV/ORGANIZATION/COMMISSIONER/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF](https://www.des.nh.gov/organization/commissioner/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF)
- x. FERTILIZERS:
  - i. FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
  - ii. ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
  - iii. STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
- xi. PAINTS:
  - i. ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
  - ii. EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
  - iii. EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
- xii. SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
  - a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
  - b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE;
  - c. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
  - d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
  - e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
  - f. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.

- D. SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
  - a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
  - b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE;
  - c. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
  - d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
  - e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
  - f. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
- E. VEHICLE FUELING AND MAINTENANCE PRACTICE:
  - a. CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPMENT/VEHICLE FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
  - b. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
  - c. IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
  - d. CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
  - e. CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
  - f. CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

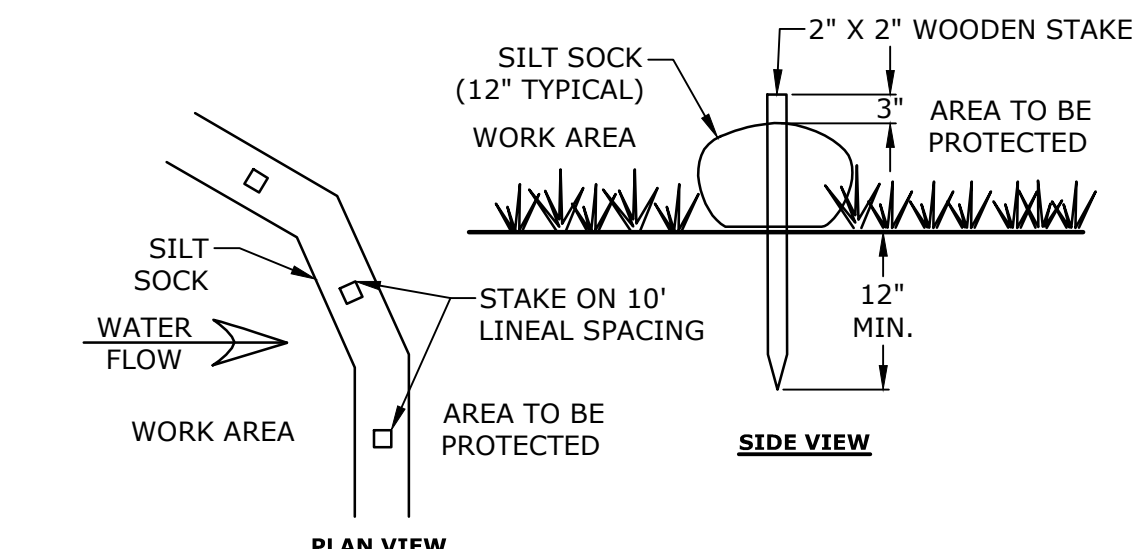
**EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES**

- 1. THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRES A SWPPP. THE SWPPP SHALL BE PREPARED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SWPPP AND KEEP AN UPDATED COPY OF THE SWPPP ONSITE AT ALL TIMES.
- 2. THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:
  - A. 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;
  - B. AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR;
  - C. A REPRESENTATIVE OF THE SITE CONTRACTOR, SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
  - D. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.



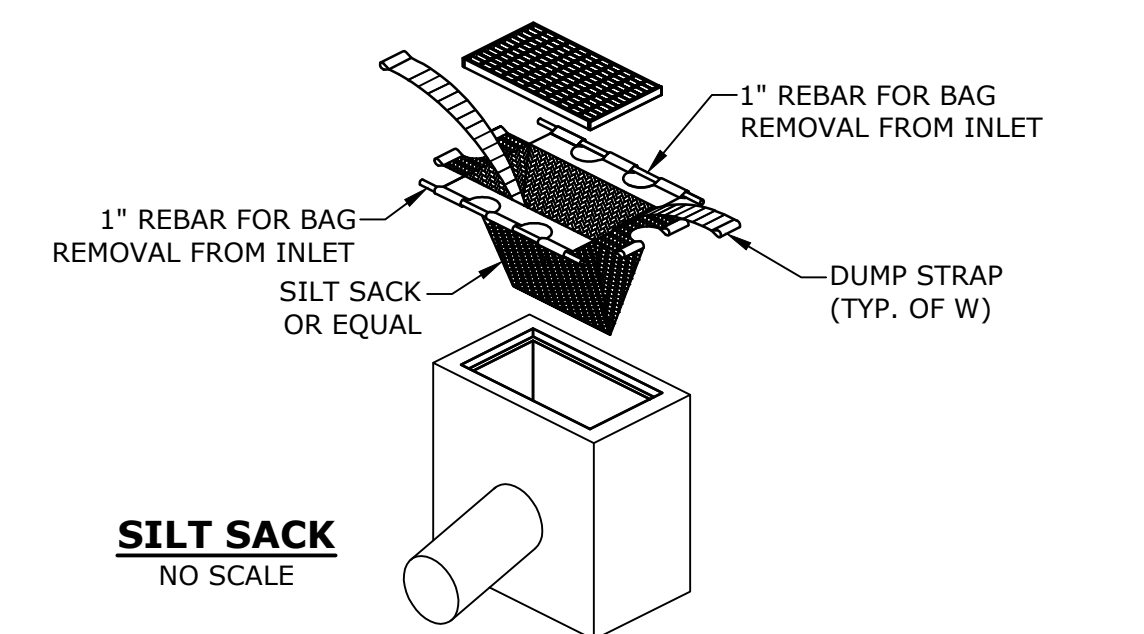
- NOTES:**
- 1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE.
  - 2. THE MAXIMUM CONTRIBUTING AREA TO A SINGLE TRAP SHALL BE LESS THAN 5 ACRES.
  - 3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
  - 4. TRAP OUTLET SHALL BE MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP.
  - 5. TRAP SHALL DISCHARGE TO A STABILIZED AREA.
  - 6. TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
  - 7. MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
  - 8. SEDIMENT TRAPS MUST BE USED AS NEEDED TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.

**SEDIMENT TRAP**  
NO SCALE

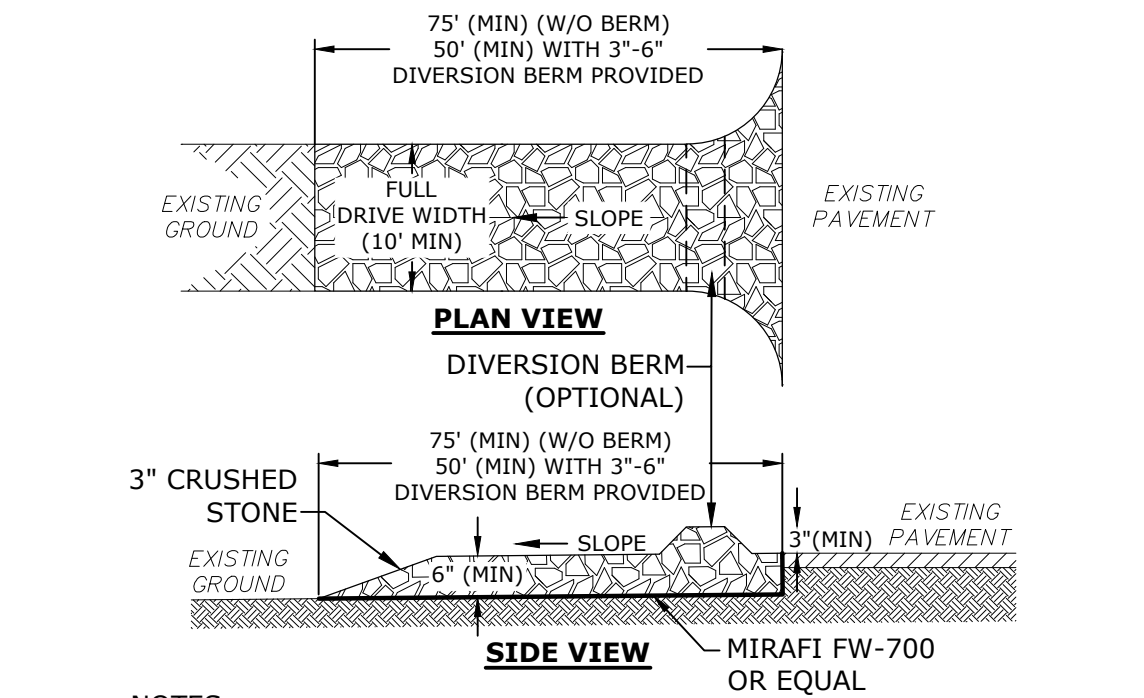


- NOTES:**
- 1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL
  - 2. INSTALL SILT SOCK IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS

**SILT SOCK**  
NO SCALE

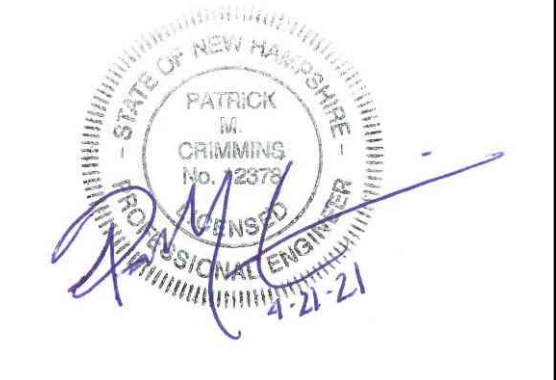
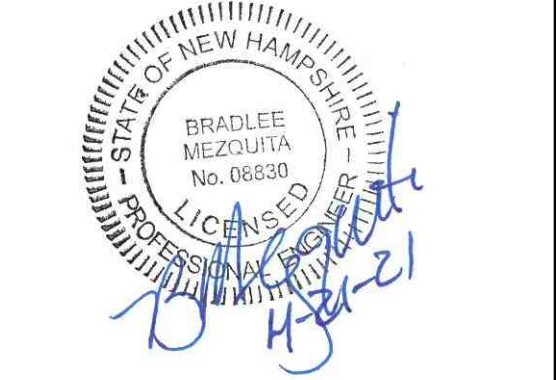


**SILT SACK**  
NO SCALE



- NOTES:**
- 1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

**STABILIZED CONSTRUCTION EXIT**  
NO SCALE



**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
D	4/21/2021	TAC Resubmission
C	3/22/2021	TAC Submission
B	3/10/2021	Design Review Resubmission
A	12/1/2020	TAC Work Session

PROJECT NO: P-0595-007  
DATE: December 22, 2020  
FILE: P-0595-007-DTLS.DWG  
DRAWN BY: CLK  
CHECKED BY: NAH/PMC  
APPROVED BY: BLM

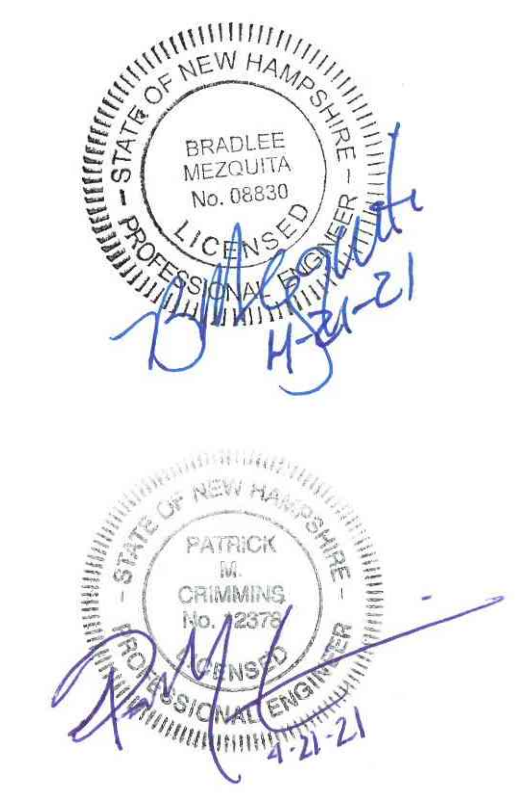
**EROSION CONTROL NOTES AND DETAILS SHEET**

SCALE: AS SHOWN

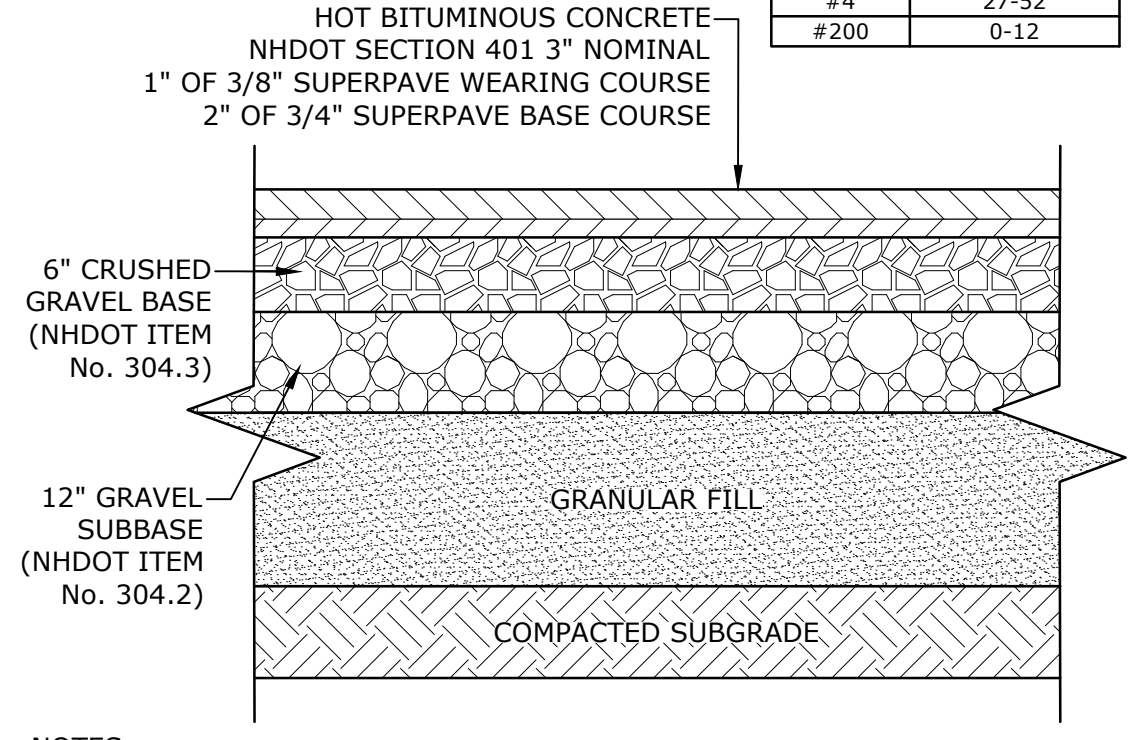
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Last Saved: 4/20/2021, 1:52:30pm By: M.Haninen  
Location: Apr 20, 2021, 1:52:30pm  
Tighe & Bond 2101 P-0595 Proj Con General Erosion Control Details Sheet P-0595-007-DTLS.dwg





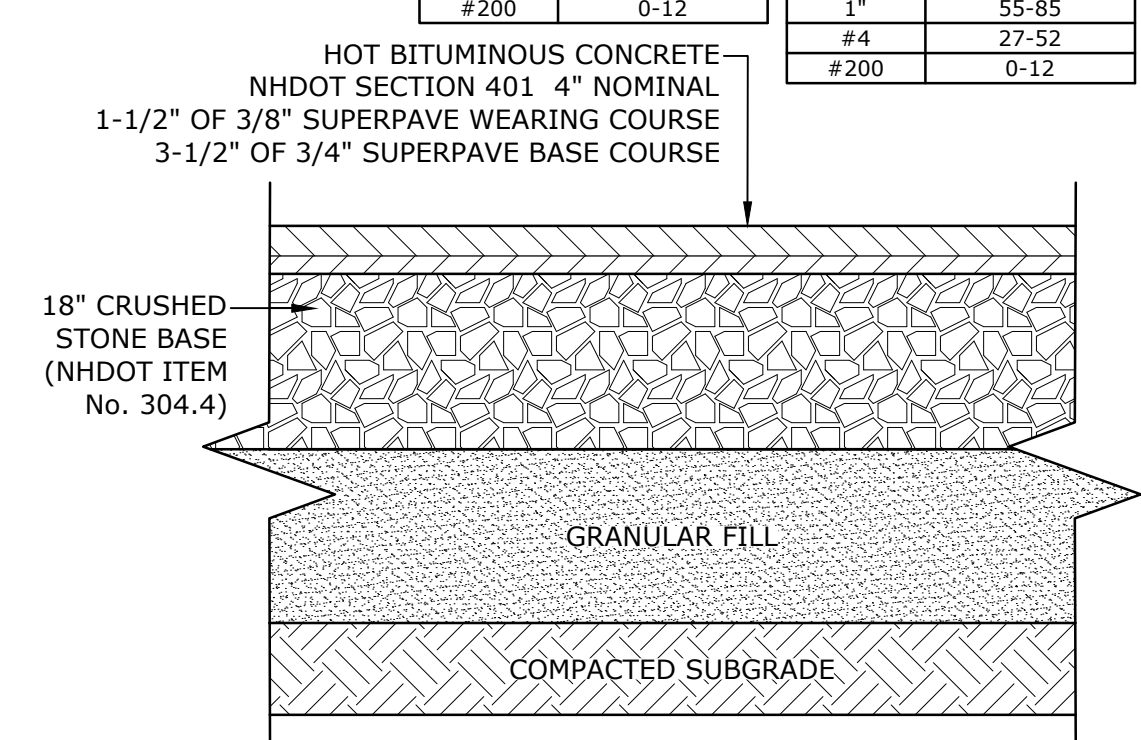
NHDOT ITEM No. 304.2 (GRAVEL)		NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING	SIEVE SIZE	% PASSING
6"	100	3"	100
#4	25-70	2"	95-100
#200	0-12	1"	55-85
		#4	27-52
		#200	0-12



- NOTES:**
- SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
  - SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
  - A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
  - REFER TO CITY SPECIFICATIONS FOR ASPHALT MIX DESIGN.
  - FINAL PAVEMENT DESIGN TO BE DETERMINED BY GEOTECHNICAL ENGINEER.

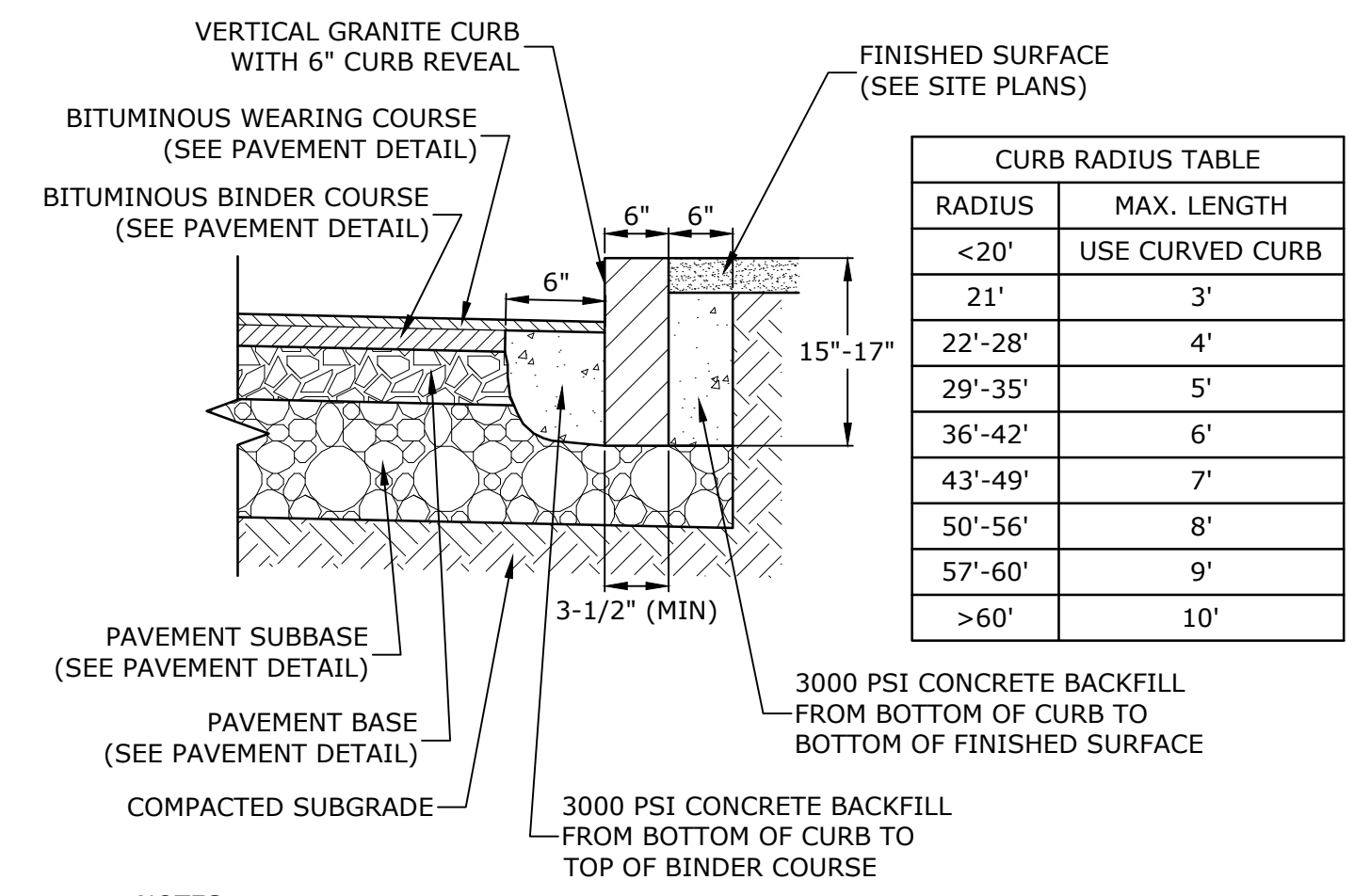
**ON-SITE PAVEMENT SECTION**  
NO SCALE

NHDOT ITEM No. 304.2 (GRAVEL)		NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING	SIEVE SIZE	% PASSING
6"	100	3"	100
#4	25-70	2"	95-100
#200	0-12	1"	55-85
		#4	27-52
		#200	0-12



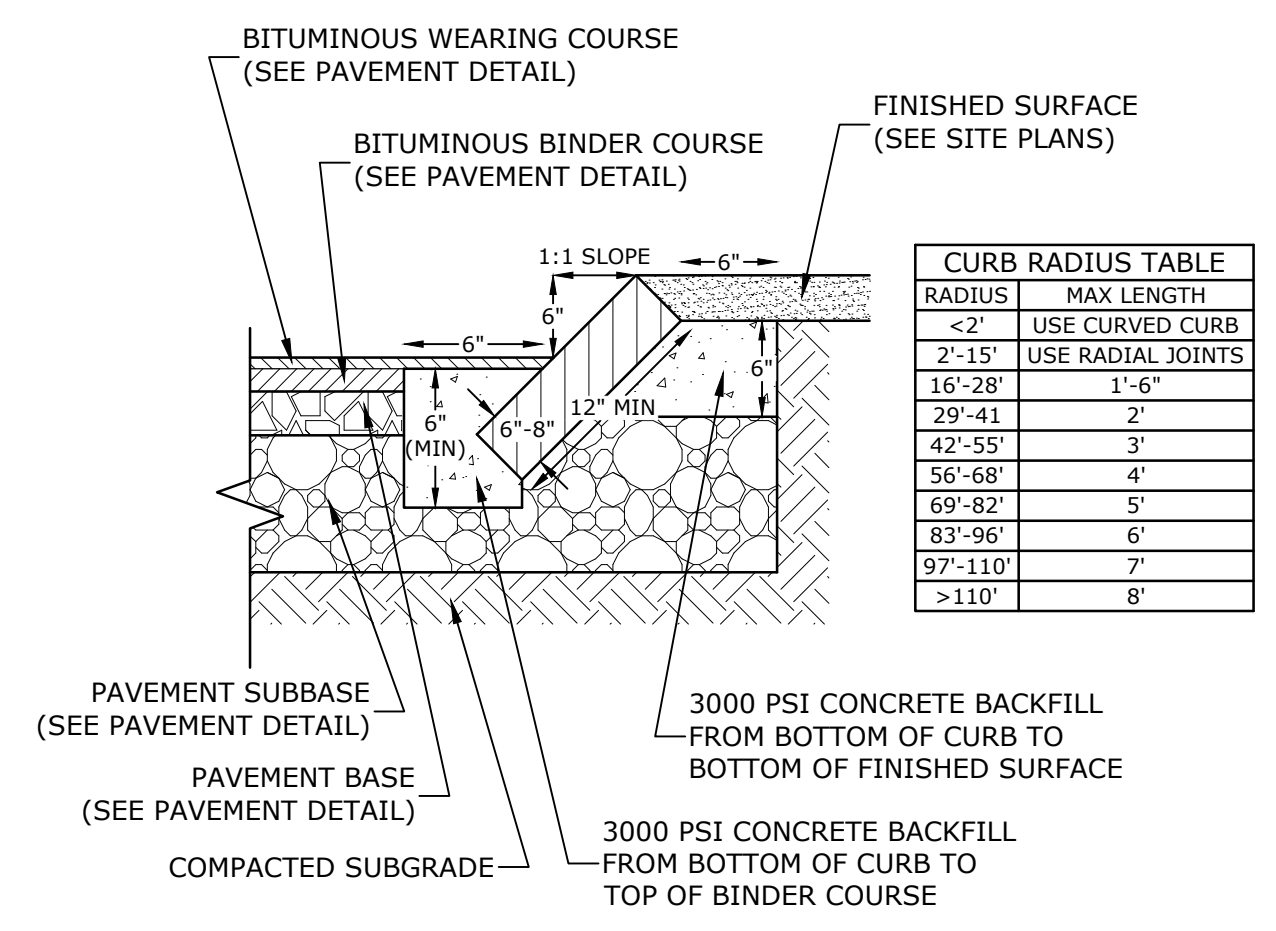
- NOTES:**
- SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
  - SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
  - A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
  - REFER TO CITY SPECIFICATIONS FOR ASPHALT MIX DESIGN.

**CITY RIGHT-OF-WAY PAVEMENT SECTION**  
NO SCALE



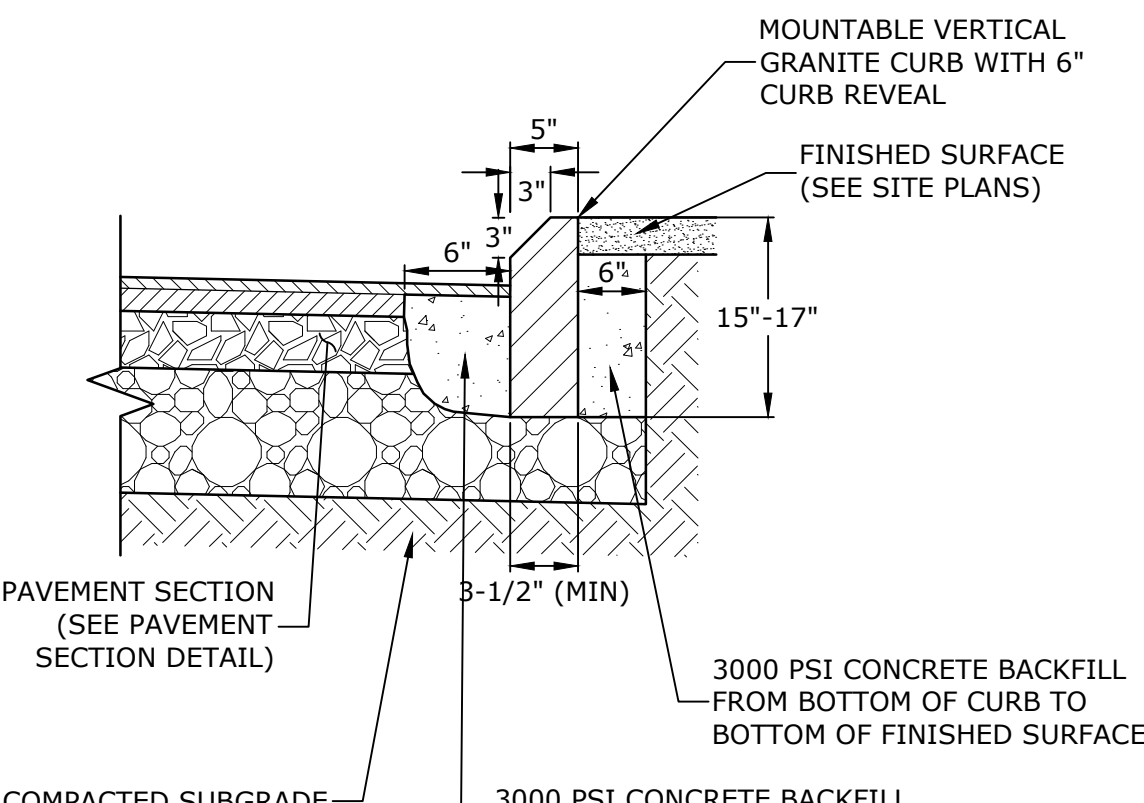
- NOTES:**
- SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
  - ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
  - MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
  - MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
  - MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
  - ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
  - JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

**VERTICAL GRANITE CURB**  
NO SCALE



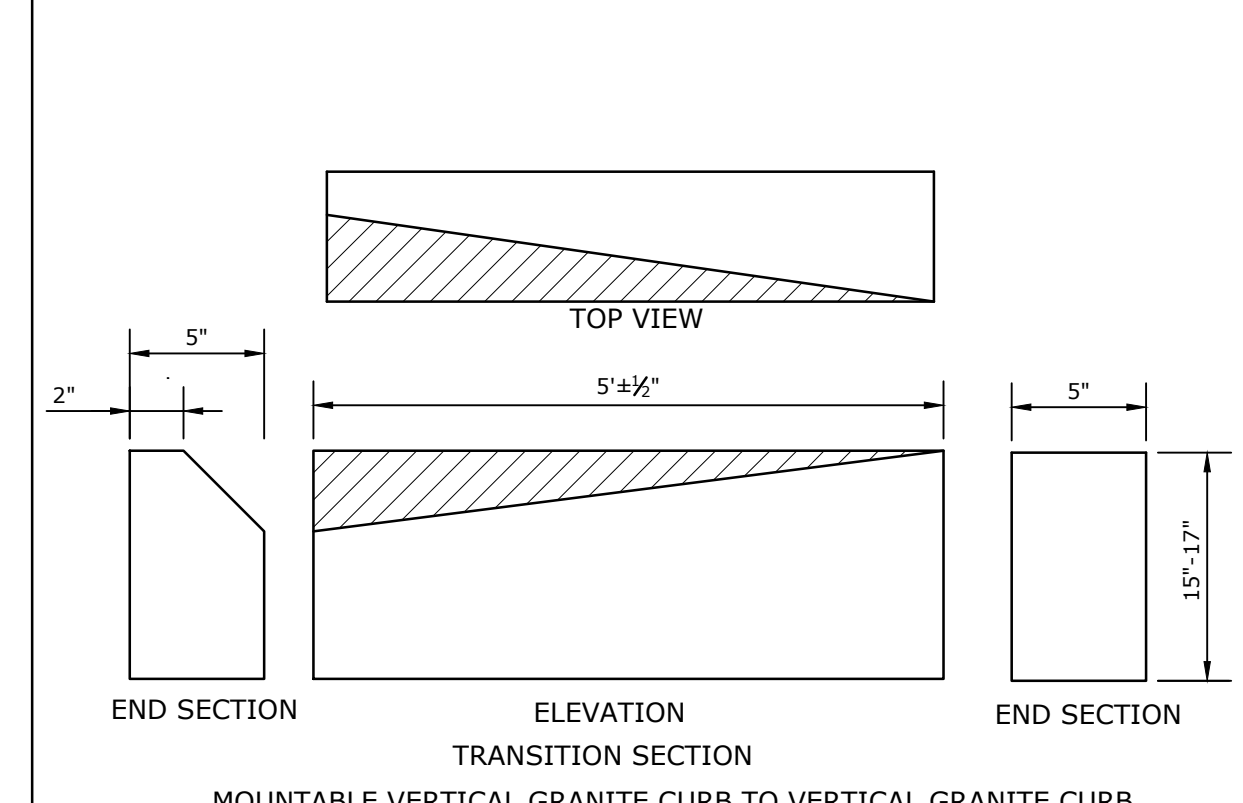
- NOTES:**
- SEE SITE PLAN(S) FOR LIMITS OF SLOPED GRANITE CURB (SGC).
  - ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
  - MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
  - MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
  - MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
  - JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

**SLOPED GRANITE CURB**  
NO SCALE



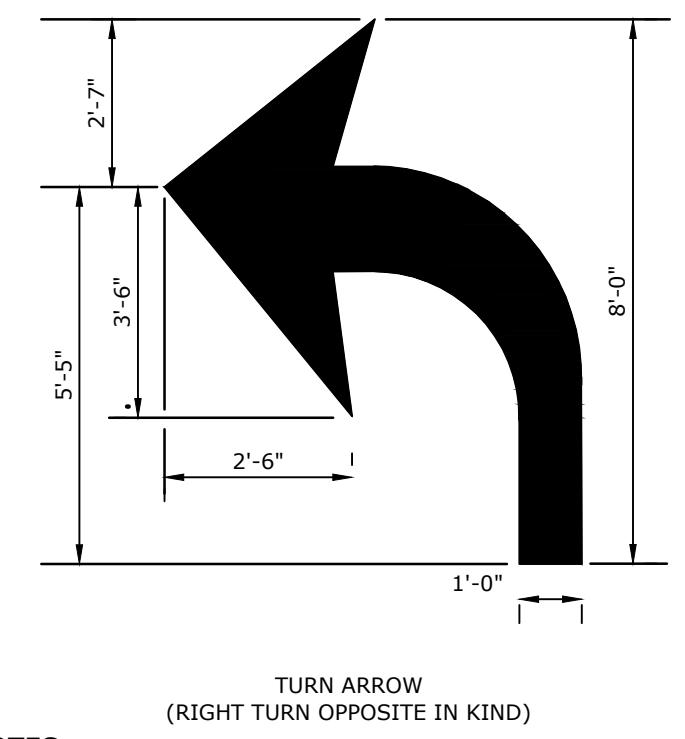
- NOTES:**
- SEE SITE PLAN(S) FOR LIMITS OF MOUNTABLE VERTICAL GRANITE CURB (MVGC).
  - ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
  - MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
  - MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
  - MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
  - ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
  - JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

**MOUNTABLE VERTICAL GRANITE CURB**  
NO SCALE



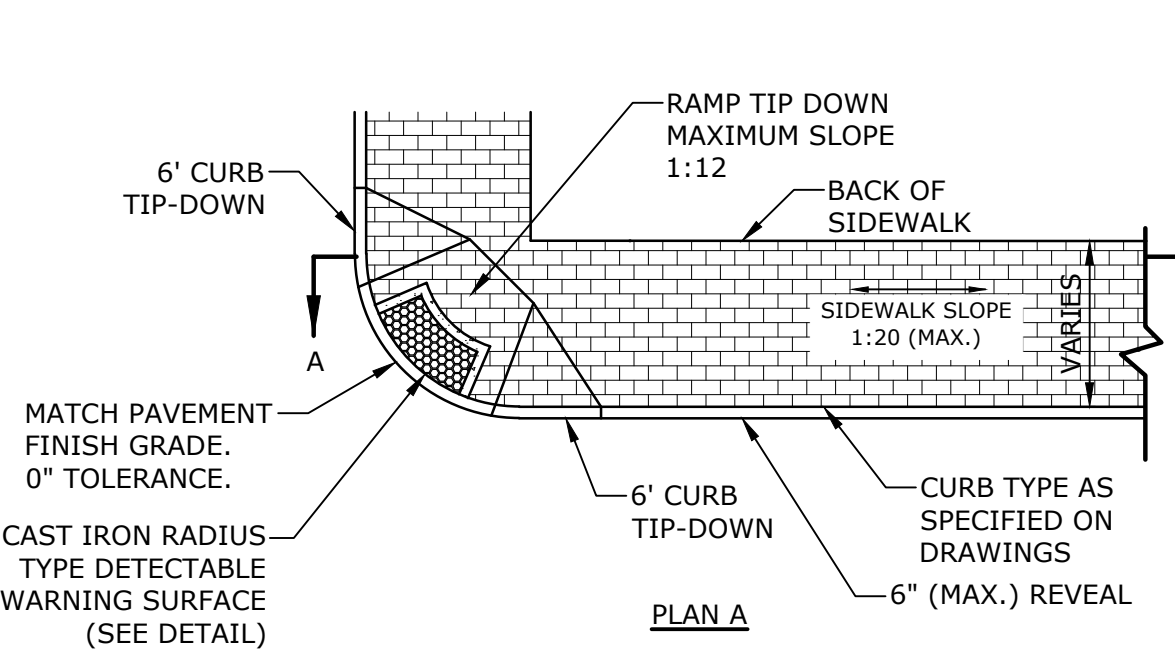
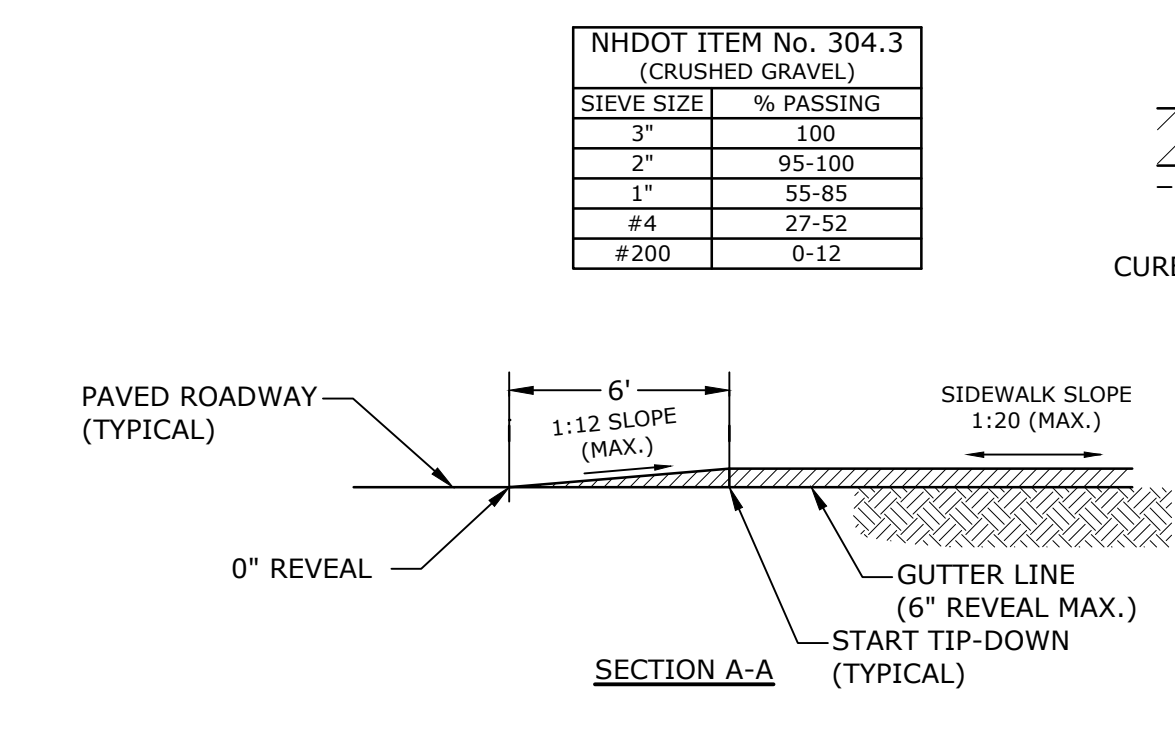
- NOTES:**
- THE INTENT OF THIS ITEM IS TO PROVIDE A SMOOTH TRANSITION BETWEEN VERTICAL GRANITE CURB AND MOUNTABLE VERTICAL GRANITE CURB WITHOUT REQUIRING FIELD CHIPPING DURING INSTALLATION. THE MOUNTABLE VERTICAL GRANITE CURB MAY REQUIRE ADJUSTMENTS TO MEET THE TRANSITION PIECE HEIGHT. TRANSITION SLOPE CURB TO STANDARD REVEAL AS QUICKLY AS POSSIBLE TO PROVIDE FOR THIS SMOOTH TRANSITION.

**CURB TRANSITION**  
NO SCALE



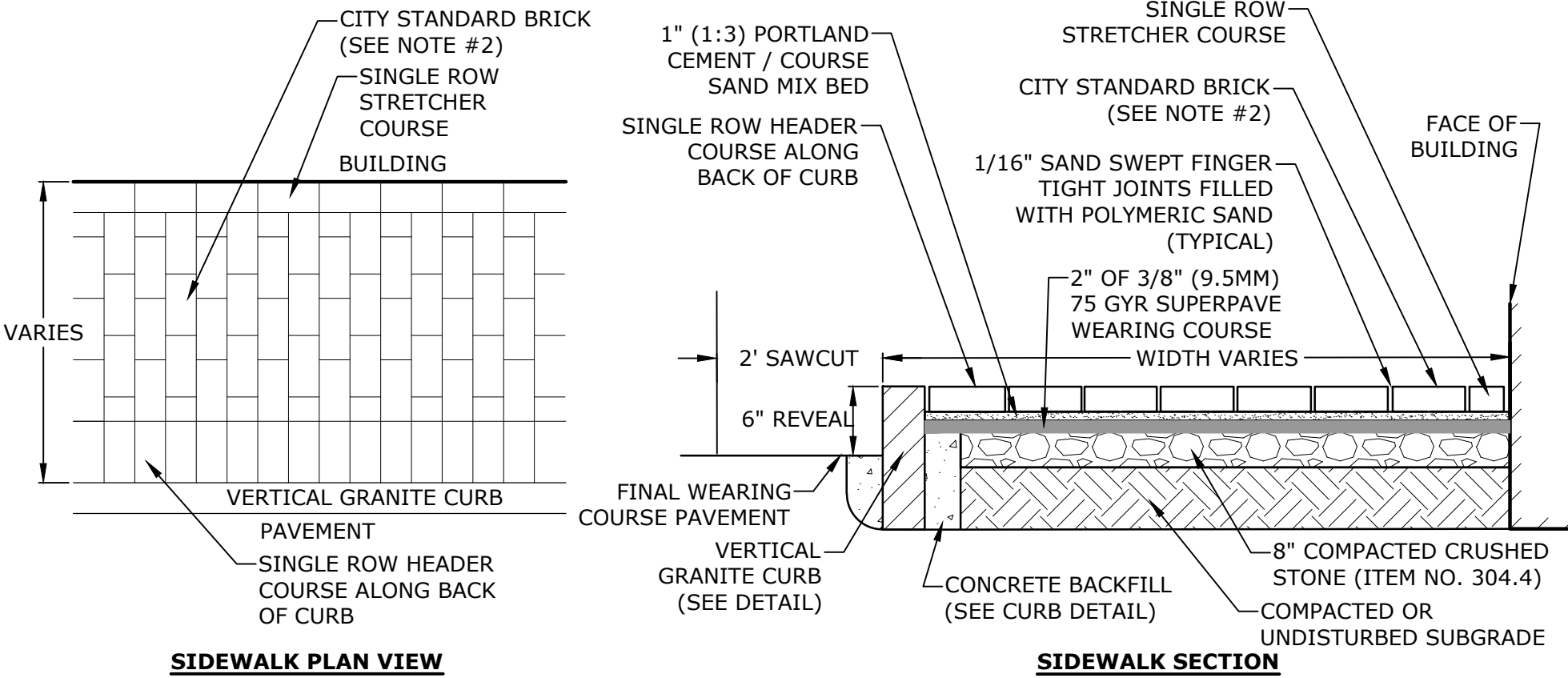
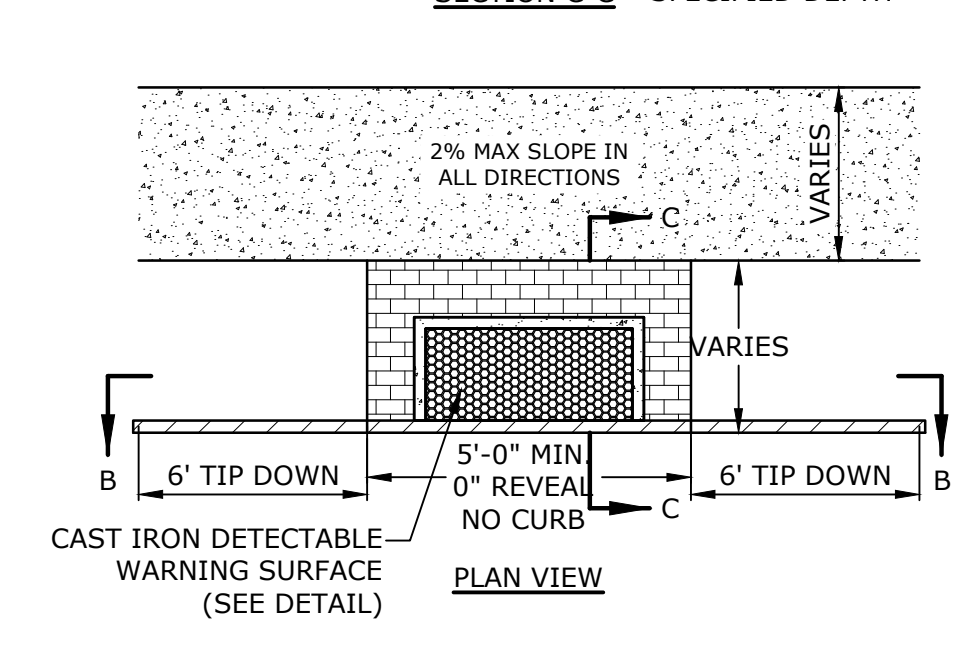
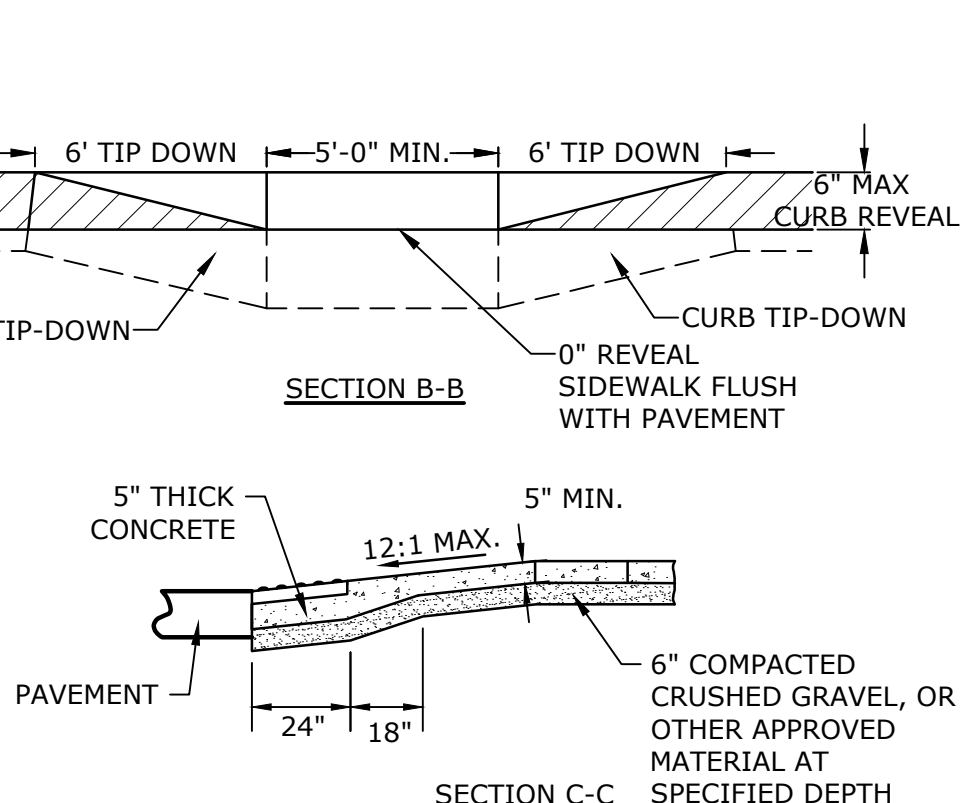
- NOTES:**
- SYMBOLS SHALL BE RETROREFLECTIVE WHITE AND SHALL CONFORM TO THE LATEST VERSION OF THE MUTCD.
  - PREFORMED WORDS AND SYMBOLS SHALL BE PRE-CUT BY THE MANUFACTURER.
  - ALL STOP BARS, WORDS, SYMBOLS AND ARROW SHALL BE THERMOPLASTIC.

**TURN ARROW**  
NO SCALE



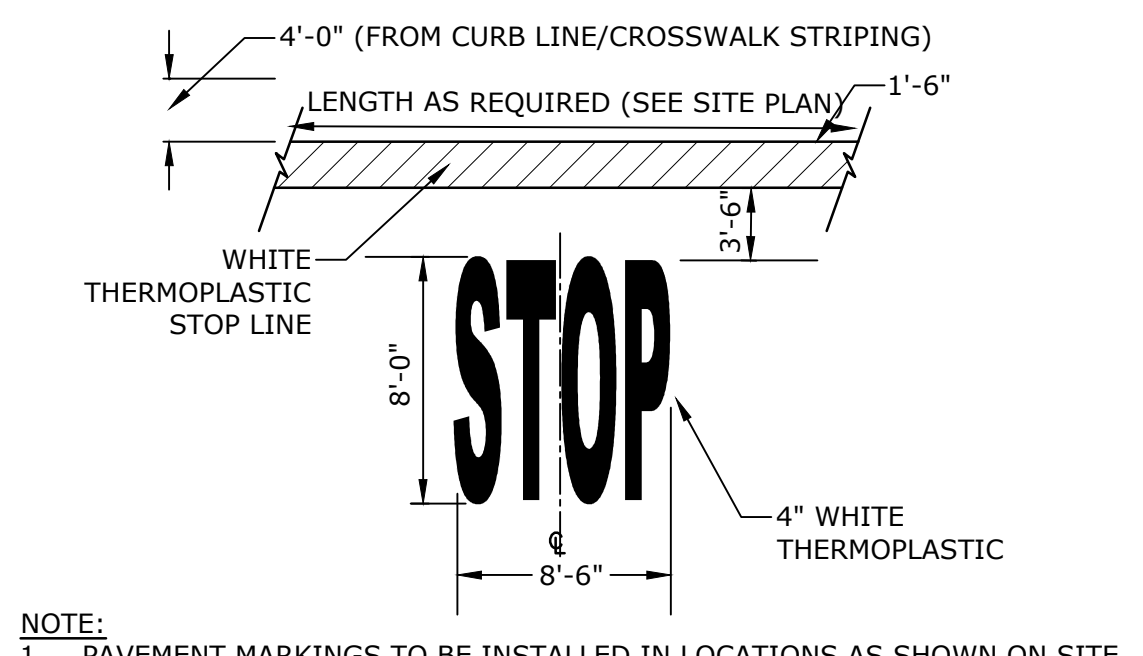
- NOTES:**
- RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
  - A 6" COMPACTED CRUSHED GRAVEL BASE (NHDOT ITEM No. 304.3) SHALL BE PROVIDED BENEATH RAMPS.
  - DETECTABLE WARNING PANEL SHALL BE CAST IRON SET IN CONCRETE (SEE DETAIL.)
  - PROVIDE DETECTABLE WARNING SURFACES ANYTIME THAT A CURB RAMP, BLENDED TRANSITION, OR LANDING CONNECTS TO A STREET.
  - LOCATE THE DETECTABLE WARNING SURFACES AT THE BACK OF THE CURB ALONG THE EDGE OF THE LANDING.
  - THE MAXIMUM RAMPING SLOPE OF ANY SIDEWALK CURB RAMP IS 12:1, THE MAXIMUM CROSS SLOPE IS 2%. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.
  - TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. ROADWAY SHOULDER SLOPES ADJOINING SIDEWALK CURB RAMPS SHALL BE A MAXIMUM OF 5% (FULL WIDTH) FOR A DISTANCE OF 2 FT. FROM THE ROADWAY CURBLINE.
  - THE BOTTOM OF THE SIDEWALK CURB RAMP OR LANDING, EXCLUSIVE OF THE FLARED SIDES, SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK MARKINGS.
  - DETECTABLE WARNING PANELS SHALL BE A MINIMUM OF 2 FEET IN DEPTH. THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP, BLENDED TRANSITION, OR LANDING AND THE STREET.
  - THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST VISUALLY WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT).

**CONCRETE WHEELCHAIR ACCESSIBLE RAMP**  
NO SCALE



- NOTES:**
- BRICK SIDEWALK SHALL BE INSTALLED AS DETAILED AND PER CITY OF PORTSMOUTH REQUIREMENTS/SPECIFICATIONS AND SHALL INCLUDE A CONTINUOUS APPROVED PAVER EDGE RESTRAINT SYSTEM AT ALL LOCATIONS NOT ADJACENT TO CURB OR BUILDINGS.
  - CITY STANDARD BRICK SHALL BE TRADITIONAL EDGE, PATHWAY, FULL RANGE 2.25"x4"x8" PAVBR, BY PINE HALL BRICK, INC. BRICK MATERIAL SAMPLES SHALL BE PROVIDED TO CPW PRIOR TO INSTALLATION FOR REVIEW AND APPROVAL.
  - BEDDING MATERIAL SHALL BE A PORTLAND CEMENT / COURSE SAND MIX THAT IS 1 PART PORTLAND CEMENT AND 3 PARTS COURSE SAND. SAND SHALL CONFORM WITH ASTM C-33 AND CEMENT SHALL BE PORTLAND CEMENT TYPE I/TYPE II.

**BRICK SIDEWALK**  
NO SCALE



- NOTES:**
- PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS AS SHOWN ON SITE PLAN.
  - STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTORIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

**STOP BAR AND LEGEND**  
NO SCALE

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**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
D	4/21/2021	TAC Resubmission
C	3/22/2021	TAC Submission
B	3/10/2021	Design Review Resubmission
A	12/1/2020	TAC Work Session

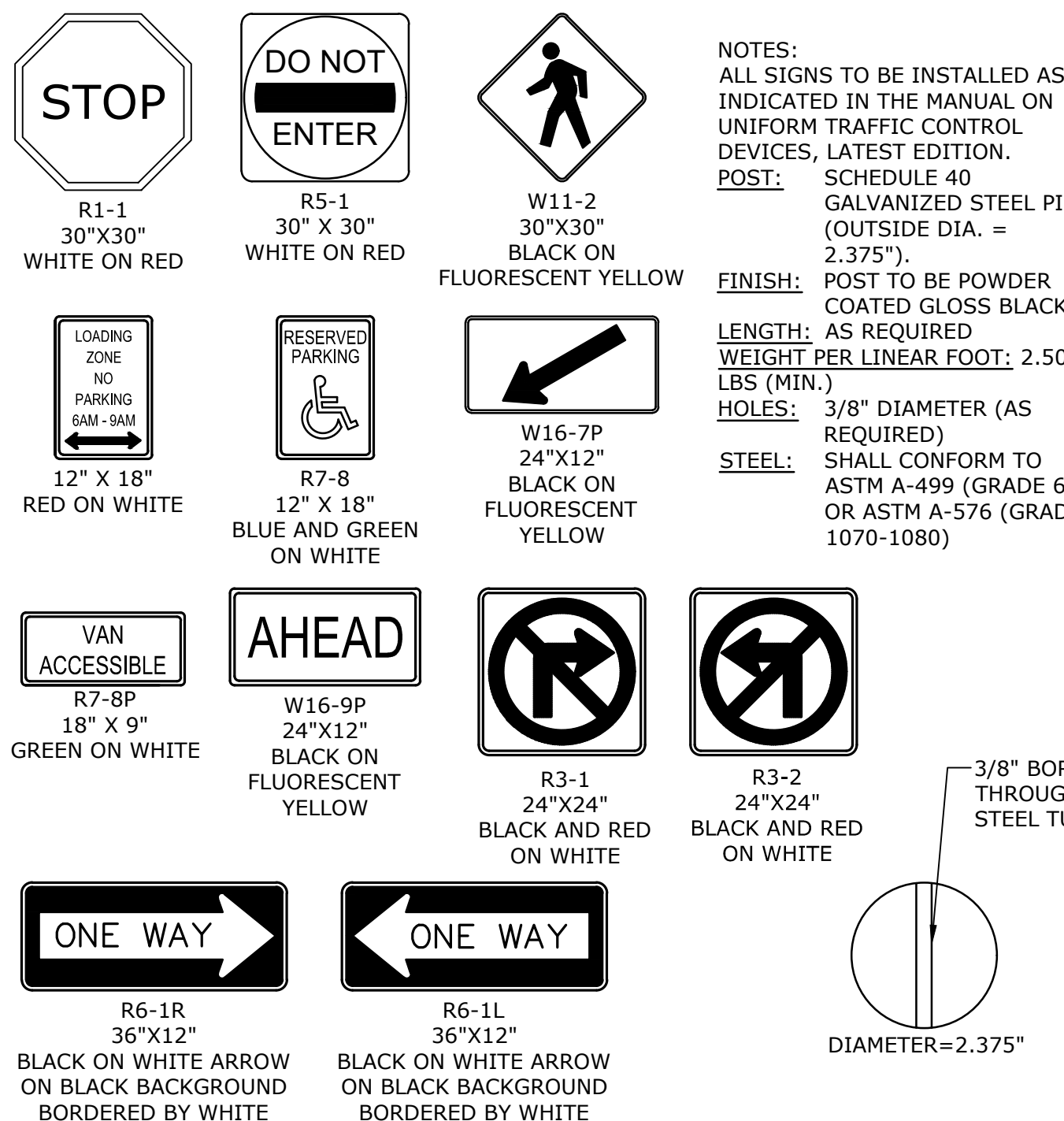
PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-DTLS.DWG
DRAWN BY:	CIK
CHECKED BY:	NAH/PMC
APPROVED BY:	BLM

DETAILS SHEET

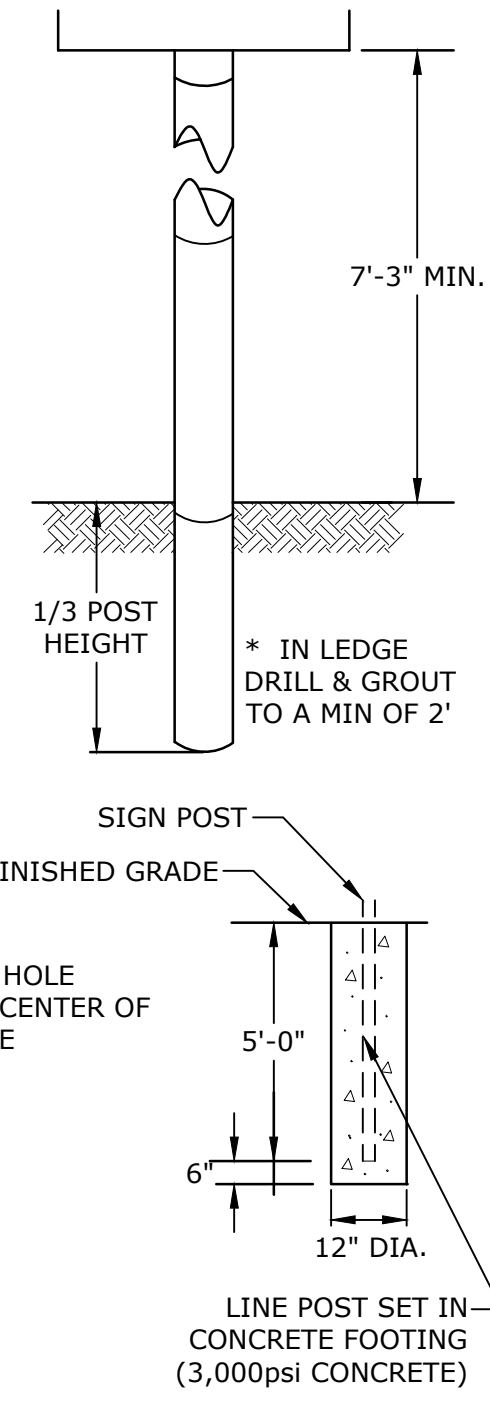
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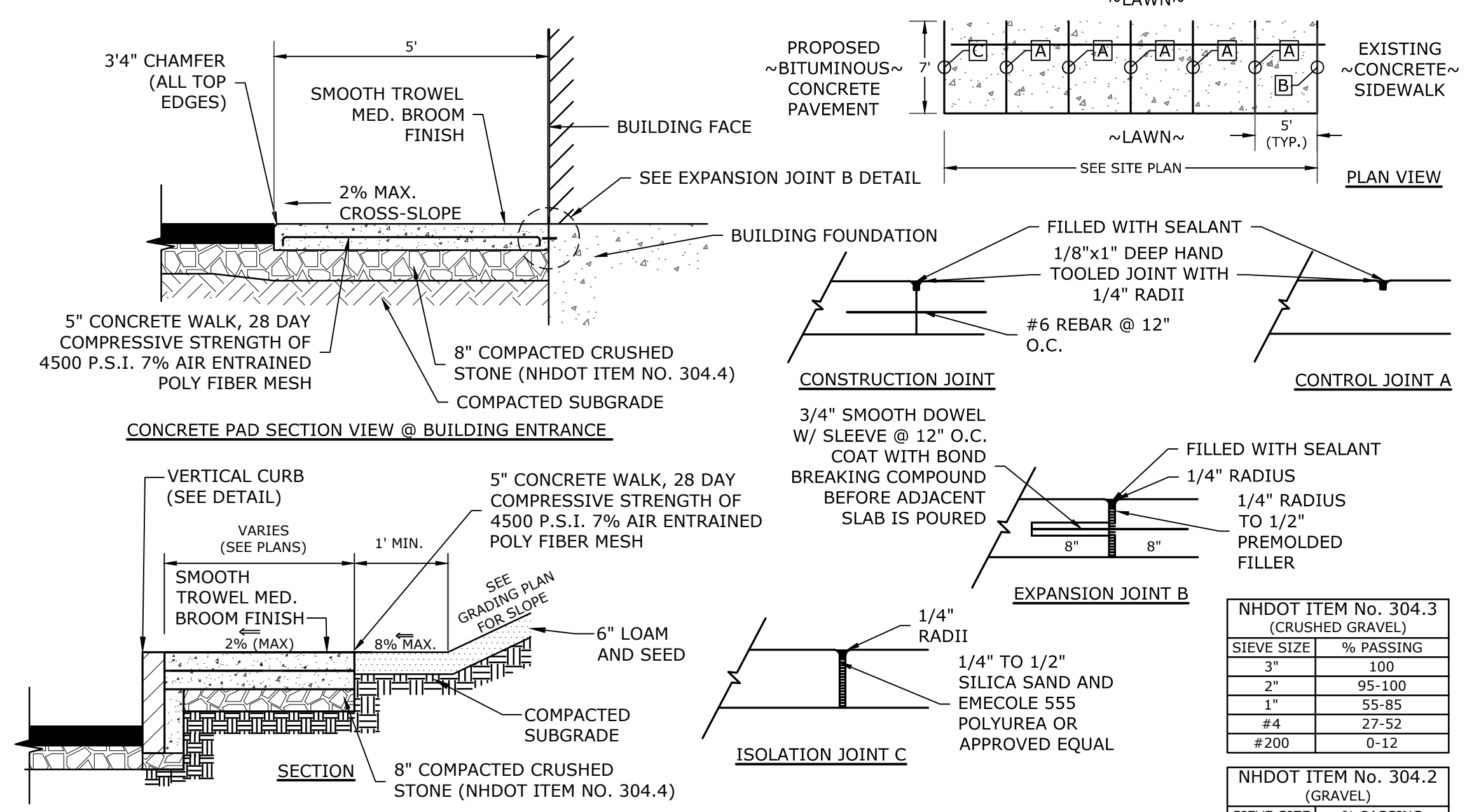
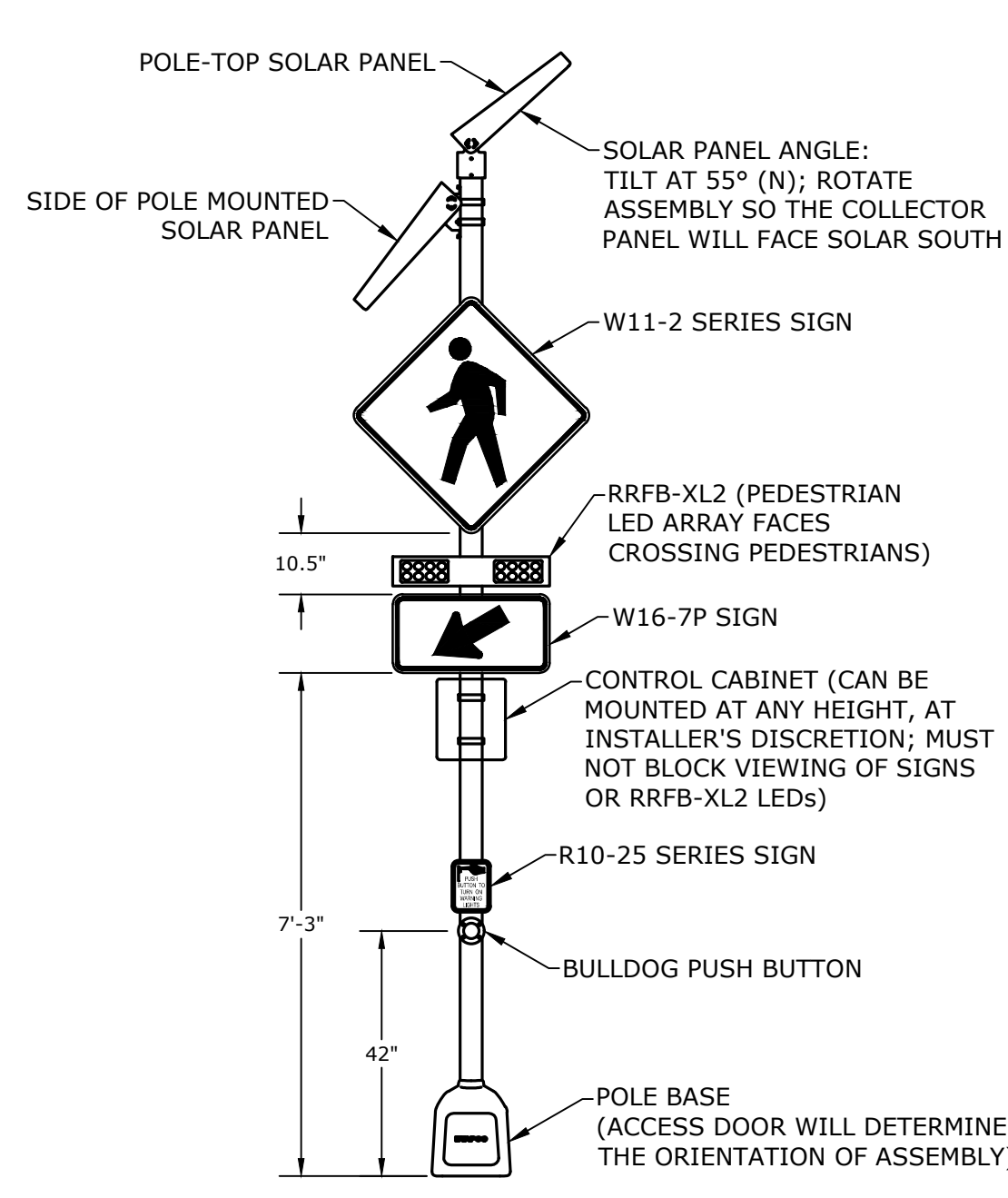




**SIGN LEGEND & SIGN POST**  
NO SCALE



**RAPID RECTANGULAR FLASHING BEACON (RRFB)**  
NO SCALE

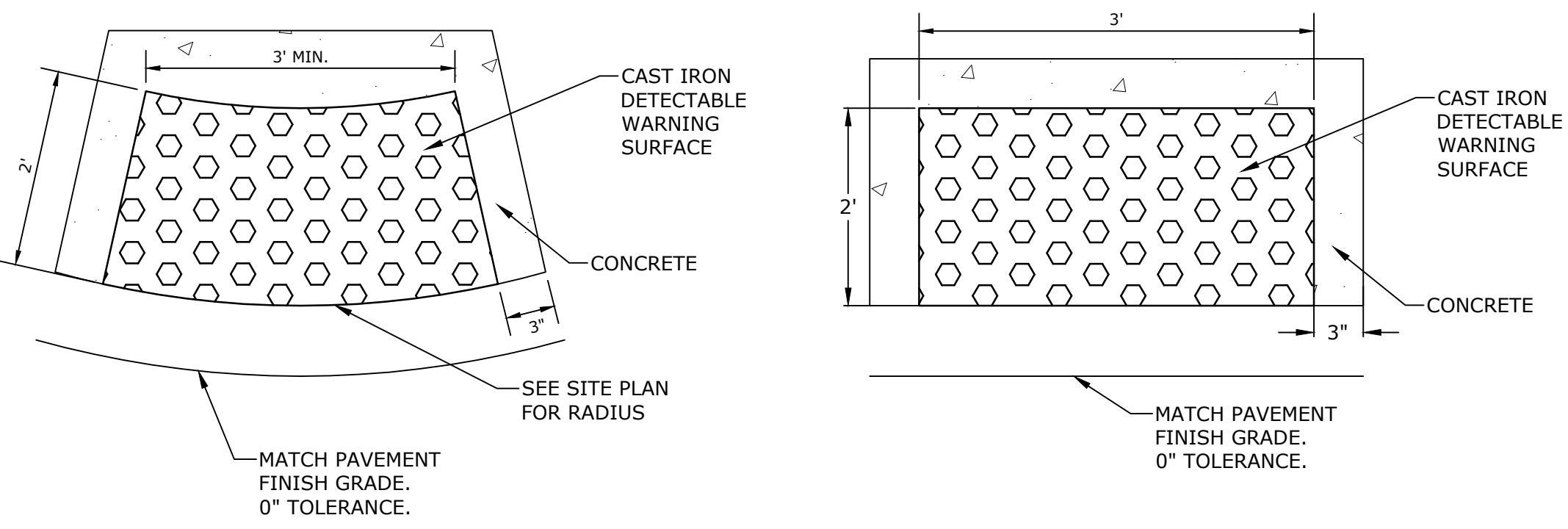
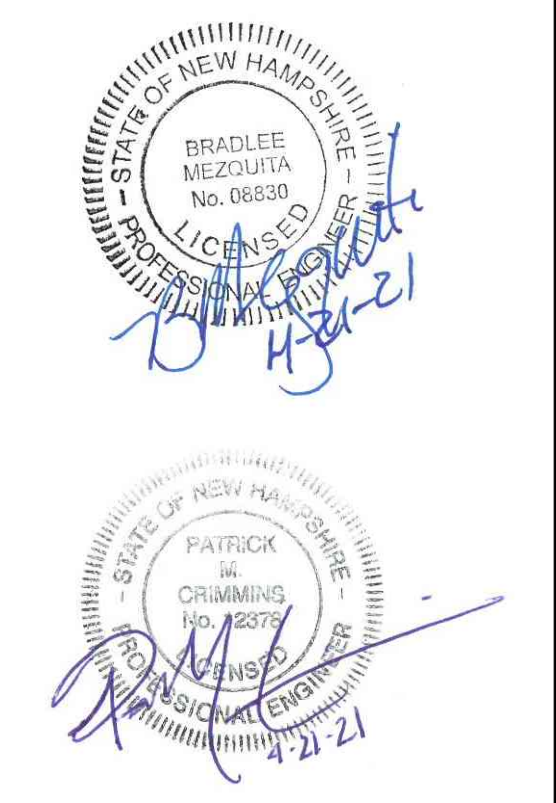


**CONCRETE SIDEWALK**  
NO SCALE

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12

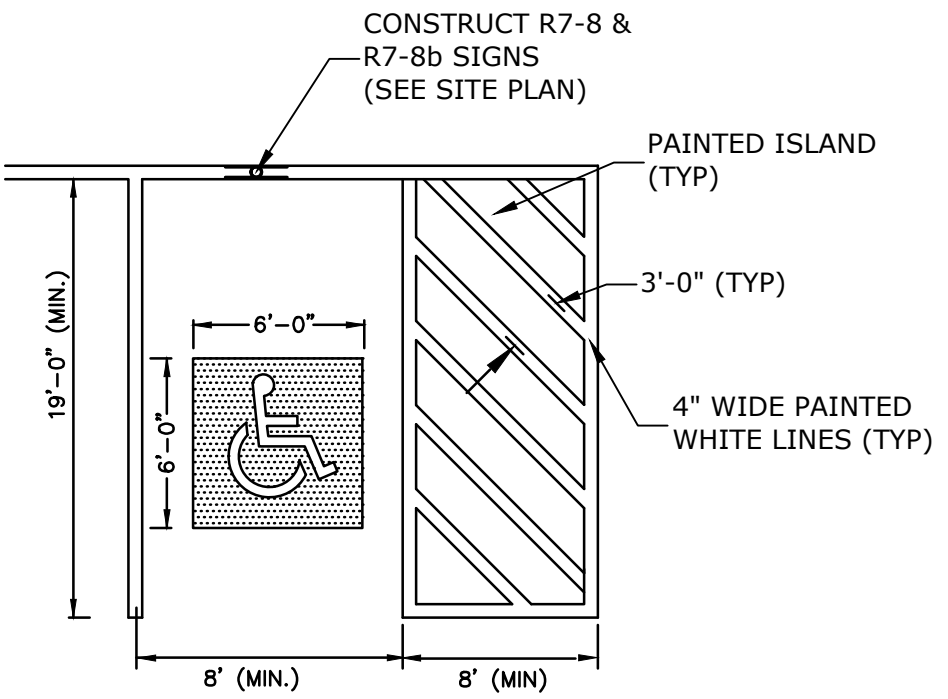
  

NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12



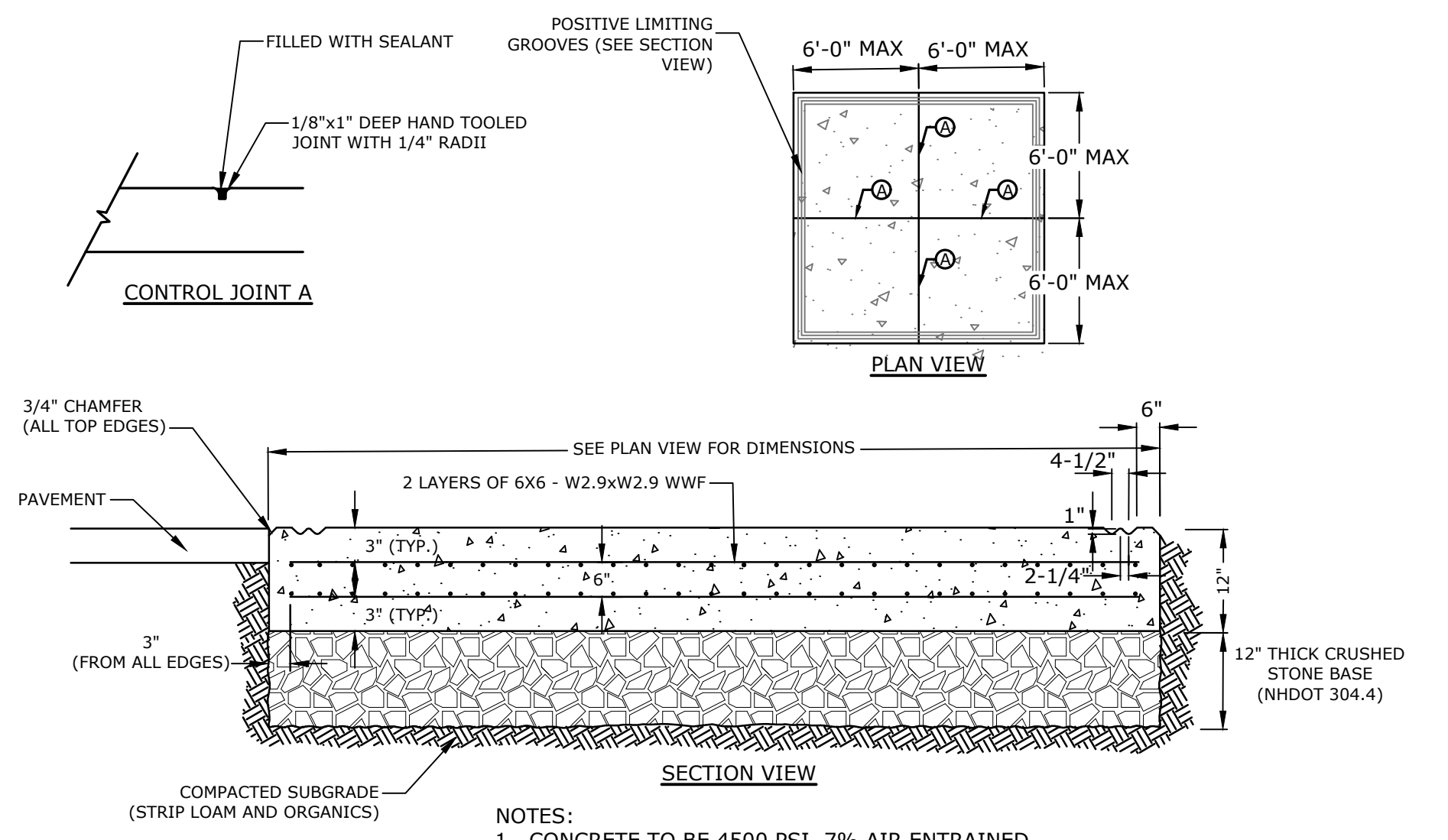
- NOTES:**  
1. DETECTABLE WARNING SURFACE SHALL BE 2' X 3' CAST IRON PANEL SET IN CONCRETE.  
2. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

**CAST IRON DETECTABLE WARNING SURFACE**  
NO SCALE

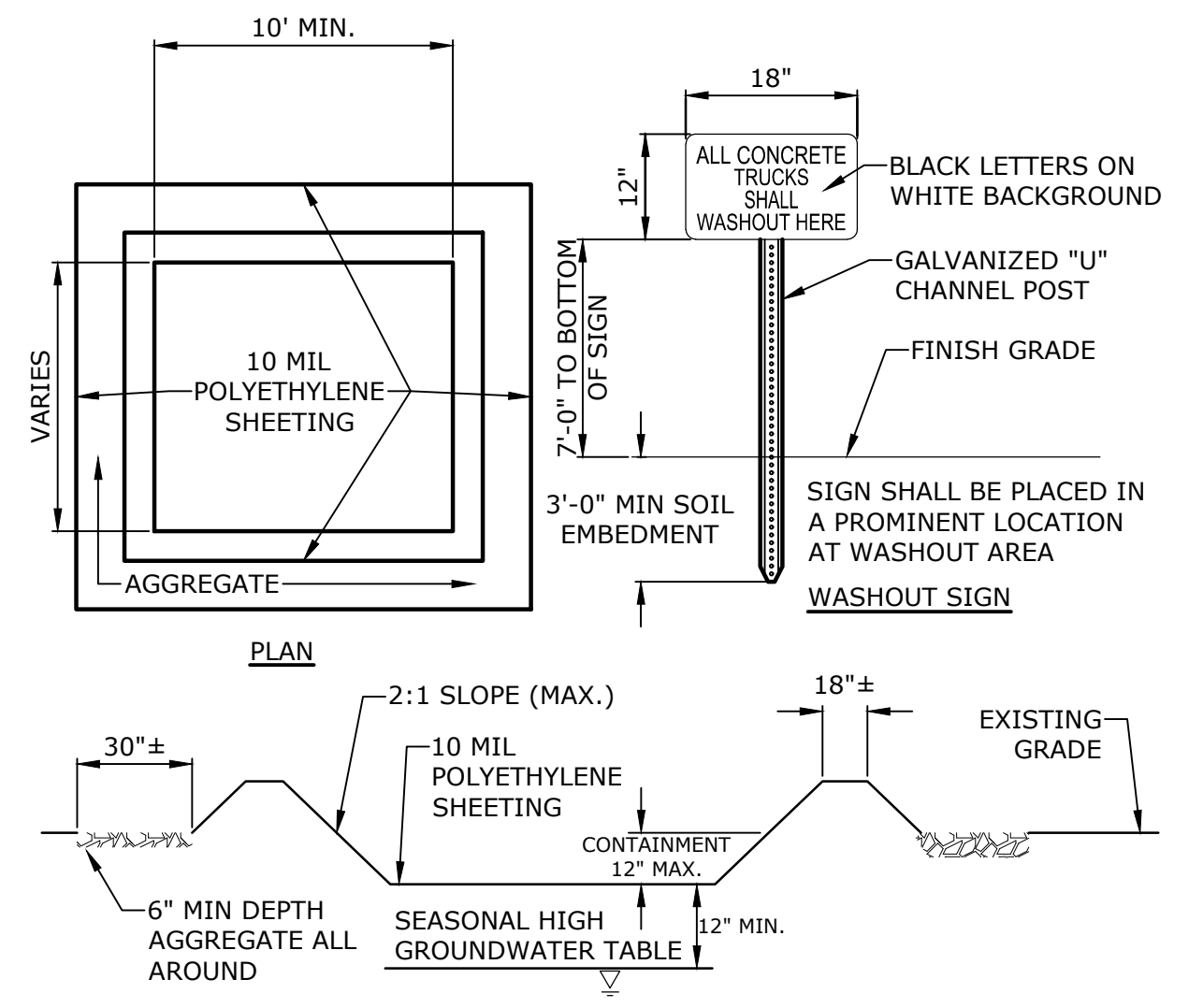


- NOTES:**  
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.  
2. SYMBOLS & PARKING SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN W/DISABILITIES ACT.

**ACCESSIBLE PARKING STALL**  
NO SCALE

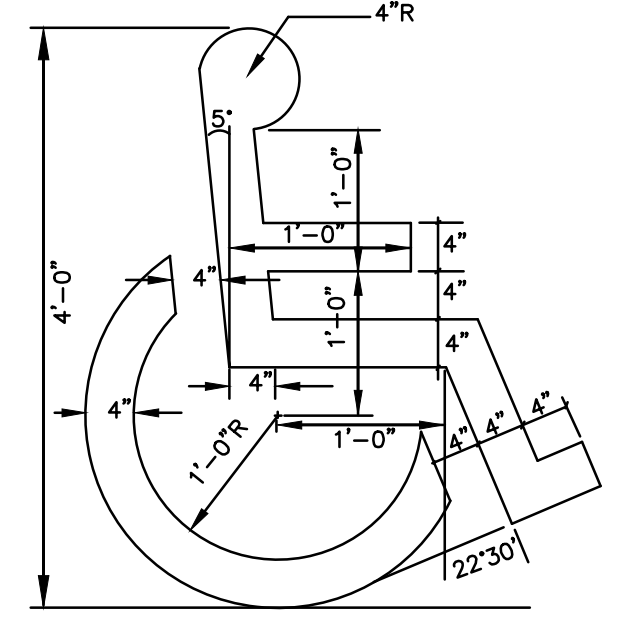


**DUMPSTER PAD**  
NO SCALE



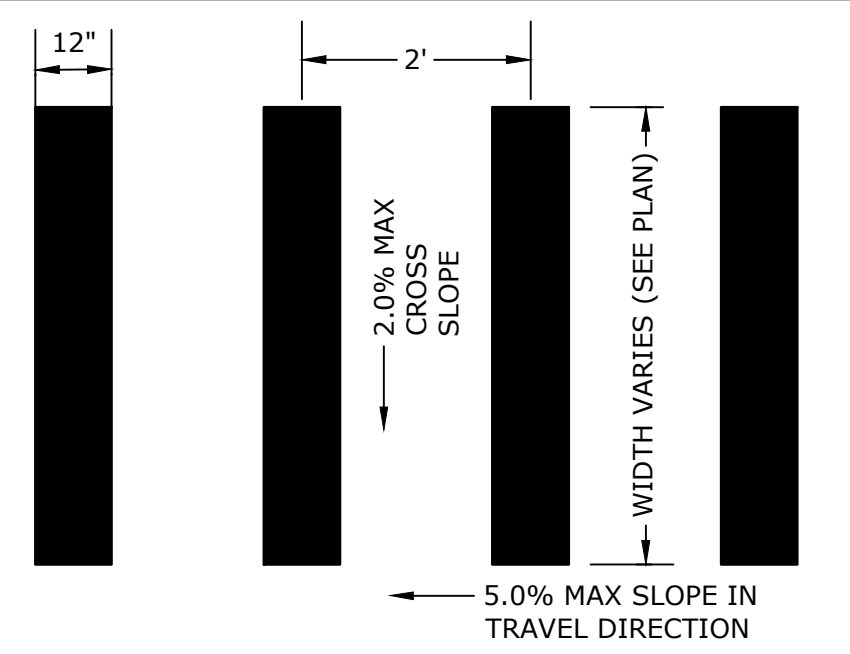
- NOTES:**  
1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.  
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.  
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT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

**CONCRETE WASHOUT AREA**  
NO SCALE



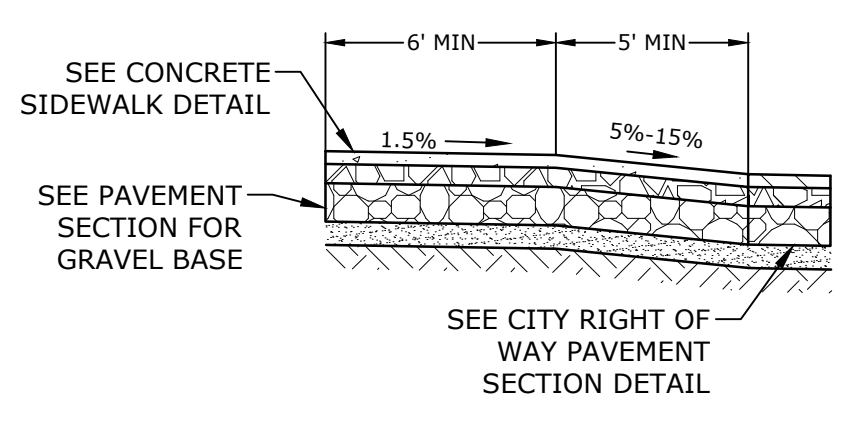
- NOTES:**  
1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING WHITE THERMOPLASTIC, REFLECTORIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505.  
2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

**ACCESSIBLE SYMBOL**  
NO SCALE



- NOTE:**  
STRIPING SHALL BE CONSTRUCTED USING WHITE THERMOPLASTIC, REFLECTORIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

**CROSSWALK STRIPING**  
NO SCALE



**DRIVEWAY ENTRANCE SECTION**  
NO SCALE

**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
D	4/21/2021	TAC Resubmission
C	3/22/2021	TAC Submission
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A	12/1/2020	TAC Work Session

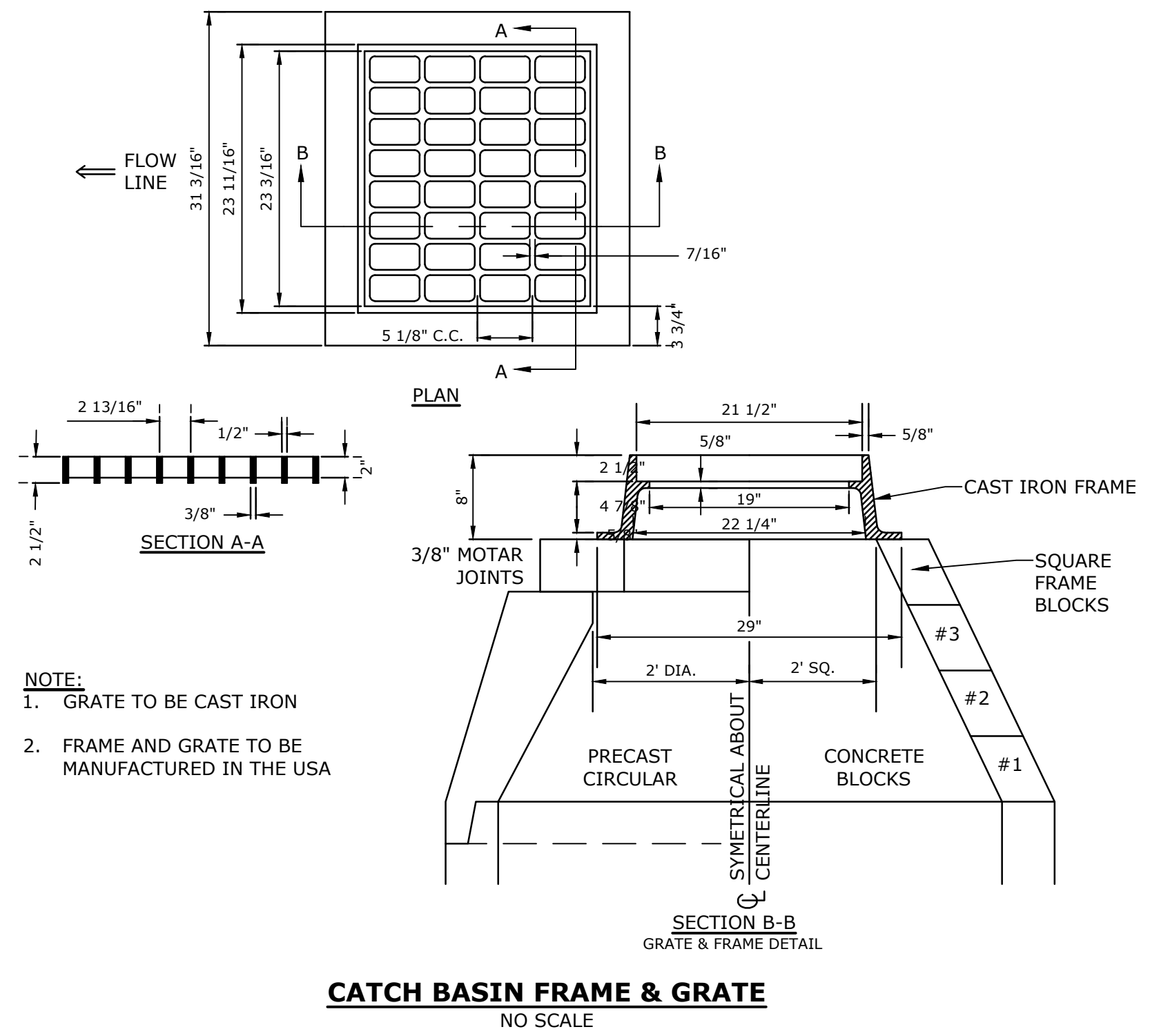
PROJECT NO: P-0595-007  
DATE: December 22, 2020  
FILE: P-0595-007-DTLS.DWG  
DRAWN BY: CJK  
CHECKED BY: NAH/PMC  
APPROVED BY: BLM

**DETAILS SHEET**

SCALE: AS SHOWN

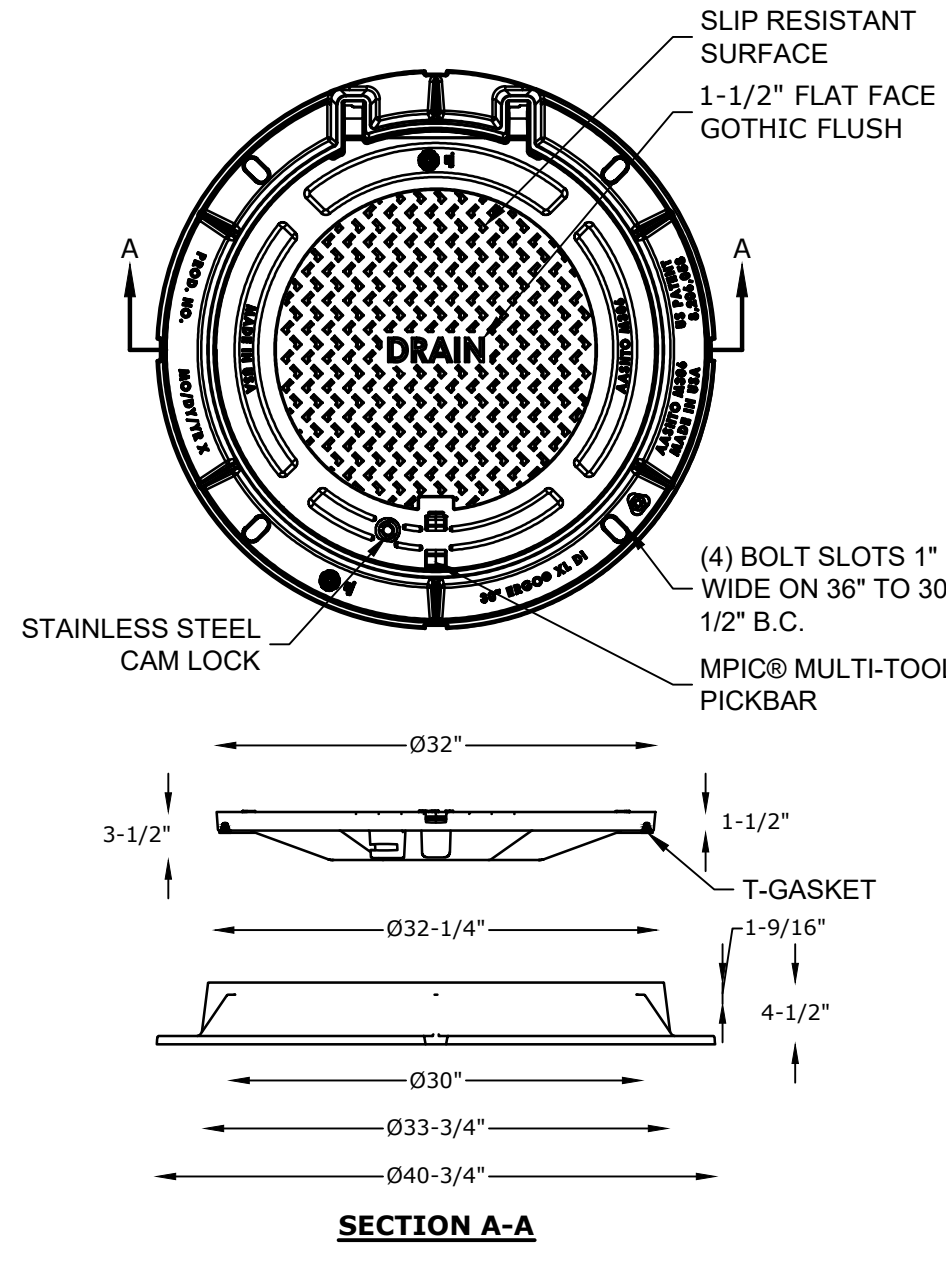
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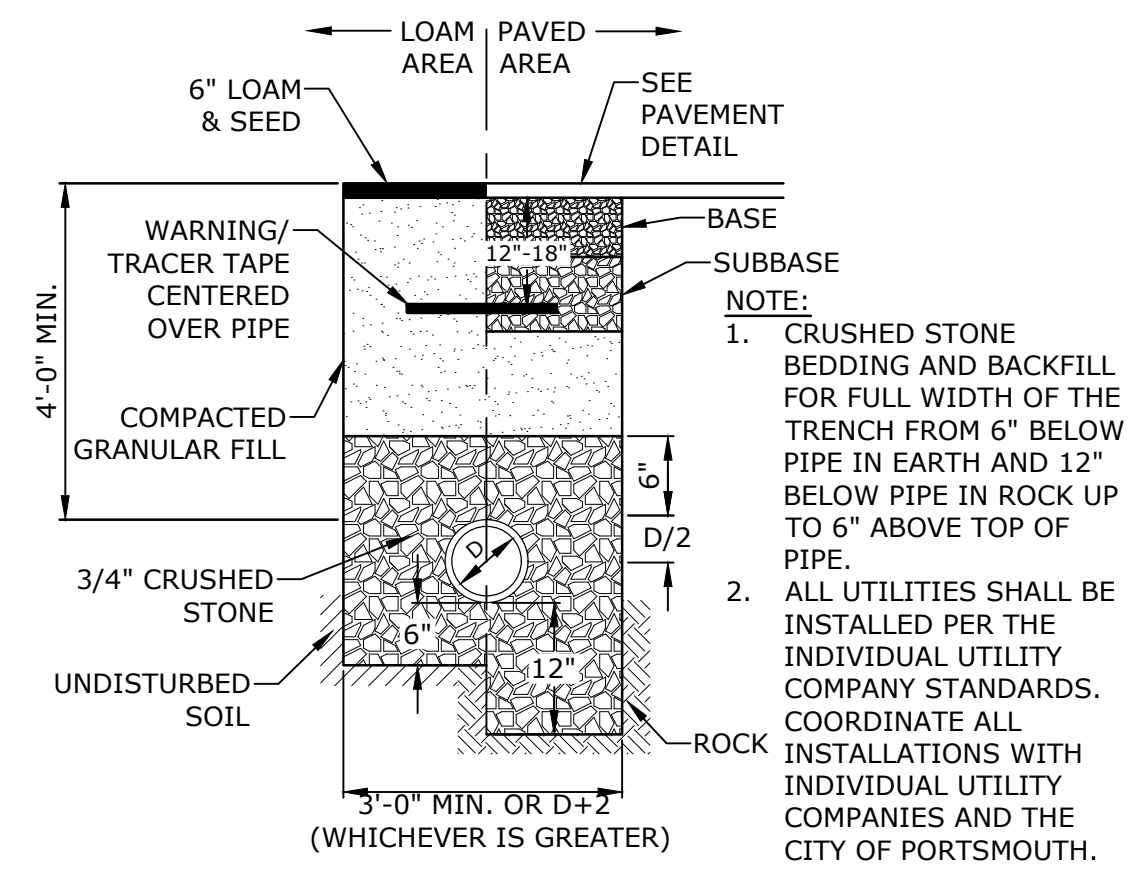
NOTE:  
1. GRATE TO BE CAST IRON  
2. FRAME AND GRATE TO BE MANUFACTURED IN THE USA

**CATCH BASIN FRAME & GRATE**  
NO SCALE



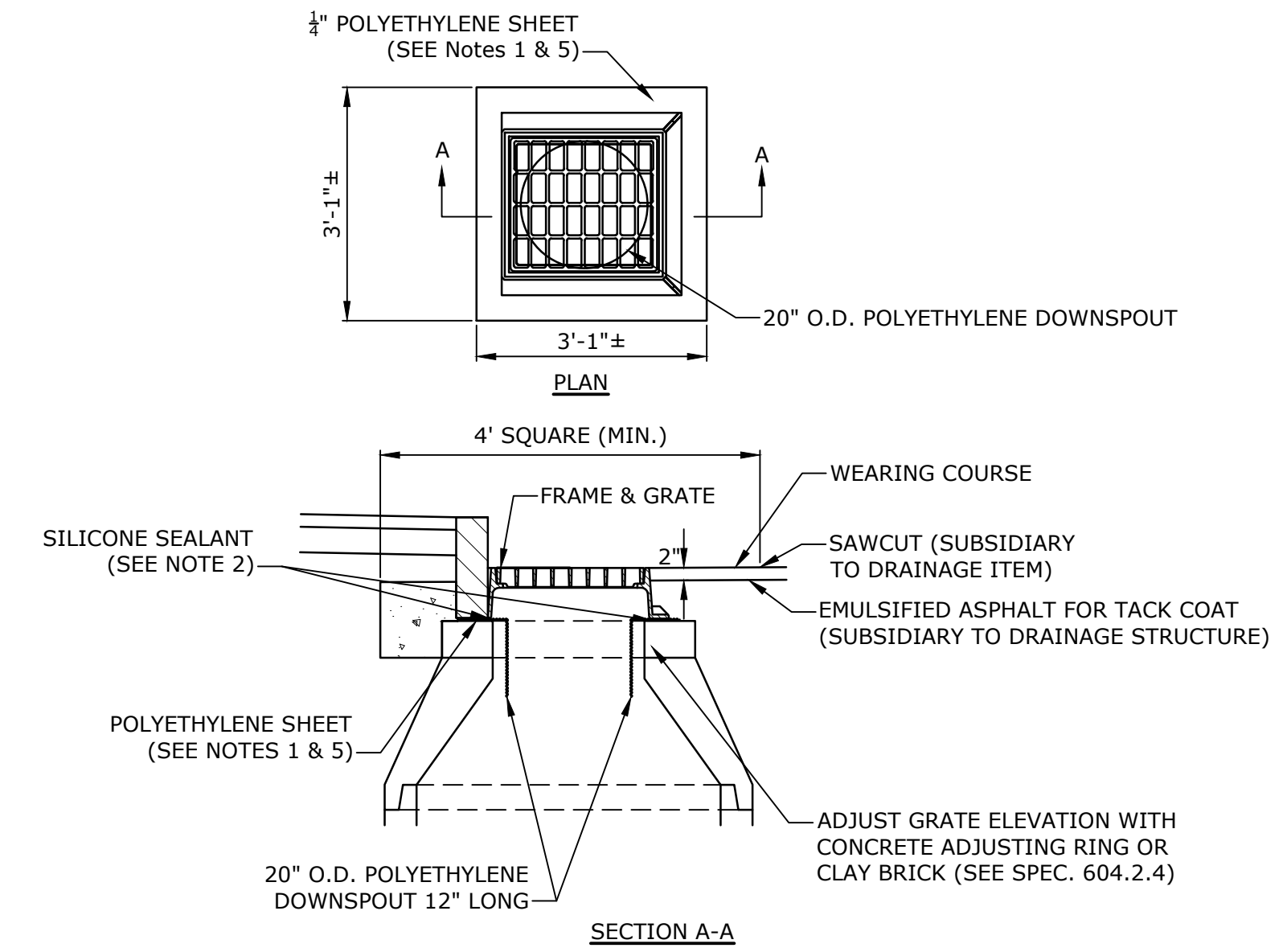
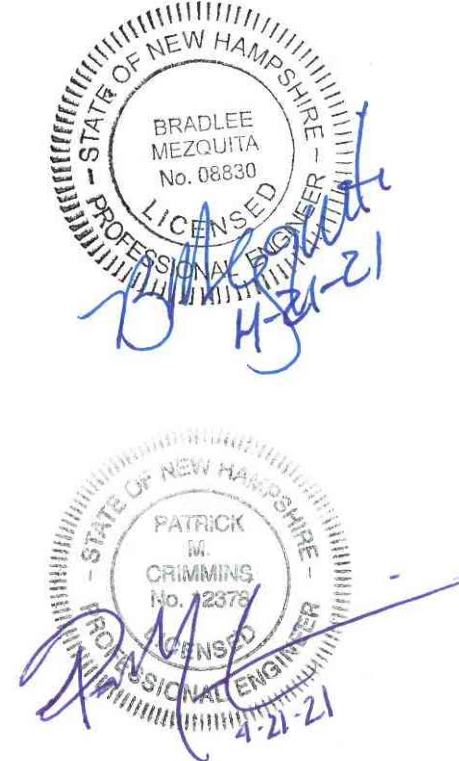
NOTES:  
1. MANHOLE FRAME AND COVER SHALL BE 32" HINGED ERGO XL BY EJ CO.  
2. ALL DIMENSIONS ARE NOMINAL. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:  
A. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.  
B. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.  
C. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.  
4. LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN THE CENTER OF THE COVER.

**DRAIN MANHOLE FRAME & COVER**  
NO SCALE



NOTE:  
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.  
2. ALL UTILITIES SHALL BE INSTALLED PER THE INDIVIDUAL UTILITY COMPANY STANDARDS. COORDINATE ALL INSTALLATIONS WITH INDIVIDUAL UTILITY COMPANIES AND THE CITY OF PORTSMOUTH.

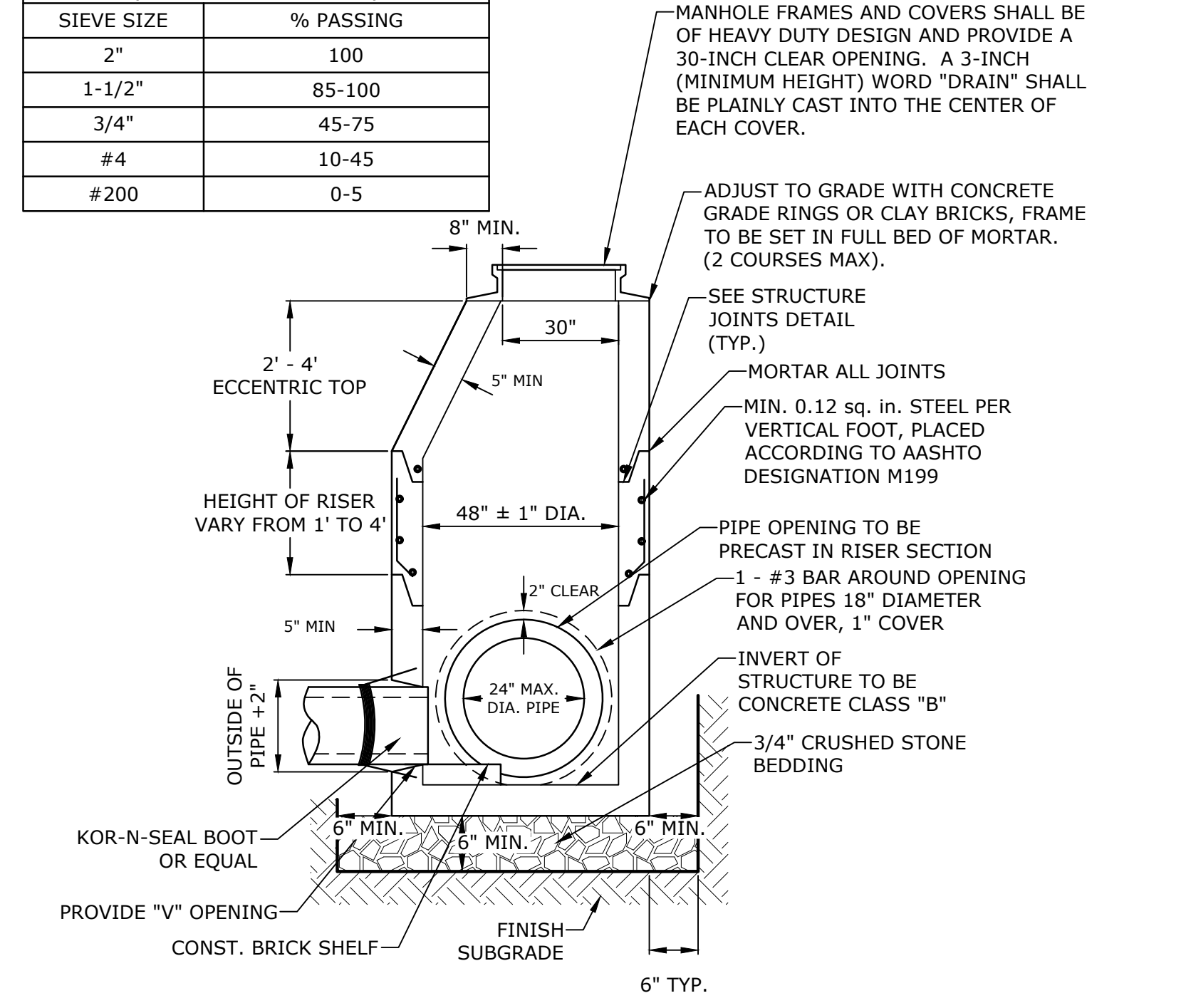
**STORM DRAIN TRENCH**  
NO SCALE



NOTES:  
1. POLYETHYLENE LINER (ITEM 604.0007) SHALL BE FABRICATED AT THE SHOP. DOWNSPOUT SHALL BE EXTRUSION FILLET WELDED TO THE POLYETHYLENE SHEET.  
2. PLACE A CONTINUOUS BEAD OF AN APPROVED SILICONE SEALANT (SUBSIDIARY TO ITEM 604.0007) BETWEEN FRAME AND POLYETHYLENE SHEET.  
3. PLACE CLASS AA CONCRETE TO 2" BELOW THE TOP OF THE GRATE ELEVATION (SUBSIDIARY TO DRAINAGE STRUCTURE).  
4. USE ON DRAINAGE STRUCTURES 4" MIN. DIAMETER ONLY.  
5. 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).  
6. THE CENTER OF THE GRATE & FRAME MAY BE SHIFTED A MAXIMUM OF 6" FROM THE CENTER OF THE DOWNSPOUT IN ANY DIRECTION.  
7. PLACED ONLY IN DRAINAGE STRUCTURES IN PAVEMENT.  
8. SEE NHDOT DR-04, "DI-DB, UNDERDRAIN FLUSHING BASIN AND POLYETHYLENE LINER DETAILS", FOR ADDITIONAL INFORMATION.  
9. CATCHBASINS WITHIN CITY RIGHT OF WAY SHALL HAVE A POLYETHYLENE LINER

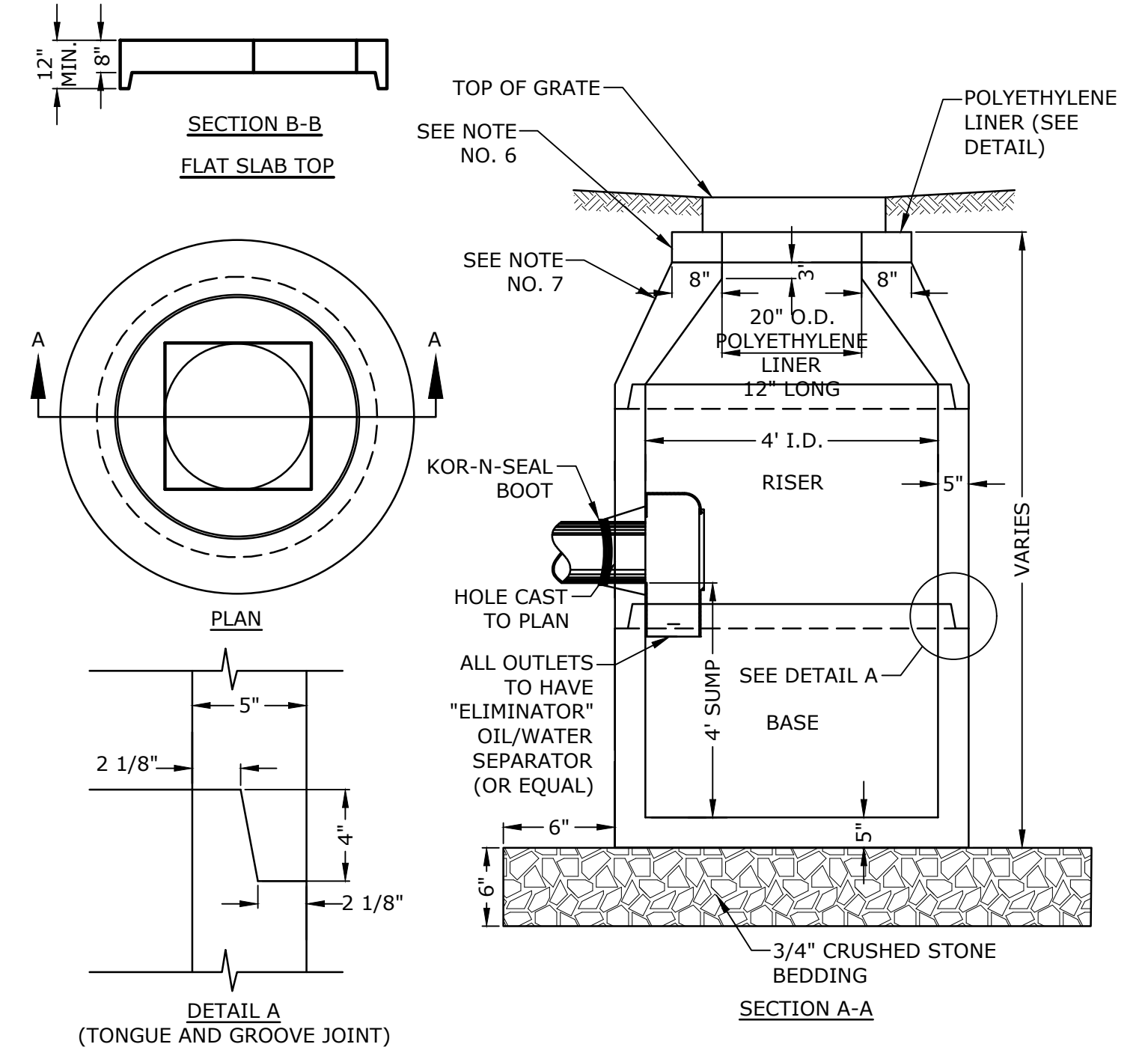
**POLYETHYLENE LINER**  
NO SCALE

NHDOT ITEM No. 304.4 (CRUSHED STONE - FINE)	
SIEVE SIZE	% PASSING
2"	100
1-1/2"	85-100
3/4"	45-75
#4	10-45
#200	0-5



NOTES:  
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.  
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.  
3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.  
4. THE STRUCTURES SHALL BE DESIGNED FOR H2O LOADING.  
5. CONSTRUCT CRUSHED STONE BEDDING AND BACKFILL UNDER (6" MINIMUM THICKNESS)  
6. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.  
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. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.

**4' DIAMETER DRAIN MANHOLE**  
NO SCALE



NOTES:  
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 PSI).  
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.  
3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.  
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.  
5. THE STRUCTURES SHALL BE DESIGNED FOR H2O LOADING.  
6. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).  
7. 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.  
8. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.  
9. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.  
10. 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.  
11. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.  
12. "ELIMINATOR" OIL/WATER SEPARATOR SHALL BE INSTALLED TIGHT TO INSIDE OF CATCHBASIN.

**4' DIAMETER CATCHBASIN**  
NO SCALE

**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

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C	3/22/2021	TAC Submission
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PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-DTLS.DWG
DRAWN BY:	CKK
CHECKED BY:	NAH/PMC
APPROVED BY:	BLM

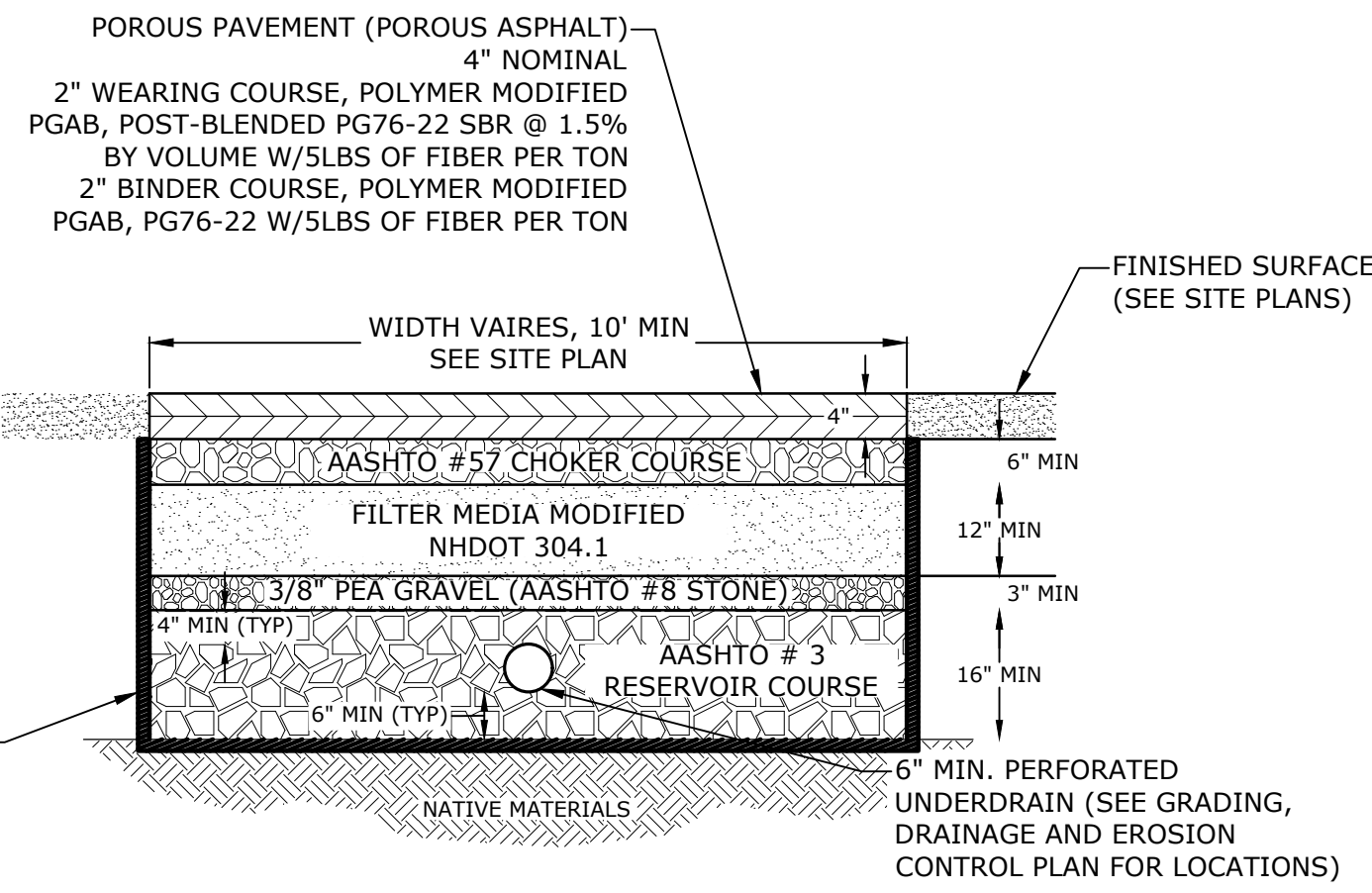
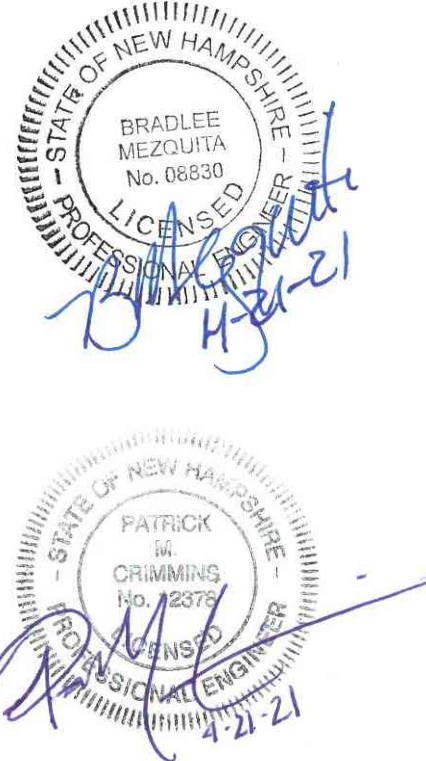
**DETAILS SHEET**

SCALE: AS SHOWN

**C-504**

Last Saved: 4/20/2021, 4:22:00pm By: Mahanien  
 Plotted On: Apr 20, 2021, 4:22:00pm  
 Tighe & Bond 210 P0595 Pro Con General Toposols P0595-007  
 Figures: AlocCAD, Sheets: P-0595-007-DTLS.dwg

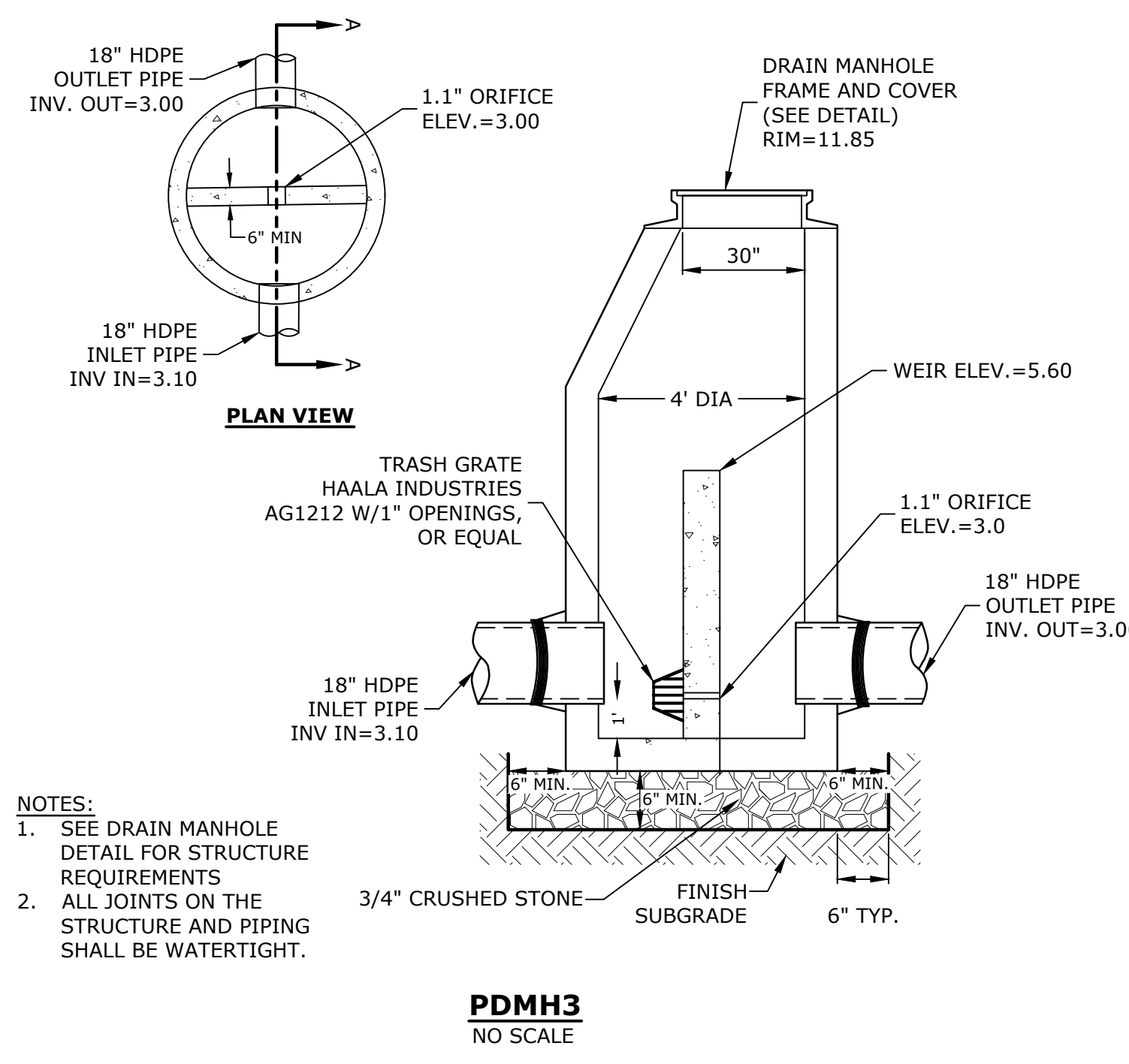




AASHTO #57 STONE (CHOKER COURSE)		MODIFIED NHDOT 304.1		AASHTO #8 STONE (PEA GRAVEL)		AASHTO #3 STONE (RESERVOIR COURSE)	
SIZE	% PASSING	SIZE	% PASSING	SIZE	% PASSING	SIZE	% PASSING
1 1/2"	100	6"	100	3/4"	100	2 1/2"	100
1"	95-100	#4	70-100	3/8"	85-100	2"	90-100
3/4"	25-60	#200	0-6*	#4	10-30	1 1/2"	35-70
#4	0-10	*PREFERABLY <4%		#8	0-10	1"	0-15
#8	0-5			#16	0-5	3/4"	0-5

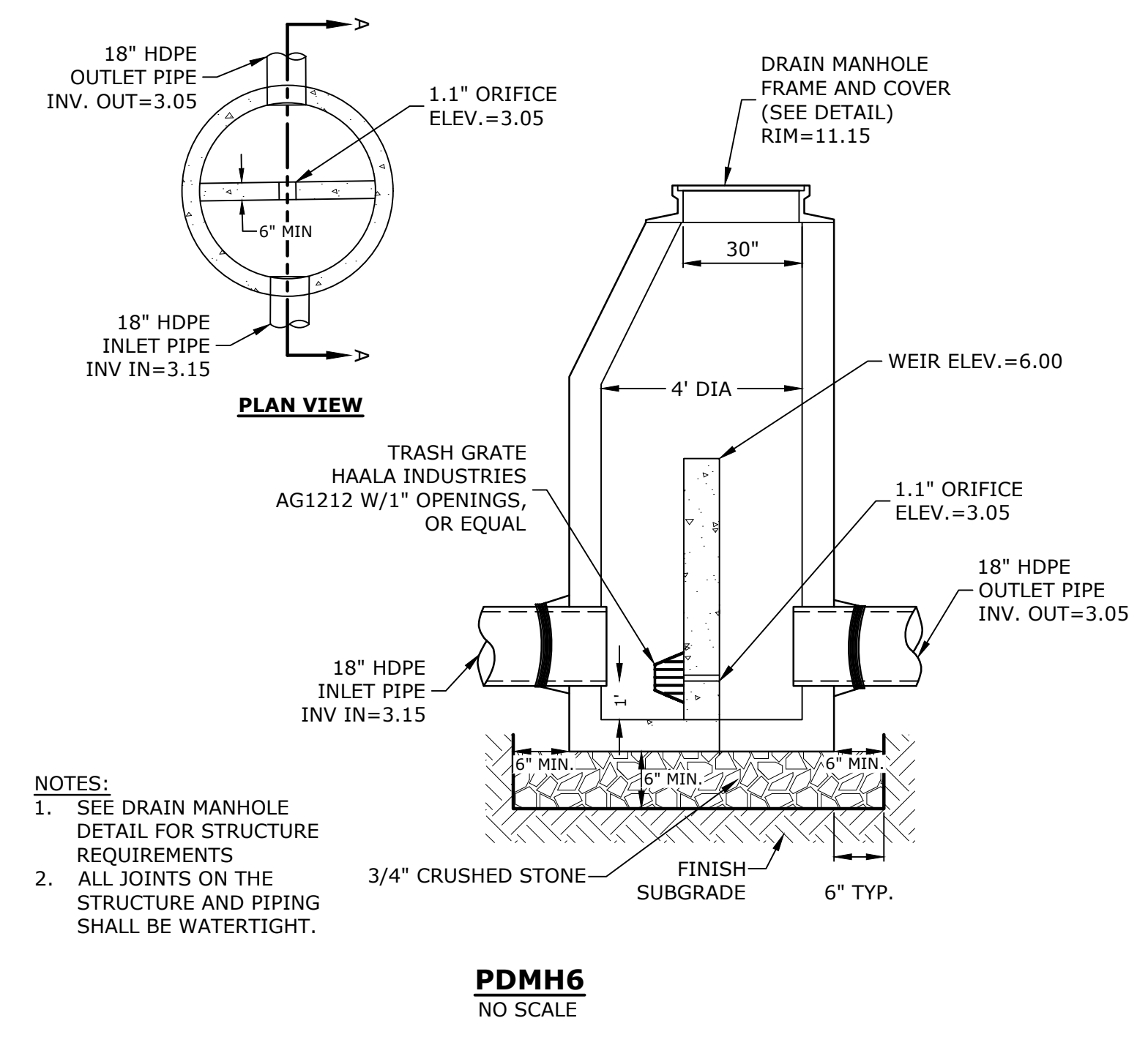
- NOTES:**
- SEE GRADING, DRAINAGE, UTILITIES AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
  - POROUS ASPHALT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS FROM THE UNH STORMWATER CENTER FOR POROUS ASPHALT.
  - POROUS ASPHALT MIX SPECIFIED IS RECOMMENDED BY THE UNH STORMWATER CENTER FOR SITES ANTICIPATING H-20 LOADING.
  - FILTER COURSE TO BE INCREASED AS NECESSARY TO MEET PROPOSED GRADES.
  - INSTALL FILTER COURSE AGGREGATE IN 8-INCH MAXIMUM LIFTS TO A MAXIMUM OF 95% STANDARD PROCTOR COMPACTION (ASTM D698 / AASHTO T99). INSTALL AGGREGATE TO GRADES INDICATED ON THE DRAWINGS.
  - INSTALL CHOKER, GRAVEL, AND STONE BASE COURSE AGGREGATE TO A MAXIMUM OF 95% COMPACTION STANDARD PROCTOR (ASTM D698 / AASHTO T99). CHOKER SHOULD BE PLACED EVENLY OVER SURFACE OF FILTER COURSE BED, SUFFICIENT TO ALLOW PLACEMENT OF PAVEMENT, AND NOTIFY ENGINEER FOR APPROVAL. CHOKER BASE COURSE THICKNESS SHALL BE SUFFICIENT TO ALLOW FOR EVEN PLACEMENT OF THE POROUS ASPHALT BUT NO LESS THAN 6-INCHES IN DEPTH.
  - THE DENSITY OF SUBBASE COURSES SHALL BE DETERMINED BY AASHTO T 191 (SAND-CONE METHOD), AASHTO T 204 (DRIVE CYLINDER METHOD), OR AASHTO T 238 (NUCLEAR METHODS), OR OTHER APPROVED METHODS AT THE DISCRETION OF THE SUPERVISING ENGINEER.

**POROUS ASPHALT SECTION**  
NO SCALE



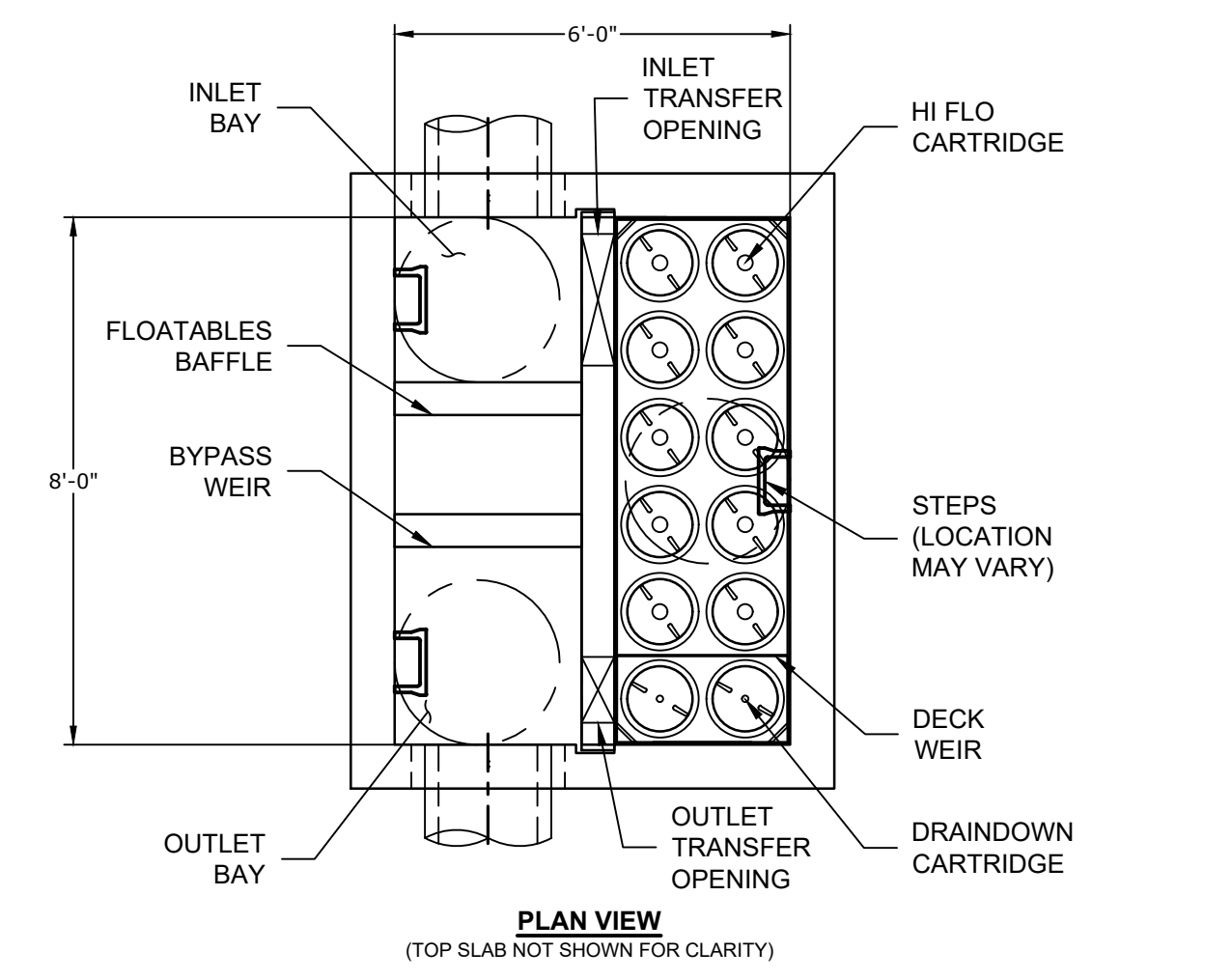
- NOTES:**
- SEE DRAIN MANHOLE DETAIL FOR STRUCTURE REQUIREMENTS
  - ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

**PDMH3**  
NO SCALE



- NOTES:**
- SEE DRAIN MANHOLE DETAIL FOR STRUCTURE REQUIREMENTS
  - ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

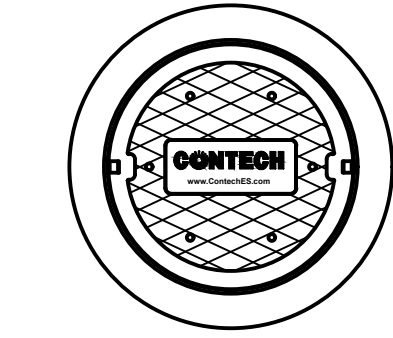
**PDMH6**  
NO SCALE



FIELD ELEVATIONS					
	RIM ELEVATION	INLET ELEVATION	INLET PIPE	OUTLET ELEVATION	OUTLET PIPE
JFF 1	11.85	2.85	18" HDPE	2.90	18" HDPE
JFF 2	11.25	2.90	18" HDPE	2.40	18" HDPE

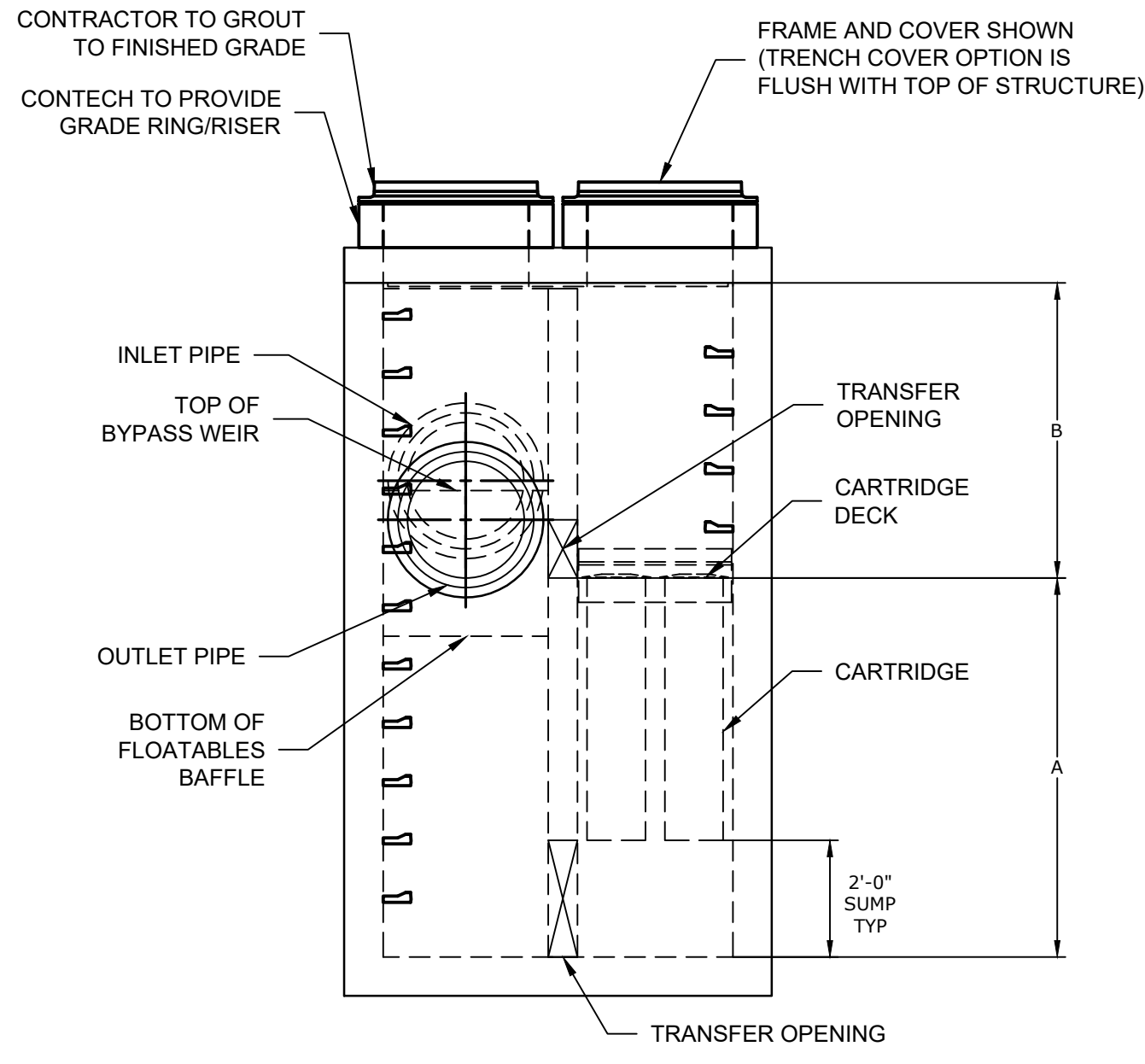
JELLYFISH JFPD0806 - DESIGN NOTES				
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OPENLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.				
CARTRIDGE SELECTION	54"	40"	27"	15"
CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE IN/FLO DRAINDOWN (GFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX TREATMENT (GFS)	1.96	1.47	0.98	0.51
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID	JF-1	JF-2	
MODEL SIZE	JFPD0806	JFPD0806	
WATER QUALITY FLOW RATE (cfs)	2.85	0.63	
PEAK FLOW RATE (cfs)	26.54	5.13	
RETURN PERIOD OF PEAK FLOW (yrs)	25	25	
# OF CARTRIDGES REQUIRED (HF / DD)	153	511	
CARTRIDGE SIZE	54"	40"	



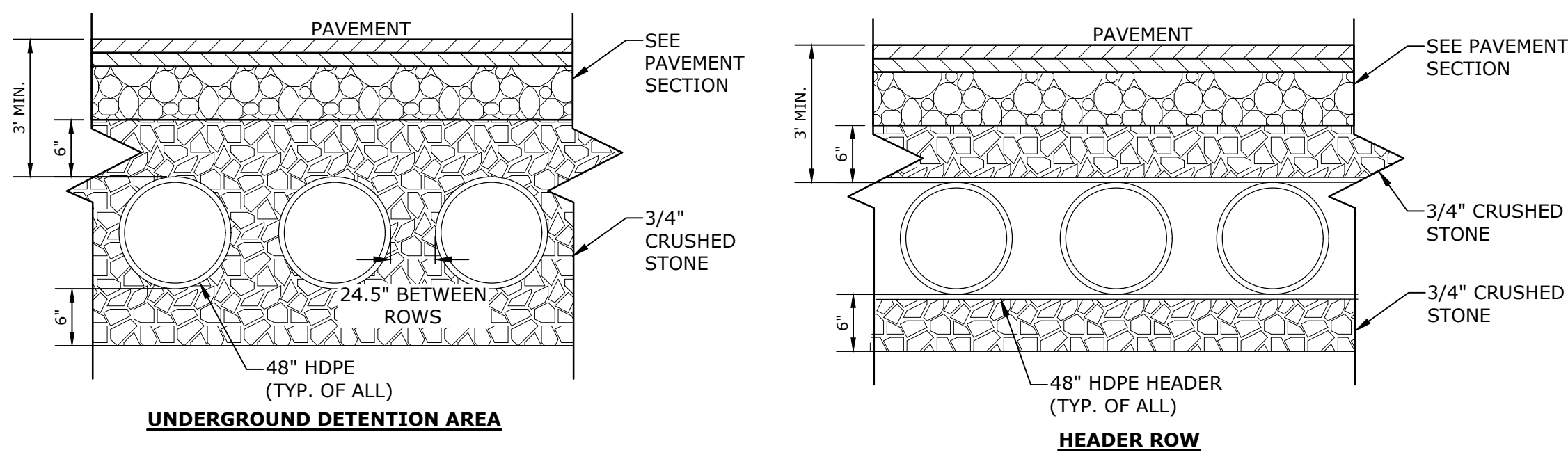
- GENERAL NOTES:**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. [www.contechES.com](http://www.contechES.com)
  - JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
  - CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
  - STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 3' AND GROUNDWATER ELEVATION AT OR BELOW THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO HS-20 LOAD RATINGS AND BE CAST WITH THE CONTECH LOGO.
  - STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
  - OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
  - THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
  - NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

- INSTALLATION NOTES:**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED).
  - CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERS TOP OR FLEXIBLE BOOT).
  - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
  - CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (866) 740-3318.



**ELEVATION VIEW**  
**JELLYFISH JFPD0806**

**CONTECH JELLYFISH STORMWATER FILTER**  
NO SCALE



FIELD ELEVATIONS				
	TOP OF STONE ELEV	TOP OF PIPE ELEV	BOTTOM OF PIPE ELEV	BOTTOM OF STONE ELEV
UD8 1	8.25'	7.25'	3.50'	2.75'
UD8 2	8.25'	7.25'	3.50'	2.75'

- NOTES:**
- UNDERGROUND DETENTION SYSTEM TO BE 48" HDPE PIPE DESIGNED FOR H-20 LOADING. CONTRACTOR TO SUBMIT PIPE SPECIFICATIONS AND FINAL MANUFACTURERS DESIGN TO ENGINEER FOR APPROVAL.
  - MANUFACTURER TO SUBMIT PLANS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.
  - THE DESIGN ENGINEER SHALL PROVIDE SUFFICIENT INSPECTION TO CERTIFY THAT THE SYSTEM HAS BEEN INSTALLED PER THE APPROVED DESIGN PLAN.
  - REFER TO STANDARD DUTY PAVEMENT SECTION DETAIL FOR PAVEMENT SECTION.

**UNDERGROUND DETENTION SYSTEM DETAIL**  
NO SCALE

**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
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C	3/22/2021	TAC Submission
B	3/10/2021	Design Review Resubmission
A	12/1/2020	TAC Work Session

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-DTLS.DWG
DRAWN BY:	CHK
CHECKED BY:	NAH/PMC
APPROVED BY:	BLM

DETAILS SHEET

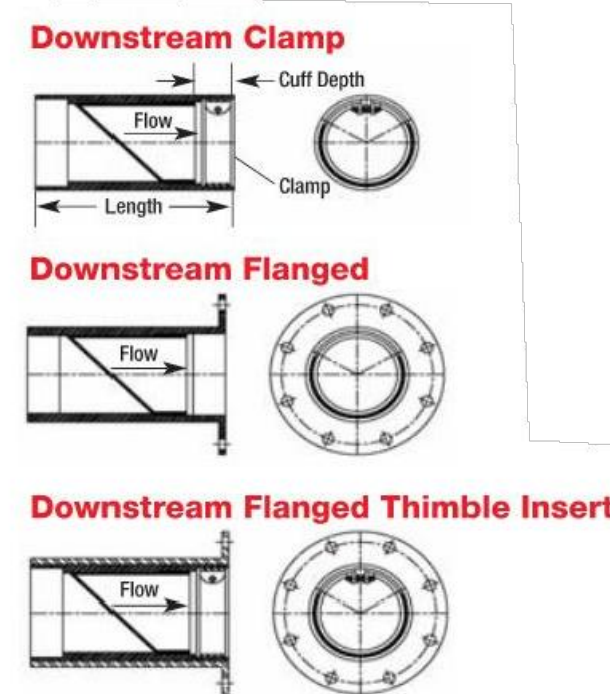
SCALE: AS SHOWN

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Last Saved: 4/20/2021, 4:22:39pm By: M.Hansen  
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 Title & Content: 21010595 - Proj Con General Toposails 0595-007 Baynes Ave. Hotel Drawings - Figures/AutoCAD/Sheet/P-0595-007-DTLS.dwg

**Jellyfish Filter**  
 CONTECH ENGINEERED SOLUTIONS LLC  
 9025 Centre Pointe Dr., Suite 400, West Chester, OH 45380  
 800-338-1122 513-645-7000 513-645-7993 FAX



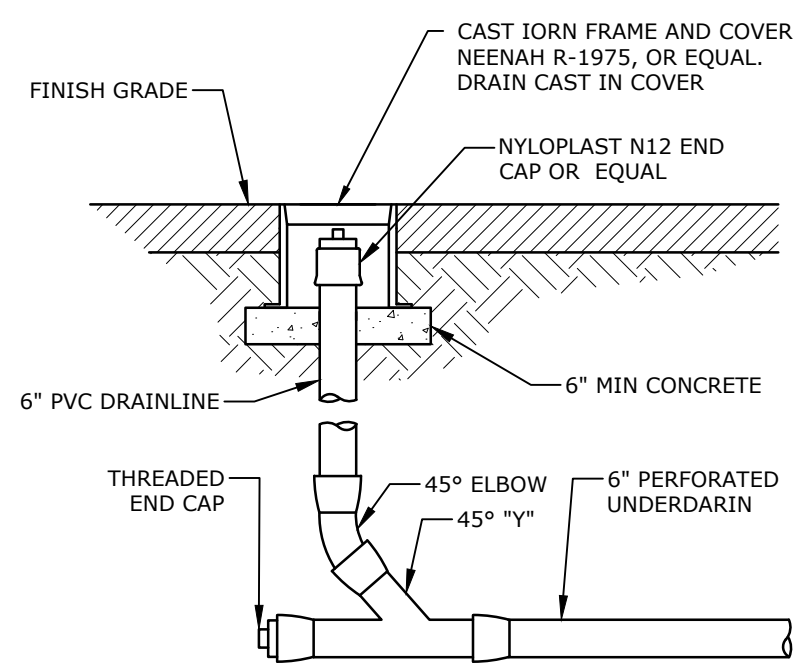


CheckMates® can be made for any pipe I.D.  
Built to fit in sizes from 3" to 78".

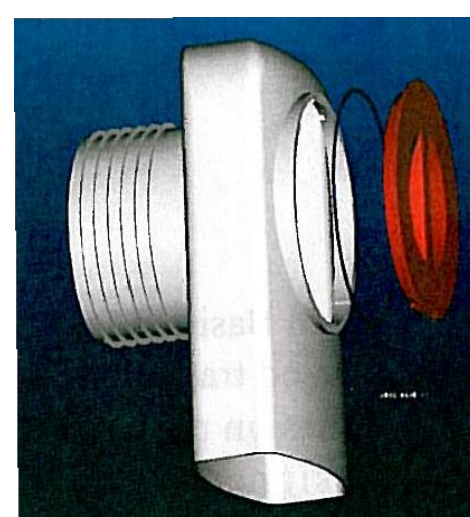
Standard Pressure	CHECKMATE® VALVE										
	NOMINAL PIPE SIZE I.D.		OVERALL LENGTH*		NUMBER OF CLAMPS	CUFF DEPTH		BACK PRESSURE RATING**		WEIGHT	
	Inches	Millimeters	Inches	Millimeters		Inches	Millimeters	Feet	Meters	lbs	Kg
12	300	19.8	503	1	2.0	51	68	20.1	37	17	
14	350	25.8	655	1	4.0	102	64	20.0	110	50	
16	400	28.6	726	1	4.0	102	60	18.3	133	52	
18	450	31.0	787	1	4.0	102	56	17.1	143	65	
20	500	42.1	1069	2	8.0	203	53	16.2	223	102	
24	600	47.5	1207	2	8.0	203	45	13.7	304	137	

- NOTES:
- PIPES WHERE NOTED TO HAVE TIDEFLEX, CHECKMATE INLINE CHECK VALVES MANUFACTURED BY REDVALVE, OR EQUAL
  - CHECK VALVES SHALL BE INSTALLED PER THE MANUFACTURERS INSTALLATION SPECIFICATIONS

**ON-SITE BACK FLOW PREVENTER**  
NO SCALE

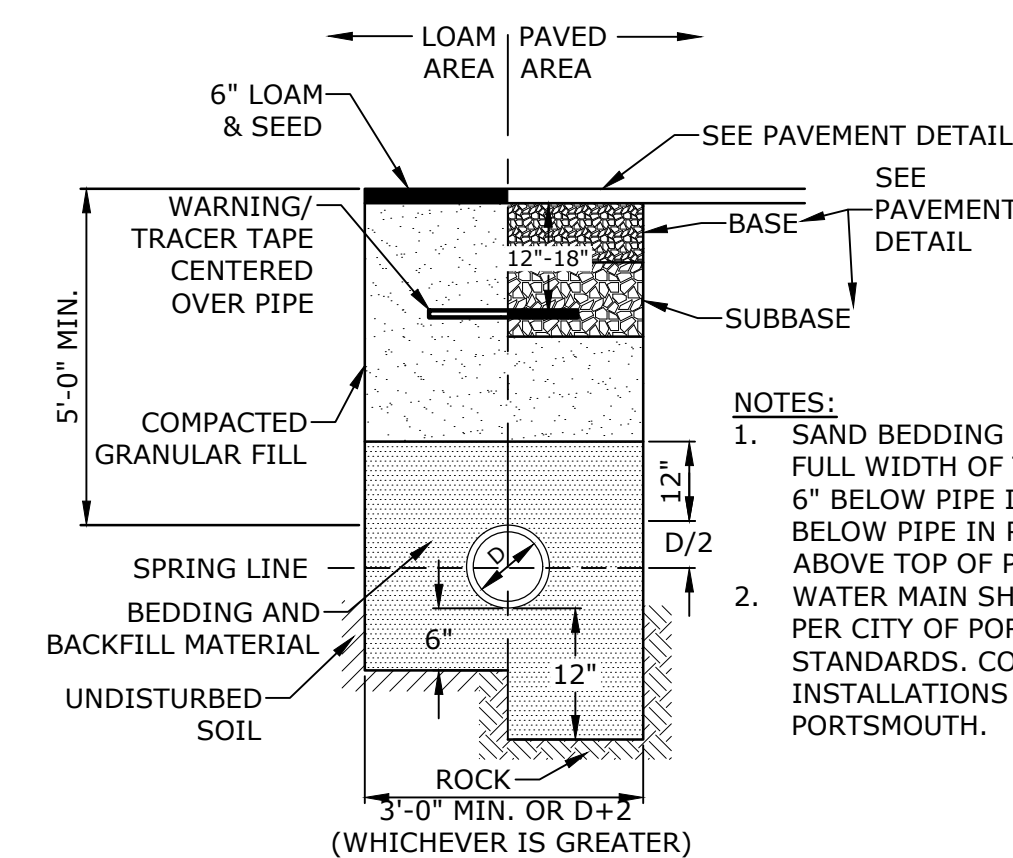


**DRAIN CLEAN-OUT**  
NO SCALE



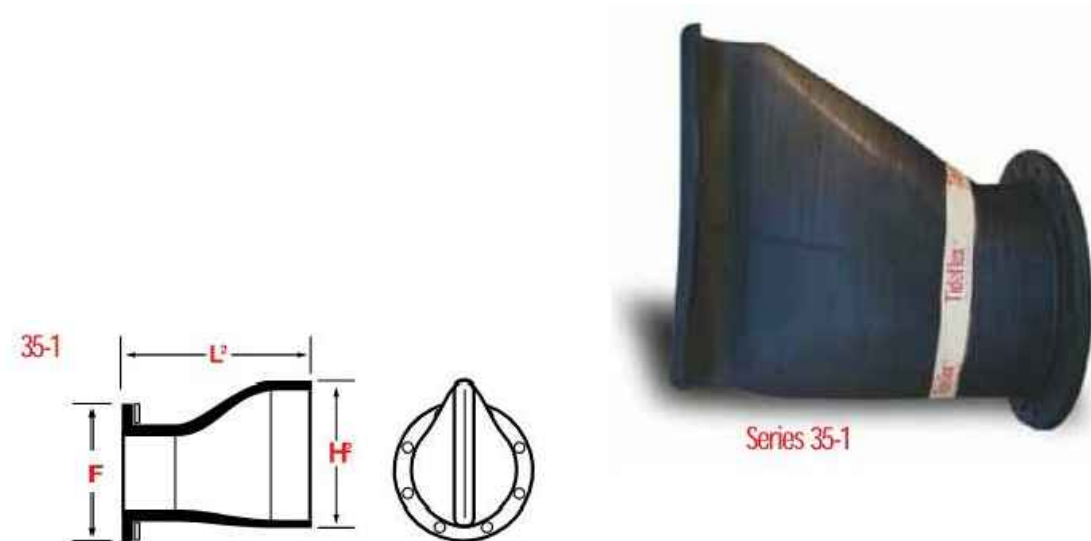
- NOTES:
- ALL CATCH BASIN OUTLETS TO HAVE "ELIMINATOR" OIL AND FLOATING DEBRIS TRAP MANUFACTURED BY KLEANSTREAM (NO EQUAL). INSTALL DEBRIS TRAP TIGHT TO INSIDE OF STRUCTURE.
  - 1/4" HOLE SHALL BE DRILLED IN TOP OF DEBRIS TRAP

**"ELIMINATOR" OIL FLOATING DEBRIS TRAP**



**WATER TRENCH**  
NO SCALE

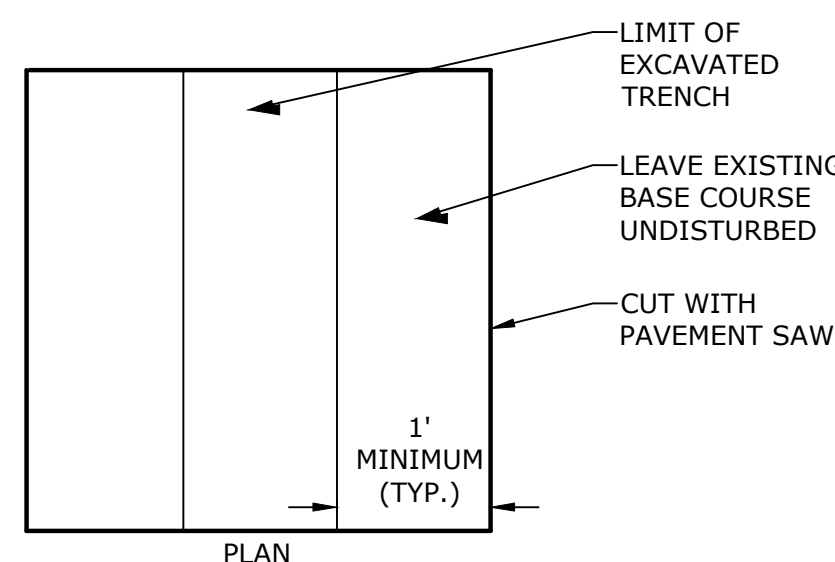
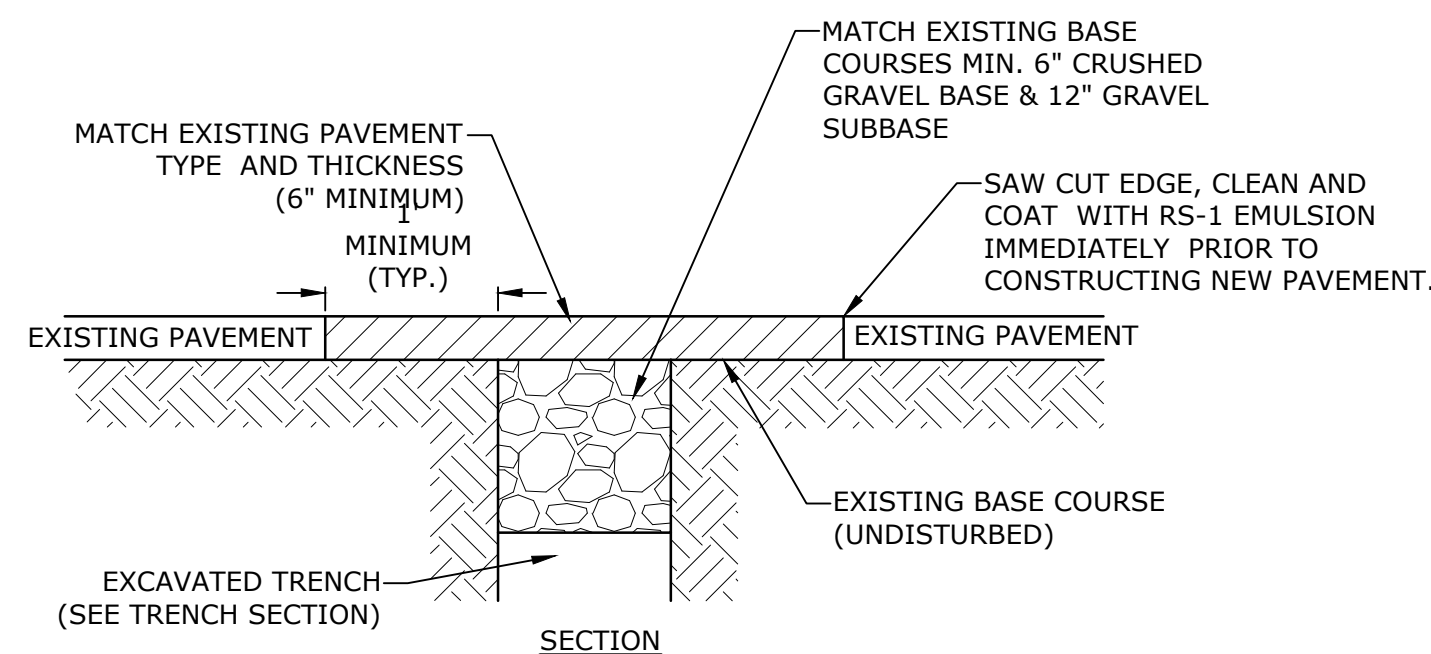
- NOTES:
- SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
  - WATER MAIN SHALL BE INSTALLED PER CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.



SERIES 35-1			
Flange Size (ANSI)	Flange O.D. (F)	Length (L)	Bill Height (H)
18	25	40	34
20	27 1/2	48	37
24	32	52	44
30	38 3/4	62	55

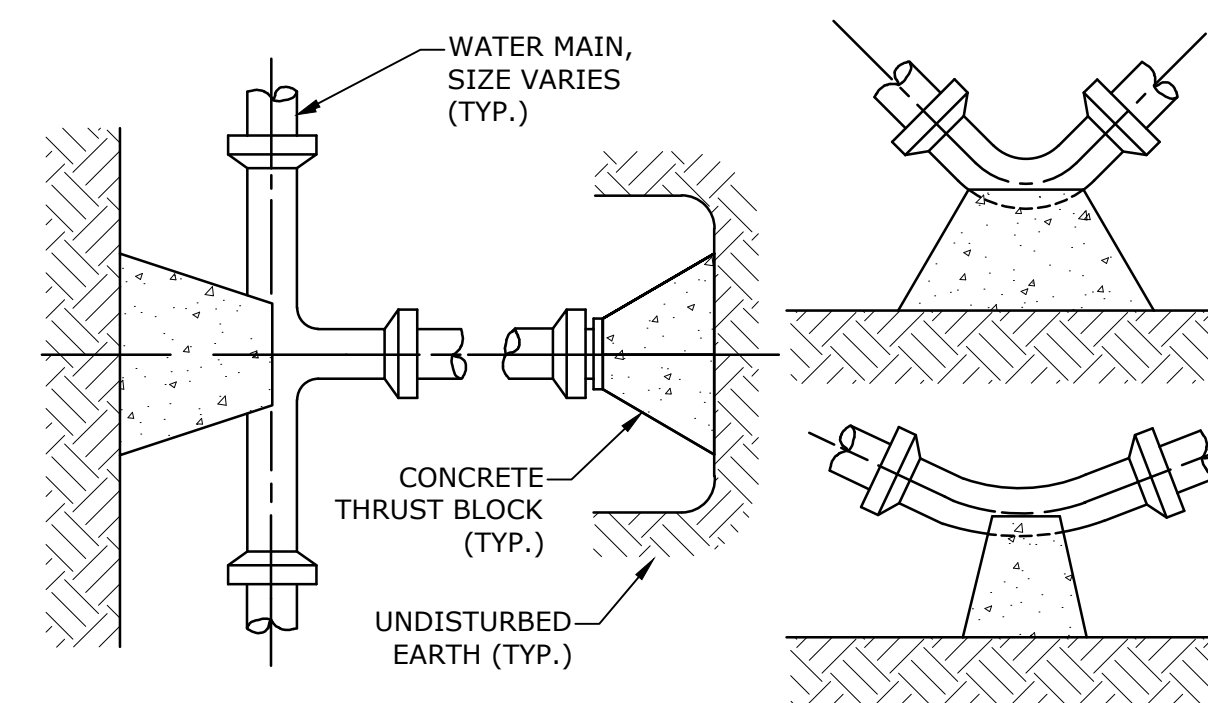
- NOTES:
- CONCRETE HEADWALL TO HAVE TIDEFLEX CHECK VALVE MANUFACTURED BY REDVALVE AND SHALL BE APPROVED BY THE CITY OF PORTSMOUTH DPW.
  - CHECK VALVE SHALL BE INSTALLED USING A FLANGED BOLT ON CONNECTION PER THE MANUFACTURERS INSTALLATION SPECIFICATIONS.
  - END OF PIPE SHALL BE FLUSH WITH CONCRETE HEADWALL AND BE GROUTED PRIOR TO THE INSTALLATION OF THE CHECK VALVE.

**CITY OUTLET BACK FLOW PREVENTER**  
NO SCALE



NOTE:  
COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN CITY RIGHT OF WAY WITH CITY OF PORTSMOUTH DPW PRIOR TO COMMENCING WORK.

**ROADWAY TRENCH PATCH**  
NO SCALE



TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL				
	REACTION TYPE	PIPE SIZE			
		4"	6"	8"	10"
A 90°	0.89	2.19	3.82	11.14	17.24
B 180°	0.65	1.55	2.78	8.38	12.00
C 45°	0.48	1.19	2.12	6.02	9.32
D 22-1/2°	0.25	0.60	1.06	3.08	4.74
E 11-1/4°	0.13	0.30	0.54	1.54	2.38

- NOTES:
- POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
  - ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
  - PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
  - WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
  - INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE WITH CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.

**THRUST BLOCKING DETAIL**  
NO SCALE

**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

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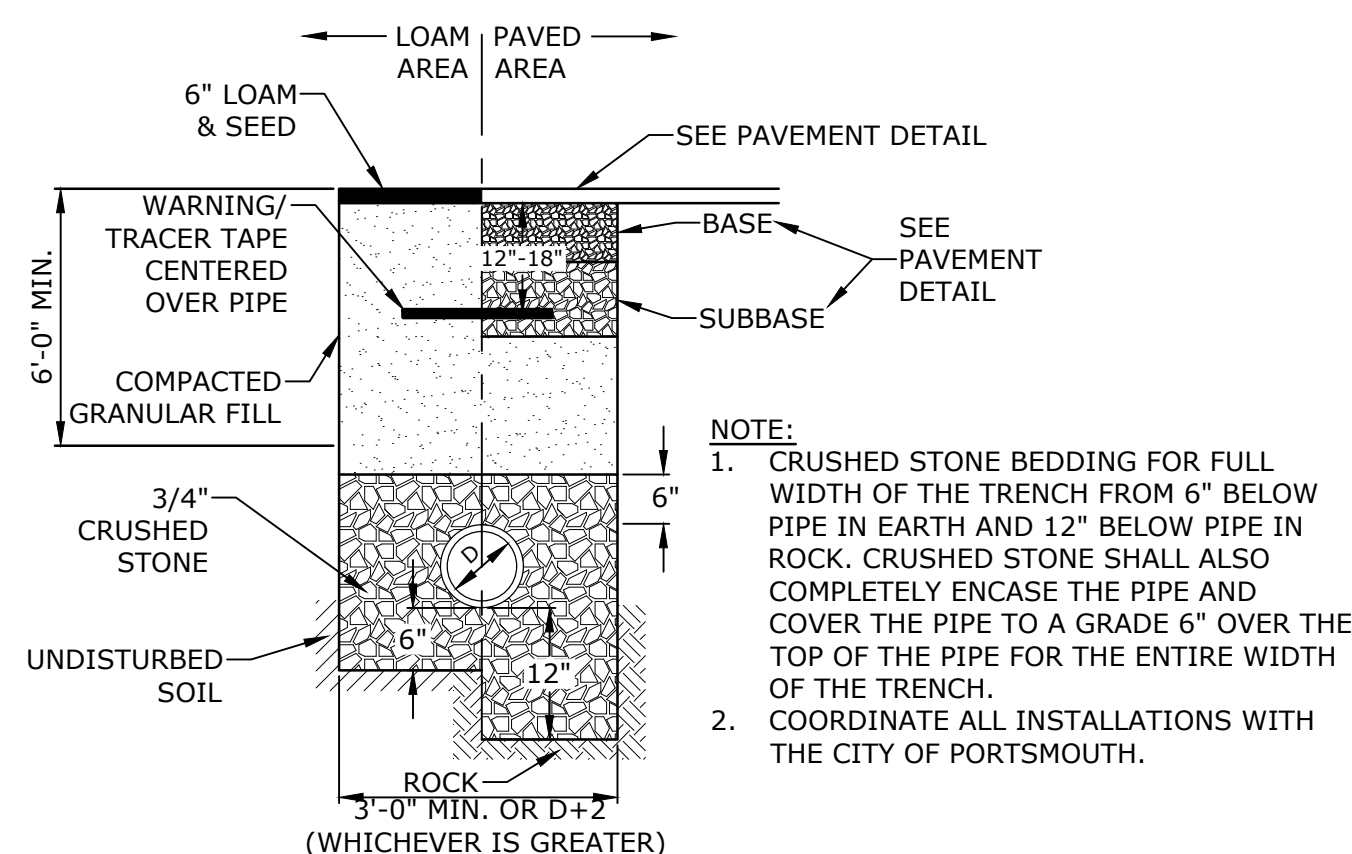
PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-DTLS.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH/PMC
APPROVED BY:	BLM

DETAILS SHEET

SCALE: AS SHOWN

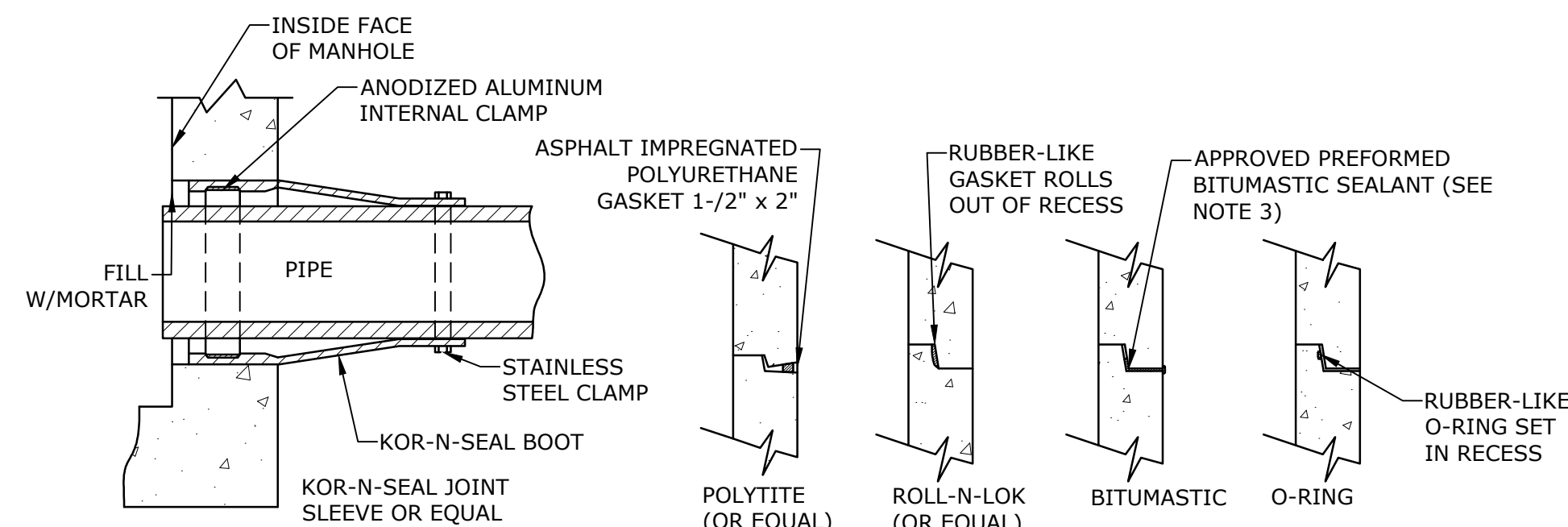
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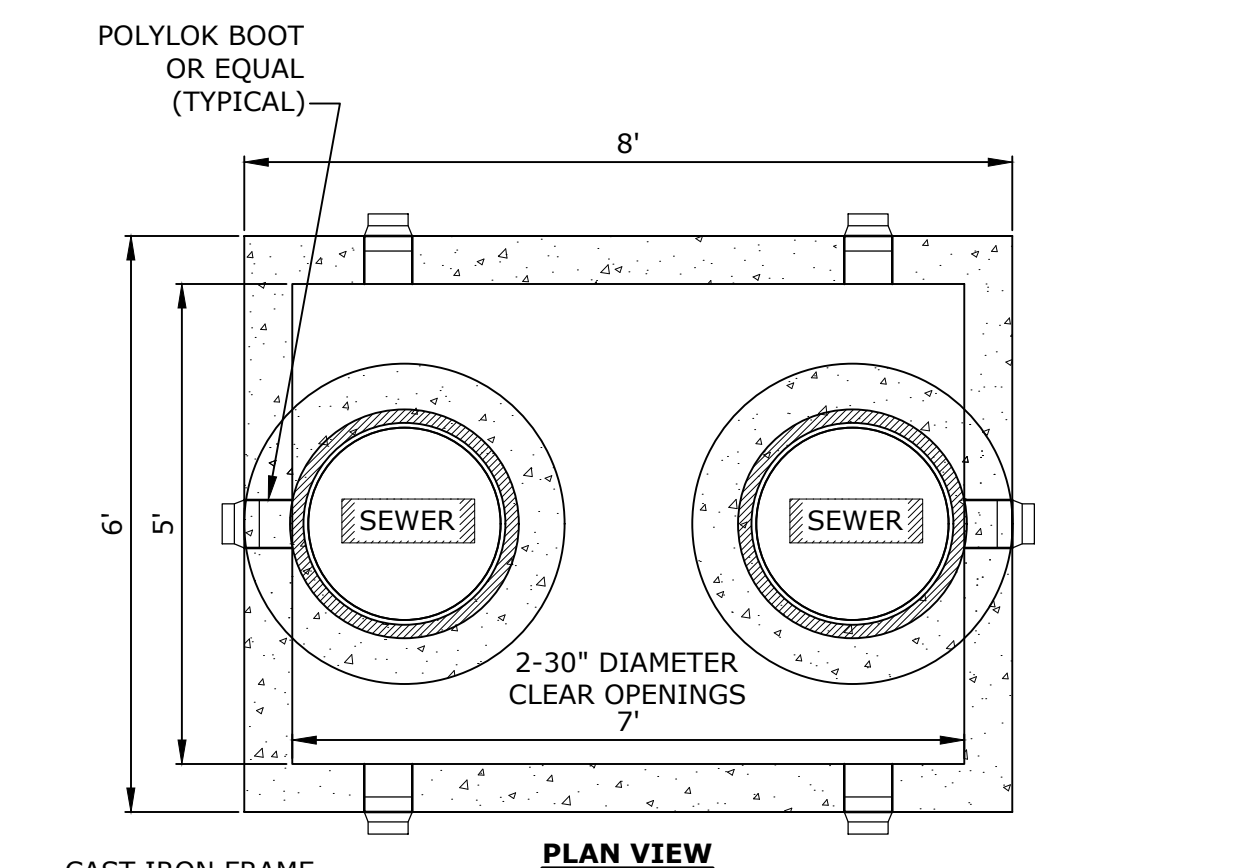
**SEWER SERVICE TRENCH**  
NO SCALE

**NOTE:**  
1. CRUSHED STONE BEDDING FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK. CRUSHED STONE SHALL ALSO COMPLETELY ENCASE THE PIPE AND COVER THE PIPE TO A GRADE 6" OVER THE TOP OF THE PIPE FOR THE ENTIRE WIDTH OF THE TRENCH.  
2. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

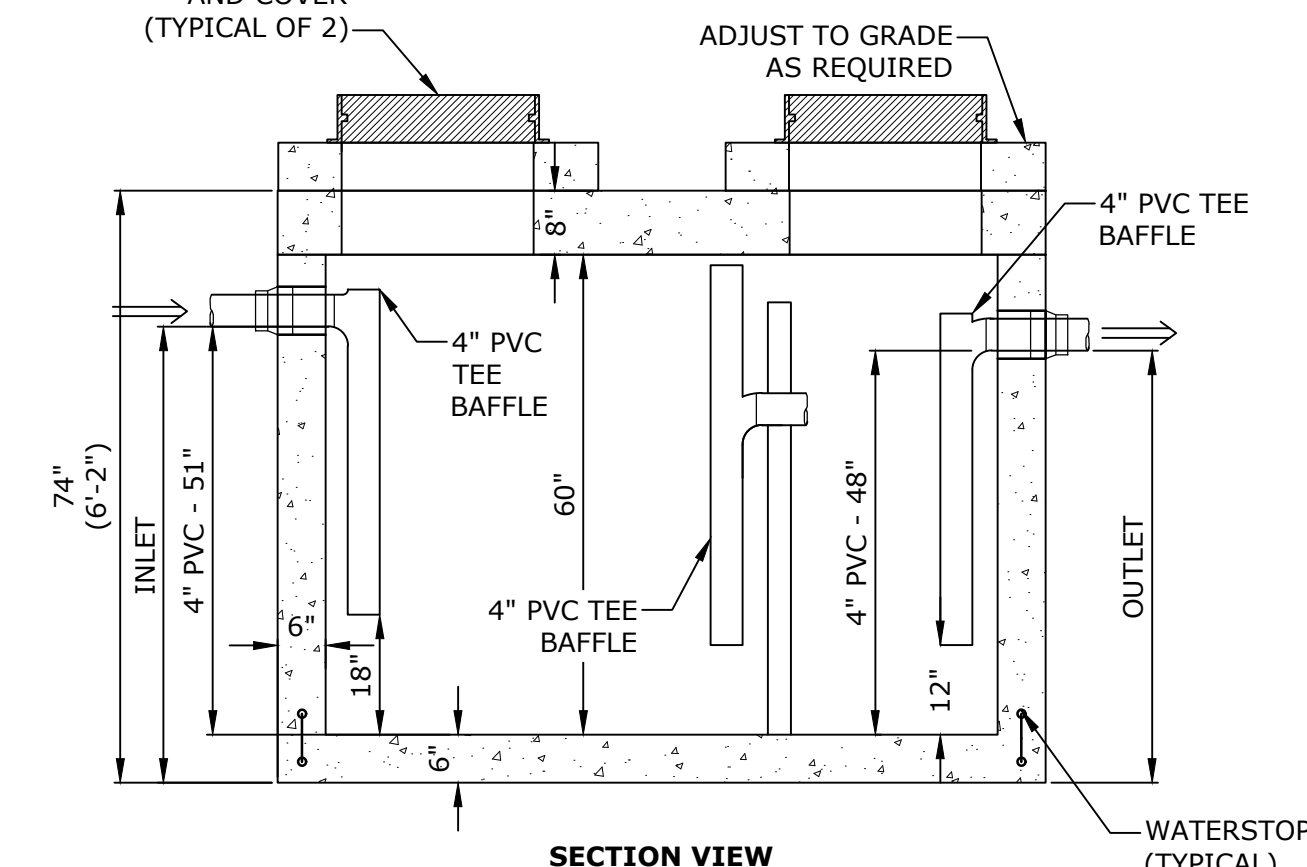


**MANHOLE JOINTS**  
NO SCALE

**NOTES:**  
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF PORTSMOUTH DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.  
2. PIPE TO MANHOLE JOINTS SHALL BE PER CITY OF PORTSMOUTH STANDARD.  
3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.  
4. ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.



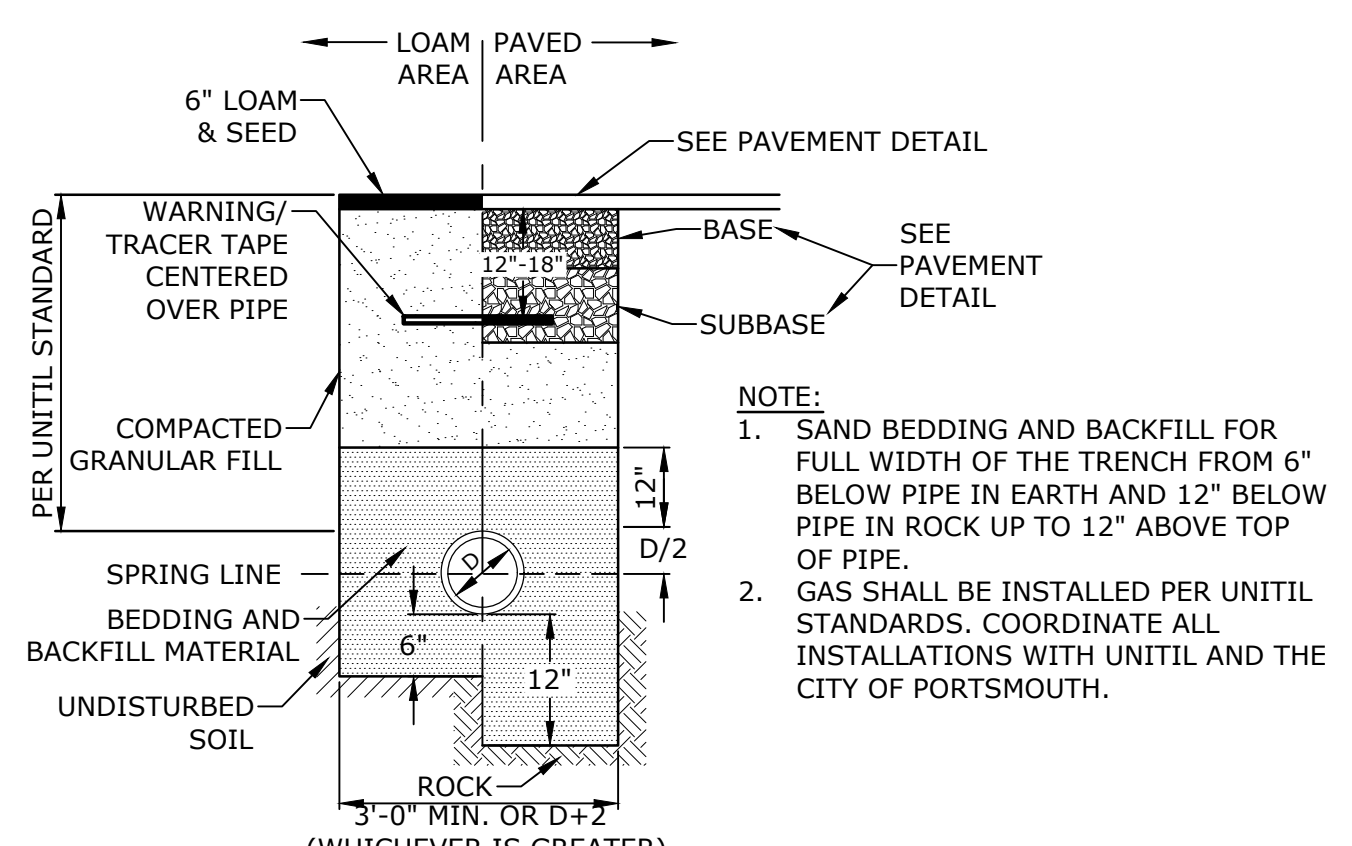
**PLAN VIEW**



**SECTION VIEW**

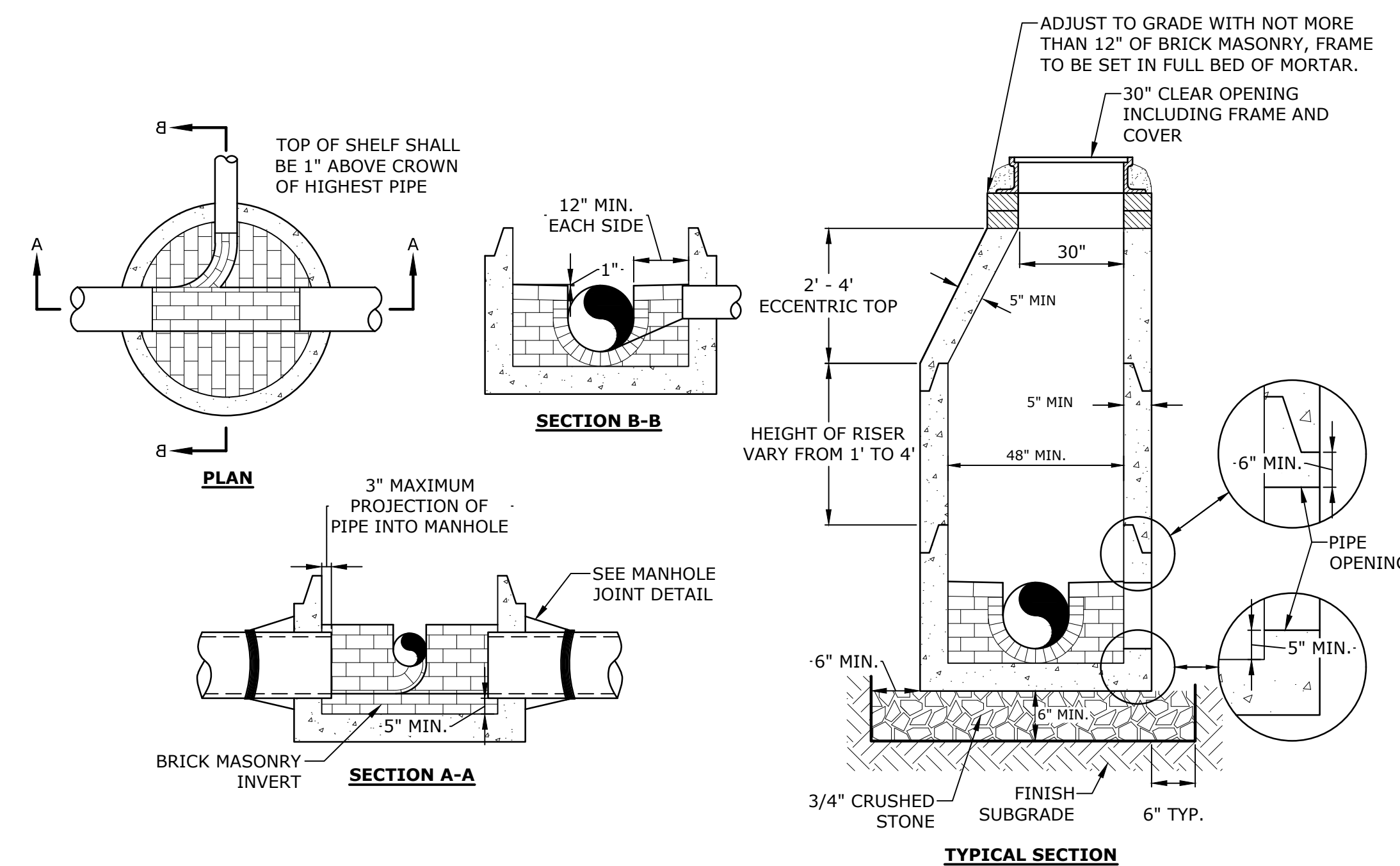
**NOTES:**  
1. STEEL REINFORCEMENT SHALL CONFORM TO LATEST ASTM SPECIFICATIONS: ASTM-A615 GRADE 60 REBAR.  
2. CONCRETE SHALL BE  $F_c=5,000$  PSI @ 28 DAYS MINIMUM.  
3. FLEXIBLE SLEEVES SHALL BE PROVIDED ON ALL PIPE CONNECTIONS.  
4. JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.  
5. INLET SHALL PENETRATE AT LEAST 9" BELOW THE LIQUID LEVEL, BUT NOT DEEPER THAN THE OUTLET BAFFLE.  
6. OUTLET SHALL EXTEND BELOW THE SURFACE OF THE LIQUID EQUAL TO 40% OF THE LIQUID DEPTH (19").  
7. DESIGN LOADING SHALL BE: AASHTO-HS20-44, ASTM C-890-06.  
8. DESIGN SPECIFIED AS: ASTM C-1227-08, ASTM C-913-08.  
9. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY E.J. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.  
10. GREASE TRAP SHALL BE PHOENIX PRECAST CONCRETE P/N: C-6420 OR EQUAL.  
11. TANK SHALL BE PUMPED AS NEEDED.

**1,000 GALLON GREASE TRAP**  
NO SCALE



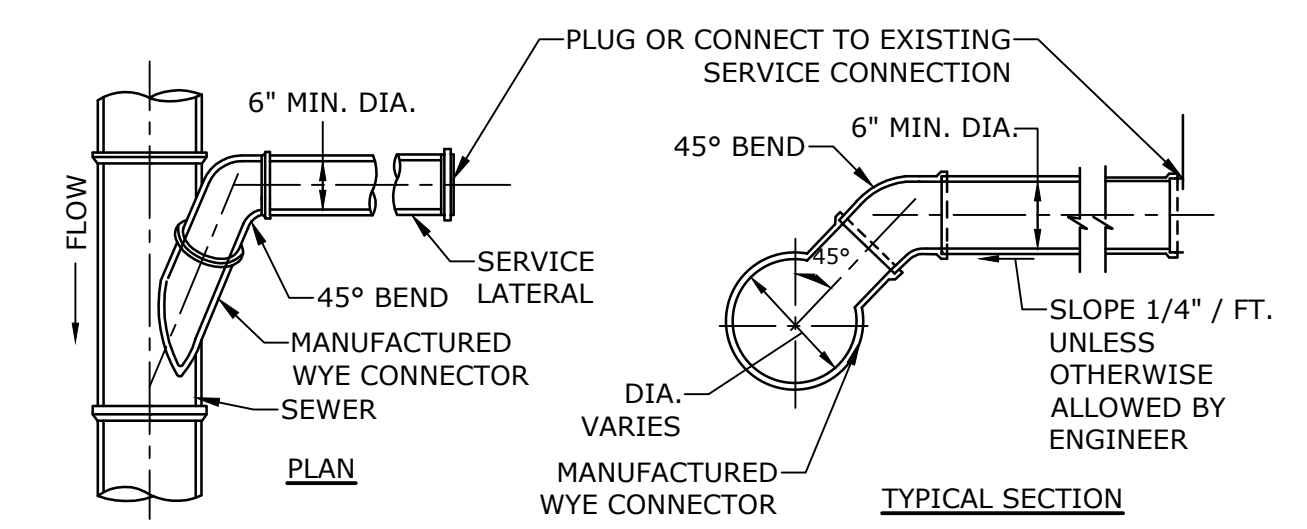
**GAS TRENCH**  
NO SCALE

**NOTE:**  
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.  
2. GAS SHALL BE INSTALLED PER UNITIL STANDARDS. COORDINATE ALL INSTALLATIONS WITH UNITIL AND THE CITY OF PORTSMOUTH.

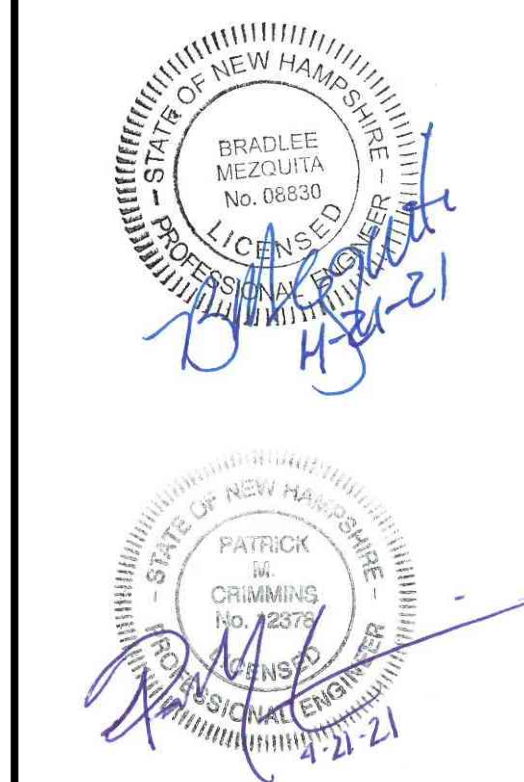


**SEWER MANHOLE**  
NO SCALE

**NOTES:**  
1. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.  
2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.  
3. INVERT BRICKS SHALL BE LAID ON EDGE.  
4. TWO (2) COATS OF BITUMINOUS WATERPROOF COATING SHALL BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.  
5. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY E.J. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.  
6. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.  
7. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H2O LOADING, AND CONFORMING TO ASTM C478-06.



**STANDARD SERVICE LATERAL CONNECTION**  
NO SCALE



**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

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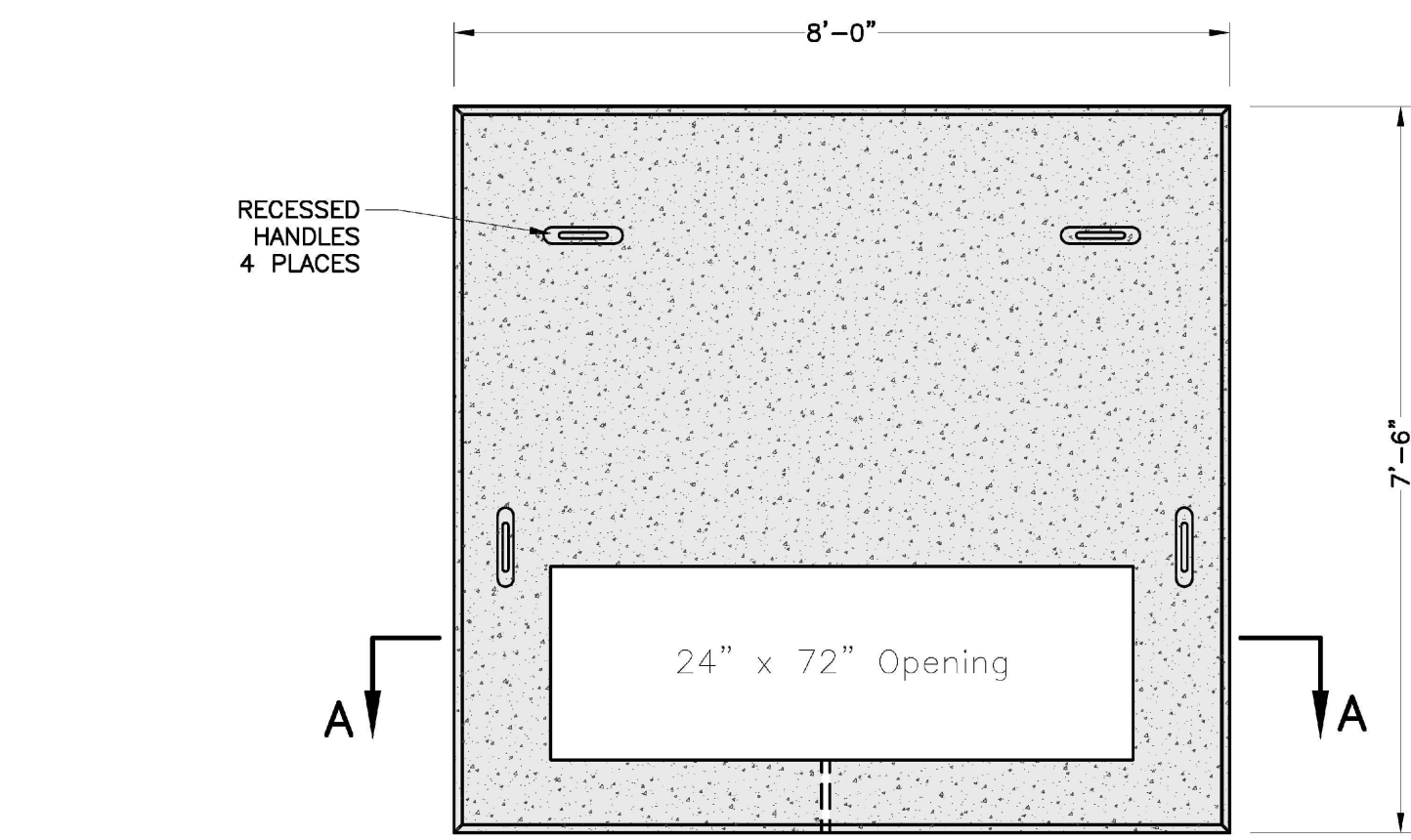
DETAILS SHEET

SCALE: AS SHOWN

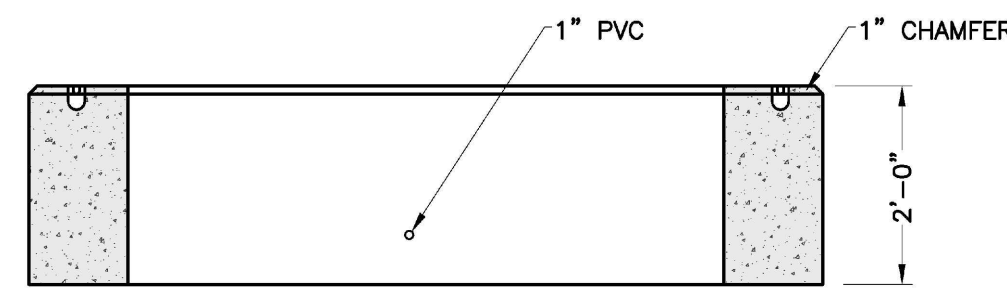
C-507

Last Saved: 4/20/2021, 4:52:29pm By: M.Hansen  
 Plotted On: Apr 20, 2021, 10:05:55 AM  
 Tighe & Bond 2101 P-0595 Proj Con General Toposails





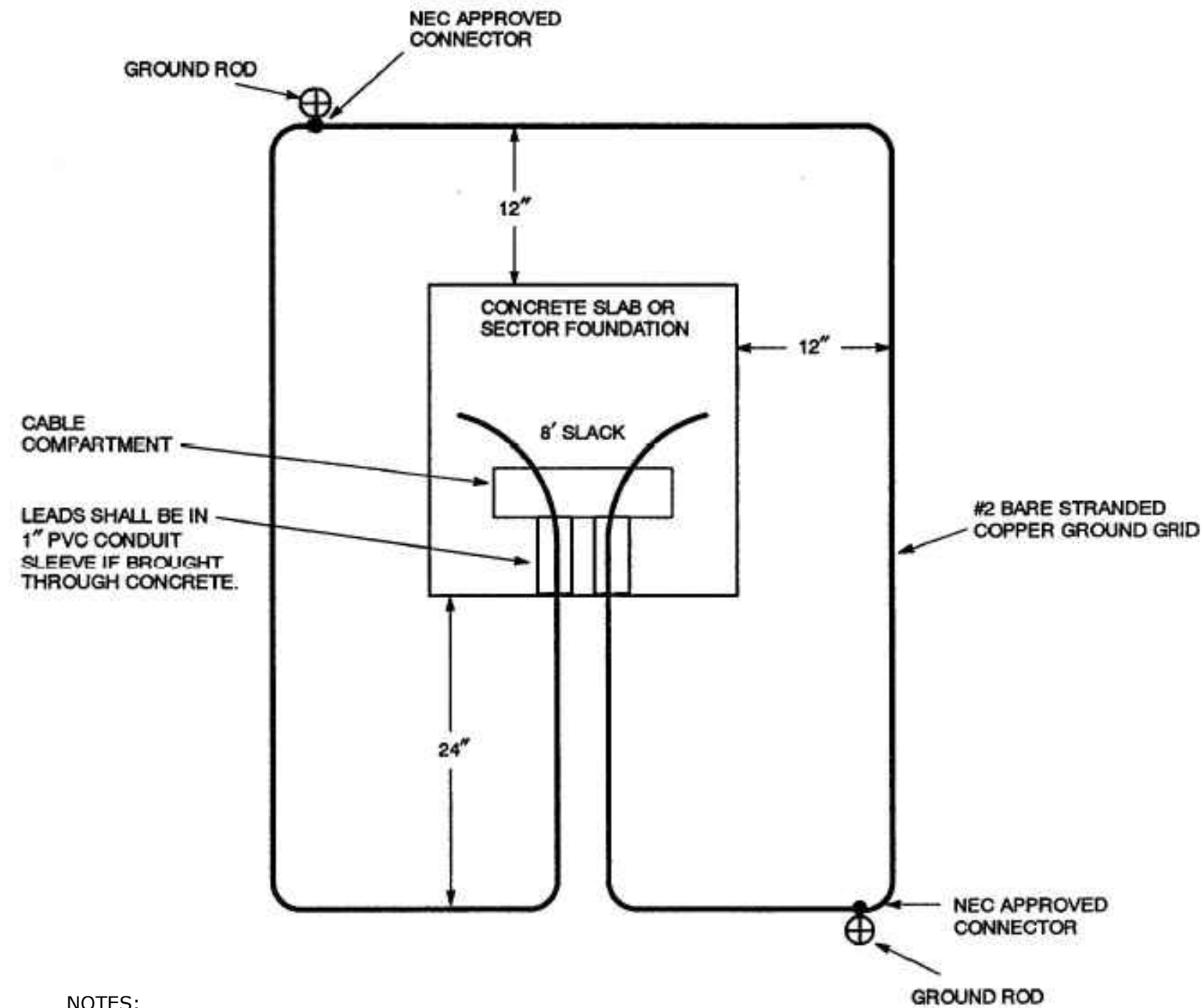
PLAN



SECTION A-A

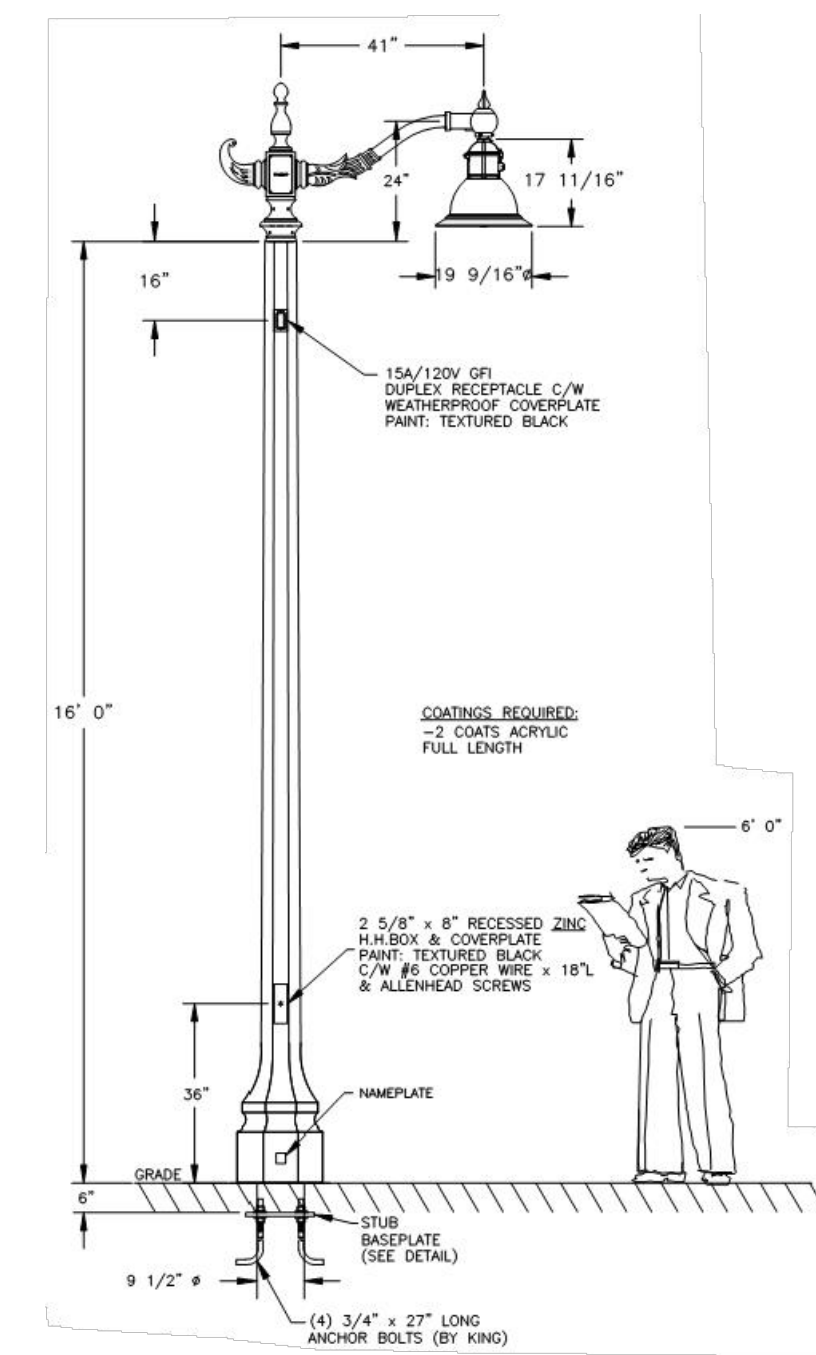
- NOTES:
1. DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
  2. CONCRETE MINIMUM STRENGTH - 4,000 PSI @ 28 DAYS
  3. STEEL REINFORCEMENT - ASTM A615, GRADE 60
  4. PAD MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS

**3-PHASE TRANSFORMER PAD**  
NO SCALE



- NOTES:
- THE GROUND GRID SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AND IS TO BE BURIED AT LEAST 12 INCHES 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-FOOT GROUND RODS MAY BE EITHER GALVANIZED STEEL OR COPPERWELD AND THEY SHALL BE CONNECTED TO THE GRID WITH NEC APPROVED CONNECTORS.

**PAD-MOUNTED EQUIPMENT GROUNDING GRID DETAIL**  
NO SCALE

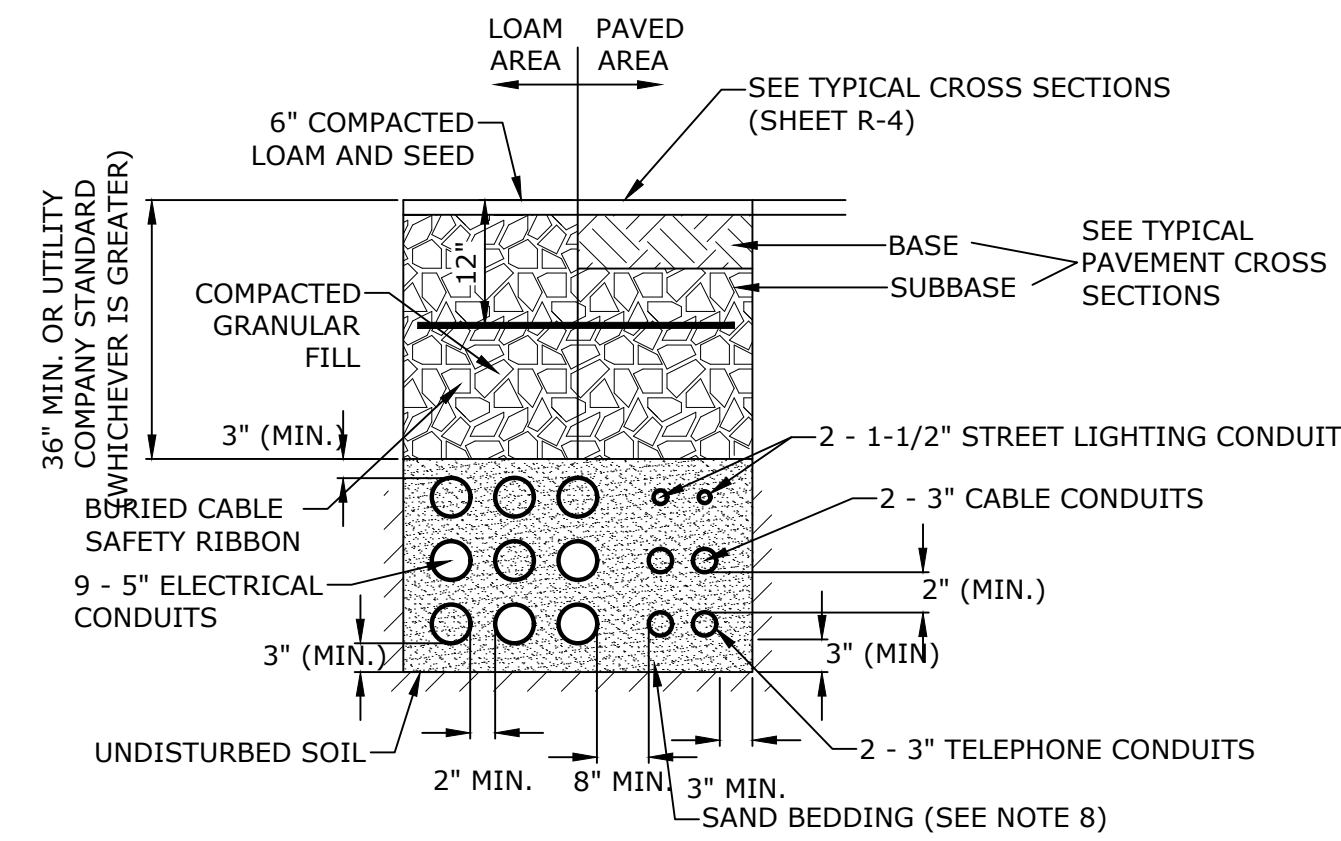


- LUMINAIRE SPECIFICATIONS:  
 CATALOGUE NO.: K729-P4FL-II-60(SSL)  
 -7030-120:277-3K S/F KPL20  
 GLOBE MAT'L: FLAT ARRAY, CLEAR FLAT LENS  
 IES CLASSIFIC.: TYPE II  
 WATTAGE: 60W (7030 SERIES)  
 LIGHT SOURCE: SOLID STATE LIGHTING  
 LINE VOLTAGE: 120:277V  
 CCT: 3000K  
 PAINT: TEXTURED BLACK  
 OPTIONS: S/F KPL-20 LEVELING DEVICE

- ARM SPECIFICATIONS:  
 CATALOGUE NO.: (MOD.) KA72-T-1-3  
 MATERIAL: ALUMINUM  
 PAINT: TEXTURED BLACK  
 OPTIONS: KPL20 LEVELING DEVICE

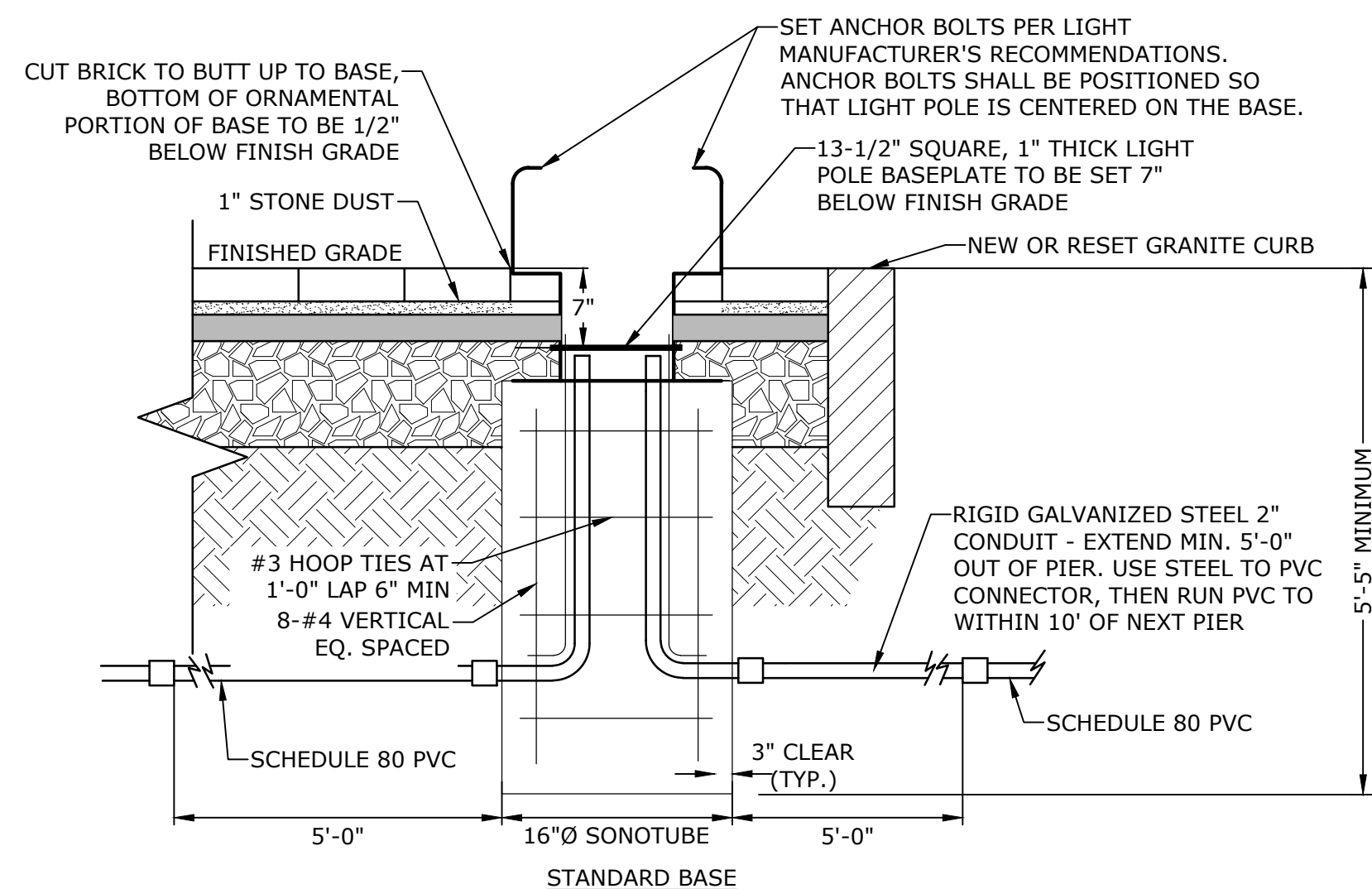
- POLE SPECIFICATIONS:  
 CATALOGUE NO.: KBH16-G-S11-SBP  
 C/W 140-30/100 & DR  
 SECTION: OCTAGONAL  
 COLOUR: ECLIPSE  
 FINISH: POLISHED  
 POLE TOP: 6 3/8" FL/FL  
 POLE BUTT: 9 1/2" Ø  
 POLE LENGTH: 16' 6"  
 APPROX. WEIGHT: 1,190 LBS.  
 MIN. RACEWAY: 1 1/8" Ø

**NORTH END LIGHT POLE & FIXTURE**  
NO SCALE



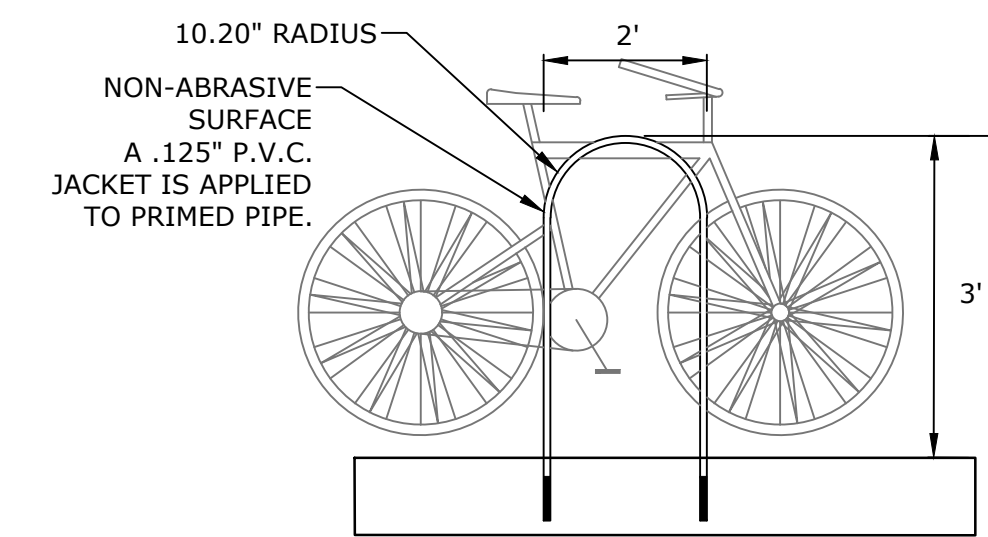
- NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
  2. DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
  3. NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
  4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
  5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
  6. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
  7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
  8. SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, OR WHERE SHOWN ON THE UTILITIES PLAN.

**ELECTRICAL AND COMMUNICATION CONDUIT**  
NO SCALE

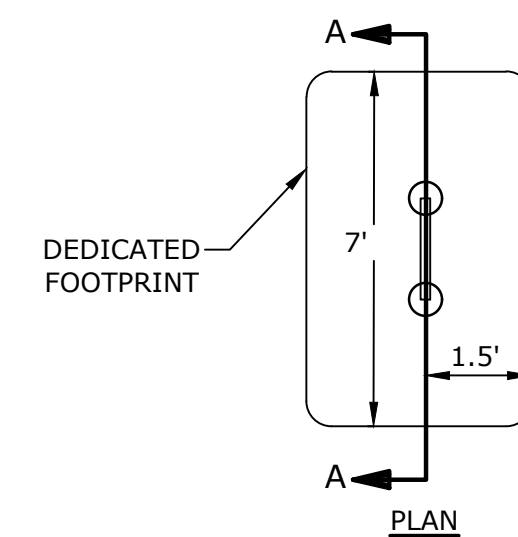


- NOTES:
1. REFER TO ELECTRICAL PLANS FOR WIRING DETAILS.
  2. CONCRETE: 4000 PSI, AIR ENTRAINED STEEL: 60 KSI
  3. LIGHT POLE FOUNDATIONS SHALL BE PLACED PRIOR TO INSTALLATION OF BRICK PAVERS.
  4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL, TO INCLUDE PERFORMANCE SPECIFICATIONS, CALCULATIONS AND NH LICENSED STRUCTURAL ENGINEER'S STAMP FOR LIGHT POLE FOUNDATION.
  5. STANDARD BASE SHALL BE CONSTRUCTED UNLESS THERE IS CONFLICT WITH THE EXISTING DUCT BANK. SPREAD FOOTING BASE SHALL BE USED IN LIEU OF STANDARD BASE IN LOCATIONS WHERE TOP OF DUCT BANK ELEVATION WILL CONFLICT WITH STANDARD POLE BASE DEPTH. CONTRACTOR SHALL VERIFY LOCATIONS WHERE SPREAD FOOTINGS ARE REQUIRED PRIOR TO CONSTRUCTION. SEE NOTE#4 FOR SUBMITTAL REQUIREMENTS.

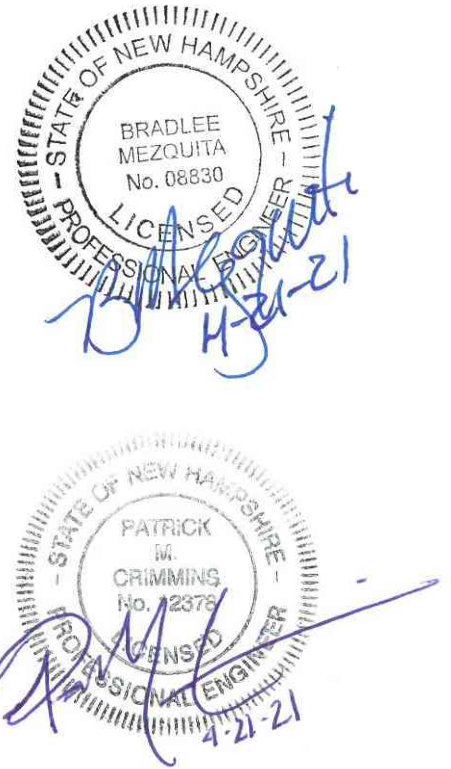
**NORTH END LIGHT FIXTURE BASE**  
NO SCALE



SECTION A-A



**BIKE RACK**  
NO SCALE



**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
D	4/21/2021	TAC Resubmission
C	3/22/2021	TAC Submission
B	3/10/2021	Design Review Resubmission
A	12/1/2020	TAC Work Session

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-DTLS.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH/PMC
APPROVED BY:	BLM

DETAILS SHEET

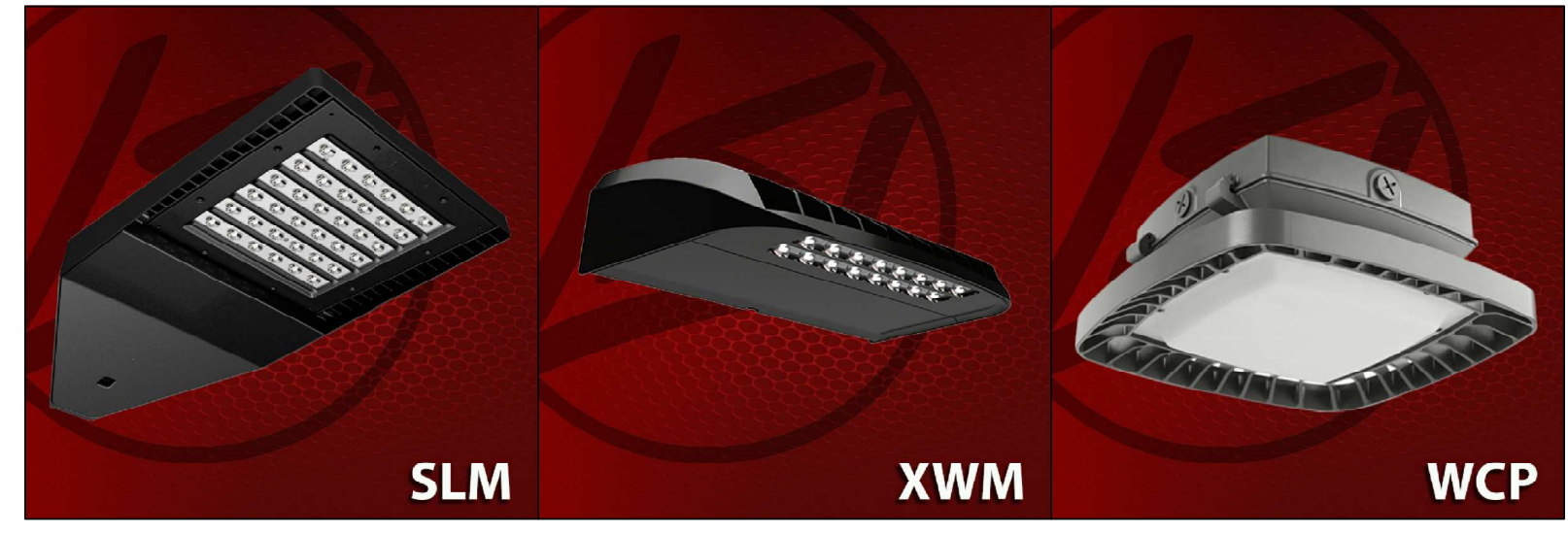
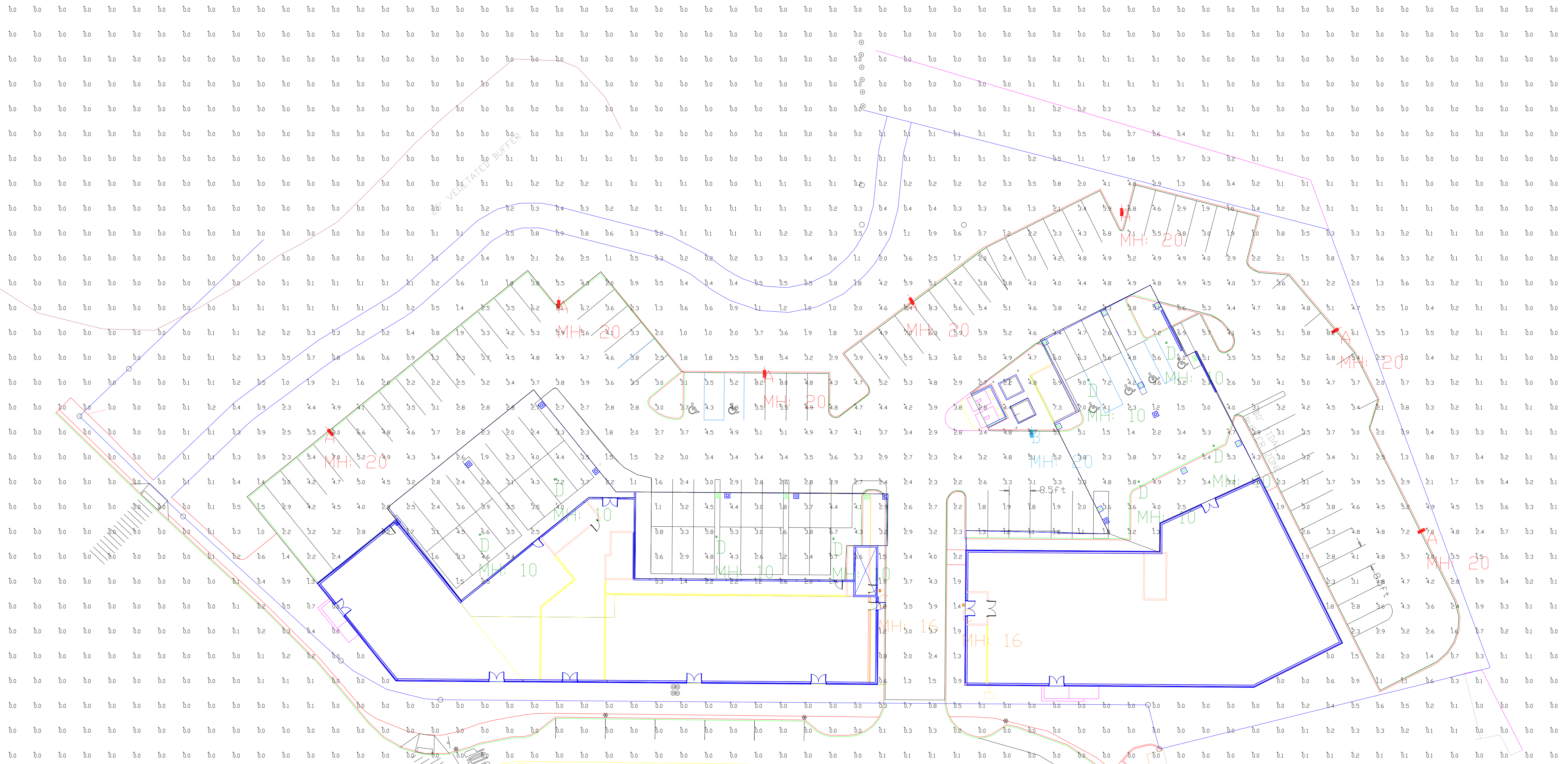
SCALE: AS SHOWN

C-508









Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ALL POINTS AT GRADE 10'X10'	Illuminance	Fc	1.24	9.0	0.0	N.A.	N.A.
COVERED PARKING AREAS LEFT	Illuminance	Fc	3.14	7.2	0.3	10.47	24.00
COVERED PARKING AREAS RIGHT	Illuminance	Fc	4.10	9.0	1.2	3.42	7.50
OPEN PARKING SUMMARY	Illuminance	Fc	3.81	8.3	1.0	3.81	8.30

Symbol	Qty	Label	Arrangement	Description	LLD	UDF	LLF	Arr. Lum. Lumens	Arr. Watts
	7	A	SINGLE	SLM-LED-24L-SIL-FT-40-70CRI-SINGLE-20'MH	1.000	1.000	0.940	25010	188.8
	1	B	SINGLE	SLM-LED-24L-SIL-5W-40-70CRI-SINGLE-20'MH	1.000	1.000	0.940	23667	188.8
	2	C	SINGLE	XWM-3-LED-04L-40-16'MH	1.000	1.000	0.980	4124	29.5
	8	D	SINGLE	CPG-LED-5L-CA-W-40-10'MH	1.000	1.000	0.900	5527	41.2

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted. Fixture nomenclature noted does not include mounting hardware or poles. This drawing is for photometric evaluation purposes only and should not be used as a construction document or as a final document for ordering product.

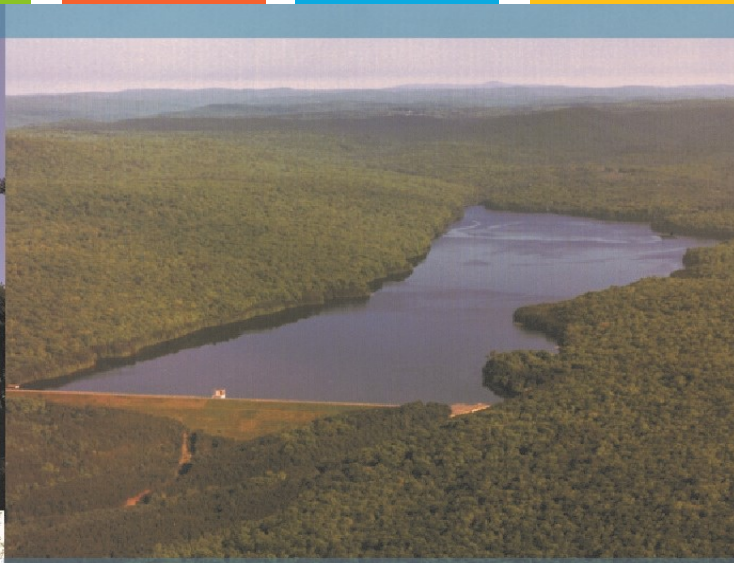
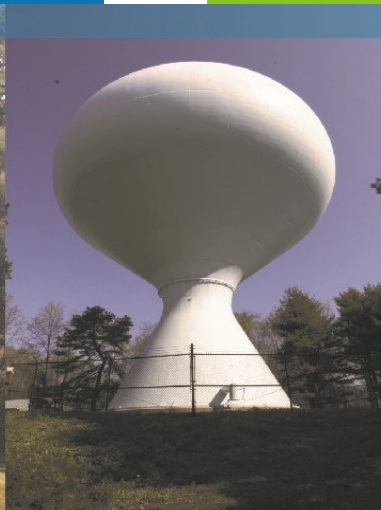
Total Project Watts  
Total Watts = 1899



LIGHTING PROPOSAL LO-153488  
XSS HOTELS  
PORTSMOUTH, NH

BY: GEF DATE: 02/24/21 REV: SHEET 1 OF 1  
SCALE: 1"=20'





Proposed Mixed Use Development  
Raynes Avenue  
Portsmouth, NH

## Drainage Analysis

North Mill Pond Holdings, LLC

March 22, 2021

Last Revised: April 21, 2021



# Tighe & Bond





**Section 1 Project Description**

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**Appendices**

A Site Specific Soils Report  
B Extreme Precipitation Tables





# Section 1

## Project Description

The proposed project is located at 1 Raynes Avenue, 31 Raynes Avenue & 203 Maplewood Avenue and is comprised of four (4) parcels that are bounded by Raynes Avenue to the south, Maplewood Avenue to the west, North Mill Pond to the north, and municipal land to the east, which is the future site of the North Mill Pond community park. The existing parcels are listed below.

<b>Tax Map/Lot No.</b>	<b>Area (ac)</b>
123 / 10	0.170
123 / 12	0.140
123 / 13	1.323
123 / 14	0.906

The proposed project will include the construction of two (2) 5-story buildings. The first is a mixed-use residential building that has a first-floor residential lobby and two (2) commercial spaces, and 60 upper floor residential units. The second is a hotel building with 128 rooms at the corner of Raynes Ave and Vaughan Street. The project will include associated site improvements such as paving, utilities, lighting, landscaping and community space. The community space will be located on the land between North Mill Pond’s mean high water (MHW) line to the 50ft buffer and will be deeded to the City of Portsmouth as community space designated for the City’s North Mill Pond Trail project.

### 1.1 On-Site Soil Description

The site is a highly disturbed site along the North Mill Pond. The property shows evidence of what appears to be very old filling and grading associated with the existing development. The site consists of terrain that is generally flat and slopes from the south and west to the north to North Mill Pond. The existing property has an approximate high point of elevation of 14 near the corner of the property at the intersection of Raynes Ave and Maplewood Ave

A site specific soils survey was conducted by Leonard Lord, PhD, CSS, CWS of Tighe & Bond, Inc and can be found in Appendix A of this Report. Based on the soil survey, the runoff analyzed within these studies has been modeled using mostly Hydrologic Soil Group C soils and some portions of Hydrologic Soil Group A soils, as much of the site is comprised of Udorthents with two drainage classifications, moderately poorly drained soils and portions of well drained soils.



## 1.2 Pre- and Post-Development Comparison

The pre-development and post-development watershed areas have been analyzed at one point of analysis. While the point of analysis has remained unchanged, the contributing sub-catchment areas varied between pre-development and post-development conditions. These adjustments were made to reflect the differences in drainage patterns between the existing and proposed conditions. The overall area analyzed as part of this drainage analysis was held constant. PA-1 assesses flows that discharge directly to North Mill Pond via overland flow or various outlets.

Since North Mill Pond is a tidal water, NHDES does not require peak runoff control requirements to be met (Env-Wq 1507.06(d)). However, detention systems are included on the development site for the purpose of mitigating temperature differences between the stormwater runoff and the North Mill Pond, therefore peak runoff requirements have been met and can be found in section 4 of this report.

## 1.3 Calculation Methods

The design storms analyzed in this study are the 2-year, 10-year, 25-year and 50-year 24-hour duration storm events. The stormwater modeling system, HydroCAD 10.0 was utilized to predict the peak runoff rates from these storm events. The peak discharge rates were determined by analyzing Type III 24-hour storm events. The rainfall data for these storm events was obtained from the data published by the Northeast Regional Climate Center at Cornell University, with an additional 15% added factor of safety as required by Env-Wq 1503.08(I).

The time of concentration was computed using the TR-55 Method, which provides a means of determining the time for an entire watershed to contribute runoff to a specific location via sheet flows, shallow concentrated flow and channel flow. Runoff curve numbers were calculated by estimating the coverage areas and then summing the curve number for the coverage area as a percent of the entire watershed.

### References:

1. HydroCAD Stormwater Modeling System, by HydroCAD Software Solutions LLC, Chocorua, New Hampshire.
2. New Hampshire Stormwater Management Manual, Volume 2, Post-Construction Best Management Practices Selection and Design, December 2008.
3. "Extreme Precipitation in New York & New England." Extreme Precipitation in New York & New England by Northeast Regional Climate Center (NRCC), 26 June 2012.

## **Section 2**

# **Pre-Development Conditions**

To analyze the pre-development condition, the site has been divided into one (1) distinct points of analysis (PA-1). This point of analysis and watershed is depicted on the plan entitled "Pre-Development Watershed Plan", Sheet C-801.

The point of analysis and its contributing watershed areas are described below:

### **Point of Analysis (PA-1)**

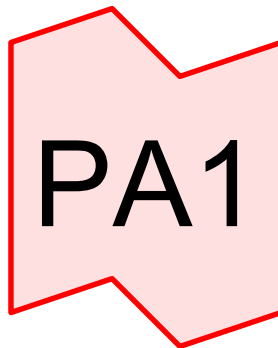
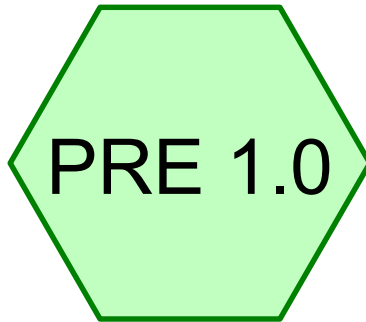
Pre-development Watershed 1.0 (PRE 1.0) is comprised of mostly impervious surfaces from paved parking and structures, as well as some disturbed forested areas to the northeast, and a run down pier. Banks along the shoreline of North Mill Pond consist of lawn, various species associated with disturbed sites, and rip rap slope. Runoff from this watershed area travels via overland flow or underground drainage system to discharge into North Mill Pond. The runoff is currently untreated before discharge.

## **2.1 Pre-Development Calculations**

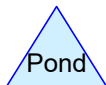
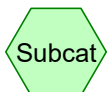
## **2.2 Pre-Development Watershed Plans**







# POINT OF ANALYSIS 1





**P-0595-007 PRE**

Prepared by Tighe & Bond

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Page 2

**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
0.007	39	>75% Grass cover, Good, HSG A (PRE 1.0)
0.628	74	>75% Grass cover, Good, HSG C (PRE 1.0)
1.117	98	Paved parking, HSG C (PRE 1.0)
0.068	98	Rock embankment, HSG C (PRE 1.0)
0.456	98	Roofs, HSG C (PRE 1.0)
0.056	98	Unconnected pavement, HSG A (PRE 1.0)
0.204	70	Woods, Good, HSG C (PRE 1.0)
<b>2.537</b>	<b>90</b>	<b>TOTAL AREA</b>

**P-0595-007 PRE**

Prepared by Tighe & Bond

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Page 3

**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.063	HSG A	PRE 1.0
0.000	HSG B	
2.474	HSG C	PRE 1.0
0.000	HSG D	
0.000	Other	
<b>2.537</b>		<b>TOTAL AREA</b>



**P-0595-007 PRE**

*Type III 24-hr 2 Year Storm Rainfall=3.68"*

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Page 4

Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**SubcatchmentPRE 1.0:**

Runoff Area=110,529 sf 66.92% Impervious Runoff Depth=2.62"  
Flow Length=189' Tc=5.0 min CN=90 Runoff=7.82 cfs 0.553 af

**Link PA1: POINT OF ANALYSIS1**

Inflow=7.82 cfs 0.553 af  
Primary=7.82 cfs 0.553 af

**Total Runoff Area = 2.537 ac Runoff Volume = 0.553 af Average Runoff Depth = 2.62"**  
**33.08% Pervious = 0.839 ac 66.92% Impervious = 1.698 ac**

**P-0595-007 PRE**

*Type III 24-hr 10 Year Storm Rainfall=5.59"*

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Page 5

Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**SubcatchmentPRE 1.0:**

Runoff Area=110,529 sf 66.92% Impervious Runoff Depth=4.45"  
Flow Length=189' Tc=5.0 min CN=90 Runoff=12.94 cfs 0.940 af

**Link PA1: POINT OF ANALYSIS1**

Inflow=12.94 cfs 0.940 af  
Primary=12.94 cfs 0.940 af

**Total Runoff Area = 2.537 ac Runoff Volume = 0.940 af Average Runoff Depth = 4.45"**  
**33.08% Pervious = 0.839 ac 66.92% Impervious = 1.698 ac**



**Summary for Subcatchment PRE 1.0:**

Runoff = 12.94 cfs @ 12.07 hrs, Volume= 0.940 af, Depth= 4.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

Area (sf)	CN	Description
2,435	98	Unconnected pavement, HSG A
317	39	>75% Grass cover, Good, HSG A
19,880	98	Roofs, HSG C
27,362	74	>75% Grass cover, Good, HSG C
8,883	70	Woods, Good, HSG C
* 2,980	98	Rock embankment, HSG C
48,672	98	Paved parking, HSG C
110,529	90	Weighted Average
36,562		33.08% Pervious Area
73,967		66.92% Impervious Area
2,435		3.29% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	33	0.0280	1.35		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.68"
0.9	121	0.0250	2.37		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
0.1	35	0.1400	5.61		<b>Shallow Concentrated Flow,</b> Grassed Waterway Kv= 15.0 fps
1.4	189	Total, Increased to minimum Tc = 5.0 min			

**Summary for Link PA1: POINT OF ANALYSIS 1**

Inflow Area = 2.537 ac, 66.92% Impervious, Inflow Depth = 4.45" for 10 Year Storm event

Inflow = 12.94 cfs @ 12.07 hrs, Volume= 0.940 af

Primary = 12.94 cfs @ 12.07 hrs, Volume= 0.940 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

**P-0595-007 PRE**

*Type III 24-hr 25 Year Storm Rainfall=7.08"*

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Page 7

Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**SubcatchmentPRE 1.0:**

Runoff Area=110,529 sf 66.92% Impervious Runoff Depth=5.90"  
Flow Length=189' Tc=5.0 min CN=90 Runoff=16.90 cfs 1.248 af

**Link PA1: POINT OF ANALYSIS1**

Inflow=16.90 cfs 1.248 af  
Primary=16.90 cfs 1.248 af

**Total Runoff Area = 2.537 ac Runoff Volume = 1.248 af Average Runoff Depth = 5.90"**  
**33.08% Pervious = 0.839 ac 66.92% Impervious = 1.698 ac**



**P-0595-007 PRE**

*Type III 24-hr 50 Year Storm Rainfall=8.48"*

Prepared by Tighe & Bond

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Page 8

Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

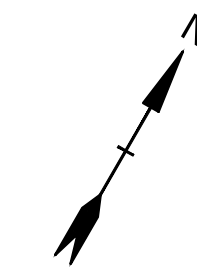
**SubcatchmentPRE 1.0:**

Runoff Area=110,529 sf 66.92% Impervious Runoff Depth=7.28"  
Flow Length=189' Tc=5.0 min CN=90 Runoff=20.59 cfs 1.539 af




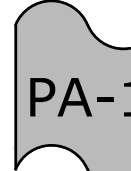
**Link PA1: POINT OF ANALYSIS1**

Inflow=20.59 cfs 1.539 af  
Primary=20.59 cfs 1.539 af

**Total Runoff Area = 2.537 ac Runoff Volume = 1.539 af Average Runoff Depth = 7.28"**  
**33.08% Pervious = 0.839 ac 66.92% Impervious = 1.698 ac**



**LEGEND**

-  PRE-DEVELOPMENT WATERSHED BOUNDARY
-  LONGEST FLOW PATH
-  PRE DEVELOPMENT WATERSHED AREA DESIGNATION
-  POINT OF ANALYSIS

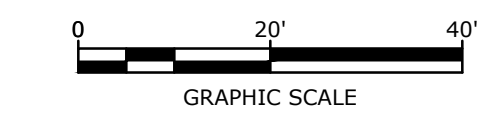
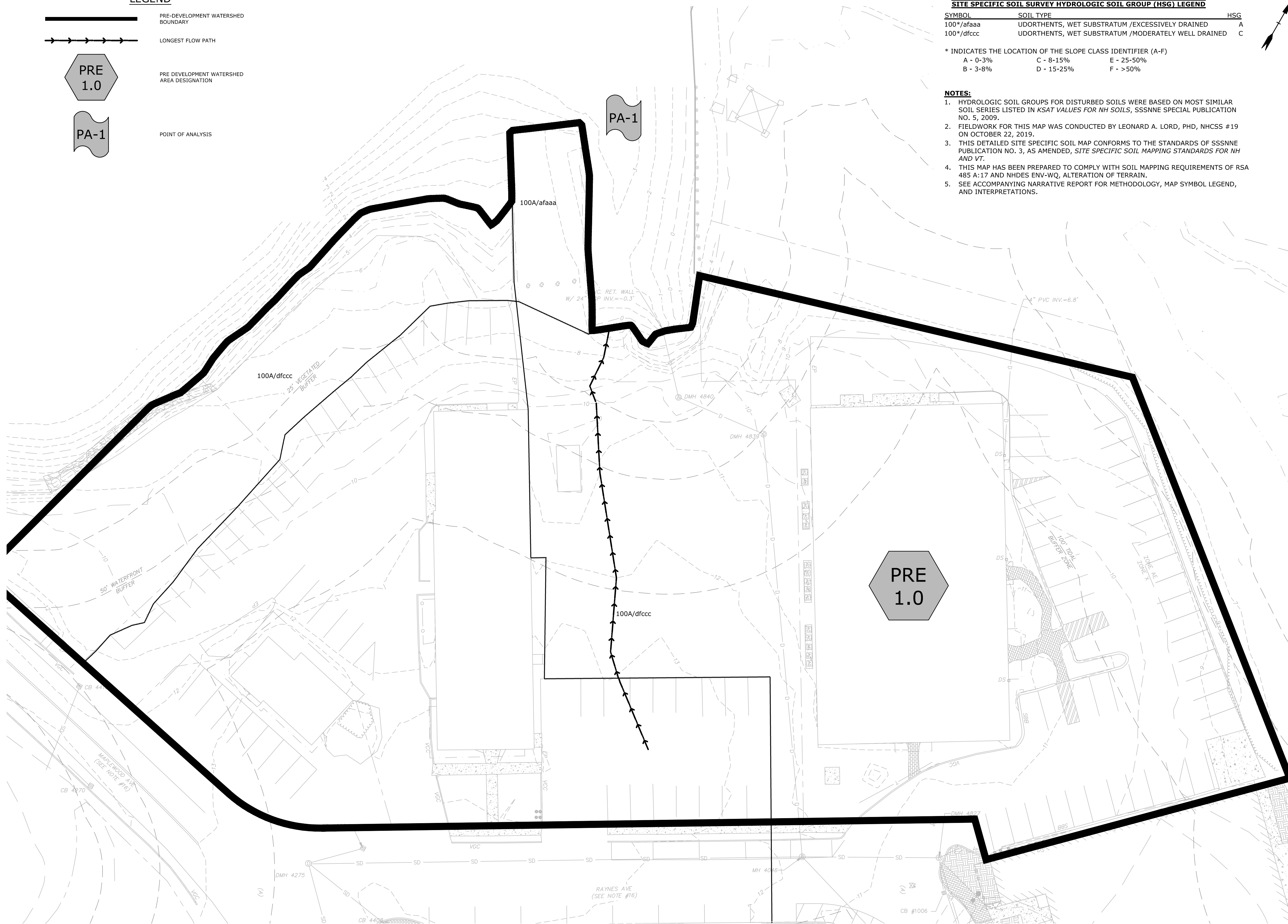
**SITE SPECIFIC SOIL SURVEY HYDROLOGIC SOIL GROUP (HSG) LEGEND**

SYMBOL	SOIL TYPE	HSG
100*/afaaa	UDORTHERTS, WET SUBSTRATUM /EXCESSIVELY DRAINED	A
100*/dfccc	UDORTHERTS, WET SUBSTRATUM /MODERATELY WELL DRAINED	C

\* INDICATES THE LOCATION OF THE SLOPE CLASS IDENTIFIER (A-F)  
 A - 0-3%      C - 8-15%      E - 25-50%  
 B - 3-8%      D - 15-25%      F - >50%

**NOTES:**

1. HYDROLOGIC SOIL GROUPS FOR DISTURBED SOILS WERE BASED ON MOST SIMILAR SOIL SERIES LISTED IN *KSAT VALUES FOR NH SOILS*, SSSNNE SPECIAL PUBLICATION NO. 5, 2009.
2. FIELDWORK FOR THIS MAP WAS CONDUCTED BY LEONARD A. LORD, PHD, NHCSS #19 ON OCTOBER 22, 2019.
3. THIS DETAILED SITE SPECIFIC SOIL MAP CONFORMS TO THE STANDARDS OF SSSNNE PUBLICATION NO. 3, AS AMENDED, *SITE SPECIFIC SOIL MAPPING STANDARDS FOR NH AND VT*.
4. THIS MAP HAS BEEN PREPARED TO COMPLY WITH SOIL MAPPING REQUIREMENTS OF RSA 485 A:17 AND NHDES ENV-WQ, ALTERATION OF TERRAIN.
5. SEE ACCOMPANYING NARRATIVE REPORT FOR METHODOLOGY, MAP SYMBOL LEGEND, AND INTERPRETATIONS.



**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
C	3/22/2021	TAC Submission
B	3/10/2021	Design Review Resubmission
A	12/1/2020	TAC Work Session

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-HYDRO.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH/PMC
APPROVED BY:	BLM

**PRE-DEVELOPMENT WATERSHED PLAN**

SCALE: AS SHOWN

**C-801**

Last Saved: 3/19/2021 9:47am By: CJK  
 Project: 0595-007 Hydros (P) 0595-007 Hydros (P) 0595-007 Hydros (P) 0595-007 Hydros (P) 0595-007 Hydros (P)  
 Title: 0595-007 Hydros (P) 0595-007 Hydros (P) 0595-007 Hydros (P) 0595-007 Hydros (P) 0595-007 Hydros (P)





## **Section 3**

# **Post-Development Conditions**

The post-development condition was analyzed by dividing the watersheds into seven (7) watershed areas. Stormwater runoff from these sub-catchment areas flow via subsurface drainage systems prior to discharging to North Mill Pond. Like the pre-development condition, flows from these sub-catchment areas are modeled at one point of analysis at North Mill Pond (PA-1). As per Env-Wq 1507.06(d), since North Mill Pond is tidal water the peak runoff control requirements do not apply. However, the peak runoff requirements have been met due to the onsite underground detention basin and these comparisons can be found in Section 4 of this report.

Two underground detention system are included on the development site for the purpose of mitigating temperature differences between the stormwater runoff and the North Mill Pond. The detention systems and outlet structures have been sized to detain the WQV with a drain down time of 24 hours, prior to discharging to the treatment units. This detention basin is used to mitigate increased temperature of the initial surface runoff. Flows greater than the 2-year storm event are designed to bypass the treatment unit.

The point of analysis (PA-1) and its sub-catchment areas are depicted on the plan entitled "Post-Development Watershed Plan," Sheet C-802. The point of analysis and it's contributing watershed areas are described below:

### **Point of Analysis (PA-1)**

Post-development Watershed 1.1 (POST 1.1) is comprised of mostly the southern building and associated impervious areas on the south end of the site. Runoff from this watershed area travels via overland flow or roof leader to deep sump catch basins and an underground detention system. The detention system and outlet structure have been sized to detain the WQV with a drain down time greater than 24 hours, prior to discharging to the treatment unit, a Contech Jellyfish Stormwater Filter (JFF-1). Flows exiting the Jellyfish Filter discharge to North Mill Pond (PA-1). The pipe network is protected by a backflow preventer within the outlet invert of a manhole structure at the most downstream location.

Post-development Watershed 1.2 (POST 1.2) like POST 1.1, is comprised of mostly the northern building and associated impervious areas on the north side of the site. Runoff from this watershed area travels via overland flow or roof leader to deep sump catch basins and an underground detention system. The detention system and outlet structure have been sized to detain the WQV with a drain down time greater than 24 hours, prior to discharging to the treatment unit, a Contech Jellyfish Stormwater Filter (JFF-2). Flows exiting the Jellyfish Filter discharge to North Mill Pond (PA-1). As previously stated, the pipe network is protected by a backflow preventer within the outlet invert of a manhole structure at the most downstream location.

Post-development Watershed 1.3 (POST 1.3) is comprised mostly of porous pavement multi use path located between the proposed development and the North Mill Pond as well as some grassed landscape areas. Runoff from the watershed infiltrates through the filter media section under the porous pavement and discharges to an underdrain. Due to the poor onsite soils and high groundwater elevation the porous pavement section has been lined with an impermeable liner and an underdrain has been provided. The underdrain connects to the closed drainage system on site, ultimately discharging to the North Mill Pond.

Post-development Watershed 1.4 (POST 1.4) is nearly identical to POST 1.3 and is comprised mostly of porous pavement multi use path located between the proposed development and the North Mill Pond as well as some grassed landscape areas. Runoff from the watershed infiltrates through the filter media section under the porous pavement and discharges to an underdrain. Due to the poor onsite soils and high groundwater elevation the porous pavement section has been lined with an impermeable liner and an underdrain has been provided. The underdrain also connects to the closed drainage system on site, ultimately discharging to the North Mill Pond.

Post-development Watershed 1.5 (POST 1.5) is comprised mostly of grassy areas and a proposed boat/kayak launch and reconstructed timber pier. Runoff from this watershed simply sheets toward and discharges into North Mill Pond, as in the existing condition. There are no proposed impervious surfaces that are within this watershed area that would require treatment.

Post-development Watershed 1.6 (POST 1.6) is also comprised mostly of grassy area along the northern side of the property. Runoff from this watershed simply sheets north and discharges into North Mill Pond, as in the existing condition. There are no proposed impervious surfaces that are within this watershed area that would require treatment.

Post-development Watershed 1.7 (POST 1.7) is comprised of a small strip of sidewalk and landscaping in between the proposed buildings and the city right of way along Raynes Ave. The runoff from this Subcatchment sheets directly onto the street to the existing closed drainage system, ultimately discharging to North Mill Pond via the previously mentioned drainage system.

### **3.1 Post-Development Calculations**

### **3.2 Post-Development Watershed Plans**





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**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
0.007	39	>75% Grass cover, Good, HSG A (POST 1.3, POST 1.5)
0.649	74	>75% Grass cover, Good, HSG C (POST 1.1, POST 1.2, POST 1.3, POST 1.4, POST 1.5, POST 1.6, POST 1.7)
0.056	98	Paved parking, HSG A (POST 1.3, POST 1.5)
1.022	98	Paved parking, HSG C (POST 1.1, POST 1.2, POST 1.3, POST 1.4, POST 1.5, POST 1.7)
0.068	98	Rock embankment, HSG C (POST 1.5)
0.735	98	Roofs, HSG C (POST 1.1, POST 1.2)
<b>2.537</b>	<b>92</b>	<b>TOTAL AREA</b>

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**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.063	HSG A	POST 1.3, POST 1.5
0.000	HSG B	
2.474	HSG C	POST 1.1, POST 1.2, POST 1.3, POST 1.4, POST 1.5, POST 1.6, POST 1.7
0.000	HSG D	
0.000	Other	
<b>2.537</b>		<b>TOTAL AREA</b>

**P-0595-007 POST**

Type III 24-hr 2 Year Storm Rainfall=3.68"

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Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**SubcatchmentPOST 1.1:** Runoff Area=29,978 sf 99.19% Impervious Runoff Depth=3.45"  
Flow Length=114' Tc=5.0 min CN=98 Runoff=2.52 cfs 0.198 af

**SubcatchmentPOST 1.2:** Runoff Area=38,901 sf 97.58% Impervious Runoff Depth=3.33"  
Flow Length=85' Tc=5.0 min CN=97 Runoff=3.23 cfs 0.248 af

**SubcatchmentPOST 1.3:** Runoff Area=13,558 sf 33.08% Impervious Runoff Depth=1.93"  
Flow Length=59' Slope=0.0430 '/' Tc=5.0 min CN=82 Runoff=0.72 cfs 0.050 af

**SubcatchmentPOST 1.4:** Runoff Area=3,521 sf 22.47% Impervious Runoff Depth=1.71"  
Flow Length=33' Slope=0.0270 '/' Tc=5.0 min CN=79 Runoff=0.16 cfs 0.011 af

**SubcatchmentPOST 1.5:** Runoff Area=16,946 sf 35.03% Impervious Runoff Depth=1.93"  
Flow Length=60' Slope=0.0520 '/' Tc=5.0 min CN=82 Runoff=0.90 cfs 0.063 af

**SubcatchmentPOST 1.6:** Runoff Area=3,725 sf 0.00% Impervious Runoff Depth=1.37"  
Flow Length=37' Slope=0.0610 '/' Tc=5.0 min CN=74 Runoff=0.14 cfs 0.010 af

**SubcatchmentPOST 1.7:** Runoff Area=3,900 sf 77.85% Impervious Runoff Depth=2.91"  
Flow Length=92' Slope=0.0350 '/' Tc=5.0 min CN=93 Runoff=0.30 cfs 0.022 af

**Pond JFF 1: CONTECH JELLY FISH FILTER** Peak Elev=3.23' Inflow=2.18 cfs 0.198 af  
18.0" Round Culvert n=0.013 L=7.0' S=0.0214 '/' Outflow=2.18 cfs 0.198 af

**Pond JFF 2: CONTECH JELLY FISH FILTER** Peak Elev=3.32' Inflow=2.91 cfs 0.248 af  
18.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=2.91 cfs 0.248 af

**Pond PDMH 12:** Peak Elev=2.60' Inflow=5.34 cfs 0.508 af  
24.0" Round Culvert n=0.013 L=27.0' S=0.0704 '/' Outflow=5.34 cfs 0.508 af

**Pond PDMH 2:** Peak Elev=3.05' Inflow=5.34 cfs 0.467 af  
24.0" Round Culvert n=0.013 L=34.0' S=0.0029 '/' Outflow=5.34 cfs 0.467 af

**Pond POND 1.1:** Peak Elev=5.90' Storage=2,862 cf Inflow=2.52 cfs 0.198 af  
Outflow=2.18 cfs 0.198 af

**Pond POND 1.2:** Peak Elev=6.46' Storage=3,633 cf Inflow=3.23 cfs 0.248 af  
Outflow=2.91 cfs 0.248 af

**Pond PP 1: POROUS PAVEMENT** Peak Elev=5.08' Storage=1,087 cf Inflow=0.72 cfs 0.050 af  
Outflow=0.12 cfs 0.032 af

**Pond PP 2: POROUS PAVEMENT** Peak Elev=4.62' Storage=195 cf Inflow=0.16 cfs 0.011 af  
Outflow=0.06 cfs 0.008 af

**Link PA1:** Inflow=6.28 cfs 0.580 af  
Primary=6.28 cfs 0.580 af



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*Type III 24-hr 2 Year Storm Rainfall=3.68"*

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**Total Runoff Area = 2.537 ac   Runoff Volume = 0.601 af   Average Runoff Depth = 2.84"**  
**25.86% Pervious = 0.656 ac   74.14% Impervious = 1.881 ac**

**P-0595-007 POST**

Type III 24-hr 10 Year Storm Rainfall=5.59"

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Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

<b>SubcatchmentPOST 1.1:</b>	Runoff Area=29,978 sf 99.19% Impervious Runoff Depth=5.35" Flow Length=114' Tc=5.0 min CN=98 Runoff=3.85 cfs 0.307 af
<b>SubcatchmentPOST 1.2:</b>	Runoff Area=38,901 sf 97.58% Impervious Runoff Depth=5.24" Flow Length=85' Tc=5.0 min CN=97 Runoff=4.96 cfs 0.390 af
<b>SubcatchmentPOST 1.3:</b>	Runoff Area=13,558 sf 33.08% Impervious Runoff Depth=3.61" Flow Length=59' Slope=0.0430 '/' Tc=5.0 min CN=82 Runoff=1.34 cfs 0.094 af
<b>SubcatchmentPOST 1.4:</b>	Runoff Area=3,521 sf 22.47% Impervious Runoff Depth=3.32" Flow Length=33' Slope=0.0270 '/' Tc=5.0 min CN=79 Runoff=0.32 cfs 0.022 af
<b>SubcatchmentPOST 1.5:</b>	Runoff Area=16,946 sf 35.03% Impervious Runoff Depth=3.61" Flow Length=60' Slope=0.0520 '/' Tc=5.0 min CN=82 Runoff=1.68 cfs 0.117 af
<b>SubcatchmentPOST 1.6:</b>	Runoff Area=3,725 sf 0.00% Impervious Runoff Depth=2.84" Flow Length=37' Slope=0.0610 '/' Tc=5.0 min CN=74 Runoff=0.29 cfs 0.020 af
<b>SubcatchmentPOST 1.7:</b>	Runoff Area=3,900 sf 77.85% Impervious Runoff Depth=4.78" Flow Length=92' Slope=0.0350 '/' Tc=5.0 min CN=93 Runoff=0.48 cfs 0.036 af
<b>Pond JFF 1: CONTECH JELLY FISH FILTER</b>	Peak Elev=3.66' Inflow=3.57 cfs 0.307 af 18.0" Round Culvert n=0.013 L=7.0' S=0.0214 '/' Outflow=3.57 cfs 0.307 af
<b>Pond JFF 2: CONTECH JELLY FISH FILTER</b>	Peak Elev=3.77' Inflow=4.72 cfs 0.390 af 18.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=4.72 cfs 0.390 af
<b>Pond PDMH 12:</b>	Peak Elev=2.99' Inflow=9.30 cfs 0.827 af 24.0" Round Culvert n=0.013 L=27.0' S=0.0704 '/' Outflow=9.30 cfs 0.827 af
<b>Pond PDMH 2:</b>	Peak Elev=3.47' Inflow=8.76 cfs 0.732 af 24.0" Round Culvert n=0.013 L=34.0' S=0.0029 '/' Outflow=8.76 cfs 0.732 af
<b>Pond POND 1.1:</b>	Peak Elev=6.02' Storage=3,031 cf Inflow=3.85 cfs 0.307 af Outflow=3.57 cfs 0.307 af
<b>Pond POND 1.2:</b>	Peak Elev=6.60' Storage=3,810 cf Inflow=4.96 cfs 0.390 af Outflow=4.72 cfs 0.390 af
<b>Pond PP 1: POROUS PAVEMENT</b>	Peak Elev=5.43' Storage=1,618 cf Inflow=1.34 cfs 0.094 af Outflow=0.52 cfs 0.076 af
<b>Pond PP 2: POROUS PAVEMENT</b>	Peak Elev=4.89' Storage=275 cf Inflow=0.32 cfs 0.022 af Outflow=0.17 cfs 0.019 af
<b>Link PA1:</b>	Inflow=11.20 cfs 0.964 af Primary=11.20 cfs 0.964 af

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*Type III 24-hr 10 Year Storm Rainfall=5.59"*

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**Total Runoff Area = 2.537 ac   Runoff Volume = 0.986 af   Average Runoff Depth = 4.66"**  
**25.86% Pervious = 0.656 ac   74.14% Impervious = 1.881 ac**



**P-0595-007 POST**

Type III 24-hr 10 Year Storm Rainfall=5.59"

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**Summary for Subcatchment POST 1.1:**

Runoff = 3.85 cfs @ 12.07 hrs, Volume= 0.307 af, Depth= 5.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

Area (sf)	CN	Description
17,365	98	Roofs, HSG C
242	74	>75% Grass cover, Good, HSG C
12,371	98	Paved parking, HSG C
29,978	98	Weighted Average
242		0.81% Pervious Area
29,736		99.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0400	1.69		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.68"
0.3	64	0.0360	3.85		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	114	Total, Increased to minimum Tc = 5.0 min			

**Summary for Subcatchment POST 1.2:**

Runoff = 4.96 cfs @ 12.07 hrs, Volume= 0.390 af, Depth= 5.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

Area (sf)	CN	Description
14,635	98	Roofs, HSG C
942	74	>75% Grass cover, Good, HSG C
23,324	98	Paved parking, HSG C
38,901	97	Weighted Average
942		2.42% Pervious Area
37,959		97.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0300	1.51		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.68"
0.2	35	0.0270	3.34		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.8	85	Total, Increased to minimum Tc = 5.0 min			

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Type III 24-hr 10 Year Storm Rainfall=5.59"

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**Summary for Subcatchment POST 1.3:**

Runoff = 1.34 cfs @ 12.08 hrs, Volume= 0.094 af, Depth= 3.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

Area (sf)	CN	Description
200	98	Paved parking, HSG A
6	39	>75% Grass cover, Good, HSG A
9,067	74	>75% Grass cover, Good, HSG C
4,285	98	Paved parking, HSG C
13,558	82	Weighted Average
9,073		66.92% Pervious Area
4,485		33.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	59	0.0430	0.22		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 3.68"
4.4	59	Total, Increased to minimum Tc = 5.0 min			

**Summary for Subcatchment POST 1.4:**

Runoff = 0.32 cfs @ 12.08 hrs, Volume= 0.022 af, Depth= 3.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

Area (sf)	CN	Description
2,730	74	>75% Grass cover, Good, HSG C
791	98	Paved parking, HSG C
3,521	79	Weighted Average
2,730		77.53% Pervious Area
791		22.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	33	0.0270	0.16		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 3.68"
3.3	33	Total, Increased to minimum Tc = 5.0 min			

**Summary for Subcatchment POST 1.5:**

Runoff = 1.68 cfs @ 12.08 hrs, Volume= 0.117 af, Depth= 3.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

**P-0595-007 POST**

Type III 24-hr 10 Year Storm Rainfall=5.59"

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Area (sf)	CN	Description
2,235	98	Paved parking, HSG A
311	39	>75% Grass cover, Good, HSG A
* 2,980	98	Rock embankment, HSG C
10,699	74	>75% Grass cover, Good, HSG C
721	98	Paved parking, HSG C
16,946	82	Weighted Average
11,010		64.97% Pervious Area
5,936		35.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	60	0.0520	0.24		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 3.68"
4.1	60	Total, Increased to minimum Tc = 5.0 min			

**Summary for Subcatchment POST 1.6:**

Runoff = 0.29 cfs @ 12.08 hrs, Volume= 0.020 af, Depth= 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

Area (sf)	CN	Description
3,725	74	>75% Grass cover, Good, HSG C
0	98	Paved parking, HSG C
3,725	74	Weighted Average
3,725		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	37	0.0610	0.23		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 3.68"
2.6	37	Total, Increased to minimum Tc = 5.0 min			

**Summary for Subcatchment POST 1.7:**

Runoff = 0.48 cfs @ 12.07 hrs, Volume= 0.036 af, Depth= 4.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Type III 24-hr 10 Year Storm Rainfall=5.59"

Area (sf)	CN	Description
864	74	>75% Grass cover, Good, HSG C
3,036	98	Paved parking, HSG C
3,900	93	Weighted Average
864		22.15% Pervious Area
3,036		77.85% Impervious Area



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Type III 24-hr 10 Year Storm Rainfall=5.59"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0350	1.61		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.68"
0.2	42	0.0350	3.80		<b>Shallow Concentrated Flow,</b> Paved Kv= 20.3 fps
0.7	92	Total, Increased to minimum Tc = 5.0 min			

**Summary for Pond JFF 1: CONTECH JELLY FISH FILTER**

Inflow Area = 0.688 ac, 99.19% Impervious, Inflow Depth = 5.35" for 10 Year Storm event  
 Inflow = 3.57 cfs @ 12.10 hrs, Volume= 0.307 af  
 Outflow = 3.57 cfs @ 12.10 hrs, Volume= 0.307 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.57 cfs @ 12.10 hrs, Volume= 0.307 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
 Peak Elev= 3.66' @ 12.13 hrs  
 Flood Elev= 11.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.35'	<b>18.0" Round Culvert</b> L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 2.35' / 2.20' S= 0.0214 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

**Primary OutFlow** Max=2.79 cfs @ 12.10 hrs HW=3.60' TW=3.46' (Dynamic Tailwater)  
 ↑**1=Culvert** (Outlet Controls 2.79 cfs @ 2.40 fps)

**Summary for Pond JFF 2: CONTECH JELLY FISH FILTER**

Inflow Area = 0.893 ac, 97.58% Impervious, Inflow Depth = 5.24" for 10 Year Storm event  
 Inflow = 4.72 cfs @ 12.10 hrs, Volume= 0.390 af  
 Outflow = 4.72 cfs @ 12.10 hrs, Volume= 0.390 af, Atten= 0%, Lag= 0.0 min  
 Primary = 4.72 cfs @ 12.10 hrs, Volume= 0.390 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
 Peak Elev= 3.77' @ 12.12 hrs  
 Flood Elev= 11.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.40'	<b>18.0" Round Culvert</b> L= 5.0' Ke= 0.500 Inlet / Outlet Invert= 2.40' / 2.30' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

**Primary OutFlow** Max=3.86 cfs @ 12.10 hrs HW=3.70' TW=3.45' (Dynamic Tailwater)  
 ↑**1=Culvert** (Outlet Controls 3.86 cfs @ 3.17 fps)

**P-0595-007 POST**

Type III 24-hr 10 Year Storm Rainfall=5.59"

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**Summary for Pond PDMH 12:**

Inflow Area = 2.063 ac, 84.59% Impervious, Inflow Depth = 4.81" for 10 Year Storm event  
Inflow = 9.30 cfs @ 12.10 hrs, Volume= 0.827 af  
Outflow = 9.30 cfs @ 12.10 hrs, Volume= 0.827 af, Atten= 0%, Lag= 0.0 min  
Primary = 9.30 cfs @ 12.10 hrs, Volume= 0.827 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Peak Elev= 2.99' @ 12.10 hrs  
Flood Elev= 9.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	1.60'	<b>24.0" Round Culvert</b> L= 27.0' Ke= 0.500 Inlet / Outlet Invert= 1.60' / -0.30' S= 0.0704 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

**Primary OutFlow** Max=9.08 cfs @ 12.10 hrs HW=2.96' TW=0.00' (Dynamic Tailwater)  
↑1=Culvert (Inlet Controls 9.08 cfs @ 3.98 fps)

**Summary for Pond PDMH 2:**

Inflow Area = 1.671 ac, 97.19% Impervious, Inflow Depth = 5.26" for 10 Year Storm event  
Inflow = 8.76 cfs @ 12.10 hrs, Volume= 0.732 af  
Outflow = 8.76 cfs @ 12.10 hrs, Volume= 0.732 af, Atten= 0%, Lag= 0.0 min  
Primary = 8.76 cfs @ 12.10 hrs, Volume= 0.732 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Peak Elev= 3.47' @ 12.10 hrs  
Flood Elev= 10.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>24.0" Round Culvert</b> L= 34.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 1.70' S= 0.0029 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

**Primary OutFlow** Max=8.43 cfs @ 12.10 hrs HW=3.45' TW=2.96' (Dynamic Tailwater)  
↑1=Culvert (Outlet Controls 8.43 cfs @ 4.12 fps)

**Summary for Pond POND 1.1:**

Inflow Area = 0.688 ac, 99.19% Impervious, Inflow Depth = 5.35" for 10 Year Storm event  
Inflow = 3.85 cfs @ 12.07 hrs, Volume= 0.307 af  
Outflow = 3.57 cfs @ 12.10 hrs, Volume= 0.307 af, Atten= 7%, Lag= 1.8 min  
Primary = 3.57 cfs @ 12.10 hrs, Volume= 0.307 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
Peak Elev= 6.02' @ 12.10 hrs Surf.Area= 2,496 sf Storage= 3,031 cf  
Flood Elev= 7.25' Surf.Area= 2,496 sf Storage= 4,456 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
Center-of-Mass det. time= 238.1 min ( 983.4 - 745.3 )

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Volume	Invert	Avail.Storage	Storage Description
#1A	2.75'	0 cf	<b>27.13'W x 92.00'L x 5.50'H Field A</b> 13,726 cf Overall - 5,470 cf Embedded = 8,255 cf x 0.0% Voids
#2A	3.25'	4,566 cf	<b>ADS N-12 48" x 16</b> Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf 4 Rows of 4 Chambers 24.13' Header x 12.40 sf x 2 = 598.3 cf Inside
		4,566 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	3.00'	<b>18.0" Round Culvert</b> L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 3.00' / 2.85' S= 0.0214 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	3.00'	<b>1.1" Vert. Orifice/Grate</b> C= 0.600
#3	Device 1	5.60'	<b>Custom Weir/Orifice, Cv= 2.62 (C= 3.28)</b> Head (feet) 0.00 1.00 Width (feet) 4.00 4.00

**Primary OutFlow** Max=3.50 cfs @ 12.10 hrs HW=6.01' TW=3.60' (Dynamic Tailwater)

- 1=Culvert (Passes 3.50 cfs of 12.79 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.05 cfs @ 7.48 fps)
- 3=Custom Weir/Orifice (Weir Controls 3.45 cfs @ 2.10 fps)

**Summary for Pond POND 1.2:**

Inflow Area = 0.893 ac, 97.58% Impervious, Inflow Depth = 5.24" for 10 Year Storm event  
 Inflow = 4.96 cfs @ 12.07 hrs, Volume= 0.390 af  
 Outflow = 4.72 cfs @ 12.10 hrs, Volume= 0.390 af, Atten= 5%, Lag= 1.4 min  
 Primary = 4.72 cfs @ 12.10 hrs, Volume= 0.390 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
 Peak Elev= 6.60' @ 12.10 hrs Surf.Area= 2,496 sf Storage= 3,810 cf  
 Flood Elev= 7.25' Surf.Area= 2,496 sf Storage= 4,456 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 267.0 min ( 1,019.6 - 752.6 )

Volume	Invert	Avail.Storage	Storage Description
#1A	2.75'	0 cf	<b>27.13'W x 92.00'L x 5.50'H Field A</b> 13,726 cf Overall - 5,470 cf Embedded = 8,255 cf x 0.0% Voids
#2A	3.25'	4,566 cf	<b>ADS N-12 48" x 16</b> Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf 4 Rows of 4 Chambers 24.13' Header x 12.40 sf x 2 = 598.3 cf Inside
		4,566 cf	Total Available Storage



**P-0595-007 POST**

Type III 24-hr 10 Year Storm Rainfall=5.59"

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Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	3.05'	<b>18.0" Round Culvert</b> L= 6.0' Ke= 0.500 Inlet / Outlet Invert= 3.05' / 2.90' S= 0.0250 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	3.05'	<b>1.1" Vert. Orifice/Grate</b> C= 0.600
#3	Device 1	6.10'	<b>Custom Weir/Orifice, Cv= 2.62 (C= 3.28)</b> Head (feet) 0.00 1.00 Width (feet) 4.00 4.00

**Primary OutFlow** Max=4.61 cfs @ 12.10 hrs HW=6.59' TW=3.70' (Dynamic Tailwater)

- ↑ 1=Culvert (Passes 4.61 cfs of 14.22 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.05 cfs @ 8.19 fps)
- ↑ 3=Custom Weir/Orifice (Weir Controls 4.55 cfs @ 2.30 fps)

**Summary for Pond PP 1: POROUS PAVEMENT**

Inflow Area = 0.311 ac, 33.08% Impervious, Inflow Depth = 3.61" for 10 Year Storm event  
 Inflow = 1.34 cfs @ 12.08 hrs, Volume= 0.094 af  
 Outflow = 0.52 cfs @ 12.31 hrs, Volume= 0.076 af, Atten= 61%, Lag= 14.1 min  
 Primary = 0.52 cfs @ 12.31 hrs, Volume= 0.076 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
 Peak Elev= 5.43' @ 12.31 hrs Surf.Area= 3,857 sf Storage= 1,618 cf  
 Flood Elev= 8.80' Surf.Area= 3,857 sf Storage= 3,386 cf

Plug-Flow detention time= 164.6 min calculated for 0.076 af (81% of inflow)  
 Center-of-Mass det. time= 90.1 min ( 900.9 - 810.8 )

Volume	Invert	Avail.Storage	Storage Description	
#1	4.38'	3,386 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
4.38	3,857	0.0	0	0
5.95	3,857	40.0	2,422	2,422
6.95	3,857	10.0	386	2,808
7.45	3,857	30.0	579	3,386
7.80	3,857	0.0	0	3,386

Device	Routing	Invert	Outlet Devices
#1	Primary	4.88'	<b>6.0" Vert. Underdrain</b> C= 0.600
#2	Device 1	4.38'	<b>10.000 in/hr Filter Media Infiltration over Surface area</b>

**Primary OutFlow** Max=0.52 cfs @ 12.31 hrs HW=5.43' TW=2.49' (Dynamic Tailwater)

- ↑ 1=Underdrain (Orifice Controls 0.52 cfs @ 2.63 fps)
- ↑ 2=Filter Media Infiltration (Passes 0.52 cfs of 0.89 cfs potential flow)

**P-0595-007 POST**

Type III 24-hr 10 Year Storm Rainfall=5.59"

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**Summary for Pond PP 2: POROUS PAVEMENT**

Inflow Area = 0.081 ac, 22.47% Impervious, Inflow Depth = 3.32" for 10 Year Storm event  
 Inflow = 0.32 cfs @ 12.08 hrs, Volume= 0.022 af  
 Outflow = 0.17 cfs @ 12.08 hrs, Volume= 0.019 af, Atten= 46%, Lag= 0.2 min  
 Primary = 0.17 cfs @ 12.08 hrs, Volume= 0.019 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs  
 Peak Elev= 4.89' @ 12.20 hrs Surf.Area= 755 sf Storage= 275 cf  
 Flood Elev= 8.40' Surf.Area= 755 sf Storage= 640 cf

Plug-Flow detention time= 115.6 min calculated for 0.019 af (84% of inflow)  
 Center-of-Mass det. time= 49.3 min ( 868.0 - 818.7 )

Volume	Invert	Avail.Storage	Storage Description	
#1	3.98'	640 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
3.98	755	0.0	0	0
5.45	755	40.0	444	444
6.55	755	10.0	83	527
7.05	755	30.0	113	640
7.40	755	0.0	0	640

Device	Routing	Invert	Outlet Devices
#1	Primary	4.48'	<b>6.0" Vert. Underdrain</b> C= 0.600
#2	Device 1	3.98'	<b>10.000 in/hr Filter Media Infiltration over Surface area</b>

**Primary OutFlow** Max=0.17 cfs @ 12.08 hrs HW=4.79' TW=2.97' (Dynamic Tailwater)

- ↑1=Underdrain (Passes 0.17 cfs of 0.24 cfs potential flow)
- ↑2=Filter Media Infiltration (Exfiltration Controls 0.17 cfs)

**Summary for Link PA1:**

Inflow Area = 2.537 ac, 74.14% Impervious, Inflow Depth = 4.56" for 10 Year Storm event  
 Inflow = 11.20 cfs @ 12.09 hrs, Volume= 0.964 af  
 Primary = 11.20 cfs @ 12.09 hrs, Volume= 0.964 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

**P-0595-007 POST**

Type III 24-hr 25 Year Storm Rainfall=7.08"

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Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**SubcatchmentPOST 1.1:** Runoff Area=29,978 sf 99.19% Impervious Runoff Depth=6.84"  
Flow Length=114' Tc=5.0 min CN=98 Runoff=4.88 cfs 0.392 af

**SubcatchmentPOST 1.2:** Runoff Area=38,901 sf 97.58% Impervious Runoff Depth=6.72"  
Flow Length=85' Tc=5.0 min CN=97 Runoff=6.31 cfs 0.500 af

**SubcatchmentPOST 1.3:** Runoff Area=13,558 sf 33.08% Impervious Runoff Depth=4.99"  
Flow Length=59' Slope=0.0430 '/' Tc=5.0 min CN=82 Runoff=1.83 cfs 0.129 af

**SubcatchmentPOST 1.4:** Runoff Area=3,521 sf 22.47% Impervious Runoff Depth=4.66"  
Flow Length=33' Slope=0.0270 '/' Tc=5.0 min CN=79 Runoff=0.45 cfs 0.031 af

**SubcatchmentPOST 1.5:** Runoff Area=16,946 sf 35.03% Impervious Runoff Depth=4.99"  
Flow Length=60' Slope=0.0520 '/' Tc=5.0 min CN=82 Runoff=2.29 cfs 0.162 af

**SubcatchmentPOST 1.6:** Runoff Area=3,725 sf 0.00% Impervious Runoff Depth=4.11"  
Flow Length=37' Slope=0.0610 '/' Tc=5.0 min CN=74 Runoff=0.42 cfs 0.029 af

**SubcatchmentPOST 1.7:** Runoff Area=3,900 sf 77.85% Impervious Runoff Depth=6.25"  
Flow Length=92' Slope=0.0350 '/' Tc=5.0 min CN=93 Runoff=0.62 cfs 0.047 af

**Pond JFF 1: CONTECH JELLY FISH FILTER** Peak Elev=4.03' Inflow=4.59 cfs 0.392 af  
18.0" Round Culvert n=0.013 L=7.0' S=0.0214 '/' Outflow=4.59 cfs 0.392 af

**Pond JFF 2: CONTECH JELLY FISH FILTER** Peak Elev=4.20' Inflow=6.06 cfs 0.500 af  
18.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=6.06 cfs 0.500 af

**Pond PDMH 12:** Peak Elev=3.24' Inflow=12.03 cfs 1.079 af  
24.0" Round Culvert n=0.013 L=27.0' S=0.0704 '/' Outflow=12.03 cfs 1.079 af

**Pond PDMH 2:** Peak Elev=3.77' Inflow=11.24 cfs 0.939 af  
24.0" Round Culvert n=0.013 L=34.0' S=0.0029 '/' Outflow=11.24 cfs 0.939 af

**Pond POND 1.1:** Peak Elev=6.09' Storage=3,139 cf Inflow=4.88 cfs 0.392 af  
Outflow=4.59 cfs 0.392 af

**Pond POND 1.2:** Peak Elev=6.70' Storage=3,920 cf Inflow=6.31 cfs 0.500 af  
Outflow=6.06 cfs 0.500 af

**Pond PP 1: POROUS PAVEMENT** Peak Elev=5.73' Storage=2,084 cf Inflow=1.83 cfs 0.129 af  
Outflow=0.73 cfs 0.112 af

**Pond PP 2: POROUS PAVEMENT** Peak Elev=5.23' Storage=379 cf Inflow=0.45 cfs 0.031 af  
Outflow=0.17 cfs 0.028 af

**Link PA1:** Inflow=14.68 cfs 1.270 af  
Primary=14.68 cfs 1.270 af



**P-0595-007 POST**

*Type III 24-hr 25 Year Storm Rainfall=7.08"*

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**Total Runoff Area = 2.537 ac   Runoff Volume = 1.291 af   Average Runoff Depth = 6.11"**  
**25.86% Pervious = 0.656 ac   74.14% Impervious = 1.881 ac**

**P-0595-007 POST**

Type III 24-hr 50 Year Storm Rainfall=8.48"

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Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**SubcatchmentPOST 1.1:** Runoff Area=29,978 sf 99.19% Impervious Runoff Depth=8.24"  
Flow Length=114' Tc=5.0 min CN=98 Runoff=5.85 cfs 0.473 af

**SubcatchmentPOST 1.2:** Runoff Area=38,901 sf 97.58% Impervious Runoff Depth=8.12"  
Flow Length=85' Tc=5.0 min CN=97 Runoff=7.57 cfs 0.604 af

**SubcatchmentPOST 1.3:** Runoff Area=13,558 sf 33.08% Impervious Runoff Depth=6.32"  
Flow Length=59' Slope=0.0430 '/' Tc=5.0 min CN=82 Runoff=2.29 cfs 0.164 af

**SubcatchmentPOST 1.4:** Runoff Area=3,521 sf 22.47% Impervious Runoff Depth=5.96"  
Flow Length=33' Slope=0.0270 '/' Tc=5.0 min CN=79 Runoff=0.57 cfs 0.040 af

**SubcatchmentPOST 1.5:** Runoff Area=16,946 sf 35.03% Impervious Runoff Depth=6.32"  
Flow Length=60' Slope=0.0520 '/' Tc=5.0 min CN=82 Runoff=2.87 cfs 0.205 af

**SubcatchmentPOST 1.6:** Runoff Area=3,725 sf 0.00% Impervious Runoff Depth=5.36"  
Flow Length=37' Slope=0.0610 '/' Tc=5.0 min CN=74 Runoff=0.55 cfs 0.038 af

**SubcatchmentPOST 1.7:** Runoff Area=3,900 sf 77.85% Impervious Runoff Depth=7.64"  
Flow Length=92' Slope=0.0350 '/' Tc=5.0 min CN=93 Runoff=0.74 cfs 0.057 af

**Pond JFF 1: CONTECH JELLY FISH FILTER** Peak Elev=4.52' Inflow=5.54 cfs 0.473 af  
18.0" Round Culvert n=0.013 L=7.0' S=0.0214 '/' Outflow=5.54 cfs 0.473 af

**Pond JFF 2: CONTECH JELLY FISH FILTER** Peak Elev=4.70' Inflow=7.33 cfs 0.604 af  
18.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=7.33 cfs 0.604 af

**Pond PDMH 12:** Peak Elev=3.50' Inflow=14.51 cfs 1.316 af  
24.0" Round Culvert n=0.013 L=27.0' S=0.0704 '/' Outflow=14.51 cfs 1.316 af

**Pond PDMH 2:** Peak Elev=4.22' Inflow=13.58 cfs 1.134 af  
24.0" Round Culvert n=0.013 L=34.0' S=0.0029 '/' Outflow=13.58 cfs 1.134 af

**Pond POND 1.1:** Peak Elev=6.16' Storage=3,231 cf Inflow=5.85 cfs 0.473 af  
Outflow=5.54 cfs 0.473 af

**Pond POND 1.2:** Peak Elev=6.78' Storage=4,012 cf Inflow=7.57 cfs 0.604 af  
Outflow=7.33 cfs 0.604 af

**Pond PP 1: POROUS PAVEMENT** Peak Elev=6.14' Storage=2,496 cf Inflow=2.29 cfs 0.164 af  
Outflow=0.89 cfs 0.146 af

**Pond PP 2: POROUS PAVEMENT** Peak Elev=6.18' Storage=499 cf Inflow=0.57 cfs 0.040 af  
Outflow=0.17 cfs 0.037 af

**Link PA1:** Inflow=17.85 cfs 1.559 af  
Primary=17.85 cfs 1.559 af

**P-0595-007 POST**

*Type III 24-hr 50 Year Storm Rainfall=8.48"*

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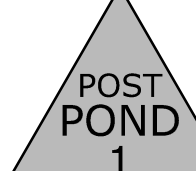
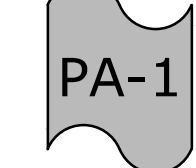
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**Total Runoff Area = 2.537 ac   Runoff Volume = 1.581 af   Average Runoff Depth = 7.48"**  
**25.86% Pervious = 0.656 ac   74.14% Impervious = 1.881 ac**





LEGEND

-  POST-DEVELOPMENT WATERSHED BOUNDARY
-  LONGEST FLOW PATH
-  POST 1.0  
PRE DEVELOPMENT WATERSHED AREA DESIGNATION
-  POST POND 1  
POST-DEVELOPMENT POND DESIGNATION
-  PA-1  
POINT OF ANALYSIS

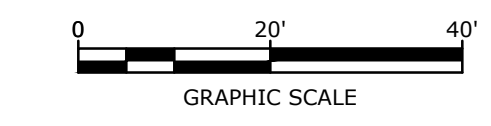
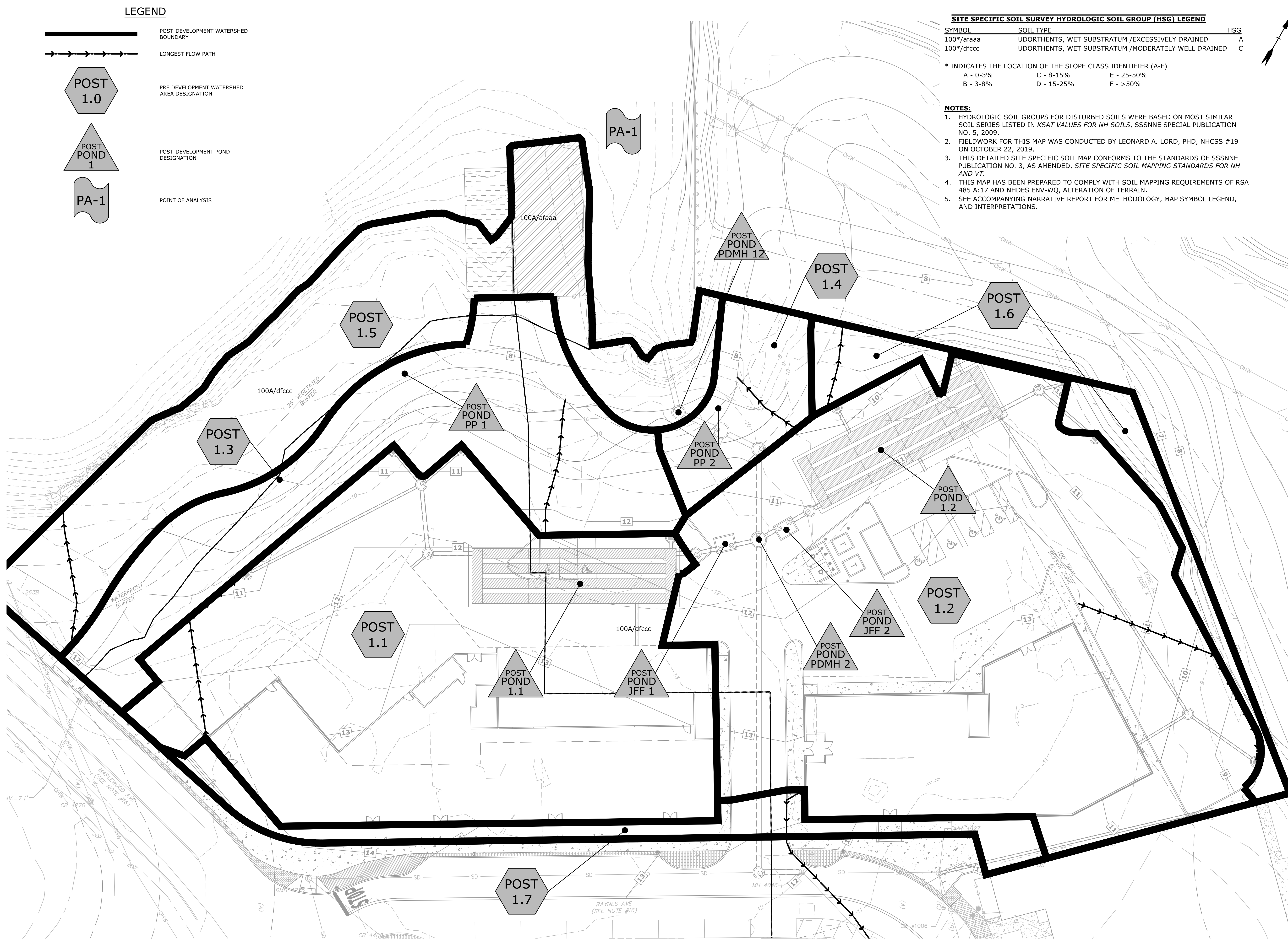
SITE SPECIFIC SOIL SURVEY HYDROLOGIC SOIL GROUP (HSG) LEGEND

SYMBOL	SOIL TYPE	HSG
100*/afaaa	UDORTHERTS, WET SUBSTRATUM /EXCESSIVELY DRAINED	A
100*/dfccc	UDORTHERTS, WET SUBSTRATUM /MODERATELY WELL DRAINED	C

\* INDICATES THE LOCATION OF THE SLOPE CLASS IDENTIFIER (A-F)  
 A - 0-3%      C - 8-15%      E - 25-50%  
 B - 3-8%      D - 15-25%      F - >50%

NOTES:

- HYDROLOGIC SOIL GROUPS FOR DISTURBED SOILS WERE BASED ON MOST SIMILAR SOIL SERIES LISTED IN *KSAT VALUES FOR NH SOILS*, SSSNNE SPECIAL PUBLICATION NO. 5, 2009.
- FIELDWORK FOR THIS MAP WAS CONDUCTED BY LEONARD A. LORD, PHD, NHCSS #19 ON OCTOBER 22, 2019.
- THIS DETAILED SITE SPECIFIC SOIL MAP CONFORMS TO THE STANDARDS OF SSSNNE PUBLICATION NO. 3, AS AMENDED, *SITE SPECIFIC SOIL MAPPING STANDARDS FOR NH AND VT*.
- THIS MAP HAS BEEN PREPARED TO COMPLY WITH SOIL MAPPING REQUIREMENTS OF RSA 485 A:17 AND NHDES ENV-WQ, ALTERATION OF TERRAIN.
- SEE ACCOMPANYING NARRATIVE REPORT FOR METHODOLOGY, MAP SYMBOL LEGEND, AND INTERPRETATIONS.



Proposed Mixed Use Development

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
C	3/22/2021	TAC Submission
B	3/10/2021	Design Review Resubmission
A	12/1/2020	TAC Work Session

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-HYDRO.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH/PMC
APPROVED BY:	BLM

POST-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

Last Saved: 3/19/2021 9:46am By: CJKrcnk  
 Plotted On: 12/22/2020 11:41am By: CJKrcnk  
 Title & Content: P-0595-007 Hydros Pro Con General Proposals P-0595-007-HYDRO.dwg





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## Section 4

# Peak Rate Comparison

The following table summarizes and compares the pre- and post-development peak runoff rates from the 2-year, 10-year, 25-year and 50-year storm events at the point of analysis.

**Table 4.1**  
**Comparison of Pre- and Post-Development Flows (CFS)**

	<b>2-Year Storm</b>	<b>10-Year Storm</b>	<b>25-Year Storm</b>	<b>50-Year Storm</b>
<b>Pre-Development Watershed</b>				
PA-1	7.82	12.94	16.90	20.59
<b>Post-Development Watershed</b>				
PA-1	6.28	11.20	14.68	17.85



## Section 5

# Mitigation Description

The stormwater management system has been designed to provide stormwater treatment as required by the City of Portsmouth Site Review Regulations and NHDES AoT Regulations (Env-Wq 1500).

### 5.1 Pre-Treatment Methods for Protecting Water Quality

Pre-treatment for the stormwater filtration systems consist of deep sump catch basins.

### 5.2 Treatment Methods for Protecting Water Quality.

The runoff from proposed impervious areas will be treated by various Contech Jellyfish stormwater filtration systems. These Jellyfish systems are sized to treat the Water Quality Flows of their respective subcatchment areas. Each system is outfitted with an internal bypass that diverts peak flows away from treatment. The BMP worksheet for these treatment practices have been included in Section 5 of this report.

The multiuse path along the North Mill Pond will be constructed as lined porous pavement with and underdrain. The underdrain will discharge to the closed drainage system prior to discharging to the Pond.

BMP	Total Suspended Solids	Total Nitrogen	Total Phosphorus
Jellyfish Filter w/Pretreatment <sup>1</sup>	91%	53%	61%
Porous Pavement w/Underdrain <sup>2</sup>	90%	10%	45%

1. Pollutant removal calculations for Jellyfish Filter with deep sump catchbasin pretreatment shown in Table 4.2.
2. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix B.



<b>Table 5.2 – Pollutant Removal Calculations</b>				
<b>Contech Jellyfish Filter</b>				
BMP	TSS Removal Rate	Starting TSS Load	TSS Removed	Remaining TSS Load
Deep Sump Catchbasin w/Hood <sup>1</sup>	0.15	1.00	0.15	0.85
Jellyfish Filter <sup>2</sup>	0.89	0.85	0.76	0.09
<b>Total Suspended Solids Removed:</b>				<b>91%</b>
	TN Removal Rate	Starting TN Load	TN Removed	Remaining TN Load
Deep Sump Catchbasin w/Hood <sup>1</sup>	0.05	1.00	0.05	0.95
Jellyfish Filter <sup>2</sup>	0.51	0.95	0.48	0.47
<b>Total Nitrogen Removed:</b>				<b>53%</b>
	TP Removal Rate	Starting TP Load	TP Removed	Remaining TP Load
Deep Sump Catchbasin w/Hood <sup>1</sup>	0.05	1.00	0.05	0.95
Jellyfish Filter <sup>2</sup>	0.59	0.95	0.56	0.39
<b>Total Phosphorus Removed:</b>				<b>61%</b>

1. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix E.
2. Pollutant removal efficiencies from Contech Engineered Solutions, Jellyfish Filter Stormwater Treatment performance testing results.

## **Section 6**

# **BMP Worksheets and Sizing Memos**









CONTECH Stormwater Solutions Inc. Engineer:  
Date Prepared:

DRA  
3/16/2021

### Site Information

Project Name	Proposed Mixed Use Dev - JFF1
Project State	NH
Project City	Portsmouth
Total Drainage Area, Ad	0.87 ac
Post Development Impervious Area, Ai	0.68 ac
Pervious Area, Ap	0.19 ac
% Impervious	78%
Runoff Coefficient, Rc	0.75

### Mass Loading Calculations

Mean Annual Rainfall, P	50 in
Agency Required % Removal	80%
Percent Runoff Capture	90%
Mean Annual Runoff, Vt	107076 ft <sup>3</sup>
Event Mean Concentration of Pollutant, EMC	75 mg/l
Annual Mass Load, M total	501.04 lbs

### Filter System

Filtration Brand	Jelly Fish
Cartridge Length	54 in

### Jelly Fish Sizing

Mass to be Captured by System	400.83 lbs
Water Quality Flow	0.66 cfs

### Method to Use

FLOW BASED

### Summary

Flow	Treatment Flow Rate	0.80 cfs
	Required Size	JFPD0806-4-1







CONTECH Stormwater Solutions Inc. Engineer:  
Date Prepared:

DRA  
3/16/2021

### Site Information

Project Name	Proposed Mixed Use Dev- JFF2
Project State	NH
Project City	Portsmouth
Total Drainage Area, Ad	0.86 ac
Post Development Impervious Area, Ai	0.83 ac
Pervious Area, Ap	0.03 ac
% Impervious	97%
Runoff Coefficient, Rc	0.92

### Mass Loading Calculations

Mean Annual Rainfall, P	50 in
Agency Required % Removal	80%
Percent Runoff Capture	90%
Mean Annual Runoff, Vt	129047 ft <sup>3</sup>
Event Mean Concentration of Pollutant, EMC	75 mg/l
Annual Mass Load, M total	603.85 lbs

### Filter System

Filtration Brand	Jelly Fish
Cartridge Length	54 in

### Jelly Fish Sizing

Mass to be Captured by System	483.08 lbs
Water Quality Flow	0.79 cfs

### Method to Use

FLOW BASED

### Summary

<b>Flow</b>	Treatment Flow Rate	0.80 cfs
	Required Size	JFPD0806-4-1



## FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: \_\_\_\_\_

**PP-1**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a).	
0.31	ac	A = Area draining to the practice	
0.10	ac	A <sub>I</sub> = Impervious area draining to the practice	
0.33	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.35	unitless	R <sub>v</sub> = Runoff coefficient = 0.05 + (0.9 x I)	
0.11	ac-in	WQV = 1" x R <sub>v</sub> x A	
390	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
97	cf	25% x WQV (check calc for sediment forebay volume)	
292	cf	75% x WQV (check calc for surface sand filter volume)	
		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V <sub>SED</sub> = Sediment forebay volume, if used for pretreatment	≥ 25%WQV
<b>Calculate time to drain if system IS NOT underdrained:</b>			
3,857	sf	A <sub>SA</sub> = Surface area of the practice	
	iph	K <sub>sat</sub> <sub>DESIGN</sub> = Design infiltration rate <sup>1</sup>	
		If K <sub>sat</sub> (prior to factor of safety) is < 0.50 iph, has an underdrain been provided? (Use the calculations below)	
YES	Yes/No		
-	hours	T <sub>DRAIN</sub> = Drain time = V / (A <sub>SA</sub> * I <sub>DESIGN</sub> )	≤ 72-hrs
<b>Calculate time to drain if system IS underdrained:</b>			
5.05	ft	E <sub>WQV</sub> = Elevation of WQV (attach stage-storage table)	
0.08	cfs	Q <sub>WQV</sub> = Discharge at the E <sub>WQV</sub> (attach stage-discharge table)	
2.71	hours	T <sub>DRAIN</sub> = Drain time = 2WQV/Q <sub>WQV</sub>	≤ 72-hrs
5.45	feet	E <sub>FC</sub> = Elevation of the bottom of the filter course material <sup>2</sup>	
4.48	feet	E <sub>UD</sub> = Invert elevation of the underdrain (UD), if applicable	
	feet	E <sub>SHWT</sub> = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
	feet	E <sub>ROCK</sub> = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
0.97	feet	D <sub>FC to UD</sub> = Depth to UD from the bottom of the filter course	≥ 1'
5.45	feet	D <sub>FC to ROCK</sub> = Depth to bedrock from the bottom of the filter course	≥ 1'
5.45	feet	D <sub>FC to SHWT</sub> = Depth to SHWT from the bottom of the filter course	≥ 1'
6.14	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
7.80	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	← yes
<b>If a surface sand filter or underground sand filter is proposed:</b>			
YES	ac	Drainage Area check.	< 10 ac
	cf	V = Volume of storage <sup>3</sup> (attach a stage-storage table)	≥ 75%WQV
	inches	D <sub>FC</sub> = Filter course thickness	18", or 24" if within GPA
Sheet		Note what sheet in the plan set contains the filter course specification.	
Yes/No		Access grate provided?	← yes

**If a bioretention area is proposed:**

YES	ac	Drainage Area no larger than 5 ac?	← yes
	cf	$V = \text{Volume of storage}^3$ (attach a stage-storage table)	≥ WQV
	inches	$D_{FC} = \text{Filter course thickness}$	18", or 24" if within GPA
Sheet		Note what sheet in the plan set contains the filter course specification	
	:1	Pond side slopes	> 3:1
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	

**If porous pavement is proposed:**

Asphalt		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
0.1	acres	$A_{SA} = \text{Surface area of the pervious pavement}$	
3.5	:1	Ratio of the contributing area to the pervious surface area	≤ 5:1
12.0	inches	$D_{FC} = \text{Filter course thickness}$	12", or 18" if within GPA
Sheet	C-505	Note what sheet in the plan set contains the filter course spec.	mod. 304.1 (see spec)

1. Rate of the limiting layer (either the filter course or the underlying soil).  $K_{sat_{design}}$  includes factor of safety. See Env-Wq 1504.14 for guidance on determining the infiltration rate.
2. See lines 34, 40 and 48 for required depths of filter media.
3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet structure, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

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**P-0595-007 POST**

Prepared by Tighe & Bond

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Type III 24-hr 50 Year Storm Rainfall=8.48"

Printed 3/19/2021

**Stage-Area-Storage for Pond PP 1: POROUS PAVEMENT**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
4.38	3,857	0	6.98	3,857	2,843
4.43	3,857	77	7.03	3,857	2,900
4.48	3,857	154	7.08	3,857	2,958
4.53	3,857	231	7.13	3,857	3,016
4.58	3,857	309	7.18	3,857	3,074
4.63	3,857	386	7.23	3,857	3,132
4.68	3,857	463	7.28	3,857	3,190
4.73	3,857	540	7.33	3,857	3,248
4.78	3,857	617	7.38	3,857	3,305
4.83	3,857	694	7.43	3,857	<b>3,363</b>
4.88	3,857	771	7.48	3,857	<b>3,386</b>
4.93	3,857	849	7.53	3,857	3,386
4.98	3,857	926	7.58	3,857	3,386
5.03	3,857	1,003	7.63	3,857	3,386
5.08	3,857	1,080	7.68	3,857	3,386
5.13	3,857	1,157	7.73	3,857	3,386
5.18	3,857	1,234	7.78	3,857	3,386
5.23	3,857	1,311	7.83	3,857	3,386
5.28	3,857	1,389	7.88	3,857	3,386
5.33	3,857	1,466	7.93	3,857	3,386
5.38	3,857	1,543	7.98	3,857	3,386
5.43	3,857	1,620	8.03	3,857	3,386
5.48	3,857	1,697	8.08	3,857	3,386
5.53	3,857	1,774	8.13	3,857	3,386
5.58	3,857	1,851	8.18	3,857	3,386
5.63	3,857	1,929	8.23	3,857	3,386
5.68	3,857	2,006	8.28	3,857	3,386
5.73	3,857	2,083	8.33	3,857	3,386
5.78	3,857	2,160	8.38	3,857	3,386
5.83	3,857	2,237	8.43	3,857	3,386
5.88	3,857	2,314	8.48	3,857	3,386
5.93	3,857	2,391	8.53	3,857	3,386
5.98	3,857	2,434	8.58	3,857	3,386
6.03	3,857	2,453	8.63	3,857	3,386
6.08	3,857	2,472	8.68	3,857	3,386
6.13	3,857	2,492	8.73	3,857	3,386
6.18	3,857	2,511	8.78	3,857	3,386
6.23	3,857	2,530			
6.28	3,857	2,549			
6.33	3,857	2,569			
6.38	3,857	2,588			
6.43	3,857	2,607			
6.48	3,857	2,627			
6.53	3,857	2,646			
6.58	3,857	2,665			
6.63	3,857	2,684			
6.68	3,857	2,704			
6.73	3,857	2,723			
6.78	3,857	2,742			
6.83	3,857	2,762			
6.88	3,857	2,781			
6.93	3,857	2,800			





## FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

**Type/Node Name:** \_\_\_\_\_

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a).	
0.08	ac	A = Area draining to the practice	
0.02	ac	A <sub>I</sub> = Impervious area draining to the practice	
0.23	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.25	unitless	R <sub>v</sub> = Runoff coefficient = 0.05 + (0.9 x I)	
0.02	ac-in	WQV = 1" x R <sub>v</sub> x A	
73	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
18	cf	25% x WQV (check calc for sediment forebay volume)	
55	cf	75% x WQV (check calc for surface sand filter volume)	
		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V <sub>SED</sub> = Sediment forebay volume, if used for pretreatment	≥ 25%WQV
<b>Calculate time to drain if system IS NOT underdrained:</b>			
755	sf	A <sub>SA</sub> = Surface area of the practice	
	iph	K <sub>sat</sub> <sub>DESIGN</sub> = Design infiltration rate <sup>1</sup>	
		If K <sub>sat</sub> (prior to factor of safety) is < 0.50 iph, has an underdrain been provided? (Use the calculations below)	
YES	Yes/No		
-	hours	T <sub>DRAIN</sub> = Drain time = V / (A <sub>SA</sub> * I <sub>DESIGN</sub> )	≤ 72-hrs
<b>Calculate time to drain if system IS underdrained:</b>			
4.75	ft	E <sub>WQV</sub> = Elevation of WQV (attach stage-storage table)	
0.17	cfs	Q <sub>WQV</sub> = Discharge at the E <sub>WQV</sub> (attach stage-discharge table)	
0.24	hours	T <sub>DRAIN</sub> = Drain time = 2WQV/Q <sub>WQV</sub>	≤ 72-hrs
5.95	feet	E <sub>FC</sub> = Elevation of the bottom of the filter course material <sup>2</sup>	
4.88	feet	E <sub>UD</sub> = Invert elevation of the underdrain (UD), if applicable	
	feet	E <sub>SHWT</sub> = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
	feet	E <sub>ROCK</sub> = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.07	feet	D <sub>FC to UD</sub> = Depth to UD from the bottom of the filter course	≥ 1'
5.95	feet	D <sub>FC to ROCK</sub> = Depth to bedrock from the bottom of the filter course	≥ 1'
5.95	feet	D <sub>FC to SHWT</sub> = Depth to SHWT from the bottom of the filter course	≥ 1'
6.18	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
7.40	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	← yes
<b>If a surface sand filter or underground sand filter is proposed:</b>			
YES	ac	Drainage Area check.	< 10 ac
	cf	V = Volume of storage <sup>3</sup> (attach a stage-storage table)	≥ 75%WQV
	inches	D <sub>FC</sub> = Filter course thickness	18", or 24" if within GPA
Sheet		Note what sheet in the plan set contains the filter course specification.	
Yes/No		Access grate provided?	← yes





**P-0595-007 POST**

Prepared by Tighe & Bond

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Type III 24-hr 50 Year Storm Rainfall=8.48"

Printed 3/19/2021

**Stage-Area-Storage for Pond PP 2: POROUS PAVEMENT**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
3.98	<b>755</b>	0	6.58	755	534
4.03	755	15	6.63	755	545
4.08	755	30	6.68	755	556
4.13	755	45	6.73	755	568
4.18	755	60	6.78	755	579
4.23	755	76	6.83	755	590
4.28	755	91	6.88	755	602
4.33	755	106	6.93	755	613
4.38	755	121	6.98	755	624
4.43	755	136	7.03	755	<b>636</b>
4.48	755	151	7.08	755	<b>640</b>
4.53	755	166	7.13	755	640
4.58	755	181	7.18	755	640
4.63	755	196	7.23	755	640
4.68	755	211	7.28	755	640
4.73	755	227	7.33	755	640
4.78	755	242	7.38	755	640
4.83	755	257	7.43	755	640
4.88	755	272	7.48	755	640
4.93	755	287	7.53	755	640
4.98	755	302	7.58	755	640
5.03	755	317	7.63	755	640
5.08	755	332	7.68	755	640
5.13	755	347	7.73	755	640
5.18	755	362	7.78	755	640
5.23	755	378	7.83	755	640
5.28	755	393	7.88	755	640
5.33	755	408	7.93	755	640
5.38	755	423	7.98	755	640
5.43	755	438	8.03	755	640
5.48	755	446	8.08	755	640
5.53	755	450	8.13	755	640
5.58	755	454	8.18	755	640
5.63	755	458	8.23	755	640
5.68	755	461	8.28	755	640
5.73	755	465	8.33	755	640
5.78	755	469	8.38	755	640
5.83	755	473			
5.88	755	476			
5.93	755	480			
5.98	755	484			
6.03	755	488			
6.08	755	492			
6.13	755	495			
6.18	755	499			
6.23	755	503			
6.28	755	507			
6.33	755	510			
6.38	755	514			
6.43	755	518			
6.48	755	522			
6.53	755	525			





## Section 7 Long-Term Operation & Maintenance Plan

It is the intent of this Operation and Maintenance Plan to identify the areas of this site that need special attention and consideration, as well as implementing a plan to assure routine maintenance. By identifying the areas of concern as well as implementing a frequent and routine maintenance schedule the site will maintain a high-quality stormwater runoff.

### 7.1 Contact/Responsible Party

Maintenance Area	Contact/Responsible Party
Development Site	North Mill Pond Holdings, LLC 1359 Hooksett Road Hooksett NH, 03106
North Mill Pond Trail (City Easement)	City of Portsmouth DPW 680 Peverly Hill Road Portsmouth, NH 03801

(Note: The contact information for the Contact/Responsible Party shall be kept current. If ownership changes, the Operation and Maintenance Plan must be transferred to the new party.)

### 7.2 Maintenance Items

Maintenance of the following items shall be recorded:

- Litter/Debris Removal
- Landscaping
- Catchbasin Cleaning
- Pavement Sweeping
- Contech Jellyfish Filtration System
- Porous Pavement

The following maintenance items and schedule represent the minimum action required. Periodic site inspections shall be conducted, and all measures must be maintained in effective operating condition. The following items shall be observed during site inspection and maintenance:

- Inspect vegetated areas, particularly slopes and embankments for areas of erosion. Replant and restore as necessary
- Inspect catch basins for sediment buildup
- Inspect site for trash and debris

### 7.3 Overall Site Operation & Maintenance Schedule

Maintenance Item	Frequency of Maintenance	Responsible Party
Litter/Debris Removal	Weekly	North Mill Pond Holdings, LLC
Pavement Sweeping - Sweep impervious areas to remove sand and litter.	Bi-Annually	North Mill Pond Holdings, LLC
Landscaping - Landscaped islands to be maintained and mulched.	Maintained as required and mulched each Spring	North Mill Pond Holdings, LLC
Catch Basin (CB) Cleaning - CB to be cleaned of solids and oils.	Annually	North Mill Pond Holdings, LLC
Jelly Fish Units	In accordance with Manufacturer's Recommendations	North Mill Pond Holdings, LLC
Underground Detention Basin - Visual observation of sediment levels within system	Annually	North Mill Pond Holdings, LLC
Porous Pavement - Clean using a vacuum sweeper	Bi-Annually	City of Portsmouth DPW

<b>Contech Jellyfish Filter System Inspection/Maintenance Requirements</b>		
<b>Inspection/ Maintenance</b>	<b>Frequency</b>	<b>Action</b>
Inspect vault for sediment build up, static water, plugged media and bypass condition	One (1) time annually and after any rainfall event exceeding 2.5" in a 24-hr period	Maintenance required for any of the following: <ul style="list-style-type: none"> <li>- &gt;4" of sediment on the vault floor</li> <li>- &gt;1/4" of sediment on top of the cartridge</li> <li>- .4" of static water above the cartridge bottom more than 24 hours after a rain event</li> <li>- If pore space between media is absent.</li> <li>- If vault is in bypass condition during an average rainfall event.</li> </ul>
Replace Cartridges	As required by inspection, 1-5 years.	<ul style="list-style-type: none"> <li>- Remove filter cartridges per manufacturer methods.</li> <li>- Vacuum sediment from vault.</li> <li>- Install new cartridges per manufacturer methods</li> </ul>



<b>Porous Asphalt Inspection/Maintenance Requirements</b>		
<b>Inspection/ Maintenance</b>	<b>Frequency</b>	<b>Action</b>
Monitor for sediment build up, particularly in the winter.	Two (2) – Four (4) Times Annually.	- Clean with vacuum sweeper, bi-annually - Loose debris such as leaves or can be removed using a power/leaf blower or gutter broom. Fall and spring cleanup should be accompanied by pavement vacuuming.
Inspect Adjacent Vegetation	Two (2) – Four (4) Times Annually.	- Repair or replace any eroded areas.
Inspect for standing water -Within 30 minutes following a rain event.	One (1) – Two (2) Times Annually	- Use of a power washer or compressed air blower at an angle of 30 degrees or less can be effective, vacuum or vacuum sweeper if necessary.
Damage to pavement	As needed	- Repairs should be made as identified.

**Additional Porous Asphalt Operation and Maintenance Requirements:**

- ***No winter sanding or salting of porous pavements is permitted***
- Never reseal or repave with impermeable materials.
- Inspect annually for pavement deterioration or spalling.
- Monitor periodically to ensure the pavement surface drains effectively after storms.

**7.3.1 Disposal Requirements**

Disposal of debris, trash, sediment and other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste regulations.

**7.3.2 Snow & Ice Management for Standard Asphalt and Walkways**

Snow storage areas shall be located such that no direct untreated discharges are possible to receiving waters from the storage site (snow storage areas have been shown on the Site Plan). The property manager will be responsible for timely snow removal from all private sidewalks, driveways, and parking areas. Snow removal will be hauled off-site and legally disposed of when snowbanks exceed 6 feet in height. Salt storage areas shall be covered or located such that no direct untreated discharges are possible to receiving waters from the storage site. Salt and sand shall be used to the minimum extent practical (refer to the attached for de-icing application rate guideline from the New Hampshire Stormwater Management Manual, Volume 2,).

**7.4 Chloride Management Plan****Winter Operational Guidelines**

The following Chloride Management Plan is for the Raynes Avenue, Mixed Use Development in Portsmouth, New Hampshire. The Plan includes operational guidelines including winter operator certification requirements, weather monitoring, equipment calibration requirements, mechanical removal, and salt usage evaluation and monitoring. Due to the evolving nature of chloride management efforts, the Chlorides Management Plan will be reviewed annually, in advance of the winter season, to reflect the current management standards.

**7.4.1 Background Information**

The Raynes Avenue, Mixed Use Development is located along the North Mill Pond in Portsmouth, New Hampshire.

**7.4.2 Operational Guidelines – Chloride Management**

All private contractors engaged at the development site for the purposes of winter operational snow removal and surface maintenance, are responsible for assisting in meeting compliance for the following protocols. Private contractors are expected to minimize the effects of the use of de-icing, anti-icing and pretreatment materials by adhering to the strict guidelines outlined below.

The winter operational de-icing, anti-icing and pretreatment materials will adhere to the following protocols:

**7.4.2.1 Winter Operator Certification Requirements**

All private contractors engaged at the premises for the purpose of winter operational snow removal and surface maintenance must be current UNHT2 Green SnowPro Certified operators or equivalent and will use only pre-approved

methods for spreading abrasives on private roadways and parking lots. All private contractors engaged at the premises for the purpose of winter operational snow removal and surface maintenance shall provide to the property management two copies of the annual UNHT2 Green SnowPro certificate or equivalent for each operator utilized on the premises. The annual UNHT2 Green SnowPro certificate or equivalent for each operator will be available on file in the Facilities Management office and be present in the vehicle/carrier at all times.

#### **7.4.2.2 Improved Weather Monitoring**

The property manager will coordinate weather information for use by winter maintenance contractors. This information in conjunction with site specific air/ground surface temperature monitoring will ensure that private contractors engaged at the premises for the purpose of winter operational snow removal and surface maintenance will make more informed decisions as to when and to what extent de-icing, anti-icing and pretreatment materials are applied to private roadways, sidewalks, and parking lots.

#### **7.4.2.3 Equipment Calibration Requirements**

All equipment utilized on the premises for the purpose of winter operational snow removal and surface maintenance will conform to the following calibration requirements.

##### **7.4.2.3.1 Annual Calibration Requirements**

All private contractors engaged at the premises for the purpose of winter operational snow removal and surface maintenance shall provide two copies of the annual calibration report for each piece of equipment utilized on the premises. Each calibration report shall include the vehicle/carrier VIN number and the serial numbers for each component including, but not limited to, spreader control units, salt aggregate spreader equipment, brining/pre-wetting equipment, ground speed orientation unit, and air/ground surface temperature monitor. Annual calibration reports will be available on file in the Facilities Management office and be present in the vehicle/carrier at all times.

Prior to each use, each vehicle/carrier operator will perform a systems check to verify that unit settings remain within the guidelines established by the Management Team in order to accurately dispense material. All private contractors engaged at the premises for the purpose of winter operational snow removal and surface maintenance will be subject to spot inspections by members of the Property Management Team to ensure that each vehicle/carrier is operating in a manner consistent with the guidelines set herein or State and Municipal regulations. All units will be recalibrated, and the updated calibration reports will be provided each time repairs or maintenance procedures affect the hydraulic system of the vehicle/carrier.



**7.4.2.4 Increased Mechanical Removal Capabilities**

All private contractors engaged at the premises will endeavor to use mechanical removal means on a more frequent basis for roadways, parking lots and sidewalks. Dedicating more manpower and equipment to increase snow removal frequencies prevents the buildup of snow and the corresponding need for de-icing, anti-icing and pretreatment materials. Shortened maintenance routes, with shorter service intervals, will be used to stay ahead of snowfall. Minimized snow and ice packing will reduce the need for abrasives, salt aggregates, and/or brining solution to restore surfaces back to bare surface states after winter precipitation events.

After storm events the management team will be responsible for having the streets swept to recapture un-melted de-icing materials, when practical.

**7.4.3 Salt Usage Evaluation and Monitoring**

All private contractors engaged at the premises for the purpose of winter operational snow removal and surface maintenance shall provide two copies of a storm report, which includes detailed information regarding treatment areas and the use of de-icing, anti-icing and pretreatment materials applied for the removal of snow and surface maintenance on the premises. The property manager will maintain copies of Summary Documents, including copies of the Storm Reports, operator certifications, equipment used for roadway and sidewalk winter maintenance, calibration reports and amount of de-icing materials used.

**7.4.4 Summary**

The above-described methodologies are incorporated into the Operational Manual and are to be used to qualify and retain all private contractors engaged at the Raynes Avenue premises for the purpose of winter operational snow removal and surface maintenance. This section of the Manual is intended to be an adaptive management document that is modified as required based on experience gained from past practices and technological advancements that reflect chloride BMP standards. All employees directly involved with winter operational activities are required to review this document and the current standard Best Management Practices published by the UNH Technology Transfer (T2) program annually. All employees directly involved with winter operational activities, and all private contractors engaged at the premises for the purposes of winter operational snow removal and surface maintenance, must be current UNHT2 Green SnowPro Certified operators or equivalent and undergo the necessary requirements to maintain this certification annually.

**Deicing Application Rate Guidelines**

24' of pavement (typical two-lane road)

These rates are not fixed values, but rather the middle of a range to be selected and adjusted by an agency according to its local conditions and experience.

Pavement Temp. (°F) and Trend (↑↓)	Weather Condition	Maintenance Actions	Pounds per two-lane mile			
			Salt Prewetted / Pretreated with Salt Brine	Salt Prewetted / Pretreated with Other Blends	Dry Salt*	Winter Sand (abrasives)
> 30° ↑	Snow	Plow, treat intersections only	80	70	100*	Not recommended
	Freezing Rain	Apply Chemical	80 - 160	70 - 140	100 - 200*	Not recommended
30° ↓	Snow	Plow and apply chemical	80 - 160	70 - 140	100 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↑	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↓	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↑	Snow or Freezing Rain	Plow and apply chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↓	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↑	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↓	Snow or Freezing Rain	Plow and apply chemical	240 - 320	210 - 280	300 - 400*	500 for freezing rain
0° - 15° ↑↓	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	300 - 400	Not recommended	500 - 750 spot treatment as needed
< 0°	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	400 - 600**	Not recommended	500 - 750 spot treatment as needed

\* Dry salt is not recommended. It is likely to blow off the road before it melts ice.

\*\* A blend of 6 - 8 gal/ton MgCl<sub>2</sub> or CaCl<sub>2</sub> added to NaCl can melt ice as low as -10°.

<b>Anti-icing Route Data Form</b>				
Truck Station:				
Date:				
Air Temperature	Pavement Temperature	Relative Humidity	Dew Point	Sky
Reason for applying:				
Route:				
Chemical:				
Application Time:				
Application Amount:				
Observation (first day):				
Observation (after event):				
Observation (before next application):				
Name:				





## **7.5 Invasive Species**

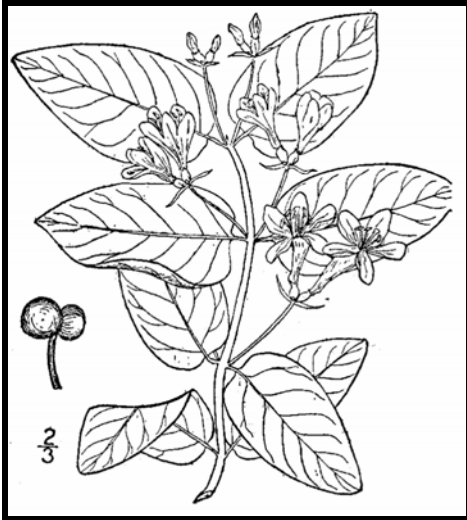
With respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem is classified as an invasive species. Refer to the following fact sheet prepared by the University of New Hampshire Cooperative Extension entitled Methods for Disposing Non-Native Invasive Plants for recommended methods to dispose of invasive plant species.







*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

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# Managing Invasive Plants

## Methods of Control

by Christopher Mattrick

### They're out there. The problem of invasive plants is as close as your own backyard.

Maybe a favorite dogwood tree is struggling in the clutches of an Oriental bittersweet vine. Clawlike canes of multiflora rose are scratching at the side of your house. That handsome burning bush you planted few years ago has become a whole clump in practically no time ... but what happened to the azalea that used to grow right next to it?

If you think controlling or managing invasive plants on your property is a daunting task, you're not alone. Though this topic is getting lots of attention from federal, state, and local government agencies, as well as the media, the basic question for most homeowners is simply, "How do I get rid of the invasive plants in my own landscape?" Fortunately, the best place to begin to tackle this complex issue is in our own backyards and on local conservation lands. We hope the information provided here will help you take back your yard. We won't kid you—there's some work involved, but the payoff in beauty, wildlife habitat, and peace of mind makes it all worthwhile.

### PLAN OF ATTACK

Three broad categories cover most invasive plant control: mechanical, chemical, and biological. Mechanical control means physically removing plants from the environment



Spraying chemicals to control invasive plants.

through cutting or pulling. Chemical control uses herbicides to kill plants and inhibit regrowth. Techniques and chemicals used will vary depending on the species. Biological controls use plant diseases or insect predators, typically from the targeted species' home range. Several techniques may be effective in controlling a single species, but there is usually one preferred method—the one that is most resource efficient with minimal impact on non-target species and the environment.

### MECHANICAL CONTROL METHODS

Mechanical treatments are usually the first ones to look at when evaluating an invasive plant removal project. These procedures do not require special licensing or introduce chemicals into the environment. They do require permits in some situations, such as wetland zones. [See sidebar on page 23.] Mechanical removal is highly labor intensive and creates a significant amount of site disturbance, which can lead to rapid reinvasion if not handled properly.

#### Pulling and digging

Many herbaceous plants and some woody species (up to about one inch in diameter), if present in limited quantities, can be pulled out or dug up. It's important to remove as much of the root system as possible; even a small portion can restart the infestation. Pull plants by hand or use a digging fork, as shovels can shear off portions of the root system, allowing for regrowth. To remove larger woody stems (up to about three inches in diameter), use a Weed Wrench™, Root Jack, or Root Talon. These tools, available from several manufacturers, are designed to remove the aboveground portion of the plant as well as the entire root system. It's easiest to undertake this type of control in the spring or early summer when soils are moist and plants come out more easily.



Using tools to remove woody stems.





Volunteers hand pulling invasive plants.

### Suffocation

Try suffocating small seedlings and herbaceous plants. Place double or triple layers of thick UV-stabilized plastic sheeting, either clear or black (personally I like clear), over the infestation and secure the plastic with stakes or weights. Make sure the plastic extends at least five feet past the edge of infestation on all sides. Leave the plastic in place for at least two years. This technique will kill everything beneath the plastic—invasive and non-invasive plants alike. Once the plastic is removed, sow a cover crop such as annual rye to prevent new invasions.

### Cutting or mowing

This technique is best suited for locations you can visit and treat often. To be effective, you will need to mow or cut infested areas three or four times a year for up to five years. The goal is to interrupt the plant's ability to photosynthesize by removing as much leafy material as possible. Cut the plants at ground level and remove all resulting debris from the site. With this treatment, the infestation may actually appear to get worse at first, so you will need to be as persistent as the invasive plants themselves. Each time you cut the plants back, the root system gets slightly larger, but must also rely on its energy reserves to push up new growth. Eventually, you will exhaust these reserves and the plants will die. This may take many years, so you have to remain committed to this process once you start; otherwise the treatment can backfire, making the problem worse.

## CHEMICAL CONTROL METHODS

Herbicides are among the most effective and resource-efficient tools to treat invasive species. Most of the commonly known invasive plants can be treated using only two herbicides—glyphosate (the active ingredient in Roundup™ and Rodeo™) and triclopyr (the active ingredient in Brush-B-Gone™ and Garlon™). Glyphosate is non-selective, meaning it kills everything it contacts. Triclopyr is selective and does not injure monocots (grasses, orchids, lilies, etc.). Please read labels and follow directions precisely for both environmental and personal safety. These are relatively benign herbicides, but improperly used they can still cause both short- and long-term health and environmental problems. Special aquatic formulations are required when working in wetland zones. You are required to have a state-issued pesticide applicator license when applying these chemicals on land you do not own. To learn more about the pesticide regulations in your state, visit or call your state's pesticide control division, usually part of the state's Department of Agriculture. In wetland areas, additional permits are usually required by the Wetlands Protection Act. [See sidebar on page 23.]

### Foliar applications

When problems are on a small scale, this type of treatment is usually applied with a backpack sprayer or even a small handheld spray bottle. It is an excellent way to treat large monocultures of herbaceous plants, or to spot-treat individual plants that are difficult to remove mechanically, such as goutweed, swallowwort, or purple loosestrife. It is also an effective treatment for some woody species, such as Japanese barberry, multiflora rose, Japanese honeysuckle, and Oriental bittersweet that grow in dense masses or large numbers over many acres. The herbicide mixture should contain no more than five percent of the active ingredient, but it is important to follow the instructions on the product label. This treatment is most effective when the plants are actively growing, ideally when they are flowering or beginning to form fruit. It has been shown that plants are often more susceptible to this type of treatment if the existing stems are cut off and the regrowth is treated. This is especially true for Japanese knotweed. The target plants should be thoroughly wetted with the herbicide on a day when there is no rain in the forecast for the next 24 to 48 hours.



## Cut stem treatments

There are several different types of cut stem treatments, but here we will review only the one most commonly used. All treatments of this type require a higher concentration of the active ingredient than is used in foliar applications. A 25 to 35 percent solution of the active ingredient should be used for cut stem treatments, but read and follow all label instructions. In most cases, the appropriate herbicide is glyphosate, except for Oriental bittersweet, on which triclopyr should be used. This treatment can be used on all woody stems, as well as phragmites and Japanese knotweed.

For woody stems, treatments are most effective when applied in the late summer and autumn—between late August and November. Stems should be cut close to the ground, but not so close that you will lose track of them. Apply herbicide directly to the cut surface as soon as possible after cutting. Delaying the application will reduce the effectiveness of the treatment. The herbicide can be applied with a sponge, paintbrush, or spray bottle.



Cut stem treatment tools.

For phragmites and Japanese knotweed, treatment is the same, but the timing and equipment are different. Plants should be treated anytime from mid-July through September, but the hottest, most humid days of the summer are best

for this method. Cut the stems halfway between two leaf nodes at a comfortable height. Inject (or squirt) herbicide into the exposed hollow stem. All stems in an infestation should be treated. A wash bottle is the most effective application tool, but you can also use an eyedropper, spray bottle, or one of the recently developed high-tech injection systems.

It is helpful to mix a dye in with the herbicide solution. The dye will stain the treated surface and mark the areas that have been treated, preventing unnecessary reapplication. You can buy a specially formulated herbicide dye, or use food coloring or laundry dye.

There is not enough space in this article to describe all the possible ways to control invasive plants. You can find other treatments, along with more details on the above-described methods, and species-specific recommendations on The Nature Conservancy Web site ([tncweeds.ucdavis.edu](http://tncweeds.ucdavis.edu)). An upcoming posting on the Invasive Plant Atlas of New England ([www.ipane.org](http://www.ipane.org)) and the New England Wild Flower Society ([www.newfs.org](http://www.newfs.org)) Web sites will also provide further details.



Hollow stem injection tools.

## Biological controls—still on the horizon

Biological controls are moving into the forefront of control methodology, but currently the only widely available and applied biocontrol relates to purple loosestrife. More information on purple loosestrife and other biological control projects can be found at [www.invasiveplants.net](http://www.invasiveplants.net).

## DISPOSAL OF INVASIVE PLANTS

Proper disposal of removed invasive plant material is critical to the control process. Leftover plant material can cause new infestations or reinfest the existing project area. There are many appropriate ways to dispose of invasive plant debris. I've listed them here in order of preference.

- 1. Burn it**—Make a brush pile and burn the material following local safety regulations and restrictions, or haul it to your town's landfill and place it in their burn pile.
- 2. Pile it**—Make a pile of the woody debris. This technique will provide shelter for wildlife as well.
- 3. Compost it**—Place all your herbaceous invasive plant debris in a pile and process as compost. Watch the pile closely for resprouts and remove as necessary. Do not use the resulting compost in your garden. The pile is for invasive plants only.



Injecting herbicide into the hollow stem of phragmites.



**4. Dry it/cook it**—Place woody debris out on your driveway or any asphalt surface and let it dry out for a month. Place herbaceous material in a doubled-up black trash bag and let it cook in the sun for one month. At the end of the month, the material should be non-viable and you can dump it or dispose of it with the trash. The method assumes there is no viable seed mixed in with the removed material.

*Care should be taken in the disposal of all invasive plants, but several species need extra attention. These are the ones that have the ability to sprout vigorously from plant fragments and should ideally be burned or dried prior to disposal: Oriental bittersweet, multiflora rose, Japanese honeysuckle, phragmites, and Japanese knotweed.*

Christopher Mattrick is the former Senior Conservation Programs Manager for New England Wild Flower Society, where he managed conservation volunteer and invasive and rare plant management programs. Today, Chris and his family work and play in the White Mountains of New Hampshire, where he is the Forest Botanist and Invasive Species Coordinator for the White Mountain National Forest.



## Controlling Invasive Plants in Wetlands

### Special concerns; special precautions

Control of invasive plants in or around wetlands or bodies of water requires a unique set of considerations. Removal projects in wetland zones can be legal and effective if handled appropriately. In many cases, herbicides may be the least disruptive tools with which to remove invasive plants. You will need a state-issued pesticide license to apply herbicide on someone else's property, but all projects in wetland or aquatic systems fall under the jurisdiction of the Wetlands Protection Act and therefore require a permit. *Yes, even hand-pulling that colony of glossy buckthorn plants from your own swampland requires a permit.* Getting a permit for legal removal is fairly painless if you plan your project carefully.

**1.** Investigate and understand the required permits and learn how to obtain them. The entity charged with the enforcement of the Wetlands Protection Act varies from state to state. For more information in your state, contact:

**ME:** Department of Environmental Protection  
[www.state.me.us/dep/blwq/docstand/nrpapage.htm](http://www.state.me.us/dep/blwq/docstand/nrpapage.htm)

**NH:** Department of Environmental Services  
[www.des.state.nh.us/wetlands/](http://www.des.state.nh.us/wetlands/)

**VT:** Department of Environmental Conservation  
[www.anr.state.vt.us/dec/waterq/permits/htm/pm\\_cud.htm](http://www.anr.state.vt.us/dec/waterq/permits/htm/pm_cud.htm)

**MA:** Consult your local town conservation commission

**RI:** Department of Environmental Management  
[www.dem.ri.gov/programs/benviron/water/permits/fresh/index.htm](http://www.dem.ri.gov/programs/benviron/water/permits/fresh/index.htm)

**CT:** Consult your local town Inland Wetland and Conservation Commission

**2.** Consult an individual or organization with experience in this area. Firsthand experience in conducting projects in wetland zones and navigating the permitting process is priceless. Most states have wetland scientist societies whose members are experienced in working in wetlands and navigating the regulations affecting them. A simple Web search will reveal the contact point for these societies. Additionally, most environmental consulting firms and some nonprofit organizations have skills in this area.

**3.** Develop a well-written and thorough project plan. You are more likely to be successful in obtaining a permit for your project if you submit a project plan along with your permit application. The plan should include the reasons for the project, your objectives in completing the project, how you plan to reach those objectives, and how you will monitor the outcome.

**4.** Ensure that the herbicides you plan to use are approved for aquatic use. Experts consider most herbicides harmful to water quality or aquatic organisms, but rate some formulations as safe for aquatic use. Do the research and select an approved herbicide, and then closely follow the instructions on the label.

**5.** If you are unsure—research, study, and most of all, ask for help. Follow the rules. The damage caused to aquatic systems by the use of an inappropriate herbicide or the misapplication of an appropriate herbicide not only damages the environment, but also may reduce public support for safe, well-planned projects.

## **7.6 Annual Updates and Log Requirements**

The Owner and/or Contact/Responsible Party shall review this Operation and Maintenance Plan once per year for its effectiveness and adjust the plan and deed as necessary.

A log of all preventative and corrective measures for the stormwater system shall be kept on-site and be made available upon request by any public entity with administrative, health environmental or safety authority over the site including NHDES.

Copies of the Stormwater Maintenance report shall be submitted to the City of Portsmouth on an annual basis.





<b>Stormwater Management Report</b>						
<b>Mixed Use Development</b>		<b>Raynes Avenue – Map 123 Lots 10, 12, 13 &amp; 14</b>				
<b>BMP Description</b>	<b>Date of Inspection</b>	<b>Inspector</b>	<b>BMP Installed and Operating Properly?</b>	<b>Cleaning / Corrective Action Needed</b>	<b>Date of Cleaning / Repair</b>	<b>Performed By</b>
Deep Sump CB's			<input type="checkbox"/> Yes <input type="checkbox"/> No			
Underground Detention			<input type="checkbox"/> Yes <input type="checkbox"/> No			
Jellyfish Filter 1			<input type="checkbox"/> Yes <input type="checkbox"/> No			
Jellyfish Filter 2			<input type="checkbox"/> Yes <input type="checkbox"/> No			
Porous Pavement			<input type="checkbox"/> Yes <input type="checkbox"/> No			





<b>Stormwater Management Report</b>						
<b>City of Portsmouth</b>		<b>North Mill Pond Trail</b>				
<b>BMP Description</b>	<b>Date of Inspection</b>	<b>Inspector</b>	<b>BMP Installed and Operating Properly?</b>	<b>Cleaning / Corrective Action Needed</b>	<b>Date of Cleaning / Repair</b>	<b>Performed By</b>
Porous Pavement			<input type="checkbox"/> Yes <input type="checkbox"/> No			

J:\P\0595 Pro Con General Proposals\0595-007 Raynes Ave Hotel\Report\_Evaluation\Applications\City of Portsmouth\20210322 TAC Submission\Drainage\0595-007\_Drainage Report.docx





ProCon, LLC  
31 Raynes Avenue Project  
Portsmouth, NH

## **SITE SPECIFIC SOIL MAP**

June 2020

**Tighe&Bond**  
Engineers | Environmental Specialists



## 1.0 Introduction

This report is provided in conjunction with a 1.35 +/- acre Site Specific Soil Map (SSSM) prepared by Tighe & Bond for a parcel at 31 Raynes Avenue in Portsmouth, NH. The purpose of the mapping was to assist in the evaluation of drainage and other soil-related uses associated with site improvements, and may be used as part of an Alteration of Terrain (AoT) permit application.

## 2.0 Methods

Fieldwork for the soil mapping was completed October 22, 2019 based on *Site-Specific Soil Mapping Standards for New Hampshire and Vermont, Version 5.0*, (Society of Soil Scientists of Northern New England [SSSNNE] Special Publication No. 3, December 2017). The poorly and very poorly drained soil types under this system are based on the most recent version of *Field Indicators for Identifying Hydric Soils in New England, Version 4* (New England Interstate Water Pollution Control Commission, 2018).

The soil legend for this map is based on the soil series currently mapped in the State of New Hampshire as published in the *New Hampshire State-Wide Numerical Soils Legend* (USDA Natural Resources Conservation Service, Issue #10, 2011). Since this soil map includes disturbed soils and may be used for an AoT application, the map symbols are composed of two major parts separated by a forward slash (/). The first part of the soil symbol includes a numerical identifier from the state-wide soil legend, followed by a letter indicating the slope class (e.g., 299A). Slope class identifiers are as follows:

A	0-3%	D	15-25%
B	3-8%	E	25-50%
C	8-15%	F	>50%

The second part of the symbol is based on the SSSNNE Disturbed Soil Supplemental Symbols, which are included within the Site Specific Soil Map (SSSM) standards. This portion of the symbol translates as follows:

### **Character 1: Drainage Class**

- a-Excessively Drained
- b-Somewhat Excessively Drained
- c-Well Drained
- d-Moderately Well Drained
- e-Somewhat Poorly Drained
- f-Poorly Drained
- g-Very Poorly Drained
- h-Not Determined

**Character 2: Parent Material** (of naturally formed soil only, if present)

- a-No natural soil within 60 inches
- b-Glaciofluvial deposits (outwash/terraces of sand or sand and gravel)
- c-Glacial till material (active ice)
- d-Glaciolacustrine very fine sand and silt deposits (glacial lakes)
- e-Loamy/sandy over silt/clay deposits
- f-Marine silt and clay deposits (ocean waters)
- g-Alluvial deposits (floodplains)
- h-Organic materials-fresh water wetlands
- i-Organic materials-tidal wetlands

**Character 3: Restrictive Properties**

- a-None
- b-Bouldery surface with more than 15% of the surface covered with boulders
- c-Mineral restrictive layer(s) are present in the soil profile less than 40 inches below the soil surface such as hard pan, platy structure or clayey texture with consistence of at least firm (i.e. more than 20 newtons).
- d-Bedrock in the soil profile; 0-20 inches
- e-Bedrock in the soil profile; 20-60 inches
- f-Areas where depth to bedrock is so variable that a single soil type cannot be applied, will be mapped as a complex of soil types
- g-Subject to flooding
- h-Manufactured impervious surface including pavement, concrete, or built-up surfaces (e.g. buildings) with no morphological restrictive layer within control section

**Character 4: Estimated Ksat** (most limiting layer excluding symbol 3h above)

- a-High
- b-Moderate
- c-Low
- d-Not determined \*See "Guidelines for Ksat Class Placement" in Chapter 3 of the Soil Survey Manual, USDA

**Character 5: Hydrologic Soil Group**

- a-Group A
- b-Group B
- c-Group C
- d-Group D
- e-Not determined

SSSM report standards require estimates of the maximum size of *limiting* inclusions for the entire soil map and an estimate of the percentage of *dissimilar* inclusions within each map unit. *Limiting* inclusions are soils "...that differ appreciably in one or more soil properties from the named soil in a map unit. The difference in soil properties is more restrictive and may affect use and management." *Dissimilar* inclusions are "...soils that either do not share limits of some important diagnostic properties of the named taxon, or, in the professional judgment of the soil scientist, have different use or management requirements." The maximum size of any limiting inclusions in this soil map is estimated to be less than 2,000 square feet. Any dissimilar inclusions noted during the mapping are listed below within the map unit descriptions.

### **3.0 Site Features**

The parcel is a highly disturbed site along the North Mill Pond. The property shows evidence of what appears to be very old filling and grading associated with the existing development.

### **4.0 Soil Map Unit Descriptions**

Below are descriptions for each of the map units found on the accompanying SSSM. The "\*" after the numerical map unit symbol represents a placeholder for the slope class indicators described above.

#### **100\*/afaaa—Udorthents, wet substratum**

Landscape Setting: Soils that have been filled and leveled over what was originally hydric soils. On this site this map unit represents fill that was used to construct a pier.

Drainage Class: Excessively drained

Parent Material of Natural Soil: Fill over marine silts and clays at <60 inches (presumed).

Typical Textures: Very gravelly sand (mixed sand and crushed stone)

Hydrologic Soil Group: A

Dissimilar Inclusions: None noted

Limiting Inclusions: None noted

Additional Notes: Soils in these areas have properties that are similar to the Hinckley soil series for Hydrologic Soil Group determination



**100\*/dfccc—Udorthents, wet substratum**

Landscape Setting: Soils that have been filled and leveled over what was originally hydric soils

Drainage Class: Moderately well drained.

Parent Material: Fill over marine silts and clays at <60 inches (presumed).

Typical Textures: Very gravelly sandy loam and gravelly silty clay loam fill

Hydrologic Soil Group: C

Dissimilar Inclusions: None noted

Limiting Inclusions: Slopes along the shore are steeper than the mapped unit and are affected by tidal inundation. These areas comprise less than 10% of the unit

Additional Notes: Soils in these areas have properties that are similar to the Elmridge soil series for Hydrologic Soil Group determination

**Site Specific Soil Map Legend**

**31 Raynes Avenue, Portsmouth, NH**

**Slope Class Identifiers**

A	0-3%	D	15-25%
B	3-8%	E	25-50%
C	8-15%	F	>50%

**Map Unit Symbols**

<b><u>Map Number* /Disturbed Soil Numerator**</u></b>	<b><u>Soil Map Unit Name</u></b>	<b><u>Hydrologic Soil Group</u></b>
100*/afaaa	Udorthents, wet substratum / excessively drained, over marine silts and clays, no restrictive layer within 40 inches, high Ksat, Hydrologic Soil Group A	A
100*/dfccc	Udorthents, wet substratum / moderately well drained, over marine silts and clays, with a restrictive layer within 40 inches, low Ksat, Hydrologic Soil Group C	C

\*Indicates the location of the slope class identifier (A-F)

\*\*Supplemental symbols are used to further characterize disturbed soils for Alteration of Terrain permits

**Soil Mapping Notes:**

1. Hydrologic soil groups for disturbed soils were based on most similar soil series listed in *Ksat Values for NH Soils*, SSSNNE Special Publication No. 5, 2009.
2. Fieldwork for this map was conducted by Leonard A. Lord, PhD, NHCSS #19 on October 22, 2019.
3. This detailed Site Specific Soil Map conforms to the standards of SSSNNE Publication No. 3, as amended, *Site Specific Soil Mapping Standards for NH and VT*.
4. This map has been prepared to comply with soil mapping requirements of RSA 485 A:17 and NHDES Env-Wq, Alteration of Terrain.
5. See accompanying narrative report for methodology, map symbol legend, and interpretations.







# Extreme Precipitation Tables

## Northeast Regional Climate Center

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

<b>Smoothing</b>	Yes
<b>State</b>	New Hampshire
<b>Location</b>	
<b>Longitude</b>	70.764 degrees West
<b>Latitude</b>	43.080 degrees North
<b>Elevation</b>	0 feet
<b>Date/Time</b>	Fri, 24 Jul 2020 12:23:19 -0400

### Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.26	0.40	0.50	0.65	0.81	1.04	<b>1yr</b>	0.70	0.98	1.21	1.56	2.03	2.65	2.92	<b>1yr</b>	2.35	2.81	3.22	3.94	4.54	<b>1yr</b>
<b>2yr</b>	0.32	0.50	0.62	0.81	1.02	1.30	<b>2yr</b>	0.88	1.18	1.52	1.94	2.48	3.20	3.57	<b>2yr</b>	2.84	3.43	3.93	4.67	5.32	<b>2yr</b>
<b>5yr</b>	0.37	0.58	0.73	0.97	1.25	1.61	<b>5yr</b>	1.08	1.47	1.89	2.43	3.14	4.06	4.57	<b>5yr</b>	3.59	4.40	5.03	5.93	6.69	<b>5yr</b>
<b>10yr</b>	0.41	0.65	0.82	1.11	1.45	1.89	<b>10yr</b>	1.25	1.72	2.23	2.89	3.74	4.86	5.52	<b>10yr</b>	4.30	5.31	6.07	7.09	7.96	<b>10yr</b>
<b>25yr</b>	0.48	0.76	0.97	1.33	1.77	2.33	<b>25yr</b>	1.53	2.14	2.77	3.62	4.73	6.16	7.09	<b>25yr</b>	5.45	6.81	7.78	9.00	10.03	<b>25yr</b>
<b>50yr</b>	0.53	0.86	1.10	1.53	2.07	2.75	<b>50yr</b>	1.78	2.52	3.28	4.31	5.65	7.37	8.57	<b>50yr</b>	6.53	8.24	9.40	10.79	11.95	<b>50yr</b>
<b>100yr</b>	0.59	0.96	1.24	1.76	2.41	3.25	<b>100yr</b>	2.08	2.97	3.90	5.15	6.75	8.83	10.36	<b>100yr</b>	7.82	9.96	11.35	12.93	14.24	<b>100yr</b>
<b>200yr</b>	0.67	1.10	1.42	2.04	2.82	3.82	<b>200yr</b>	2.43	3.51	4.60	6.11	8.06	10.58	12.52	<b>200yr</b>	9.37	12.04	13.71	15.50	16.98	<b>200yr</b>
<b>500yr</b>	0.80	1.31	1.71	2.48	3.47	4.75	<b>500yr</b>	2.99	4.37	5.75	7.68	10.19	13.45	16.11	<b>500yr</b>	11.90	15.49	17.61	19.72	21.44	<b>500yr</b>

### Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.23	0.36	0.44	0.59	0.73	0.88	<b>1yr</b>	0.63	0.86	0.92	1.33	1.68	2.23	2.48	<b>1yr</b>	1.97	2.39	2.86	3.18	3.88	<b>1yr</b>
<b>2yr</b>	0.31	0.49	0.60	0.81	1.00	1.19	<b>2yr</b>	0.86	1.16	1.37	1.82	2.34	3.05	3.45	<b>2yr</b>	2.70	3.31	3.82	4.54	5.07	<b>2yr</b>
<b>5yr</b>	0.35	0.54	0.67	0.92	1.17	1.40	<b>5yr</b>	1.01	1.37	1.61	2.12	2.73	3.78	4.18	<b>5yr</b>	3.34	4.02	4.71	5.52	6.23	<b>5yr</b>
<b>10yr</b>	0.38	0.59	0.73	1.02	1.32	1.60	<b>10yr</b>	1.14	1.56	1.80	2.39	3.06	4.36	4.85	<b>10yr</b>	3.86	4.66	5.42	6.39	7.17	<b>10yr</b>
<b>25yr</b>	0.44	0.67	0.83	1.18	1.56	1.90	<b>25yr</b>	1.34	1.86	2.10	2.76	3.54	4.70	5.87	<b>25yr</b>	4.16	5.64	6.62	7.76	8.65	<b>25yr</b>
<b>50yr</b>	0.48	0.73	0.91	1.31	1.76	2.17	<b>50yr</b>	1.52	2.12	2.34	3.07	3.93	5.31	6.77	<b>50yr</b>	4.70	6.51	7.68	9.00	9.98	<b>50yr</b>
<b>100yr</b>	0.53	0.81	1.01	1.46	2.00	2.47	<b>100yr</b>	1.73	2.41	2.62	3.42	4.35	5.96	7.81	<b>100yr</b>	5.28	7.51	8.92	10.45	11.52	<b>100yr</b>
<b>200yr</b>	0.59	0.89	1.12	1.63	2.27	2.81	<b>200yr</b>	1.96	2.75	2.93	3.79	4.79	6.68	9.01	<b>200yr</b>	5.91	8.66	10.34	12.15	13.31	<b>200yr</b>
<b>500yr</b>	0.68	1.02	1.31	1.90	2.70	3.36	<b>500yr</b>	2.33	3.28	3.41	4.32	5.46	7.76	10.87	<b>500yr</b>	6.87	10.45	12.58	14.86	16.11	<b>500yr</b>

### Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.28	0.44	0.54	0.72	0.89	1.08	<b>1yr</b>	0.77	1.06	1.26	1.74	2.21	2.98	3.16	<b>1yr</b>	2.64	3.04	3.58	4.37	5.04	<b>1yr</b>
<b>2yr</b>	0.34	0.52	0.64	0.86	1.07	1.27	<b>2yr</b>	0.92	1.24	1.48	1.96	2.52	3.42	3.70	<b>2yr</b>	3.03	3.56	4.08	4.83	5.62	<b>2yr</b>
<b>5yr</b>	0.40	0.62	0.76	1.05	1.34	1.62	<b>5yr</b>	1.15	1.58	1.88	2.53	3.25	4.33	4.96	<b>5yr</b>	3.84	4.77	5.37	6.37	7.15	<b>5yr</b>
<b>10yr</b>	0.47	0.72	0.89	1.24	1.61	1.97	<b>10yr</b>	1.39	1.93	2.28	3.11	3.95	5.33	6.20	<b>10yr</b>	4.72	5.96	6.82	7.83	8.74	<b>10yr</b>
<b>25yr</b>	0.57	0.87	1.09	1.55	2.04	2.57	<b>25yr</b>	1.76	2.51	2.95	4.07	5.15	7.77	8.34	<b>25yr</b>	6.88	8.02	9.15	10.33	11.40	<b>25yr</b>
<b>50yr</b>	0.67	1.02	1.27	1.82	2.46	3.12	<b>50yr</b>	2.12	3.05	3.59	5.00	6.32	9.73	10.46	<b>50yr</b>	8.62	10.06	11.45	12.71	13.95	<b>50yr</b>
<b>100yr</b>	0.79	1.19	1.49	2.15	2.95	3.80	<b>100yr</b>	2.55	3.72	4.37	6.15	7.76	12.18	13.11	<b>100yr</b>	10.78	12.61	14.32	15.68	17.08	<b>100yr</b>
<b>200yr</b>	0.92	1.39	1.76	2.54	3.55	4.64	<b>200yr</b>	3.06	4.54	5.33	7.58	9.53	15.29	16.45	<b>200yr</b>	13.53	15.82	17.94	19.34	20.91	<b>200yr</b>
<b>500yr</b>	1.14	1.70	2.19	3.18	4.52	6.02	<b>500yr</b>	3.90	5.89	6.92	10.01	12.54	20.67	22.22	<b>500yr</b>	18.29	21.37	24.18	25.50	27.33	<b>500yr</b>








Coastal and Great Bay Region Precipitation Increase		
	24-hr Storm Event (in.)	24-hr Storm Event + 15% (in.)
1 Year	2.65	3.05
2 Year	3.20	3.68
10 Year	4.86	5.59
25 Year	6.16	7.08
50 Year	7.37	8.48
100 Year	8.83	10.15

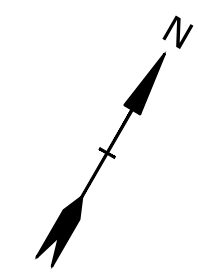




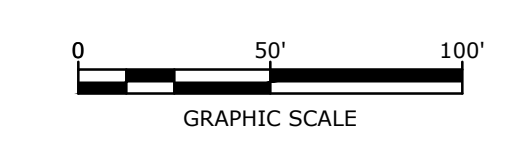
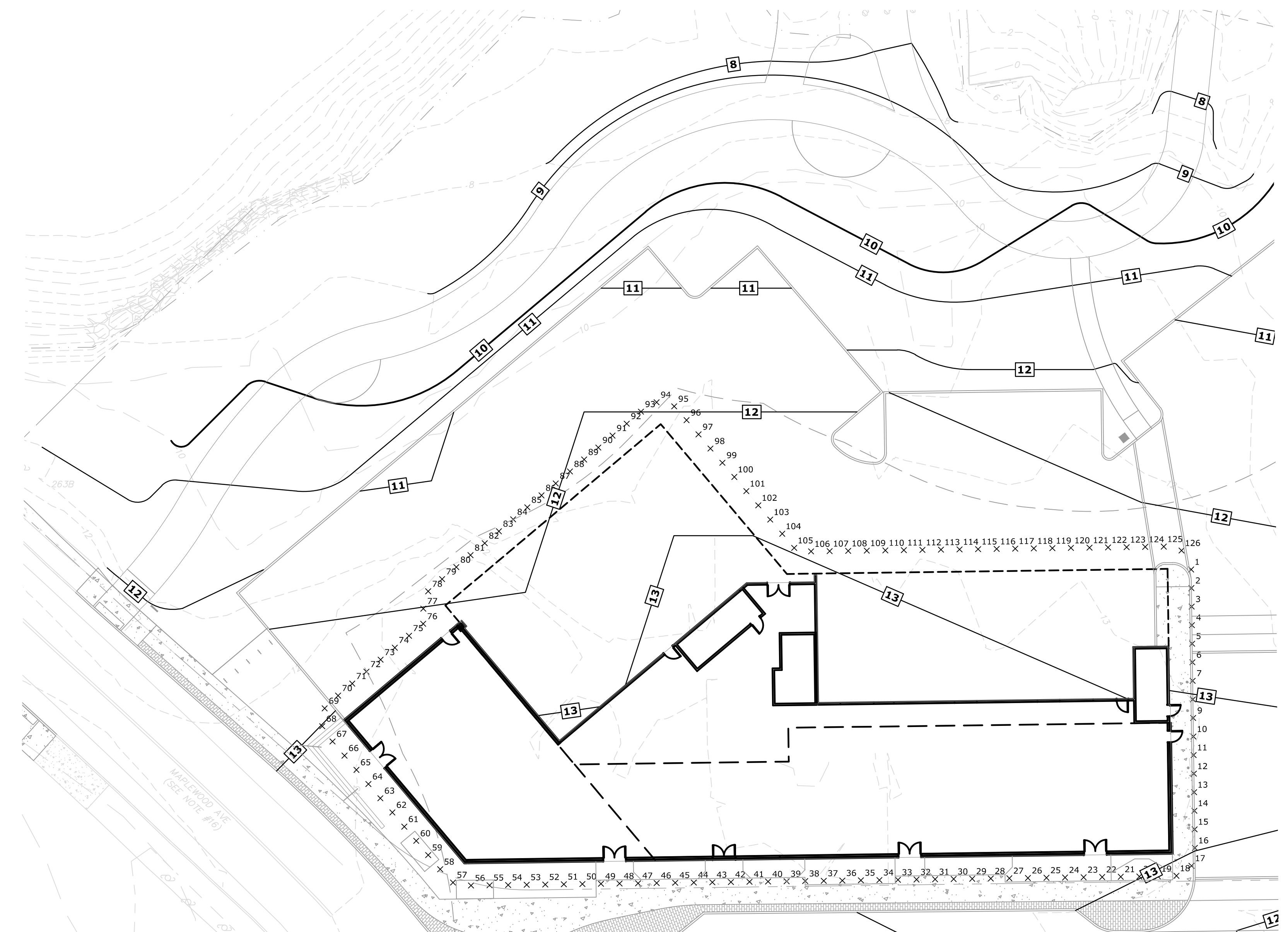
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POINT #	SURFACE ELEV	ROOF ELEV	BUILDING HEIGHT	POINT #	SURFACE ELEV	ROOF ELEV	BUILDING HEIGHT	POINT #	SURFACE ELEV	ROOF ELEV	BUILDING HEIGHT	POINT #	SURFACE ELEV	ROOF ELEV	BUILDING HEIGHT	POINT #	SURFACE ELEV	ROOF ELEV	BUILDING HEIGHT	POINT #	SURFACE ELEV	ROOF ELEV	BUILDING HEIGHT
1	12.15	72.67	59.77	25	13.23	60.25	47.35	49	13.82	28.75	15.85	73	12.25	28.75	15.85	96	12.05	72.67	59.77	120	12.35	72.67	59.77
2	12.20	72.67	59.77	26	13.27	60.25	47.35	50	13.82	28.75	15.85	74	12.20	28.75	15.85	97	12.15	72.67	59.77	121	12.35	72.67	59.77
3	12.25	72.67	59.77	27	13.30	60.25	47.35	51	13.82	28.75	15.85	75	12.15	28.75	15.85	98	12.25	72.67	59.77	122	12.30	72.67	59.77
4	12.55	72.67	59.77	28	13.33	60.25	47.35	52	13.82	28.75	15.85	76	12.10	28.75	15.85	99	12.35	72.67	59.77	123	12.25	72.67	59.77
5	12.85	72.67	59.77	29	13.36	60.25	47.35	53	13.82	28.75	15.85	77	12.00	72.67	59.77	100	12.45	72.67	59.77	124	12.20	72.67	59.77
6	12.90	72.67	59.77	30	13.40	60.25	47.35	54	13.82	28.75	15.85	78	11.90	72.67	59.77	101	12.55	72.67	59.77	125	12.15	72.67	59.77
7	12.95	72.67	59.77	31	13.45	60.25	47.35	55	13.82	28.75	15.85	79	11.85	72.67	59.77	102	12.65	72.67	59.77	126	12.15	72.67	59.77
8	13.00	72.67	59.77	32	13.50	60.25	47.35	56	13.82	28.75	15.85	80	11.75	72.67	59.77	103	12.75	72.67	59.77	AVERAGE GRADE PLANE ELEVATION			12.90
9	13.05	72.67	59.77	33	13.53	60.25	47.35	57	13.82	28.75	15.85	81	11.70	72.67	59.77	104	12.90	72.67	59.77				
10	13.10	60.25	47.35	34	13.56	60.25	47.35	58	13.82	28.75	15.85	82	11.65	72.67	59.77	105	12.95	72.67	59.77				
11	13.15	60.25	47.35	35	13.59	60.25	47.35	59	13.82	28.75	15.85	83	11.70	72.67	59.77	106	12.95	72.67	59.77				
12	13.20	60.25	47.35	36	13.62	60.25	47.35	60	13.82	28.75	15.85	84	11.75	72.67	59.77	107	12.90	72.67	59.77				
13	13.25	60.25	47.35	37	13.65	60.25	47.35	61	13.82	28.75	15.85	85	11.80	72.67	59.77	108	12.85	72.67	59.77				
14	13.30	60.25	47.35	38	13.68	60.25	47.35	62	13.82	28.75	15.85	86	11.90	72.67	59.77	109	12.85	72.67	59.77				
15	13.20	60.25	47.35	39	13.72	60.25	47.35	63	13.82	28.75	15.85	87	12.00	72.67	59.77	110	12.80	72.67	59.77				
16	13.05	60.25	47.35	40	13.74	60.25	47.35	64	13.82	28.75	15.85	88	12.00	72.67	59.77	111	12.75	72.67	59.77				
17	12.90	60.25	47.35	41	13.77	60.25	47.35	65	13.82	28.75	15.85	89	12.10	72.67	59.77	112	12.70	72.67	59.77				
18	12.85	60.25	47.35	42	13.80	60.25	47.35	66	13.82	28.75	15.85	90	12.20	72.67	59.77	113	12.65	72.67	59.77				
19	12.95	60.25	47.35	43	13.82	60.25	47.35	67	13.82	28.75	15.85	91	12.20	72.67	59.77	114	12.60	72.67	59.77				
20	13.00	60.25	47.35	44	13.82	60.25	47.35	68	13.00	28.75	15.85	92	12.10	72.67	59.77	115	12.60	72.67	59.77				
21	13.05	60.25	47.35	45	13.82	60.25	47.35	69	12.95	28.75	15.85	93	12.00	72.67	59.77	116	12.55	72.67	59.77				
22	13.10	60.25	47.35	46	13.82	28.75	15.85	70	12.45	28.75	15.85	94	11.95	72.67	59.77	117	12.50	72.67	59.77				
23	13.15	60.25	47.35	47	13.82	28.75	15.85	71	12.35	28.75	15.85	95	11.95	72.67	59.77	118	12.45	72.67	59.77				
24	13.20	60.25	47.35	48	13.82	28.75	15.85	72	12.30	28.75	15.85	96	12.05	72.67	59.77	119	12.40	72.67	59.77				



**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
D	4/21/2021	TAC Resubmission
C	3/22/2021	TAC Submission
B	3/10/2021	Design Review Resubmission
A	12/1/2020	TAC Work Session

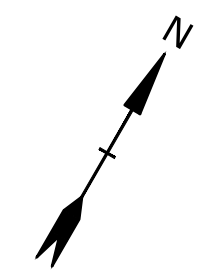
PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-EXHIBITS.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH/PMC
APPROVED BY:	BLM

**MIXED USE GRADE PLANE EXHIBIT**

SCALE: AS SHOWN

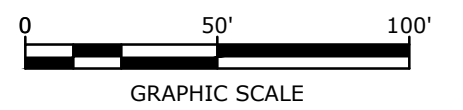
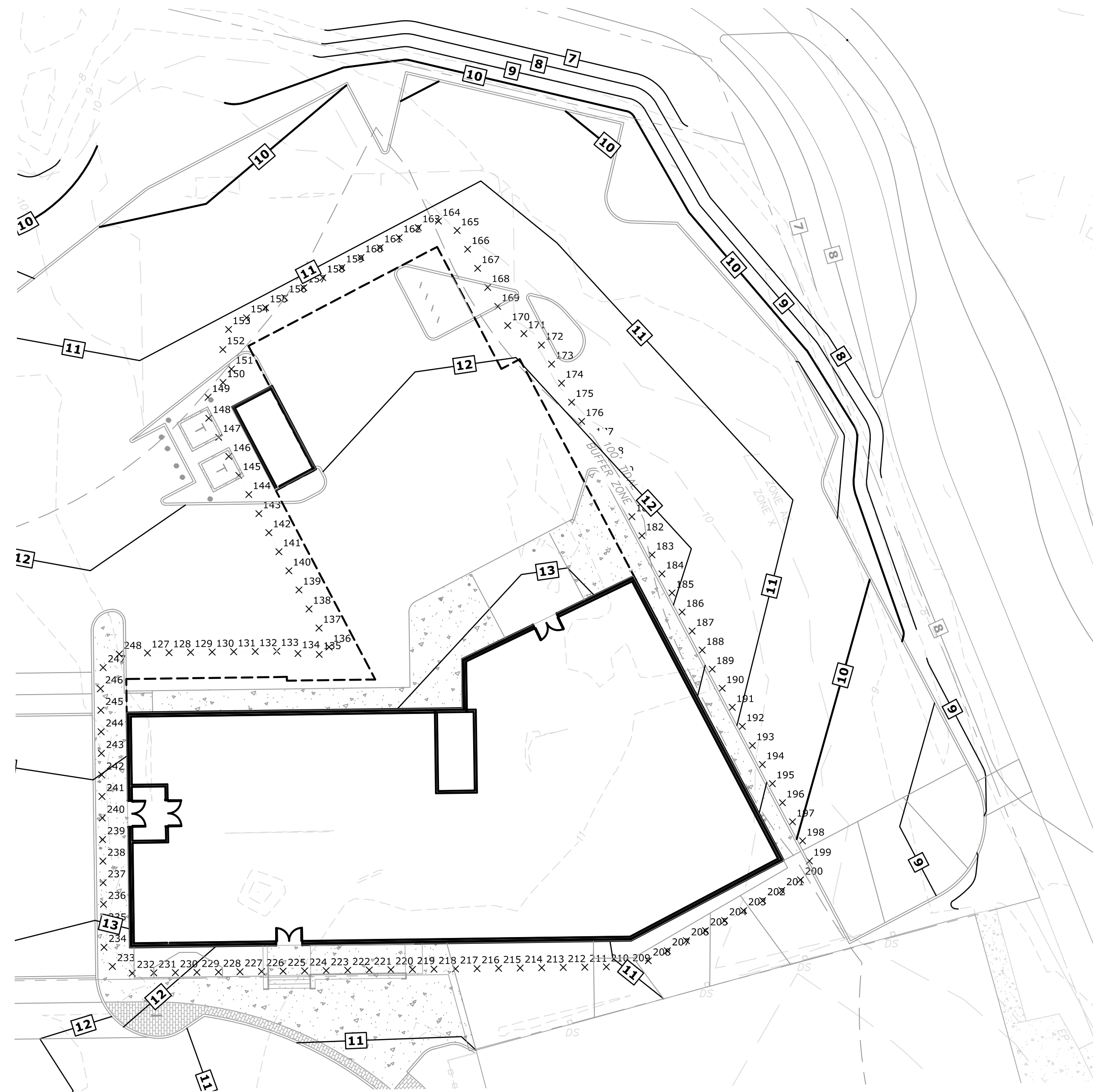
	BUILDING ELEVATIONS AND HEIGHTS				
	GRADE PLANE ELEVATION	BUILDING ELEVATION ALLOWED		BUILDING HEIGHT	
MIXED USE	12.90'	72.90'	72.67'	60.00'	59.77'
HOTEL	11.85'	71.85'	71.75'	60.00'	59.90'

Last Saved: 4/21/2021, 5:38am By: Mahanien  
 Plotted On: Apr 21, 2021, 5:38am  
 Tighe & Bond 21\1\2021\0595-007-Proposals\0595-007-Proposals\0595-007-Exhibits.dwg



**HOTEL BUILDING GRADE PLANE ELEVATIONS**

POINT #	SURFACE ELEV	ROOF ELEV	BUILDING HEIGHT	POINT #	SURFACE ELEV	ROOF ELEV	BUILDING HEIGHT	POINT #	SURFACE ELEV	ROOF ELEV	BUILDING HEIGHT	POINT #	SURFACE ELEV	ROOF ELEV	BUILDING HEIGHT	POINT #	SURFACE ELEV	ROOF ELEV	BUILDING HEIGHT	POINT #	SURFACE ELEV	ROOF ELEV	BUILDING HEIGHT
127	12.45	71.75	59.90	151	11.85	71.75	59.90	175	11.96	71.75	59.90	199	10.40	71.75	59.90	222	12.30	71.75	59.90	246	12.75	71.75	59.90
128	12.50	71.75	59.90	152	11.20	71.75	59.90	176	11.98	71.75	59.90	200	10.45	71.75	59.90	223	12.70	71.75	59.90	247	12.90	71.75	59.90
129	12.60	71.75	59.90	153	11.10	71.75	59.90	177	12.00	71.75	59.90	201	10.50	71.75	59.90	224	13.10	71.75	59.90	248	12.70	71.75	59.90
130	12.65	71.75	59.90	154	11.10	71.75	59.90	178	12.05	71.75	59.90	202	10.55	71.75	59.90	225	13.15	71.75	59.90	AVERAGE GRADE PLANE ELEVATION			11.85
131	12.70	71.75	59.90	155	11.10	71.75	59.90	179	12.10	71.75	59.90	203	10.65	71.75	59.90	226	11.85	71.75	59.90				
132	12.75	71.75	59.90	156	11.10	71.75	59.90	180	12.15	71.75	59.90	204	10.70	71.75	59.90	227	11.85	71.75	59.90				
133	12.80	71.75	59.90	157	11.10	71.75	59.90	181	12.25	71.75	59.90	205	10.75	71.75	59.90	228	11.90	71.75	59.90				
134	12.85	71.75	59.90	158	11.10	71.75	59.90	182	12.30	71.75	59.90	206	10.80	71.75	59.90	229	11.95	71.75	59.90				
135	12.90	71.75	59.90	159	11.10	71.75	59.90	183	12.35	71.75	59.90	207	10.85	71.75	59.90	230	13.05	71.75	59.90				
136	12.90	71.75	59.90	160	11.10	71.75	59.90	184	12.35	71.75	59.90	208	10.90	71.75	59.90	231	12.30	71.75	59.90				
137	12.80	71.75	59.90	161	11.10	71.75	59.90	185	12.05	71.75	59.90	209	11.00	71.75	59.90	232	12.50	71.75	59.90				
138	12.75	71.75	59.90	162	11.10	71.75	59.90	186	11.90	71.75	59.90	210	11.02	71.75	59.90	233	12.50	71.75	59.90				
139	12.65	71.75	59.90	163	11.10	71.75	59.90	187	11.70	71.75	59.90	211	11.05	71.75	59.90	234	12.85	71.75	59.90				
140	12.55	71.75	59.90	164	11.10	71.75	59.90	188	11.50	71.75	59.90	212	11.10	71.75	59.90	235	13.00	71.75	59.90				
141	12.45	71.75	59.90	165	11.15	71.75	59.90	189	11.35	71.75	59.90	213	11.15	71.75	59.90	236	13.25	71.75	59.90				
142	12.35	71.75	59.90	166	11.25	71.75	59.90	190	11.20	71.75	59.90	214	11.20	71.75	59.90	237	13.30	71.75	59.90				
143	12.25	71.75	59.90	167	11.35	71.75	59.90	191	11.05	71.75	59.90	215	11.25	71.75	59.90	238	13.25	71.75	59.90				
144	12.65	71.75	59.90	168	11.90	71.75	59.90	192	10.80	71.75	59.90	216	11.30	71.75	59.90	239	13.15	71.75	59.90				
145	12.50	71.75	59.90	169	11.80	71.75	59.90	193	10.65	71.75	59.90	217	11.20	71.75	59.90	240	13.10	71.75	59.90				
146	12.40	71.75	59.90	170	11.90	71.75	59.90	194	10.50	71.75	59.90	218	11.15	71.75	59.90	241	13.00	71.75	59.90				
147	12.25	71.75	59.90	171	11.90	71.75	59.90	195	10.30	71.75	59.90	219	11.30	71.75	59.90	242	12.95	71.75	59.90				
148	12.10	71.75	59.90	172	11.90	71.75	59.90	196	10.20	71.75	59.90	220	11.50	71.75	59.90	243	12.90	71.75	59.90				
149	11.95	71.75	59.90	173	11.92	71.75	59.90	197	10.05	71.75	59.90	221	11.90	71.75	59.90	244	12.85	71.75	59.90				
150	11.90	71.75	59.90	174	11.94	71.75	59.90	198	9.95	71.75	59.90	222	12.30	71.75	59.90	245	12.80	71.75	59.90				



**Proposed Mixed Use Development**

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
D	4/21/2021	TAC Resubmission
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A	12/1/2020	TAC Work Session

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-EXHIBITS.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH/PMC
APPROVED BY:	BLM

**HOTEL GRADE PLANE EXHIBIT**

SCALE: AS SHOWN

	GRADE PLANE ELEVATION	BUILDING ELEVATION		BUILDING HEIGHT	
		ALLOWED	PROPOSED	ALLOWED	PROPOSED
MIXED USE	12.90'	72.90'	72.67'	60.00'	59.77'
HOTEL	11.85'	71.85'	71.75'	60.00'	59.90'









MEAN HIGH WATER

OVERLOOK SEATING NICHE WITH FITNESS MULTIPURPOSE BENCH

RESTORATION SEED MIX

OVERLOOK SEATING NICHE WITH CHAIR BENCHES

50' WATER-FRONT BUFFER

NORTH MILL POND GREENWAY MULTI-USE PATH

WAYFINDING SIGNAGE

VIBRANT STREETSCAPE WITH RETAIL SPILL OUT ZONES, UNIT PAVERS, AND SEASONAL PLANTINGS

FUTURE GREENWAY COMMUNITY PARK

RECONSTRUCTED TIMBER PIER

CURRENT BOAT/KAYAK LAUNCH RAMP

CONNECTION TO FUTURE GREENWAY COMMUNITY PARK

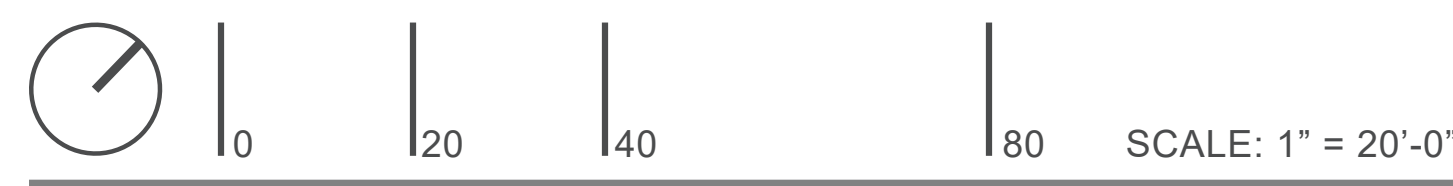
BOAT/KAYAK STORAGE

NORTH MILL POND GREENWAY MULTI-USE PATH CONNECTION

CONNECTION TO FUTURE GREENWAY COMMUNITY PARK

VEHICULAR UNIT PAVER ALLEY FOR FLEXIBLE PROGRAM USE; FIRE EMERGENCY ACCESS

WAYFINDING SIGNAGE



**SITE LANDSCAPE PLAN**

**RAYNES AVE - PORTSMOUTH, NH**



4/21/2021



COMMUNITY OPEN SPACE:



GREENWAY  
COMMUNITY SPACE

REQUIRED

PROVIDED

27,000 SF

TOTAL LOT AREA: 110,415 SF  
COMMUNITY OPEN SPACE (20% OF TOTAL)

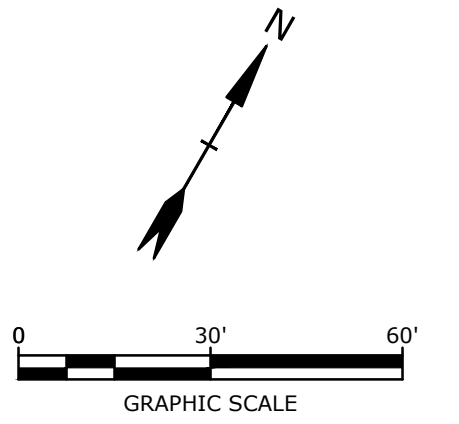
21,274 SF  
20%

27,000 SF  
24.5%

# PROPOSED MIXED USE DEVELOPMENT PORTSMOUTH, NEW HAMPSHIRE

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## COMMUNITY SPACE EXHIBIT



**Tighe & Bond**  
Engineers | Environmental Specialists

April 21, 2021  
P-0595-007-C-DSGN.dwg

Last Save Date: April 20, 2021, 6:50 PM By: MAHANSEN  
Plot Date: Wednesday, April 21, 2021 Plotted By: Neil A. Hansen  
T&B File Location: J:\P\0595 Proj Con General Proposals\0595-007 Raynes Ave Hotel\Drawings\_Figures\AutoCAD\Sheet\0595-007-EXHIBITS.dwg Layout Tab: COMMUNITY



Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

April 19, 2021

TFM Project No: 47388.11

Juliette Walker, Planning Director  
Portsmouth Planning Department  
City Hall, 3rd Floor  
1 Junkins Avenue  
Portsmouth, NH 03801

**Re: TAC Review for Peverly Hill Road Condominiums, Tax Map 242, Lot 4**

Dear: Juliette,

On behalf of our client, Green & Company, we are submitting the following plans and materials for review by the Technical Advisory Committee (TAC). Included with this letter are the following materials:

- 01 – Letter of Authorization
- 02 – Abutters List
- 03 – Site Plan Check List
- 04 – Subdivision Check List
- 05 – Waiver Request
- 06 – Traffic Memorandum (Traffic Evaluation)
- 07 – Traffic Memorandum (Traffic Calming)
- 08 – Sewer Calculations
- 09 – Architectural Housing Plans
- 10 – Drainage Letter
- 11 – Set of the “Peverly Hill Road Condominiums”, Peverly Hill Road, Portsmouth, NH, Tax Map 242, Lot 4, Dated April 19, 2021.

This proposal is for an Open Space Planned Unit Development Condominium Site Plan, consisting of 56 single-family dwelling units and 2,950-ft of public roadway. Associated improvements include underground utility installation, (2) recreational pocket parks, a public pike path, landscaping, and open space.





This project has been presented before City Staff during (2) informal meetings and at a TAC Work Session on February 9<sup>th</sup>, 2021. These plans reflect the suggested changes based upon comments received during those meetings.

We look forward to discussing this project with you and the rest of TAC at the May 4<sup>th</sup>, 2021 meeting.

Sincerely,  
**MSC a division of TFMoran, Inc.**

A handwritten signature in black ink, appearing to read 'John McTigue', is written over the typed name and title below.

John McTigue, PE, CPESC  
*Project Manager*

**Letter of Authorization**

We, Philip J. Stokel of 73 South Street, Concord, NH 03301, and Stella B. Stokel 1993 Trust, Stella B. Stokel, Trustee, of 83 Peverly Hill Road, Portsmouth, NH 03801, as owners of certain real property situated in Portsmouth, New Hampshire further described as 83 Peverly Hill Road, Portsmouth, consisting of approximately 107 acres of land as shown on the City of Portsmouth Tax Assessor Map 242, Lot 4, improved with a single-family residence with 665 feet of frontage on Peverly Hill Road, along with all easement and rights of record, do hereby authorize Green & Company Building and Development Corp. and its Affiliates, Agents, Assigns and Engineers to act on our behalf and to appear before the conservation commission, zoning board of adjustment and/or the planning board of Portsmouth, New Hampshire and/or any of its boards or commissions, in our behalf for the purpose of seeking any regulatory relief that may be requested by the person we have above authorized, including variances, special exceptions, dimensional waivers, site plan approval, lot line adjustment approval and subdivision approval, hereby ratifying any actions taken by him/her/them to obtain any such relief. We authorize Green & Company Building and Development Corp. and its Affiliates, Agents, Assigns and Engineers to act in our behalf in all matters concerning the development and approval process, without limitation, for the above stated property, to include any required signatures.

We shall cooperate fully with Green & Company Building and Development Corp. and its Affiliates, Agents, Assigns and Engineers in seeking timely public approvals and for the completion of the sale contemplated herein. We agree to use our good faith efforts to provide any assistance we reasonably can to Green & Company Building and Development Corp. and its Affiliates, Agents, Assigns and Engineers throughout the development process, including but not limited to signing permit applications as needed.

Stella B. Stokel  
Witness

Philip J. Stokel  
Owner: Philip J. Stokel

10-19-19  
Date

Philip Stokel  
Witness

Stella B. Stokel  
Owner: Stella B. Stokel, Trustee of the  
Stella B. Stokel 1993 Trust

10-19-2019  
Date



Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

# Abutters List

**Green & Company**  
83 Peverly Hill Rd, Portsmouth, NH

April 19, 2021  
47388-11

Assessors Map		Abutter Name	Mailing Address
Map	Lot		
1	LOCUS 242	4	S B & N A STOKEL TRUST & PHILIP J. STOKEL 83 PEVERLY HILL ROAD PORTSMOUTH, NH 03801
2	165	14	BOSTON & MAINE CORPORATION IRON HORSE PARK HIGH STREET NORTH BILLERICA, MA 01862
3	232	87	SUSAN L. DIXON 68 WIBIRD STREET PORTSMOUTH, NH 03801
4	232	88	NATHAN M. & SHERRI M. TARLETON 74 LEAVITT AVENUE PORTSMOUTH, NH 03801
5	232	92	DYANNA L. INNES 78 PEVERLY HILL ROAD PORTSMOUTH, NH 03801
6	232	93	KENNETH T. BLACK 82 PEVERLY HILL ROAD PORTSMOUTH, NH 03801
7	232	95	CITY OF PORTSMOUTH DPW PO BOX 628 PORTSMOUTH, NH 03802
8	242	1	STATE OF NEW HAMPSHIRE FISH & GAME DEPT 11 HAZEN DRIVE CONCORD, NH 03301
9	242	3	NEW HOPE BAPTIST CHURCH PO BOX 1473 PORTSMOUTH, NH 03802
10	242	5	ROMAN CATHOLIC BISHOP OF MANCHESTER CHURCH OF IMMAC 153 ASH STREET MANCHESTER, NH 03104
11	243	50	ASRT, LLC 266 MIDDLE STREET PORTSMOUTH, NH 03801
12	243	51	AJEI REAL ESTATE LLC 163 SPINNEY ROAD PORTSMOUTH, NH 03801
13	243	52	CITY OF PORTSMOUTH DPW PO BOX 628 PORTSMOUTH, NH 03802
14	255	5	THOMAS E. & MARYBETH B. REIS AND JAMES B. & MEEGAN C. REIS 305 PEVERLY HILL ROAD PORTSMOUTH, NH 03801
15	255	8	MERRIMAC VALLEY HOMES, INC. 1794 BRIDGE STREET, UNIT 6 DRACUT, MA 01826
16	256	1	SWIFT WATER GIRL SCOUT COUNCIL ONE COMMERCE DRIVE BEDFORD, NH 03110
17	265	2	MARK H. ODIORNE 520 BANFIELD ROAD PORTSMOUTH, NH 03801
18	265	2A	DAVID W. ECKER 875 BANFIELD ROAD PORTSMOUTH, NH 03801
19	265	2B	LEE ANN & RICHARD M. RILEY 470 BANFIELD ROAD PORTSMOUTH, NH 03801
20	265	2C	APOSTOLIC CHURCH OF J CHRIST 500 BANFIELD ROAD PORTSMOUTH, NH 03801
21	265	2D	CITY OF PORTSMOUTH DPW PO BOX 628 PORTSMOUTH, NH 03802
22	265	2E	CITY OF PORTSMOUTH 1 JUNKINS AVENUE PORTSMOUTH, NH 03801
Civil Engineers / Surveyor		TFMoran, Inc.	170 Commerce Way - Suite 102 Portsmouth, NH 03801
Environmental / Wetlands Scientist		Gove Environmental Services, Inc.	8 Continental Drive, Unit H Exeter, NH 03833





# 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. 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. [STOKEL SB & NA TRUST, STOKEL PHILIP J](#)

Name of Owner/Applicant: Green & Company Building & Development Corp. Date Submitted: 4/19/21

Phone Number: 603-964-7572 E-mail: mgreen@greenandcompany.com

Site Address: 83 Peverly Hill Road Map: 242 Lot: 4

Zoning District: Single Residence A (SRA) & B (SRB) Lot area: 4,604,509 sq. ft.

Application Requirements			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Fully executed and signed Application form. (2.5.2.3)	Submitted online and (1) copy to City	N/A
<input checked="" type="checkbox"/>	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF) on compact disc, DVD or flash drive. (2.5.2.8)	Submitted 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. (2.5.3.1A)	N/A	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. (2.5.3.1B)	Submitted online and (1) copy to City	N/A
<input checked="" type="checkbox"/>	Tax map and lot number, and current zoning of all parcels under Site Plan Review. (2.5.3.1C)	See sheet S-01	N/A
<input checked="" type="checkbox"/>	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. (2.5.3.1D)	See sheet C-00	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 checked="" 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>(2.5.3.1E)</b>	See sheet S-01	N/A
<input checked="" type="checkbox"/>	Names, addresses and telephone numbers of all professionals involved in the site plan design. <b>(2.5.3.1F)</b>	See sheet C-00	N/A
<input checked="" type="checkbox"/>	List of reference plans. <b>(2.5.3.1G)</b>	See sheet S-01	N/A
<input checked="" type="checkbox"/>	List of names and contact information of all public or private utilities servicing the site. <b>(2.5.3.1H)</b>	See sheet C-00/C-01	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 checked="" 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. Submittals shall be a minimum of 11 inches by 17 inches as specified by Planning Dept. staff. <b>(2.5.4.1A)</b>	Required on all plan sheets	N/A
<input checked="" 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 checked="" 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>	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Plans shall be drawn to scale. <b>(2.5.4.1D)</b>	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Plans shall be prepared and stamped by a NH licensed civil engineer. <b>(2.5.4.1D)</b>	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Wetlands shall be delineated by a NH certified wetlands scientist. <b>(2.5.4.1E)</b>	S-01	N/A
<input checked="" type="checkbox"/>	Title (name of development project), north point, scale, legend. <b>(2.5.4.2A)</b>	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Date plans first submitted, date and explanation of revisions. <b>(2.5.4.2B)</b>	Required on all plan sheets	N/A
<input checked="" 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

**Site Plan Specifications**

☑	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
☑	Source and date of data displayed on the plan. <b>(2.5.4.2D)</b>	Required on all plan sheets	N/A
☑	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>	Required on all plan sheets  See sheet C-03	N/A
☑	Plan sheets submitted for recording shall include the following notes: <ul style="list-style-type: none"> <li>a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds."</li> <li>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."</li> </ul> <b>(2.13.3)</b>	See sheet C-03	N/A
☑	Plan sheets showing landscaping and screening shall also include the following additional notes: <ul style="list-style-type: none"> <li>a. "The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials."</li> <li>b. "All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair."</li> <li>c. "The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director."</li> </ul> <b>(2.13.4)</b>	See sheet C-54	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
	<b>1. Existing Conditions: (2.5.4.3A)</b>		
<input checked="" type="checkbox"/>	a. Surveyed plan of site showing existing natural and built features;	S-01	<input type="checkbox"/>
<input checked="" type="checkbox"/>	b. Zoning boundaries;	S-01	<input type="checkbox"/>
<input checked="" type="checkbox"/>	c. Dimensional Regulations;	S-05	<input type="checkbox"/>
<input checked="" type="checkbox"/>	d. Wetland delineation, wetland function and value assessment;	S-01	<input type="checkbox"/>
<input checked="" type="checkbox"/>	e. SFHA, 100-year flood elevation line and BFE data.	S-01	<input type="checkbox"/>
	<b>2. Buildings and Structures: (2.5.4.3B)</b>		
<input checked="" type="checkbox"/>	a. Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation;	Attached	<input type="checkbox"/>
<input checked="" type="checkbox"/>	b. Elevations: Height, massing, placement, materials, lighting, façade treatments;	Attached	<input type="checkbox"/>
<input checked="" type="checkbox"/>	c. Total Floor Area;	Attached	<input type="checkbox"/>
<input checked="" type="checkbox"/>	d. Number of Usable Floors;	Attached	<input type="checkbox"/>
<input checked="" type="checkbox"/>	e. Gross floor area by floor and use.	Attached	<input type="checkbox"/>
	<b>3. Access and Circulation: (2.5.4.3C)</b>		
<input checked="" type="checkbox"/>	a. Location/width of access ways within site;	C-04 - C-12	<input type="checkbox"/>
<input checked="" type="checkbox"/>	b. Location of curbing, right of ways, edge of pavement and sidewalks;	C-04 - C-12	<input type="checkbox"/>
<input checked="" type="checkbox"/>	c. Location, type, size and design of traffic signing (pavement markings);	C-04 - C-12	<input type="checkbox"/>
<input checked="" type="checkbox"/>	d. Names/layout of existing abutting streets;	S-01	<input type="checkbox"/>
<input type="checkbox"/>	e. Driveway curb cuts for abutting prop. and public roads;	C-02 & C-04	<input type="checkbox"/>
<input checked="" type="checkbox"/>	f. If subdivision; Names of all roads, right of way lines and easements noted;	S-03	<input type="checkbox"/>
<input type="checkbox"/>	g. AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	N/A (Fire truck turning provided)	<input checked="" type="checkbox"/>
	<b>4. Parking and Loading: (2.5.4.3D)</b>		
<input checked="" type="checkbox"/>	a. Location of off street parking/loading areas, landscaped areas/buffers;	C-04 - C-12	<input type="checkbox"/>
<input checked="" type="checkbox"/>	b. Parking Calculations (# required and the # provided).	C-03	<input type="checkbox"/>
	<b>5. Water Infrastructure: (2.5.4.3E)</b>		
<input checked="" type="checkbox"/>	a. Size, type and location of water mains, shut-offs, hydrants & Engineering data;	C-28 - C-35	<input type="checkbox"/>
<input type="checkbox"/>	b. Location of wells and monitoring wells (include protective radii).	N/A	<input type="checkbox"/>
	<b>6. Sewer Infrastructure: (2.5.4.3F)</b>		
<input checked="" type="checkbox"/>	a. Size, type and location of sanitary sewage facilities & Engineering data.	C-28 - C-35 & C-37 - C-40	<input type="checkbox"/>
	<b>7. Utilities: (2.5.4.3G)</b>		
<input checked="" type="checkbox"/>	a. The size, type and location of all above & below ground utilities;	C-28 - C-35	<input type="checkbox"/>
<input checked="" type="checkbox"/>	b. Size type and location of generator pads, transformers and other fixtures.	C-28 - C-35	<input type="checkbox"/>

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"/>	<b>8. Solid Waste Facilities: (2.5.4.3H)</b>		
<input checked="" type="checkbox"/>	a. The size, type and location of solid waste facilities.	C-27 - C-35 & C-37 - C-40	<input type="checkbox"/>
<input type="checkbox"/>	<b>9. Storm water Management: (2.5.4.3I)</b>		
<input checked="" type="checkbox"/>	a. The location, elevation and layout of all storm-water drainage.	C-17 - C-26	<input type="checkbox"/>
<input type="checkbox"/>	<b>10. Outdoor Lighting: (2.5.4.3J)</b>		
<input checked="" type="checkbox"/>	a. Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and; b. photometric plan.	C-64 - C-72	<input type="checkbox"/>
<input checked="" type="checkbox"/>	11. Indicate where dark sky friendly lighting measures have been implemented. (10.1)	C-64 - C-72	<input type="checkbox"/>
<input type="checkbox"/>	<b>12. Landscaping: (2.5.4.3K)</b>		
<input checked="" type="checkbox"/>	a. Identify all undisturbed area, existing vegetation and that which is to be retained;	C-54 - C-63	<input type="checkbox"/>
<input type="checkbox"/>	b. Location of any irrigation system and water source.	TBD	<input type="checkbox"/>
<input type="checkbox"/>	<b>13. Contours and Elevation: (2.5.4.3L)</b>		
<input checked="" type="checkbox"/>	a. Existing/Proposed contours (2 foot minimum) and finished grade elevations.	C-17 - C-26	<input type="checkbox"/>
<input type="checkbox"/>	<b>14. Open Space: (2.5.4.3M)</b>		
<input checked="" type="checkbox"/>	a. Type, extent and location of all existing/proposed open space.	S-05	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<b>15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)</b>	S-01	<input type="checkbox"/>
<input type="checkbox"/>	<b>16. Location of snow storage areas and/or off-site snow removal. (2.5.4.3O)</b>	N/A (Road shoulders)	<input type="checkbox"/>
<input type="checkbox"/>	<b>17. Character/Civic District (All following information shall be included): (2.5.4.3Q)</b>	N/A	<input type="checkbox"/>
	a. Applicable Building Height (10.5A21.20 & 10.5A43.30);		
	b. Applicable Special Requirements (10.5A21.30);		
	c. Proposed building form/type (10.5A43);		
	d. Proposed community space (10.5A46).		

**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 checked="" type="checkbox"/>	Traffic Impact Study or Trip Generation Report, as required. <i>(Four (4) hardcopies of the full study/report and Six (6) summaries to be submitted with the Site Plan Application) (3.2.1-2)</i>	Traffic Memo	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Indicate where Low Impact Development Design practices have been incorporated. <b>(7.1)</b>	Drainage Letter	<input type="checkbox"/>
<input checked="" 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>	In wellhead protection area. To be provided in final drainage report.	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Indicate where measures to minimize impervious surfaces have been implemented. <b>(7.4.3)</b>	Narrowed roadways	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Calculation of the maximum effective impervious surface as a percentage of the site. <b>(7.4.3.2)</b>	C-03	<input type="checkbox"/>
<input type="checkbox"/>	Stormwater Management and Erosion Control Plan. <i>(Four (4) hardcopies of the full plan/report and Six (6) summaries to be submitted with the Site Plan Application) (7.4.4.1)</i>	C-17 - C-26 & C-41 - C-50. Final report to be provided in Planning Board submittal.	<input type="checkbox"/>

**Final Site Plan Approval Required Information**

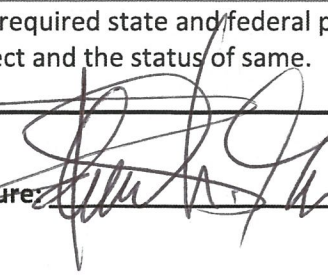
<input checked="" type="checkbox"/>	<b>Required Items for Submittal</b>	<b>Item Location (e.g. Page/line or Plan Sheet/Note #)</b>	<b>Waiver Requested</b>
<input checked="" type="checkbox"/>	All local approvals, permits, easements and licenses required, including but not limited to: <ul style="list-style-type: none"> <li>a. Waivers;</li> <li>b. Driveway permits;</li> <li>c. Special exceptions;</li> <li>d. Variances granted;</li> <li>e. Easements;</li> <li>f. Licenses.</li> </ul> <b>(2.5.3.2A)</b>	C-00	<input type="checkbox"/>
<input checked="" 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>a. Calculations relating to stormwater runoff;</li> <li>b. Information on composition and quantity of water demand and wastewater generated;</li> <li>c. Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls;</li> <li>d. Estimates of traffic generation and counts pre- and post-construction;</li> <li>e. Estimates of noise generation;</li> <li>f. A Stormwater Management and Erosion Control Plan;</li> <li>g. Endangered species and archaeological / historical studies;</li> <li>h. Wetland and water body (coastal and inland) delineations;</li> <li>i. Environmental impact studies.</li> </ul> <b>(2.5.3.2B)</b>	a. To be provided in final stormwater report at Planning Board submittal b. See sewer report c. N/A d. Traffic Memo e. N/A f. C-17 to C-26 & C-41 to C-50 g. NHB21-0943 h. S-01 i. N/A	<input type="checkbox"/>



**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 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 in Planning Board submittal.	<input type="checkbox"/>
<input checked="" 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>	C-00	<input type="checkbox"/>

Applicant's Signature: \_\_\_\_\_



Date: \_\_\_\_\_

4/19/21



# City of Portsmouth, New Hampshire

## *Subdivision Application Checklist*

This subdivision application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. 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 subdivision review requirements. Please refer to the Subdivision review regulations for full details.

**Applicant Responsibilities (Section III.C):** Applicable fees are due upon application submittal along with required number of copies of the Preliminary or final plat and supporting documents and studies. Please consult with Planning staff for submittal requirements.

Owner: STOKEL SB & NA TRUST. STOKEL PHILIP J Date Submitted: 4/19/2021

Applicant: Green & Company Building & Development Corp.

Phone Number: 603-964-7572 E-mail: mgreen@greenandcompany.com

Site Address 1: 83 Peverly Hill Road Map: 242 Lot: 4

Site Address 2: \_\_\_\_\_ Map: \_\_\_\_\_ Lot: 4

Application Requirements			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Completed Application form. <b>(III.C.2-3)</b>	Submitted online and (1) copy to City	N/A
<input checked="" type="checkbox"/>	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF) on compact disc, DVD or flash drive. <b>(III.C.4)</b>	Submitted online and (1) copy to City	N/A

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	Name and address of record owner, any option holders, descriptive name of subdivision, engineer and/or surveyor or name of person who prepared the plat. <b>(Section IV.1/V.1)</b>	C-00	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	<p><b>Preliminary Plat</b> Names and addresses of all adjoining property owners. <b>(Section IV.2)</b></p> <p><b>Final Plat</b> Names and addresses of all abutting property owners, locations of buildings within one hundred (100) feet of the parcel, and any new house numbers within the subdivision. <b>(Section V.2)</b></p>	S-01 - S-05	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	North point, date, and bar scale. <b>(Section IV.3/V3)</b>	Required on all Plan Sheets	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	Zoning classification and minimum yard dimensions required. <b>(Section IV.4/V.4)</b>	S-01 - S-05	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	<p><b>Preliminary Plat</b> Scale (not to be smaller than one hundred (100) feet = 1 inch) and location map (at a scale of 1" = 1000'). <b>(Section IV.5)</b></p> <p><b>Final Plat</b> Scale (not to be smaller than 1"=100'), Location map (at a scale of 1"=1,000') showing the property being subdivided and its relation to the surrounding area within a radius of 2,000 feet. Said location map shall delineate all streets and other major physical features that my either affect or be affected by the proposed development. <b>(Section V.5)</b></p>	S-01 - S-05	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	Location and approximate dimensions of all existing and proposed property lines including the entire area proposed to be subdivided, the areas of proposed lots, and any adjacent parcels in the same ownership. <b>(Section IV.6)</b>	S-01 - S-05	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	Dimensions and areas of all lots and any and all property to be dedicated or reserved for schools, parks, playgrounds, or other public purpose. Dimensions shall include radii and length of all arcs and calculated bearing for all straight lines. <b>(Section V.6/ IV.7)</b>	S-01 - S-05	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	Location, names, and present widths of all adjacent streets, with a designation as to whether public or private and approximate location of existing utilities to be used. Curbs and sidewalks shall be shown. <b>(Section IV.8/V.7)</b>	S-01 - S-05	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	



Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	Location of significant physical features, including bodies of water, watercourses, wetlands, railroads, important vegetation, stone walls and soils types that may influence the design of the subdivision. <b>(Section IV.9/V.8)</b>	S-01 - S05	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input type="checkbox"/>	<b>Preliminary Plat</b> Proposed locations, widths and other dimensions of all new streets and utilities, including water mains, storm and sanitary sewer mains, catch basins and culverts, street lights, fire hydrants, sewerage pump stations, etc. <b>(Section IV.10)</b> <b>Final Plat</b> Proposed locations and profiles of all proposed streets and utilities, including water mains, storm and sanitary sewer mains, catchbasins and culverts, together with typical cross sections. Profiles shall be drawn to a horizontal scale of 1"=50' and a vertical scale of 1"=5', showing existing centerline grade, existing left and right sideline grades, and proposed centerline grade. <b>(Section V.9)</b>	C-03 - C-42	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	When required by the Board, the plat shall be accompanied by profiles of proposed street grades, including extensions for a reasonable distance beyond the subject land; also grades and sizes of proposed utilities. <b>(Section IV.10)</b>	C-13 - C-16	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	Base flood elevation (BFE) for subdivisions involving greater than five (5) acres or fifty (50) lots. <b>(Section IV.11)</b>	S-05, Note 3	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	For subdivisions of five (5) lots or more, or at the discretion of the Board otherwise, the preliminary plat shall show contours at intervals no greater than two (2) feet. Contours shall be shown in dotted lines for existing natural surface and in solid lines for proposed final grade, together with the final grade elevations shown in figures at all lot corners. If existing grades are not to be changed, then the contours in these areas shall be solid lines. <b>(Section IV.12/ V.12)</b>	S-01 (existing) C-17 - C-26 (proposed)	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	Dates and permit numbers of all necessary permits from governmental agencies from which approval is required by Federal or State law. <b>(Section V.10)</b>	C-00	<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input type="checkbox"/>	For subdivisions involving greater than five (5) acres or fifty (50) lots, the final plat shall show hazard zones and shall include elevation data for flood hazard zones. <b>(Section V.11)</b>	N/A (Flood Zone X)	<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	Location of all permanent monuments. <b>(Section V.12)</b>	S-03	<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

**General Requirements<sup>1</sup>**

<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 checked="" type="checkbox"/>	<b>1. Basic Requirements: (VI.1)</b>	All sheets	
<input checked="" type="checkbox"/>	a. Conformity to Official Plan or Map	N/A	
<input checked="" type="checkbox"/>	b. Hazards	S-01	
<input checked="" type="checkbox"/>	c. Relation to Topography	S-01	
<input checked="" type="checkbox"/>	d. Planned Unit Development		
<input checked="" type="checkbox"/>	<b>2. Lots: (VI.2)</b>	S-05	
<input checked="" type="checkbox"/>	a. Lot Arrangement	S-05	
<input checked="" type="checkbox"/>	b. Lot sizes	S-05	
<input checked="" type="checkbox"/>	c. Commercial and Industrial Lots		
<input checked="" type="checkbox"/>	<b>3. Streets: (VI.3)</b>	a. S-05	
<input checked="" type="checkbox"/>	a. Relation to adjoining Street System	b. S-05	
<input checked="" type="checkbox"/>	b. Street Rights-of-Way	c. S-05	
<input checked="" type="checkbox"/>	c. Access	d. S-05	
<input type="checkbox"/>	d. Parallel Service Roads	e. C-XX (To be prov.)	
<input type="checkbox"/>	e. Street Intersection Angles	f. N/A	
<input type="checkbox"/>	f. Merging Streets	g. C-13 - C-16	
<input checked="" type="checkbox"/>	g. Street Deflections and Vertical Alignment	h. N/A	
<input type="checkbox"/>	h. Marginal Access Streets	i. N/A	
<input type="checkbox"/>	i. Cul-de-Sacs	j. C-13 - C-16	
<input checked="" type="checkbox"/>	j. Rounding Street Corners	k. TBD	
<input type="checkbox"/>	k. Street Name Signs	l. TBD	
<input type="checkbox"/>	l. Street Names	m. N/A	
<input type="checkbox"/>	m. Block Lengths	n. N/A	
<input type="checkbox"/>	n. Block Widths	o. C-17 - C-26	
<input checked="" type="checkbox"/>	o. Grade of Streets	p. C-04 - C-12	
<input checked="" type="checkbox"/>	p. Grass Strips		
<input checked="" type="checkbox"/>	<b>4. Curbing: (VI.4)</b>	C-04 - C-12	
<input checked="" type="checkbox"/>	<b>5. Driveways: (VI.5)</b>	C-04 - C-12	
<input checked="" type="checkbox"/>	<b>6. Drainage Improvements: (VI.6)</b>	C-18 - C-26	
<input checked="" type="checkbox"/>	<b>7. Municipal Water Service: (VI.7)</b>	C-28 - C-36	
<input checked="" type="checkbox"/>	<b>8. Municipal Sewer Service: (VI.8)</b>	C-37 - C-40	
<input checked="" type="checkbox"/>	<b>9. Installation of Utilities: (VI.9)</b>	C-27 - C-36	
<input type="checkbox"/>	a. All Districts		
<input type="checkbox"/>	b. Indicator Tape		
<input type="checkbox"/>	<b>10. On-Site Water Supply: (VI.10)</b>	C-27 - C-36	
<input type="checkbox"/>	<b>11. On-Site Sewage Disposal Systems: (VI.11)</b>	C-27 - C-36 & C-37 - C-40	
<input type="checkbox"/>	<b>12. Open Space: (VI.12)</b>	a. S-05	
<input checked="" type="checkbox"/>	a. Natural Features	b. C-54 - C-63	
<input checked="" type="checkbox"/>	b. Buffer Strips	c. S-05	
<input checked="" type="checkbox"/>	c. Parks	d. C-54 - C-63	
<input checked="" type="checkbox"/>	d. Tree Planting		
<input type="checkbox"/>	<b>13. Flood Hazard Areas: (VI.13)</b>	N/A	
<input type="checkbox"/>	a. Permits		
<input type="checkbox"/>	b. Minimization of Flood Damage		
<input type="checkbox"/>	c. Elevation and Flood-Proofing Records		
<input type="checkbox"/>	d. Alteration of Watercourses		
<input checked="" type="checkbox"/>	<b>14. Erosion and Sedimentation Control (VI.14)</b>	C-42 - C-51	



<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	<b>15. Easements (VI.15)</b>	S-01 - S-05	
<input checked="" type="checkbox"/>	a. Utilities		
<input checked="" type="checkbox"/>	b. Drainage		
<input checked="" type="checkbox"/>	<b>16. Monuments: (VI.16)</b>	S-01 - S-05	
<input checked="" type="checkbox"/>	<b>17. Benchmarks: (VI.17)</b>	S-01 - S-05	
<input checked="" type="checkbox"/>	<b>18. House Numbers (VI.18)</b>	S-05 (Final numbers TBD)	

Design Standards			
	Required Items for Submittal	Indicate compliance and/or provide explanation as to alternative design	Waiver Requested
<input checked="" type="checkbox"/>	<b>1. Streets have been designed according to the design standards required under Section (VII.1).</b> a. Clearing b. Excavation c. Rough Grade and Preparation of Sub-Grade d. Base Course e. Street Paving f. Side Slopes g. Approval Specifications h. Curbing i. Sidewalks j. Inspection and Methods	Yes	
<input checked="" type="checkbox"/>	<b>2. Storm water Sewers and Other Drainage Appurtenances have been designed according to the design standards required under Section (VII.2).</b> a. Design b. Standards of Construction	Yes (final stormwater design to be provided in Planning Board submittal)	
<input checked="" type="checkbox"/>	<b>3. Sanitary Sewers have been designed according to the design standards required under Section (VII.3).</b> a. Design b. Lift Stations c. Materials d. Construction Standards	Yes	
<input checked="" type="checkbox"/>	<b>4. Water Mains and Fire Hydrants have been designed according to the design standards required under Section (VII.4).</b> a. Connections to Lots b. Design and Construction c. Materials d. Notification Prior to Construction	Yes	

Applicant's/Representative's Signature: \_\_\_\_\_

Date: 4/19/2021

<sup>1</sup> See City of Portsmouth, NH Subdivision Rules and Regulations for details.  
Subdivision Application Checklist/January 2018



Civil Engineers  
 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists

April 19, 2021

Mr. Dexter Legg, Chair  
 Portsmouth Planning Board  
 1 Junkins Avenue  
 Portsmouth, NH 03801

**RE: Waiver Requests for Condominium Development, Banfield Road, Tax Map 256, Lot 2**

Dear Chairman Legg:

On behalf of our client, Green and Company, we respectfully request the following waivers as part of the submittal of the Village at Banfield Woods Condominium Development:

**Waiver Request:** for Subdivision Rules and Regulations, Residential Street Minimum Standards (page 36), requiring 32' of pavement width.

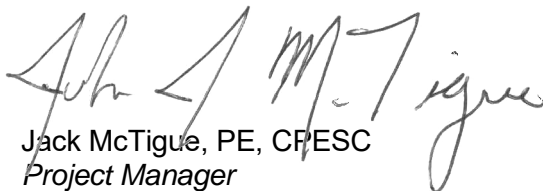
**Explanation:** The pavement width of 26.1' is provided pursuant to City Staff recommendations. This recommendation is based on "City of Portsmouth Complete Street Design Guidelines," dated June 2017. Page 8 of this document suggests a pavement width of 20' for a neighborhood slow street, which best describes the street for this Planned Unit Development. A width of 26.1' is provided to meet fire code standards for road over 750' long.

**Waiver Request:** for Subdivision Rules and Regulations Section VI(3)(b), "The minimum right-of-way for main thoroughfares shall be as shown on the City's Master Plan or Official Map and shall, when not indicated on such Master Plan or Official Map, be not less than sixty (60) feet; for residential streets, fifty (50) feet."

**Explanation:** The ROW width of 40' was provided pursuant to City Staff recommendations. This recommendation is based on the narrower road width and by the applicant's desire to avoid impacting the remainder of the property. This is in alignment with a Planned Unit Development.

We look forward to your review of these waiver requests at the next Planning Board hearing.

Respectfully,  
**TFMoran, Inc.**

  
 Jack McTigue, PE, CPESC  
 Project Manager



**MEMORANDUM**

Ref: 2047A

To: Michael Green  
Green & Company

From: Stephen G. Pernaw, P.E., PTOE

Subject: Proposed Residential Development – Traffic Evaluation  
Portsmouth, New Hampshire

Date: October 6, 2020

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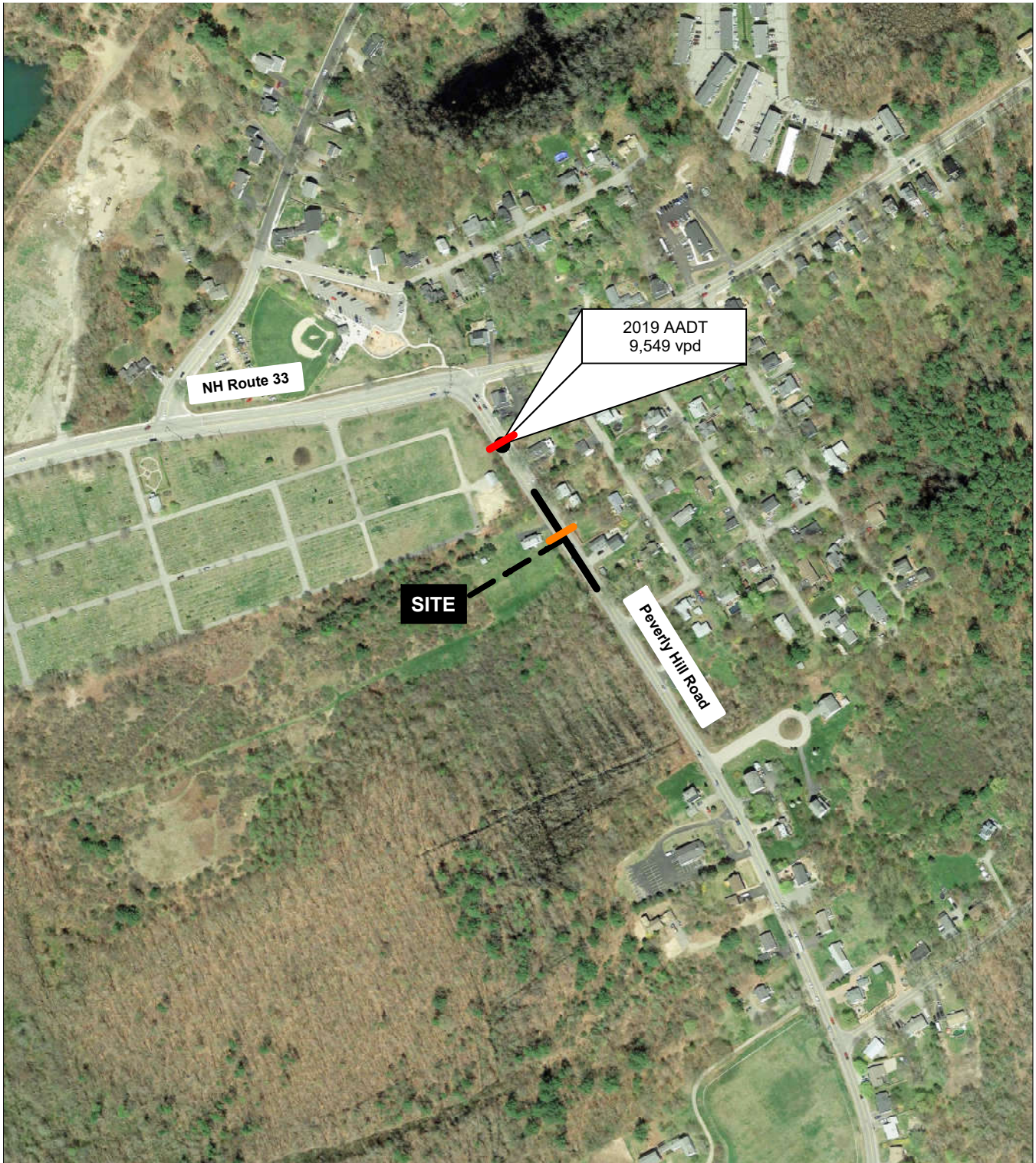
As requested, Pernaw & Company, Inc. has conducted this “*Traffic Evaluation*” regarding your proposed residential development project located on the west side of Peverly Hill Road in Portsmouth, New Hampshire. This study evaluates the Peverly Hill Road / Private Road A intersection and in terms of traffic operations, capacity, and safety based on 2032 Build traffic volumes. The purpose of this memorandum is to summarize our research of available traffic count data, our recent traffic counts at the subject site, the trip generation analysis for the proposed development, the post-development traffic projections, and the results of the various technical analyses. This study has determined that this proposed intersection will function safely and adequately as a conventional three-leg T-intersection with one shared general-purpose travel lane on each approach. To summarize:



Proposed Development – The conceptual design plan entitled “*Concept A-PUD Plan*,” prepared by TFM, Inc., Sheet A-02, dated July 28, 2020 shows that the proposed development will create 60 single-family detached residential units along a private roadway system (see Attachment 1). Private Road A is proposed to intersect the west side of Peverly Hill Road approximately 450-foot south of NH33 (Middle Road). The location of the automatic traffic recorders and the subject site with respect to the area roadway system is shown on Figure 1.

Existing Conditions – Peverly Hill Road extends in a general north-south direction along the site frontage and provides access between NH33 and US1. This road provides one travel lane in each direction in the vicinity of the subject site. The pavement width is delineated with a four-inch double yellow centerline and four-inch single white edge lines. Paved, grass and gravel shoulders of variable width are present along both sides of the roadway. The speed limit is posted at 25 mph in each direction in this area.

Existing Traffic Volumes – According to a short-term NHDOT traffic count conducted on Peverly Hill Road (south of NH33) in June 2019, this roadway section carried an estimated Annual Average Daily Traffic (AADT) volume of approximately 9,549 vehicles per day in 2019. The hourly data indicates that weekday volumes typically reached peak levels from 8:00 to 9:00 AM and from 4:00 to 5:00 PM. The diagrams on Page 3 summarize the daily and hourly variations in traffic demand at this location (see Attachments 2 & 3). This information was supplemented by a 24-hour Automatic Traffic Recorder count conducted by our office in September 2020.





-  = AUTOMATIC TRAFFIC RECORDER LOCATION (NHDOT)
-  = AUTOMATIC TRAFFIC RECORDER LOCATION (PERNAW & CO., INC.)



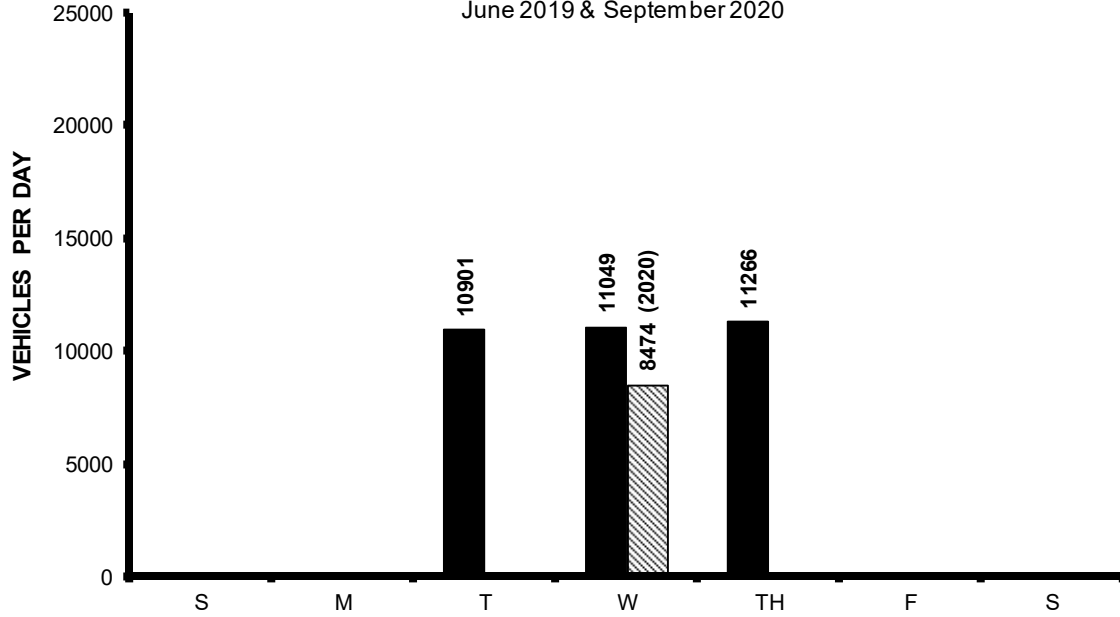
2047A

**Figure 1**

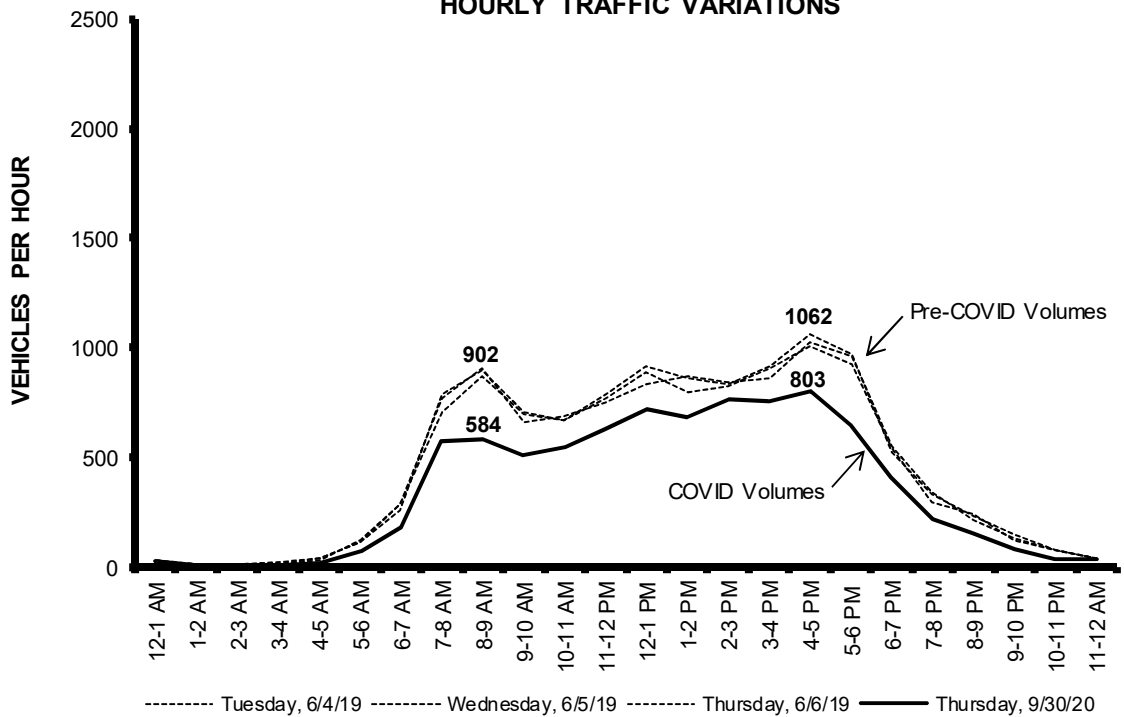
**Site Location**

*Traffic Evaluation, Proposed Residential Development, Portsmouth, New Hampshire*

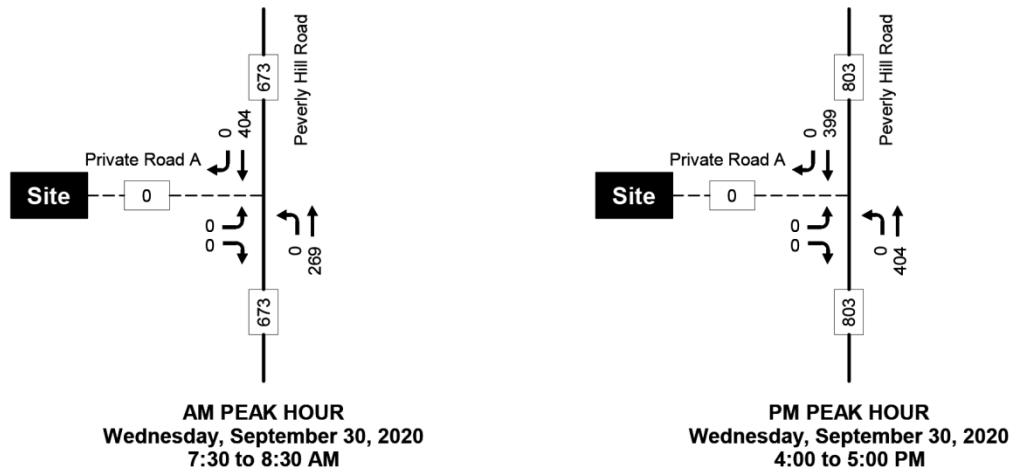
**DAILY TRAFFIC VARIATIONS**  
 Portsmouth, NH - Peverly Hill Road (South of NH33)  
 June 2019 & September 2020



**HOURLY TRAFFIC VARIATIONS**



The raw 2020 directional traffic volume data on Peverly Hill Road are summarized in the diagrams below. This data shows that travel in the southbound direction is predominant during the morning peak hour, and this reverses to northbound during the evening peak hour. This pattern is indicative of the employment opportunities in the city, and the proximity of Interstate Route 95.



When compared with the 2019 NHDOT count data, it is obvious that the current traffic levels on Peverly Hill Road have been affected by the COVID-19 pandemic. For this reason, the subsequent post-development traffic volumes contained herein reflect the use of a separate COVID adjustment factor. The raw traffic count data is attached (see Attachment 4).

Trip Generation - To estimate the quantity of vehicle-trips that will be produced by the proposed residential development, the standard trip generation rates and equations published by the Institute of Transportation Engineers<sup>1</sup> (ITE) were considered. Both Land Use Code 210 and 220 are somewhat applicable, for different reasons. LUC 210 applies to single-family detached dwellings; however, the proposed units are condominiums and are much smaller in size than is found in a conventional residential subdivision. LUC 220 applies to condominiums, apartments, and townhouses; however, with multiple units in the same building. Consequently, the trip rates per person for LUC 210 and the trip rates per dwelling unit for LUC 220 were considered; and the higher of the two results were utilized for traffic projection and analysis purposes. According to Green & Company's experience with similar development projects, there are approximately two persons per unit in this type of housing.

<sup>1</sup> Institute of Transportation Engineers, *Trip Generation*, 10<sup>th</sup> Edition (Washington, D.C., 2017)



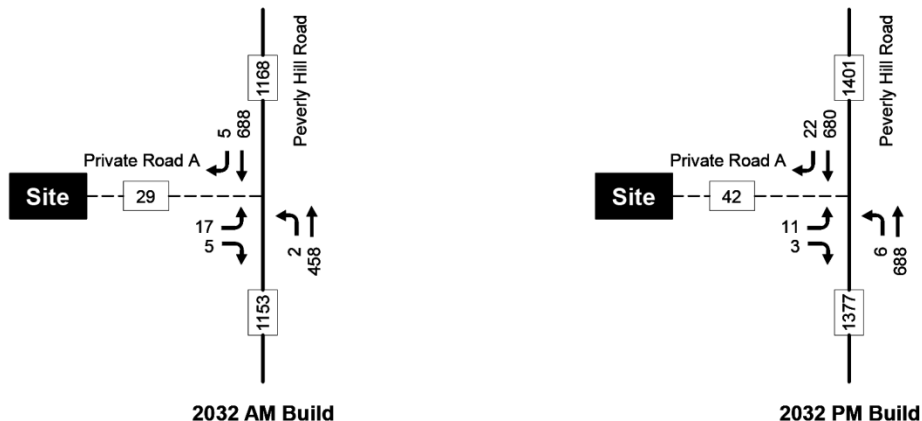
Table 1	Trip Generation Summary	
	Estimate A LUC 210 120 Residents <sup>1</sup>	Estimate B LUC 220 60 Units <sup>2</sup>
Weekday AM Peak Hour		
Entering	8 veh	<b>7 veh</b>
Exiting	<u>17 veh</u>	<b>22 veh</b>
Total	25 trips	<b>29 trips</b>
Weekday PM Peak Hour		
Entering	<b>28 veh</b>	23 veh
Exiting	<b>14 veh</b>	<u>14 veh</u>
Total	<b>42 trips</b>	37 trips
Weekday Total (24-hours)		
Entering	198 veh	207 veh
Exiting	<u>198 veh</u>	<u>207 veh</u>
Total	396 trips	414 trips

<sup>1</sup>ITE Land Use Code 210 - Single-Family Detached Housing (Use 2 persons per unit, Trip Equation Method)

<sup>2</sup>ITE Land Use Code 220 - Multifamily Housing - Low-Rise (60 Dwelling Units, Trip Equation Method)

Based upon ITE Land Use Code 210 (Single-Family Detached Housing) and ITE Land Use Code 220 (Multifamily Housing – Low Rise), the overall development is expected to generate approximately 29 vehicle-trips (7 arrivals, 22 departures) during the AM peak hour, and 42 vehicle-trips (28 arrivals, 14 departures) during the PM peak hour, on an average weekday basis (see Attachment 5).

Future Build Traffic Projections – The diagrams below summarize the Build traffic projections for the 2032 horizon year. These projections are based on the September 2020 traffic count data, a peak-month seasonal adjustment factor of 1.05 (see Attachment 6), a 2.0% background traffic growth rate, compounded annually (see Attachment 7), and a COVID-19 adjustment factor of 1.28 (see Attachment 8). The trip distribution analysis (see Attachment 9) indicates that the majority of site traffic (78%) will travel to/from points north on Peverly Hill Road.



Intersection Capacity and Level of Service - The long-range (2032) traffic projections form the basis for assessing traffic operations at the Peverly Hill Road / Private Road A intersection from a capacity and delay standpoint. This intersection was analyzed according to the methodologies of the *Highway Capacity Manual 2010*<sup>2</sup> as replicated by the latest edition of the *Synchro Signal Timing Software (Version 10)*, which is capable of analyzing unsignalized intersections as well.

Capacity and Level of Service (LOS) calculations pertaining to unsignalized intersections address the quality of service for those vehicles turning into and out of the intersecting side street or driveway. The availability of adequate gaps in the traffic stream on the major street actually controls the potential capacity for vehicle movements to and from the minor approaches, in terms of vehicles per hour.

The results of the analysis for the subject intersection show that all applicable turning movements will operate well below capacity through 2032 with the proposed development fully occupied. Nevertheless, departures from the Private Road A approach to Peverly Hill Road can be expected to encounter moderate delays during the peak hour periods in 2032: Level of Service E during the morning peak hour; Level of Service D during the evening peak hour (see Attachments 10 & 11).

#### Auxiliary Turn Lane Warrants Analysis

Left-Turn Treatment - The type of treatment needed to accommodate left-turning vehicles from any street or highway to an intersecting side street (or driveway) can range from no treatment, where turning volumes are low; to the provision of a bypass lane for through traffic to travel around left-turning vehicles; to the addition of a formal center turn lane used exclusively by left-turning vehicles for deceleration and storage while waiting to complete their maneuvers.

Analysis of the 2032 traffic volumes using NCHRP 457 guidelines confirmed that no special treatment is needed for left-turn arrivals from Peverly Hill Road. The results of the analysis are summarized on Table 2. This finding means that the northbound through lane on Peverly Hill Road will function safely and adequately as a shared through-left lane (see Attachments 12 & 13).

Right-Turn Treatment - The type of treatment needed to accommodate right-turning vehicles from any street or highway to any intersecting side street (or driveway) can range from a radius only, where turning volumes are low; to the provision of a short 10:1 right-turn taper; to the addition of an exclusive right-turn lane, where turning volumes and through traffic volumes are significant.

Analysis of the 2032 traffic volumes contained herein using NCHRP 457 guidelines confirmed that right-turn treatment is not warranted at the subject intersection. The results of these analyses are summarized on Table 2 and the computations are attached (Attachments 14 & 15).

Minor Road Approach Treatment - The type of treatment needed to accommodate exiting vehicles from the minor-road approach at a stop-controlled intersection can range from a single lane (shared left-right lane) in low-volume conditions, to two exit lanes (exclusive left-turn lane and exclusive right-turn lane) where turning volumes and through traffic volumes are significant,

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<sup>2</sup> Transportation Research Board, *Highway Capacity Manual* (Washington, D.C., 2010).

to multiple exit lanes in extreme cases. The analysis is summarized on Table 2 and shows that a single departure lane on the Private Road A approach to Peverly Hill Road is sufficient (see Attachments 16 & 17).

**Table 2**      **Auxiliary Turn Lane Warrants Analysis**  
**Peverly Hill Road / Private Road A**

	2032 AM Build Volumes	2032 PM Build Volumes
<b><u>I. LEFT-TURN LANE WARRANTS ANALYSIS</u></b>		
Peak Hour Inputs:		
Left-Turn Volume (NB)	2	6
Advancing Volume (NB)	460	694
Opposing Volume (SB)	693	702
Percent Lefts	0.4%	0.9%
Speed (mph)	25	25
Limiting Advancing Volume (veh/h)	>1000	>1000
<b>Left-Turn Treatment Warranted?</b>	<b>NO</b>	<b>NO</b>
<b><u>II. RIGHT-TURN LANE WARRANTS ANALYSIS</u></b>		
Peak Hour Inputs:		
Right-Turn Volume (SB)	5	22
Approach Volume (SB)	693	702
Speed (mph)	25	25
Limiting Right-Turn Volume (veh/h)	225	208
<b>Add Right-Turn Bay?</b>	<b>NO</b>	<b>NO</b>
<b><u>III. MINOR-ROAD APPROACH GEOMETRY ANALYSIS</u></b>		
Peak Hour Inputs:		
Major-Road Volume (NB-SB)	1153	1396
% Right-Turns on Minor (EB)	23	21
Minor-Road Approach Volume	22	14
Limiting Minor-Road Volume (veh/h)	132	95
<b>Consider TWO Approach Lanes?</b>	<b>NO</b>	<b>NO</b>

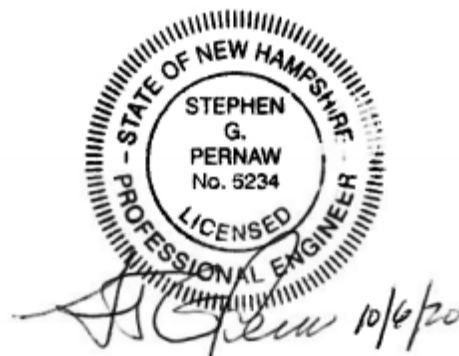


## Findings & Conclusions

1. The September 2020 traffic count conducted on Peverly Hill Road at the subject site revealed that this section of roadway carried approximately 8,500 vehicles on a typical weekday, with 673 vehicles observed passing the site during the AM peak hour (7:30 to 8:30 AM) and 803 vehicles observed during the PM peak hour (4:00 to 5:00 PM). The predominant travel direction was southbound during the AM, and northbound during the PM.
2. The proposed residential development is expected to generate approximately 29 (AM) and 42 (PM) vehicle-trips during the peak hour periods. The majority (78%) are expected to travel to/from points north on Peverly Hill Road (via NH33).
3. Site traffic is expected to increase the two-way traffic volume on Peverly Hill Road by +2% north of the site, and +1% south of the site by 2032.
4. The intersection capacity and Level of Service analysis indicates that all applicable traffic movements at this intersection will operate well below capacity through 2032 with the development fully occupied. By 2032, departures from the site are expected to operate at Level of Service E during the morning peak hour, and at Level of Service D during the PM peak hour. Left-turn arrivals (from Peverly Hill Road northbound) will operate at Level of Service B, or higher, during all hours of the day through 2032. Vehicle queuing on the Private Road A approach to Peverly Hill Road is expected to be minimal.
5. The 2032 Build traffic volumes do not satisfy the NCHRP guidelines for left-turn treatment or right-turn treatment at the Private Road A intersection on Peverly Hill Road. The subject intersection will function safely and efficiently with one shared travel lane on each approach to the subject intersection.

From a traffic operations and safety standpoint, providing ample sight distances looking left and right from the Proposed Road A approach to Peverly Hill Road is an important safety consideration. This new access road should operate under stop sign control, and be delineated with a 18-inch white stop line and a short section of 4-inch double-yellow centerline to separate inbound and outbound vehicles.

## Attachments



## **ATTACHMENTS**







**MS2**  
Transportation Data Management System

List View All DIRs

Record	1	of 1	Goto Record	go
Location ID	82379124	MPO ID		
Type	SPOT	HPMS ID		
On NHS	No	On HPMS	Yes	
LRS ID	L3790080__	LRS Loc Pt.		
SF Group	04	Route Type		
AF Group	04	Route		
GF Group	E	Active	Yes	
Class Dist Grp	Default	Category	3	
Seas Class Grp	Default			
WIM Group	Default			
QC Group	Default			
Funct'l Class	Major Collector	Milepost		
Located On	Pevery Hill Rd			
Loc On Alias	PEVERLY HILL RD SOUTH OF NH 33			
More Detail				
STATION DATA				

Directions: 2-WAY

AADT

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2019	9,549	1,062	11		8,748 (92%)	801 (8%)	
2018	10,823 <sup>3</sup>		11		9,978 (92%)	845 (8%)	Grown from 2017
2017	10,611 <sup>3</sup>		11		9,847 (93%)	764 (7%)	Grown from 2016
2016	10,403	1,150	11		9,487 (91%)	916 (9%)	
2015	10,527 <sup>3</sup>						Grown from 2014

> >> 1-5 of 20

Model Year	Model AADT	AM PHV	AM PPV	MD PHV	MD PPV	PM PHV	PM PPV	NT PHV	NT PPV
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VOLUME COUNT			
Date	Int	Total	
Thu 6/6/2019	60	11,266	
Wed 6/5/2019	60	11,049	
Tue 6/4/2019	60	10,901	
Tue 7/19/2016	60	12,808	
Mon 7/18/2016	60	12,033	
Sun 7/17/2016	60	6,806	
Fri 9/13/2013	60	11,838	
Thu 9/12/2013	60	11,713	
Wed 9/11/2013	60	11,902	
Tue 9/10/2013	60	11,404	

VOLUME TREND	
Year	Annual Growth
2019	-12%
2018	2%
2017	2%
2016	-1%
2015	3%
2014	2%
2013	4%
2010	-7%
2007	-10%



## Transportation Data Management System



Excel Version

Weekly Volume Report			
Location ID:	82379124	Type:	SPOT
Located On:	Peverly Hill Rd	:	
Direction:	2-WAY		
Community:	PORTSMOUTH	Period:	Mon 6/3/2019 - Sun 6/9/2019
AADT:	9549		

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg	Graph
12:00 AM		14	28	24				22	0.2%
1:00 AM		11	18	12				14	0.1%
2:00 AM		16	13	13				14	0.1%
3:00 AM		13	17	20				17	0.2%
4:00 AM		35	39	40				38	0.3%
5:00 AM		125	113	115				118	1.1%
6:00 AM		286	290	263				280	2.5%
7:00 AM		710	771	786				756	6.8%
8:00 AM		867	906	902				892	8.1%
9:00 AM		700	664	707				690	6.2%
10:00 AM		666	688	674				676	6.1%
11:00 AM		773	751	792				772	7.0%
12:00 PM		893	835	916				881	8.0%
1:00 PM		802	872	858				844	7.6%
2:00 PM		828	840	830				833	7.5%
3:00 PM		904	861	916				894	8.1%
4:00 PM		1004	1025	1062				1,030	9.3%
5:00 PM		926	963	973				954	8.6%
6:00 PM		543	548	524				538	4.9%
7:00 PM		299	340	336				325	2.9%
8:00 PM		246	216	237				233	2.1%
9:00 PM		124	133	148				135	1.2%
10:00 PM		74	78	79				77	0.7%
11:00 PM		42	40	39				40	0.4%
<b>Total</b>	<b>0</b>	<b>10,901</b>	<b>11,049</b>	<b>11,266</b>	<b>0</b>	<b>0</b>	<b>0</b>		
<b>24hr Total</b>		<b>10901</b>	<b>11049</b>	<b>11266</b>				<b>11,072</b>	
<b>AM Pk Hr</b>		8:00	8:00	8:00					
<b>AM Peak</b>		867	906	902				892	
<b>PM Pk Hr</b>		4:00	4:00	4:00					
<b>PM Peak</b>		1004	1025	1062				1,030	
<b>% Pk Hr</b>		9.21%	9.28%	9.43%				9.31%	

**Automatic Traffic Recorder Count - Peverly Hill Road, Portsmouth, NH (South of NH Route 33)**  
**Wednesday, September 30, 2020**

Period Beginning	CARS		TRUCKS		TOTAL		TOT		Period Beginning	CARS		TRUCKS		TOTAL		TOT		
	SB	NB	SB	NB	SB	NB				SB	NB	SB	NB	SB	NB			
12:00 AM	6	3	0	0	6	3	9		12:00 PM	98	80	10	10	108	90	198	683	
12:15 AM	5	2	0	0	5	2	7		12:15 PM	88	86	3	2	91	88	179	714	
12:30 AM	4	1	0	0	4	1	5		12:30 PM	92	81	8	2	100	83	183	740	
12:45 AM	2	2	0	0	2	2	4	25	12:45 PM	88	66	2	3	90	69	159	719	
1:00 AM	0	1	0	0	0	1	1	17	1:00 PM	75	81	4	2	79	83	162	683	
1:15 AM	2	0	0	0	2	0	2	12	1:15 PM	79	74	4	3	83	77	160	664	
1:30 AM	1	1	0	0	1	1	2	9	1:30 PM	79	76	8	6	87	82	169	650	
1:45 AM	1	1	0	1	1	2	3	8	1:45 PM	100	80	3	8	103	88	191	682	
2:00 AM	1	0	1	0	2	0	2	9	2:00 PM	94	68	8	6	102	74	176	696	
2:15 AM	1	1	0	0	1	1	2	9	2:15 PM	92	79	6	6	98	85	183	719	
2:30 AM	1	0	0	0	1	0	1	8	2:30 PM	107	68	5	5	112	73	185	735	
2:45 AM	1	1	0	0	1	1	2	7	2:45 PM	110	102	3	7	113	109	222	766	
3:00 AM	1	2	0	1	1	3	4	9	3:00 PM	113	90	7	2	120	92	212	802	
3:15 AM	0	0	0	0	0	0	0	7	3:15 PM	89	81	3	5	92	86	178	797	
3:30 AM	0	0	0	1	0	1	1	7	3:30 PM	91	91	8	6	99	97	196	808	
3:45 AM	3	0	0	0	3	0	3	8	3:45 PM	94	68	3	2	97	70	167	753	
4:00 AM	1	1	0	0	1	1	2	6	4:00 PM	93	110	0	3	93	113	206	747	
4:15 AM	1	2	0	0	1	2	3	9	4:15 PM	99	111	2	1	101	112	213	782	
4:30 AM	1	0	0	0	1	0	1	9	4:30 PM	86	92	5	0	91	92	183	769	
4:45 AM	4	4	1	0	5	4	9	15	4:45 PM	110	82	4	5	114	87	201	803	
5:00 AM	6	2	1	0	7	2	9	22	5:00 PM	89	100	2	0	91	100	191	788	
5:15 AM	17	4	0	0	17	4	21	40	5:15 PM	100	71	2	0	102	71	173	748	
5:30 AM	9	10	1	0	10	10	20	59	5:30 PM	79	76	1	1	80	77	157	722	
5:45 AM	20	3	1	1	21	4	25	75	5:45 PM	76	48	0	0	76	48	124	645	
6:00 AM	13	13	3	1	16	14	30	96	6:00 PM	72	55	0	0	72	55	127	581	
6:15 AM	17	7	0	0	17	7	24	99	6:15 PM	60	40	0	0	60	40	100	508	
6:30 AM	26	11	3	2	29	13	42	121	6:30 PM	49	40	0	1	49	41	90	441	
6:45 AM	63	22	4	1	67	23	90	186	6:45 PM	58	32	0	0	58	32	90	407	
7:00 AM	50	27	5	0	55	27	82	238	7:00 PM	31	43	0	0	31	43	74	354	
7:15 AM	76	33	4	3	80	36	116	330	7:15 PM	33	25	0	0	33	25	58	312	
7:30 AM	91	41	2	7	93	48	141	429	7:30 PM	29	21	0	0	29	21	50	272	
7:45 AM	150	73	8	6	158	79	237	576	7:45 PM	20	19	0	1	20	20	40	222	
8:00 AM	76	72	4	6	80	78	158	652	8:00 PM	21	23	0	0	21	23	44	192	
8:15 AM	69	61	4	3	73	64	137	673	8:15 PM	16	19	0	0	16	19	35	169	
8:30 AM	71	36	2	7	73	43	116	648	8:30 PM	17	23	0	0	17	23	40	159	
8:45 AM	91	72	3	7	94	79	173	584	8:45 PM	20	13	0	0	20	13	33	152	
9:00 AM	71	54	1	2	72	56	128	554	9:00 PM	15	9	1	0	16	9	25	133	
9:15 AM	68	43	7	2	75	45	120	537	9:15 PM	11	6	0	0	11	6	17	115	
9:30 AM	65	50	4	7	69	57	126	547	9:30 PM	6	9	0	0	6	9	15	90	
9:45 AM	86	45	1	2	87	47	134	508	9:45 PM	12	11	2	0	14	11	25	82	
10:00 AM	80	44	7	0	87	44	131	511	10:00 PM	3	11	0	0	3	11	14	71	
10:15 AM	79	60	8	6	87	66	153	544	10:15 PM	5	7	0	0	5	7	12	66	
10:30 AM	64	51	2	1	66	52	118	536	10:30 PM	1	1	0	0	1	1	2	53	
10:45 AM	85	53	7	3	92	56	148	550	10:45 PM	2	7	0	0	2	7	9	37	
11:00 AM	79	51	7	3	86	54	140	559	11:00 PM	5	5	0	0	5	5	10	33	
11:15 AM	77	60	7	4	84	64	148	554	11:15 PM	2	5	0	0	2	5	7	28	
11:30 AM	81	61	6	9	87	70	157	593	11:30 PM	9	4	0	0	9	4	13	39	
11:45 AM	93	71	7	9	100	80	180	625	11:45 PM	2	7	0	0	2	7	9	39	
					1920	1247	3167							3824	2483	6307		
7:30 - 8:30 AM Peak Hour					404	269	673	4:00 - 5:00 PM Peak Hour					399	404	803			

**DAILY TRAFFIC VOLUME = 8,474 vehicles per day**



### Trip Generation Summary

Alternative: Alternative 1 Open Date: 10/5/2020  
 Phase: Analysis Date: 10/5/2020  
 Project: 2047A Gen

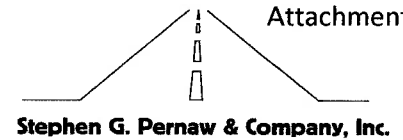
ITE	Land Use	Weekday Average Daily Trips			Weekday AM Peak Hour of Adjacent Street Traffic			Weekday PM Peak Hour of Adjacent Street Traffic		
		* Enter	Exit	Total	* Enter	Exit	Total	* Enter	Exit	Total
210	SFHOUSE 1	198	198	396	8	17	25	28	14	42
	120 Residents									
220	LOW-RISE 1	207	206	413	7	22	29	23	14	37
	60 Dwelling Units									
Unadjusted Volume		405	404	809	15	39	54	51	28	79
Internal Capture Trips		0	0	0	0	0	0	0	0	0
Pass-By Trips		0	0	0	0	0	0	0	0	0
Volume Added to Adjacent Streets		405	404	809	15	39	54	51	28	79

Total Weekday Average Daily Trips Internal Capture = 0 Percent  
 Total Weekday AM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent  
 Total Weekday PM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent

\* - Custom rate used for selected time period.

# Seasonal Adjustment Factors

## NHDOT Group 4 (Urban Highways)



### Year 2019 Monthly Data - Urban

<u>Month</u>	ADT	<u>Adjustment to</u>	
		Average	Peak
Jan	11,431	1.12	1.23
Feb	11,848	1.08	1.18
Mar	12,141	1.06	1.15
Apr	12,860	1.00	1.09
May	13,551	0.95	1.03
Jun	13,785	0.93	1.02
Jul	13,942	0.92	1.01
Aug	14,016	0.92	1.00
Sep	13,379	0.96	1.05
Oct	13,339	0.96	1.05
Nov	12,265	1.05	1.14
Dec	11,496	1.12	1.22

### Year 2018 Monthly Data - Urban

<u>Month</u>	ADT	<u>Adjustment to</u>	
		Average	Peak
Jan	11,282	1.13	1.24
Feb	11,848	1.08	1.18
Mar	11,828	1.08	1.18
Apr	12,491	1.02	1.12
May	13,587	0.94	1.03
Jun	13,911	0.92	1.00
Jul	13,765	0.93	1.01
Aug	13,945	0.92	1.00
Sep	13,168	0.97	1.06
Oct	13,367	0.96	1.04
Nov	12,215	1.05	1.14
Dec	11,963	1.07	1.17

### Year 2017 Monthly Data - Urban

<u>Month</u>	ADT	<u>Adjustment to</u>	
		Average	Peak
Jan	12254	1.21	1.33
Feb	13494	1.10	1.21
Mar	14335	1.03	1.14
Apr	15004	0.99	1.09
May	15547	0.95	1.05
Jun	16310	0.91	1.00
Jul	15523	0.95	1.05
Aug	15974	0.93	1.02
Sep	15546	0.95	1.05
Oct	15104	0.98	1.08
Nov	14544	1.02	1.12
Dec	14151	1.05	1.15

**September to Peak-Month Factor = 1.05**



STEPHEN G. PERNAW & COMPANY, INC.

PROJECT: Proposed Residential Development, Portsmouth New Hampshire  
 NUMBER: 2047A  
 COUNT STATION: 82379124

### HISTORICAL GROWTH CALCULATIONS

LOCATION : Peverly Hill Road (S. of NH33)  
 CASE : AADT

### ARITHMETIC PROJECTIONS

YEAR	AADT		Regression Output:	PROJECTIONS
2015	10527	✓	Constant -210417.4	2020 10975
2016	10403	✓	Std Err of Y Est 129.62099	2021 11084
2017	10611	✓	R Squared 0.6412368	2022 11194
2018	10823	✓	No. of Observations 4	2023 11303
			Degrees of Freedom 2	2024 11413
			X Coefficient 109.6	2025 11523
			Std Err of Coef. 57.968267	2026 11632
				2027 11742
				2028 11851
				2029 11961
				2030 12071

RATE = 110 VPD/YEAR

### GEOMETRIC PROJECTIONS

YEAR	AADT	Ln AADT	Regression Output:	PROJECTIONS
2015	10527	9.26170	Constant -11.49974	2020 10979
2016	10403	9.24985	Std Err of Y Est 0.0122527	2021 11092
2017	10611	9.26965	R Squared 0.6384951	2022 11207
2018	10823	9.28943	No. of Observations 4	2023 11323
			Degrees of Freedom 2	2024 11440
			X Coefficient 0.0102987	2025 11559
			Std Err of Coef. 0.0054796	2026 11678
				2027 11799
				2028 11921
				2029 12045
				2030 12170

RATE = 1.0 % / YEAR

Use 2.0%



# CALCULATION SHEET



Project:	<u>Portsmouth - Res.</u>	Job Number:	<u>2047A</u>
Calculated By:	<u>SGP</u>	Date:	<u>10/5/2020</u>
Checked By:	<u>CA</u>	Date:	<u>10/5/2020</u>
Sheet No:	<u>1</u>	Of:	<u>1</u>
Subject:	<u>COVID-19 Adjustment Factor</u>		

I. Given:

1. NHDOT traffic count on Peverly Hill Road (south of NH33) in June 2019 (Pre-covid conditions)

Average AM peak hour = 892 veh.

Average PM peak hour = 1,030 veh.

Average weekday = 11,072 veh.

2. SGP ATR count on Wednesday, September 30, 2020

AM peak hour = 673 veh.

PM peak hour = 803 veh.

Weekday = 8,474 veh.

3. NHDOT Group 4 (Urban Highways) seasonal adjustment factors

September to peak month = 1.05 (average of 2017, 2018 & 2019)

June to peak month = 1.01 (average of 2017, 2018 & 2019)

4. Background growth rate = 1.0/year; use 2.0% to account for other unknown development projects

II. Calculate 2020 peak month volumes using NHDOT June 2019 data (pre-covid conditions)

1. AM =  $892 \times 1.02 \times 1.01 = 919$  veh

2. PM =  $1,030 \times 1.02 \times 1.01 = 1,061$  veh

3. Weekday =  $11,072 \times 1.02 \times 1.01 = 11,406$  veh

III. Calculate 2020 peak month volumes using SGP September 2020 data (during covid)

1. AM =  $673 \times 1.05 = 707$  veh

2. PM =  $803 \times 1.05 = 843$  veh

3. Weekday =  $8,474 \times 1.05 = 8,898$  veh

IV. Calculate individual COVID-19 factors

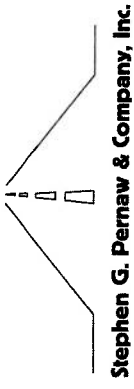
1. AM =  $919 / 707 = 1.30$

2. PM =  $1,061 / 843 = 1.26$

3. Weekday =  $11,406 / 8,898 = 1.28$

V. Calculate average COVID-19 factor

Average covid factor =  $(1.30 + 1.26 + 1.28) / 3 = 1.28$



Location: Portsmouth, New Hampshire  
 Job Number: 2047A

## TRIP DISTRIBUTION ANALYSIS

### Work Destination Report - Where Workers are Employed Who Live in the Selection Area - by County Subdivisions

Total All Jobs	Count	Gateway %			Gateway Allocation		
		A	B	C	A	B	C
Jobs Counts by County Subdivisions Where Workers are Employed - All Jobs							
Portsmouth city (Rockingham, NH)	4,355	0.40	0.40	0.20	1.00	1742	871
Dover city (Strafford, NH)	604	0.50	0.50	0.50	1.00	302	302
Exeter town (Rockingham, NH)	423	1.00			1.00	423	0
Manchester city (Hillsborough, NH)	399	1.00			1.00	399	0
Boston city (Suffolk, MA)	371	1.00			1.00	371	0
Newington town (Rockingham, NH)	343	0.50		0.50	1.00	172	172
Hampton town (Rockingham, NH)	266	0.70		0.30	1.00	186	80
Durham town (Strafford, NH)	266	0.30		0.70	1.00	80	186
Nashua city (Hillsborough, NH)	249	1.00			1.00	249	0
Salem town (Rockingham, NH)	193	1.00			1.00	193	0
<b>7469</b>					<b>4117</b>	<b>1742</b>	<b>1611</b>

KEY	A	B	C	USE
A=To/From Points West via NH Route 33	55.1%	23.3%	21.6%	100%
B=To/From Points East via NH Route 33				
C=To/From Points South via Peverly Hill Road				
	55	23	22	100

## HCM 2010 TWSC

## 3: Peverly Hill Road &amp; Proposed Site Driveway

## Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	17 ✓	5 ✓	2 ✓	458 ✓	688 ✓	5 ✓
Future Vol, veh/h	17	5	2	458	688	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	85	85	64	64
Heavy Vehicles, %	0	0	0	8	5	0
Mvmt Flow	19	6	2	539	1075	8

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1622	1079	1083	0	-	0
Stage 1	1079	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	114	268	652	-	-	-
Stage 1	329	-	-	-	-	-
Stage 2	586	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	114	268	652	-	-	-
Mov Cap-2 Maneuver	114	-	-	-	-	-
Stage 1	328	-	-	-	-	-
Stage 2	586	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	38.7	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	652	-	131	-	-
HCM Lane V/C Ratio	0.004	-	0.187	-	-
HCM Control Delay (s)	10.5	0	38.7	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-



## HCM 2010 TWSC

## 3: Peverly Hill Road &amp; Proposed Site Driveway

## Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y	Y		←	→	
Traffic Vol, veh/h	11 ✓	3 ✓	6 ✓	688 ✓	680 ✓	22 ✓
Future Vol, veh/h	11	3	6	688	680	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	89	89	88	88
Heavy Vehicles, %	0	0	0	2	3	0
Mvmt Flow	12	3	7	773	773	25

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1573	786	798	0	-	0
Stage 1	786	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	123	395	833	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	452	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	121	395	833	-	-	-
Mov Cap-2 Maneuver	121	-	-	-	-	-
Stage 1	446	-	-	-	-	-
Stage 2	452	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	33.4	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	833	-	142	-	-
HCM Lane V/C Ratio	0.008	-	0.11	-	-
HCM Control Delay (s)	9.4	0	33.4	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

**Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.**

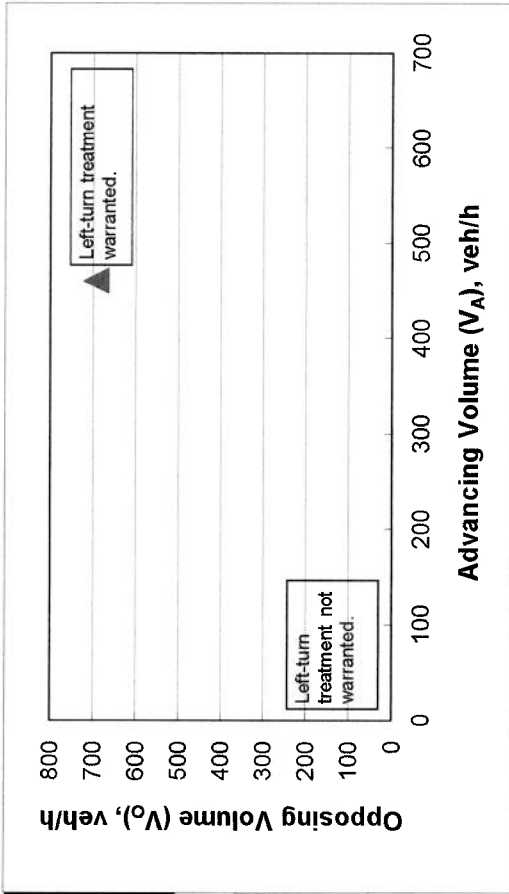
**2-lane roadway (English)**

**INPUT**

Variable	Value
85 <sup>th</sup> percentile speed, mph:	25
Percent of left-turns in advancing volume ( $V_A$ ), %:	0%
Advancing volume ( $V_A$ ), veh/h:	460
Opposing volume ( $V_O$ ), veh/h:	693

**OUTPUT**

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	1456
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
Left-turn treatment NOT warranted.	



**CALIBRATION CONSTANTS**

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

**Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.**

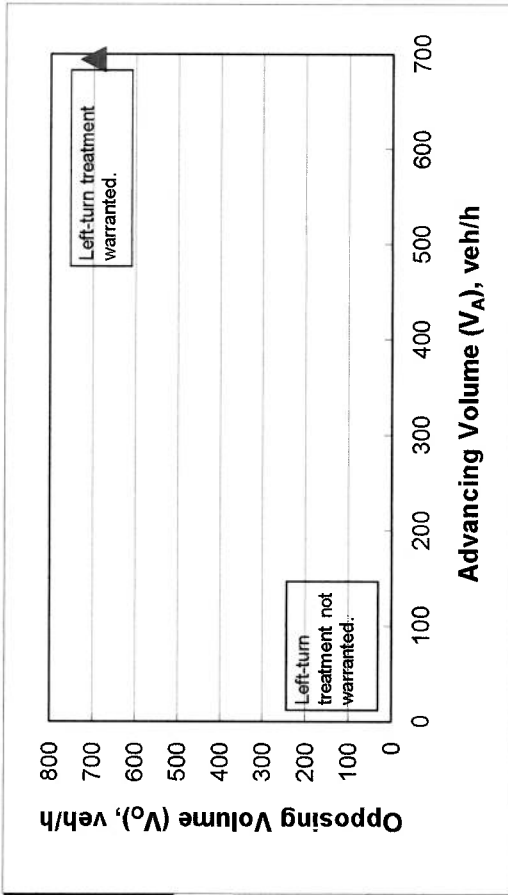
**2-lane roadway (English)**

**INPUT**

Variable	Value
85 <sup>th</sup> percentile speed, mph:	25
Percent of left-turns in advancing volume ( $V_A$ ), %:	1%
Advancing volume ( $V_A$ ), veh/h:	694
Opposing volume ( $V_O$ ), veh/h:	702

**OUTPUT**

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	1023
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
Left-turn treatment NOT warranted.	

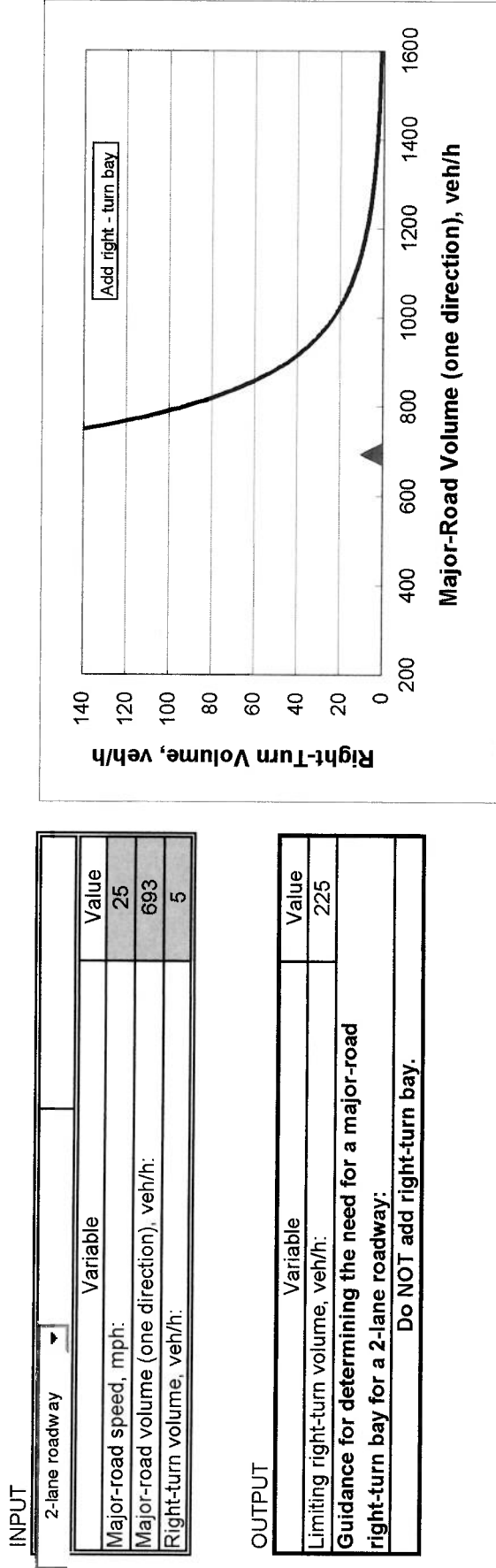


**CALIBRATION CONSTANTS**

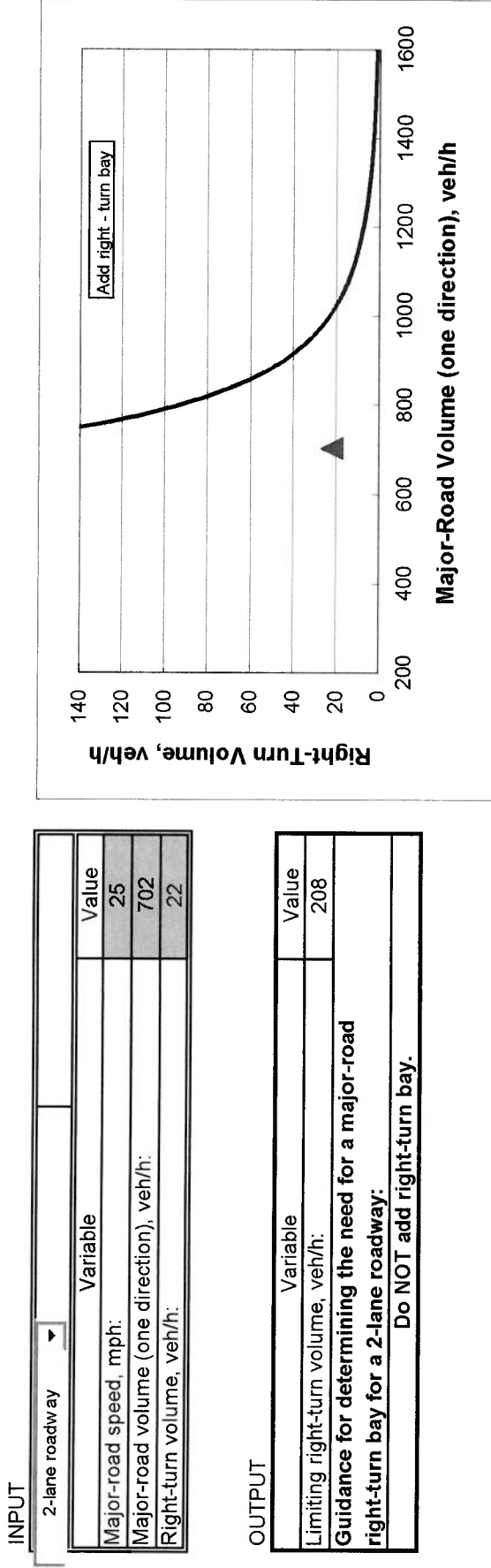
Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9



**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.**



**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.**



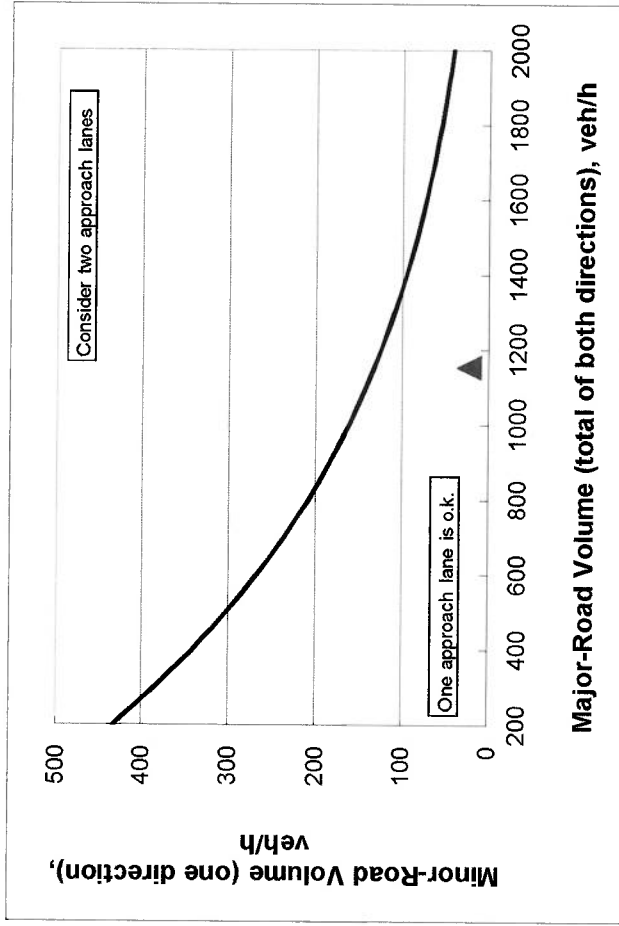
**Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.**

**INPUT**

Variable	Value
Major-road volume (total of both directions), veh/h:	1153
Percentage of right-turns on minor road, %:	23%
Minor-road volume (one direction), veh/h:	22

**OUTPUT**

Variable	Value
Limiting minor-road volume (one direction), veh/h:	132
<b>Guidance for determining minor-road approach geometry:</b>	
<b>ONE approach lane is o.k.</b>	

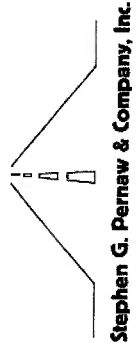


**CALIBRATION CONSTANTS**

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity, veh/h:	6.5	4.0

\* according to Table 17 - 5 of the HCM





**Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.**

**INPUT**

Variable	Value
Major-road volume (total of both directions), veh/h:	1396
Percentage of right-turns on minor road, %:	21%
Minor-road volume (one direction), veh/h:	14

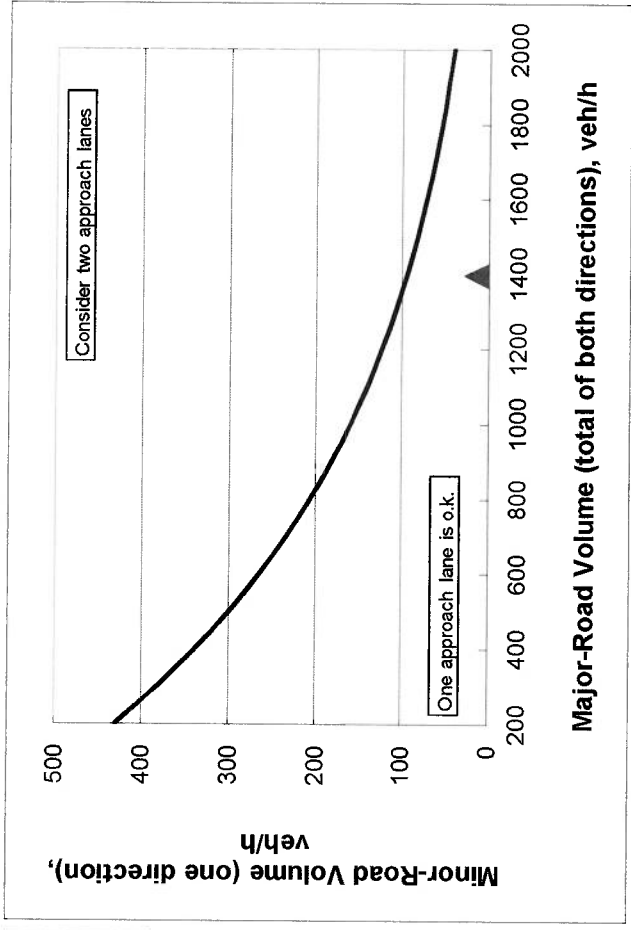
**OUTPUT**

Variable	Value
Limiting minor-road volume (one direction), veh/h:	95
<b>Guidance for determining minor-road approach geometry:</b>	
<b>ONE approach lane is o.k.</b>	

**CALIBRATION CONSTANTS**

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity, veh/h:	6.5	4.0

\* according to Table 17 - 5 of the HCM



**MEMORANDUM**

Ref: 2047A

To: Jack McTigue, P.E., CPESC  
TFMoran - Seacoast Division

From: Stephen G. Pernaw, P.E., PTOE

Subject: Proposed Residential Development – 83 Peverly Hill Road  
Portsmouth, New Hampshire

Date: April 5, 2021

---

Thank you for forwarding the “*Open Space Residential PUD*” plans for us to review (Attachments 1-5), and explaining the city’s concern with vehicle speeds throughout the neighborhood. In reviewing the plans, we believe the horizontal curves shown on Sheets C-14, C-15, and C-16 will regulate or limit travel speeds in those areas. The stop condition shown on C-16, where the loop road terminates at a T-intersection, will also serve to reduce speeds in that area.

We recognize that travel speeds could be higher than desirable on the straight tangent section shown on Sheets C-13 and C-14. To address this concern, we recommend consideration be given to providing the following traffic calming measures:

- Installation of a marked crosswalk for pedestrians on the main access road, adjacent to the internal T-intersection.
- Placement of a “Supplemental Crosswalk Identification Device” on the centerline of the road, adjacent to the crosswalk (see Attachment 6).
- Installation of Advanced Warning signs for the crosswalk (MUTCD W11-2).
- Installation of a Stop Ahead sign (MUTCD W3-1) on Sheet C-16 where the loop road terminates at the T-intersection.
- Installation of Advisory Speed Plaque (MUTCD W13-1) signs with 20 mph posted below the W11-2 crosswalk signs.

Recognizing that this a cozy residential development with no potential for through traffic, it is reasonable to expect that neighbors will police themselves in terms of speed management. Nevertheless, the traffic calming measures cited above are aimed more at the occasional delivery driver or visitor, and less so for the full-time residents within the development.

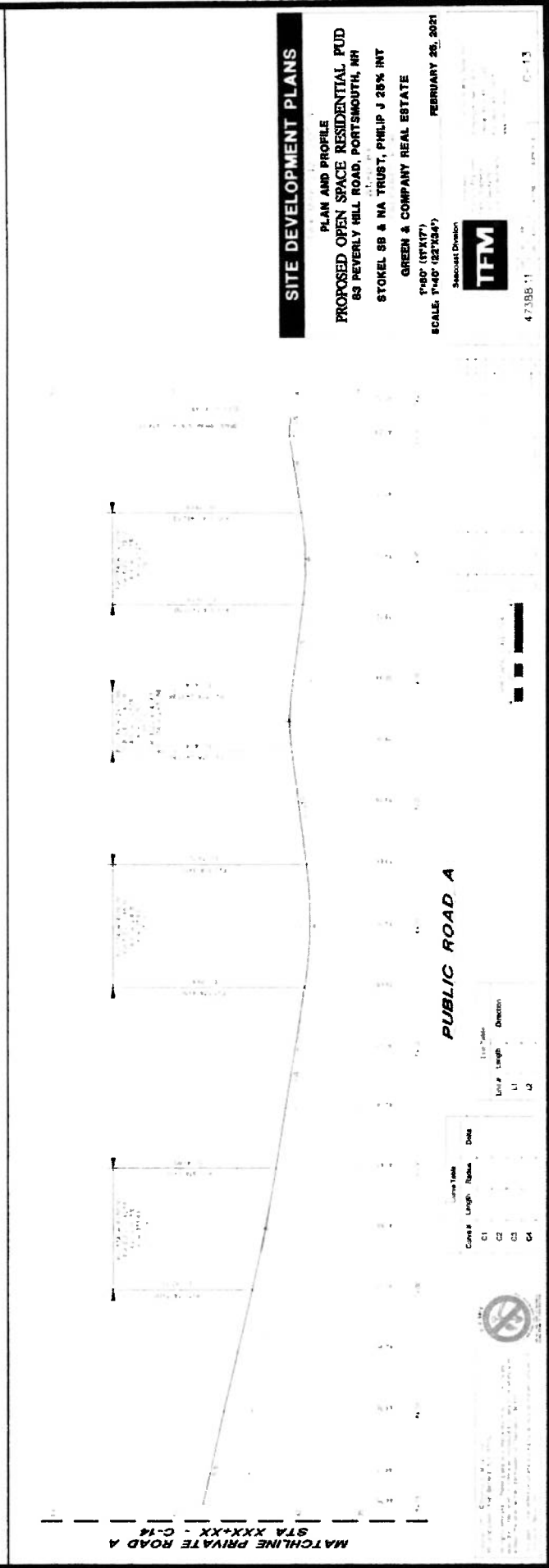
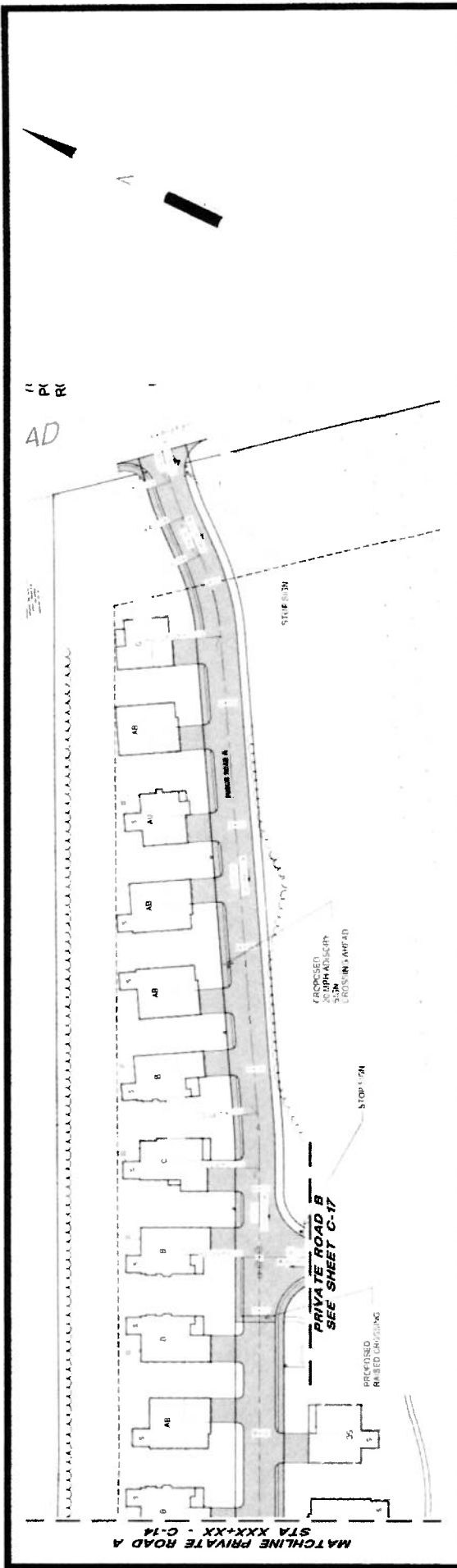
Attachments

cc: Michael Green, Green and Company

2047A







**SITE DEVELOPMENT PLANS**

PLAN AND PROFILE  
**PROPOSED OPEN SPACE RESIDENTIAL PUD**  
 63 PEVERLY HILL ROAD, PORTSMOUTH, NH  
 STOKEL SB & NA TRUST, PHILIP J 28% INT  
 GREEN & COMPANY REAL ESTATE  
 P-60 (P/K/P)  
 SCALE: P-40 (12"=100')  
 FEBRUARY 26, 2021

Seacoast Division

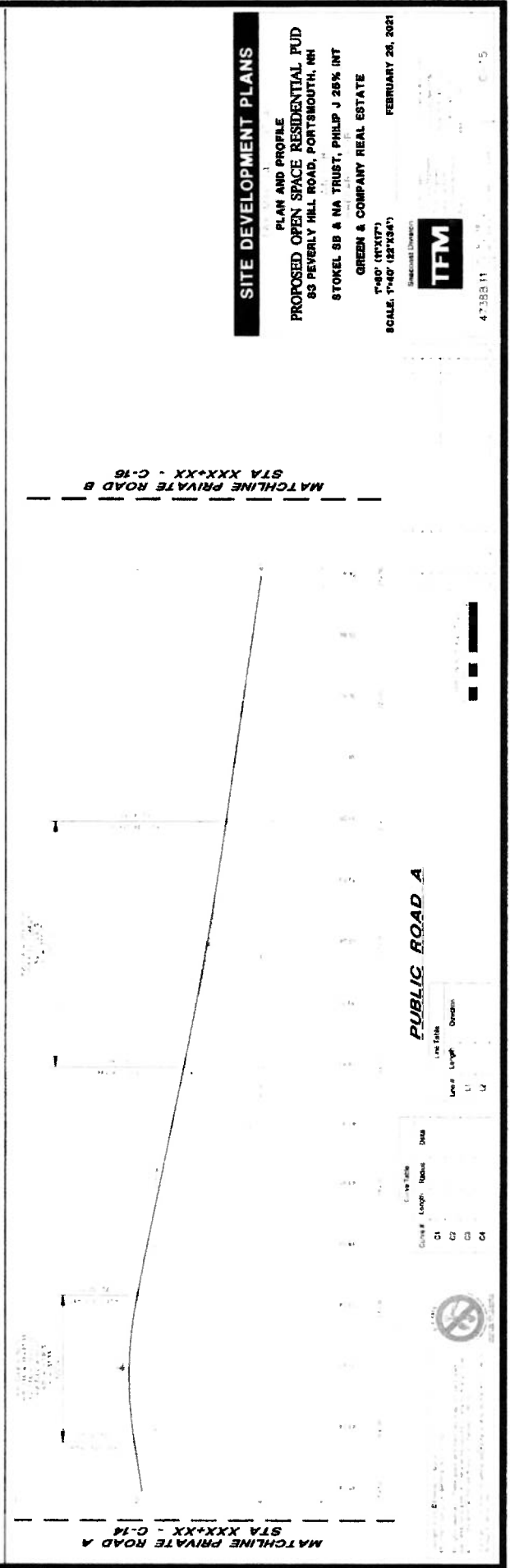
47385 11 0-13

Curve #	Length	Radius	Date
C1			
C2			
C3			
C4			

Line #	Length	Offset
L1		
L2		





**SITE DEVELOPMENT PLANS**

PLAN AND PROFILE  
 PROPOSED OPEN SPACE RESIDENTIAL PUD  
 85 PEVERLY HILL ROAD, PORTSMOUTH, NH  
 STOKEL SB & NA TRUST, PHILIP J 25% INT  
 GREEN & COMPANY REAL ESTATE  
 1"=40' (NXXPT)  
 SCALE, 1"=40' (25'X36")  
 FEBRUARY 26, 2021

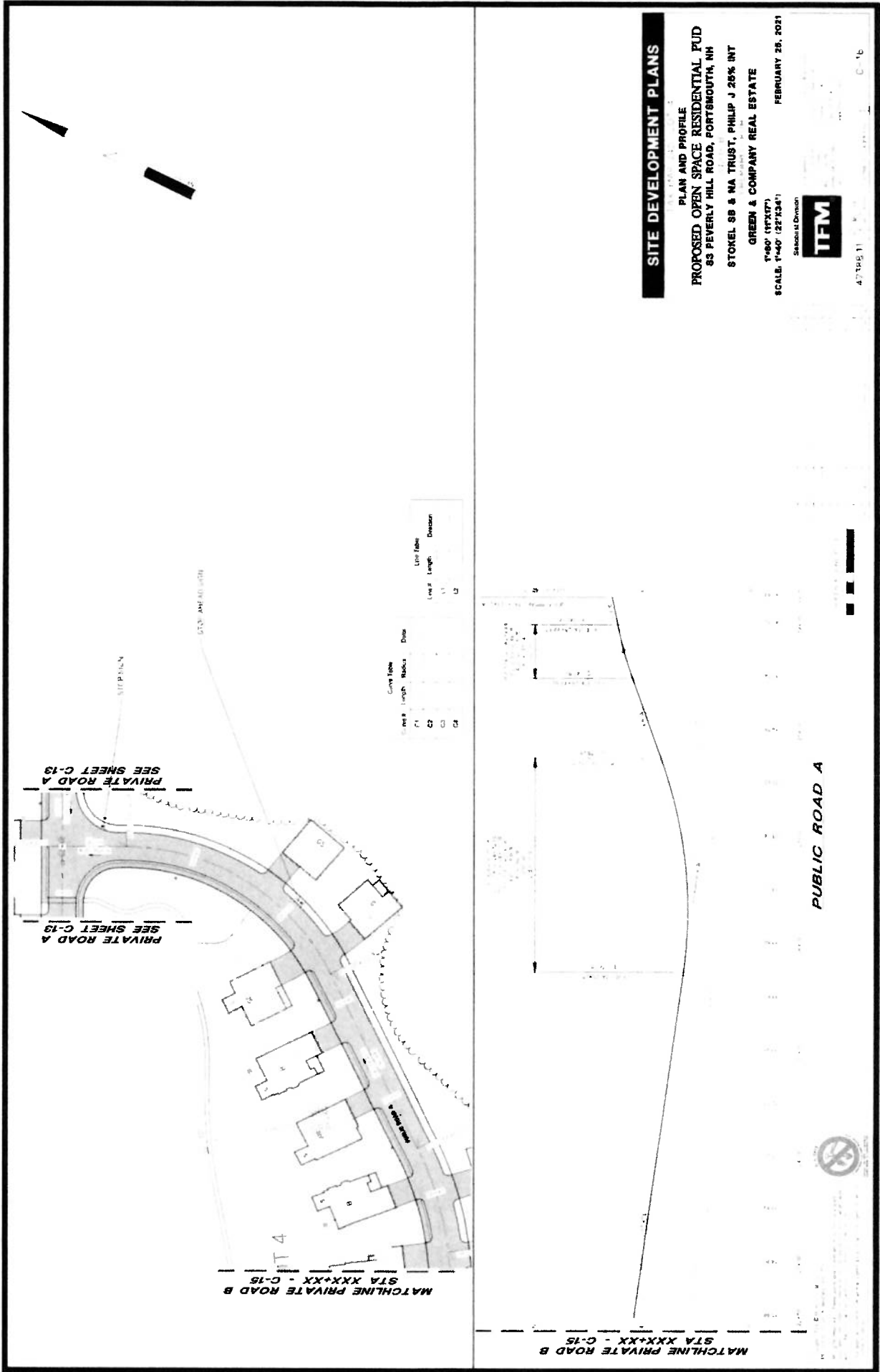


Curve #	Length	Radius	Dist
C1			
C2			
C3			
C4			

Line Table	Line Table
Line #	Length
L1	
L2	







**SITE DEVELOPMENT PLANS**

PLAN AND PROFILE  
 PROPOSED OPEN SPACE RESIDENTIAL PUD  
 83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
 STOKEL SB & NA TRUST, PHILIP J 25% INT  
 GREEN & COMPANY REAL ESTATE

T:60' (18°37')  
 SCALE: 1"=40' (22'x34")  
 FEBRUARY 26, 2021

Stokel & Na  
 83 Peverly Hill Road  
 Portsmouth, NH 03801  
 (603) 431-1111  
 www.stokel.com



Sheet No. 11 of 11  
 Date: 2/26/21  
 Scale: 1"=40'

PRIVATE ROAD A  
 SEE SHEET C-13

MATCHLINE PRIVATE ROAD B  
 STA XXX+XX - C-15

MATCHLINE PRIVATE ROAD B  
 STA XXX+XX - G-15

PUBLIC ROAD A

Curve Data	Curve Data		Curve Data		Curve Data	
	Sta	Length	Radius	Delta	Level	Dimension
C1						
C2						
C3						
C4						





**Technology Transfer Center**  
New Hampshire LIAP at UNH

**UNH Technology Transfer Center**  
33 Academic Way  
Durham NH 03824  
800-423-0060 (in NH) or 603-862-2826  
Fax: 603-862-0620  
t2.center@unh.edu  
www.t2.unh.edu

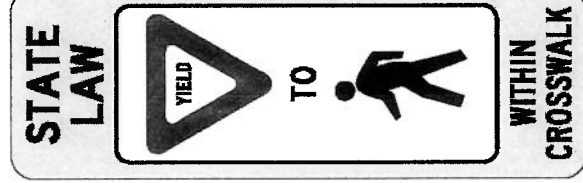
April 2010

## CHAPTER 7 CROSSING HAZARDS

### Introduction

This Chapter describes signs that warn motorists of locations where they might encounter unexpected crossing hazards. Potential hazards might be persons, animals or vehicles. The determining factor for use of these signs is the amount of time available for the driver to see the hazard and react properly. Also included in this chapter are signs warning pedestrians of hazardous crossing of roadways.

**Note: State of New Hampshire Supplemental Crosswalk Identification Devices:** *The Supplemental Crosswalk Identification Devices inform drivers of pedestrian crosswalks. The State of New Hampshire DOT has approved it for temporary use on the center line of roads adjacent to crosswalks. As a supplemental sign, local governments must still install traffic signs described in this chapter and pavement markings as described in the MUTCD 2009 Edition. The device should not be used as a substitute, for, or on poles with Crossing Sign W11-2.*



### In-Street and Overhead Pedestrian Crossing Signs (R1-6, R1-6a, R1-9, and R1-9a)

#### Option:

The In-Street Pedestrian Crossing (R1-6 or R1-6a) sign (see MUTCD Figure 2B-2) or the Overhead Pedestrian Crossing (R1-9 or R1-9a) sign (see MUTCD Figure 2B-2) may be used to remind road users of laws regarding right-of-way at an unsignalized pedestrian crosswalk. The legend STATE LAW may be displayed at the top of the R1-6, R1-6a, R1-9, and R1-9a signs, if applicable. On the R1-6 and R1-6a signs, the legends STOP or YIELD may be used instead of the appropriate STOP sign or YIELD sign symbol.

R1-6

# **NHDES**

## **Application for Sewer Connection Permit**

**F O R**

### **Peverly Hill Road Development**

**Peverly Road  
Portsmouth, New Hampshire  
Rockingham County**

**Tax Map 242, Lot 04**

**April 19, 2021**



Dennis Greene  
April 19, 2021  
Prepared By:



Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

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DRAFT



Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

**NEW  
HAMPSHIRE  
200**

April

TFM Project No: 47388.11

Dennis Greene, PE  
NHDES WWEB  
PO Box 95  
Concord, NH 03302-0095

**Re: Sewer Connection Permit – Peverly Hill Road Portsmouth, NH – Tax Map 242 Lot 4  
Peverly Hill Road Development  
TFM PIN: 47388.11**

Dear Mr. Greene:

On behalf of Green and Company Building and Development Corp., we respectfully submit an Application for Sewer Connection Permit relative to the above referenced project. The following materials are included in this submission:

- Application for Sewer Connection Permit;
- Check for the amount of \$2,760.00 for the Sewer Connection Permit;
- Table 1008-1, Unit Design Flow from Pages 47-49 from the NH Code of Administrative Rules, ENV-Wq 1000;
- Calculated Design Sewer Flow
- Full Flow and Approximate Partial Flow Calculations for gravity sewer, Dated April 19, 2021;
- Environmental One Corporation Pressure Sewer Design Analysis for Peverly Hill Road Development;
- Cover Sheet, Existing Conditions, Utility Plans, Sewer Profile and Details of the Site Plan Set titled, "Peverly Hill Road Condominiums; Peverly Hill Road; Tax Map 242, Lot 4; 83 Peverly Hill Road; Portsmouth, New Hampshire; County of Rockingham; Prepared for Green and Company Real Estate. dated April 19, 2021" prepared by TFMoran, Inc."

This project consists of 56 single unit homes. The homes are serviced by a combination of low-pressure sewers and gravity sewers. 21 of the low-pressure systems discharges into Sewer Manhole 9, after which the flow

TFMoran, Inc.  
48 Constitution Drive, Bedford, NH 03110  
T(603) 472-4488      www.tfmoran.com



TFMoran, Inc. Seacoast Division  
170 Commerce Way–Suite 102, Portsmouth, NH 03801  
T(603) 431-2222

becomes gravity. 3 of the low-pressure systems discharges into Sewer Manhole 3, subsequently the flow becomes gravity. The remaining 33 residences are gravity flow.

The proposed project consists of 820 linear feet 2" low-pressure SDR 11 line, 274 linear feet of 1-1/2" low-pressure SDR11 line, 1,696 linear feet of 8" SDR 35 gravity sewer main, 10 proposed sewer manholes and 2 cleanouts for the low-pressure lines.

The City of Portsmouth concurrently reviewing this application. Any revisions based on there comments will be circled on the plans and forwarded to you.

On behalf of our client, we respectfully request review of the application package for approval.

Sincerely,  
**MSC a division of TFMoran, Inc.**

Jack McTigue, PE, CPESC  
*Project Manager*

cc: Rick Green (Green and Company), Michael Green (Green and Company), Jenna Green (Green and Company), and Juliet Walker (City of Portsmouth)





**APPLICATION FOR SEWER CONNECTION PERMIT**  
**Water Division/Wastewater**  
**Engineering Bureau Design Review Section**



**RSA/Rule:** RSA 485-A:37 / Env-Wq 703.07

**TYPE OR PRINT CLEARLY**

Use this application for Sewer Connection Permit to request NHDES review/approval for any proposed sewerage design. Under RSAs 485 and 485-A, design plans for new sewerage facilities – whether publicly or privately owned, and regardless of design flow – must be submitted to NHDES for review/approval action at least 30 days prior to construction. Pursuant to Env-Wq 703, design submittals must include 1 set of engineering plans/specifications, pertinent design calculations, the required fee, and a Municipal Certification (signed by an authorized municipal official, see page 2).

**1. Engineer of Record - Contact Information**

<i>Engineer / Contact: Jack McTigue, PE</i>		<i>Company: TFMoran, Inc.</i>	
<i>Mailing Address: 170 Commerce Way</i>			
<i>Town/City: Portsmouth</i>		<i>State: NH</i>	<i>ZIP: 03801</i>
<i>Phone Number: (603) 431-2222</i>		<i>Email: jmctigue@TFMoran.com</i>	

**2. Description of Proposed Work (check all that apply)**

- An extension of a collector or interceptor;
- A sewage pumping station greater than 50 gpm or serving more than one building;
- A proposed sewer that serves more than one building or that requires a manhole at the connection.

*Project Name or Description: 56 3-bedroom single family unit residential condominium*

*Project Location - Street Address: 83 Peverly Hill Road*

*Project Location - Town / City: Portsmouth, NH*

*Name Of Receiving WWTF: Sewer Division of the Portsmouth NH Department of Public Works*

*Average Design Flow (ADF, gal/day): 25,200 GPD*

Proposed Sewer Length (Linear ft)	Pipe Diameter (inches)	Pipe Material
274	1-1/2" Pressure Sewer Services	HDPE SDR-11
820	2" Pressure Sewer Main	HDPE SDR-11
1,696	8" Gravity Sewer	SDR-35

**3. Required Fee**

- Sewer connection design submittals must be accompanied by a review fee payment based on the project's average design flow - \$0.10 per gal/day ("a dime a gallon") for design flows up to 10,000 gal/day, plus \$0.05 per gal/day for any flows in excess thereof.
- A fee of \$200 per plan sheet shall be paid for review of modifications to privately owned pump stations, force mains, interceptors, and wastewater treatment facilities which are not associated with an increase in wastewater flow.
- Fees are not required of municipalities for municipal projects.

**Fee Enclosed:** \$2760.00      Please make checks payable to "Treasurer State of NH".

*Italics indicate items are optional.*

www.des.nh.gov

29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095  
 (603) 271-3503 • TDD Access: Relay NH 1-800-735-2964

4. Municipal Certification	
On behalf of Peverly Hill Road Condominiums, the Town or City of Portsmouth hereby provides the following municipal certification.	
The municipal sewage collection system and wastewater treatment facilities have been demonstrated, pursuant to Env-Wq 703.07(d), to have adequate processing capability for the proposed added hydraulic flow and organic flow at the time of connection. The proposed sewer connection and/or sewerage design meet with the approval of the local jurisdictional authority.	
Name Of Municipal Official (Project Location):	Title:
Signature:	Date:
Email Address:	
<i>When the Receiving WWTF is in a different Municipality from that of the Project Location, the following additional certification is required.</i>	
Name Of WWTF Official (Host Community):	Title:
Signature:	Date:
Email Address:	

**Submit completed application package to:**

NHDES Wastewater Engineering Bureau  
 Design Review Section  
 29 Hazen Drive  
 P.O. Box 95  
 Concord, NH 03302-0095

**NOTE:** A Separate INDUSTRIAL WASTEWATER INDIRECT DISCHARGE REQUEST (IDR) May be Required For Industrial Waste Contributions, Depending On Quantity And Quality. For Further Information, Contact The Industrial Pretreatment Supervisor Of The Wastewater Engineering Bureau At (603)-271-2052.

*Italics indicate items are optional.*

www.des.nh.gov

29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095  
 (603) 271-3503 • TDD Access: Relay NH 1-800-735-2964

Project **Peeverly Hill Rd Condominiums**  
 Location **Peeverly Hill Rd**  
**Portsmouth, NH**

Date: 4/9/2021

**Unit Sewer Flows**

Total Number of Units 56  
 Based on 100% 3 Bedroom Units

**3 Bedroom Houses**

Residences Single Family - 2 Bedroom	300
Additional Flow for 1 Additional Bedroom	150
<b>Gallons Per Day per 3 Bedroom Unit</b>	<b>450</b>

**4 Bedroom Houses**

Residences Single Family - 2 Bedroom	300
Additional Flow for 2 Additional Bedroom	300
<b>Gallons Per Day per 4 Bedroom Unit</b>	<b>600</b>

**Design Sewer Flows**

	Number of Units	GPD/ Unit	GPD
Number of 3 Bedroom	56	450	25,200
Number of 4 Bedroom	-	600	-
<b>Total Design Flow</b>	<b>56</b>		<b>25,200</b>

**State Fee**

Cost per GPD	\$ 0.10	10,000	\$ 1,000.00
In Excess of 10,000 GPD	\$ 0.05	15,200	\$ 760.00
Pump Station	\$200.00	5	\$ 1,000.00
<b>Total Cost</b>			<b>\$ 2,760.00</b>



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NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES

(2) Metered water readings for uses that are as similar as possible to the proposed use, taking into consideration factors such as occupancy and frequency of use, determined as specified in (d), below.

(d) Design flows based on metered water readings shall be calculated:

(1) By finding the average of water meter readings over a period of time that is representative of the volume of water used and multiplying the average by a minimum peaking factor of 2 for commercial light flow or a maximum peaking factor of 3 for commercial heavy flow; or

(2) By measuring not less than 6 months of consecutive daily meter readings, including the month(s) of heaviest use for uses that are seasonal in nature, and using the highest daily flow without application of a peaking factor;

(e) The unit design flow figures referenced in (b) and (c), above, shall be as listed in Table 1008-1, below, subject to (f), below:

Table 1008-1: Unit Design Flow Figures

Use	Unit Design Flow
AIRPORTS	5 GPD/Transient plus 10 GPD/Employee
APARTMENTS	See Dwellings
BARS, LOUNGES	See Food Service
BED & BREAKFAST	60 GPD/Guest, based on the greater of 2 guests per room or the actual number of guests the room is designed to accommodate, plus 10 GPD/Employee
BUNKHOUSE	60 GPD/Person
CAMPS:	
Campground with Central Comfort Station	45 GPD/site, plus 20 GPD/Site for the dump station
Recreational Campgrounds with 3-way hookups	60 GPD/Site
Construction Camps	50 GPD/Person
Day Camps (not including meals)	15 GPD/Person
Dining Facility	3 GPD/Person/meal
Residential Youth Recreation Camps	25 GPD/Person plus 3 GPD/Person/meal
CATERERS – Function Rooms	12 GPD/patron
CHURCHES:	
Sanctuary Seating	3 GPD/Seat
Church Suppers	12 GPD/Seat
COUNTRY CLUBS – PRIVATE	
Dining Room	10 GPD/Seat
Snack Bar	10 GPD/Seat
Locker & Showers	20 GPD/Locker
DAY CARE CENTERS	10 GPD/Person
DENTISTS	10 GPD/Chair plus 35 GPD/Staff Member
DOCTOR'S OFFICES	250 GPD/Doctor
DOG KENNELS	50 GPD/Kennel, with one dog per kennel
DWELLINGS:	
Apartment - Studio or One-Bedroom	225 GPD
Apartment - 2 or More Bedrooms	150 GPD/Bedroom
Residence - Single-Family	300 GPD plus 150 GPD for each bedroom over 2
Residence - Duplex	300 GPD plus 150 GPD for each bedroom over 2 for each unit
Rooming House – With Meals	60 GPD/Person
Rooming House – Without Meals	40 GPD/Person
Senior Housing	See Senior Housing

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Areas to be filled in are highlighted in yellow

$P_f$  6 Peak Factor  
 $I/I$  300 gpd/in/mile 5.28E-07 cfs  
 $n_f$  0.010 Manning  
 $k$  1.485 Conversion Factor

$Q_{full}$  Full Pipe Flow  
 $Q_{cal}$  Calculated Flow - Based on Flow Height  
 $Q_{needed}$  Required Flow ( $Q_{per-use} + Q_{inf}$ )  
 $Q_{inf}$  Flow needed for infiltration  
 $Q_{per-use}$  Flow Needed Per Use  
 $\Delta Q$  Difference between  $Q_{needed}$  and  $Q_{cal}$

$V_{cal1}$  Velocity from the approximate flow depth  
 $V_{cal2}$  Velocity based on the iterative flow depth  
 $K_h$  Constant used to calculate the approximate flow depth Based on an approximation method presented by Esen (1993)  
 $y$  Depth of flow  
 $\phi$  Angle of partial flow based on flow depth  
 $A$  Area of partial flow  
 $P$  Wetted Perimeter  
 $R_h$  Hydraulic Radius

Flow (cfs) Flow with Peaking Factor

Residence (4-Bedroom) 600 gpd 0.0009 cfs 0.0056 cfs

TABLE 1 - FULL FLOW AND APPROXIMATE PARTIAL FLOW CALCULATIONS

From	To	Length (ft)	Inverts		Slope (ft/ft)	Dia (in) (ft)		Full Flow								Partial Flow				Notes	
								$V_{full}$ fps	$Q_{full}$ cfs	$K_h$	$\phi_{full}$ rad.	$\phi$ rad.	$y/Y$	$y$ ft	$A$ sf	Units #	Q (cfs)				$V_{cal1}$ fps
																	$Q_{per-use}$	$Q_{inf}$	$Q_{needed}$		
Pressure Sewer #1																21.00	0.117	0.0000	0.117	NA	Units 22-32, 46-55
PSMH-9	PSMH-8	92	42.20	41.60	0.007	8	0.67	3.63	1.27	0.030	1.94	1.94	0.22	0.14	0.06	1.00	0.006	0.0004	0.123	2.20	Unit 45 / L-P Sewer Sys #1
PSMH-8	PSMH-7	92	41.50	40.90	0.007	8	0.67	3.63	1.27	0.030	1.94	1.94	0.22	0.14	0.06	0.00	0.000	0.0004	0.123	2.20	
PSMH-7	PSMH-6	92	40.80	40.20	0.007	8	0.67	3.63	1.27	0.035	2.01	2.01	0.23	0.15	0.06	3.00	0.017	0.0004	0.140	2.30	Units 20-21, 44
PSMH-6	PSMH-5	143	40.10	39.35	0.005	8	0.67	3.21	1.12	0.047	2.17	2.17	0.27	0.18	0.08	5.00	0.028	0.0006	0.169	2.25	Units 17-19, 42-43
PSMH-5	PSMH-4	299	39.25	37.75	0.005	8	0.67	3.18	1.11	0.060	2.33	2.33	0.30	0.20	0.09	8.00	0.045	0.0013	0.215	2.42	Units 13-16, 38-41
PSMH-4	PSMH-3	293	37.65	36.15	0.005	8	0.67	3.18	1.11	0.072	2.44	2.44	0.33	0.22	0.10	7.00	0.039	0.0012	0.255	2.56	Units 9-12, 35-37
Pressure Sewer #2																3.00	0.017	0.0000	0.017	NA	Units 56 and 33-34
PSMH-3	PSMH-2	240	36.05	34.95	0.005	8	0.67	3.02	1.05	0.087	2.58	2.58	0.36	0.24	0.11	4.00	0.022	0.0010	0.295	2.58	Units 5-8
PSMH-2	PSMH-1	283	34.85	33.65	0.004	8	0.67	2.91	1.02	0.096	2.66	2.66	0.38	0.25	0.12	3.00	0.017	0.0012	0.313	2.57	Units 2-4
PSMH-1	SMH-E1	162	33.55	32.80	0.005	8	0.67	3.02	1.05	0.094	2.65	2.65	0.38	0.25	0.12	1.00	0.006	0.0007	0.319	2.65	Units 1





Sewer Flow Calculations  
Pevery Hill Road Condominiums  
PIN # 47388.11

4/19/2021

Total Units      56.00



Environment One Corporation

**Pressure Sewer Preliminary**

**Cost and Design Analysis**

**For**

**Peverly Hill Road Condominiums**

**Peverly Hill Road**

**Prepared For:**

**TFMoran**

**170 Commerce Way - Suite 102**

**Portsmouth NH 03801**

**Tel: (603) 431-2222**

**Fax:**

**Prepared By: Jack McTigue**

**April 19, 2021**

**Peeverly Hill Road Condominiums**  
**Peeverly Hill Road**

**Prepared by :** Jack McTigue

**On:** April 19, 2021

**Notes :**

Two Zones

Zone 1 - Units Units 22-32, 46-55 - Connecting to MH-09

Zone 2 - Units 56 and 33-34 - Connecting to MH-03

**<<<< END OF NOTES >>>>**

PRELIMINARY PRESSURE SEWER - PIPE SIZING AND BRANCH ANALYSIS

Prepared By:  
Jack McTigue

Peverly Hill Road Condominiums  
Peverly Hill Road

April 19, 2021

Zone Number	Connects to Zone	Number of Pumps in Zone	Accum Pumps in Zone	Gals/day per Pump	Max Flow Per Pump (gpm)	Max Sim Ops	Max Flow (GPM)	Pipe Size (inches)	Max Velocity (FPS)	Length of Main this Zone	Friction Loss Factor (ft/100 ft)	Friction Loss This Zone	Accum Fric Loss (feet)	Max Main Elevation	Minimum Pump Elevation	Static Head (feet)	Total Dynamic Head (ft)
This spreadsheet was calculated using pipe diameters for: SDR11HDPE										Friction loss calculations were based on a Constant for inside roughness "C" of: 150							
1.00	1.00	21	21	450	11.90	5	59.50	2.00	6.44	820.00	7.51	61.55	61.55	43.20	30.00	13.20	74.75
2.00	2.00	3	3	450	13.90	2	27.80	1.50	4.70	274.00	5.44	14.90	14.90	37.05	30.00	7.05	21.95



PRELIMINARY PRESSURE SEWER - ACCUMULATED RETENTION TIME (HR)

Peverly Hill Road Condominiums

Peverly Hill Road

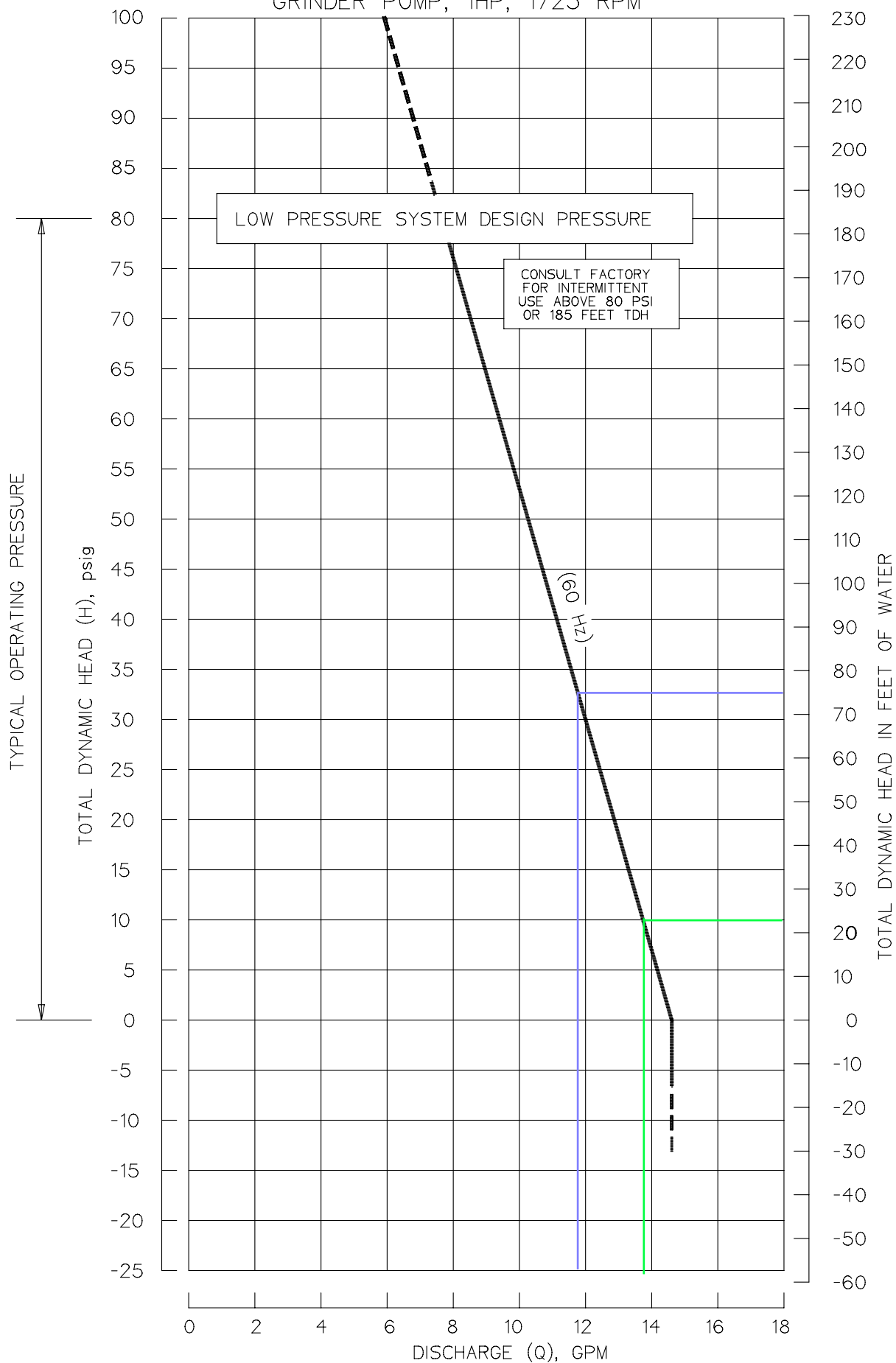
Prepared By:  
Jack McTigue

April 19, 2021

Zone Number	Connects to Zone	Accumulated Total of Pumps this Zone	Pipe Size (inches)	Gallons per 100 lineal feet	Length of Zone	Capacity of Zone	Average Daily Flow	Average Fluid Changes per Day	Average Retention Time (Hr)	Accumulated Retention Time (Hr)
This spreadsheet was calculated using pipe diameters for: SDR11HDPE							Gals per Day per Dwelling		450	
1.00	1.00	21	2.00	15.40	820.00	126.30	9,450	74.82	0.32	0.32
2.00	2.00	3	1.50	9.85	274.00	27.00	1,350	50.00	0.48	0.48

# E|ONE SPD PUMP PERFORMANCE CURVE

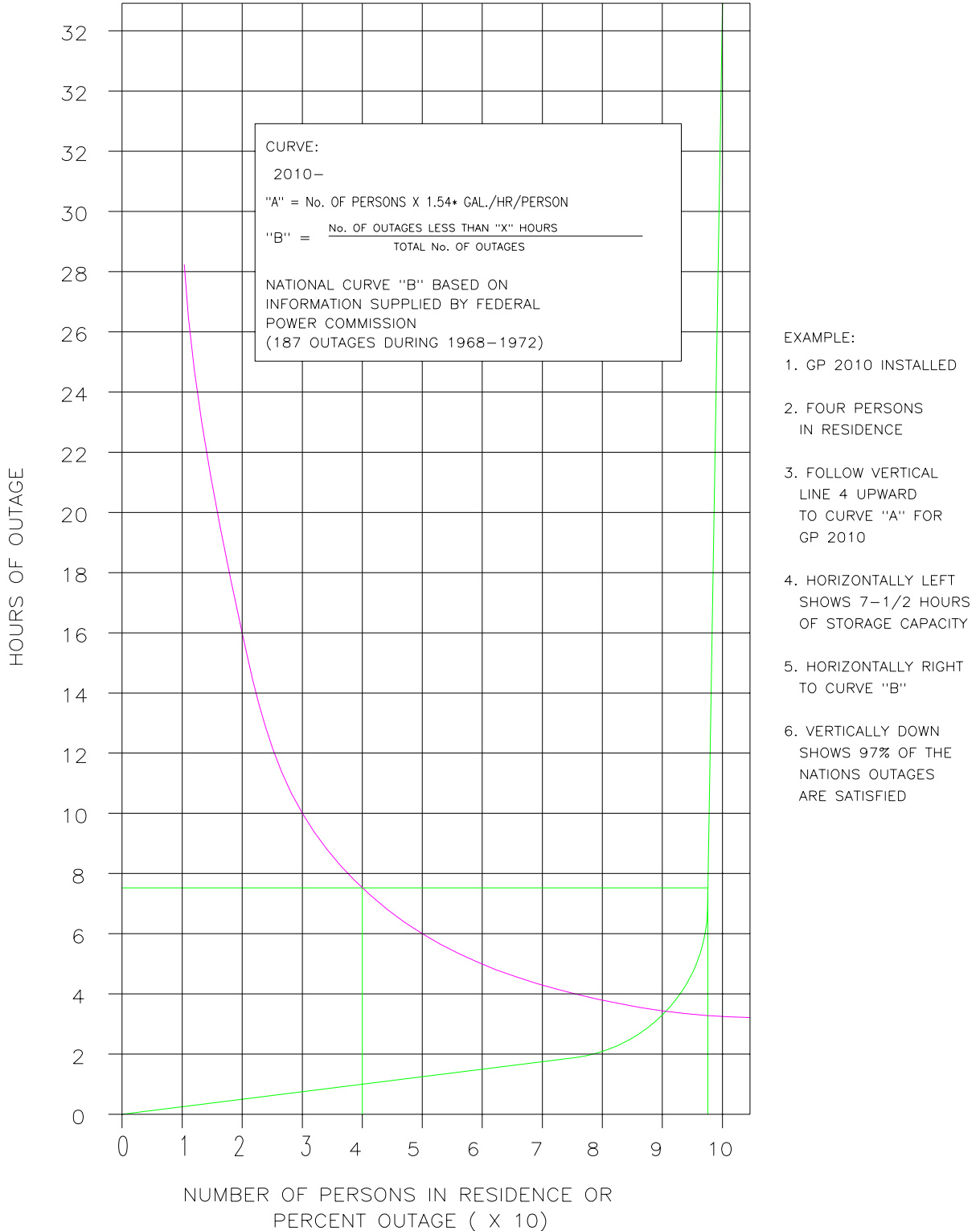
GRINDER PUMP, 1HP, 1725 RPM



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Figure 2

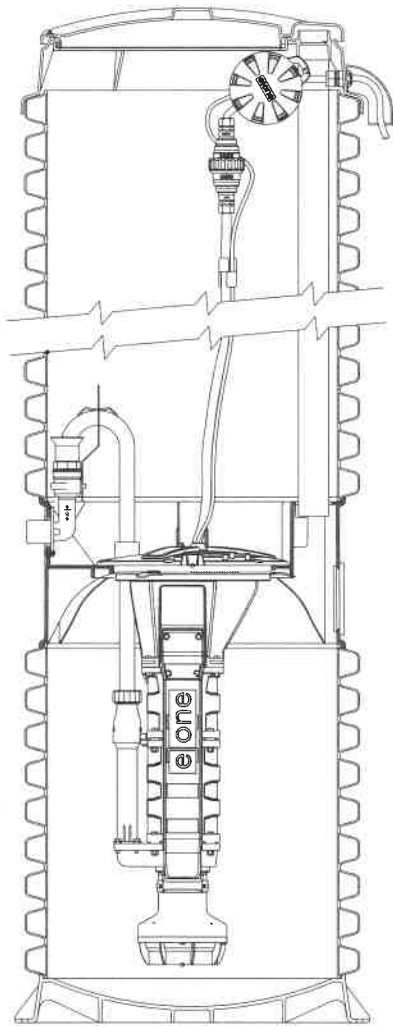
# Relationship of GP Storage Capacity to Power Outage Experience





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## DH071/DR071



### General Features

The model DH071 or DR071 grinder pump station is a complete unit that includes: the grinder pump, check valve, HDPE (high density polyethylene) tank, controls, and alarm panel. A single DH071 or DR071 is a popular choice for one, average single-family home and can also be used for up to two average single-family homes where codes allow and with consent of the factory.

- Rated for flows of 700 gpd (2650 lpd)
- 70 gallons (265 liters) of capacity
- Indoor or outdoor installation
- Standard outdoor heights range from 61 inches to 160 inches

The DH071 is the “hardwired,” or “wired,” model where a cable connects the motor controls to the level controls through watertight penetrations.

The DR071 is the “radio frequency identification” (RFID), or “wireless,” model that uses wireless technology to communicate between the level controls and the motor controls.

### Operational Information

#### *Motor*

1 hp, 1,725 rpm, high torque, capacitor start, thermally protected, 120/240V, 60 Hz, 1 phase

#### *Inlet Connections*

4-inch inlet grommet standard for DWV pipe. Other inlet configurations available from the factory.

#### *Discharge Connections*

Pump discharge terminates in 1.25-inch NPT female thread. Can easily be adapted to 1.25-inch PVC pipe or any other material required by local codes.

#### *Discharge*

15 gpm at 0 psig (0.95 lps at 0 m)  
11 gpm at 40 psig (0.69 lps at 28 m)  
7.8 gpm at 80 psig (0.49 lps at 56 m)

### Accessories

E/One requires that the Uni-Lateral, E/One’s own stainless steel check valve, be installed between the grinder pump station and the street main for added protection against backflow.

Alarm panels are available with a variety of options, from basic monitoring to advanced notice of service requirements.

The Remote Sentry is ideal for installations where the alarm panel may be hidden from view.

Patent Numbers: 5,752,315  
5,562,254 5,439,180

NA0050P01 Rev C

## E/One Sentry™

### Alarm Panel — Basic Package



#### Description

The E/One Sentry panels are custom designed for use with Environment One grinder pump stations. They can be configured to meet the needs of your application, from basic alarm indication to advanced warning of pending service requirements.

E/One Sentry panels are supplied with audible and visual high level alarms. They are easily installed in accordance with relevant national and local codes. Standard panels are approved by UL, CSA, CE and NSF to ensure high quality and safety.

The panel features a corrosion-proof, NEMA 4X-rated, thermoplastic enclosure. A padlock is provided to prevent unauthorized entry (safety front).

#### Standard Features

- Circuit breakers, 240 or 120 VAC service
- Terminal blocks and ground lugs
- Audible alarm with manual silence
- Manual run feature and run indicator
- Redundant "Start" function with high level alarm
- Conformal-coated alarm board (both sides)
- Alarm board overload protection

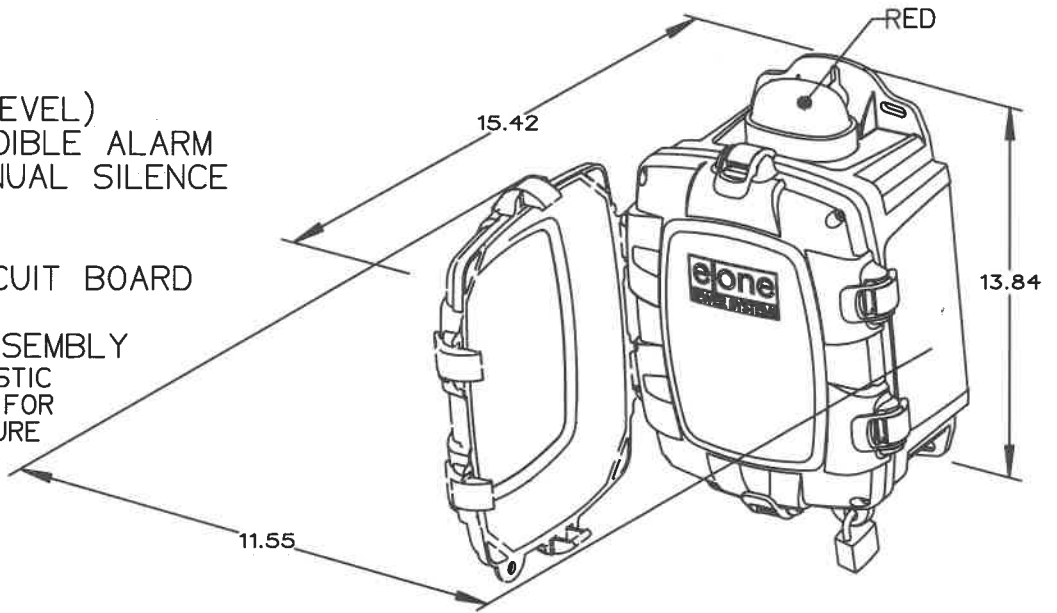
#### Optional Features

- Contact group (dry, powered and Remote Sentry)
- Inner cover (dead front)
- Hour meter
- Generator receptacle with auto transfer
- GFCI
- Main service disconnect
- Brownout protection

Please consult factory for special applications.

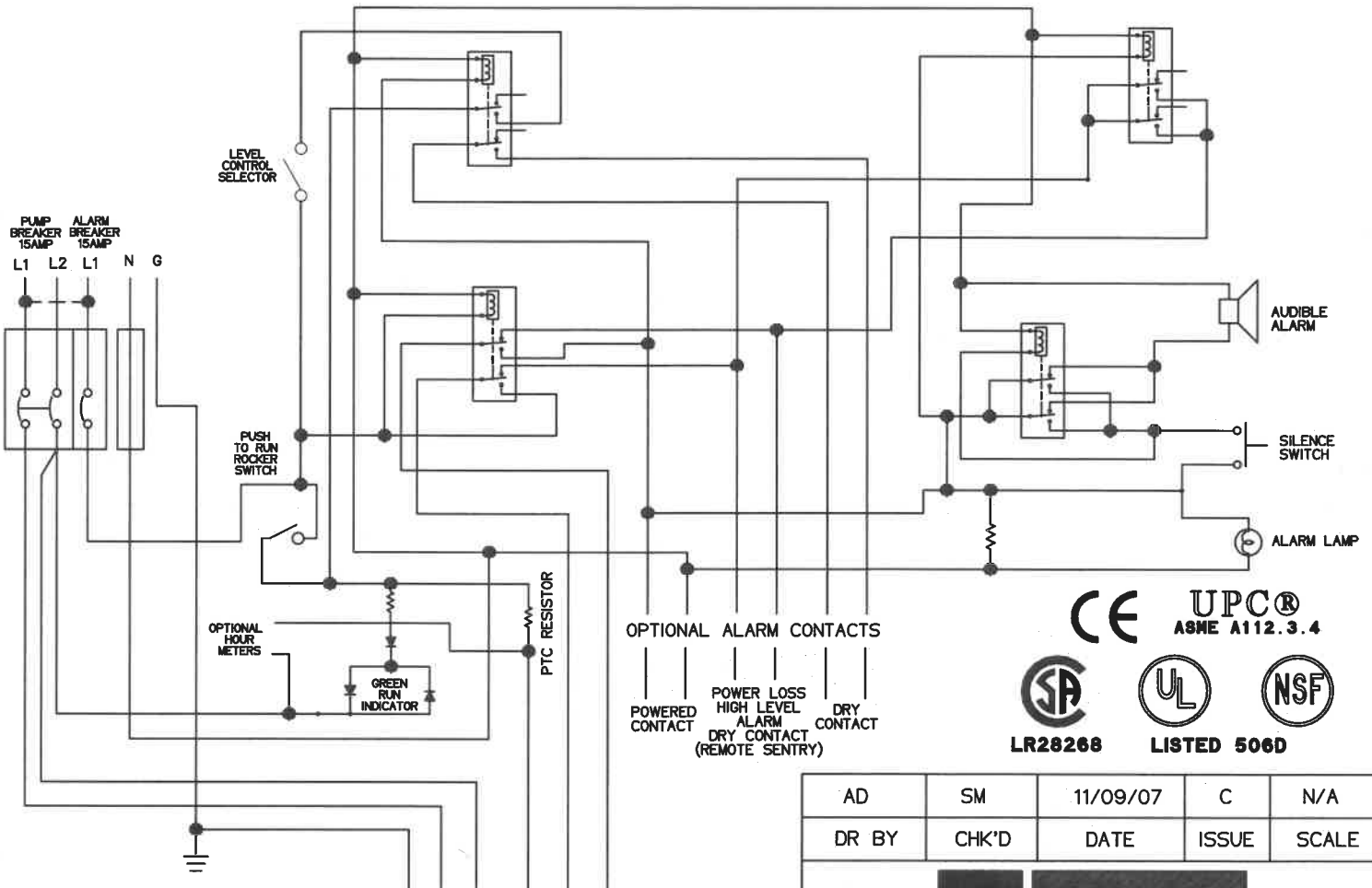
# SIMPLEX SENTRY

- REDUNDANT RUN (HIGH LEVEL)
- EXTERNAL VISUAL & AUDIBLE ALARM
- EXTERNAL LATCHING MANUAL SILENCE
- MANUAL RUN
- PUMP RUN INDICATOR
- CONFORMAL COATED CIRCUIT BOARD
- PADLOCK
- NEMA 4X ENCLOSURE ASSEMBLY
- CORROSION PROOF THERMOPLASTIC POLYESTER APPROVED BY UL FOR ELECTRICAL CONTROL ENCLOSURE



## OPTIONS:

- ALARM CONTACTS
- HOUR METER



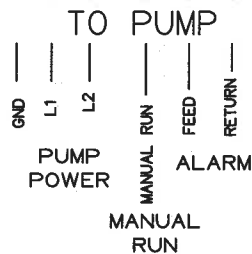
CE UPC®  
ASME A112.3.4



LR28268 LISTED 506D

AD	SM	11/09/07	C	N/A
DR BY	CHK'D	DATE	ISSUE	SCALE

PIN	FUNCTION	2000S	EXTREME
1	MANUAL RUN	RED	BROWN
2	L1	BLACK	RED
3	L2	WHITE	BLACK
4	GND	GREEN	GRN/YEL
5	ALARM FEED	ORANGE	YELLOW
6	ALARM RETURN	BLUE	BLUE



CONTROL CABLE:  
TYPE TC: DIRECT BURIAL, 12AWG,  
SIX CONDUCTOR



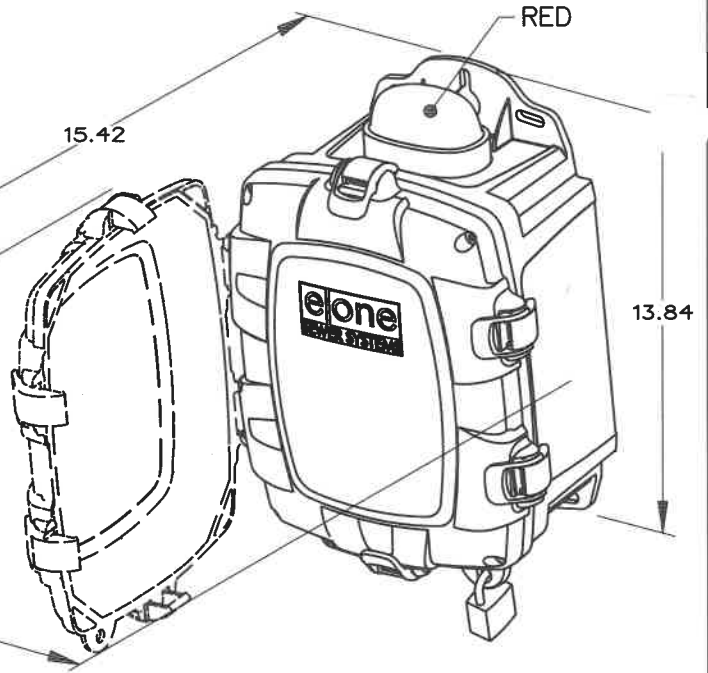
SIMPLEX SENTRY, 240V 60Hz.  
DOUBLE POLE POWER

LM000326



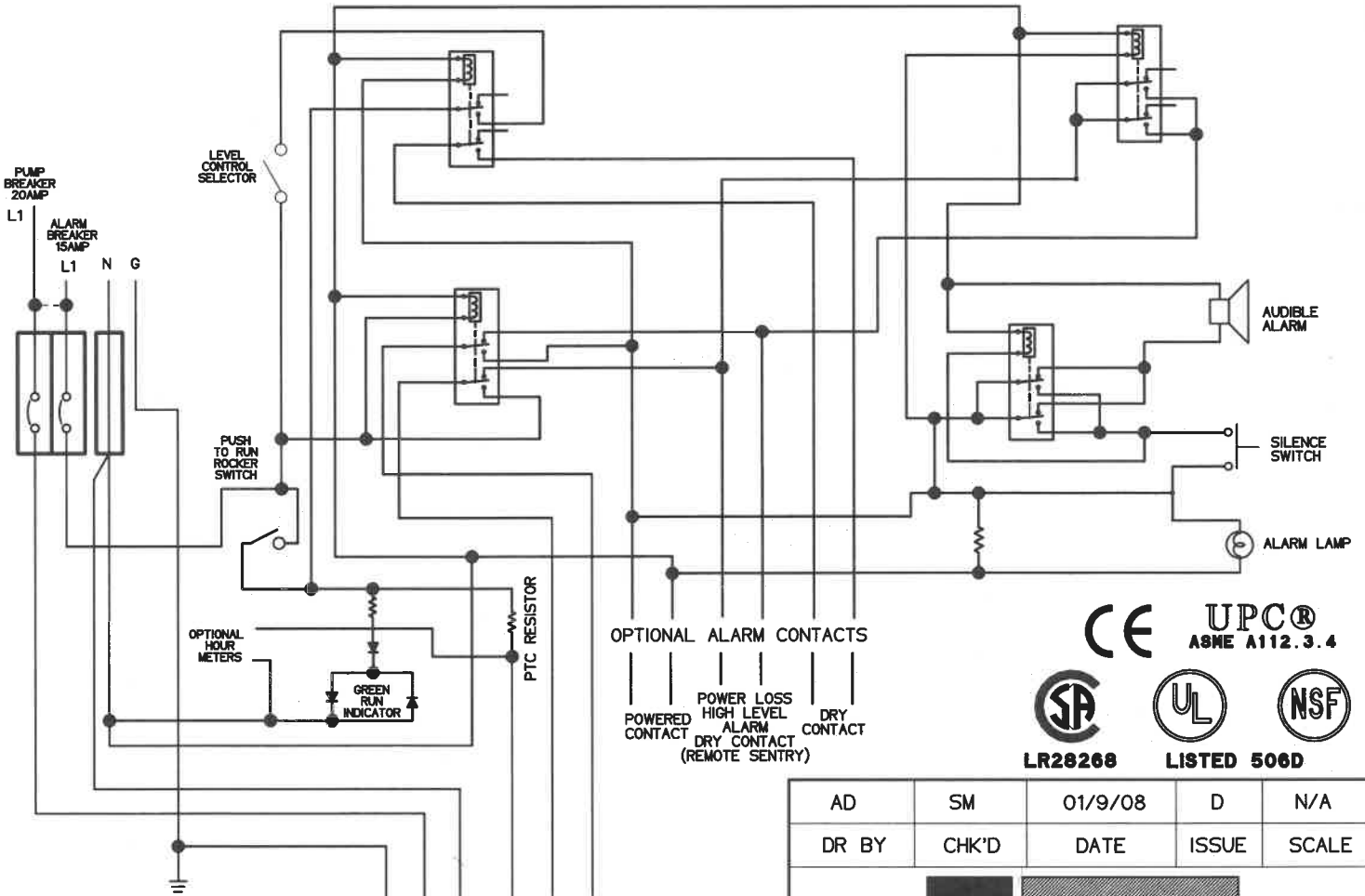
# SIMPLEX SENTRY

REDUNDANT RUN (HIGH LEVEL)  
 EXTERNAL VISUAL & AUDIBLE ALARM  
 EXTERNAL LATCHING MANUAL SILENCE  
 MANUAL RUN  
 PUMP RUN INDICATOR  
 CONFORMAL COATED CIRCUIT BOARD  
 PADLOCK  
 NEMA 4X ENCLOSURE ASSEMBLY  
 CORROSION PROOF THERMOPLASTIC  
 POLYESTER APPROVED BY UL FOR  
 ELECTRICAL CONTROL ENCLOSURE

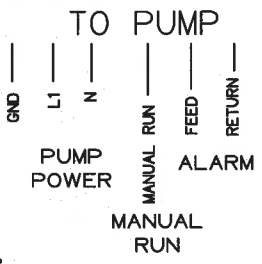


## OPTIONS:

- ALARM CONTACTS
- HOUR METER



PIN	FUNCTION	2000S	EXTREME
1	MANUAL RUN	RED	BROWN
2	L1	BLACK	RED
3	N	WHITE	BLACK
4	GND	GREEN	GRN/YEL
5	ALARM FEED	ORANGE	YELLOW
6	ALARM RETURN	BLUE	BLUE



CONTROL CABLE:  
 TYPE TC: DIRECT BURIAL, 12AWG,  
 SIX CONDUCTOR

CE UPC®  
 ASME A112.3.4



LR28268 LISTED 506D

AD	SM	01/9/08	D	N/A
DR BY	CHK'D	DATE	ISSUE	SCALE



SIMPLEX SENTRY, 120V 60Hz.  
 SINGLE POLE POWER

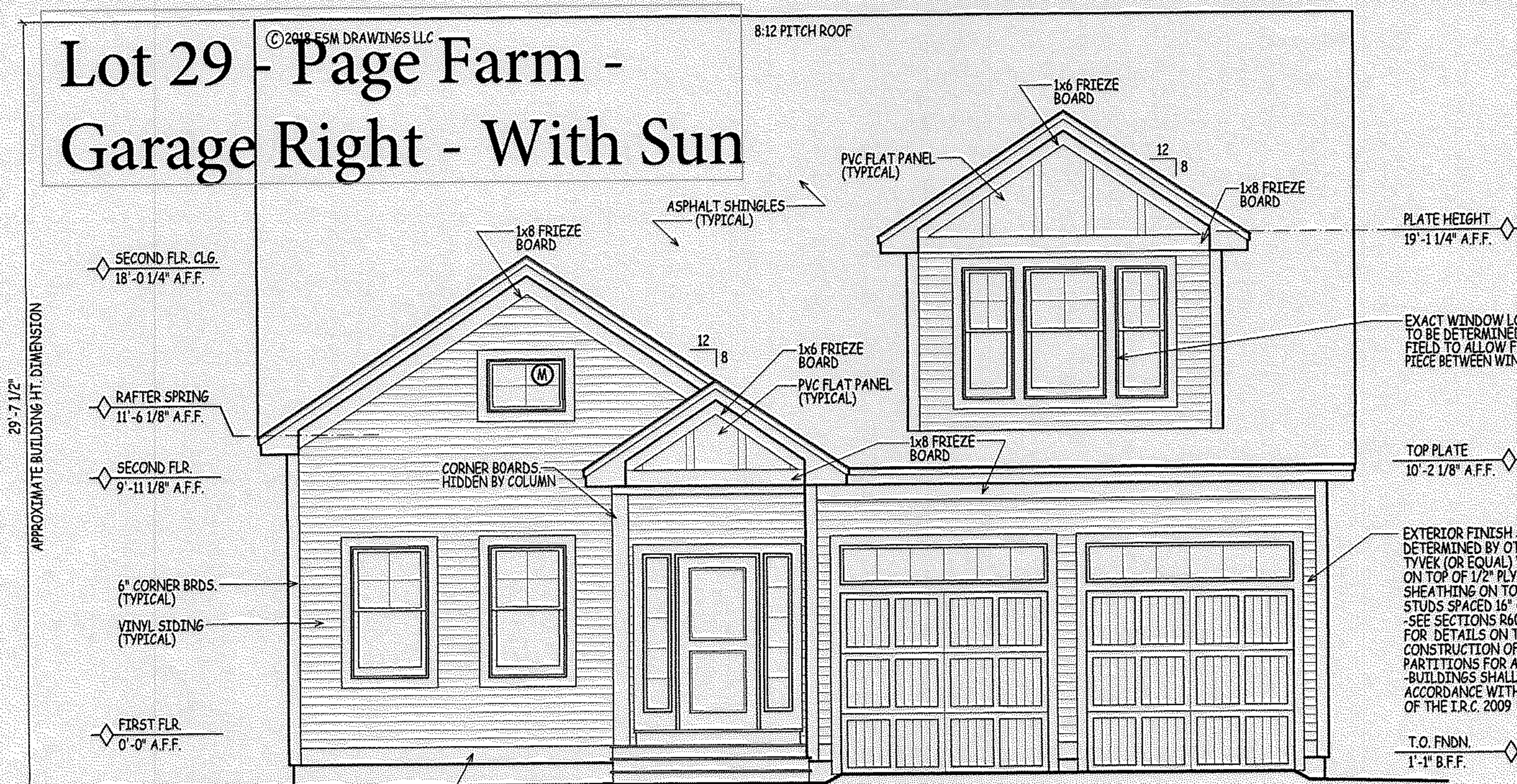
LM000327

# Lot 29 - Page Farm - Garage Right - With Sun

©2018 FSM DRAWINGS LLC

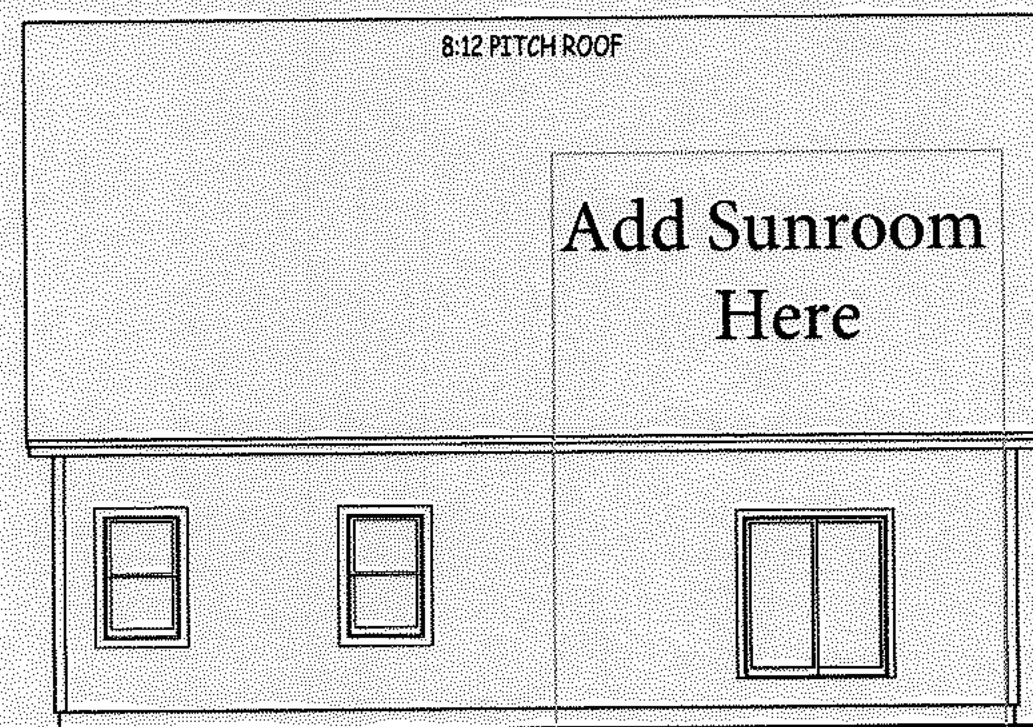
8:12 PITCH ROOF

NOTE:  
THESE ELEVATIONS TO  
BE USED WITH FLOOR  
PLANS SHEET 2a & 3a.



FRONT ELEVATION (THE ABBOT)

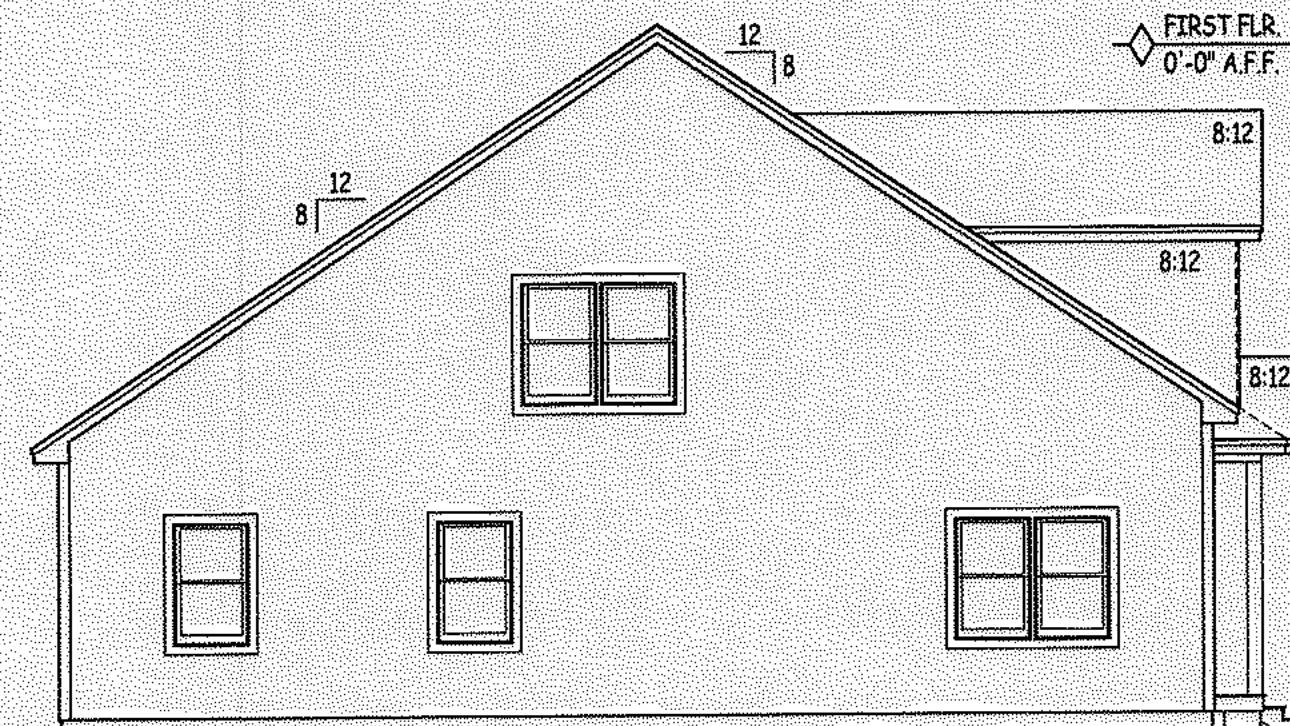
SCALE: 1/4" = 1'-0"



REAR ELEVATION

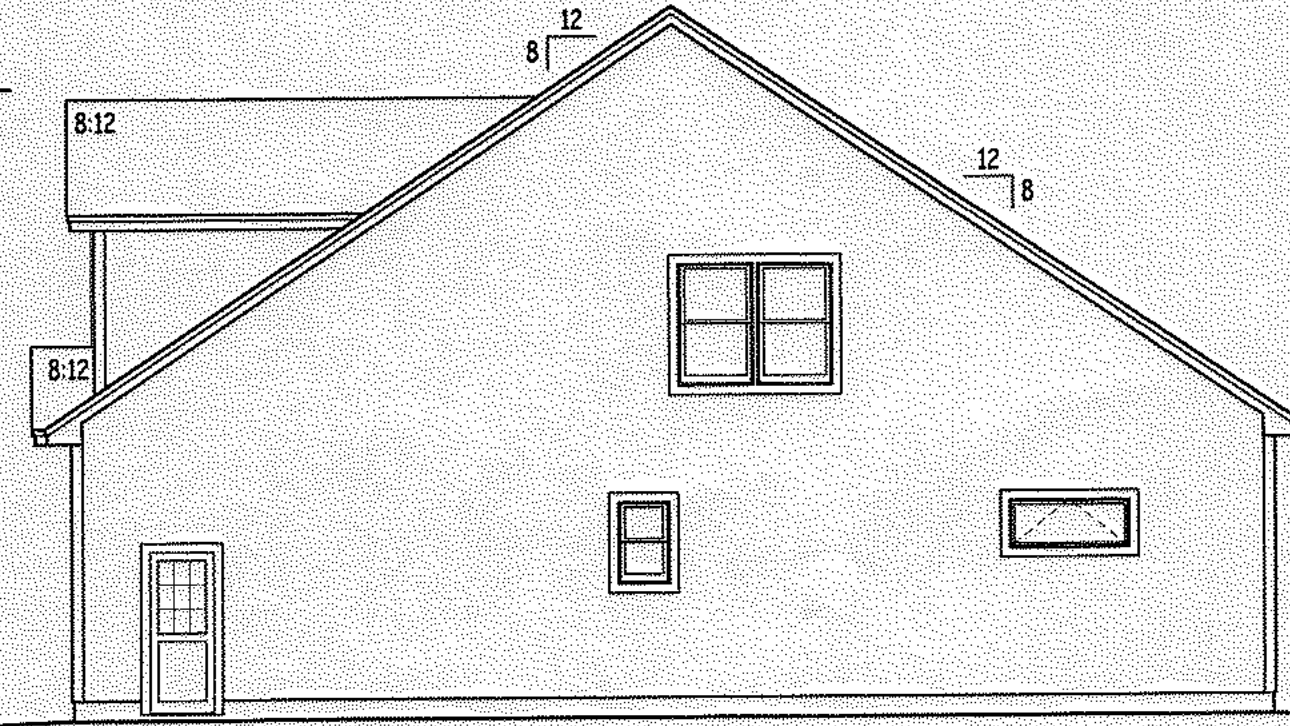
SCALE: 1/8" = 1'-0"

- NOTES:
1. DECK(S) NOT SHOWN FOR CLARITY - CONSULT CONTRACTOR IN FIELD FOR EXACT SIZE & LOCATION
  2. REFER TO FLOOR PLANS FOR EXACT LOCATION OF WINDOWS & DOORS - DO NOT SCALE FROM ELEVATIONS



LEFT ELEVATION

SCALE: 1/8" = 1'-0"



RIGHT ELEVATION

SCALE: 1/8" = 1'-0"

EGRESS NOTE:  
AT LEAST ONE WINDOW PER SLEEPING ROOM TO MEET MINIMUM LOCAL, STATE AND NATIONAL REQUIREMENTS OF NET CLEAR OPENING WIDTH, HEIGHT, AREA AND SILL HEIGHT FOR EGRESS - IN DWELLING UNITS WHERE THE OPENING OF AN OPERABLE WINDOW IS LOCATED MORE THAN 72" ABOVE FINISHED GRADE OR SURFACE BELOW THE LOWEST PART OF THE CLEAR OPENING OF THE WINDOW SHALL BE A MINIMUM OF 24" ABOVE THE FINISHED FLOOR IN WHICH THE WINDOW IS LOCATED (REFER TO SECTION R612.2 OF THE I.R.C. 2009)

REFER TO SECTIONS R612.2 FOR WINDOW SILL HEIGHT ABOVE GROUND (OR SURFACE BELOW) AND TO SECTION 310 FOR EGRESS WINDOWS & BASEMENTS PRIOR TO PLACING WINDOW ORDER  
REFER TO SECTION 311 FOR MEANS OF EGRESS PRIOR TO ORDERING DOORS

NOTE:  
PLANS DESIGNED TO THE  
2009 INTERNATIONAL  
RESIDENTIAL CODE.

LOT 29 PAGE FARM (ABBOT w/SUN, GARAGE RIGHT)

ADMISSION OF ERROR, OMISSION AND/OR OVERSIGHT:  
WHILE IT IS OUR INTENT TO DELIVER OUR SERVICES FREE OF ERROR, OMISSION OR OVERSIGHT, WE WILL ADMIT TO BE HUMAN, AND THEREFORE FSM DRAWINGS LLC ACTING SOLELY AS THE DRAFTING COMPANY WILL BE RESPONSIBLE FOR THEIR APPROXIMATE ACCURACY, COMPLETENESS AND APPROPRIATENESS. THE CONTRACTOR USING THESE PLANS ASSUMES ALL RESPONSIBILITY FOR THEM AND WILL AT HIS/HER OWNERS RISK NECESSARY AND ALLEGED PROFESSIONAL ENGINEER TO ASSIST IN THE REVIEW.



PROJECT:  
PAGE FARM - ATKINSON, NH



PREPARED FOR:  
DRAWN BY: MM/JW  
CHECKED BY: MM  
DATE DRAWN: 09/06/18  
DATE ISSUED: 09/06/18  
SCALE: AS INDICATED  
JOB NO.: FSM17-206CA

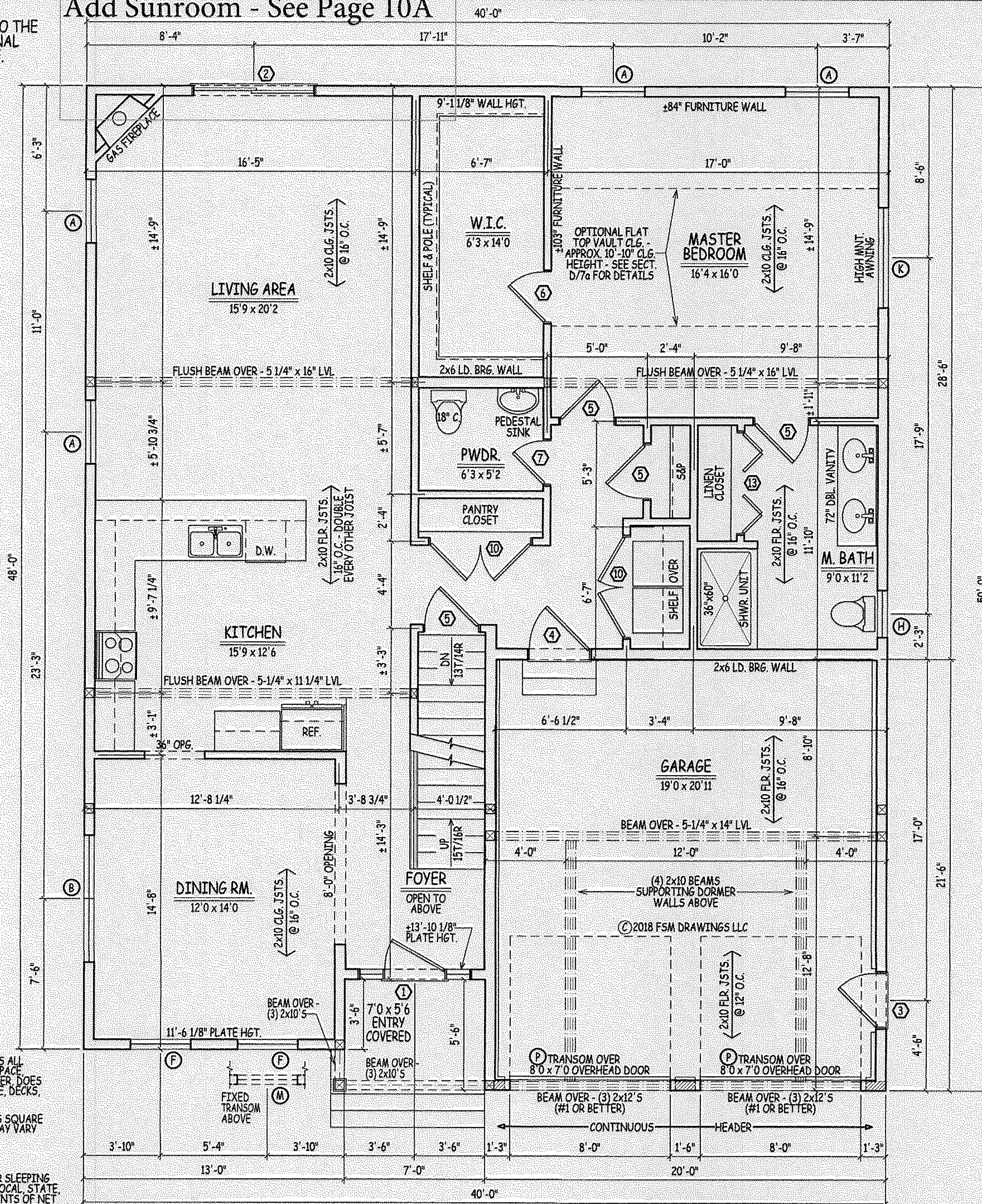
REVISIONS	DATE	DESCRIPTION
16	08/27/18	THE CALLAWAY & NILEY REVISED PER REQUEST - ISSUED FOR REVIEW AND STAMP
17	09/06/18	BEAM LOCATION UPDATED ON THE ABBOT - ISSUED FOR REVIEW AND STAMP
13	08/03/18	THE CALLAWAY REVISED PER MARK-UPS - ISSUED FOR REVIEW AND STAMP
14	08/15/18	THE NILEY REVISED PER MARK-UPS - ISSUED FOR REVIEW AND STAMP
15	08/15/18	THE ABBOT REVISED PER MARK-UPS - ISSUED FOR REVIEW AND STAMP

1a



NOTE:  
PLANS DESIGNED TO THE  
2009 INTERNATIONAL  
RESIDENTIAL CODE.

Add Sunroom - See Page 10A



FIRST FLOOR PLAN

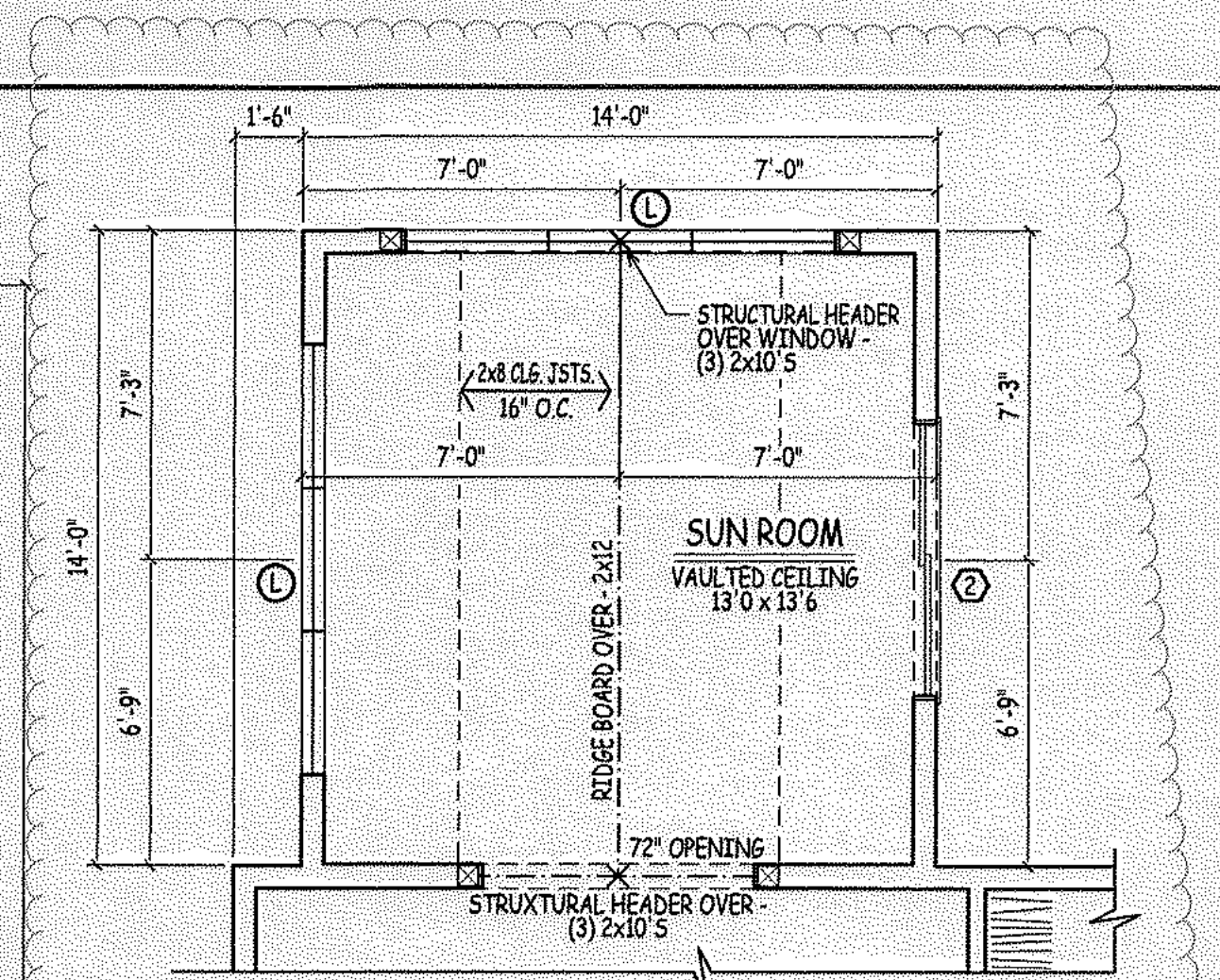
APPROX. 1,515 S.F.  
SCALE: 1/4" = 1'-0"

NOTE:  
THIS FLOOR PLAN TO  
BE USED WITH SECOND  
FLOOR PLAN SHEET 3a.

NOTE:  
SQUARE FOOTAGE INCLUDES ALL  
WALL STRUCTURE, LIVING SPACE,  
CLOSETS & STAIRS. HOWEVER, DOES  
NOT INCLUDE GARAGE SPACE, DECKS,  
OR PATIO'S.

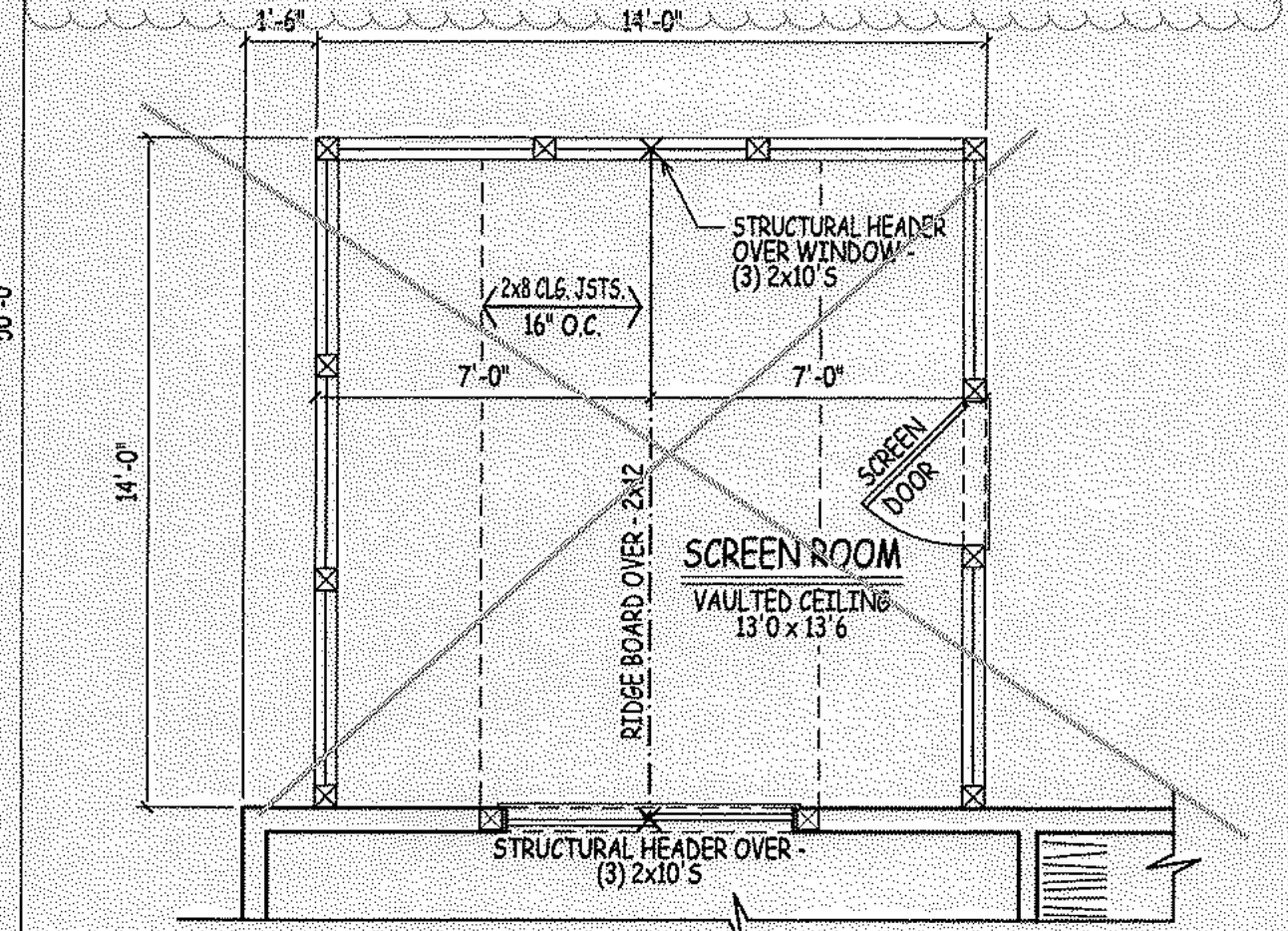
TAKE NOTE THAT BUILDER'S SQUARE  
FOOTAGE CALCULATIONS MAY VARY  
FROM DRAFTER'S.

EGRESS NOTE:  
AT LEAST ONE WINDOW PER SLEEPING  
ROOM TO MEET MINIMUM LOCAL, STATE,  
AND NATIONAL REQUIREMENTS OF NET  
CLEAR OPENING WIDTH, HEIGHT, AREA  
AND STILL HEIGHT FOR EGRESS.  
IN DWELLING UNITS, WHERE THE OPENING OF  
AN OPERABLE WINDOW IS LOCATED MORE  
THAN 72" ABOVE FINISHED GRADE OR  
SURFACE BELOW, THE LOWEST PART OF THE  
CLEAR OPENING OF THE WINDOW SHALL BE  
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(REFER TO SECTION R612.2 OF THE I.R.C. 2009)



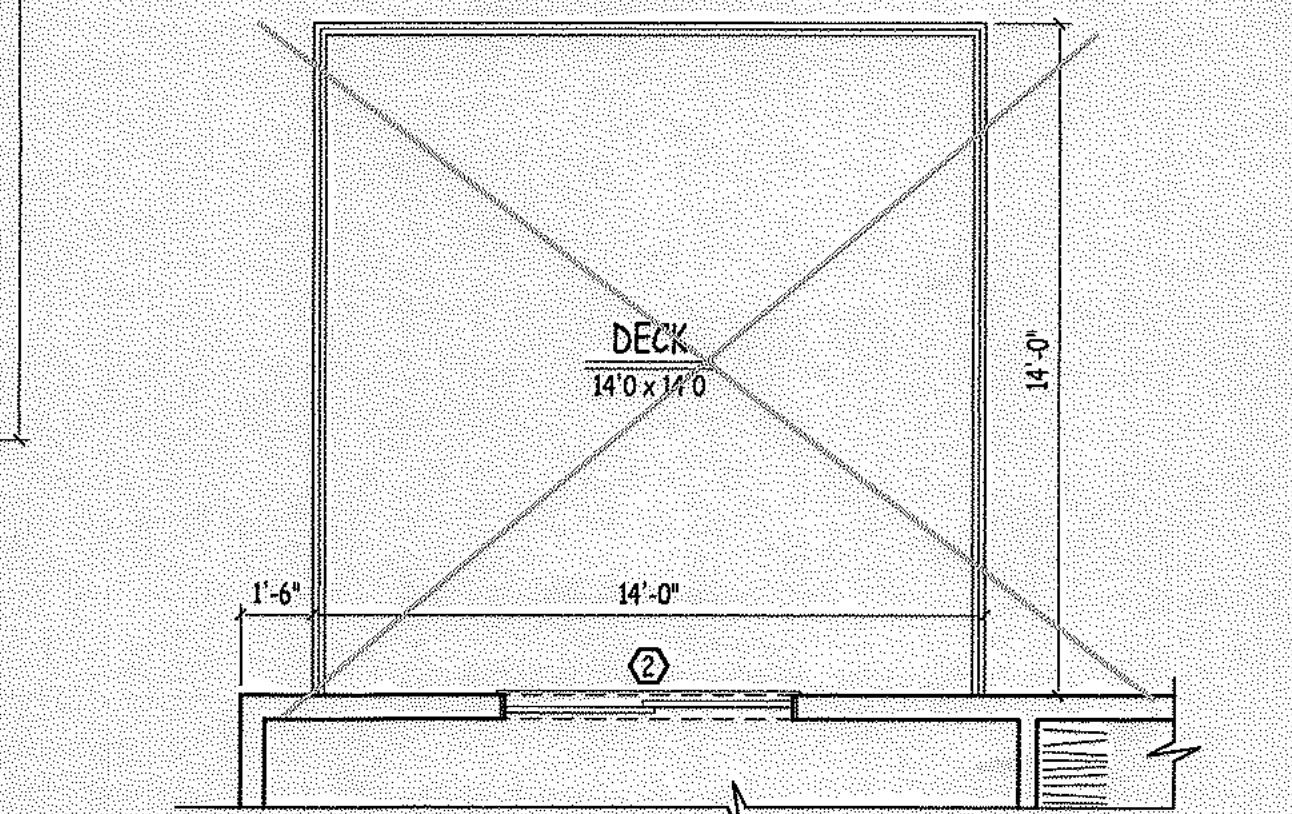
SUN ROOM OPTION

SCALE: 1/4" = 1'-0"



SCREEN ROOM OPTION

SCALE: 1/4" = 1'-0"



DECK OPTION

SCALE: 1/4" = 1'-0"

ADMISSION OF ERROR, OMISSION AND/OR OVERSIGHT:  
WHILE IT IS OUR INTENT TO DELIVER OUR SERVICES FREE OF  
ERROR, OMISSION OR OVERSIGHT, WE WILL ADMIT TO BE  
HUMAN AND THEREFORE FOR DRAWINGS LLC, ACTING SOLELY  
ON BEHALF OF THE CLIENT, WE WILL NOT BE RESPONSIBLE FOR  
CONTRACTOR'S OMISSIONS, ERRORS, OR OVERSIGHTS. THE  
CLIENT'S CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING  
FOR DIMENSIONAL ACCURACY, COMPLETENESS AND  
APPROPRIATENESS. THE CONTRACTOR USING THESE PLANS  
ASSUMES ALL RESPONSIBILITY FOR THEM AND WILL BE RESPONSIBLE  
FOR OBTAINING ALL NECESSARY PERMITS AND PROFESSIONAL REVIEW  
TO ASSIST IN THE REVIEW.

**FSM**  
DRAWINGS  
27 Lippitt Street  
Manchester, New Hampshire 03101  
Tel: 603.288.8881 www.fsmdrawings.com

PROJECT:  
THE ABBOT  
PAGE FARM - ATKINSON, NH

PREPARED FOR:  
**GREEN & CO**

DRAWN BY: MM/JW  
CHECKED BY: MM  
DATE DRAWN: 09/06/18  
DATE ISSUED: 09/06/18  
SCALE: AS INDICATED  
JOB NO.: FSM17-206CA

REVISIONS	THE CALLAWAY & RILEY REVISED PER REQUEST - ISSUED FOR REVIEW AND STAMP
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15 08/15/18	THE ABBOT REVISED PER MARK-UPS - ISSUED FOR REVIEW AND STAMP

**2a**



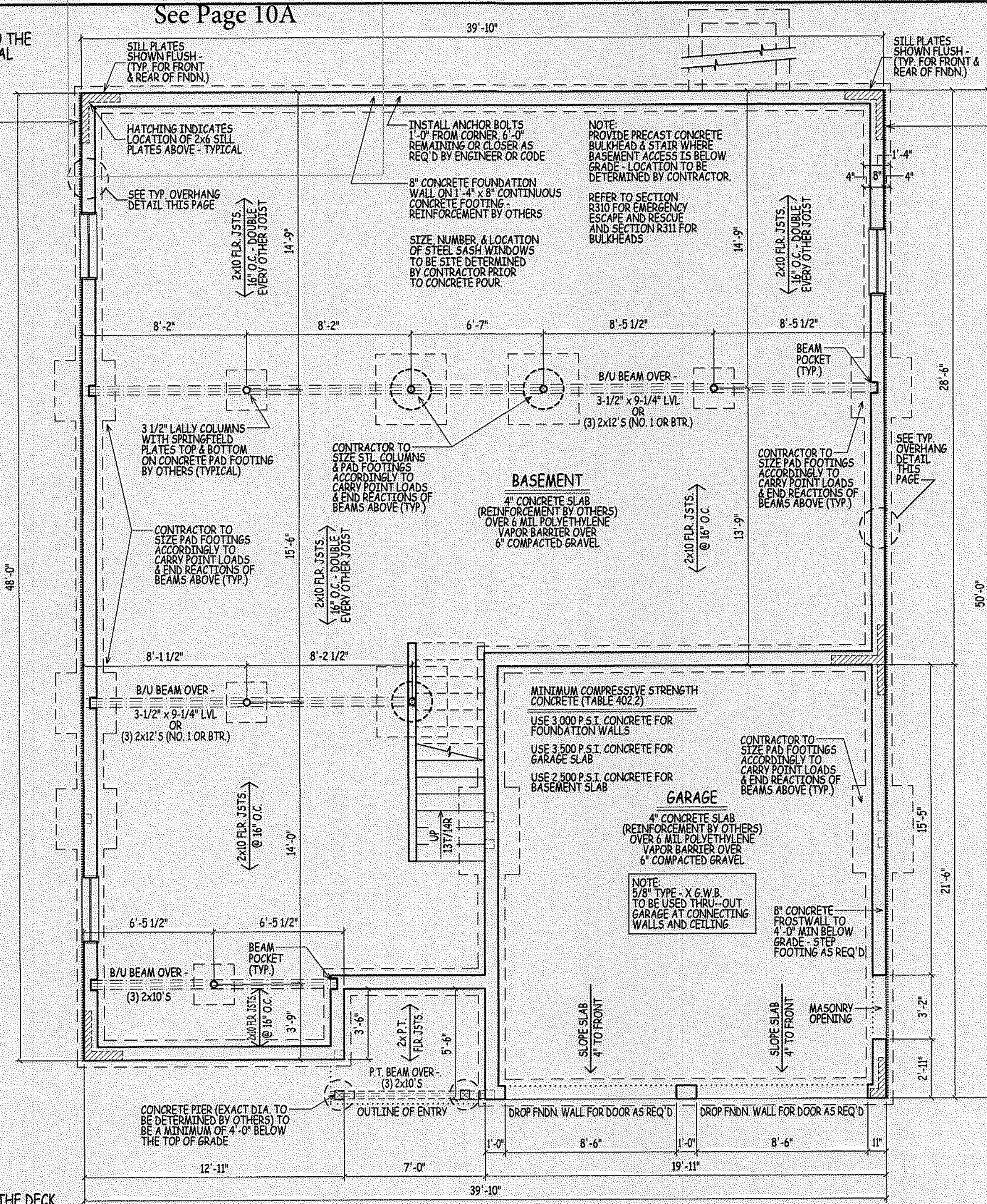




**Add Sunroom Foundation**

See Page 10A

NOTE: PLANS DESIGNED TO THE 2009 INTERNATIONAL RESIDENTIAL CODE.

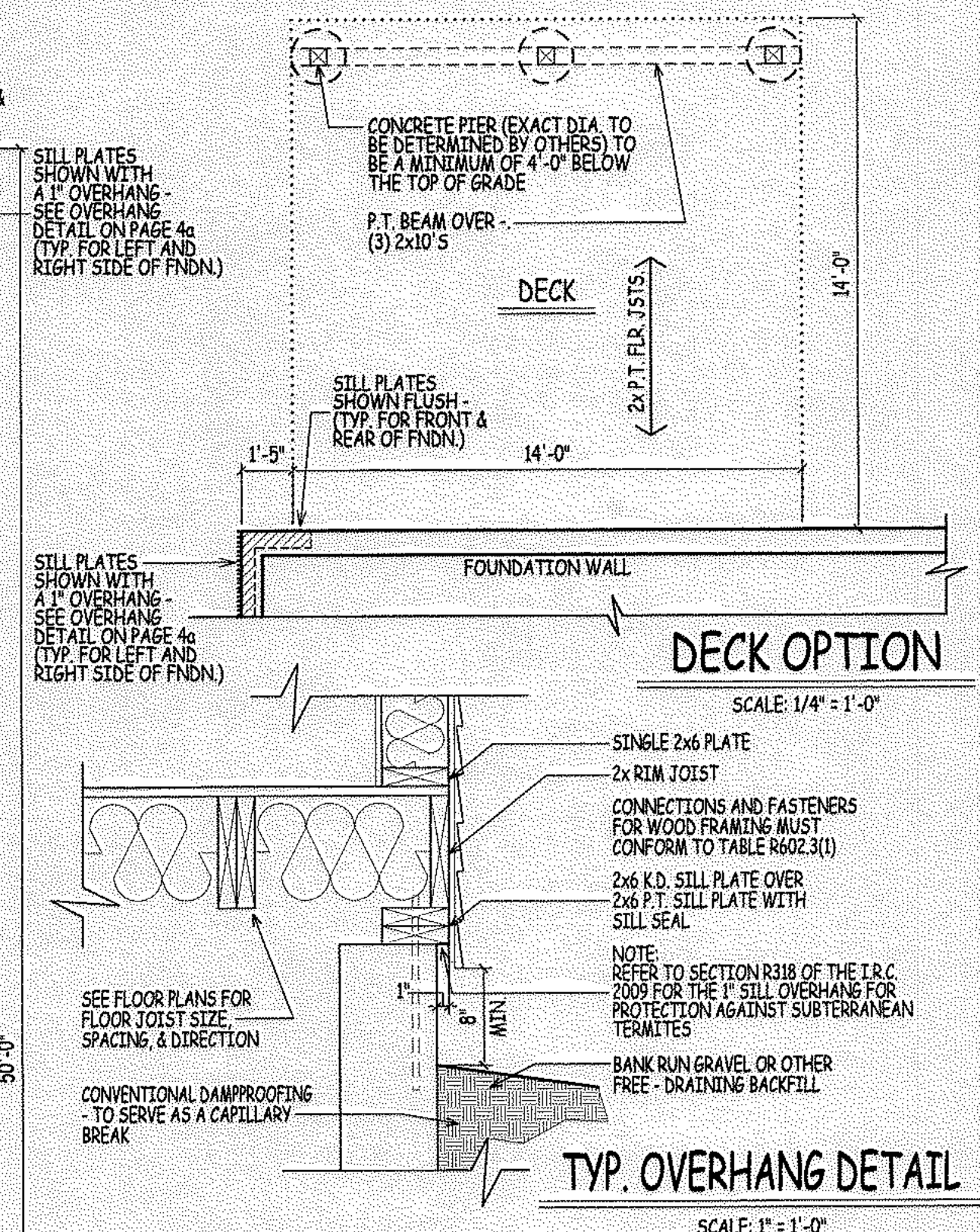


**FOUNDATION PLAN**

SCALE: 1/4" = 1'-0"

NOTE: WHEN ONE SIDE OF THE DECK IS SUPPORTED BY THE HOUSE, A LATERAL LOAD CONNECTION IS REQUIRED. HOLD-DOWN TENSION DEVICES SHALL BE INSTALLED IN AT LEAST 2 LOCATIONS WITH A MINIMUM LATERAL-LOAD CAPACITY OF 1,500 LBS. PER DEVICE (SEE SECTION 502.2.2 OF THE 2009 IRC.)

NOTE: THIS FOUNDATION PLAN TO BE USED WITH FIRST FLOOR PLAN SHEET 2a.



**FOUNDATION GENERAL NOTES:**

- CONCRETE FOUNDATIONS: CONCRETE FOUNDATIONS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 4 OF THE I.R.C. 2009 BUILDING CODES, INCLUDING ENERGY CODES. CONSTRUCTION BY CONTRACTOR AND OR BEAM MANUFACTURER (TYPICAL)
- FOR VERTICAL REINFORCEMENT OF FOUNDATION REFER TO TABLES R405.1 (FOR SOILS CLASSIFICATIONS) AND R404.1.1(2) - R404.1.1(4) OF THE IRC 2009 FOR 8", 10", & 12" WALLS
- SEE TABLE R401.4 FOR PRESUMPTIVE LOAD-BEARING VALUES OF FOUNDATION MATERIALS
- SEE SECTIONS R401 - R408 (IRC) FOR DETAILS ON THE DESIGN AND CONSTRUCTION OF THE FOUNDATION AND FOUNDATION SPACES FOR ALL BUILDINGS
- FOUNDATION WALLS SHALL BE CONSTRUCTED AS SET FORTH IN TABLES R404.1.1(1) - R404.1.1(4) AND SHALL ALSO COMPLY WITH THE APPLICABLE PROVISIONS OF SECTIONS R606 - R608
- FOUNDATION CONSTRUCTION SHALL BE CAPABLE OF ACCOMMODATING ALL LOADS ACCORDING TO SECTION R301 AND OF TRANSMITTING THE RESULTING LOADS TO THE SUPPORTING SOIL.
- CONCRETE FOOTINGS SHALL BE OF SUFFICIENT DESIGN TO ACCOMMODATE ALL LOADS ACCORDING TO SECTION R301
- FOOTINGS SHALL BE SUPPORTED ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL
- SEE TABLE R401.4.1 FOR PRESUMPTIVE LOAD BEARING VALUES OF FOUNDATION MATERIALS
- MINIMUM SIZES FOR CONCRETE AND MASONRY FOOTINGS SHALL BE AS SET FORTH IN TABLE R403.1 AND FIGURE R403.1(1)
- THE LOAD BEARING VALUE OF THE SOIL IN ACCORDANCE WITH TABLE R401.4.1
- ALL ENGINEERED STEEL/WOOD BEAMS TO BE CHECKED AND VERIFIED FOR LOCATION AND SPAN PRIOR TO START OF BUILDING CODES, INCLUDING ENERGY CODES, CONSTRUCTION BY CONTRACTOR AND OR BEAM MANUFACTURER (TYPICAL)
- CONTRACTOR TO PROVIDE ADEQUATE HEADERS OVER ALL WINDOWS AND DOORS ON EXTERIOR LOAD-BEARING WALLS (TYP.)
- FABRICATION AND MATERIALS SUPPLIED AND INSTALLED SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE & NATIONAL BUILDING CODES, INCLUDING ENERGY CODES, LIFE SAFETY CODES, AND WHERE APPLICABLE THE REQUIREMENTS OF THE AMERICAN DISABILITIES ACT.
- DECK NOTE: VERIFY EXACT SIZE & LOCATION OF DECK WITH THE CONTRACTOR
- EXACT DIA./SIZE OF CONCRETE PIERS AND LOCATIONS TO BE DETERMINED BY OTHERS
- 2x FLOOR JSTS. (SEE FRAMING NOTES FOR EXACT SIZES)
- SEE SECTIONS R501 - R506 (IRC) FOR DETAILS ON THE DESIGN AND CONSTRUCTION OF ALL FLOORS FOR ALL BUILDINGS
- FOUNDATION NOTES: FOUNDATION DROPS, PLACEMENT OF BULKHEAD (IF REQUIRED), AND NUMBER, SIZE & LOCATION OF BASEMENT WINDOWS TO BE SITE DETERMINED - VERIFY IN FIELD WITH CONTRACTOR PRIOR TO POUR.
- BASEMENT WALK-OUT: THESE PLANS ARE NOT SITE SPECIFIC. IF SITE GRADING ALLOWS FOR A WALK-OUT IT IS THE RESPONSIBILITY OF THE OWNER AND CONTRACTOR TO COORDINATE THE EXACT LOCATION, TYPE, AND NUMBER OF DOOR(S), WINDOWS AND REQUIRED STEPPING OF FOUNDATION WALL, FROST WALL & FOOTING.

ADMISSION OF ERROR, OMISSION AND/OR OVERSIGHT. WHILE IT IS OUR INTENT TO DELIVER OUR SERVICES FREE OF ERROR, OMISSION OR OVERSIGHT, WE WILL ADMIT TO BE HUMAN, AND THEREFORE FSM DRAWINGS, LLC, ACTING SOLELY AS THE DRAFTING COMPANY, WILL RELY ON THE EXPERIENCE, KNOWLEDGE AND JUDGMENT OF THE CONTRACTOR AND ARCHITECT. FSM DRAWINGS, LLC, ASSUMES NO LIABILITY FOR THEM AND WILL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS. THE CONTRACTOR USING THESE PLANS ASSUMES ALL NECESSARY PERMITS AND OBTAINING THE NECESSARY PERMITS AND ASSIST IN THE REVIEW.

**FSM DRAWINGS**  
 22 E. Main Street, Suite 100  
 Greenfield, NH 03042  
 Tel: 603-888-8888  
 Fax: 603-888-8889  
 Email: fsm@fsmdrawings.com  
 ©2017 FSM DRAWINGS LLC

PROTECT: **THE ABBOT PAGE FARM - ATKINSON, NH**  
 PREPARED FOR: **GREEN & CO**

DRAWN BY: MM/JW  
 CHECKED BY: MM  
 DATE DRAWN: 09/06/18  
 DATE ISSUED: 09/06/18  
 SCALE: AS INDICATED  
 JOB NO.: FSM17-206CA

REVISIONS	THE CALLAWAY/ARLEY REVISED PER REQUEST - ISSUED FOR REVIEW AND STAMP	BEAM LOCATION UPDATED ON THE ABBOT - ISSUED FOR REVIEW AND STAMP	THE CALLAWAY REVISED PER MARK-UPS - ISSUED FOR REVIEW AND STAMP	THE RILEY REVISED PER MARK-UPS - ISSUED FOR REVIEW AND STAMP	THE ABBOT REVISED PER MARK-UPS - ISSUED FOR REVIEW AND STAMP
16	08/27/18				
17	09/06/18				
13	08/03/18				
14	08/15/18				
15	08/15/18				

**4a**



**GENERAL NOTES:**

SEE SECTIONS R401 - R408 (IRC) FOR DETAILS ON THE DESIGN AND CONSTRUCTION OF THE FOUNDATION AND FOUNDATION SPACES FOR ALL BUILDINGS  
 -FOUNDATION WALLS SHALL BE CONSTRUCTED AS SET FORTH IN TABLES R404.1.1(1) - R404.1.1(4) AND SHALL ALSO COMPLY WITH THE APPLICABLE PROVISIONS OF SECTIONS R606 - R608  
 -FOUNDATION CONSTRUCTION SHALL BE CAPABLE OF ACCOMMODATING ALL LOADS ACCORDING TO SECTION R301 AND OF TRANSMITTING THE RESULTING LOADS TO THE SUPPORTING SOIL.

CONCRETE FOOTINGS SHALL BE OF SUFFICIENT DESIGN TO ACCOMMODATE ALL LOADS ACCORDING TO SECTION R301

-FOOTINGS SHALL BE SUPPORTED ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL  
 -SEE TABLE R401.4.1 FOR PRESUMPTIVE LOAD BEARING VALUES OF FOUNDATION MATERIALS  
 -MINIMUM SIZES FOR CONCRETE AND MASONRY FOOTINGS SHALL BE AS SET FORTH IN TABLE R403.1 AND FIGURE R403.1(1)

THE LOAD BEARING VALUE OF THE SOIL IN ACCORDANCE WITH TABLE R401.4.1

CONTRACTOR TO PROVIDE ADEQUATE VAPOR BARRIERS UNDER ALL CONCRETE SLABS

CONTRACTOR TO PROVIDE ADEQUATE HEADERS OVER ALL WINDOWS AND DOORS ON EXTERIOR LOAD-BEARING WALLS (TYP.)

LIFE SAFETY CODES, AND WHERE APPLICABLE THE REQUIREMENTS OF THE AMERICAN DISABILITIES ACT.

DOUBLE UP FLOOR JOISTS @ LOCATIONS OF NON-LOAD BEARING WALLS AND UNDER ALL BATHROOMS (I.E. BATHING TUBS/WHIRLPOOLS), KITCHENS, LAUNDRY ROOMS, ETC. (TYPICAL)

CONTRACTOR TO PROVIDE ADEQUATE BLOCKING AND BRIDGING BETWEEN FLOOR JOISTS AS REQUIRED (TYPICAL)

NOTE:  
 SEE THE NEW HAMPSHIRE BUILDING CODE (IBC, IPC, IMC, IECC, IRC & IEBC) AS PUBLISHED BY THE ICC AND THE NATIONAL ELECTRICAL CODE AS PUBLISHED BY THE NFPA FOR IN-DEPTH DETAILS ON BUILDING IN ACCORDANCE WITH CITY BUILDING REGULATIONS

IBC INTERNATIONAL BUILDING CODE  
 IPC INTERNATIONAL PLUMBING CODE  
 IMC INTERNATIONAL MECHANICAL CODE  
 IECC INTERNATIONAL ENERGY CONSERVATION CODE  
 IRC INTERNATIONAL RESIDENTIAL CODE  
 IEBC INTERNATIONAL EXISTING BUILDING CODE  
 ICC INTERNATIONAL CODE COUNCIL  
 NFPA NATIONAL FIRE PROTECTION ASSOCIATION  
 NEC NATIONAL ELECTRICAL CODE

FABRICATION AND MATERIALS SUPPLIED AND INSTALLED SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE & NATIONAL BUILDING CODES, INCLUDING ENERGY CODES, LIFE SAFETY CODES, AND WHERE APPLICABLE THE REQUIREMENTS OF THE AMERICAN DISABILITIES ACT.

ENERGY EFFICIENCY NOTE:  
 COMPLIANCE SHALL BE DEMONSTRATED BY EITHER MEETING THE REQUIREMENTS OF THE INTERNATIONAL ENERGY CONSERVATION CODE 2009 OR MEETING THE REQUIREMENTS OF CHAPTER 11 IN THE 2009 INTERNATIONAL RESIDENTIAL CODE

ALL ENGINEERED STEEL/WOOD BEAMS TO BE CHECKED AND VERIFIED FOR LOCATION AND SPAN PRIOR TO START OF CONSTRUCTION BY CONTRACTOR AND/OR BEAM MANUFACTURER (TYPICAL)

THE CONTRACTOR IS TO ENSURING WINDOWS MEET PREVAILING BUILDING AND LIFE SAFETY CODES FOR MINIMUM EGRESS CLEAR OPENING HEIGHT, WIDTH, AND AREA - THE CONTRACTOR WILL ADJUST WINDOW SCHEDULE ACCORDINGLY.

REFER TO SECTIONS R612.2 FOR WINDOW STILL HEIGHT ABOVE GROUND (OR SURFACE BELOW) AND TO SECTION 310 FOR EGRESS WINDOWS & BASEMENTS PRIOR TO PLACING WINDOW ORDER

REFER TO SECTION 311 FOR MEANS OF EGRESS PRIOR TO ORDERING DOORS

EXTERIOR FINISH SIDING (TO BE DETERMINED BY OTHERS) ON TOP OF TYVEK (OR EQUAL) WIND BARRIER ON TOP OF 1/2" PLYWOOD SHEATHING ON TOP OF 2x6 WOOD STUDS SPACED 16" O.C.  
 -SEE SECTIONS R601 - R613 (IRC) FOR DETAILS ON THE DESIGN AND CONSTRUCTION OF ALL WALLS & PARTITIONS FOR ALL BUILDINGS  
 -BUILDINGS SHALL BE BRACED IN ACCORDANCE WITH SECTION R602.10 OF THE I.R.C. 2009

**ROOF CONSTRUCTION:**

VERIFY RIDGE BOARD SIZE IN FIELD (LENGTH TO EXCEED PLUM CUT OF RAFTER)

2 x 10 RAFTERS @ 16" O.C. (U.N.O.)

2 x 8 COLLAR TIES @ 16" O.C.

2 x 8 CEILING JOISTS @ 16"

235# ASPHALT SHINGLES ON 15# BUILDING PAPER ON 5/8" PLYWOOD SHEATHING

ICE & WEATHER SHIELD AT RAFTER TAILS & VALLEYS

EAVE/RAKE: METAL DRIP EDGE  
 1x4 PINE BLOCKING (SUB-FASCIA)  
 1x8 PINE BD. FASCIA  
 3/8" AC EXT. GD. PLYWD SOFFIT W/2" CONT. LOUVERED VENT (SOFFIT ONLY)

**EXTERIOR WALL CONSTRUCTION:**

2 x 6 WOOD STUDS @ 16" O.C. W/TYVEK (OR EQUAL) WIND BARRIER AND 1/2" PLYWD.

2 x 6 DOUBLE TOP PLATE

2 x 6 SINGLE BOTTOM PLATE

**INTERIOR CONSTRUCTION:**

2 x 4 WOOD STUDS @ 16" O.C.

2 x 4 DOUBLE TOP PLATE (LD. BRG. ONLY)

2 x 4 SINGLE BOTTOM PLATE

WALL- 1/2" GYPSUM WALL BOARD EA. SIDE STUD - MOISTURE-RESISTANT / FIRE-RATED WHERE REQUIRED

CLG- 1/2" G.W.B. ON 1x3 WOOD STRAPPING @ 16" O.C. - MOISTURE-RESISTANT / FIRE-RATED WHERE REQUIRED

2x12 STAIR STRINGERS @ 12" O.C.

**FLOOR CONSTRUCTION:**

2x10 FLOOR JOISTS @ 16" O.C. WITH 3/4" TONGUE & GROOVE PLYWD. GLUED & NAILED (TYP. U.O.N.)

BUILT-UP BEAMS SIZED BY CONTRACTOR

**FOUNDATION CONSTRUCTION:**

8" CONCRETE FOUNDATION WALL WITH DBL. 2x6 P.T. SILL WITH SILL SEAL

8" CONC. FROST WALLS (WHERE SHOWN) TO 48" BELOW GD.

CONTINUOUS CONCRETE FOOTING - SIZE BY OTHERS

REFER TO SECTION R404.1.2.2 FOR HORIZONTAL AND VERTICAL REINFORCEMENT FOR FOUNDATION WALLS

PROVIDE MATCHING CORNER DOWELS LAP 50 BAR DIAMETERS (TYPICAL)

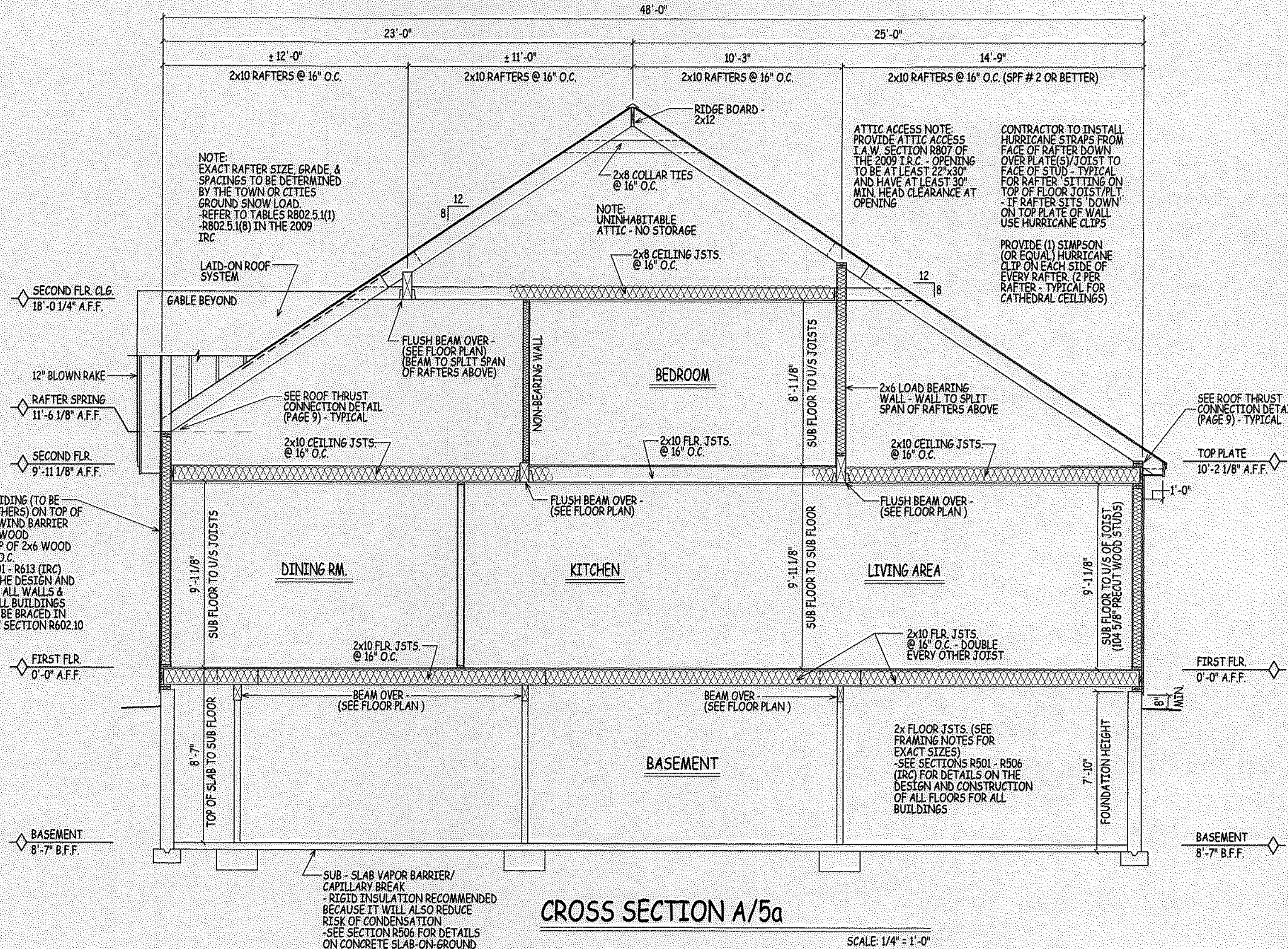
PROVIDE 3 1/2" DIA. STEEL COLUMNS OVER CONCRETE FOOTINGS AS REQ'D FOR BEAMS SHOWN ON PLAN

**INSULATION:**

WALLS: R-20 CAVITY INSULATION OR R-13 PLUS R-5

FLOOR: R-30 OR INSULATION SUFFICIENT TO FILL JOIST CAVITY

CEILING: R-38 (ZONE 5) OR R-49 (ZONE 6) - HOWEVER, IF MAINTAINING THE FULL R VALUE OVER THE PLATES (RAISED) R-30 (ZONE 5) OR R-38 (ZONE 6)



**CROSS SECTION A/5a**

SCALE: 1/4" = 1'-0"

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**FSM DRAWINGS**  
 27 Lowell Street, Suite 102  
 Manchester, New Hampshire 03101  
 Tel: 603.271.1111  
 Fax: 603.271.1112  
 www.fsmdrawings.com  
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PROJECT: **THE ABBOT PAGE FARM - ATKINSON, NH**  
 PREPARED FOR: **GREEN & CO.**

DRAWN BY: MM/TW  
 CHECKED BY: MM  
 DATE DRAWN: 09/06/18  
 DATE ISSUED: 09/06/18  
 SCALE: AS INDICATED  
 JOB NO.: FSM17-206CA

REVISIONS	DATE	DESCRIPTION
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**5a**

NOTE:  
 THESE SECTIONS TO BE USED WITH FLOOR PLANS SHEET 2a, 3a & 4a.



**GENERAL NOTES:**

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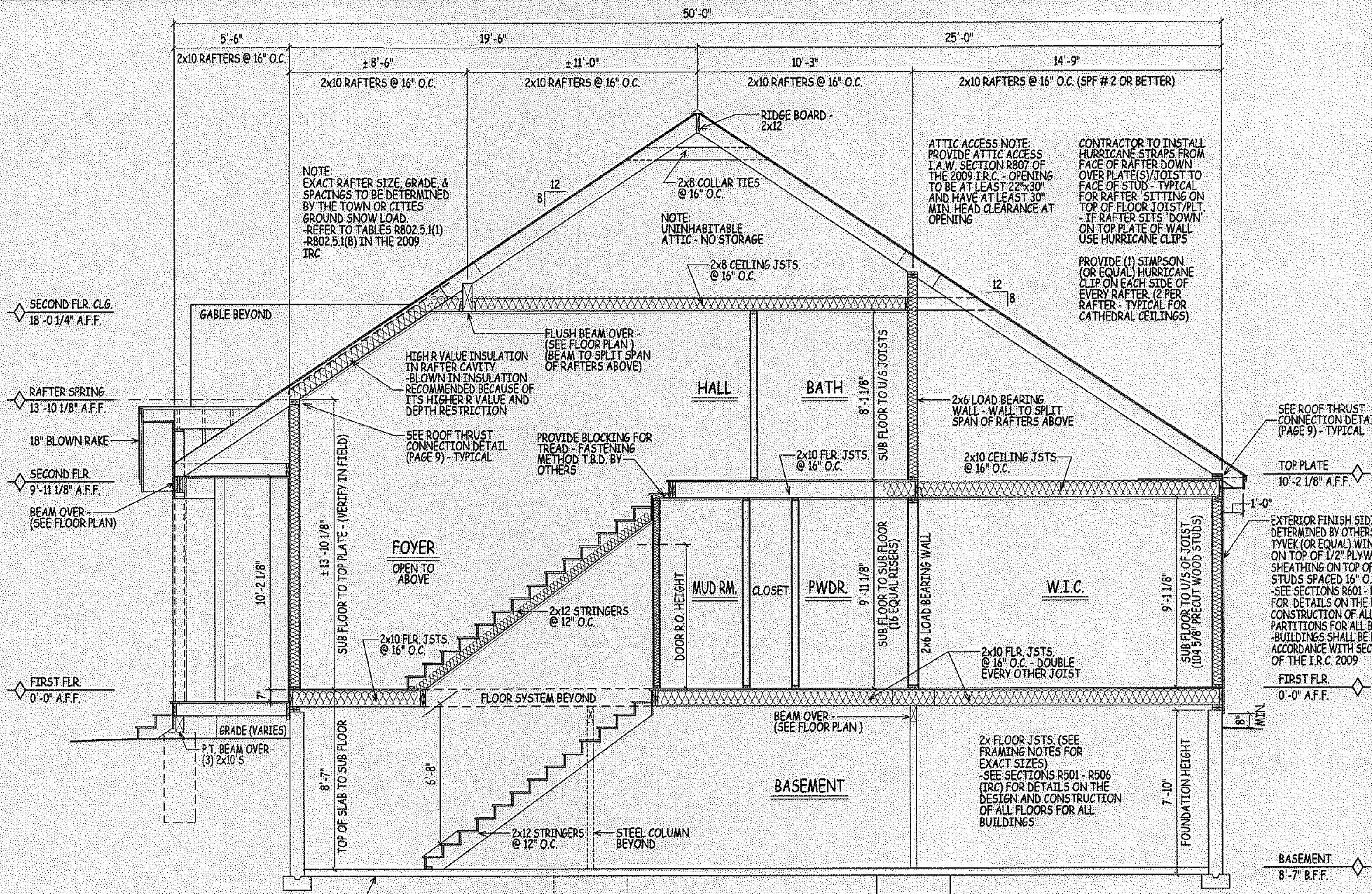
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REFER TO SECTION 311 FOR MEANS OF EGRESS PRIOR TO ORDERING DOORS



**CROSS SECTION B/6a**

SCALE: 1/4" = 1'-0"

**ROOF CONSTRUCTION:**

VERIFY RIDGE BOARD SIZE IN FIELD (LENGTH TO EXCEED PLUM CUT OF RAFTER)

- 2 x 10 RAFTERS @ 16" O.C. (U.N.O.)
- 2 x 8 COLLAR TIES @ 16" O.C.
- 2 x 8 CEILING JOISTS @ 16"

235# ASPHALT SHINGLES ON 15# BUILDING PAPER ON 5/8" PLYWOOD SHEATHING

ICE & WEATHER SHIELD AT RAFTER TAILS & VALLEYS

- EAVE/RAKE: METAL DRIP EDGE
- 1x4 PINE BLOCKING (SUB-FASCIA)
- 1x8 PINE BD. FASCIA
- 3/8" AC EXT. 60' PLYWD SOFFIT W/2" CONT. LOUVERED VENT (SOFFIT ONLY)

**EXTERIOR WALL CONSTRUCTION:**

- 2 x 6 WOOD STUDS @ 16" O.C. W/TYVEK (OR EQUAL) WIND BARRIER AND 1/2" PLYWD.
- 2 x 6 DOUBLE TOP PLATE
- 2 x 6 SINGLE BOTTOM PLATE

**INTERIOR CONSTRUCTION:**

- 2 x 4 WOOD STUDS @ 16" O.C.
- 2 x 4 DOUBLE TOP PLATE (L.D. BRG. ONLY)
- 2 x 4 SINGLE BOTTOM PLATE
- WALL- 1/2" GYPSUM WALL BOARD EA. SIDE STUD - MOISTURE-RESISTANT / FIRE-RATED WHERE REQUIRED
- CLG.- 1/2" G.W.B. ON 1x3 WOOD STRAPPING @ 16" O.C. - MOISTURE-RESISTANT / FIRE-RATED WHERE REQUIRED
- 2x12 STAIR STRINGERS @ 12" O.C.

**FLOOR CONSTRUCTION:**

- 2x10 FLOOR JOISTS @ 16" O.C. WITH 3/4" TONGUE & GROOVE PLYWD. GLUED & NAILED (TYP. U.O.N.)
- BUILT-UP BEAMS SIZED BY CONTRACTOR

**FOUNDATION CONSTRUCTION:**

- 8" CONCRETE FOUNDATION WALL WITH DBL. 2x6 P.T. STILL WITH SILL SEAL
- 8" CONC. FROST WALLS (WHERE SHOWN) TO 48" BELOW GD.
- CONTINUOUS CONCRETE FOOTING - SIZE BY OTHERS
- REFER TO SECTION R404.1.2.2 FOR HORIZONTAL AND VERTICAL REINFORCEMENT FOR FOUNDATION WALLS
- PROVIDE MATCHING CORNER DOWELS LAP 50 BAR DIAMETERS (TYPICAL)
- PROVIDE 3 1/2" DIA. STEEL COLUMNS OVER CONCRETE FOOTINGS AS REQ'D FOR BEAMS SHOWN ON PLAN

**INSULATION**

- WALLS: R-20 CAVITY INSULATION OR R-13 PLUS R-5
- FLOOR: R-30 OR INSULATION SUFFICIENT TO FILL JOIST CAVITY
- CEILING: R-38 (ZONE 5) OR R-49 (ZONE 6) - HOWEVER, IF MAINTAINING THE FULL R VALUE OVER THE PLATES (RAISED) R-30 (ZONE 5) OR R-38 (ZONE 6)

NOTE: THESE SECTIONS TO BE USED WITH FLOOR PLANS SHEET 2a, 3a & 4a.

ADMISSION OF ERROR, OMISSION AND/OR OVERSIGHT: WHILE IT IS OUR INTENT TO DELIVER OUR SERVICES FREE OF ERROR, OMISSION OR OVERSIGHT, WE WILL ADMIT TO BE HUMAN AND THEREFORE FSM DRAWINGS LLC, ACTING SOLELY AS THE DRAFTING COMPANY, WILL RELY ON THE EXPERIENCE AND PROFESSIONAL JUDGMENT OF THE CONTRACTOR USING THESE PLANS. APPROXIMATELY ACCURACY COMPLETION AND ASSUMES ALL RESPONSIBILITY FOR THEM AND WILL IF SHE DEEMS NECESSARY MAKE A LICENSED PROFESSIONAL ENGINEER TO ASSIST IN THE REVIEW.

**FSM DRAWINGS**

27 Laurel Street, Manchester, New Hampshire 03101  
 603.271.8888  
 fsmdrawings.com

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PROTECT: THE ABOT PAGE FARM - ATKINSON, NH

PREPARED FOR: GREEN & CO.

DRAWN BY: MM/JW

CHECKED BY: MM

DATE DRAWN: 09/06/18

DATE ISSUED: 09/06/18

SCALE: AS INDICATED

JOB NO.: FSM17-206CA

REVISIONS	DATE	DESCRIPTION
16	08/27/18	THE CALLAWAY & RILEY REVISED PER REQUEST - ISSUED FOR REVIEW AND STAMP
17	09/06/18	BEAM LOCATION UPDATED ON THE ABOT - ISSUED FOR REVIEW AND STAMP
18	08/03/18	THE CALLAWAY REVISED PER MARK-UPS - ISSUED FOR REVIEW AND STAMP
14	08/15/18	THE RILEY REVISED PER MARK-UPS - ISSUED FOR REVIEW AND STAMP
15	08/15/18	THE ABOT REVISED PER MARK-UPS - ISSUED FOR REVIEW AND STAMP

**6a**



**GENERAL NOTES:**

SEE SECTIONS R401 - R408 (IRC) FOR DETAILS ON THE DESIGN AND CONSTRUCTION OF THE FOUNDATION AND FOUNDATION SPACES FOR ALL BUILDINGS  
 -FOUNDATION WALLS SHALL BE CONSTRUCTED AS SET FORTH IN TABLES R404.1.1(1) - R404.1.1(4) AND SHALL ALSO COMPLY WITH THE APPLICABLE PROVISIONS OF SECTIONS R606 - R608  
 -FOUNDATION CONSTRUCTION SHALL BE CAPABLE OF ACCOMMODATING ALL LOADS ACCORDING TO SECTION R301 AND OF TRANSMITTING THE RESULTING LOADS TO THE SUPPORTING SOIL.

CONCRETE FOOTINGS SHALL BE OF SUFFICIENT DESIGN TO ACCOMMODATE ALL LOADS ACCORDING TO SECTION R301  
 -FOOTINGS SHALL BE SUPPORTED ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL  
 -SEE TABLE R401.4.1 FOR PRESUMPTIVE LOAD BEARING VALUES OF FOUNDATION MATERIALS  
 -MINIMUM SIZES FOR CONCRETE AND MASONRY FOOTINGS SHALL BE AS SET FORTH IN TABLE R403.1 AND FIGURE R403.1(1)

THE LOAD BEARING VALUE OF THE SOIL IN ACCORDANCE WITH TABLE R401.4.1

CONTRACTOR TO PROVIDE ADEQUATE VAPOR BARRIERS UNDER ALL CONCRETE SLABS

CONTRACTOR TO PROVIDE ADEQUATE HEADERS OVER ALL WINDOWS AND DOORS ON EXTERIOR LOAD-BEARING WALLS (TYP.)

LIFE SAFETY CODES, AND WHERE APPLICABLE THE REQUIREMENTS OF THE AMERICAN DISABILITIES ACT.

DOUBLE UP FLOOR JOISTS @ LOCATIONS OF NON-LOAD BEARING WALLS AND UNDER ALL BATHROOMS (I.E. BATHING TUBS/WHIRLPOOLS), KITCHENS, LAUNDRY ROOMS, ETC. (TYPICAL)

CONTRACTOR TO PROVIDE ADEQUATE BLOCKING AND BRIDGING BETWEEN FLOOR JOISTS AS REQUIRED (TYPICAL)

NOTE:  
 SEE THE NEW HAMPSHIRE BUILDING CODE (IBC, IRC, IMC, IECC, IRC & IEBC) AS PUBLISHED BY THE ICC AND THE NATIONAL ELECTRICAL CODE AS PUBLISHED BY THE NFPA FOR IN-DEPTH DETAILS ON BUILDING IN ACCORDANCE WITH CITY BUILDING REGULATIONS

IBC INTERNATIONAL BUILDING CODE  
 IRC INTERNATIONAL PLUMBING CODE  
 IMC INTERNATIONAL MECHANICAL CODE  
 IECC INTERNATIONAL ENERGY CONSERVATION CODE  
 IRC INTERNATIONAL RESIDENTIAL CODE  
 IEBC INTERNATIONAL EXISTING BUILDING CODE  
 ICC INTERNATIONAL CODE COUNCIL  
 NFPA NATIONAL FIRE PROTECTION ASSOCIATION  
 NEC NATIONAL ELECTRICAL CODE

FABRICATION AND MATERIALS SUPPLIED AND INSTALLED SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE & NATIONAL BUILDING CODES, INCLUDING ENERGY CODES, LIFE SAFETY CODES, AND WHERE APPLICABLE THE REQUIREMENTS OF THE AMERICAN DISABILITIES ACT.

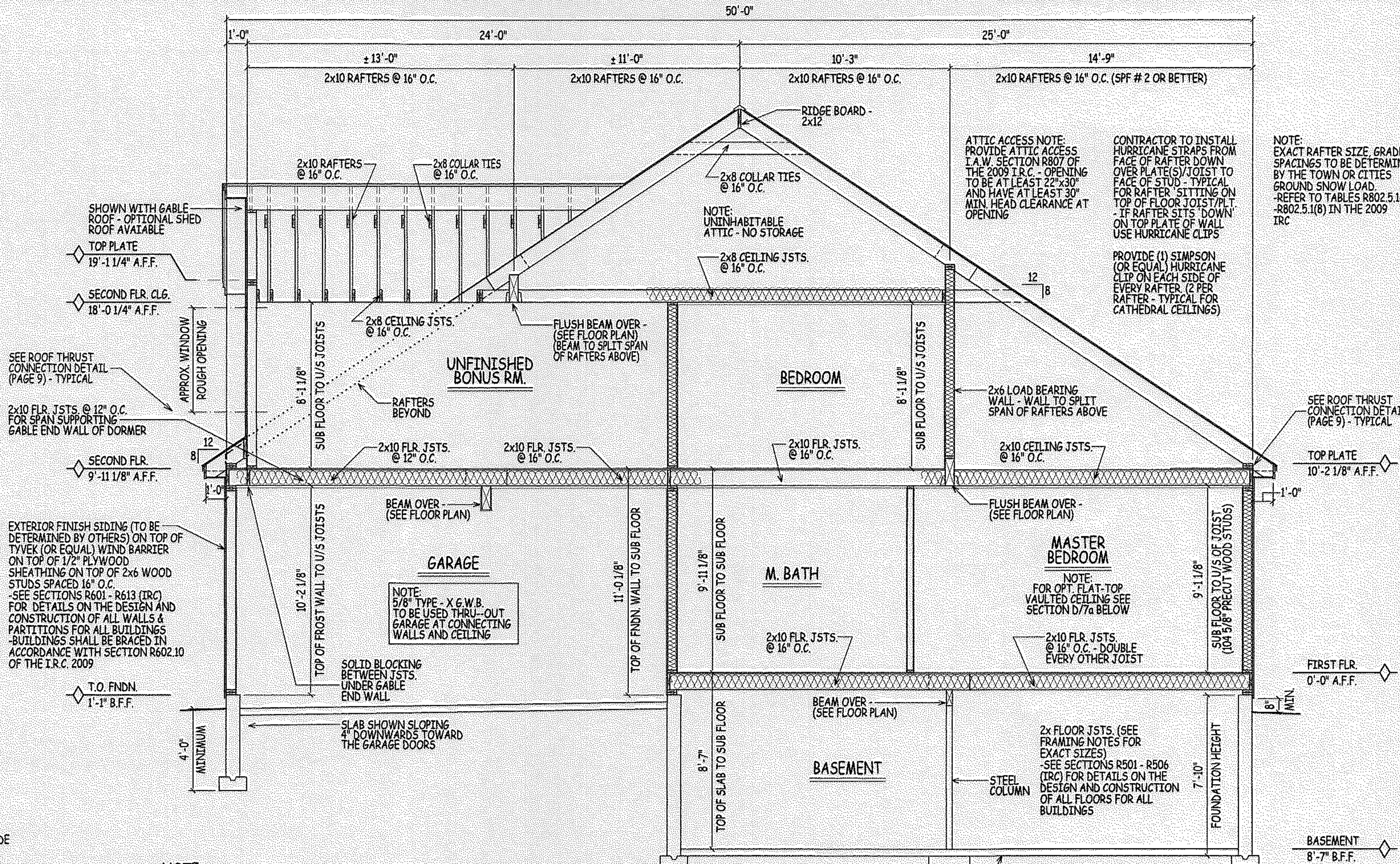
ENERGY EFFICIENCY NOTE:  
 COMPLIANCE SHALL BE DEMONSTRATED BY EITHER MEETING THE REQUIREMENTS OF THE INTERNATIONAL ENERGY CONSERVATION CODE 2009 OR MEETING THE REQUIREMENTS OF CHAPTER 11 IN THE 2009 INTERNATIONAL RESIDENTIAL CODE

ALL ENGINEERED STEEL/WOOD BEAMS TO BE CHECKED AND VERIFIED FOR LOCATION AND SPAN PRIOR TO START OF CONSTRUCTION BY CONTRACTOR AND OR BEAM MANUFACTURER (TYPICAL)

THE CONTRACTOR IS TO ENSURING WINDOWS MEET PREVAILING BUILDING AND LIFE SAFETY CODES FOR MINIMUM EGRESS CLEAR OPENING HEIGHT, WIDTH, AND AREA - THE CONTRACTOR WILL ADJUST WINDOW SCHEDULE ACCORDINGLY.

REFER TO SECTIONS R612.2 FOR WINDOW STILL HEIGHT ABOVE GROUND (OR SURFACE BELOW) AND TO SECTION R10 FOR EGRESS WINDOWS & BASEMENTS PRIOR TO PLACING WINDOW ORDER

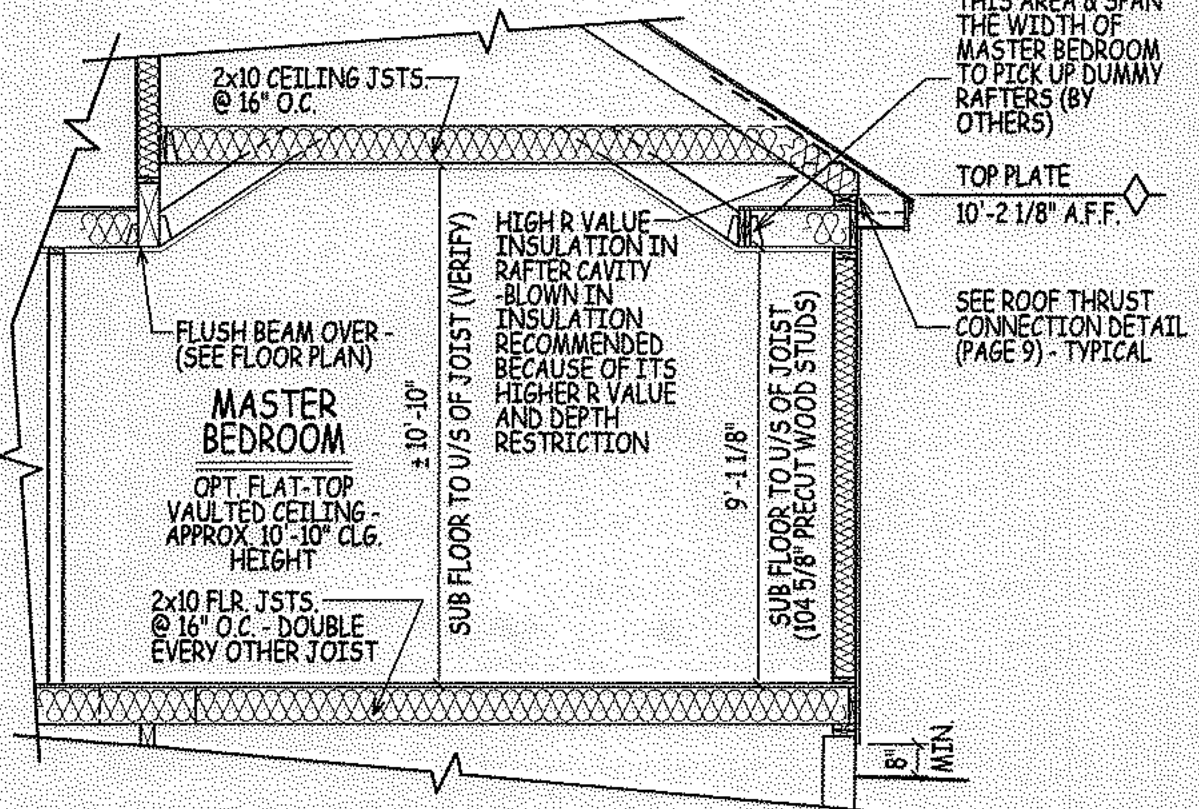
REFER TO SECTION 311 FOR MEANS OF EGRESS PRIOR TO ORDERING DOORS



NOTE:  
 THESE SECTIONS TO BE USED WITH FLOOR PLANS SHEET 2a, 3a & 4a.

**CROSS SECTION C/7a**

SCALE: 1/4" = 1'-0"



**SECTION D/7a**

SCALE: 1/4" = 1'-0"

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 1x4 PINE BLOCKING (SUB-FASCIA)  
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 3/8" AC EXT. 6D. PLYWD SOFFIT W/2" CONT. LOUVERED VENT (SOFFIT ONLY)

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FLOOR: R-30 OR INSULATION SUFFICIENT TO FILL JOIST CAVITY

CEILING: R-38 (ZONE 5) OR R-49 (ZONE 6) - HOWEVER, IF MAINTAINING THE FULL R VALUE OVER THE PLATES (RAISED) R-30 (ZONE 5) OR R-38 (ZONE 6)

ADMISSION OF ERROR, OMISSION AND/OR OVERSIGHT: WHILE IT IS OUR INTENT TO DELIVER OUR SERVICES FREE OF ERROR, OMISSION OR OVERSIGHT, WE WILL ADMIT TO BE HUMAN AND THEREFORE FSM DRAWINGS LLC ACTING SOLELY AS THE DRAFTING COMPANY WILL RELY ON THE EXPERIENCE AND PROFESSIONAL JUDGMENT OF THE CONTRACTOR. WE THEN ASSUME ALL RESPONSIBILITY FOR THEM AND WILL IF HE/SHE DEEMS NECESSARY FIRE A LICENSED PROFESSIONAL ENGINEER TO ASSIST IN THE REVIEW.

**FSM DRAWINGS**  
 27 Leonard Street, New Hampshire 03811  
 603.883.0000  
 11 Rockingham Road, Portsmouth, NH 03801  
 603.883.0000  
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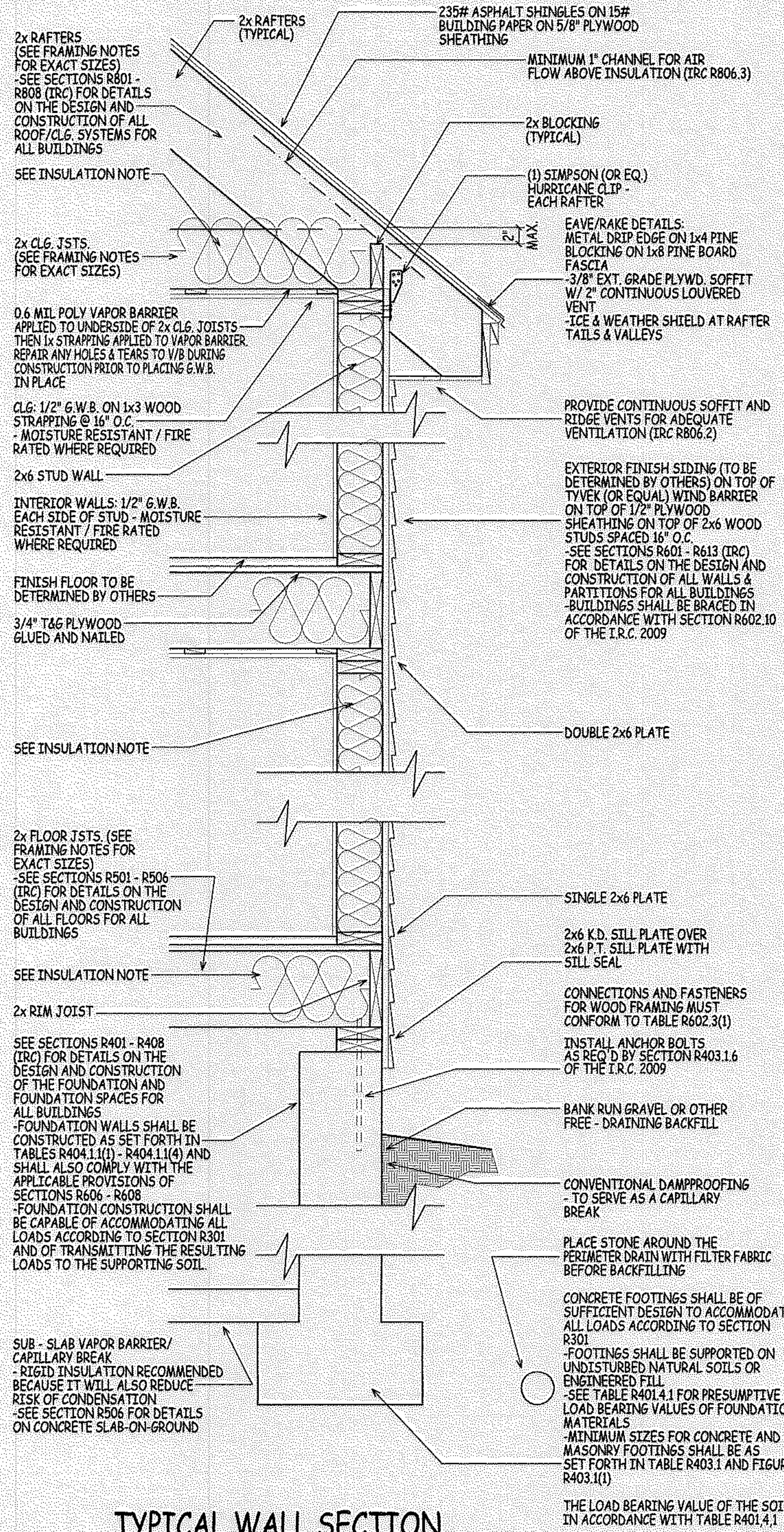
PROJECT: THE ABBOT PAGE FARM - ATKINSON, NH  
 PREPARED FOR: GREENSCO

DRAWN BY:	MM/JW
CHECKED BY:	MM
DATE DRAWN:	09/06/18
DATE ISSUED:	09/06/18
SCALE:	AS INDICATED
JOB NO.:	FSM17-206CA

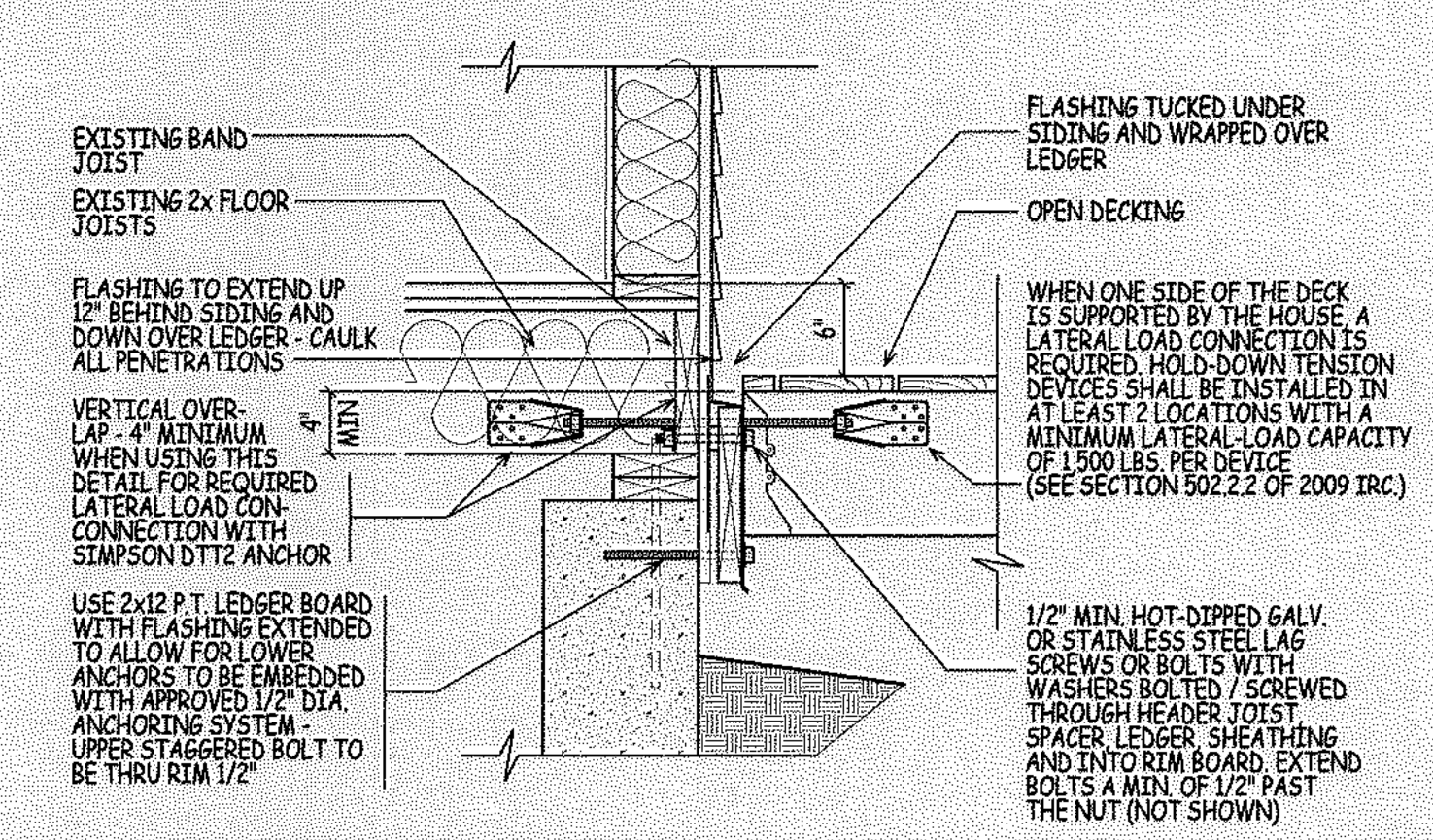
REVISIONS	THE CALLAWAY & RILEY REVISED PER REQUEST - ISSUED FOR REVIEW AND STAMP
16	08/27/18
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13	08/03/18
14	09/15/18
15	08/15/18

**7a**

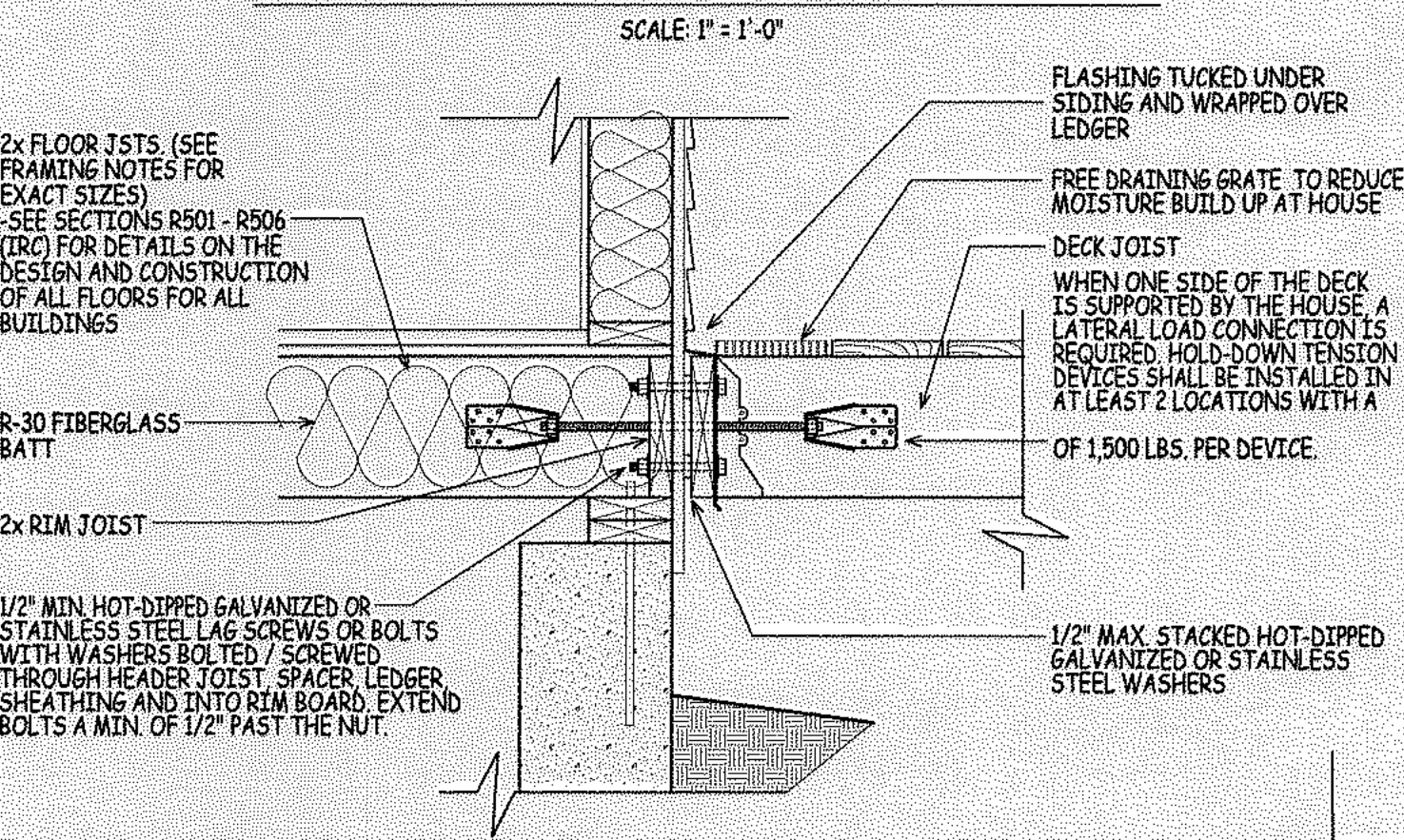




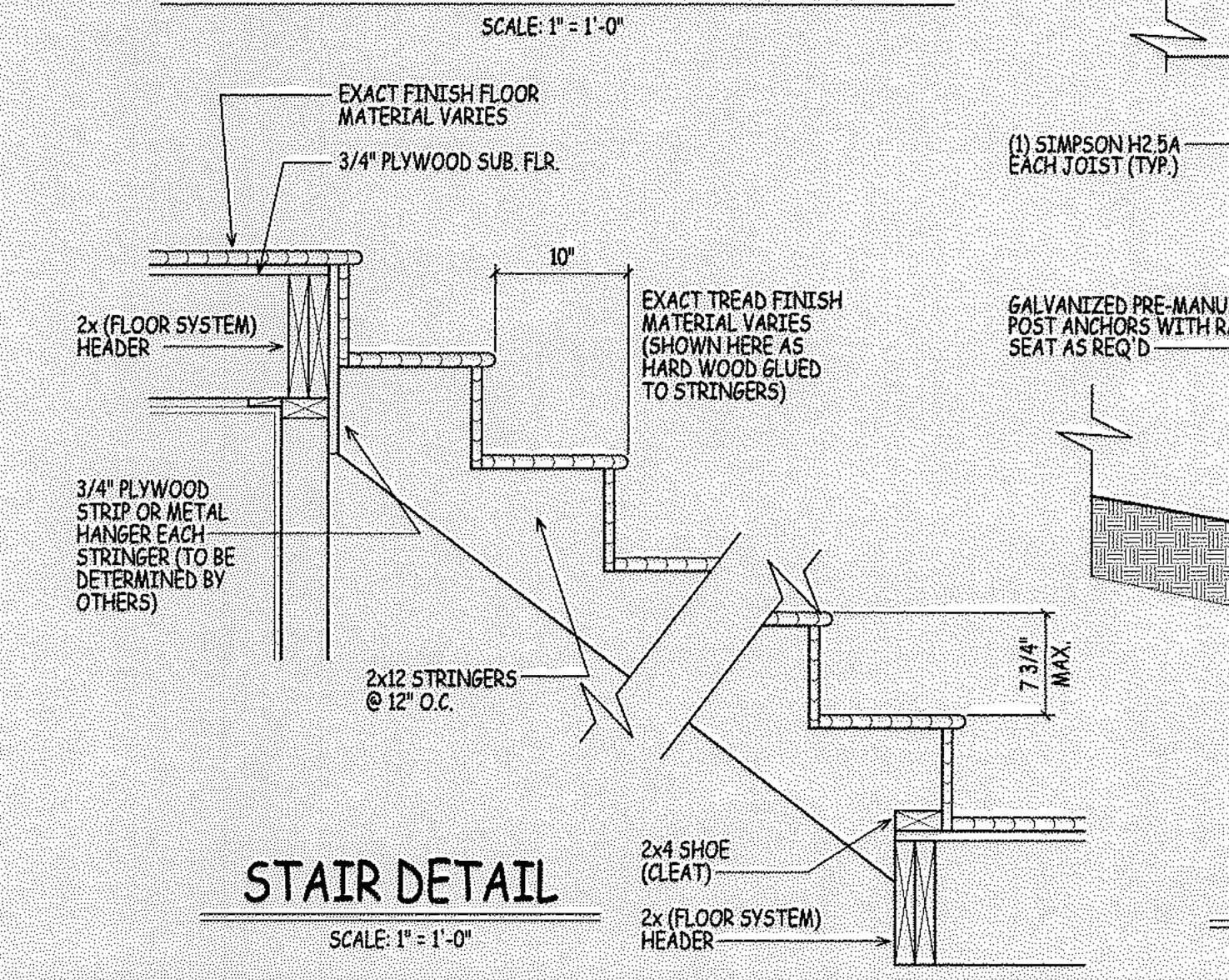
**TYPICAL WALL SECTION**  
SCALE: 1" = 1'-0"



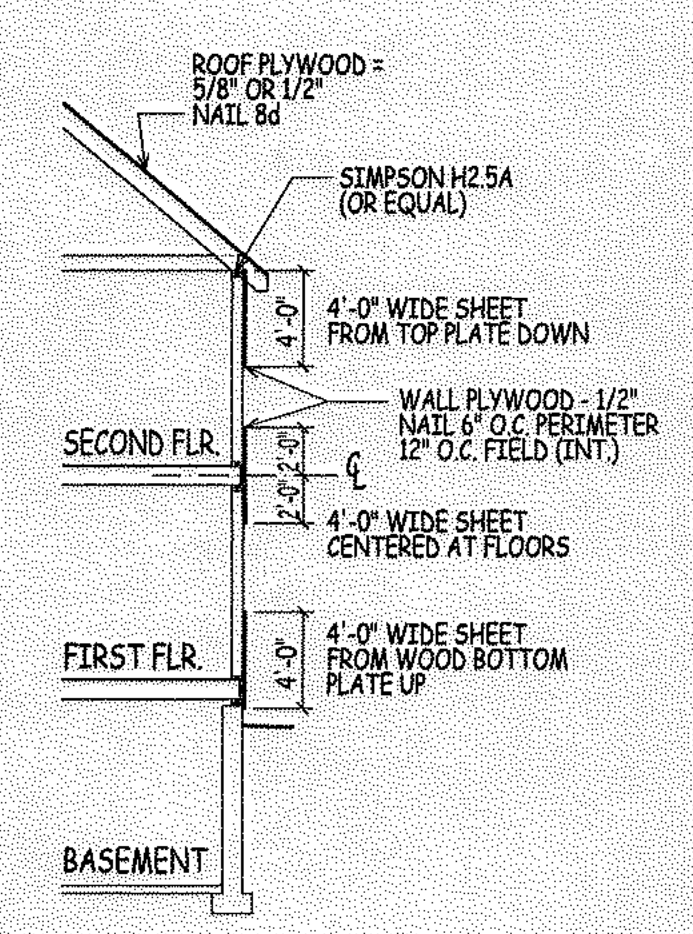
**DECK DETAIL - STEP DN. OPTION CONNECTION**  
SCALE: 1" = 1'-0"



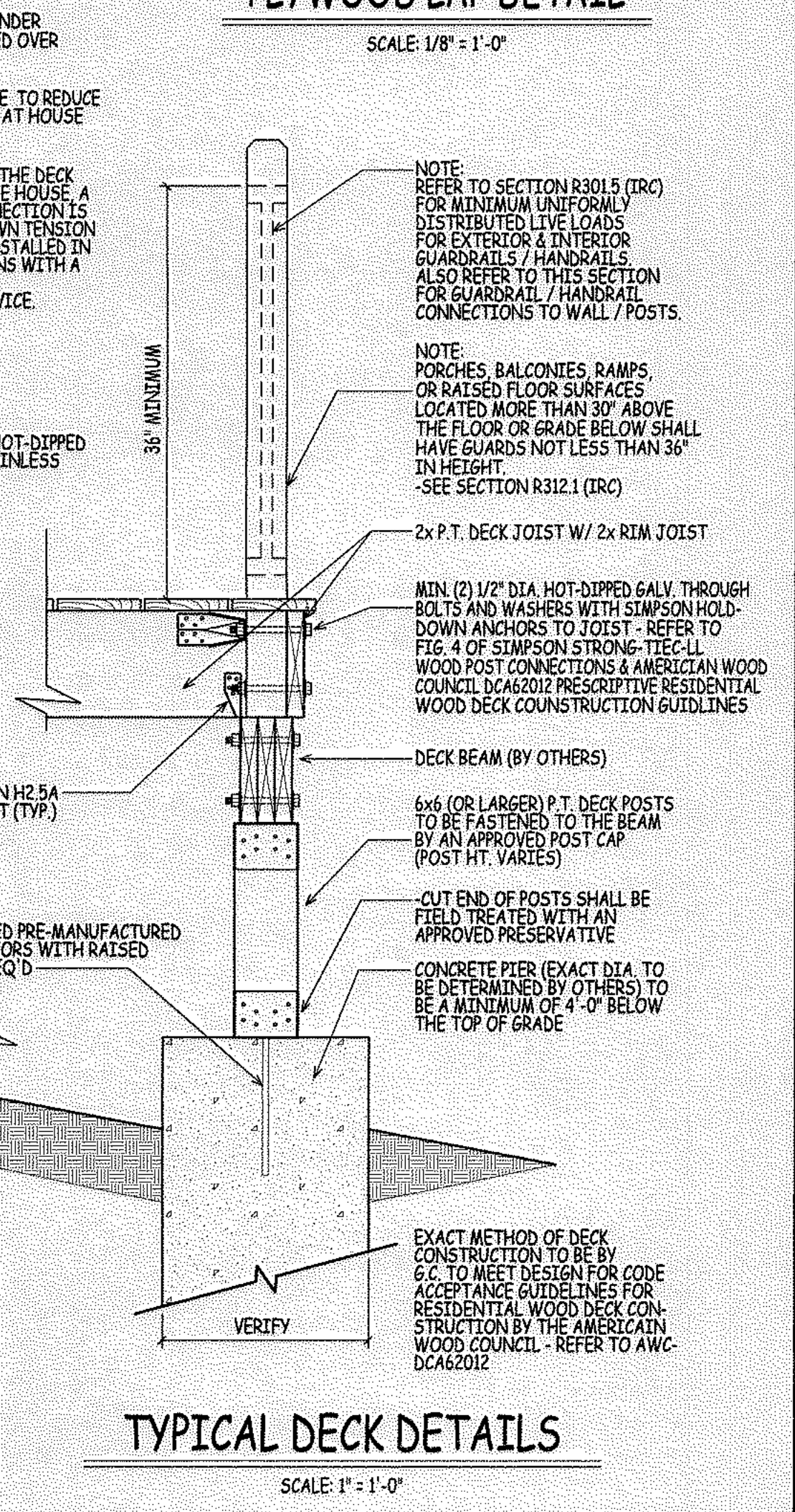
**DECK DETAIL - NO STEP OPTION CONNECTION**  
SCALE: 1" = 1'-0"



**STAIR DETAIL**  
SCALE: 1" = 1'-0"



**PLYWOOD LAP DETAIL**  
SCALE: 1/8" = 1'-0"



**TYPICAL DECK DETAILS**  
SCALE: 1" = 1'-0"

ADMISSION OF ERROR, OMISSION AND/OR OVERSIGHT: WHILE IT IS OUR INTENT TO DELIVER OUR SERVICES FREE OF ERROR, OMISSION OR OVERSIGHT, WE WILL ACT AS SOLELY HUMAN AND THEREFORE F.S.M. DRAWINGS LLC, ACCEPTS SOLELY RESPONSIBILITY FOR ANY ERRORS, OMISSIONS, OR OVERSIGHTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS, CONDITIONS, AND MATERIALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PROFESSIONAL ENGINEER TO ASSIST IN THE DESIGN.

**F.S.M. DRAWINGS LLC**  
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03102-3001  
Phone: 603.881.8881  
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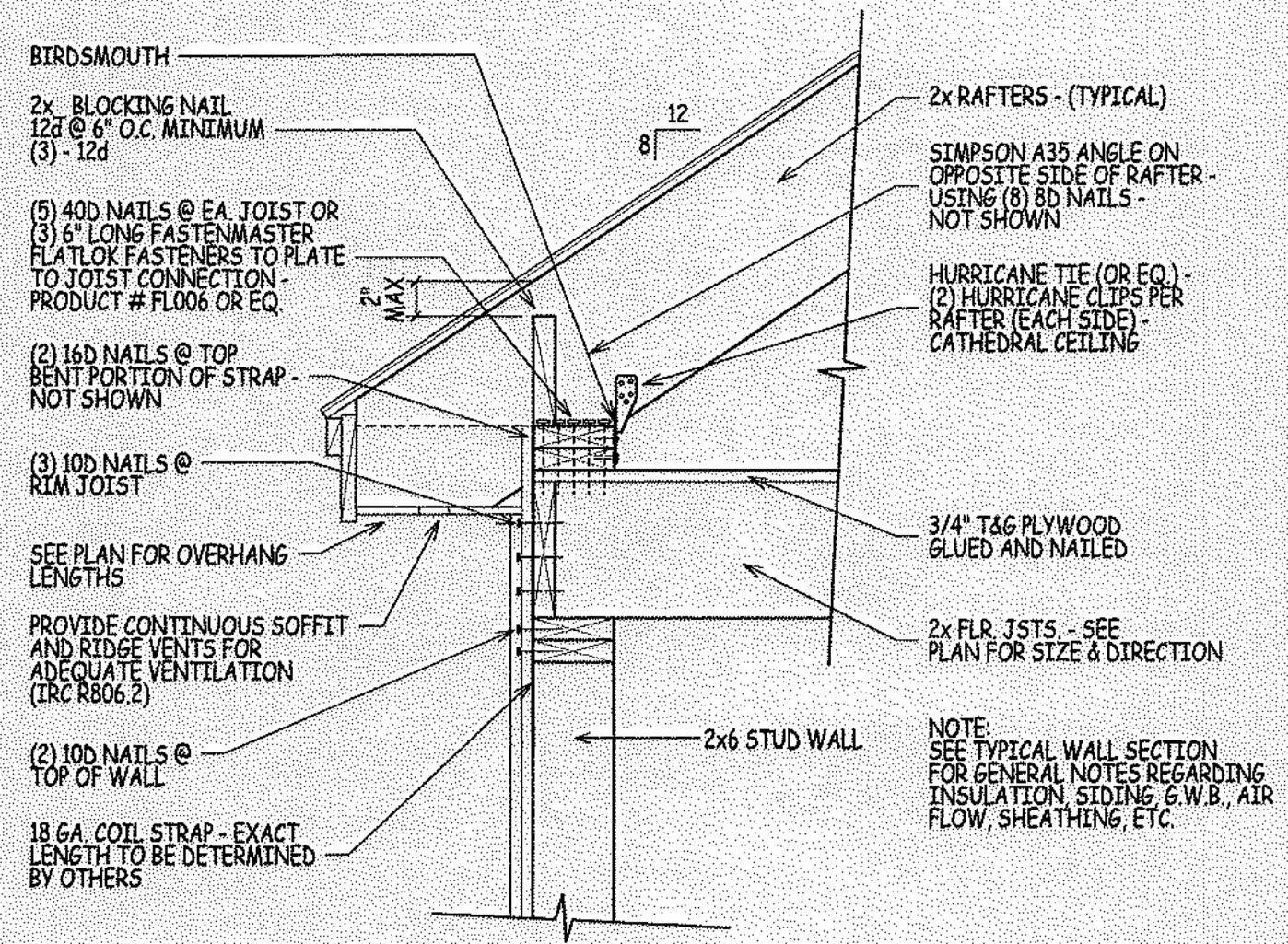
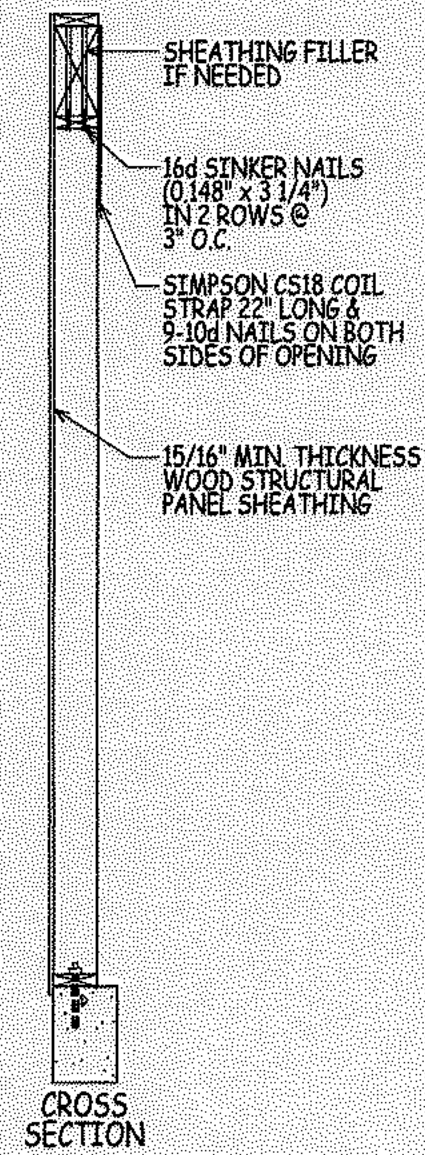
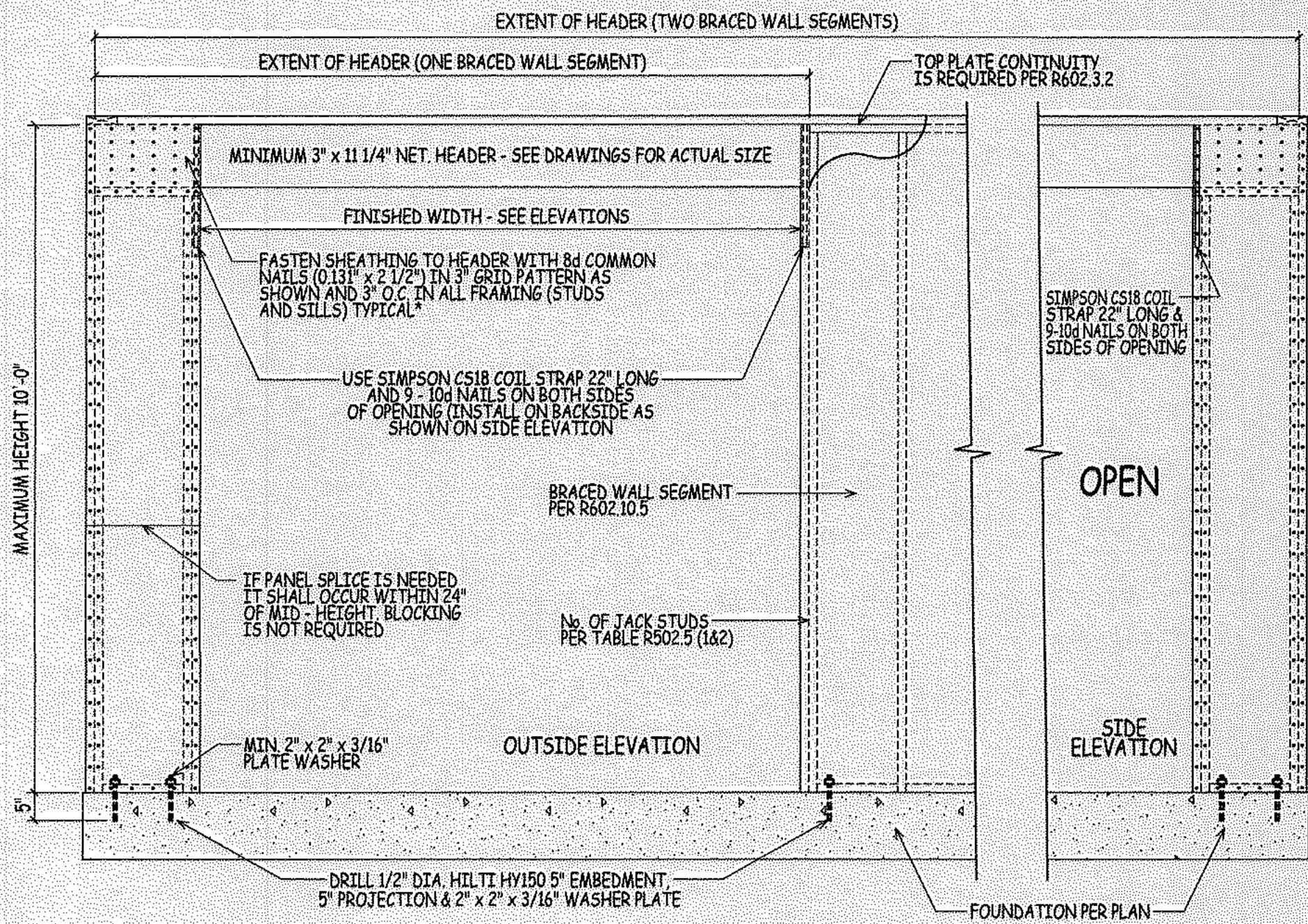
**THE ABBOT**  
**PAGE FARM - ATKINSON, NH**  
PREPARED FOR: **GREEN & CO.**

DRAWN BY: MM/JW  
CHECKED BY: MM  
DATE DRAWN: 09/06/18  
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18	09/06/18
19	09/06/18
20	09/06/18

**8**





**ROOF THRUST CONNECTION DETAIL**

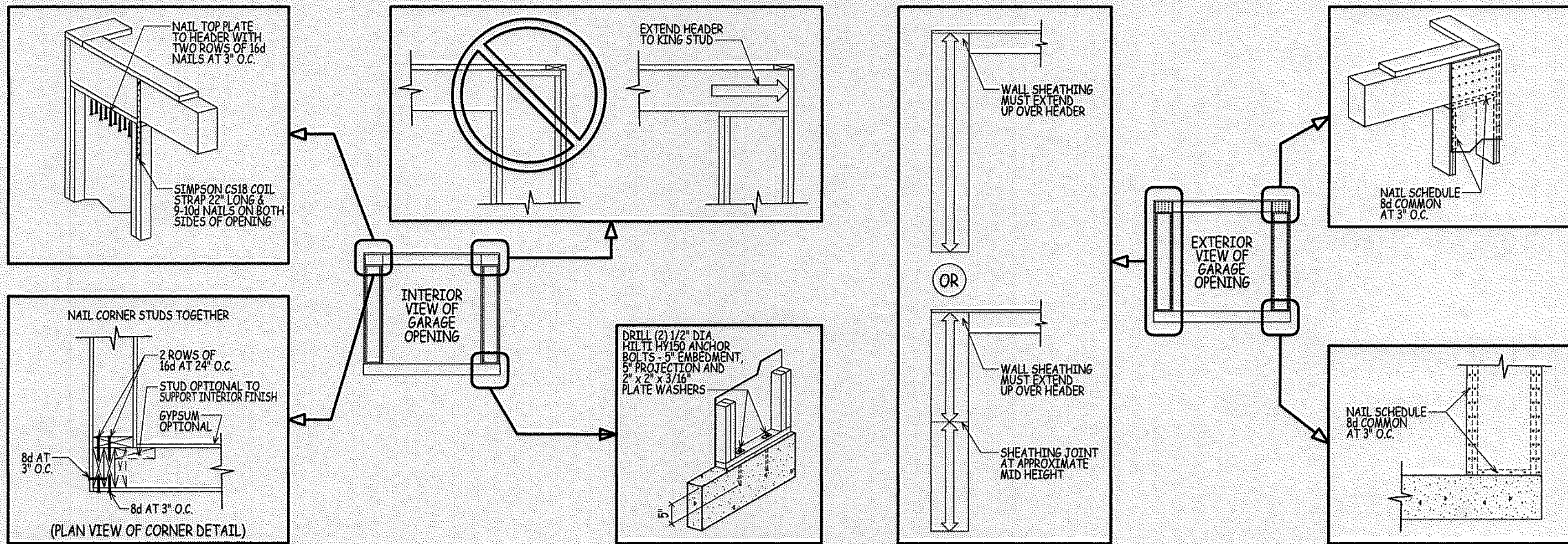
SCALE: 1" = 1'-0"

NARROW WALL OVER CONCRETE OR MASONRY BLOCK FOUNDATION

**FIGURE R602.10.3.4**

**DETAIL AT GARAGE OVERHEAD DOORS**

NOT TO SCALE



**APA NARROW WALL BRACING METHOD FRAMING TIPS (FORM F435)**

THE APA NARROW WALL BRACING METHOD IS A SIMPLE, SITE-BUILT SOLUTION THAT ALLOWS BUILDERS TO CONSTRUCT SEGMENTS AS NARROW AS 16" NEXT TO WINDOW AND DOOR OPENINGS. BE SURE TO CHECK FOR THESE ESSENTIAL DETAILS WHEN CONSTRUCTING THE APA NARROW WALL BRACING METHOD AROUND GARAGE OPENINGS. APA PUBLICATION 6440 "WHOLE HOUSE BRACING" IS AVAILABLE FOR ADDITIONAL INFORMATION.

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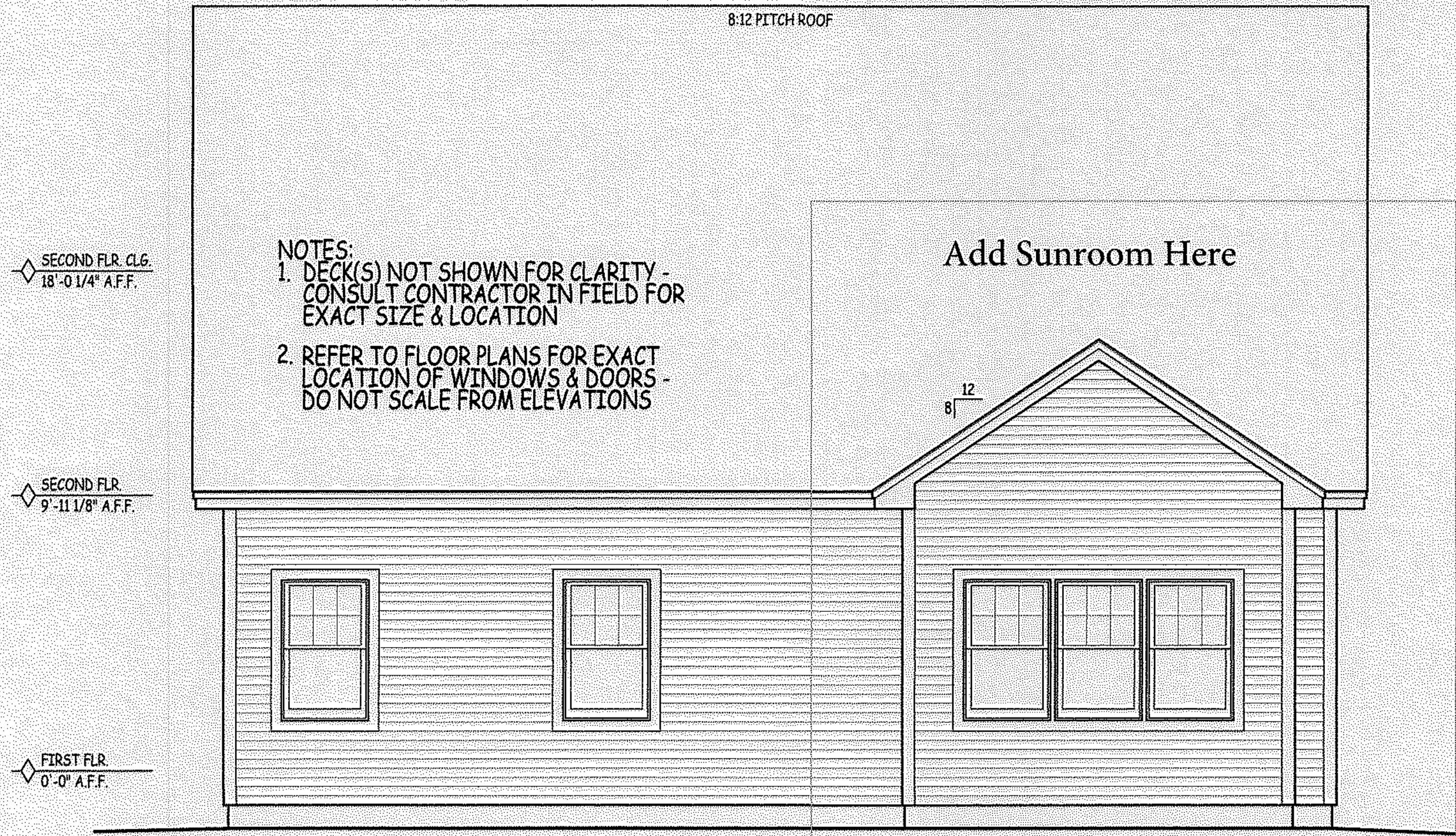
**FSM DRAWINGS**  
 REALTY, LLC  
 27 Lowell Street, Hampden, MA 01906  
 413-852-8282  
 www.fsmdrawings.com

PROJECT: **THE ABBOT PAGE FARM - ATKINSON, NH**  
 PREPARED FOR: **GREEN&CO**

DRAWN BY:	MM/JW
CHECKED BY:	MM
DATE DRAWN:	09/06/18
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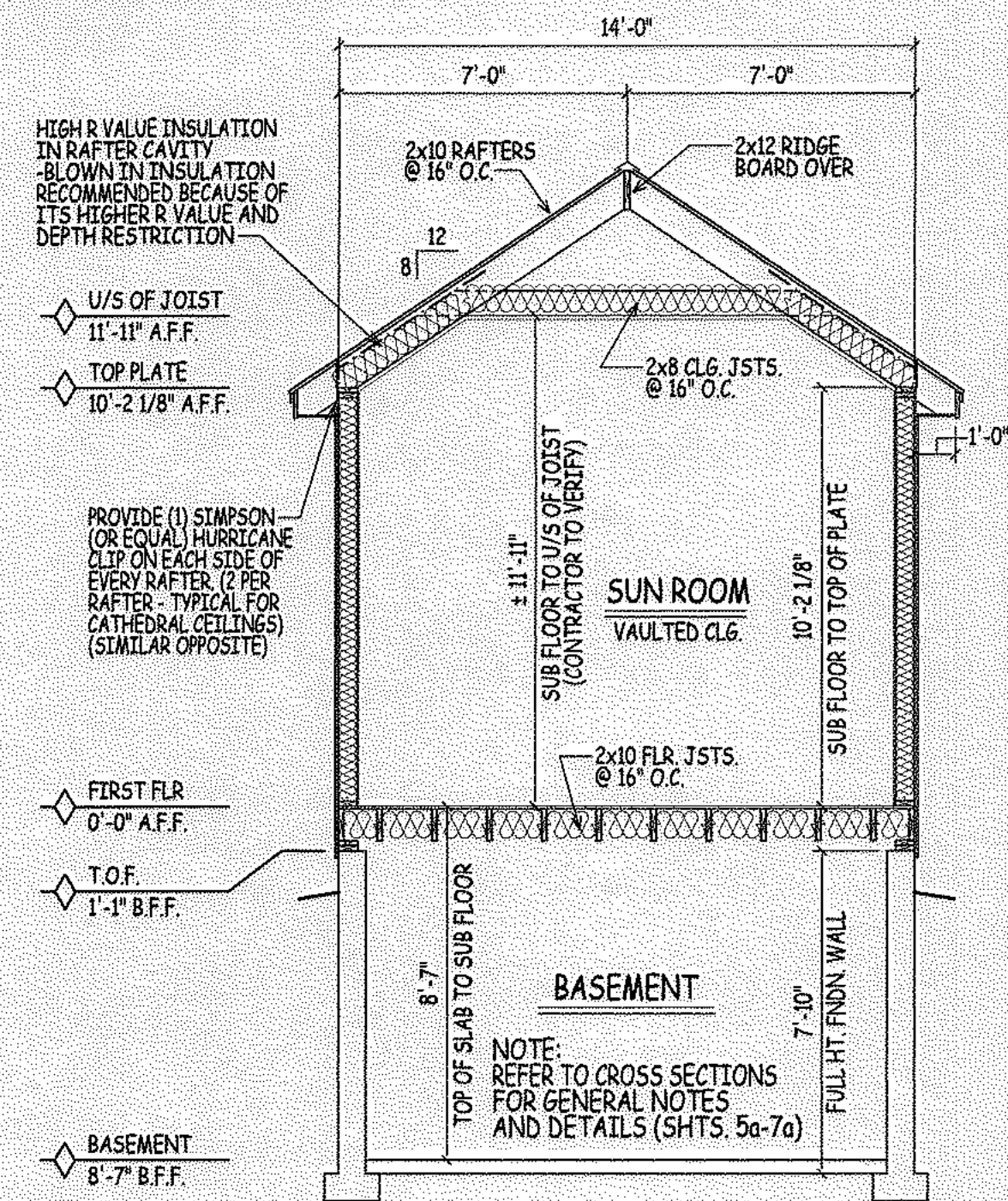
- NOTES:**
1. DECK(S) NOT SHOWN FOR CLARITY - CONSULT CONTRACTOR IN FIELD FOR EXACT SIZE & LOCATION
  2. REFER TO FLOOR PLANS FOR EXACT LOCATION OF WINDOWS & DOORS - DO NOT SCALE FROM ELEVATIONS

◇ SECOND FLR. CLG.  
18'-0 1/4" A.F.F.

◇ SECOND FLR.  
9'-11 1/8" A.F.F.

◇ FIRST FLR.  
0'-0" A.F.F.

**REAR ELEVATION**  
(SUN ROOM OPTION)  
SCALE: 1/4" = 1'-0"



HIGH R VALUE INSULATION IN RAFTER CAVITY - BLOWN IN INSULATION RECOMMENDED BECAUSE OF ITS HIGHER R VALUE AND DEPTH RESTRICTION

◇ U/S OF JOIST  
11'-11" A.F.F.  
◇ TOP PLATE  
10'-2 1/8" A.F.F.

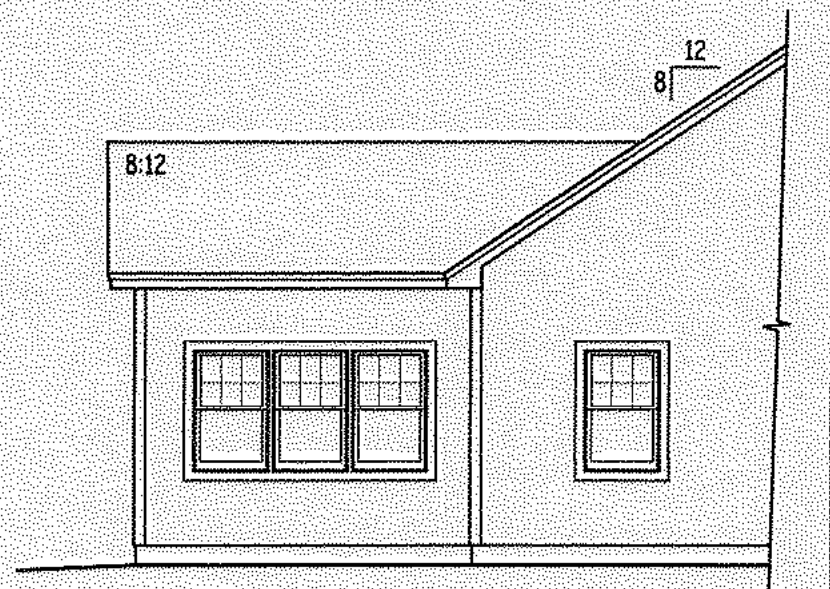
PROVIDE (1) SIMPSON (OR EQUAL) HURRICANE CLIP ON EACH SIDE OF EVERY RAFTER. (2 PER RAFTER - TYPICAL FOR CATHEDRAL CEILINGS) (SIMILAR OPPOSITE)

◇ FIRST FLR  
0'-0" A.F.F.

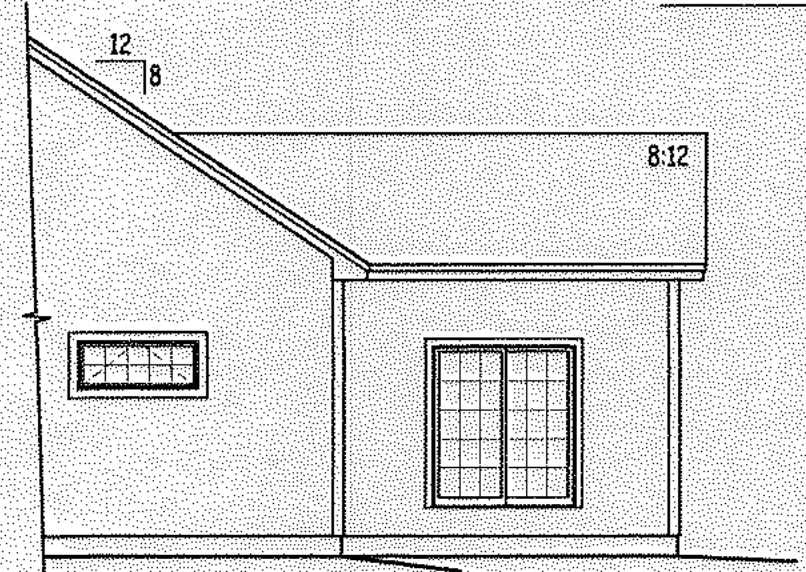
◇ T.O.F.  
1'-1" B.F.F.

◇ BASEMENT  
8'-7" B.F.F.

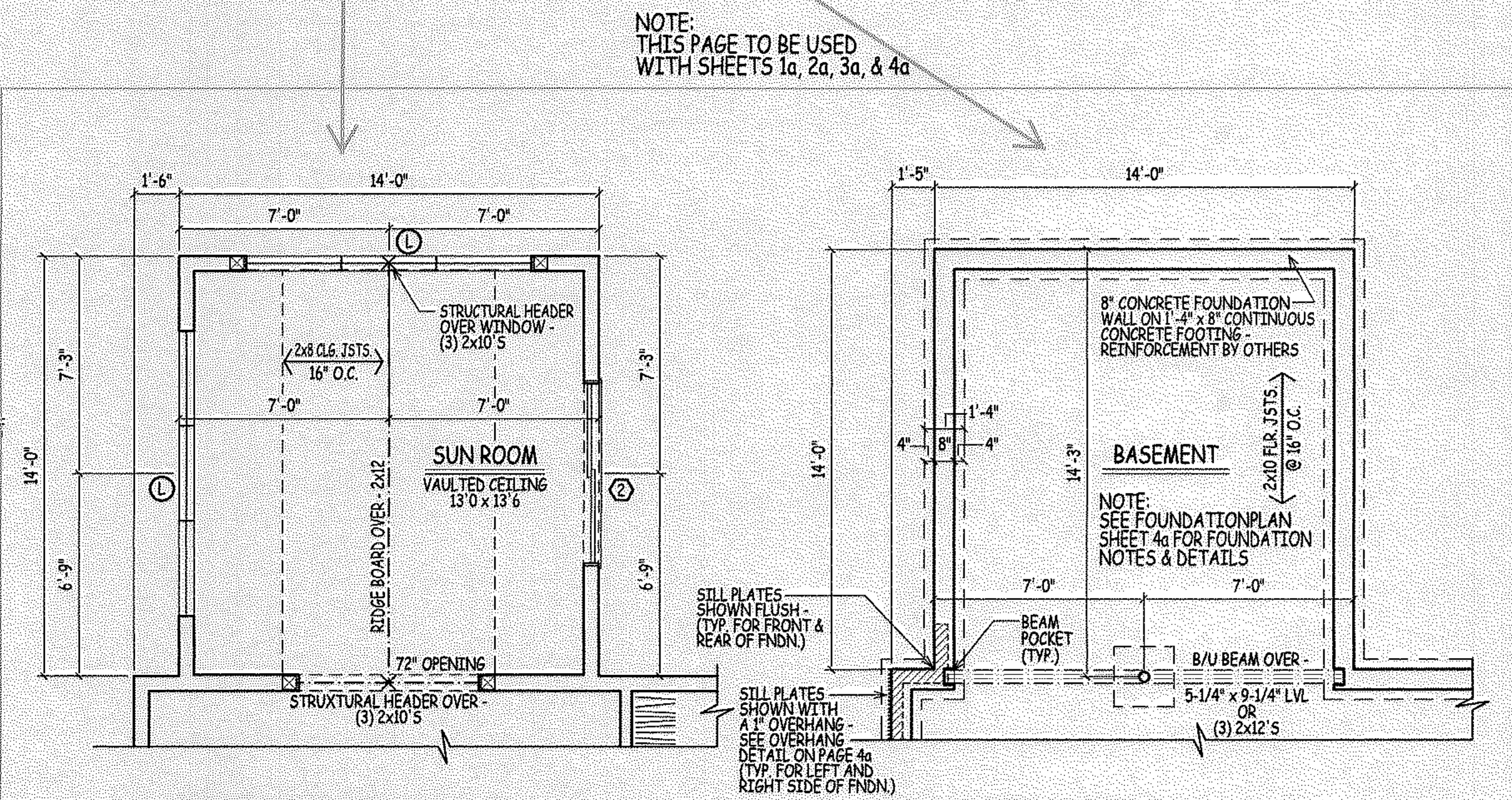
**SUN ROOM CROSS SECTION**  
SCALE: 1/4" = 1'-0"



**LEFT ELEVATION**  
SCALE: 1/8" = 1'-0"



**RIGHT ELEVATION**  
SCALE: 1/8" = 1'-0"



**FIRST FLOOR PLAN**

SCALE: 1/4" = 1'-0"

**FOUNDATION PLAN**

SCALE: 1/4" = 1'-0"

NOTE:  
THIS PAGE TO BE USED  
WITH SHEETS 1a, 2a, 3a, & 4a

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**FSM DRAWINGS**  
27 Lowell Street  
Manchester, New Hampshire 03101  
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Fax: 603-888-0000  
www.fsmdrawings.com

PROJECT:  
**THE ABBOT**  
**PAGE FARM - ATKINSON, NH**

PREPARED FOR:  
**GREEN&CO**

DRAWN BY:	MM/JW
CHECKED BY:	MM
DATE DRAWN:	09/06/18
DATE ISSUED:	09/06/18
SCALE:	AS INDICATED
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**10a**

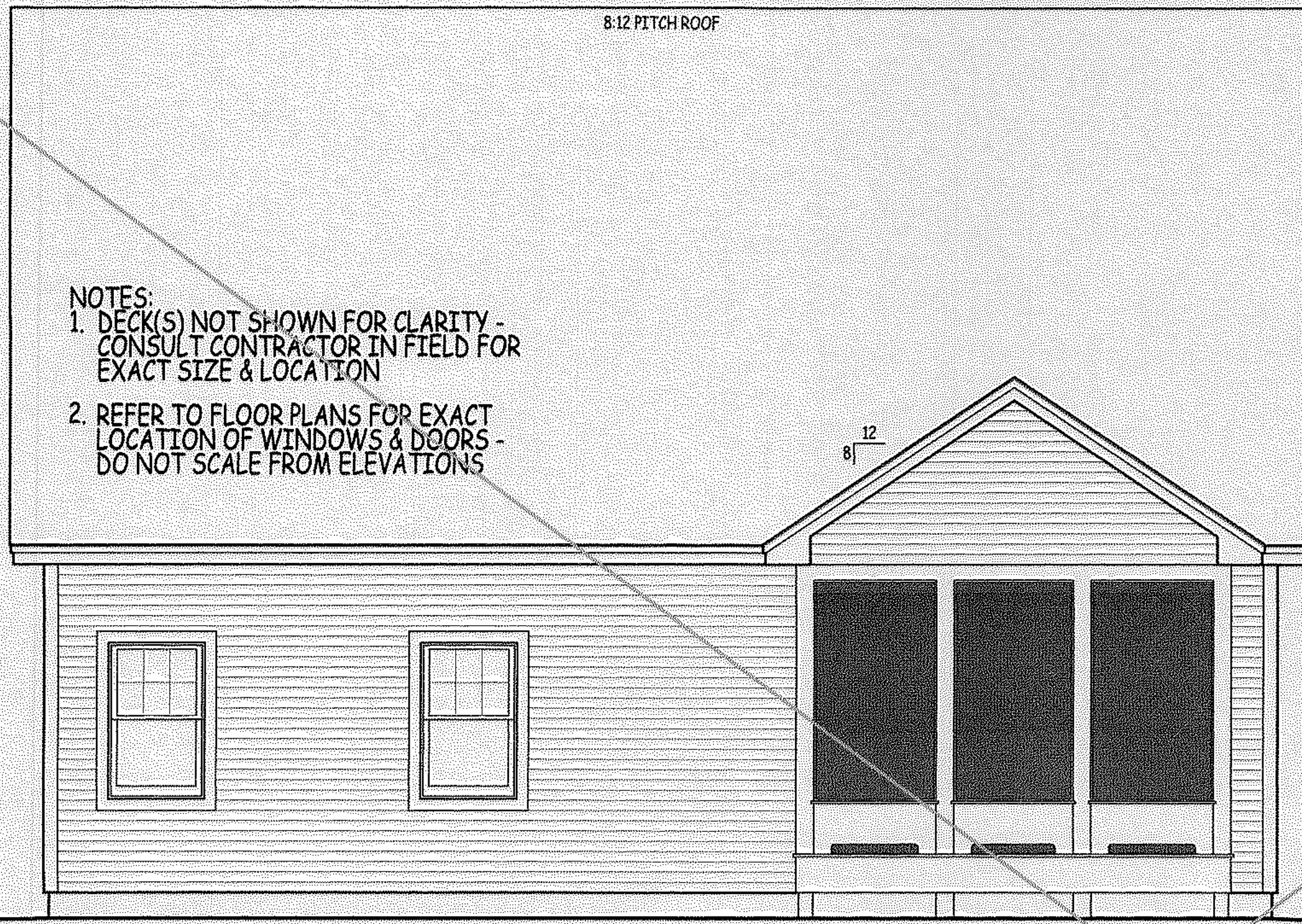


◇ SECOND FLR. CL.G.  
18'-0 1/4" A.F.F.

◇ SECOND FLR.  
9'-11 1/8" A.F.F.

◇ FIRST FLR.  
0'-0" A.F.F.

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CONSULT CONTRACTOR IN FIELD FOR  
EXACT SIZE & LOCATION  
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LOCATION OF WINDOWS & DOORS -  
DO NOT SCALE FROM ELEVATIONS



REAR ELEVATION  
(SCREEN ROOM OPTION)  
SCALE: 1/4" = 1'-0"

PROVIDE (1) SIMPSON  
(OR EQUAL) HURRICANE  
CLIP ON EACH SIDE OF  
EVERY RAFTER (2 PER  
RAFTER - TYPICAL FOR  
CATHEDRAL CEILING)  
(SIMILAR OPPOSITE)

EAVE HEIGHT & OVERHANG  
TO MAIN HOUSE

P.T. BEAM OVER -  
SIZE BY OTHERS

6x6 (OR LARGER) P.T. POSTS  
TO BE FASTENED TO THE BEAM  
BY AN APPROVED POST CAP  
(POST HT. VARIES) - BEYOND

INSTALL SCREENS BETWEEN  
POST AS REQUIRED -  
VERIFY SIZE IN FIELD

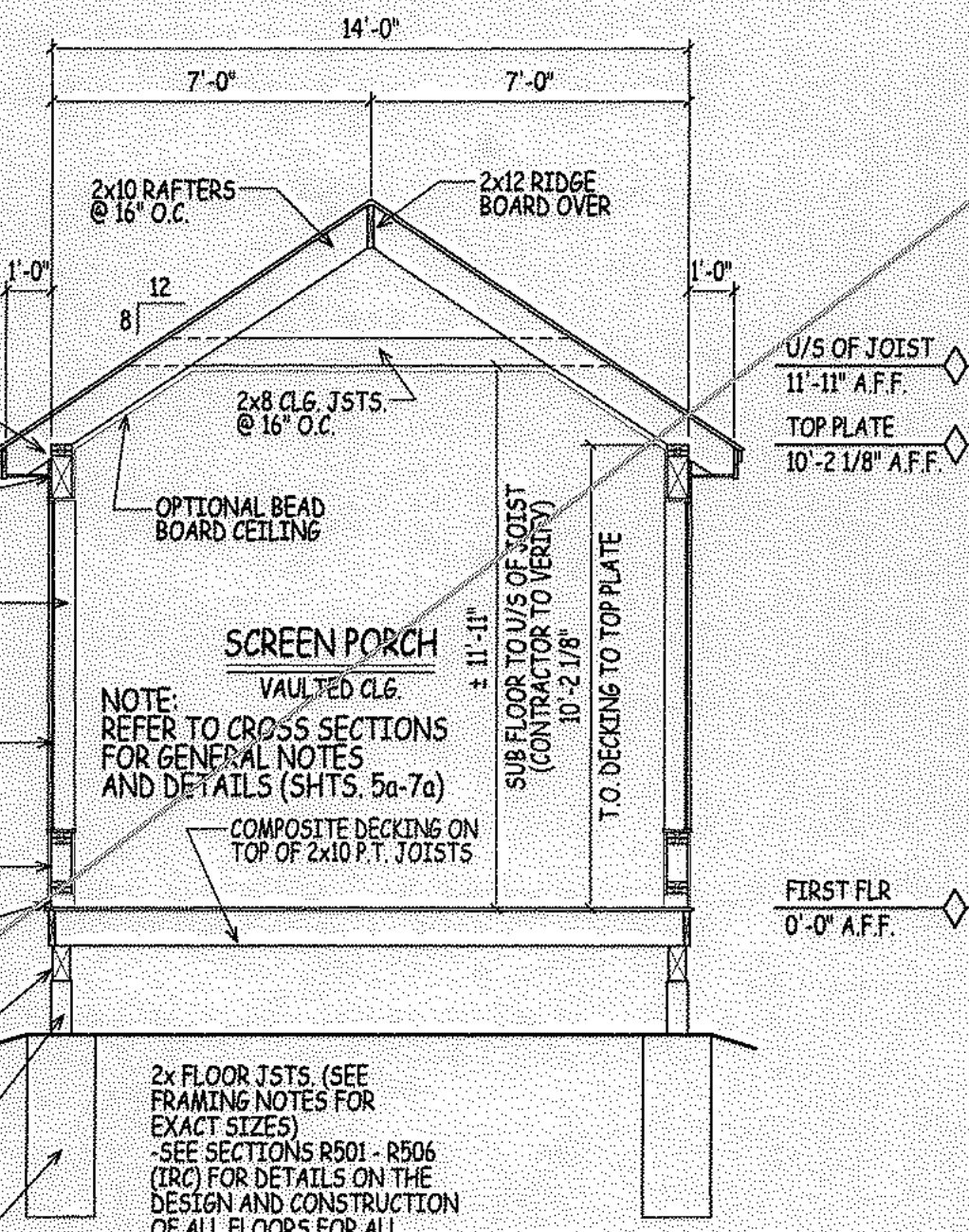
OPTIONAL 20" KNEEWALL -  
CONSULT HOMEOWNER

PROVIDE OPENING IN BETWEEN  
POSTS AT FLOOR TO ALLOW  
FOR WATER RUN-OFF. INSTALL  
SCREEN AS REQUIRED.

P.T. BEAM OVER -  
(3) 2x10 S

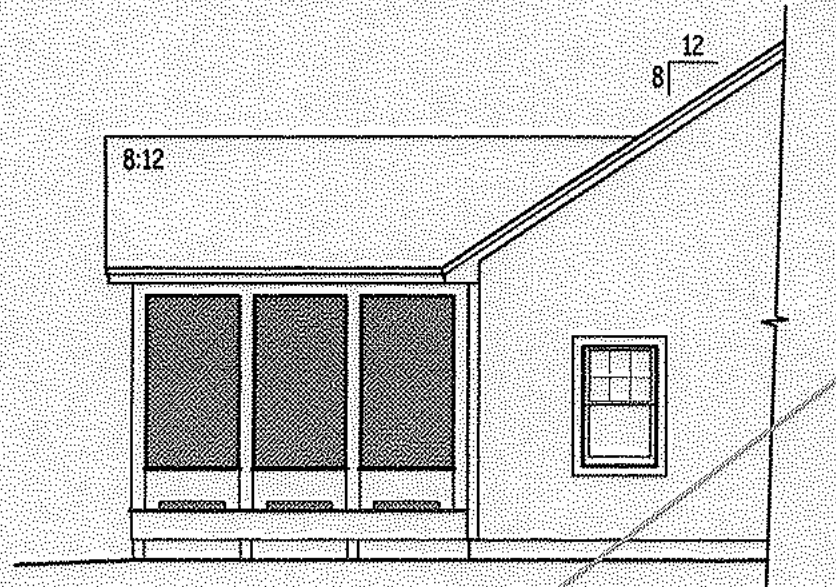
6x6 (OR LARGER) P.T. DECK POSTS  
TO BE FASTENED TO THE BEAM  
BY AN APPROVED POST CAP  
(POST HT. VARIES)

EXACT DIA./SIZE OF CONCRETE  
PIERS AND LOCATION TO BE  
DETERMINED BY OTHERS IN  
THE FIELD. PIER TO BE A  
MINIMUM OF 4'-0" BELOW  
THE TOP OF GRADE (TYP.)

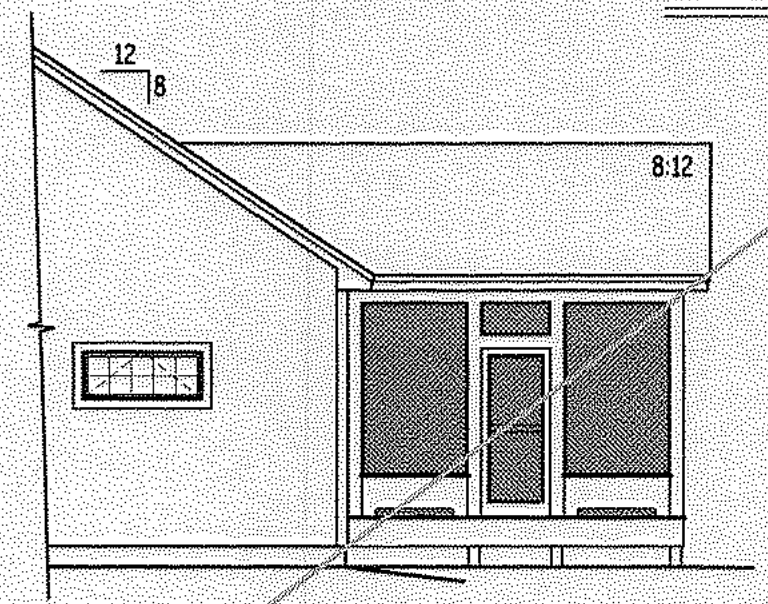


SCREEN ROOM CROSS SECTION  
SCALE: 1/4" = 1'-0"

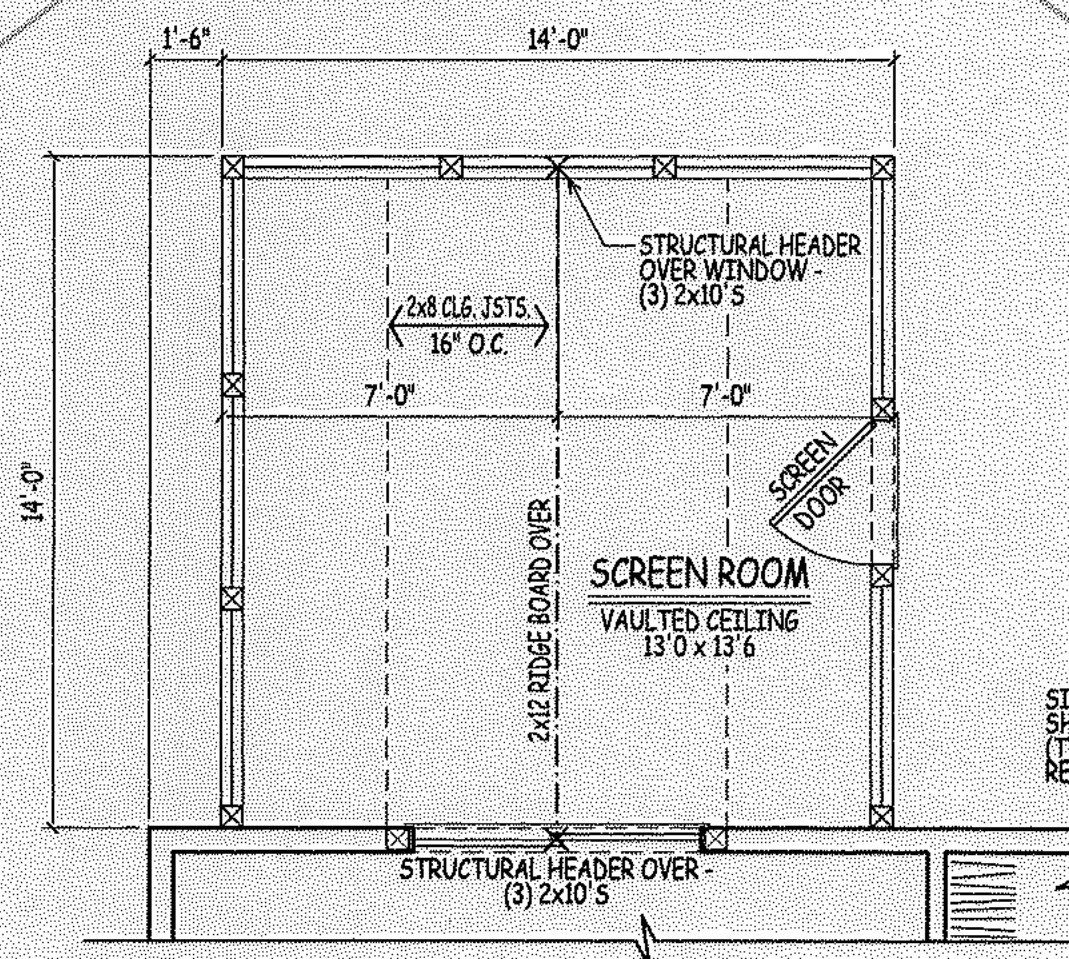
NOTE:  
THIS PAGE TO BE USED  
WITH SHEETS 1a, 2a, 3a, & 4a



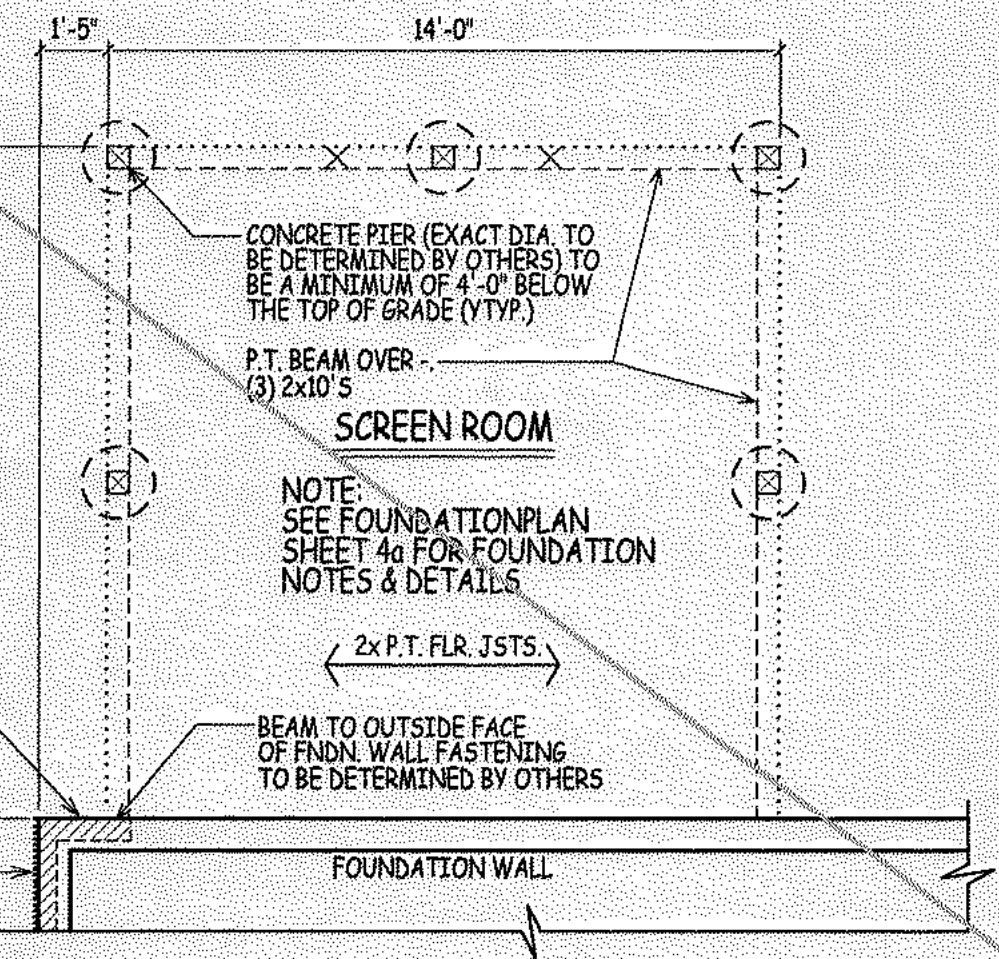
LEFT ELEVATION  
SCALE: 1/8" = 1'-0"



RIGHT ELEVATION  
SCALE: 1/8" = 1'-0"



FIRST FLOOR PLAN  
SCALE: 1/4" = 1'-0"



FOUNDATION PLAN  
SCALE: 1/4" = 1'-0"

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TO ASSIST IN THE REVIEW.

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77 Leonard Street, New Hampshire 03101  
Tel: 603.882.8800  
www.fsmdrawings.com

PROJECT: THE ABBOT PAGE FARM - ATKINSON, NH  
PREPARED FOR: GREEN&CO

DRAWN BY: MM/JW  
CHECKED BY: MM  
DATE DRAWN: 09/06/18  
DATE ISSUED: 09/06/18  
SCALE: AS INDICATED  
JOB NO.: FSM17-206CA

REVISIONS

16	08/27/18	THE CALLAWAY & RILEY REVISED PER REQUEST - ISSUED FOR REVIEW AND STAMP
17	09/06/18	BEAM LOCATION UPDATED ON THE ABBOT - ISSUED FOR REVIEW AND STAMP
13	08/03/18	THE CALLAWAY REVISED PER MARK-UPS - ISSUED FOR REVIEW AND STAMP
14	08/15/18	THE RILEY REVISED PER MARK-UPS - ISSUED FOR REVIEW AND STAMP
15	08/15/18	THE ABBOT REVISED PER MARK-UPS - ISSUED FOR REVIEW AND STAMP

11a



# 934.126 GL Aurelia



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Aurelia

Artform Home Plans

	Main	Future	Apt	Main + Future	Main + Apt	All
Living Area	2302 SF	0 SF	0 SF	2302 SF	2302 SF	2302 SF
Bedrooms	3	1	0	4	3	4
Baths	2.5	0.0	0.0	2.5	2.5	2.5

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- Increasing ceiling heights usually requires adjustments to window sizes and other exterior elements.

### Floor plan layout and/or Structural Changes:

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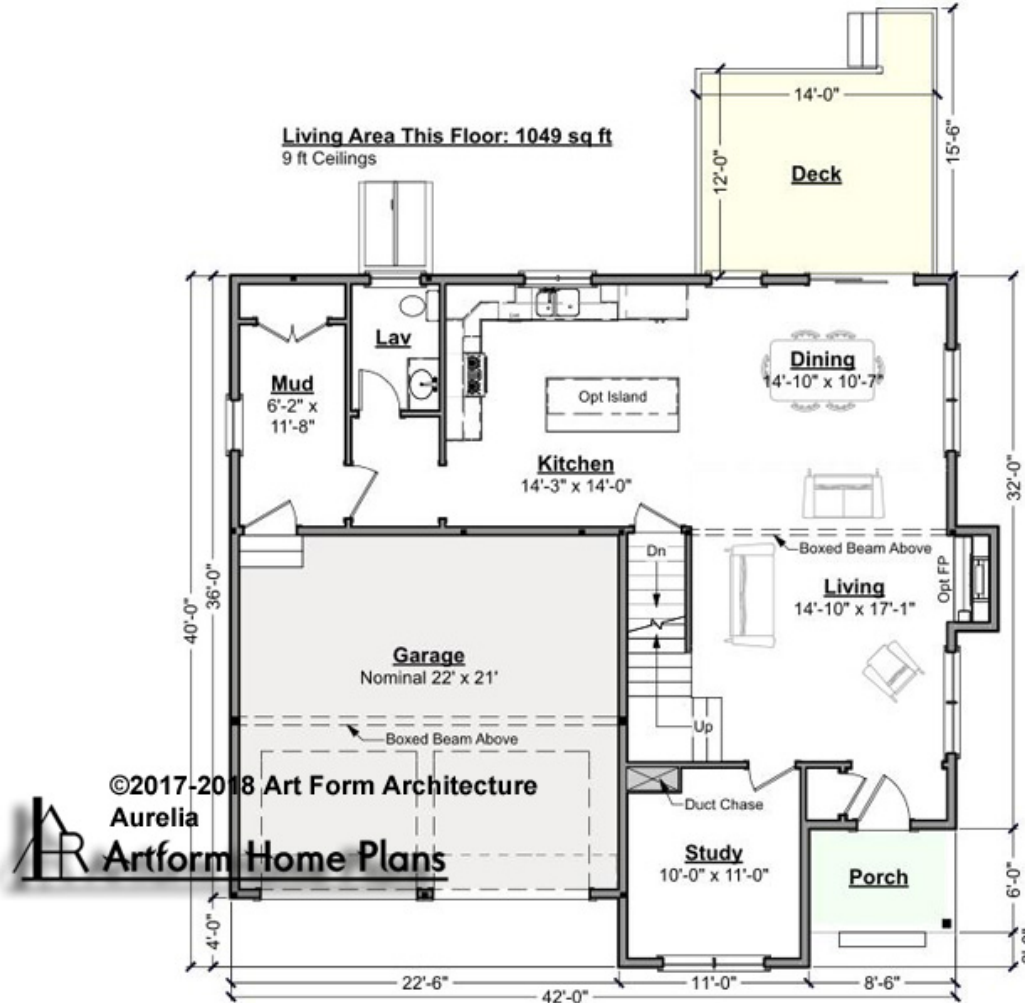
## First Floor

	Area	Beds	Baths
Main	1049 SF	0	0.5
Future	0 SF	1	0
Apt	0 SF	0	0
<b>Total</b>	<b>1049 SF</b>	<b>1</b>	<b>0.5</b>

Ceiling Height	
Shown	9'-0"
Possible*	8'-0"

\* See Major Change information on plan page for cost



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Aurelia  
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## Second Floor

	Area	Beds	Baths
Main	1253 SF	3	2
Future	0 SF	0	0
Apt	0 SF	0	0
<b>Total</b>	<b>1253 SF</b>	<b>3</b>	<b>2</b>

### Ceiling Height

Shown 8'-0"

Possible\* 8'-0"

\* See Major Change information on plan page for cost



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## Basement Floor

	Area	Beds	Baths
Main	0 SF	0	0
Future	0 SF	0	0
Apt	0 SF	0	0
Total	0 SF	0	0

### Ceiling Height

Shown 7'-8"

Possible\* 9'-0"

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## Front Elevation



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## Rear Elevation



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## Left Elevation



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# 1016.124 GL Carter



	Main	Future	Apt	Main + Future	Main + Apt	All
Living Area	2670 SF	0 SF	0 SF	2670 SF	2670 SF	2670 SF
Bedrooms	3	0	0	3	3	3
Baths	2.5	0.0	0.0	2.5	2.5	2.5

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**Facade Changes:**

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- Increasing ceiling heights usually requires adjustments to window sizes and other exterior elements.

**Floor plan layout and/or Structural Changes:**

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# 1016.124 GL Carter

## First Floor

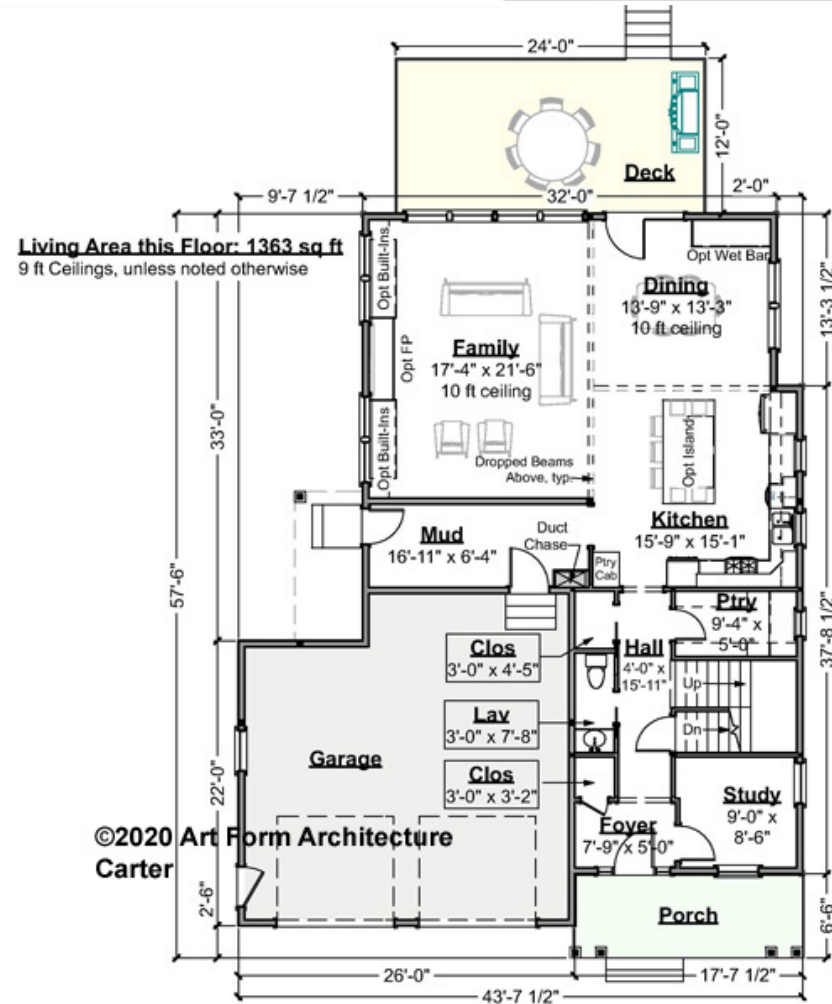
	Area	Beds	Baths
Main	1363 SF	0	0.5
Future	0 SF	0	0
Apt	0 SF	0	0
<b>Total</b>	<b>1363 SF</b>	<b>0</b>	<b>0.5</b>

### Ceiling Height

Shown 9'-0"

Possible\* 9'-0"

\* See Major Change information on plan page for cost



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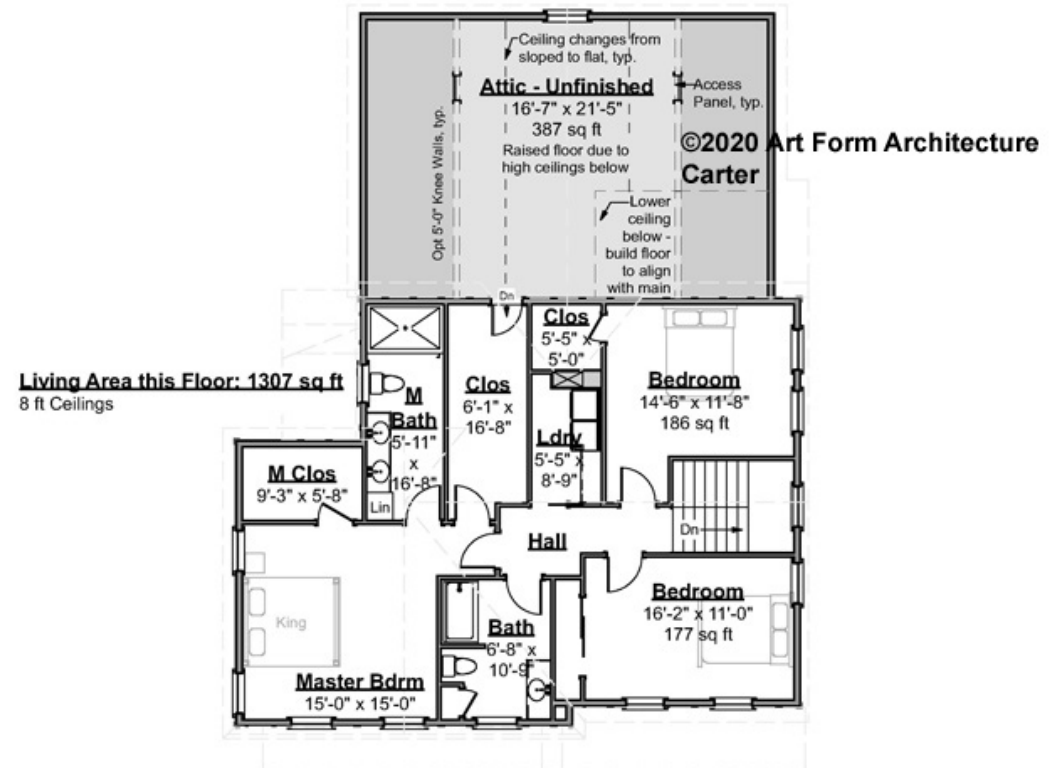
# 1016.124 GL Carter

## Second Floor

	Area	Beds	Baths
Main	1307 SF	3	2
Future	0 SF	0	0
Apt	0 SF	0	0
<b>Total</b>	<b>1307 SF</b>	<b>3</b>	<b>2</b>

Ceiling Height	
Shown	8'-0"
Possible*	8'-0"

\* See Major Change information on plan page for cost



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## Basement Floor

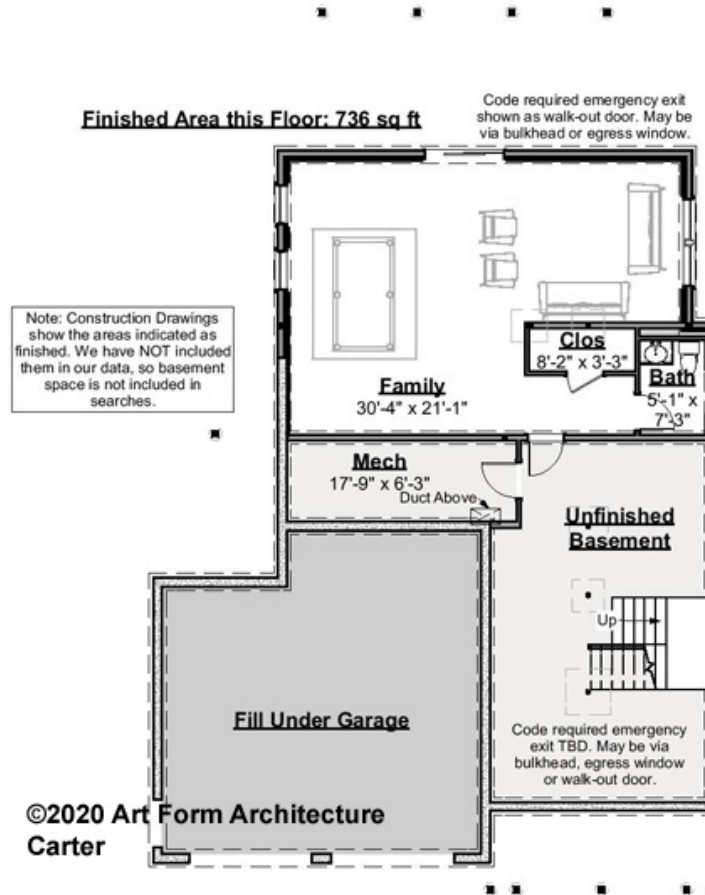
	Area	Beds	Baths
Main	0 SF	0	0
Future	0 SF	0	0
Apt	0 SF	0	0
Total	0 SF	0	0

### Ceiling Height

Shown 7'-8"

Possible\* 8'-4"

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## Front Elevation



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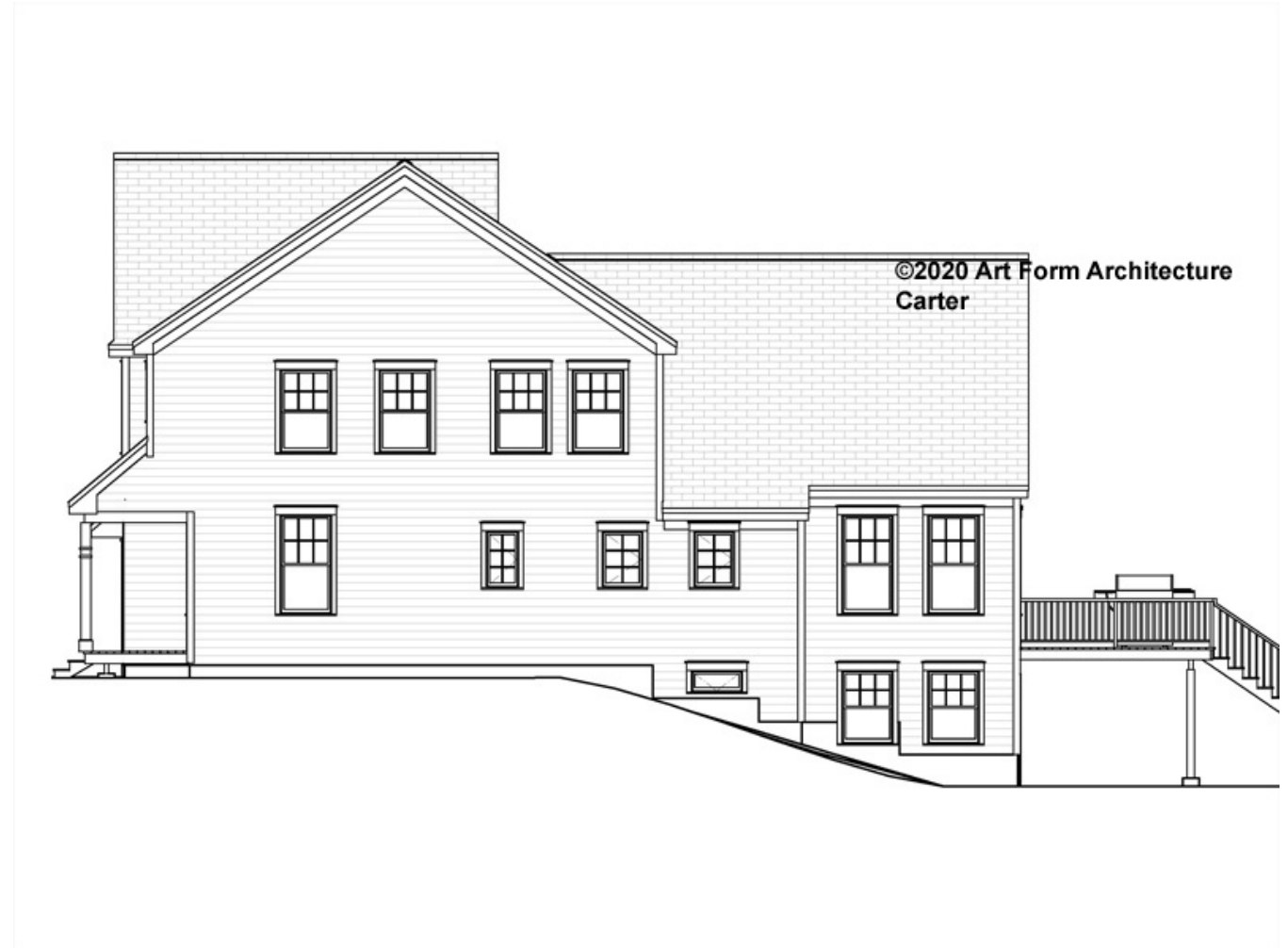
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Rear Elevation



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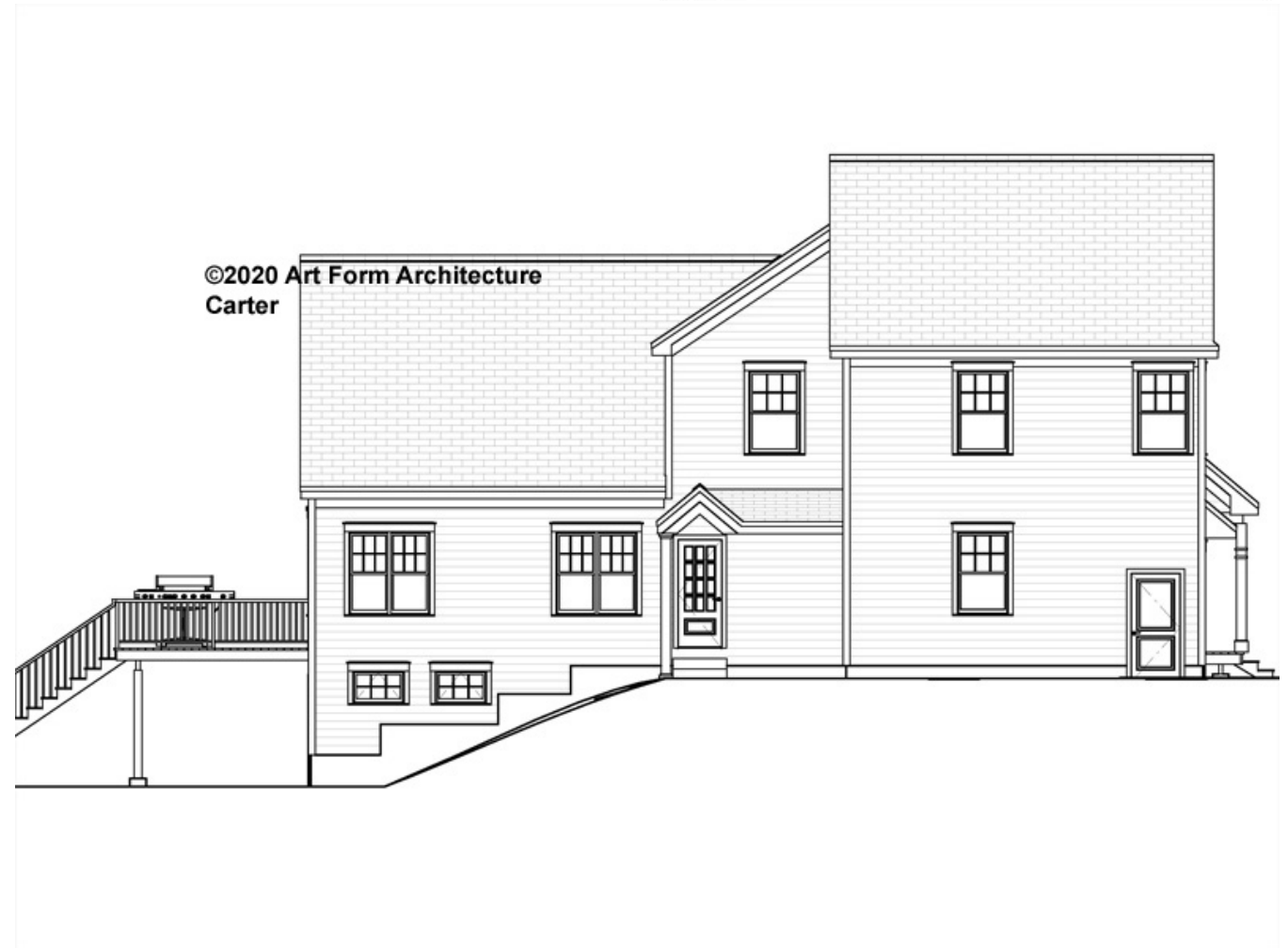
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## Left Elevation



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## Rear Render



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Wall Types

Exterior walls 2x6 wood stud  
Interior walls 2x4 wood stud, unless noted otherwise

Wall Keys

- 2x wood studs on the flat
2x3 wood stud wall, 16" oc
2x6 wood stud wall, 16" oc

Note: 2x4 wood stud wall, 16" oc unless otherwise noted

Key Notes

- 30" x 22" Minimum Attic Access
Panel - Insulated (RO 34" x 26")
Field locate for plumbing or mechanical
Verify size of fixture or appliance
Adjust dimensions to accommodate
Snug - Door or Window trim will be snug and may need to be cut down
Center - Place door or window centered on wall
Double Stud or structural mull - adapt to suit chosen window brand.

- Smoke Detector
Carbon Monoxide Detector
Heat Detector

Dimensions

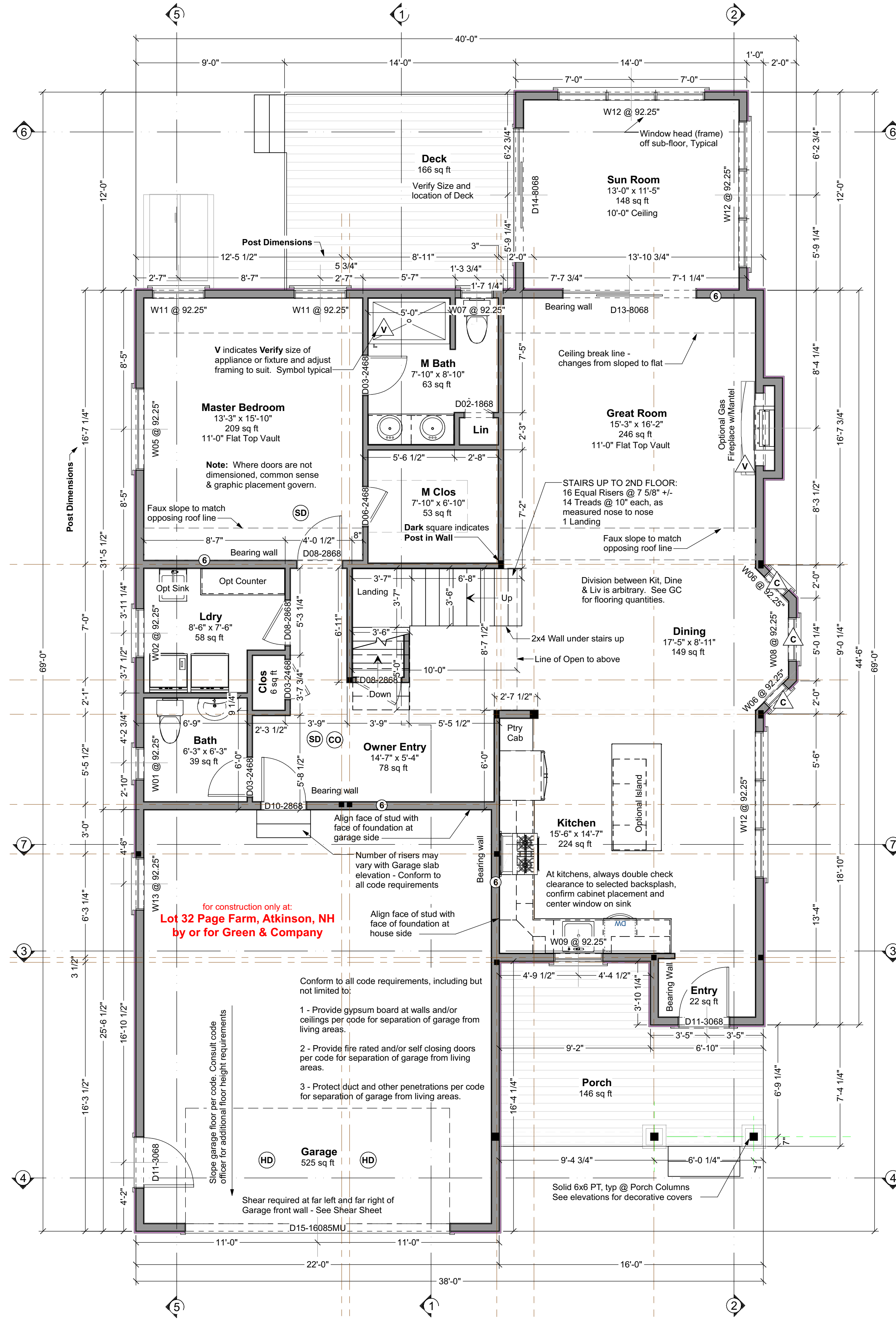
- Dimensions are to face of stud, unless noted otherwise.
Closets are 24" clear inside, unless dimensioned otherwise.

Square Footages

- Sq ft numbers are interior to room for use in calculating finishes.
Cabinets and fixtures not subtracted.
Add for doorways when floor finishes run through.

Notes

- Exterior walls 2x6 wood stud @ 16" oc. Provide insulation & vapor barrier conforming to state or local codes. Interior sheathing 1/2" gypsum board. Provide 1/2" exterior rated sheathing, house wrap with drainage plane and siding. Provide step flashing at walls adjacent to roof planes.
Interior walls 2x4 wood stud @ 16" oc, unless noted otherwise.
Roof - see structural for rafter sizes. Provide 5/8" exterior rated roof sheathing 15# roofing felt, ice & water shield at eaves and valleys, aluminum drip edge and asphalt shingles or metal roofing. Structure not calculated to support slate or tile. Flash all penetrations. Provide cricket at any added chimneys.
Provide roof and/or ceiling insulation per code. Provide soffit and ridge vents where required for insulation strategy. (Verify with code officer - closed cell spray foam or dense-pack cellulose installed at rafters and filling ridge and eaves generally contra-indicates venting, batt insulation always requires venting).
Provide smoke detectors where shown, where required by code and where required by local authorities.
Provide fire resistive materials where required by code, including but not limited to, firestopping at penetrations, 1/2" drywall on walls and 5/8" drywall on ceilings to separate garage (where garage present in design) from dwelling, and separation of dwellings (where more than one dwelling present) in design, and protection of flammable insulation materials.
Compliance with code requirements for rooms size and clearances, (hallway widths, room sizes, etc) assume 1/2" drywall on walls and 1/2" drywall on 3/4" strapping on ceilings. Adjust as required if materials differ.
Shear is only called out where Continuous Portal Frame will not suffice. See Section R602.10.4 (Pages 173 - 179) of the IRC 2009.



First Floor Plan

Living Area this Floor: 1562 sq ft
9ft Finished Ceilings (Unless Noted Otherwise)

NOTE TO HOMEOWNER:
These construction plans ARE NOT a part of your construction contract with your builder, unless your P&S agreement specifies that they are. Your P&S and its attachments (like the builder's specifications or a review set of this design) describes what you and your builder agreed the builder would build for you. We here at Artform Home Plans do not have the authority to obligate your builder to provide you with amenities like fireplaces and spa tubs. The contract between you and your builder governs.

Balmalcolm



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- 1 - Room sizes (Section R304)
2 - Ceiling Height (Section R305)
3 - Floor space & ceiling height at Toilet, Bath and Shower Spaces (Section R307)
4 - Hallway widths (Section R311.6)
5 - Door types & sizes (Section R311.2)
6 - Floor space in front of doors (Section R311.3)
7 - Stair width - The stairs in our designs will be a minimum of 36" wide measured wall surface to wall surface, allowing compliance with R311.7.1 with installation of correct handrail.
8 - Stairway headroom (Section R311.7.2)
9 - Stair treads and risers (Section R311.7.5)
10 - Landings for stairways (Section R311.7.6)
11 - Emergency Escape Window Sizes (Section R310.2.1, R310.2.2, R310.2.3 and R310.2.4). Casement windows may require manufacturer's emergency escape window hardware. Will also comply with NFPA 101.
12 - Structural Floor Framing (Section R502.3) Where dimensional lumber is shown, framing members will be sized according to this section of the code. Where engineered wood products are shown, those framing members will be sized according to the manufacturer's tables for loads and spans, or sizes will have been calculated using manufacturer's published materials properties.
13 - See structural sheets for additional notes.

The builder can and should add information to this set, such as Rescheck, a hand markup of our generic thermal and moisture section, additional information about doors and windows (such as fire rating, tempering, etc), foundation drops relative to site grading, and sometimes their chosen method of basement egress. These drawings are not intended to be used without that additional information.

Where a construction address is shown on the drawings, it is for copyright control only. We have not inspected the site, adapted the design to state specific laws (except where it says so in the drawings) or site or region specific climate conditions. Homeowner and/or Builder shall be responsible for thermal and moisture control strategies, materials choices and compliance with applicable laws and ordinances.

Please do feel free to call us with any questions. We can and do update our drawings and standard notes to address specific concerns, especially in jurisdictions where our clients will be building again.

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We can provide drawings suitable for use in obtaining design or zoning approvals without incurring the expense of a full set of construction drawings. Contact us for more information. AFHP CD Comments 15.4.11.0

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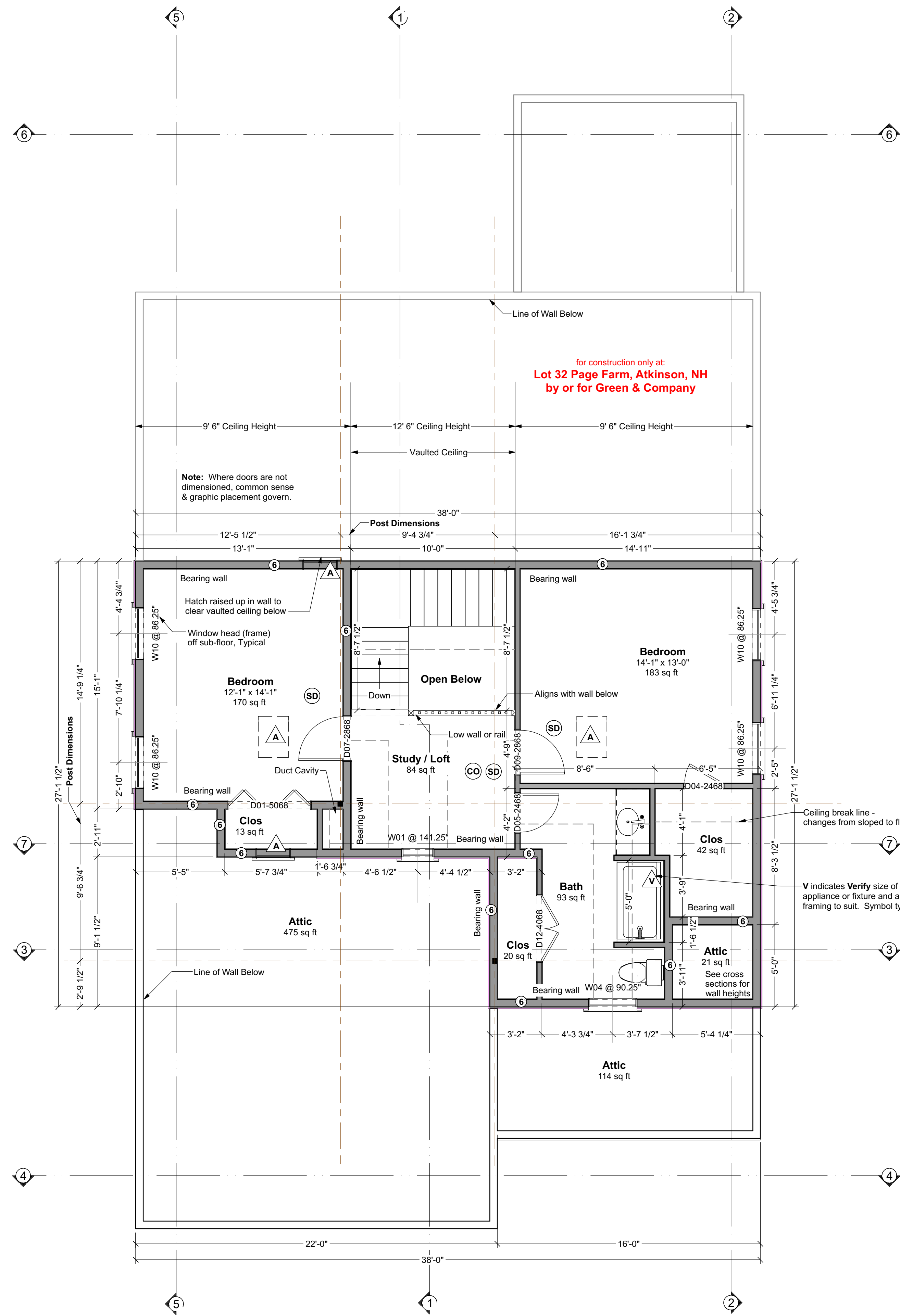


**Door & Window Notes**

- Rated Doors:** Provide fire rated and/or self-closing doors where required by local codes or local authorities
- Trimmed Openings:** Trimmed openings not shown on schedule. See Plan.
- Window Tempering:** Provide tempered windows where required by local codes or local authorities. Tempering column provided here for convenience. Windows have not been reviewed for tempering requirements.
- Window RO's:** 1/4" or 1/2" on each of 4 sides allowed for window RO's, typical. Review framing size vs RO size. Adjust per manufacturer's requirements and/or builder preference.
- Egress Windows:** Provide minimum one door or window meeting egress requirements in basement, in each sleeping room, in each potential sleeping room, and other locations required by local code, in sizes required by local code. Note that casement windows coded by manufacturer as meeting IRC 2006 egress requirements typically need to be ordered with specific hardware. Emergency Escape Window Sizes (Section R310.1.1, R310.1.2, R310.1.3 and R310.1.4). Will also comply with NFPA 101.
- Basement Windows:** Add basement windows as required to meet state or local code requirements, including but not limited to egress and light/ventilation.
- Skylights:** Skylights are not shown on this schedule, but may be required. Consult builder and/or see floor plan.
- Minimum window sill height:** IRC 2009 and later requires that floor window sills be 24" from floor. Confirm bottom of window opening relative to frame. Adjust head heights as required to conform to IRC

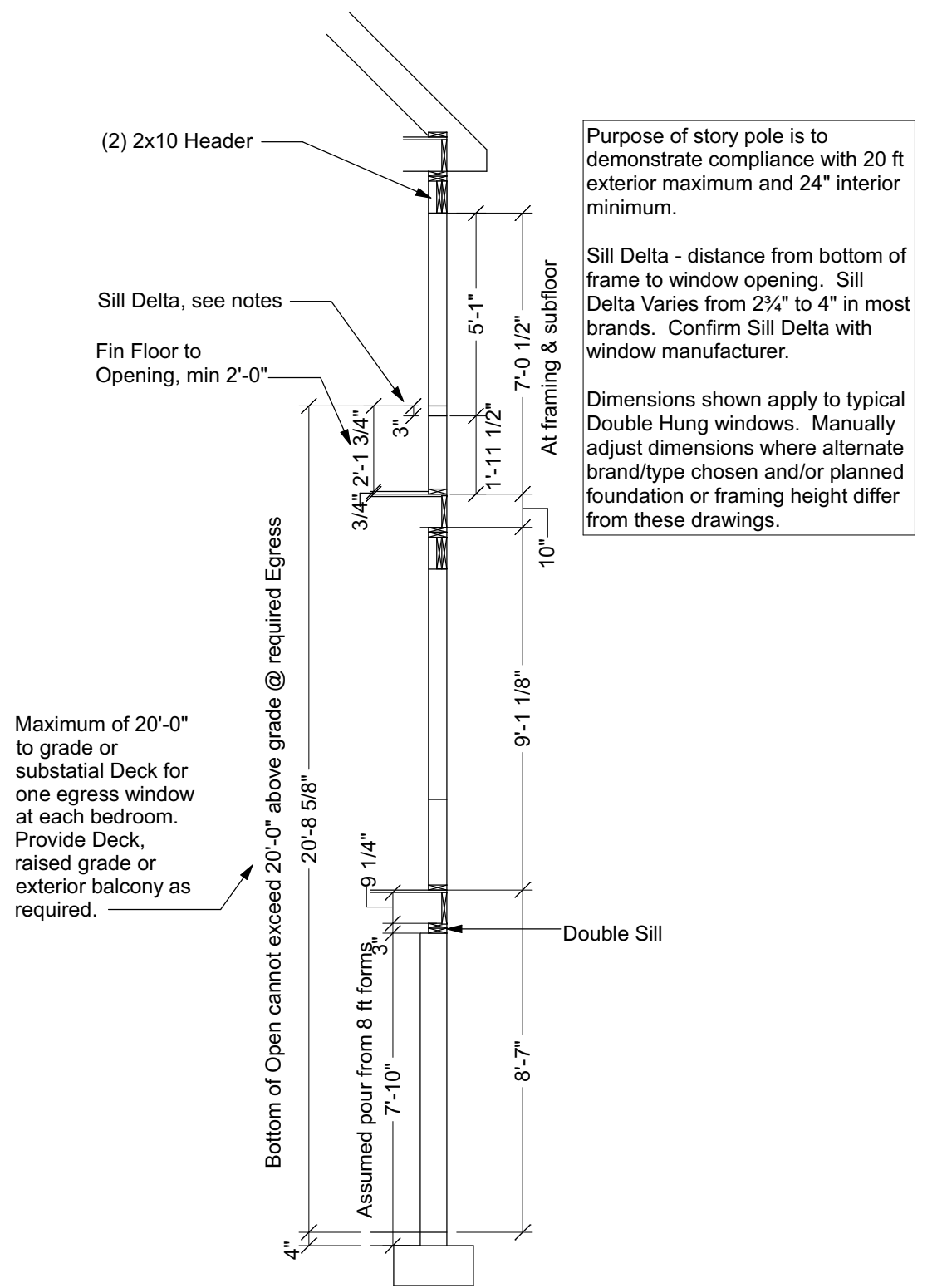
DOOR SCHEDULE							
NUMBER	QTY	FLOOR	SIZE	WIDTH	HEIGHT	TYPE	COMMENTS
D01	1	2	5068 L/R	60"	80"	4 DR. BIFOLD	
D02	1	1	1868 R IN	20"	80"	HINGED	
D03	3	1	2468 L IN	28"	80"	HINGED	
D04	1	2	2468 R IN	28"	80"	HINGED	
D05	1	2	2468 L IN	28"	80"	HINGED	
D06	1	1	2468 R IN	28"	80"	HINGED	
D07	1	2	2868 L IN	32"	80"	HINGED	
D08	3	1	2868 R IN	32"	80"	HINGED	
D09	1	2	2868 R IN	32"	80"	HINGED	
D10	1	1	2868 L EX	32"	80"	HINGED	
D11	2	1	3068 R EX	36"	80"	HINGED	
D12	1	2	4068 L/R IN	48"	80"	DOUBLE HINGED	
D13	1	1	8068 R IN	96"	80"	SLIDER	
D14	1	1	8068 L EX	96"	80"	SLIDER	
D15	1	1	16085	192"	101"	MULLED UNIT	GARAGE W/ TRANSOM

WINDOW SCHEDULE									
NUMBER	QTY	WIDTH	HEIGHT	R/C	EGRESS	TEMPERED	DESCRIPTION	MANUFACTURER	COMMENTS
W01	2	23 1/2"	23 1/2"	24"X24"			SINGLE AWNING		
W02	1	35 1/2"	23 1/2"	36"X24"			SINGLE AWNING		
W03	1	35 1/2"	35 1/2"	36"X36"			SINGLE AWNING		
W04	1	35 1/2"	35 1/2"	36"X36"		YES	SINGLE AWNING		
W05	1	59 1/2"	23 1/2"	60"X24"			SINGLE AWNING		
W06	2	19 1/2"	65 1/2"	20"X66"			DOUBLE HUNG		
W07	1	23 1/2"	51 1/2"	24"X52"		YES	DOUBLE HUNG		
W08	1	31 1/2"	65 1/2"	32"X66"			DOUBLE HUNG		
W09	1	35 1/2"	47 1/2"	36"X48"			DOUBLE HUNG		
W10	4	38"	61 1/2"	38 1/2"X62"	YES		DOUBLE HUNG		
W11	2	38"	65 1/2"	38 1/2"X66"	YES		DOUBLE HUNG		
W12	3	106 1/2"	65 1/2"	107"X66"			3X DH		
W13	1	38"	65 1/2"	38 1/2"X66"			DOUBLE HUNG		



**Second Floor Plan**

Living Area this Floor: 793 sq ft  
9'-6" Ceilings, unless noted otherwise



**Window Story Pole**

Scale 1/4"=1'-0"

Purpose of story pole is to demonstrate compliance with 20 ft exterior maximum and 24" interior minimum.  
Sill Delta - distance from bottom of frame to window opening. Sill Delta Varies from 2 3/4" to 4" in most brands. Confirm Sill Delta with window manufacturer.  
Dimensions shown apply to typical Double Hung windows. Manually adjust dimensions where alternate brand/type chosen and/or planned foundation or framing height differ from these drawings.

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**Structural General Notes:**

1. Builder shall consult and follow the building code and other regulations in effect for the building site for all construction details not shown in these drawings. Requirements described here are specific to this design and/or are provided as reference. Additional building code or local requirements may apply.

2. Builder shall maintain a safe worksite, including but not limited to, provision of temporary supports where appropriate and adherence to applicable safety standards.

3. Design is based on the snow load listed on the framing plans, 100 mph basic wind speed, Exposure type B, soil bearing capacity of 2000 psf, and Seismic Category C, unless otherwise noted on the framing plans. Builder shall promptly inform Artform Home Plans of differing conditions.

**Foundations**

- No footing shall be poured on loose or unsuitable soils, in water or on frozen ground.
- All exterior footings to conform to all applicable code requirements for frost protection.
- All concrete shall have a minimum compressive strength of at least 3000 PSI at 28 days.
- Foundation anchorage to comply with IRC 2009 Section R403.1.6, it shall consist of minimum size 1/2" diameter anchor bolts with 3/16" x 2" x 2" washers at a maximum of 72" oc for two stories or 48" oc for more than two stories, max of 12" from each corner, min of 2 bolts per wall. Anchor bolt shall extend 7" into concrete or grouted cells of concrete masonry units. Be aware that a garage under may be counted by your code officer as a story. Additional anchorage may be required at braced walls.

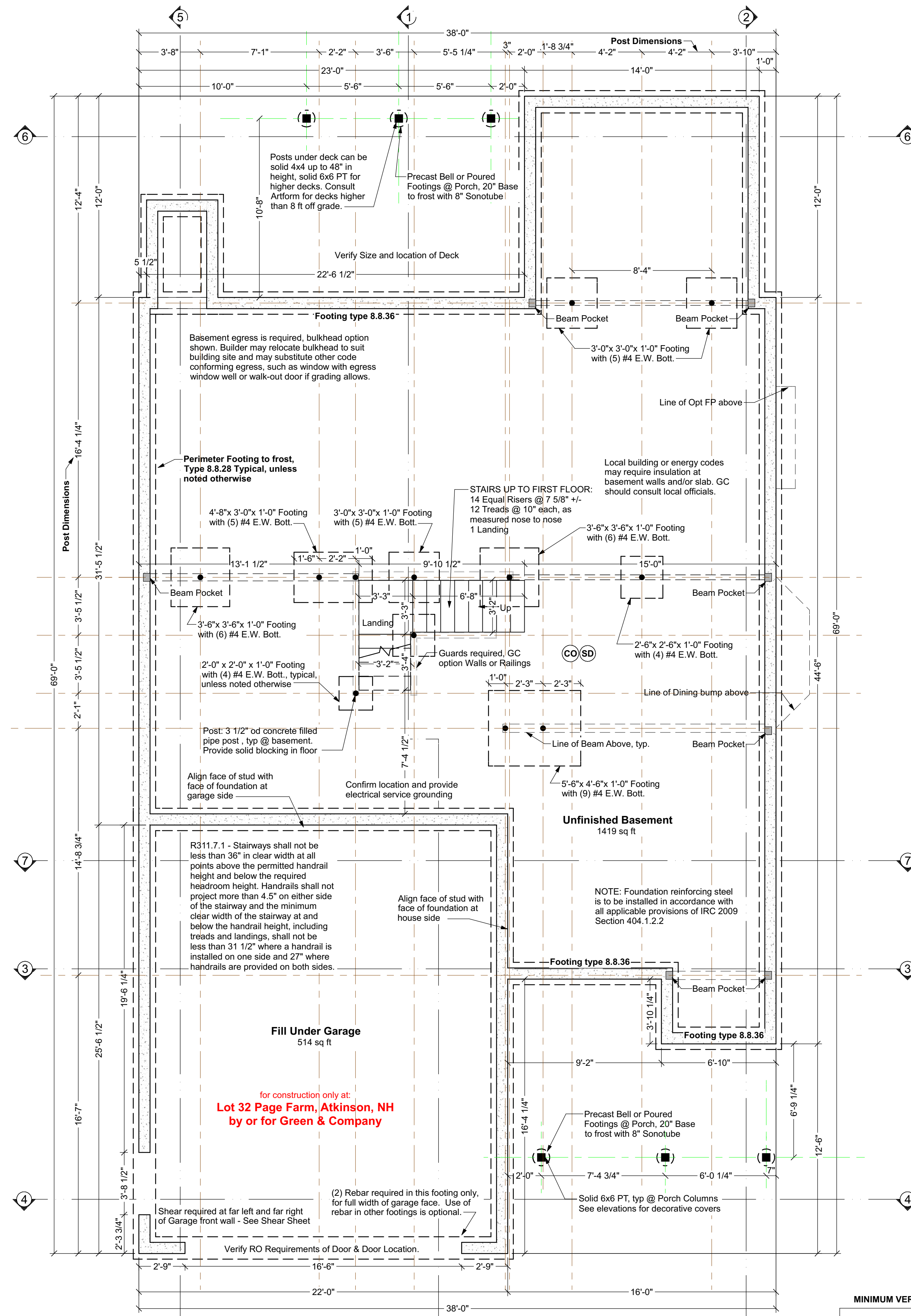
**Wood Framing**

- All structural wood shall be identified by a grade mark or certificate of inspection by a recognized inspection agency.
- Structural wood shall be Spruce-Pine-Fir (SPF) #2 or better.
- When used, LVL or PSL indicate Laminated Veneer Lumber or Parallel Strand Lumber, respectively. Products used shall equal or exceed the strength properties for the size indicated as manufactured by TrusJoist.
- When used, AJS indicates wood I-joists as manufactured by Boise Cascade. Products of alternate manufacturers may be substituted provided they meet or exceed the strength properties for the member specified.
- All floor joists shall have bridging installed at mid-span or at 8'-0" oc maximum.
- Floor systems are designed for performance with subfloor glued and screwed.
- At posts, provide solid framing/blocking to supports below. Provide minimum 1 1/2" bearing length for all beams and headers, unless noted otherwise.
- All wood permanently exposed to the weather, in contact with concrete or in contact with the ground shall meet code requirements for wood in these environments.
- Deck ledgers shall be securely attached to the structure and/or independently supported, including against lateral movement, per building code requirements and best practices. Unless otherwise noted, decks shall have solid 4x4 pt posts up to 6 ft above grade, and solid 8x8 for heights above that.
- Wherever beams are noted as Flush framed, install joist hangers at all joists, sized appropriately for the members being connected.
- Support the lower end of roof beams via minimum 2" horizontal bearing on a post, ledger or via an appropriately sized and configured hanger.
- Where multiple beams are supported on one post, provide min 2" bearing for each, via either appropriately sized post cap or additional post(s).
- Hangers, post caps, ties and other connectors shall be as manufactured by Simpson Strong Tie, as designed to connect the members shown, and shall be installed per manufacturer's instructions.

**Foundation Contractor Check List**

Confirm or review the following prior to forming & pouring foundation

- Initials Date Checked
- \_\_\_\_\_ Confirmed soil bearing
  - \_\_\_\_\_ Checked w/GC for added foundation steps to suit grade
  - \_\_\_\_\_ Confirm sill plate thickness (foundation bolts to extend through all)
  - \_\_\_\_\_ Confirmed garage door size
  - \_\_\_\_\_ Checked w/GC for added basement windows
  - \_\_\_\_\_ Checked w/GC for added basement man doors
  - \_\_\_\_\_ Confirmed sizes & locations mech/plbg penetrations
  - \_\_\_\_\_ Confirmed sizes and locations of beams w/GC, added or adjusted beam pockets
  - \_\_\_\_\_ Confirmed location and installed electrical service grounding - See GC for location



**Foundation Plan**

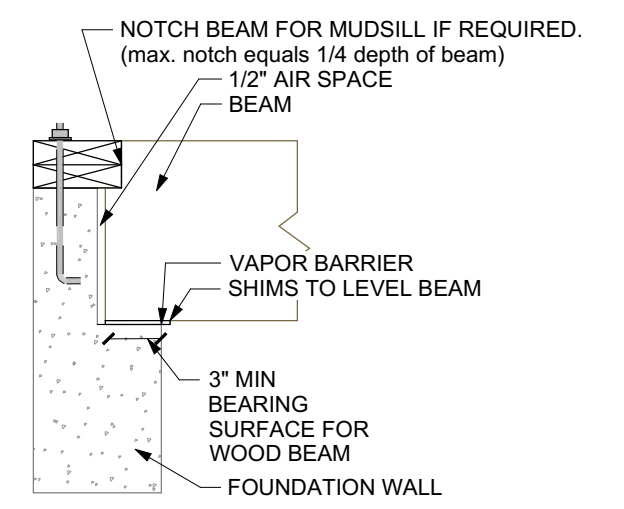
Structure designed for Snow Load of 55 PSF

Ceiling height may vary: 8 ft Forms

Post Caps: Typically supplier calculates weights based on these framing plans. Contact Art Form if additional information is needed.

**MINIMUM VERTICAL REINFORCEMENT FOR 8-INCH (203MM) NOMINAL FLAT CONCRETE BASEMENT WALL**

MAXIMUM UNSUPPORTED WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT (feet)	MINIMUM VERTICAL REINFORCEMENT - BAR SIZE AND SPACING (inches)		
		Soil classes and design lateral soil (psf per foot of depth)		
		GW, GP, SW, SP	GM, GC, SM, SM-SC and ML	SC, ML-CL and inorganic CL
8	4	NR	NR	NR
	5	NR	NR	NR
	6	NR	NR	6 @ 37
	7	NR	6 @ 36	6 @ 35
	8	6 @ 41	6 @ 35	6 @ 26



**Beam Pocket**

Scale 1/2"=1'-0"

**TYPICAL PERIMETER FOUNDATION WALL:**

- 8" poured concrete, 8 ft forms, min 7'-10" finished, with total of 3 rebar, as follows:
  - (1) #4 rebar, 4" from top
  - (1) #4 rebar @ vertical midpoint. Omit this rebar at walls 4 ft high or less.
  - (1) #4 rebar, min 3" from bottom or per code
- Lap corners & splices of rebar per code.
- Secure sill to foundation with 1/2" diameter anchor bolts that extend 7" into concrete and tightened with a nut and washer @ 6" oc & max 12" from each corner & each end @ wood sill splices - if built-up sill, bolts must extend through all sill plates or straps must secure all sill plates.

**TYPICAL PERIMETER FOOTING:**

- Verify that depth of home matches chart. Depth is foundation dimension eave to eave. Contact Artform Home Plans if you believe the chart does not match the plan.
  - Select column for snow load shown on the structural plans.
  - Select soil bearing pressure based on soil type and/or consultation with code officer.
  - The required footing size is at the intersection of the Snow Load and Soil PSI. Rebar is not required. Key or pin foundation wall to footing per code. For the purposes of permitting, soil bearing for New England is assumed to be 2,000 PSI.
- FAQ - Adding rebar to footings does not reduce the required width. Rebar affects performance with earth movement, like an earthquake and has near zero effect on bearing capacity.

**Guide to Soil PSI**

3,000	Sandy gravel and/or gravel (GW and GP)
2,000	Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC)
1,500	Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH)

Footing Size	Snow Load			
	50	60	70	80
Type 8.8.28	16" x 8"	16" x 8"	16" x 8"	16" x 8"
Soil PSI	3,000	16" x 8"	16" x 8"	16" x 8"
	2,000	18" x 8"	18" x 8"	20" x 8"
	1,500	22" x 8"	22" x 8"	24" x 8"

Footing Size	Snow Load			
	50	60	70	80
Type 8.8.32	16" x 8"	16" x 8"	16" x 8"	16" x 8"
Soil PSI	3,000	16" x 8"	16" x 8"	16" x 8"
	2,000	18" x 8"	20" x 8"	22" x 8"
	1,500	24" x 8"	26" x 8"	28" x 8"

Footing Size	Snow Load			
	50	60	70	80
Type 8.8.36	16" x 8"	16" x 8"	16" x 8"	16" x 8"
Soil PSI	3,000	16" x 8"	16" x 8"	16" x 8"
	2,000	20" x 8"	20" x 8"	24" x 8"
	1,500	26" x 8"	28" x 8"	30" x 8"

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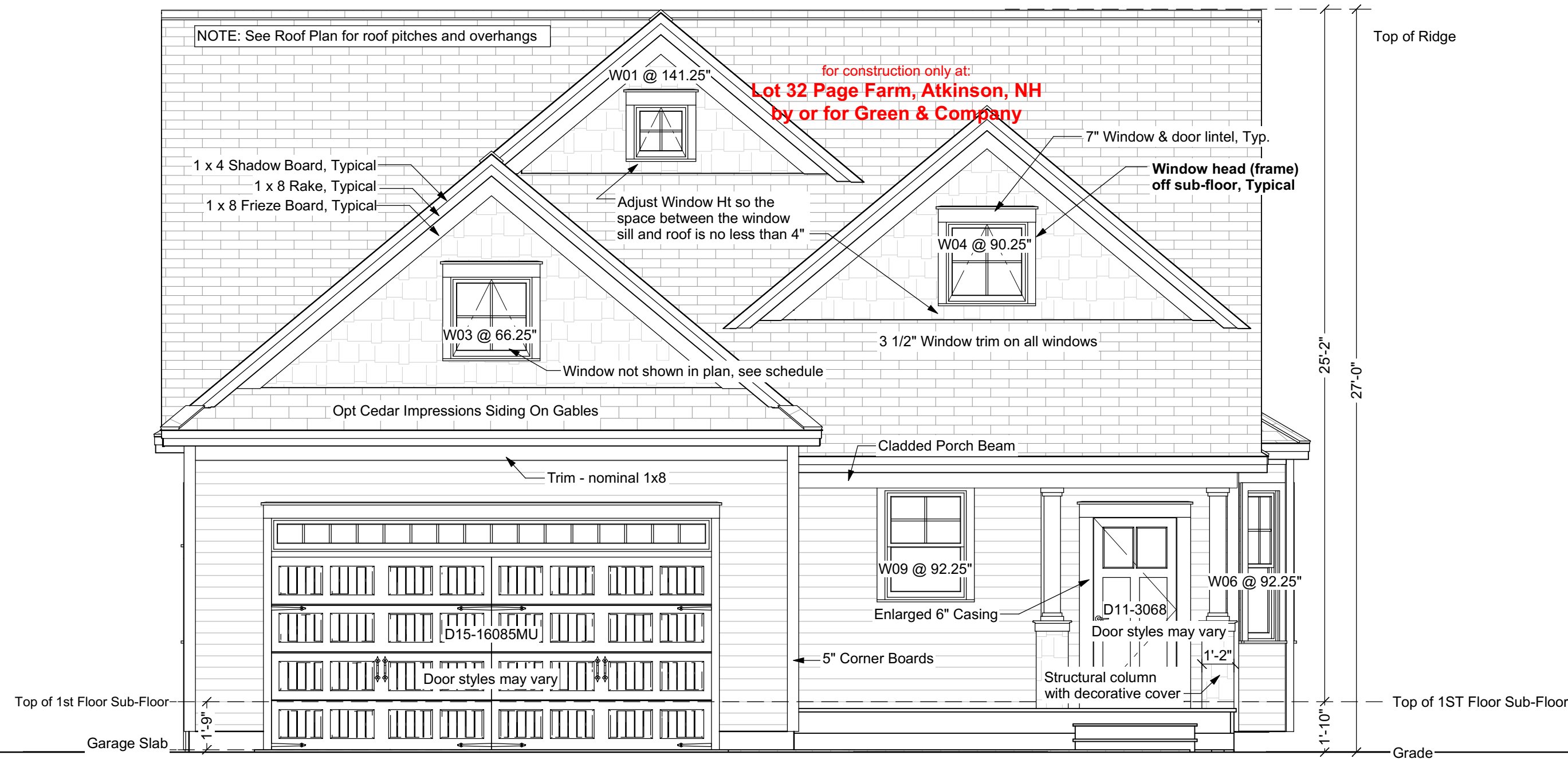
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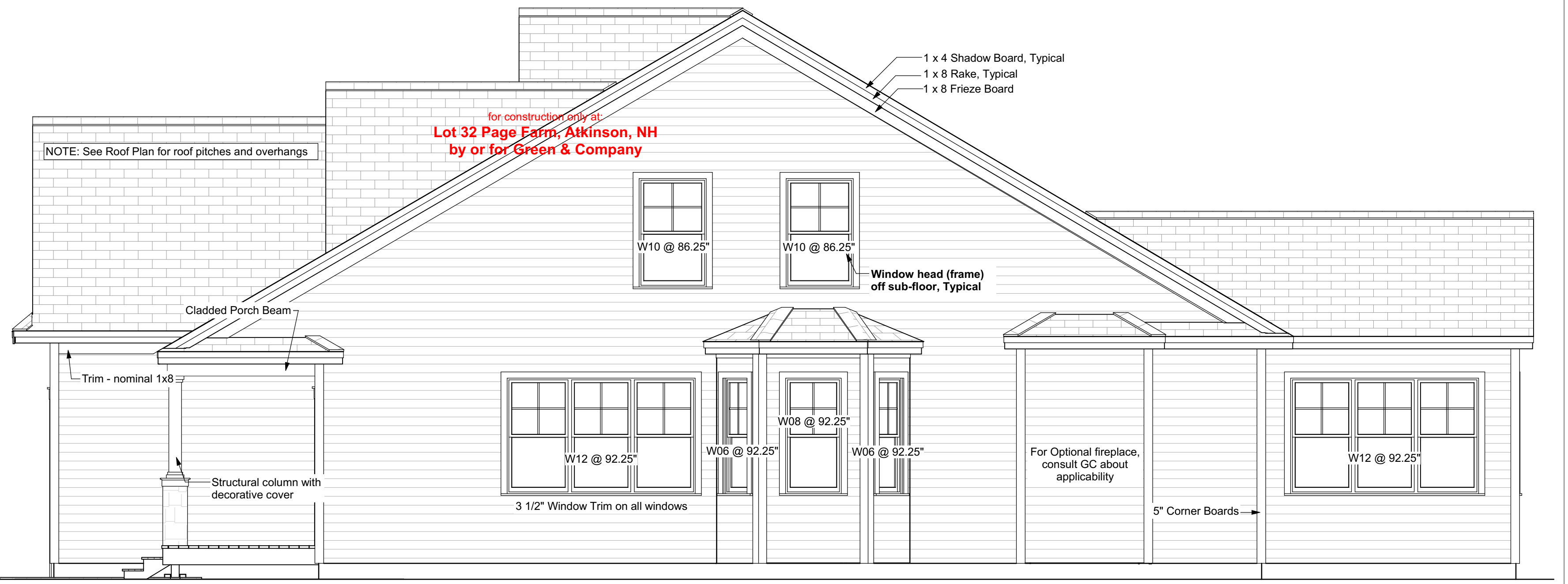


### Front Elevation

Note - Actual grade level may vary. Where zoning height restrictions apply, builder shall verify conformance. Manual markup of drawings to demonstrate compliance is recommended.

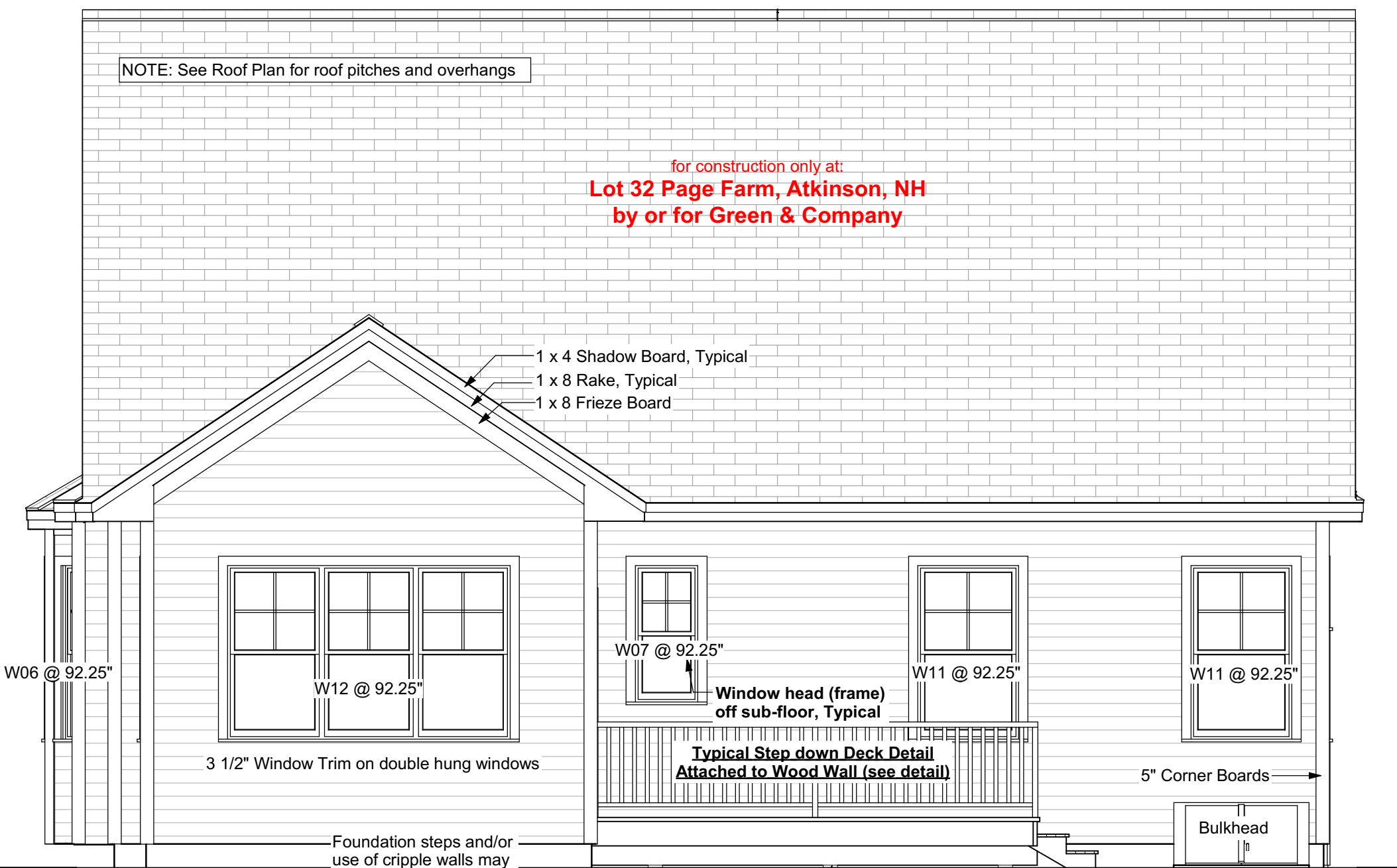
Garage slab height may vary. If garage slab height is lower than shown, consult Artform for aesthetic direction. Taller garage doors, transoms, lintels and/or additional frieze boards may be required to achieve desired look.

Not shown - number of steps may vary - handrail may be required per code.



### Right Elevation

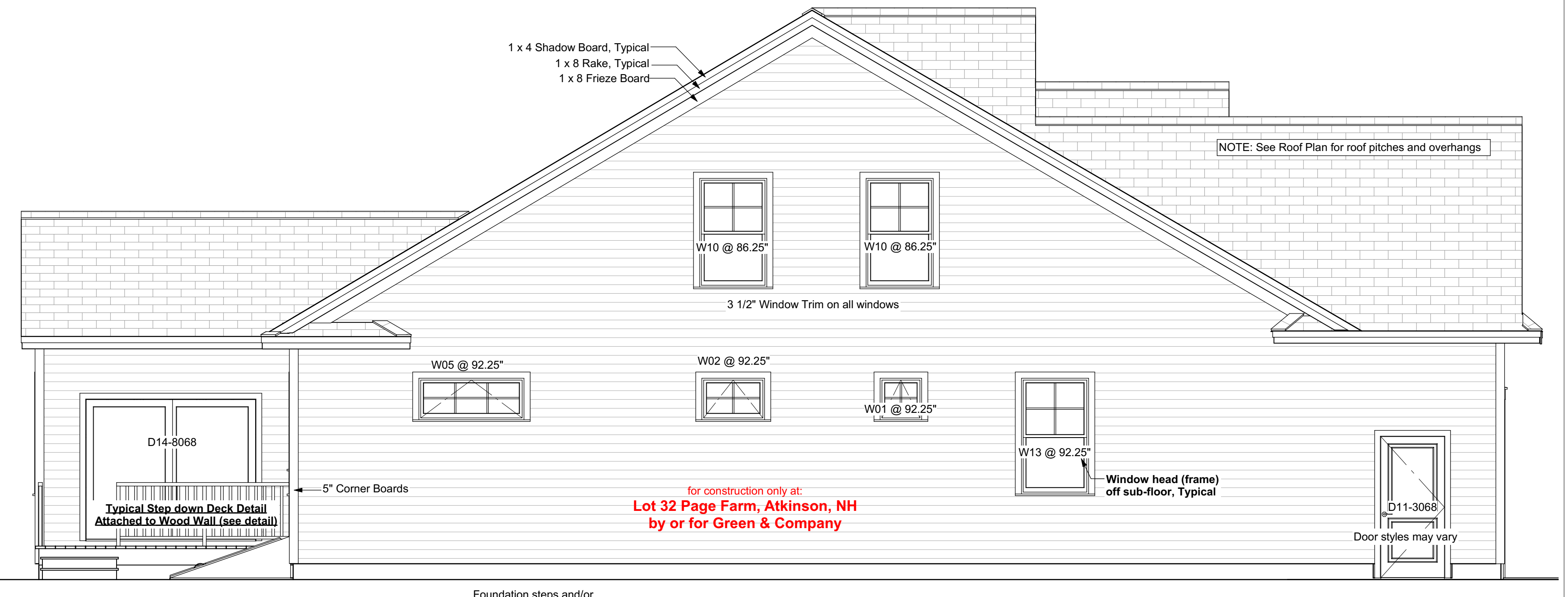
Foundation steps and/or use of cripple walls may be added to suit grade.



### Rear Elevation

Posts under deck can be solid 4x4 up to 48" in height, solid 6x6 PT for higher decks. Consult Artform for decks higher than 8 ft off grade.

Basement egress is required, bulkhead option shown. Builder may relocate bulkhead to suit building site and may substitute other code conforming egress, such as window with egress window well or walk-out door if grading allows.



### Left Elevation

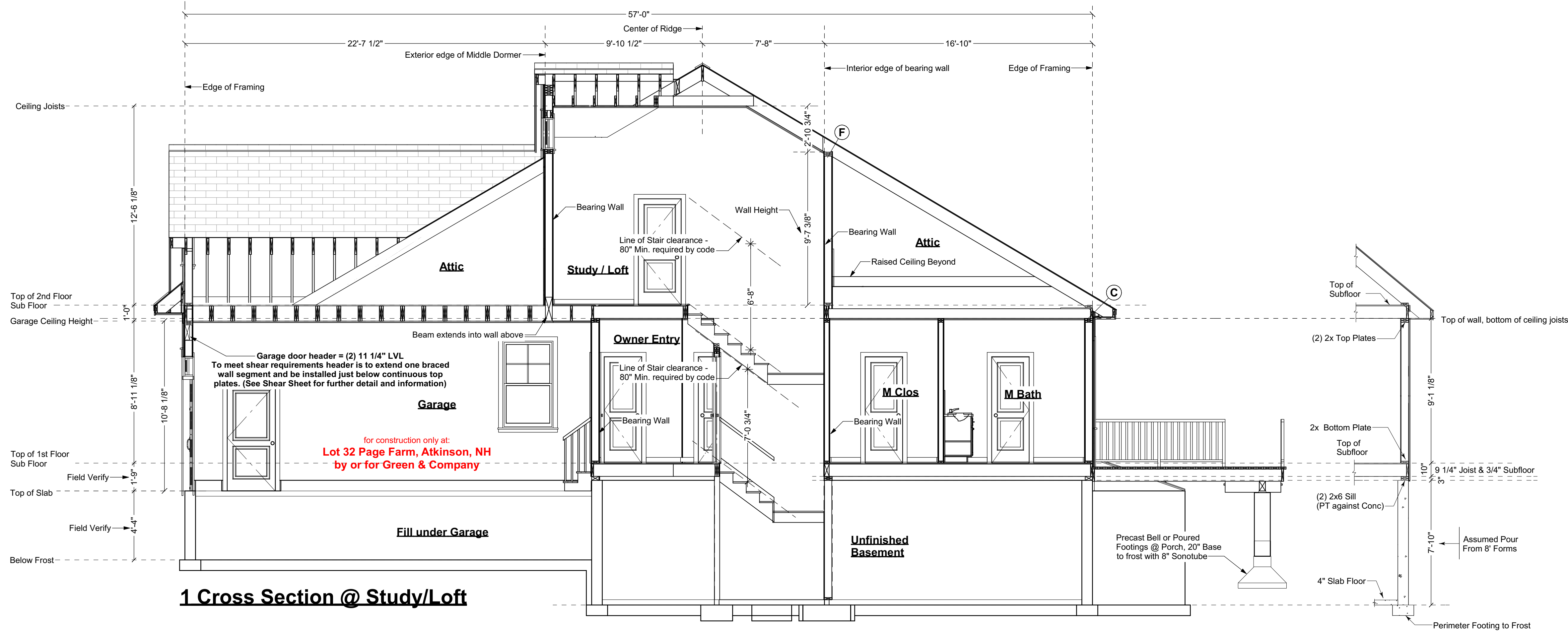
Foundation steps and/or use of cripple walls may be added to suit grade.

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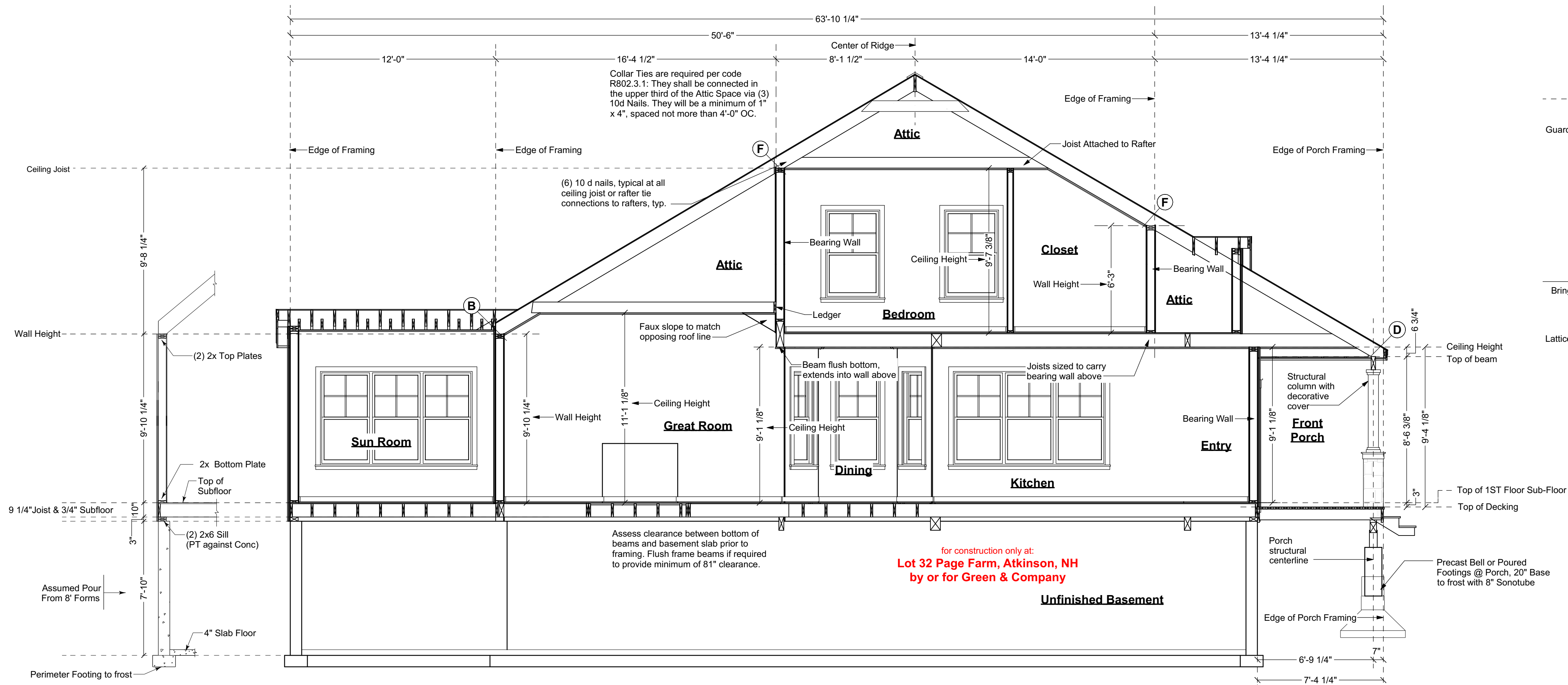
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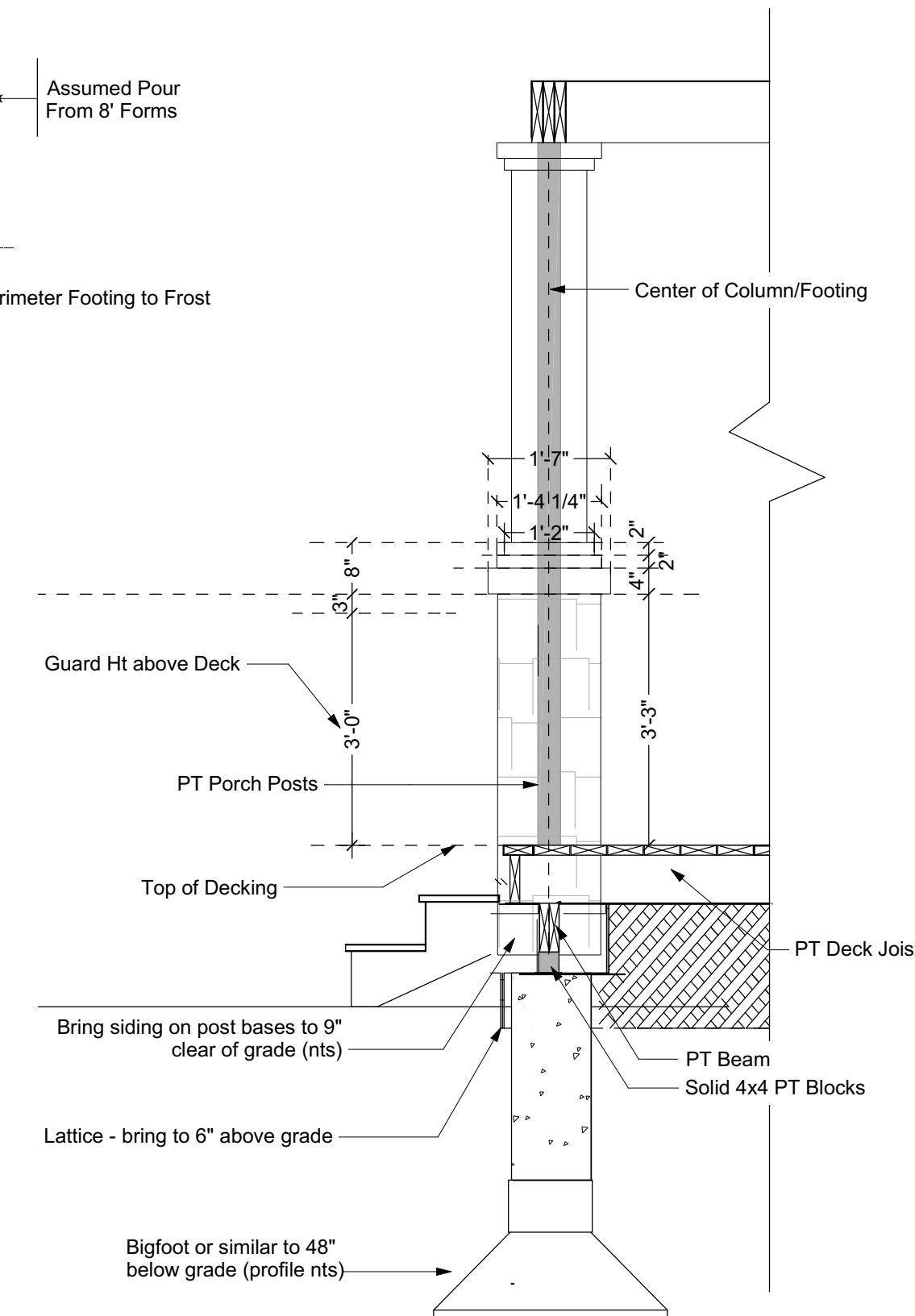
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**1 Cross Section @ Study/Loft**



**2 Cross Section @ Main**



**Column Detail**

From Column Center = 5" to Edge of Decking, 4" to Edge of Deck Framing.

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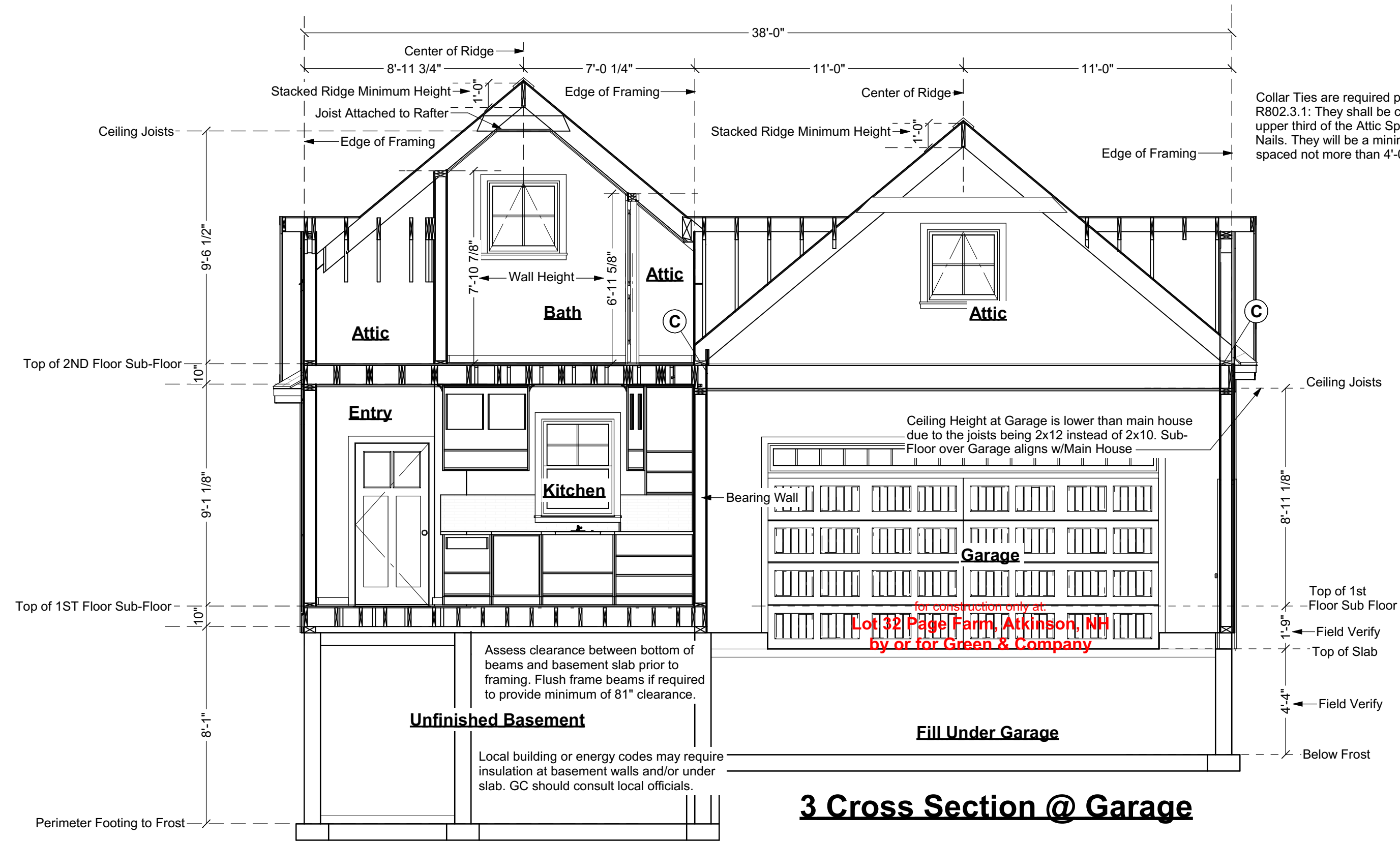
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**5**

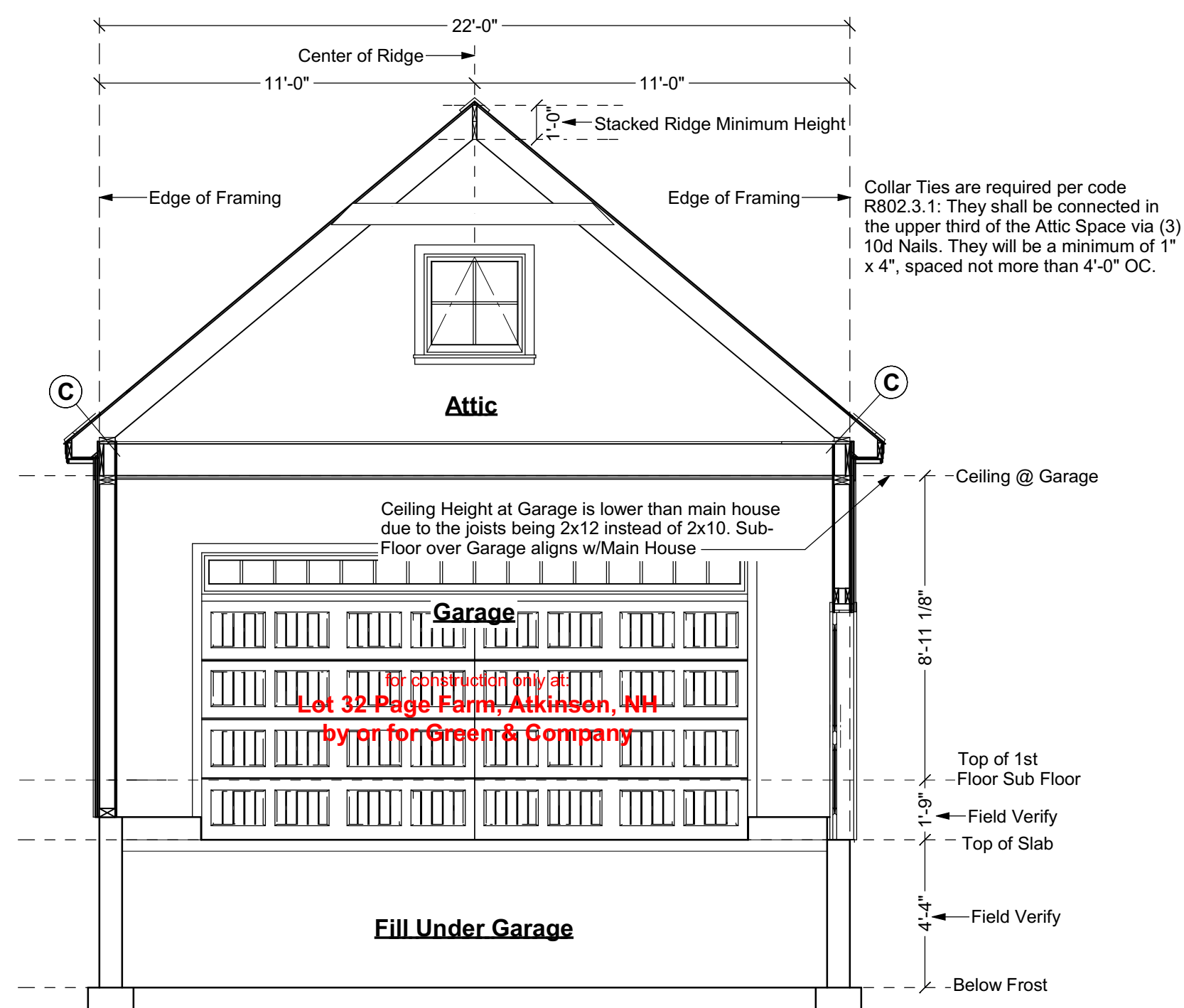
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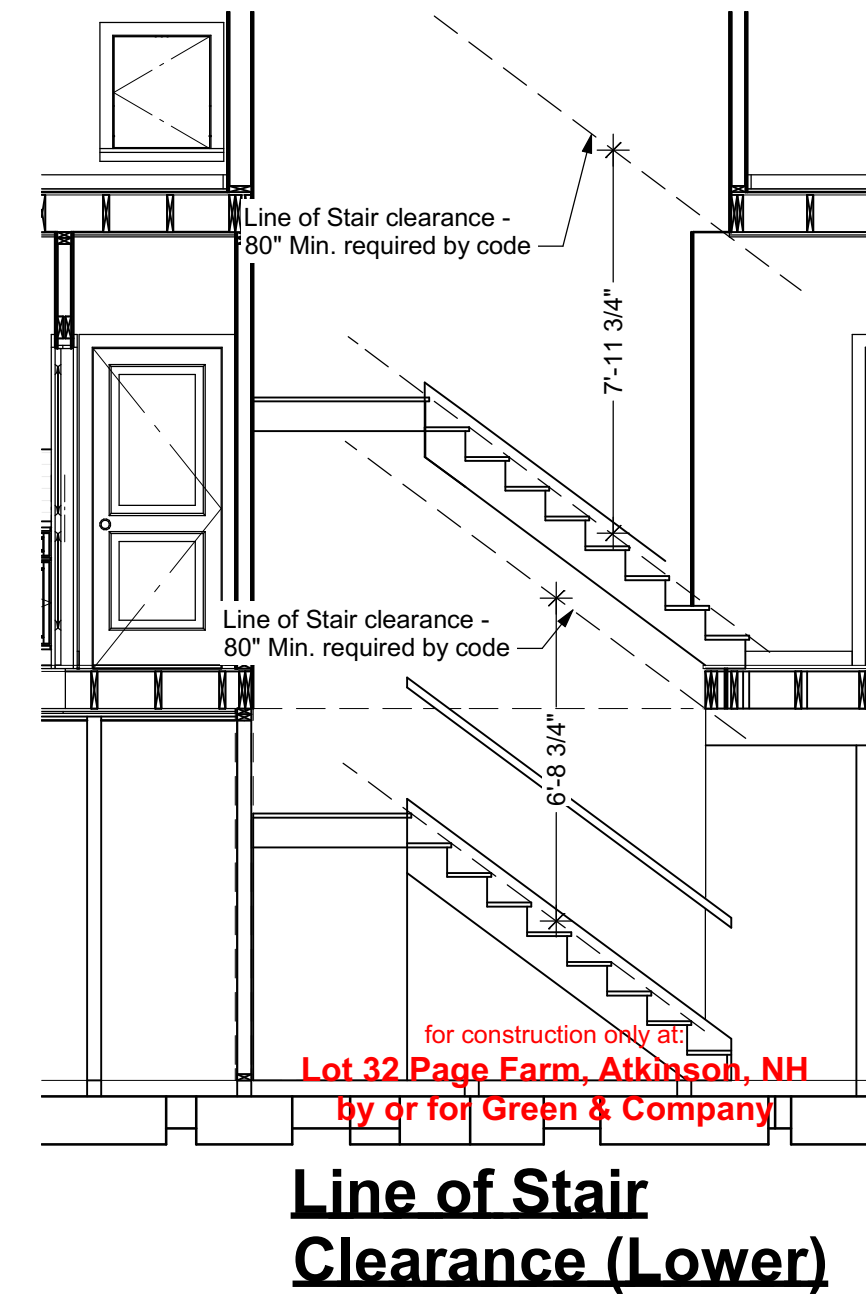




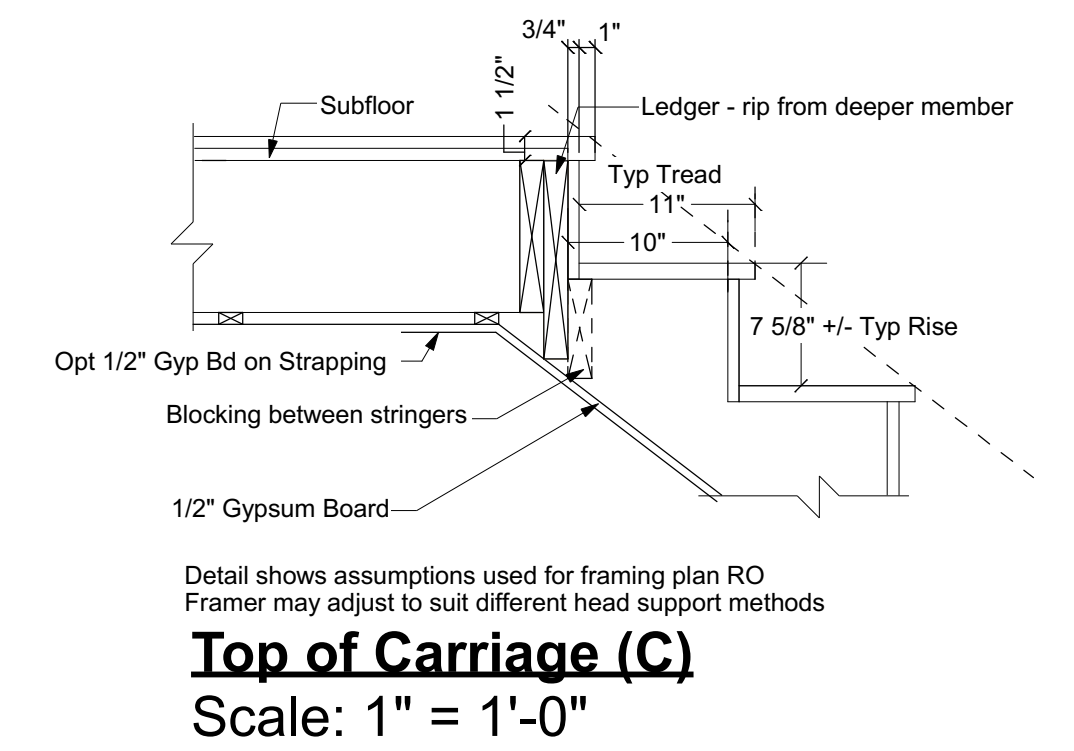
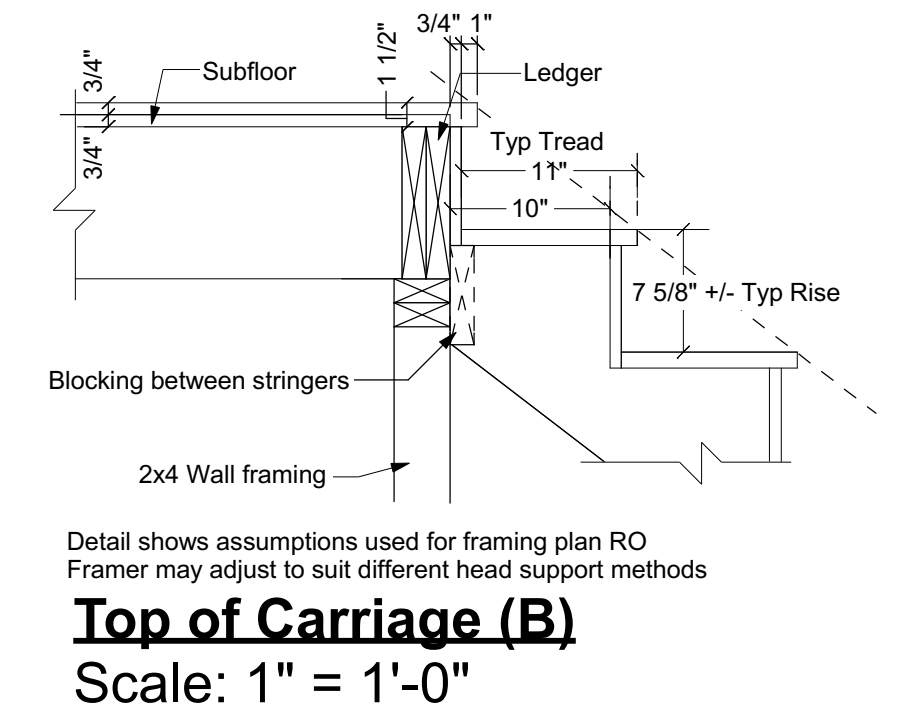
**3 Cross Section @ Garage**



**4 Cross Section @ Front Porch**



**Line of Stair Clearance (Lower)**



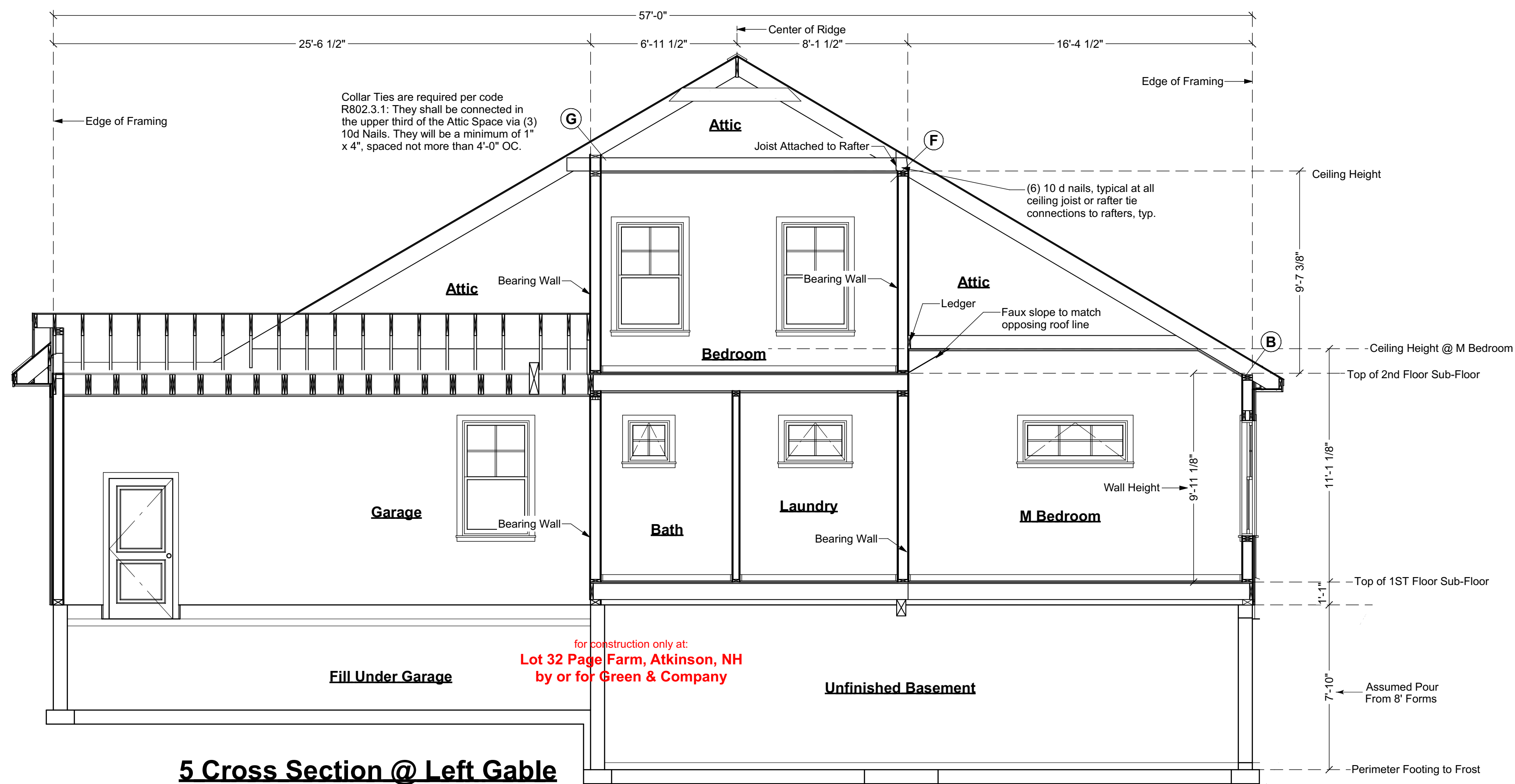
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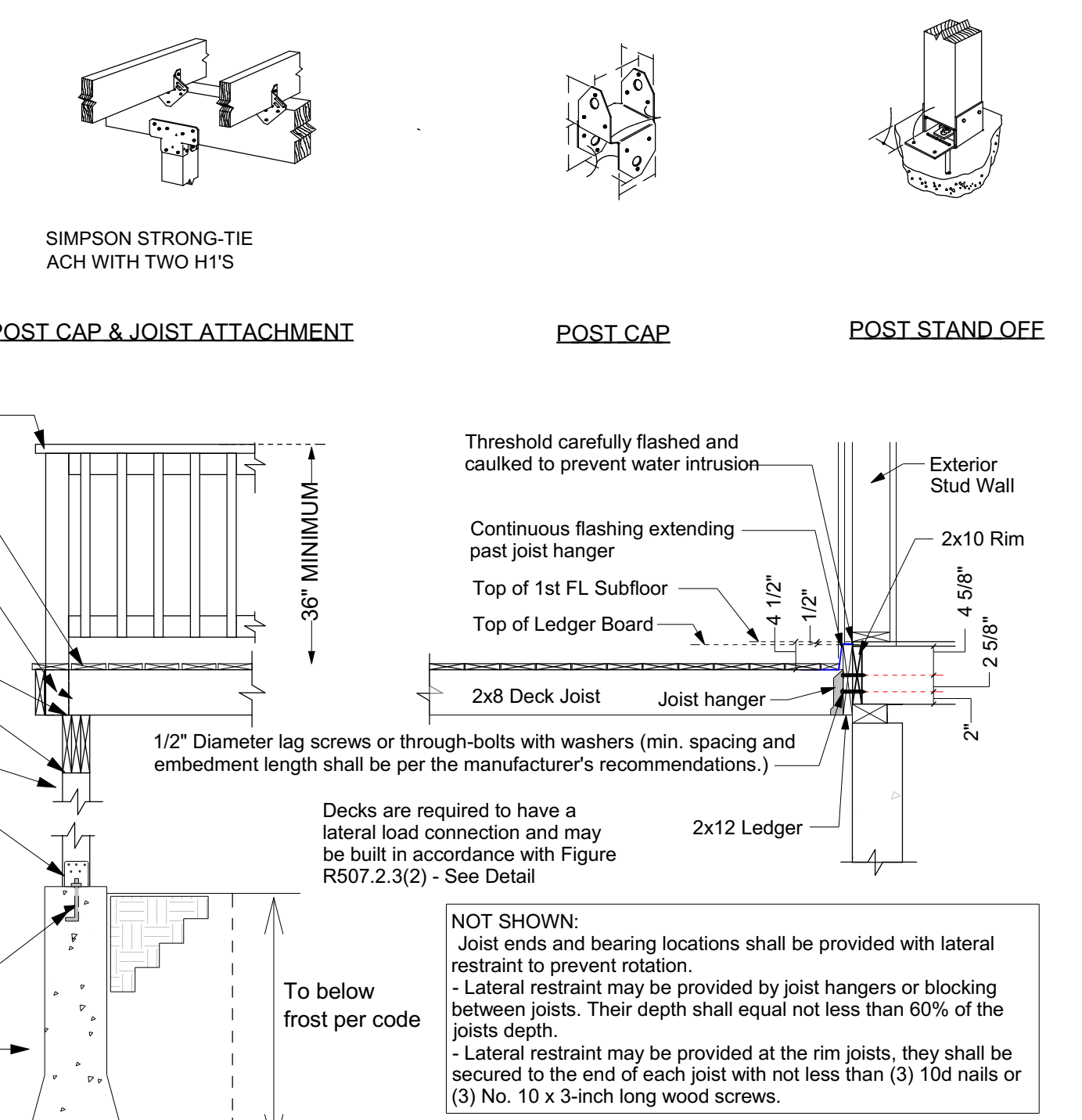
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5 Cross Section @ Left Gable



Deck Ledger Attachment Detail for Step Down

Scale: 1/2" = 1'-0"

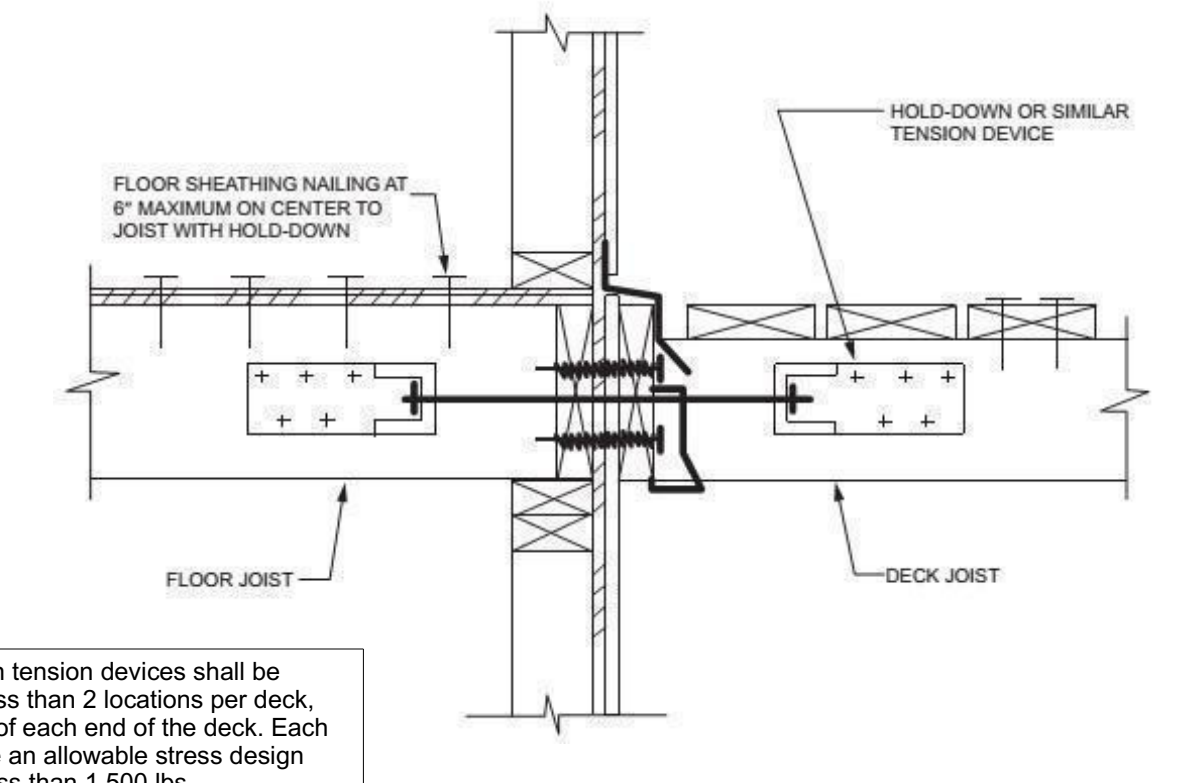
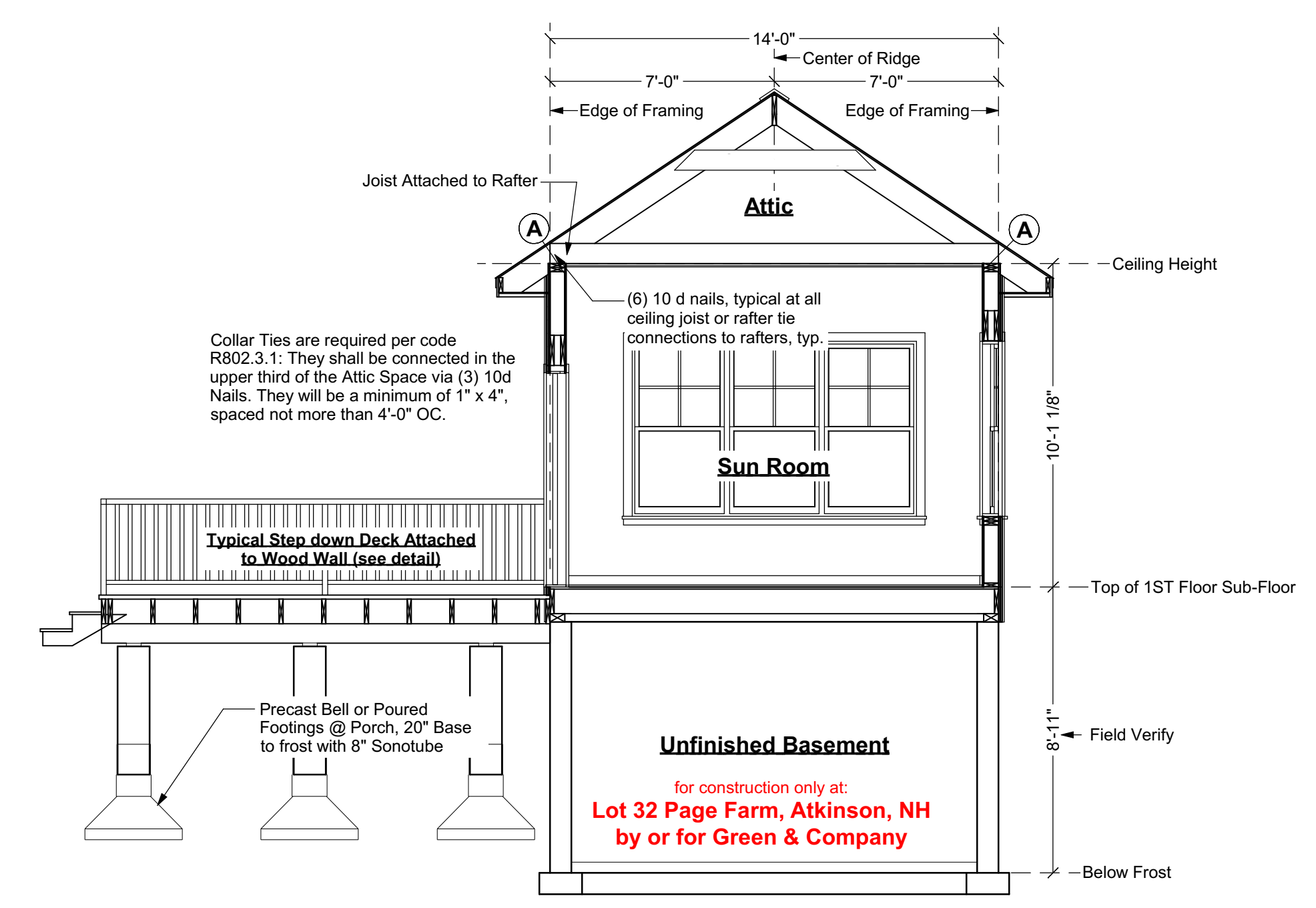
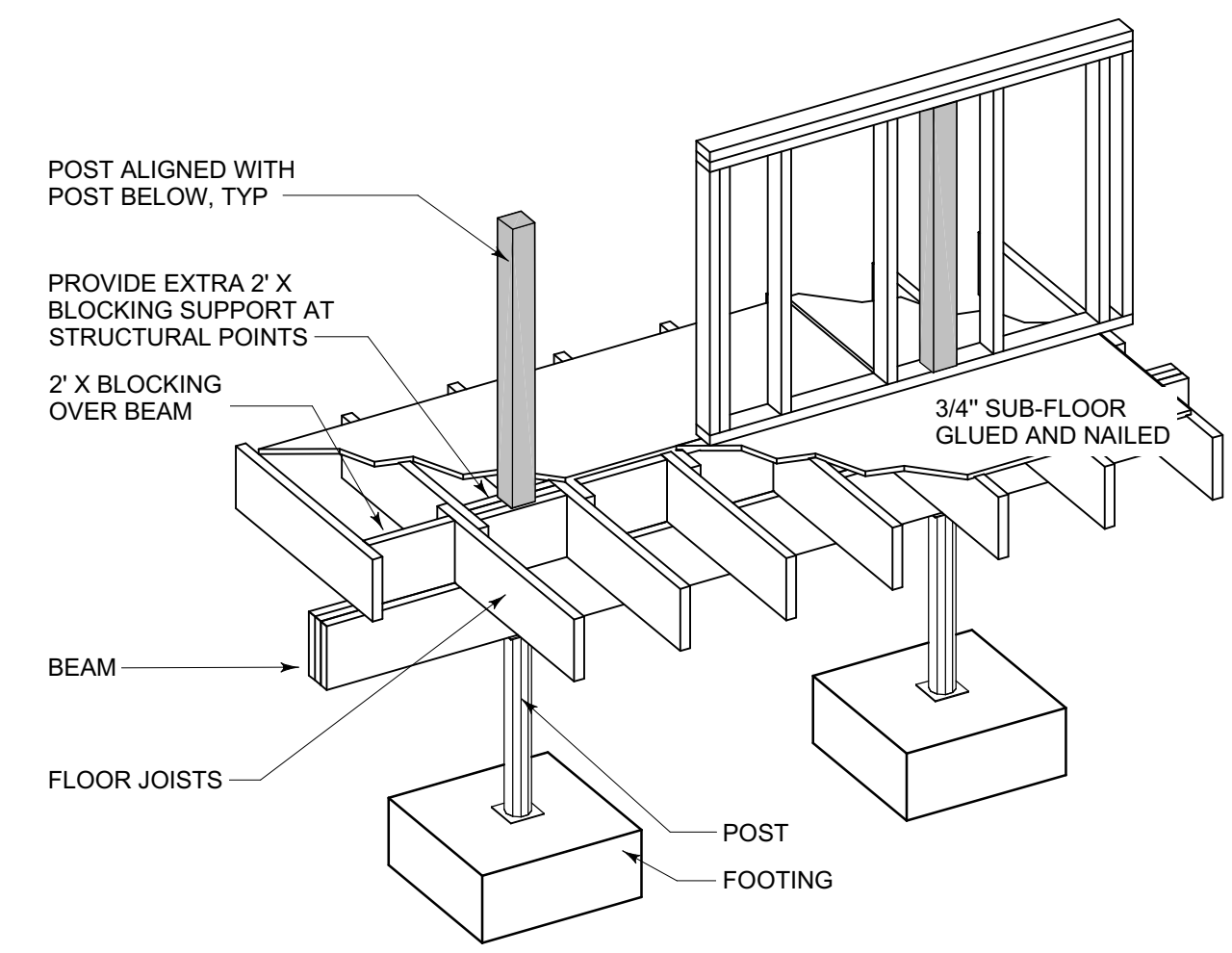
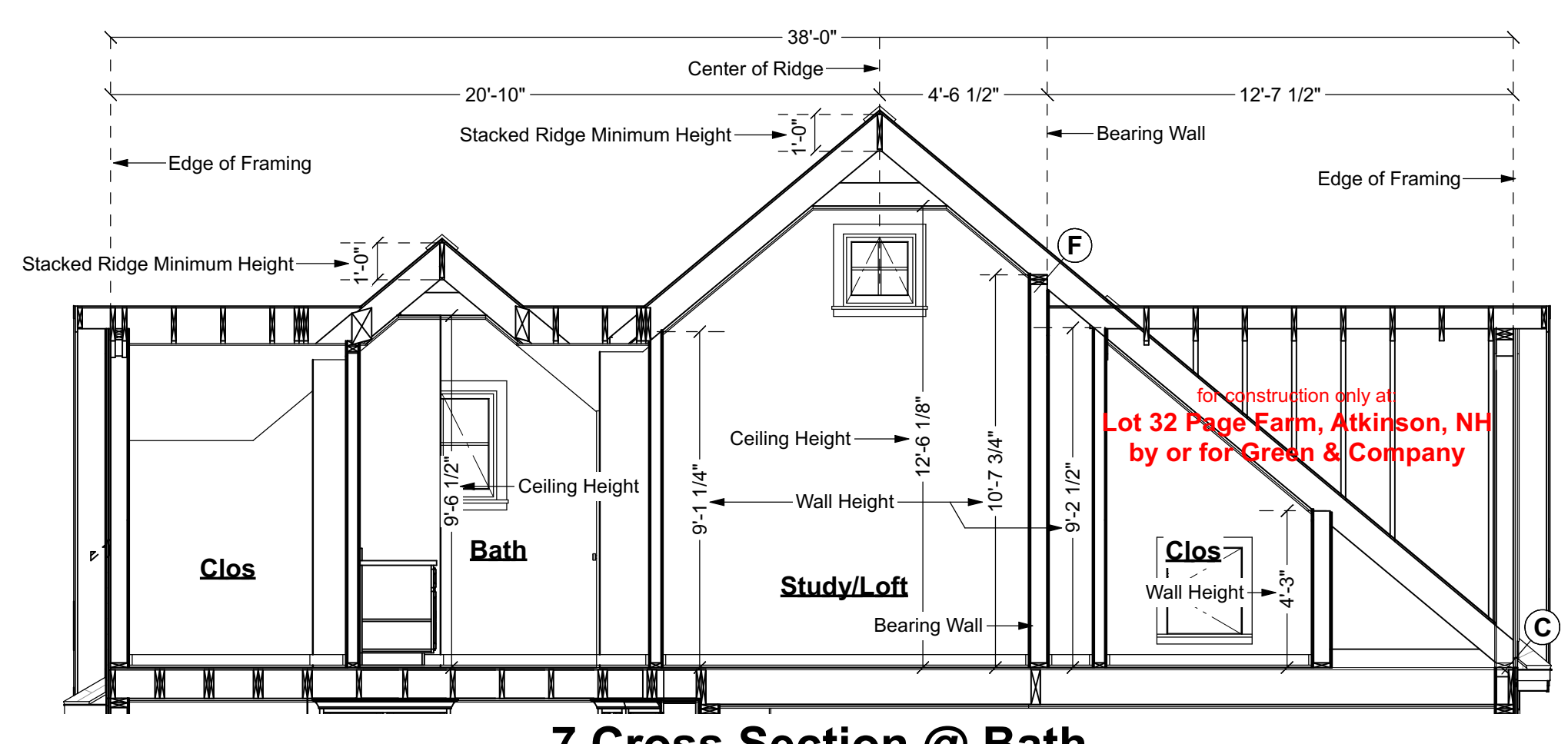


FIGURE R507.2.3(2) DECK ATTACHMENT FOR LATERAL LOADS

Follow manufacturer's instructions both for installation of joist hangers to joist and to beam. The illustration below, by Simpson Strong Tie, is provided as a courtesy. Consult their full manual for acceptable fastener sizes and other important instructions.



6 Cross Section @ Sun Room



7 Cross Section @ Bath

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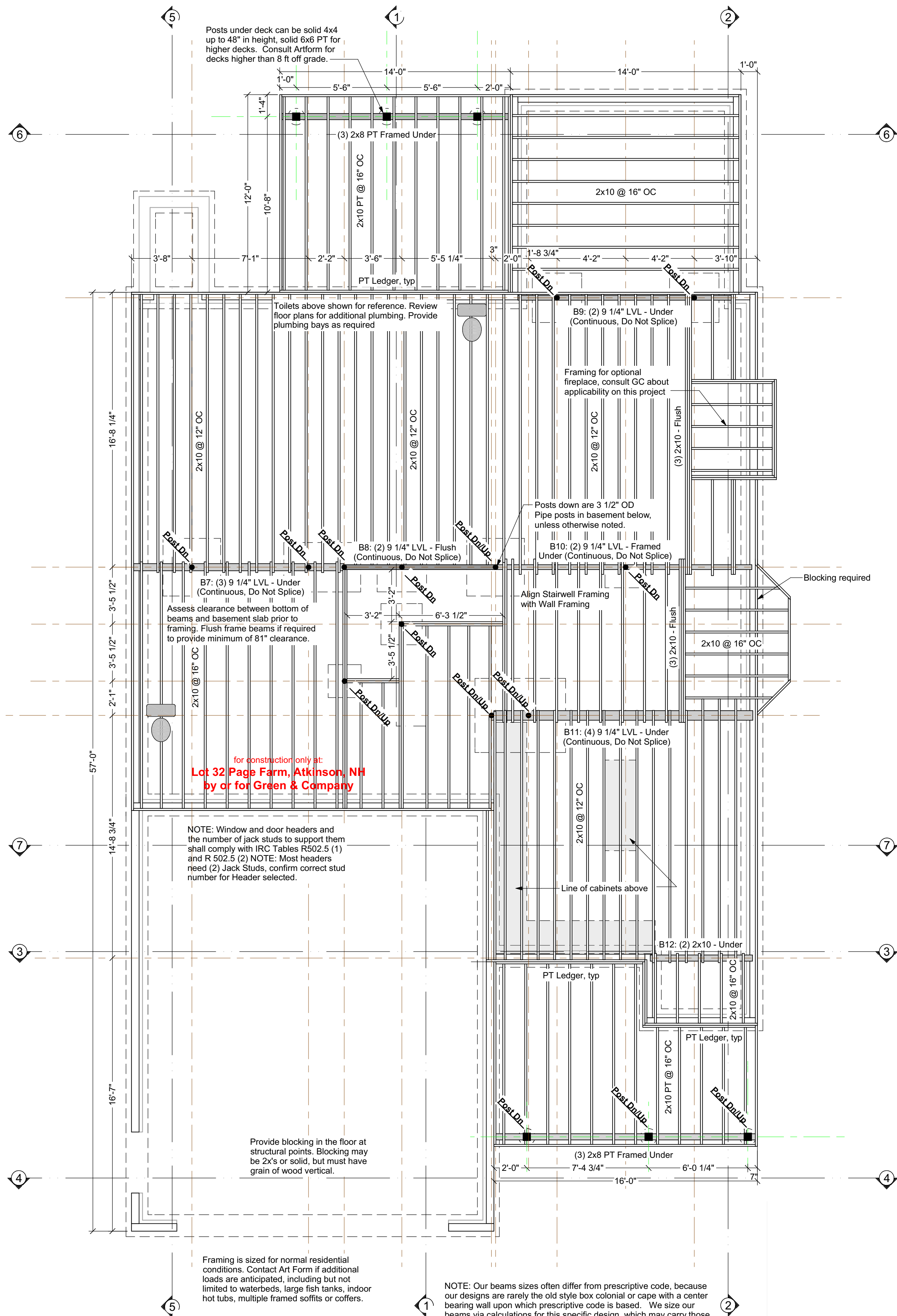
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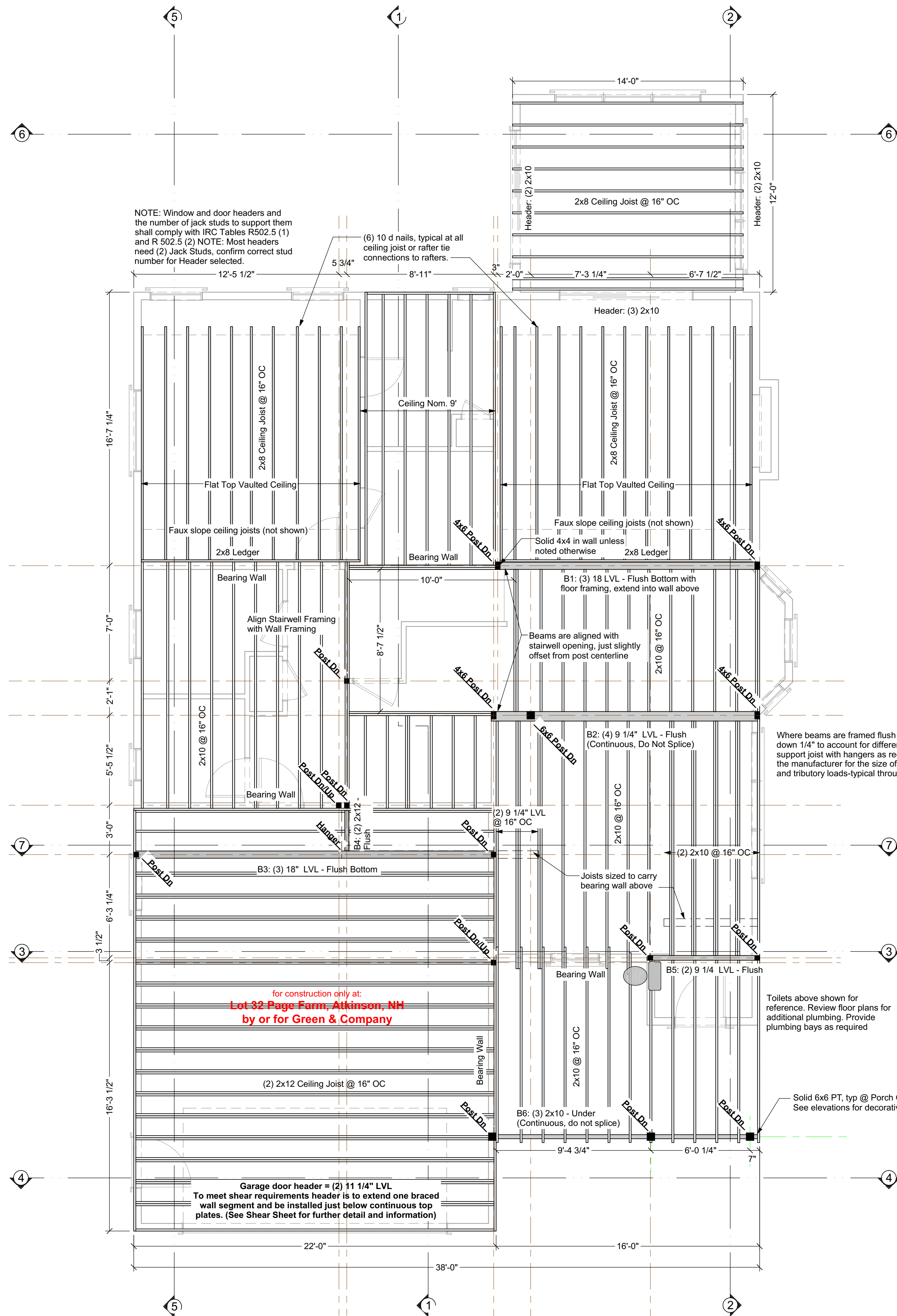
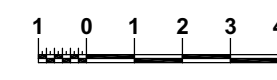
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### First Floor Framing

Structure designed for Snow Load of 55 PSF



### Second Floor Framing

Structure designed for Snow Load of 55 PSF



**Built-up Beams:**  
Unless otherwise noted, connect multiple 1 3/4" ply beams as follows:  
3 ply & up, fasteners are per side

- (2) 9 1/4" LVL:
  - Flush framed
    - (2) rows 3 3/8" TrussLock @ 24" oc, or
    - (2) rows SDS 1/4x3 1/2 @ 24" oc
  - Framed under (2) rows 10d nails @ 24" oc
- (2) 11 1/4" LVL:
  - Flush framed
    - (2) rows 3 3/8" TrussLock @ 19.2" oc, or
    - (2) rows SDS 1/4x3 1/2 @ 19.2" oc
  - Framed under (2) rows 10d nails @ 24" oc
- (2) 16" LVL or greater:
  - Flush framed
    - (3) rows 3 3/8" TrussLock @ 19.2" oc, or
    - (3) rows SDS 1/4x3 1/2 @ 19.2" oc
  - Framed under (2) rows 10d nails @ 24" oc
- (3) 9 1/4" LVL:
  - Flush framed
    - (2) rows 3 3/8" TrussLock @ 19.2" oc, or
    - (2) rows SDS 1/4x3 1/2 @ 19.2" oc
  - Framed under (2) rows 10d nails @ 24" oc
- (3) 11 1/4" LVL:
  - Flush framed
    - (2) rows 3 3/8" TrussLock @ 16" oc, or
    - (2) rows SDS 1/4x3 1/2 @ 16" oc
  - Framed under (2) rows 10d nails @ 24" oc
- (3) 14" LVL:
  - Flush framed
    - (3) rows 3 3/8" TrussLock @ 16" oc, or
    - (3) rows SDS 1/4x3 1/2 @ 16" oc
  - Framed under (2) rows 10d nails @ 24" oc
- (3) 16" LVL or greater:
  - Flush framed
    - (3) rows 3 3/8" TrussLock @ 16" oc, or
    - (3) rows SDS 1/4x3 1/2 @ 16" oc
  - Framed under (2) rows 10d nails @ 24" oc
- (4) 9 1/4" LVL:
  - Flush framed
    - (2) rows 5" TrussLock @ 16" oc, or
    - (2) rows SDS 1/4x6 @ 16" oc
  - Framed under (2) rows 10d nails @ 24" oc
- (4) 11 1/4" LVL:
  - Flush framed
    - (2) rows 5" TrussLock @ 16" oc, or
    - (2) rows SDS 1/4x6 @ 16" oc
  - Framed under (2) rows 10d nails @ 12" oc
- (4) 16" LVL or greater:
  - Flush framed
    - (3) rows 5" TrussLock @ 16" oc, or
    - (3) rows SDS 1/4x6 @ 16" oc
  - Framed under (2) rows 10d nails @ 12" oc

**Beam Substitutions:**  
(2) 9 1/4" LVL may replace a double or triple 2x10 beam. No other substitutions are allowed. Conventional lumber beams MAY NOT be substituted for LVL beams by any "rule of thumb". Substitutions must be calculated by either Artform or a structural engineer. If calculated by a structural engineer, provide stamped plans and/or calculations.

We specify LVL beams as built-up members to allow framers to use existing stock. You may substitute single piece LVLs of equivalent overall size for built-up members, unless otherwise noted.

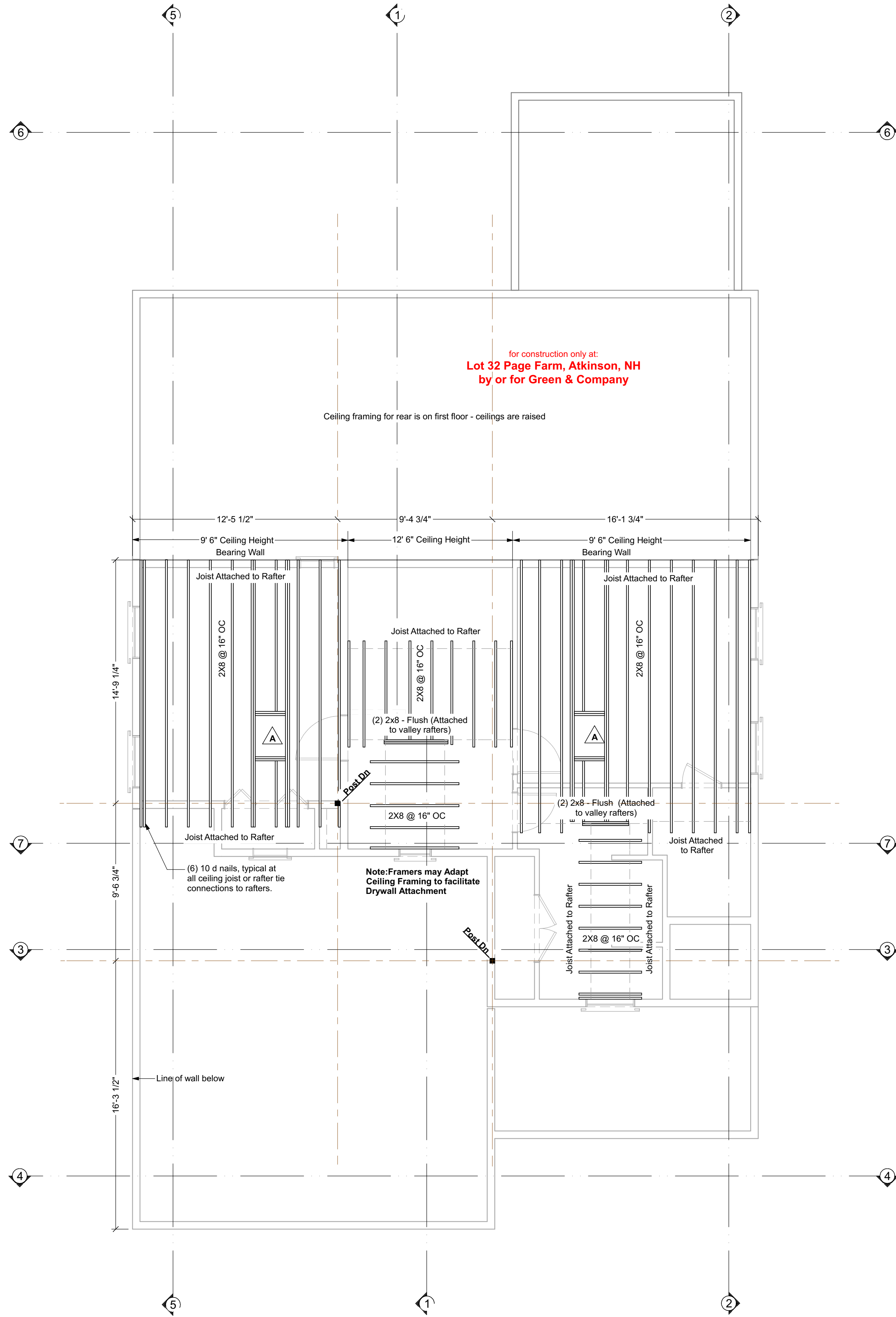
Built-up members MAY NOT replace single piece LVL's where specified.

Where a beam of 1 3/4" or less in width is specified as framed under, either brace at 48" or double member for lateral stability.

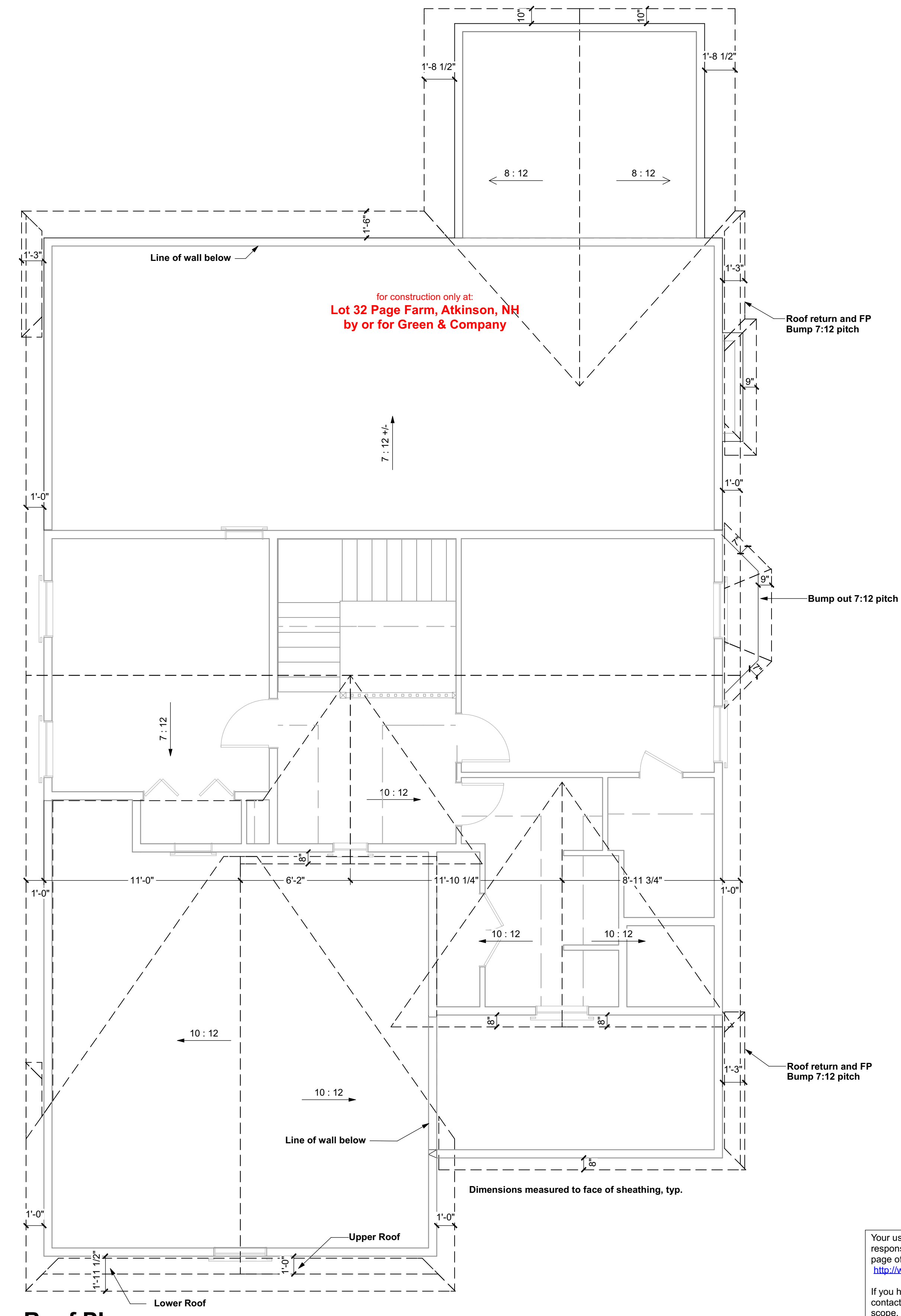
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**Ceiling Framing**  
Structure designed for Snow Load of 55 PSF



**Roof Plan**  
In case of conflict exterior trim alignment takes precedence over overhang dimensions

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TABLE R602.10.4.1 CONTINUOUS SHEATHING METHODS				
METHOD	MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA
CS-WSP	Wood structural panel	3/8"		6d common (2" x 0.113") nails at 6" spacing (panel edges) and at 12" spacing (intermediate supports) or 16 ga. x 1 1/4" staples at 3" spacing (panel edges) and 6" spacing (intermediate supports)

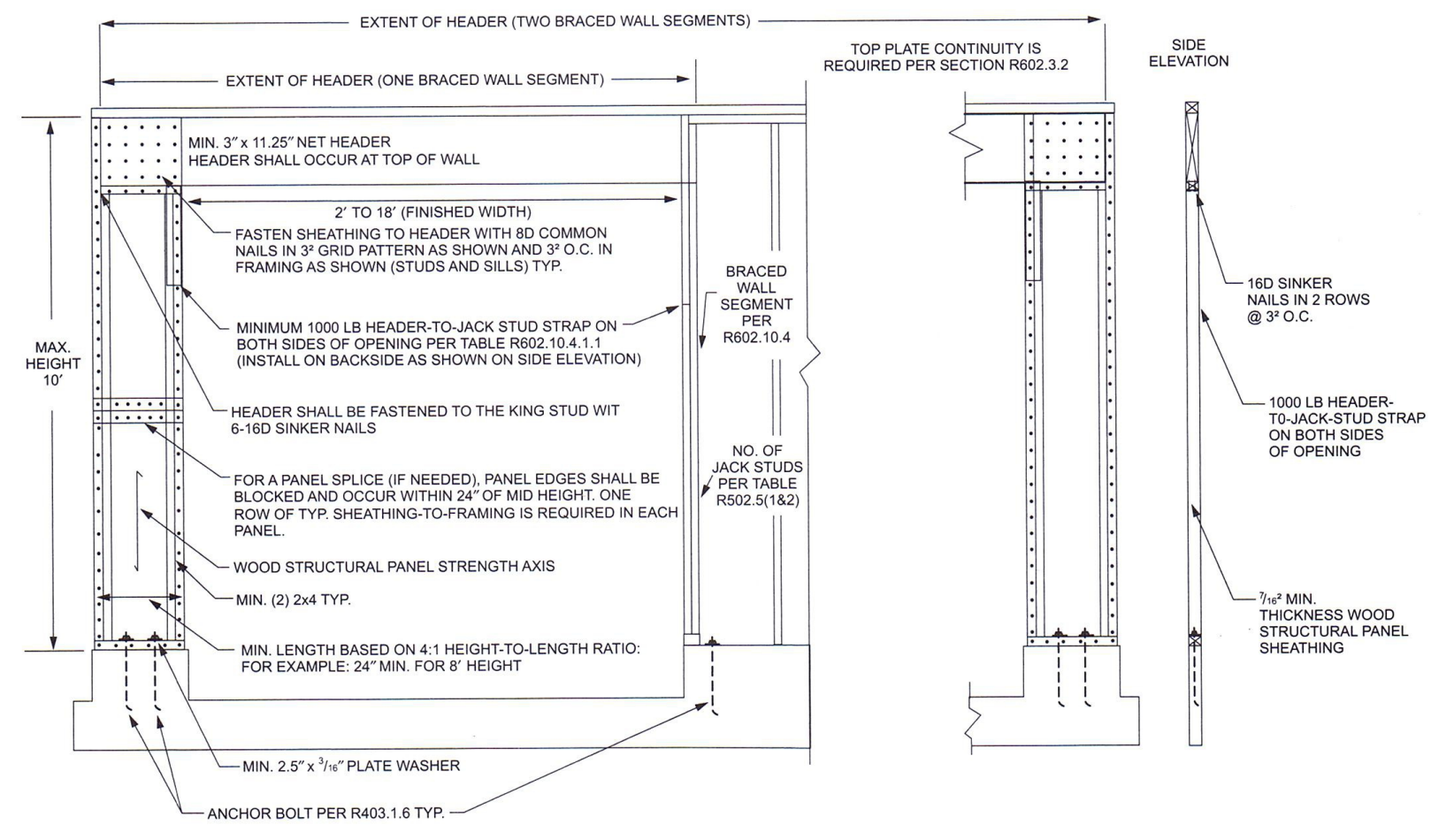


FIGURE R602.10.3.4  
METHOD PFG PORTAL FRAME AT GARAGE DOOR OPENINGS IN SEISMIC DESIGN CATEGORIES A, B AND C

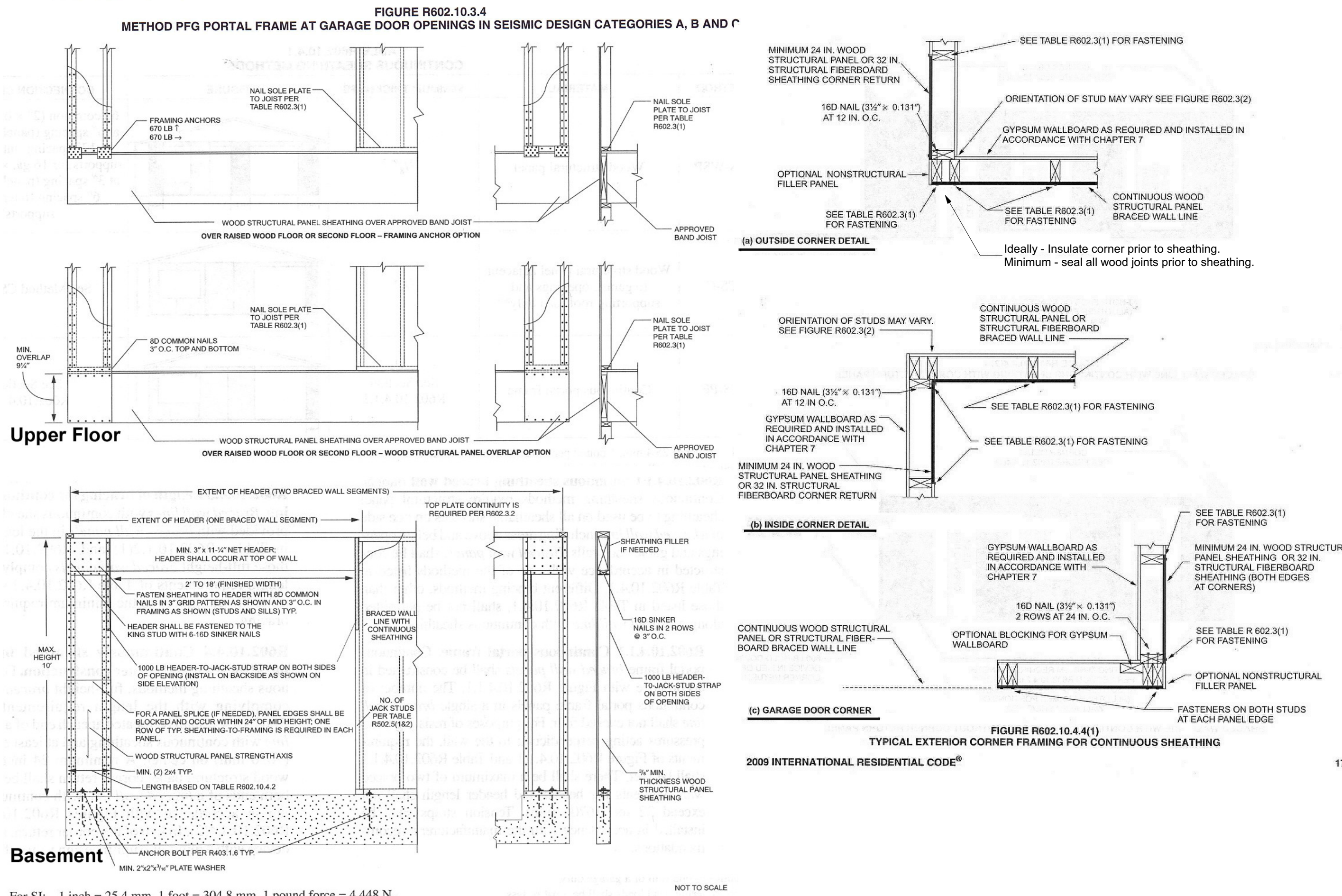
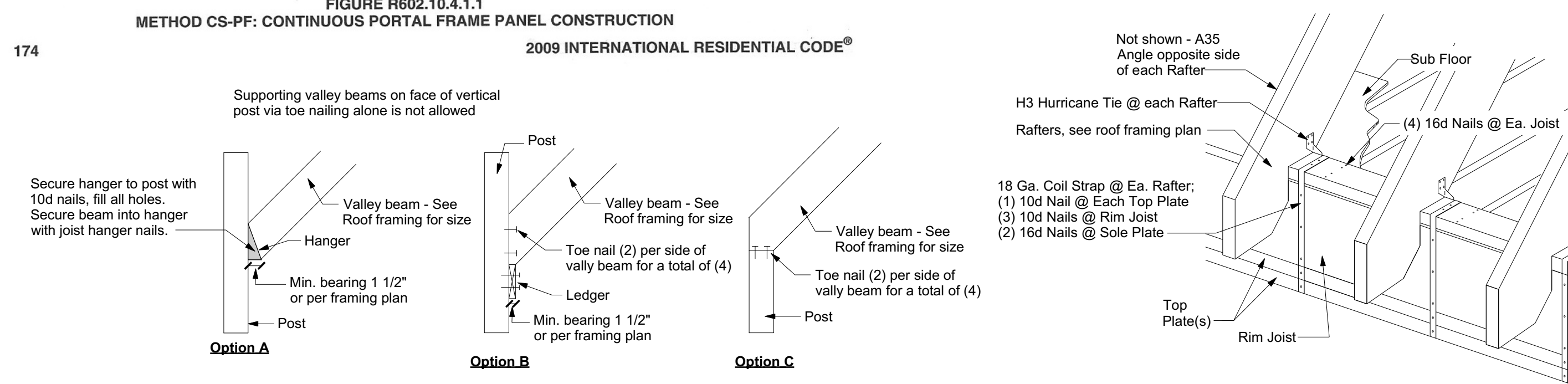


FIGURE R602.10.4.1  
METHOD CS-PF: CONTINUOUS SHEATHING CONSTRUCTION



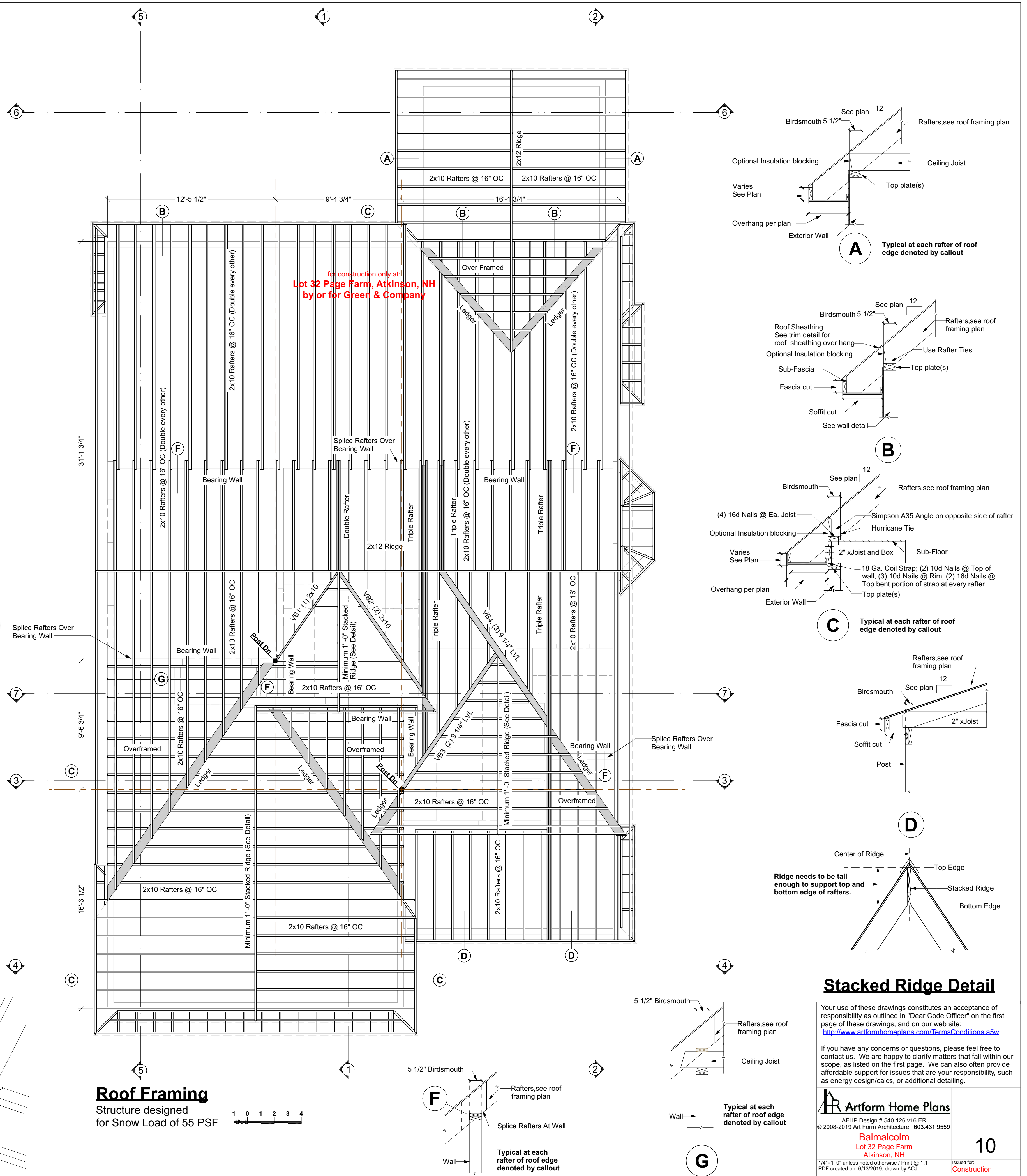
Valley Beam Attachment Options

### Shear Wall Details

Not to Scale

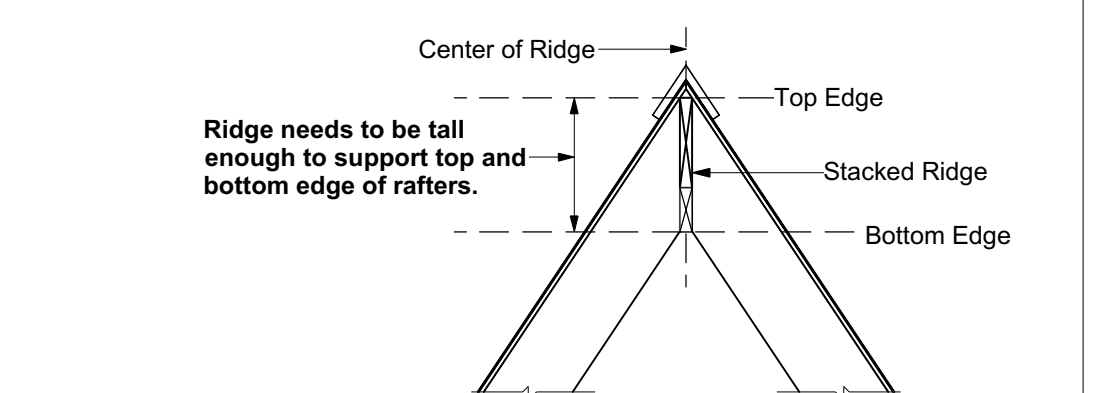
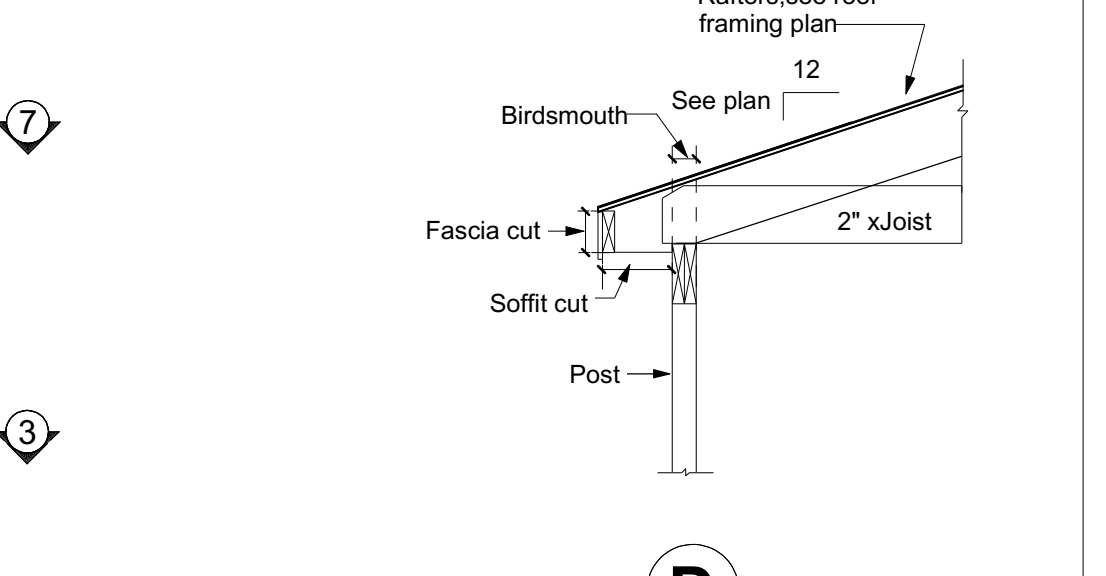
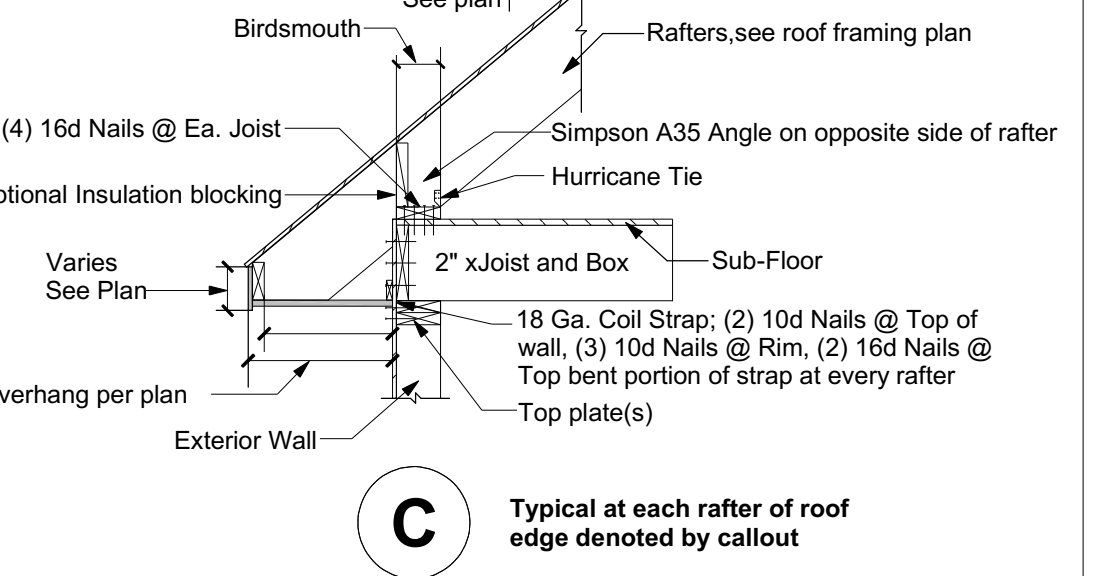
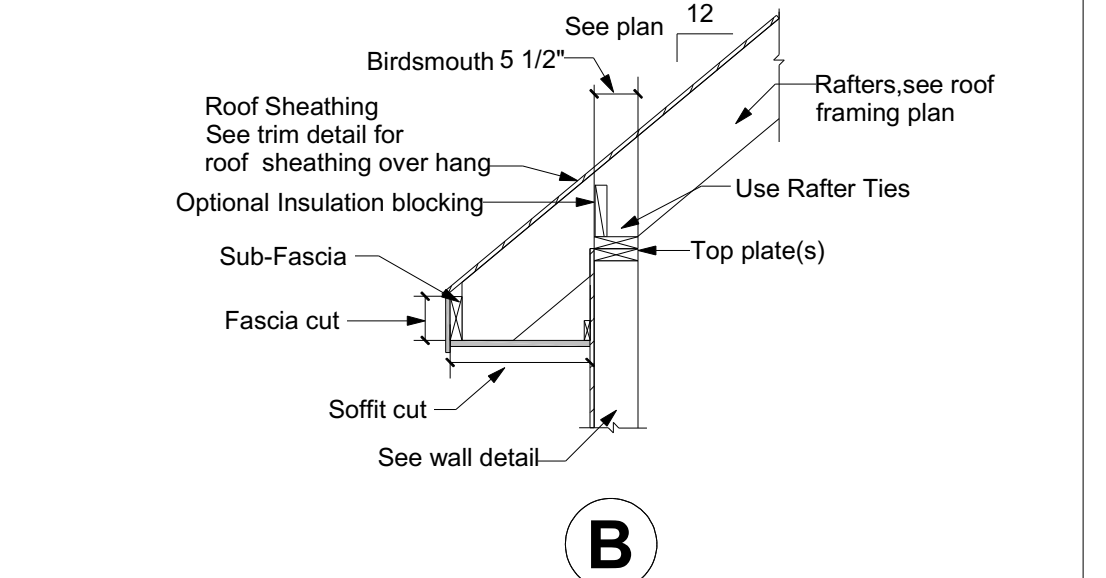
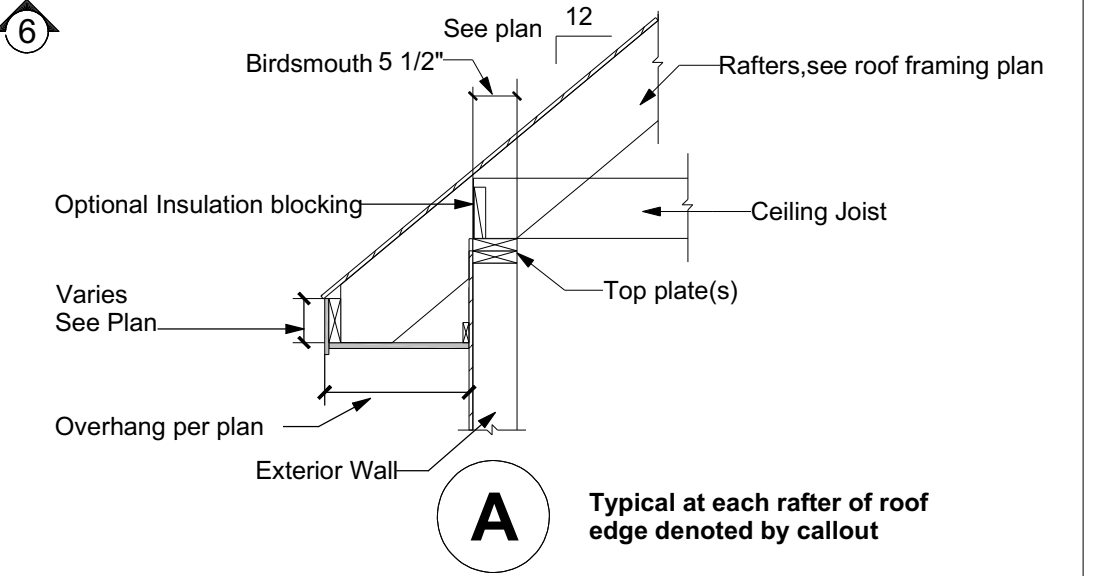
Notes:

- See plans for locations where shear panels are required.
- Details shown here are for one method and for typical conditions. An alternate shear method allowed per code or approved by the code officer may be substituted.
- If the method at left is used at Garages where width of panel is 20" or more, wall height may be 10 ft as shown in detail at left. Where panel width is 18"-20", wall height may be 9 ft. Where panel is 16"-18", wall height may be 8 ft. Where panel is less, consult architect for additional design.
- If the method at left is used, increase foundation wall height at front and for 2 ft along wall returns as required to meet maximum wood stud wall heights, and extend sheathing and siding in front of wall to achieve desired aesthetics. Untreated wood may not be in direct contact with concrete - use treated wood or provide a barrier, such as a rubber membrane or felt paper.
- Note that if sheathing is to be used as wall bracing all vertical joints in required braced wall panels must be blocked. [2009 IRC section R602.1.8]



### Roof Framing

Structure designed for Snow Load of 55 PSF



### Stacked Ridge Detail

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Wall Types

Exterior walls 2x6 wood stud
Interior walls 2x4 wood stud, unless noted otherwise

Wall Keys

- 2x wood studs on the flat
2x6 wood stud wall, 16" oc
Note: 2x4 wood stud wall, 16" oc unless otherwise noted

Key Notes

- 30" x 22" Minimum Attic Access
Field locate for plumbing or mechanical
Verify size of fixture or appliance
Center - Place door or window centered on wall
Smoke Detector
Heat Detector
Carbon Monoxide Detector

Dimensions

- Dimensions are to face of stud, unless noted otherwise.
Closets are 24" clear inside, unless dimensioned otherwise.

Square Footages

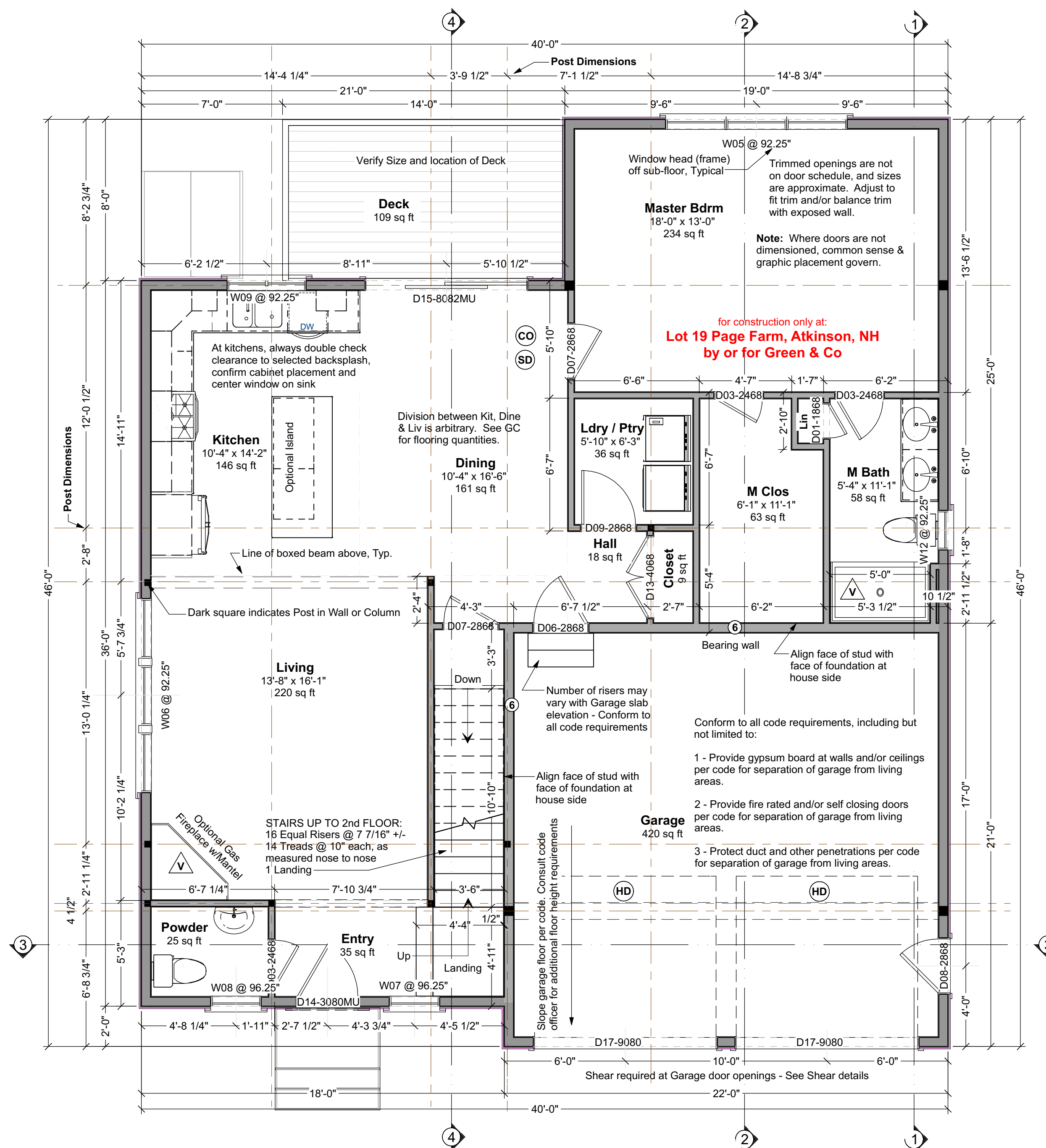
- Sq ft numbers are interior to room for use in calculating finishes.
Cabinets and fixtures not subtracted.
Add for doorways when floor finishes run through.

Notes

- Exterior walls 2x6 wood stud @ 16" oc. Provide insulation & vapor barrier conforming to state or local codes.
Interior walls 2x4 wood stud @ 16" oc, unless noted otherwise.
Roof - see structural for rafter sizes. Provide 5/8" exterior rated roof sheathing 15# roofing felt, ice & water shield at eaves and valleys.
Provide roof and/or ceiling insulation per code.
Provides smoke, carbon monoxide, and heat detectors where shown and where required by code and where required by local authorities.
Provide fire resistive materials where required by code, including but not limited to, firestopping at penetrations.
Compliance with code requirements for rooms size and clearances.
Shear is only called out where Continuous Portal Frame will not suffice.

General Design Notes

- Builder shall consult and follow the building code and other regulations in effect for the building site for all construction details not shown in these drawings.
Builder shall maintain a safe worksite, including but not limited to, provision of temporary supports where appropriate and adherence to applicable safety standards.
Design is based on the snow load listed on the framing plans, 100 mph basic wind speed, Exposure type B, soil bearing capacity of 2000 psf, and Seismic Category C, unless otherwise noted on the framing plans.



NOTE TO HOMEOWNER:
These construction plans ARE NOT a part of your construction contract with your builder, unless your P&S agreement specifies that they are. Your P&S and its attachments (like the builder's specifications or a review set of this design) describes what you and your builder agreed the builder would build for you.

First Floor Plan

Living Area this Floor: 1193 sq ft
9 ft Finished Ceiling Height

Gaira 40x46



Dear Code Officer,

These are predesigned home plans, designed to bring good design and construction drawings to people at more affordable prices and faster time frames than traditional architecture. Where traditional "internet" home plans disclaim all responsibility, we split responsibility between us (Artform) and the owner.

- 1 - Room sizes (Section R304)
2 - Ceiling Height (Section R305)
3 - Floor space & ceiling height at Toilet, Bath and Shower Spaces (Section R307)
4 - Hallway widths (Section R311.6)
5 - Door types & sizes (Section R311.2)
6 - Floor space in front of doors (Section R311.3)
7 - Stair width - The stairs in our designs will be a minimum of 36" wide measured wall surface to wall surface, allowing compliance with R311.7.1 with installation of correct handrail.
8 - Stairway headroom (Section R311.7.2)
9 - Stair treads and risers (Section R311.7.5)
10 - Landings for stairways (Section R311.7.6)
11 - Emergency Escape Window Sizes (Section R310.2.1, R310.2.2, R310.2.3 and R310.2.4). Casement windows may require manufacturer's emergency escape window hardware. Will also comply with NFPA 101.
12 - Structural Floor Framing (Section R502.3) Where dimensional lumber is shown, framing members will be sized according to this section of the code. Where engineered wood products are shown, those framing members will be sized according to the manufacturer's tables for loads and spans, or sizes will have been calculating using manufacturer's published materials properties.
13 - See structural sheets for additional notes.

The builder can and should add information to this set, such as Rescheck, a hand markup of our generic thermal and moisture section, additional information about doors and windows (such as fire rating, tempering, etc), foundation drops relative to site grading, and sometimes their chosen method of basement egress. These drawings are not intended to be used without that additional information.

Where a construction address is shown on the drawings, it is for copyright control only. We have not inspected the site, adapted the design to site specific laws (except where it says so in the drawings) or site or region specific climate conditions. Homeowner and/or Builder shall be responsible for thermal and moisture control strategies, materials choices and compliance with applicable laws and ordinances.

Please do feel free to call us with any questions. We can and do update our drawings and standard notes to address specific concerns, especially in jurisdictions where our clients will be building again.

Dear Everybody,

With these drawings a copyright license is granted for a single construction only at Lot 19 Page Farm, Atkinson, NH by or for Green & Co. This is a License to Build, and does not include a License to Modify, except as required to conform to building code or fulfill builder's/owners responsibilities.

Permissible uses of these drawings:

- All activities associated with construction at the listed address.
Pricing or preliminary discussions with zoning or code officials for construction at other addresses, with prior notification to Artform Home Plans - just use the Contact form on the web site - http://www.artformhomeplans.com/contact.a5w

Not Permitted:

- Application for any permits or other approvals for construction at properties other than the listed address, including but not limited to construction, zoning, conservation, or design review.
Modification of the basic design.

Use of these drawings outside these parameters is a violation of federal copyright law, punishable by both civil action and criminal prosecution, as it is stealing or enabling theft of "intellectual property". Making modifications to plans, even significant ones, does not change this, under copyright law, that's considered "derivative works".

We can provide drawings suitable for use in obtaining design or zoning approvals without incurring the expense of a full set of construction drawings. Contact us for more information.
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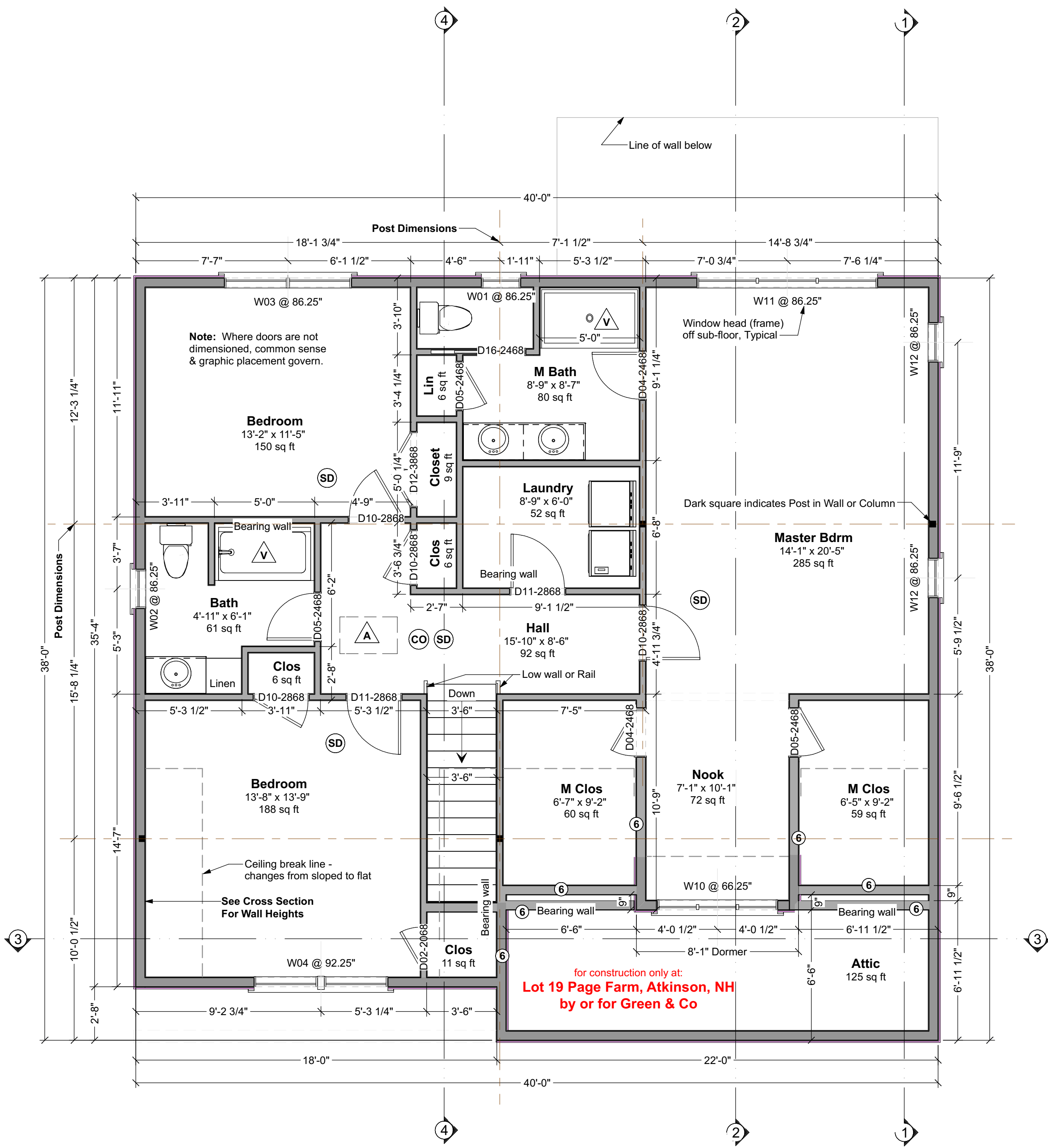
These drawings are intended for use by an experienced professional builder in responsible charge of the entire project, including but not limited to mechanical, electrical and sitework. Any additional adaptation for these trades or other trades must be determined prior to start of construction. Contact Artform for any adjustments needed.

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Lot 19 Page Farm
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Construction

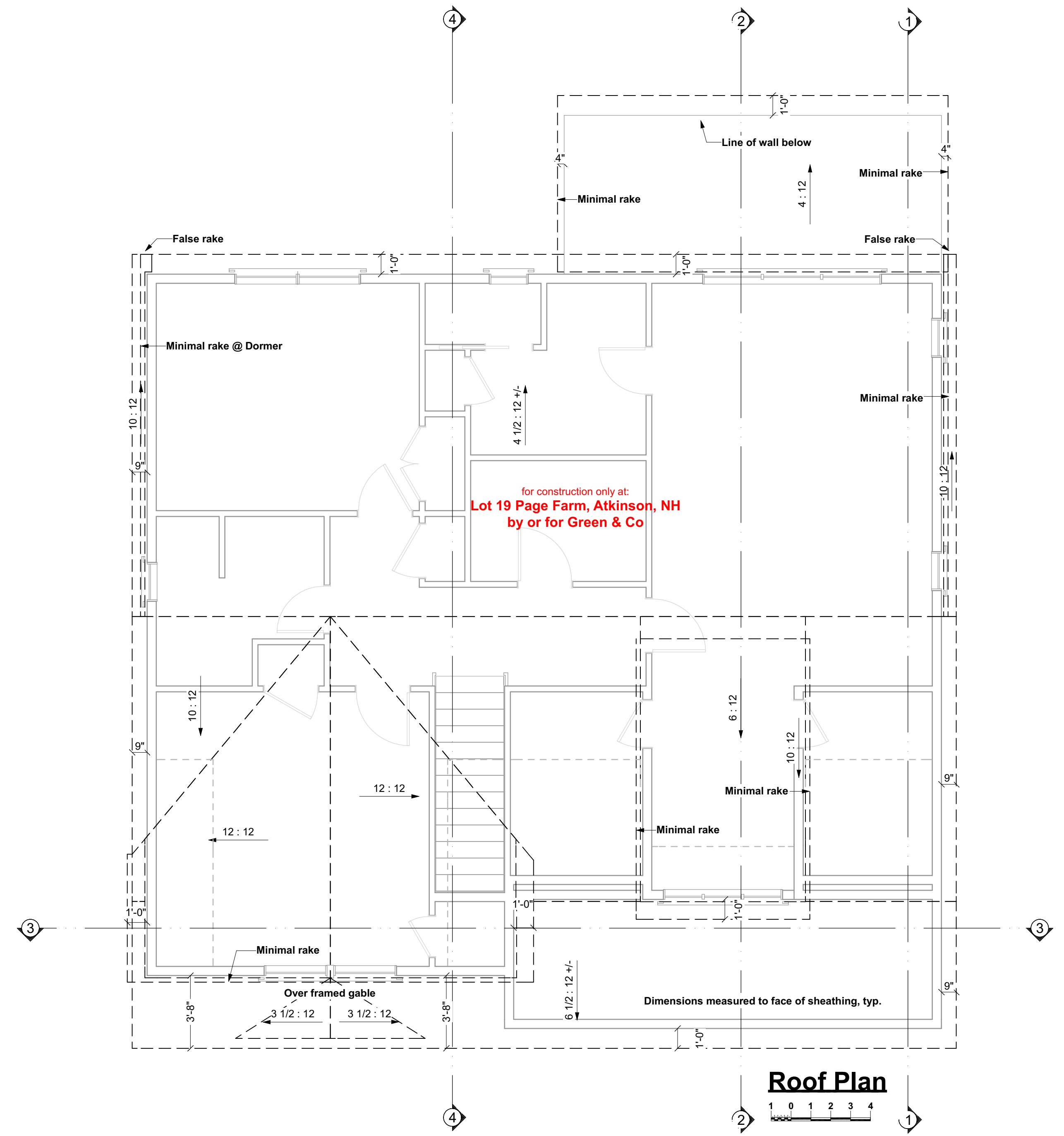




### Second Floor Plan



Living Area this Floor: 1321 sq ft  
 8 ft Finished Ceiling Height



### Roof Plan



#### Door & Window Notes

- Rated Doors:** Provide fire rated and/or self-closing doors where required by local codes or local authorities
- Trimmed Openings:** Trimmed openings not shown on schedule. See Plan.
- Window Tempering:** Provide tempered windows where required by local codes or local authorities. Tempering column provided here for convenience. Windows have not been reviewed for tempering requirements.
- Window RO's:** 1/4" or 1/2" on each of 4 sides allowed for window RO's, typical. Review framing size vs RO size. Adjust per manufacturer's requirements and/or builder preference.
- Egress Windows:** Provide minimum one door or window meeting egress requirements in basement, in each sleeping room, in each potential sleeping room, and other locations required by local code, in sizes required by local code. Note that casement windows coded by manufacturer as meeting IRC 2015 egress requirements typically need to be ordered with specific hardware. Emergency Escape Window Sizes (Section R310.2.1, R310.2.2, R310.2.3 and R310.2.4). Will also comply with NFPA 101.
- Basement Windows:** Add basement windows as required to meet state or local code requirements, including but not limited to egress and light/ventilation.
- Skylights:** Skylights are not shown on this schedule, but may be required. Consult builder and/or see floor plan.
- Minimum window sill height:** IRC 2015 requires that floor window sills be 24" from floor. Confirm bottom of window opening relative to frame. Conform to IRC 2015 R312.1.

NUMBER	QTY	FLOOR	SIZE	WIDTH	HEIGHT	TYPE	COMMENTS
D01	1	1	1868 L IN	20"	80"	HINGED	
D02	1	2	2068 L IN	24"	80"	HINGED	
D03	3	1	2468 R IN	28"	80"	HINGED	
D04	2	2	2468 R IN	28"	80"	HINGED	
D05	3	2	2468 L IN	28"	80"	HINGED	
D06	1	1	2868 R EX	32"	80"	HINGED	
D07	2	1	2868 R IN	32"	80"	HINGED	
D08	1	1	2868 L EX	32"	80"	HINGED	
D09	1	1	2868 L IN	32"	80"	HINGED	
D10	4	2	2868 R IN	32"	80"	HINGED	
D11	2	2	2868 L IN	32"	80"	HINGED	
D12	1	2	3868 L R IN	44"	80"	DOUBLE HINGED	
D13	1	1	4068 L R IN	48"	80"	DOUBLE HINGED	
D14	1	1	3080	36"	95 7/8"	MULLED UNIT	HINGED W/TRANSOM
D15	1	1	8082	96"	96"	MULLED UNIT	SLIDER W/TRANSOM
D16	1	2	2468 R	28"	80"	POCKET	
D17	2	1	3080	108"	96"	GARAGE	

NUMBER	QTY	WIDTH	HEIGHT	R/O	EGRESS	TEMPERED	DESCRIPTION	COMMENTS
W01	1	23 1/2"	35 1/2"	24"X36"			DOUBLE HUNG	
W02	1	23 1/2"	47 1/2"	24"X48"			DOUBLE HUNG	
W03	1	76"	61 1/2"	76 1/2"X62"	YES	YES	2X DH	
W04	1	80"	61 1/2"	80 1/2"X62"			2X DH	
W05	1	108"	61 1/2"	108 1/2"X62"	YES		3X DH	
W06	1	115 1/2"	61 1/2"	116"X62"			3X DH	
W07	1	30"	41 1/2"	30 1/2"X42"		YES	SINGLE CASEMENT-HR	
W08	1	30"	41 1/2"	30 1/2"X42"			SINGLE CASEMENT-HL	
W09	1	47"	47 1/2"	47 1/2"X48"			DOUBLE CASEMENT-LHL/RHR	
W10	1	72"	23 1/2"	72 1/2"X24"			TRIPLE CASEMENT-LHL/RHR	
W11	1	108"	47 1/2"	108 1/2"X48"	YES		TRIPLE CASEMENT-LHL/RHR	
W12	3	23 1/2"	23 1/2"	24"X24"			SINGLE AWNING	

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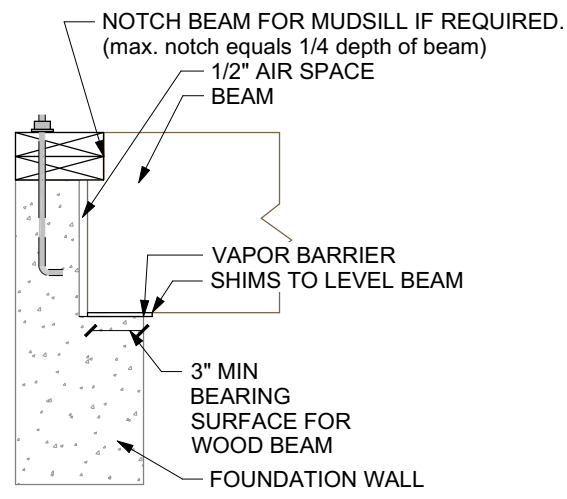


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**Gaina 40x46**  
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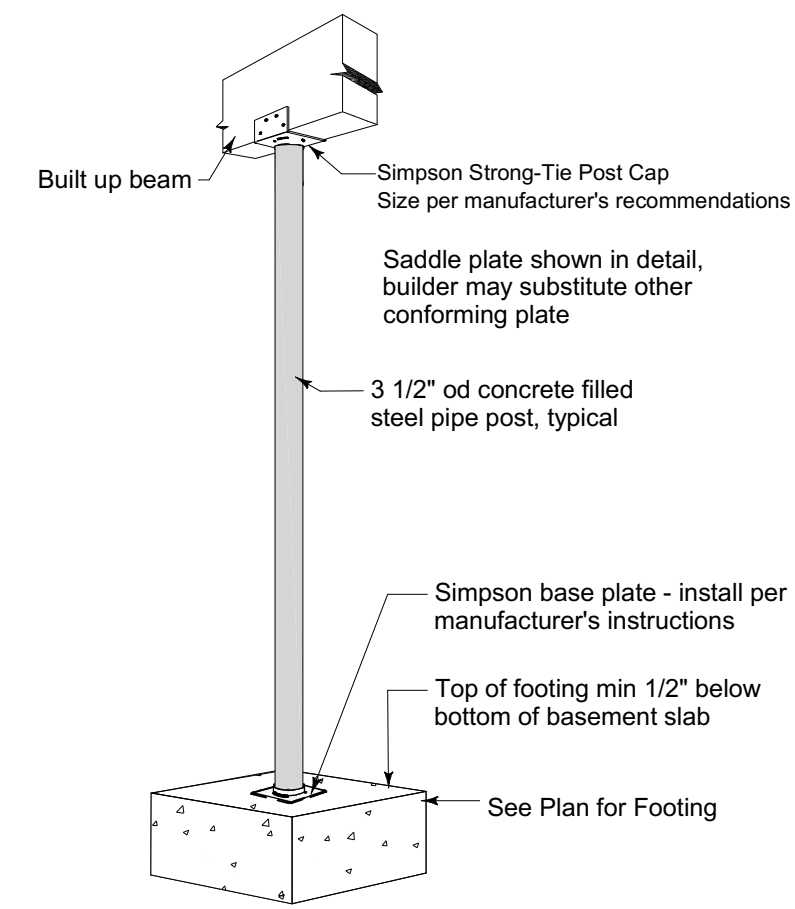
Foundations

- No footing shall be poured on loose or unsuitable soils, in water or on frozen ground.
- All exterior footings to conform to all applicable code requirements for frost protection.
- All concrete shall have a minimum compressive strength of at least 5000 PSI at 28 days.
- Foundation anchorage to comply with IRC 2015 Section R403.1.6, it shall consist of minimum size 1/2" diameter anchor bolts with 3/16" x 2" x 2" washers at a maximum of 72" oc for two stories or 48" oc for more than two stories, max of 12" from each corner, min of 2 bolts per wall. Anchor bolt shall extend 7" into concrete or grouted cells of concrete masonry units. Be aware that a garage under may be counted by your code officer as a story. Additional anchorage may be required at braced walls.
- Foundation reinforcing steel is to be installed in accordance with all applicable provisions of IRC 2015 Section 404.1.3.2



Beam Pocket

Scale 1/2"=1'-0"



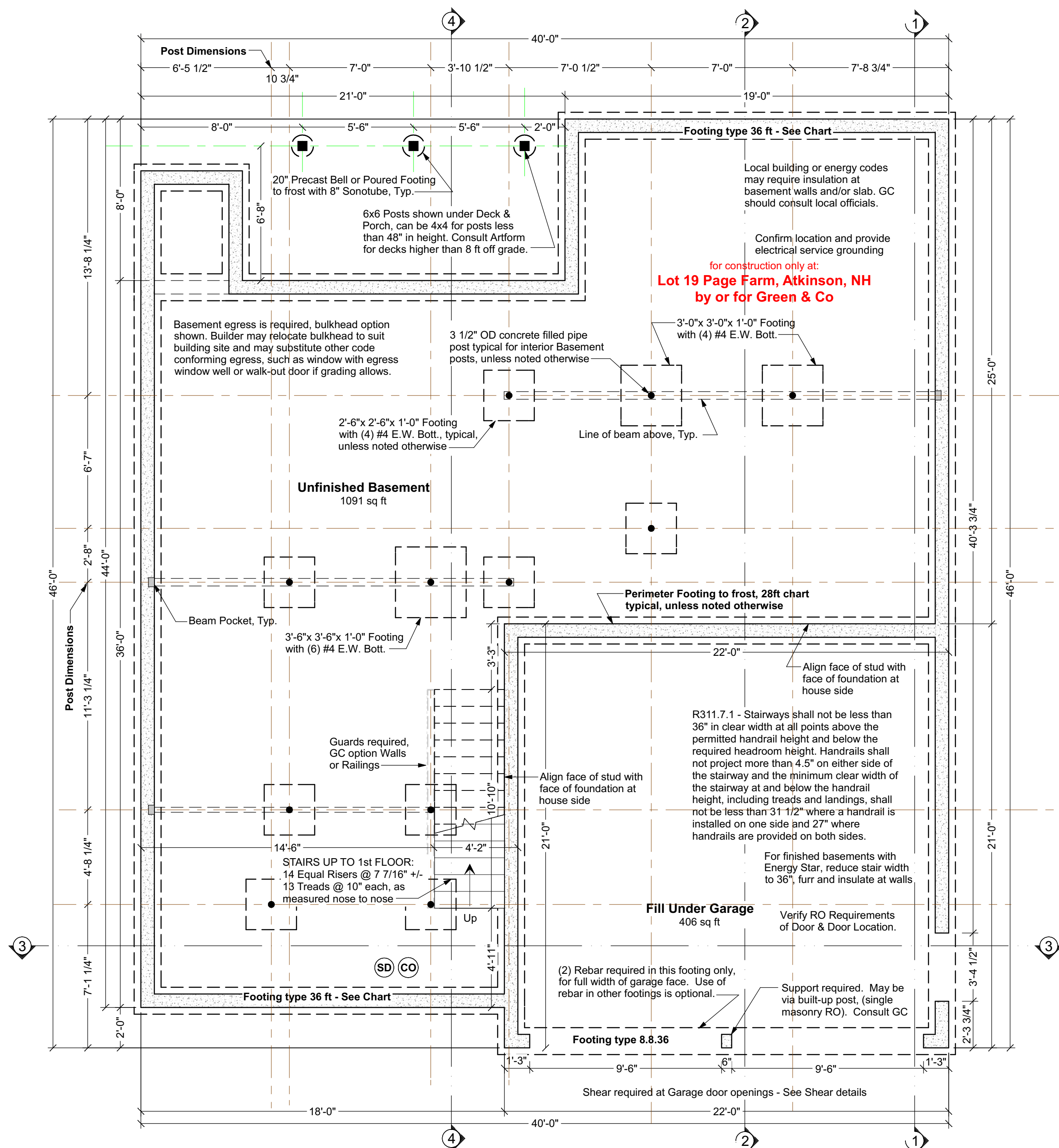
Typical Basement Post

Not to Scale

Foundation Contractor Check List

Confirm or review the following prior to forming & pouring foundation

- Initials Date Checked
- Confirmed soil bearing
  - Checked w/GC for added foundation steps to suit grade
  - Confirm sill plate thickness (foundation bolts to extend through all)
  - Confirmed garage door size
  - Checked w/GC for added basement windows
  - Checked w/GC for added basement man doors
  - Confirmed sizes & locations mech/plbg penetrations
  - Confirmed sizes and locations of beams w/GC, added or adjusted beam pockets
  - Confirmed location and installed electrical service grounding - See GC for location



Foundation Plan

Structure designed for Snow Load of 55 psf  
Ceiling Height may vary: 8 ft forms

TYPICAL PERIMETER FOUNDATION WALL:

- 8" poured concrete, 8 ft forms, min 7'-10" finished, with total of 3 rebar, as follows:
  - (1) #4 rebar @ vertical midpoint. Omit this rebar at walls 4 ft high or less.
  - (1) #4 rebar, min 3" from bottom or per code
  - Lap corners & splices of rebar per code.
  - Secure sill to foundation with 1/2" diameter anchor bolts that extend 7" into concrete and tightened with a nut and washer @ 6" oc & max 12" from each corner & each end @ wood sill splices - if built-up sill, bolts must extend through all sill plates or straps must secure all sill plates.

TYPICAL PERIMETER FOOTING:

- Use Footing chart(s) below to verify that depth of home matches chart. Depth is foundation dimension eave to eave. Contact Artform Home Plans if you believe the chart does not match the plan.
  - Select row for snow load shown on the structural plans.
  - Select a column for soil bearing pressure based on soil type and/or consultation with code officer.
  - The required footing size is at the intersection of the Snow Load and Soil PSF. Rebar is not required. Key or pin foundation wall to footing per code.
- FAQ - Adding rebar to footings does not reduce the required width. Rebar affects performance with earth movement, like an earthquake and has near zero effect on bearing capacity.

8" wall - Footing Size for 28 Ft wide house			
Snow Load	Story and type of structure	Load Bearing Value of Soil (PSF)	
		1500 PSF	2000 PSF 3000 PSF
50 PSF	2 Story - Plus Basement	23 x 7.5	17 x 6 12 x 6
55 PSF	2 Story - Plus Basement	23.5 x 7.75	17.25 x 6 12 x 6
60 PSF	2 Story - Plus Basement	24 x 8	17.5 x 6 12 x 6
65 PSF	2 Story - Plus Basement	24.5 x 8.25	17.75 x 6 12 x 6
70 PSF	2 Story - Plus Basement	25 x 8.5	18 x 6 12 x 6

8" wall - Footing Size for 32 Ft wide house			
Snow Load	Story and type of structure	Load Bearing Value of Soil (PSF)	
		1500 PSF	2000 PSF 3000 PSF
50 PSF	2 Story - Plus Basement	25 x 8.5	19 x 6 12 x 6
55 PSF	2 Story - Plus Basement	25.5 x 8.75	19.25 x 6 12.5 x 6
60 PSF	2 Story - Plus Basement	26 x 9	19.5 x 6 13 x 6
65 PSF	2 Story - Plus Basement	26.5 x 9.25	19.75 x 6 13.5 x 6
70 PSF	2 Story - Plus Basement	27 x 9.5	20 x 6 14 x 6

8" wall - Footing Size for 36 Ft wide house			
Snow Load	Story and type of structure	Load Bearing Value of Soil (PSF)	
		1500 PSF	2000 PSF 3000 PSF
50 PSF	2 Story - Plus Basement	27 x 9.5	21 x 7 14 x 7
55 PSF	2 Story - Plus Basement	27.5 x 9.75	21.25 x 7 14.5 x 7
60 PSF	2 Story - Plus Basement	28 x 10	21.5 x 7 15 x 7
65 PSF	2 Story - Plus Basement	28.5 x 10.25	21.75 x 7 15.5 x 7
70 PSF	2 Story - Plus Basement	29 x 10.5	22 x 7 16 x 7

MINIMUM VERTICAL REINFORCEMENT FOR 8-INCH (203MM) NOMINAL FLAT CONCRETE BASEMENT WALL

MAXIMUM UNSUPPORTED WALL HEIGHT (ft)	MAXIMUM UNBALANCED BACKFILL HEIGHT (ft)	MINIMUM VERTICAL REINFORCEMENT - BAR SIZE AND SPACING (inches)		
		Soil classes and design lateral soil (psf per foot of depth)		
		GW, GP, SW, SP 30	GM, GC, SM, SM-SC and ML 45	SC, ML-CL and Inorganic CL 60
8	4	NR	NR	NR
	5	NR	NR	NR
	6	NR	NR	6 @ 37
	7	NR	6 @ 35	6 @ 35
	8	6 @ 41	6 @ 35	6 @ 26

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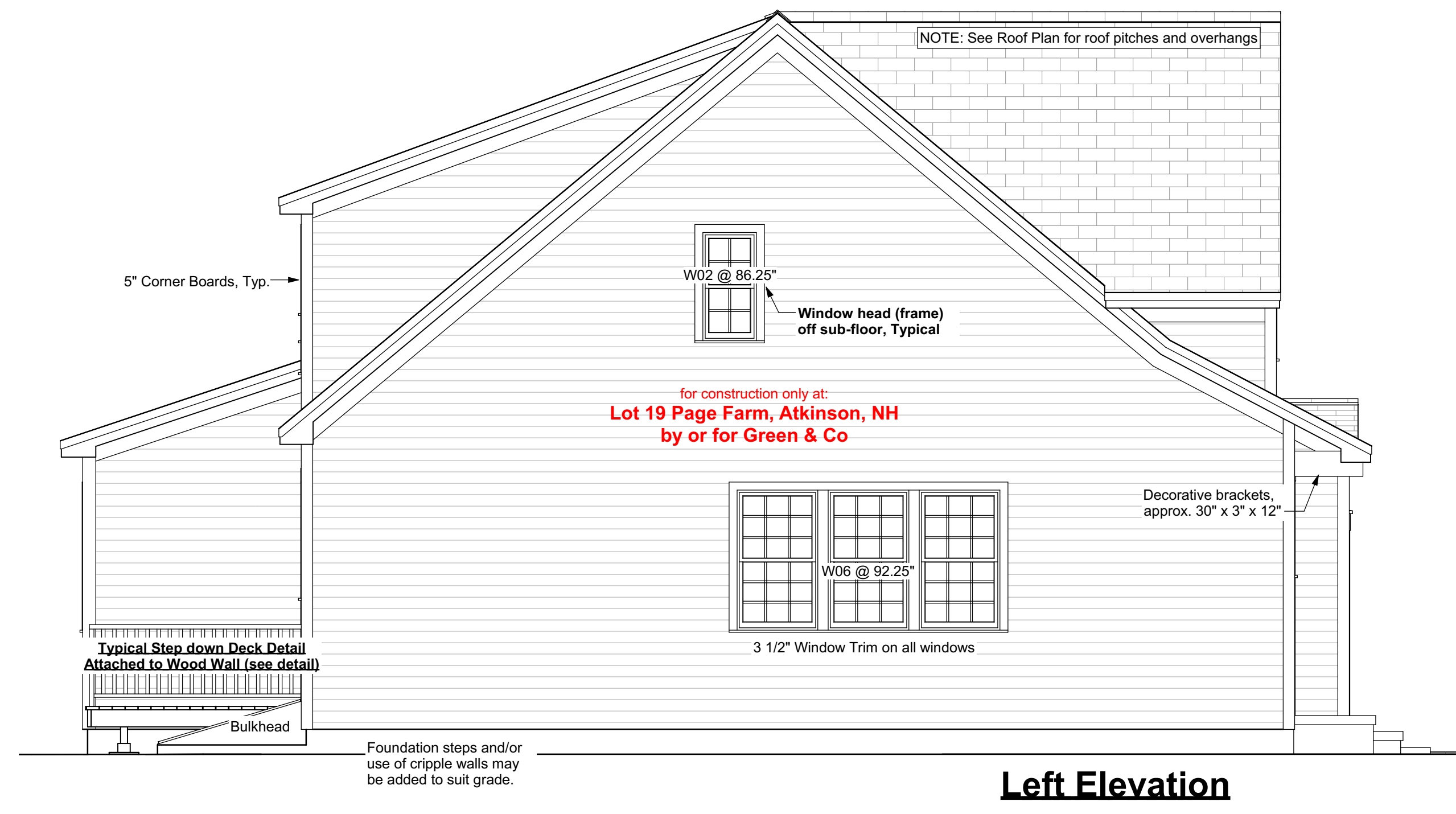
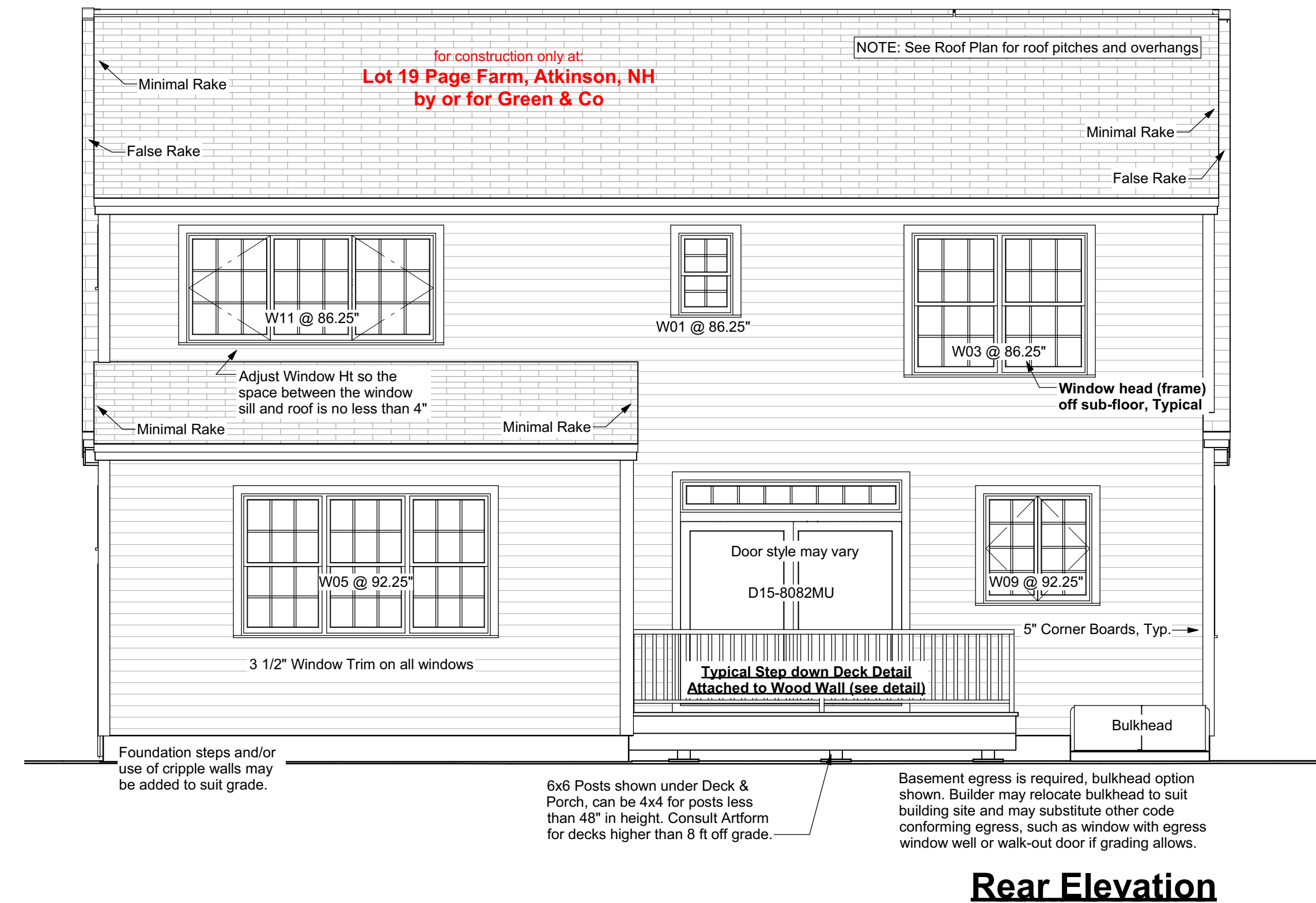
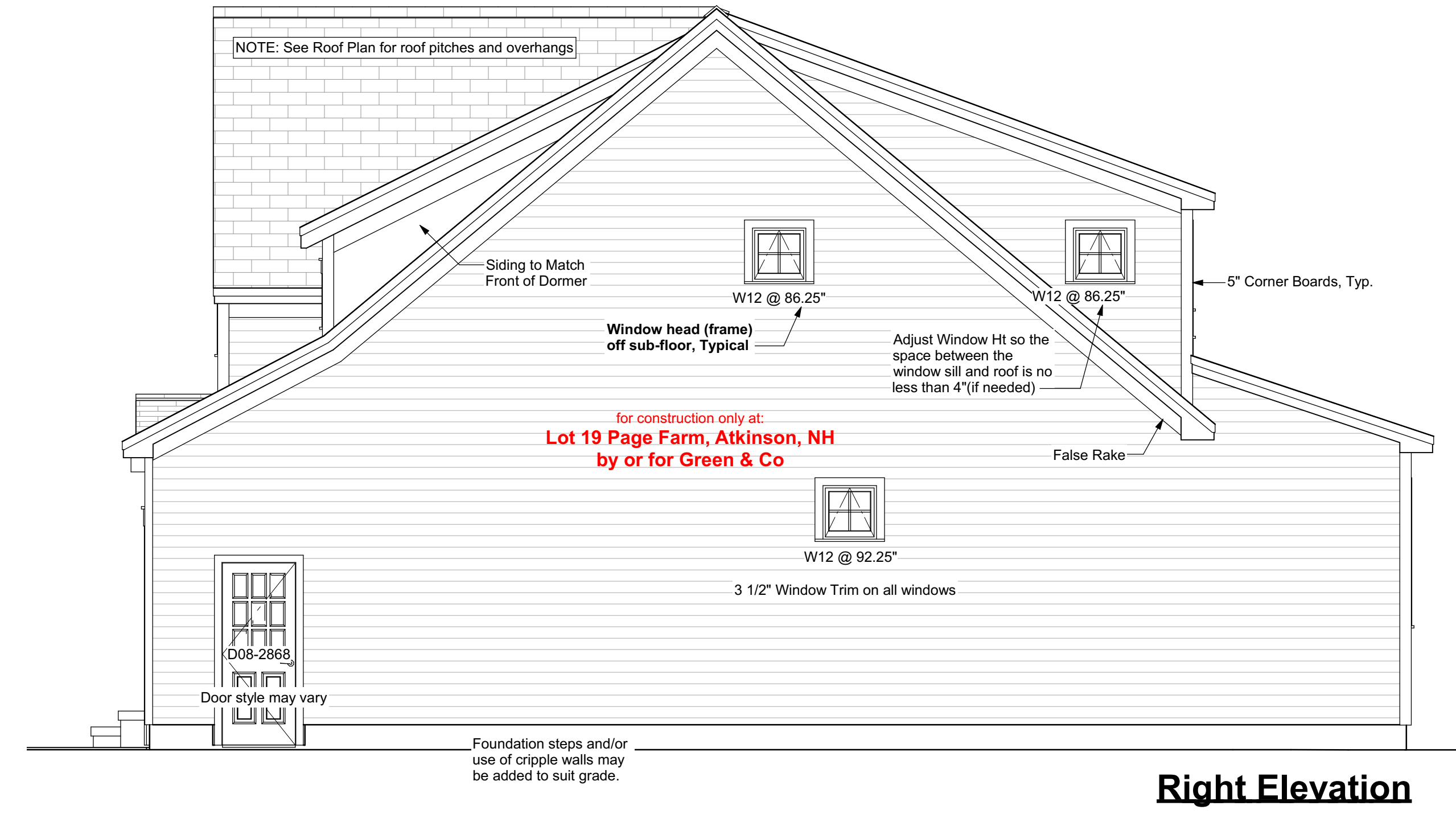
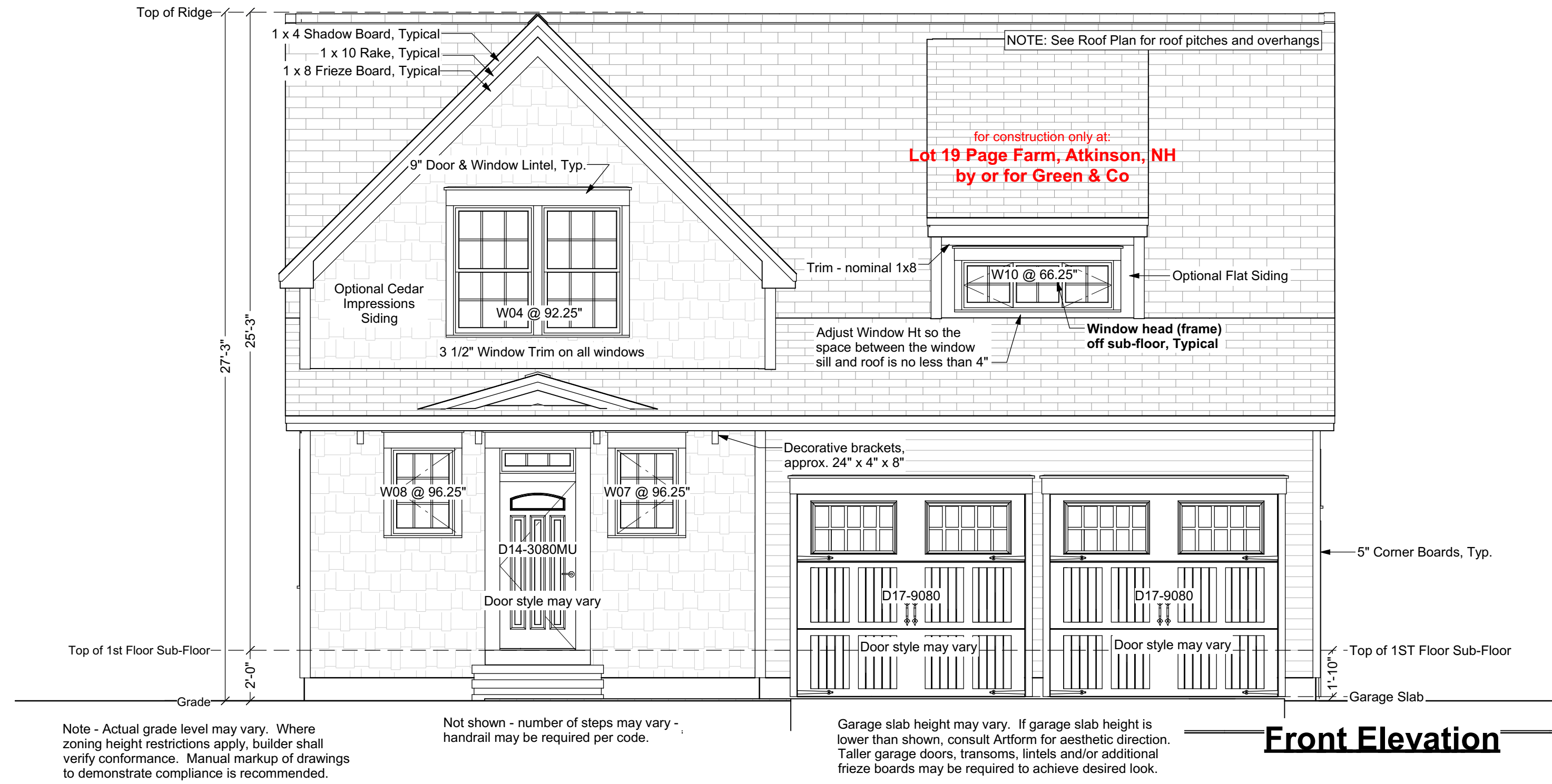
Artform Home Plans  
AHP Design # 742.124.v6 KL  
© 2008-2019 Art Form Architecture 603.431.9559  
Gaira 40x46  
Lot 19 Page Farm  
Atkinson, NH

3

1/4"=1'-0" unless noted otherwise / Print @ 1:1  
PDF created on: 10/7/2019; drawn by ACJ

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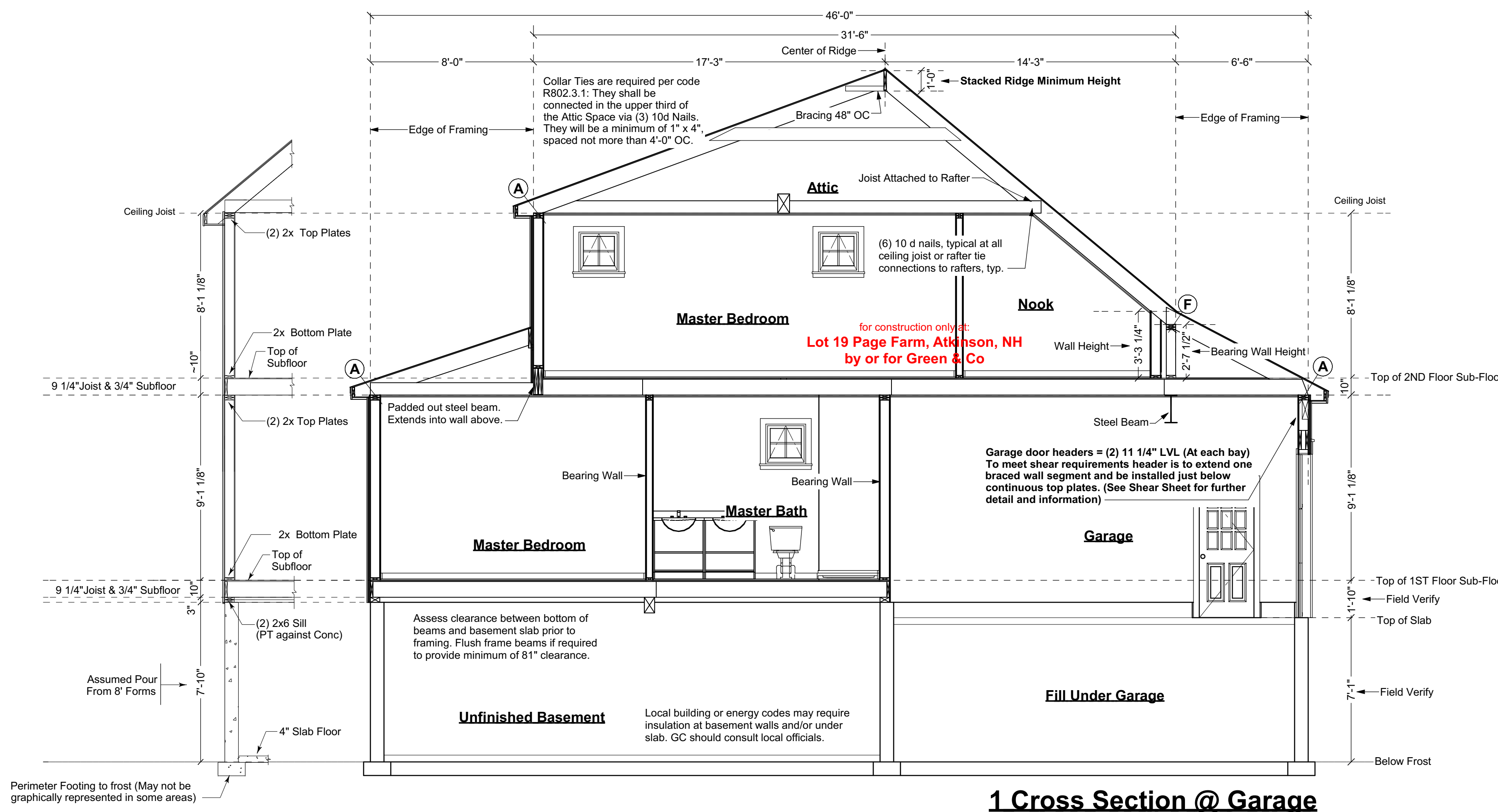


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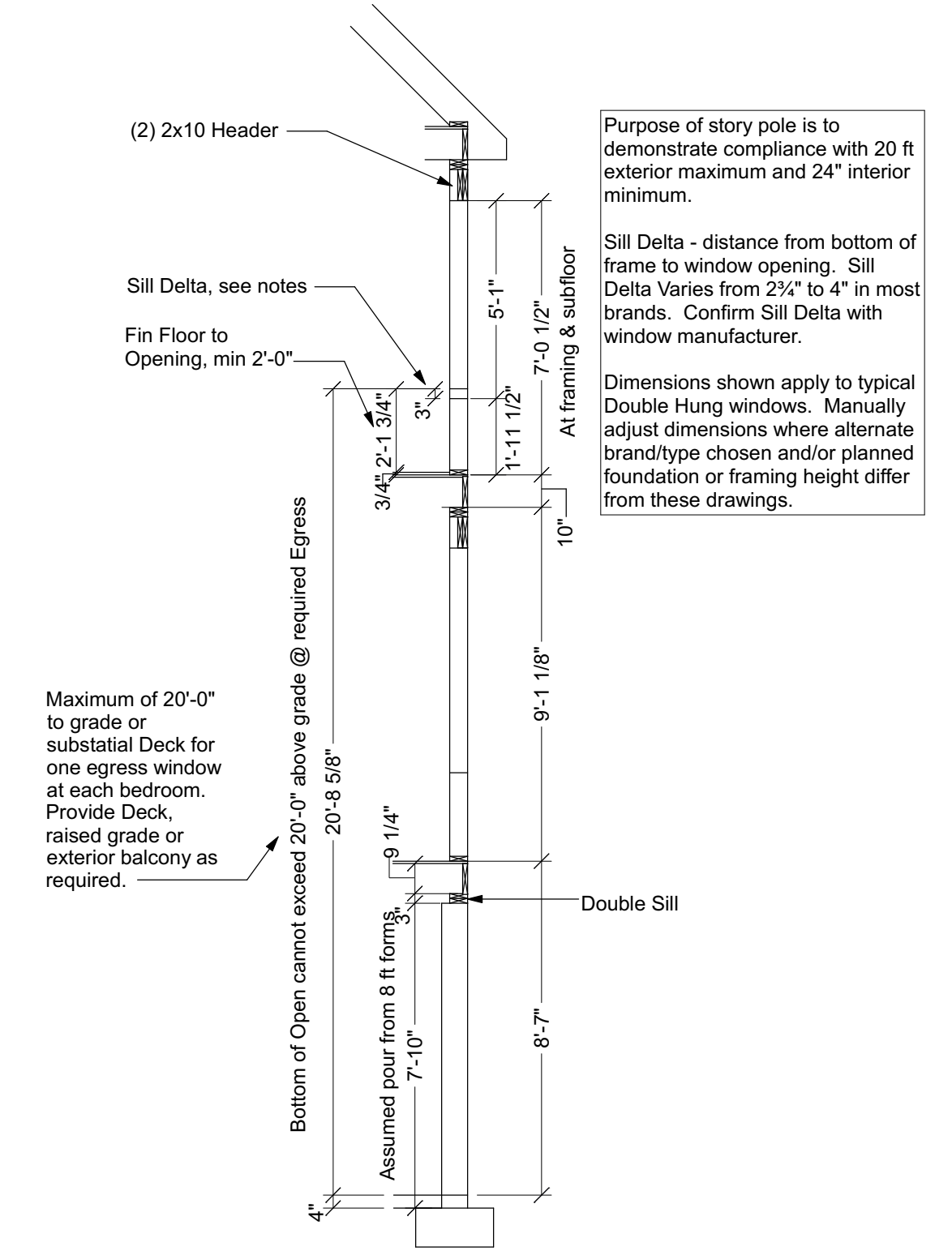
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<p>Gaira 40x46 Lot 19 Page Farm Atkinson, NH</p>		
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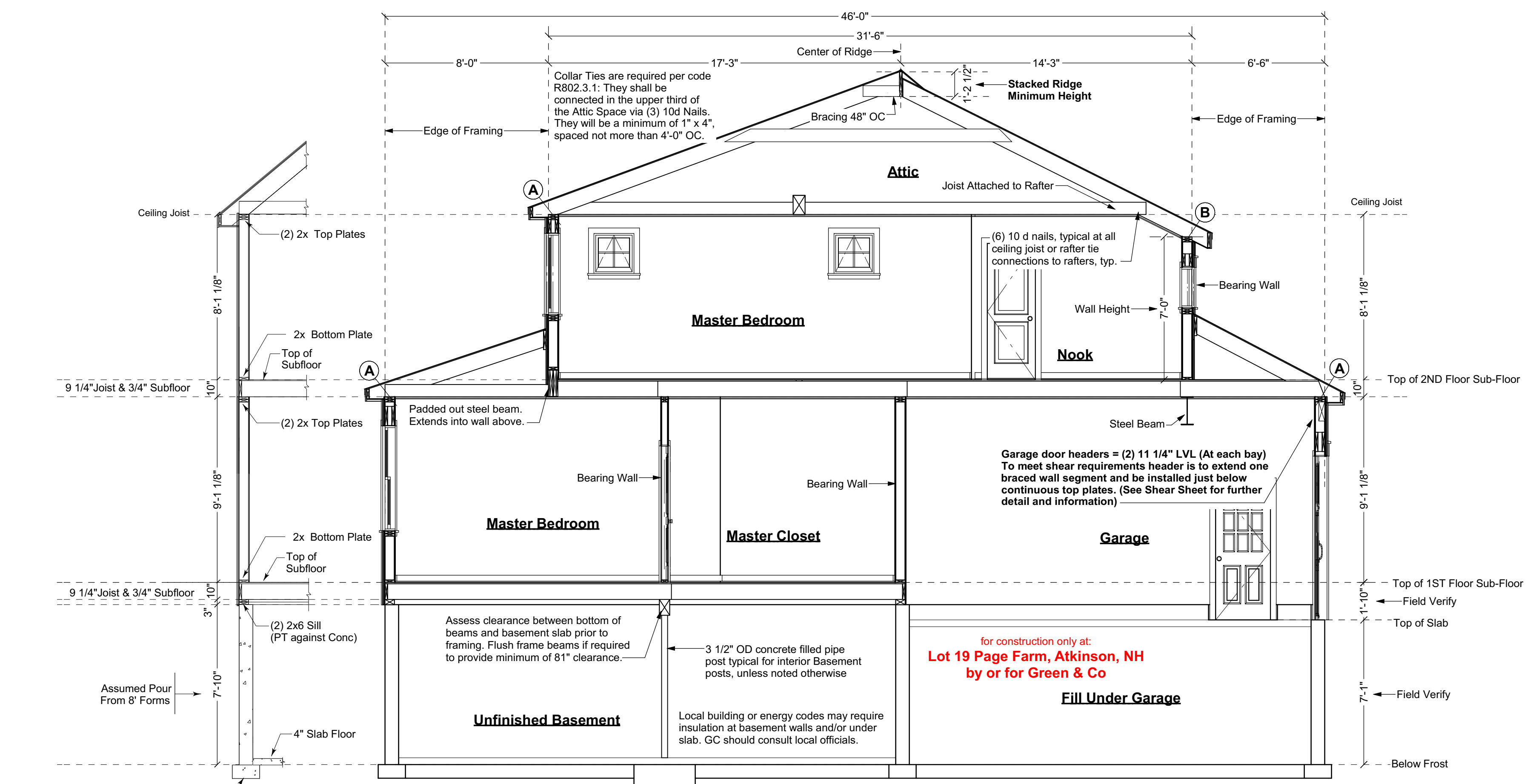
10/7/2019 3:09:37 PM  
 //AFDRKSTATION/IAFA Staff/Access-Home Design/Project/Green & Co. - Page Farm/40 FT Wide Sides/Gaina 40x46 - Lot 19 Page Farm layout



**1 Cross Section @ Garage**



**Window Story Pole**  
 Scale 1/4"=1'-0"



**2 Cross Section @ Garage Dormer**

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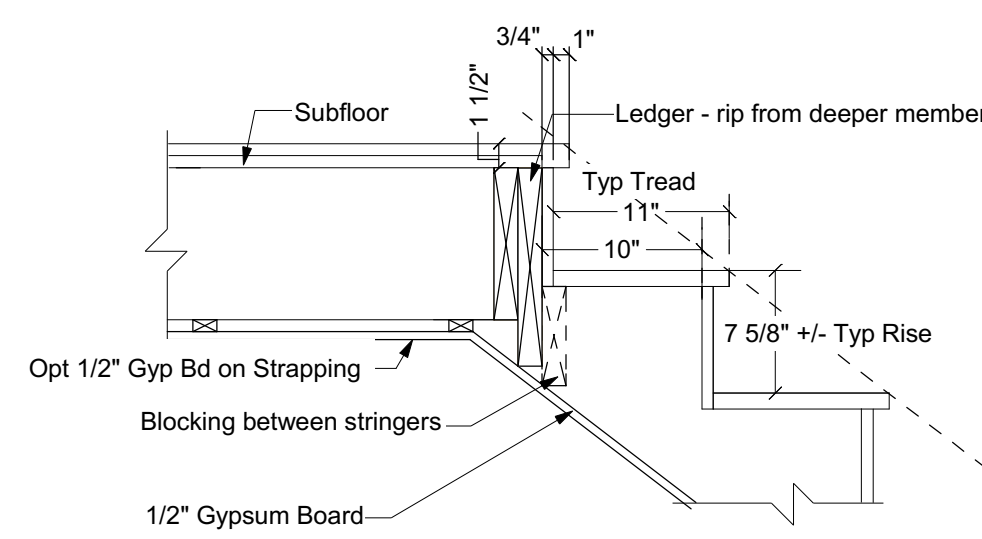
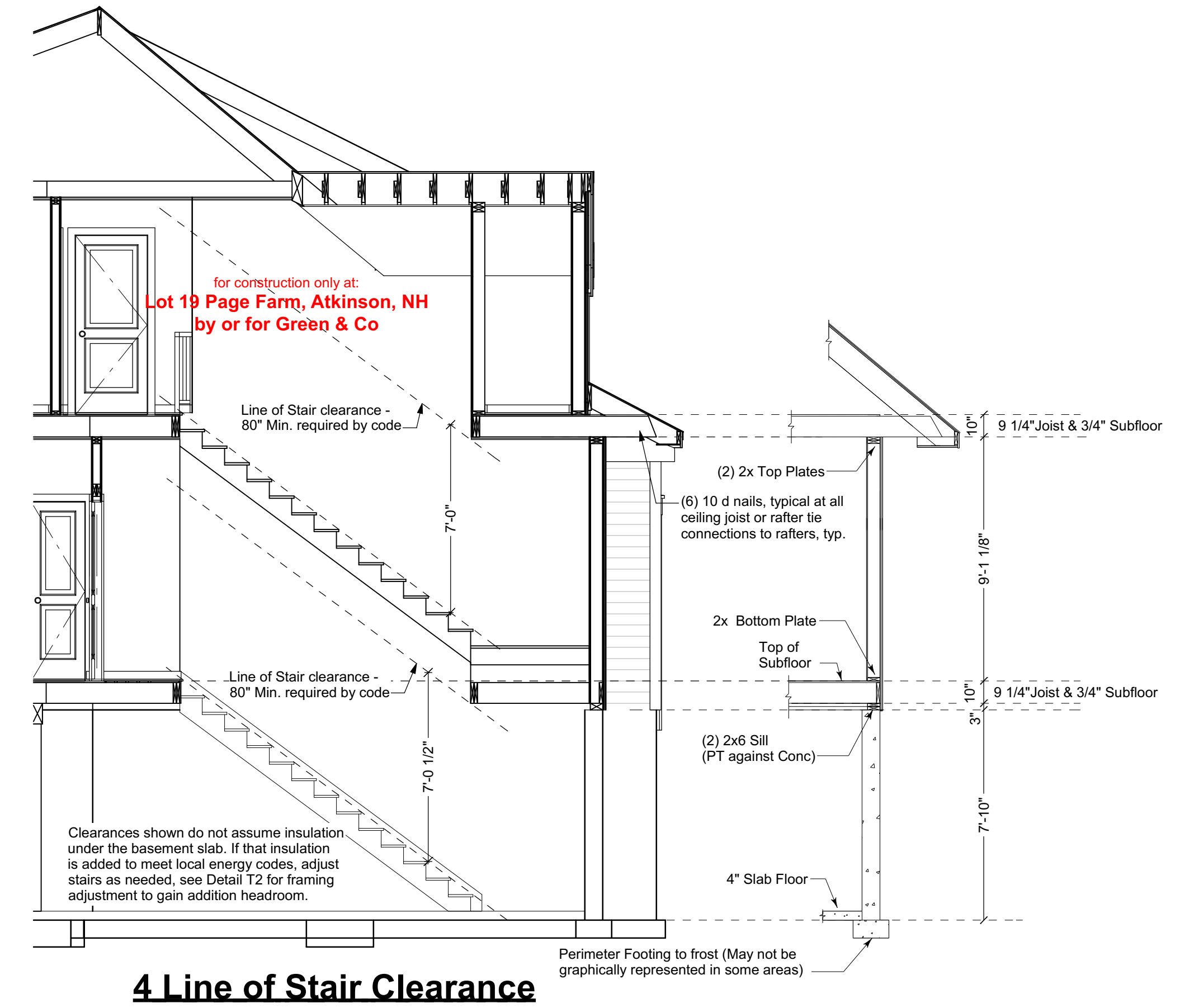
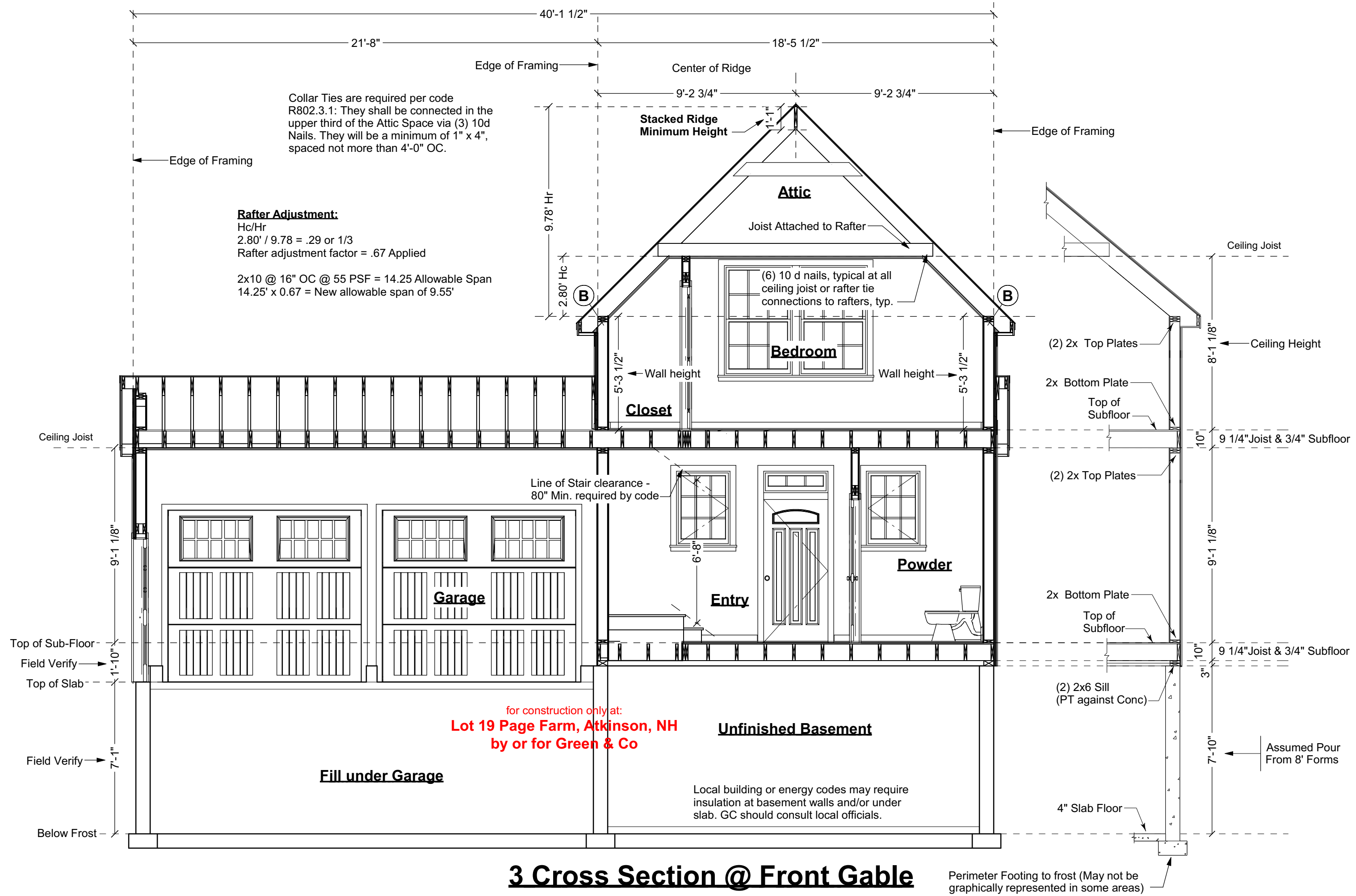
**Gaina 40x46**  
 Lot 19 Page Farm  
 Atkinson, NH

**5**

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 PDF created on: 10/7/2019, drawn by: ACJ

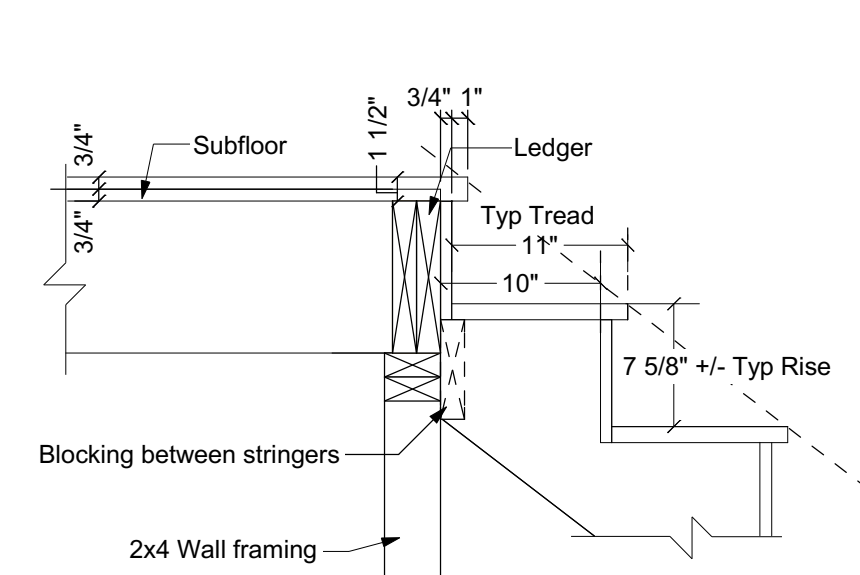


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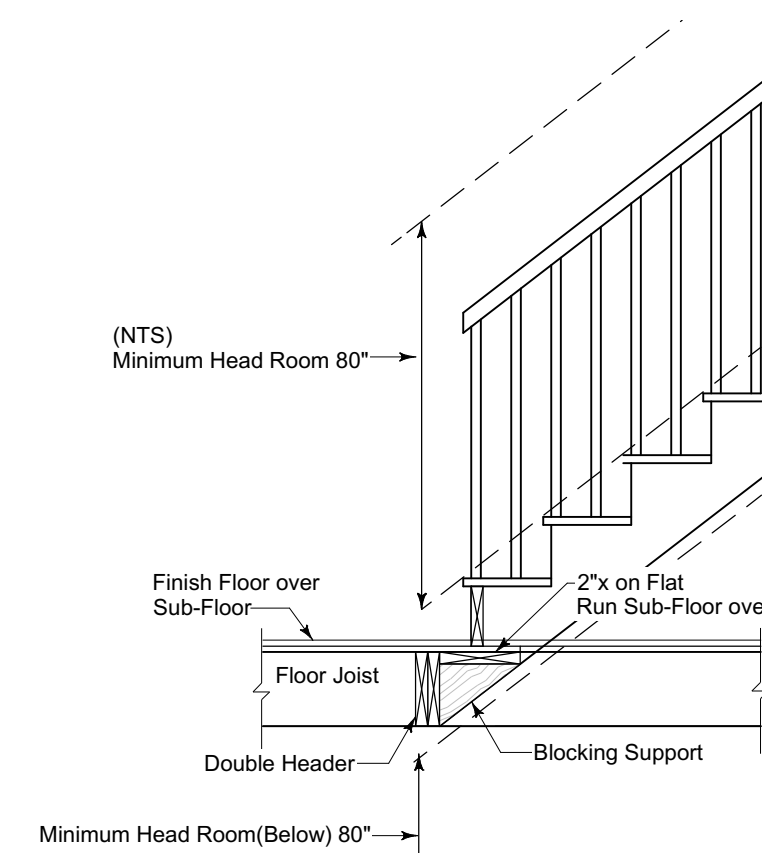
Detail shows assumptions used for framing plan RO  
 Framers may adjust to suit different head support methods

**Top of Carriage (C)**  
 Scale: 1" = 1'-0"



Detail shows assumptions used for framing plan RO  
 Framers may adjust to suit different head support methods

**Top of Carriage (B)**  
 Scale: 1" = 1'-0"



**T2**  
 1/2" = 1'

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TABLE R602.10.4 BRACING METHODS

METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA <sup>a</sup>	
			Fasteners	Spacing
Continuous Sheathing Methods	CS-WSP Continuously sheathed wood structural panel	3/8	Exterior sheathing per Table R602.3(2) Interior sheathing per Table R602.3(1) or R602.3(2)	6" edges 12" field Varies by fastener

Method PFG: Portal frame at garage door openings shall be constructed in accordance with Figure R602.10.6.3. Note this method is allowed on either side of garage door openings.

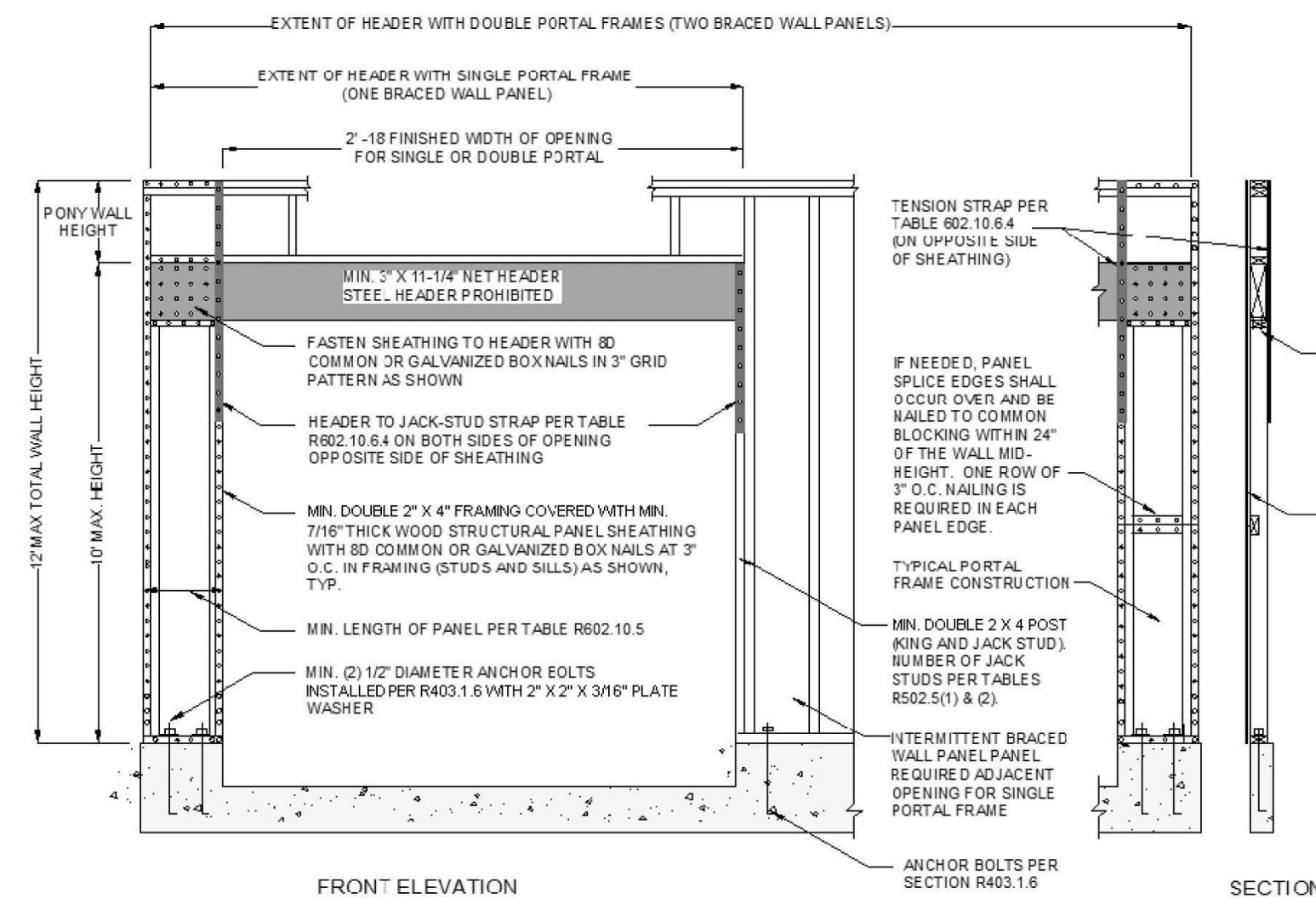


FIGURE R602.10.6.3 METHOD PFG—PORTAL FRAME AT GARAGE DOOR OPENINGS IN SEISMIC DESIGN CATEGORIES A, B AND C

Method CS-PF: Continuously sheathe portal frame shall be constructed in accordance with Figure 602.10.6.4. The number of continuously sheathed portal frame panels in a single braced wall line shall not exceed four.

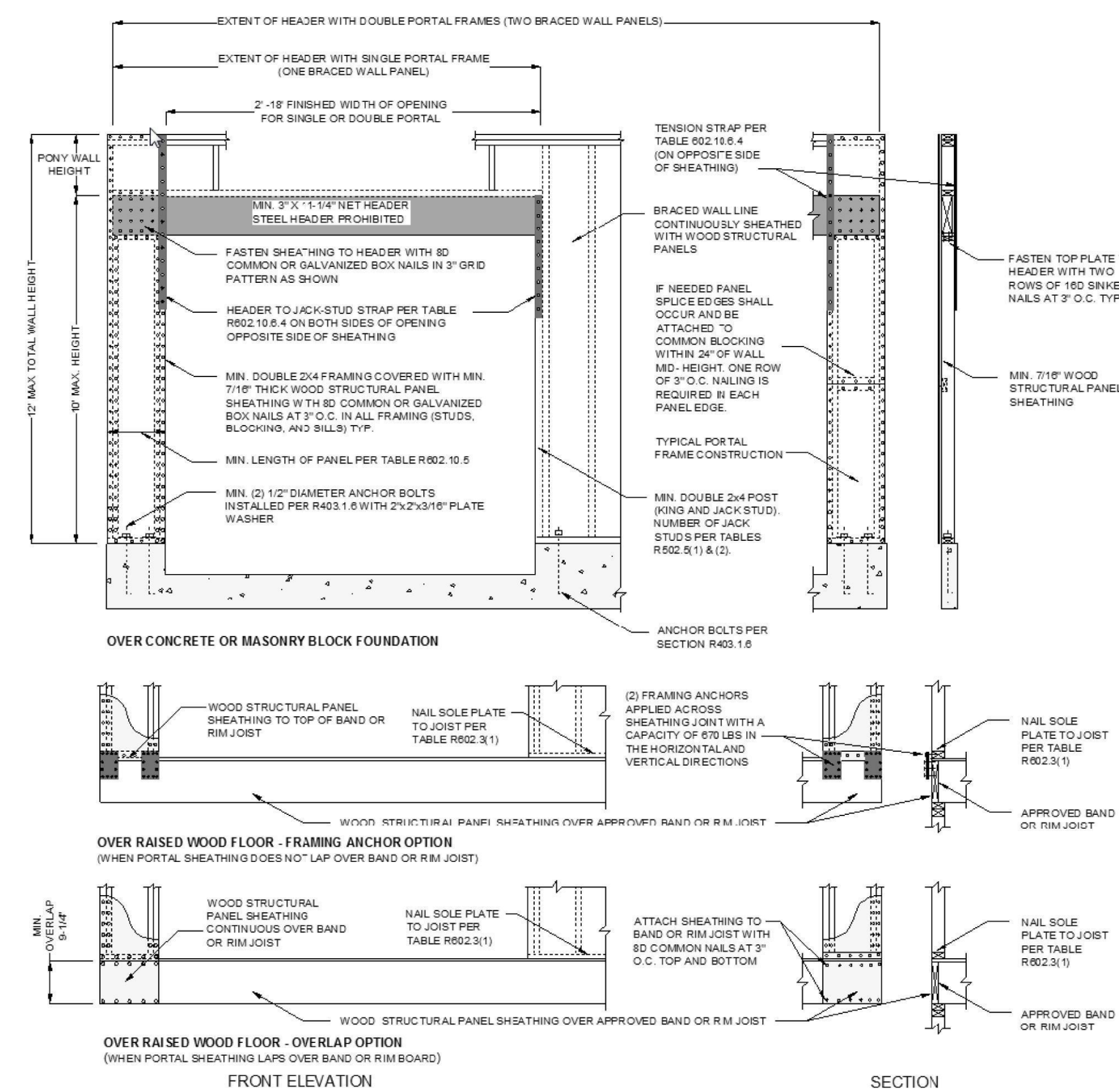
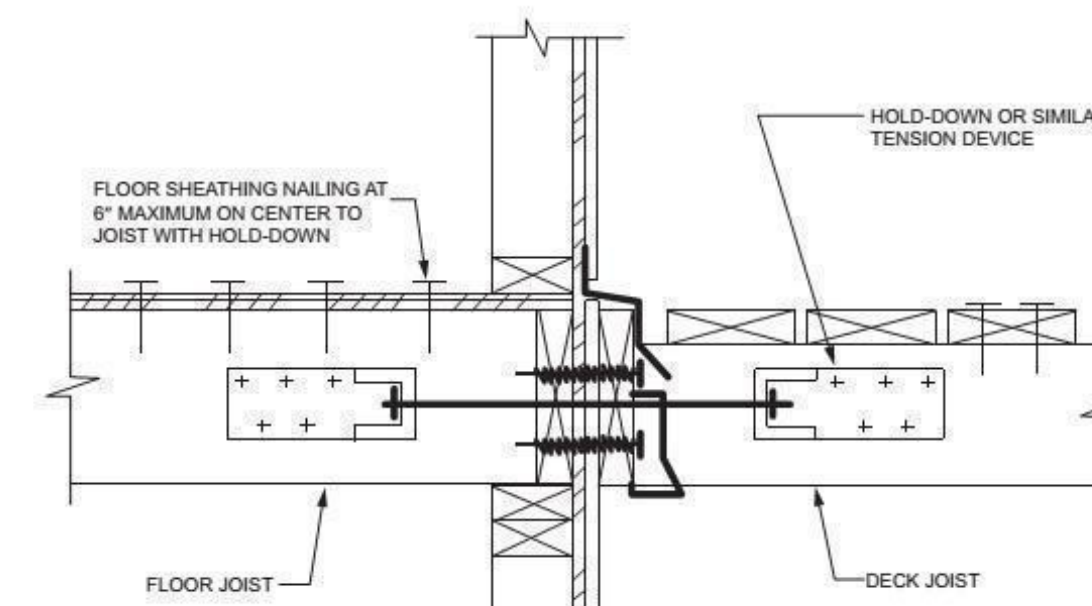
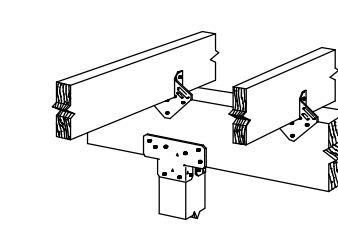


FIGURE R602.10.6.4 METHOD CS-PF—CONTINUOUSLY SHEATHED PORTAL FRAME PANEL CONSTRUCTION

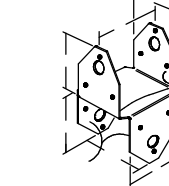


NOTE: hold down tension devices shall be installed in not less than 2 locations per deck, within 24 inches of each end of the deck. Each device shall have an allowable stress design capacity of not less than 1,500 lbs.

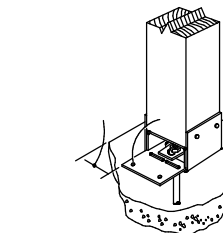
FIGURE R507.2.3(1) DECK ATTACHMENT FOR LATERAL LOADS



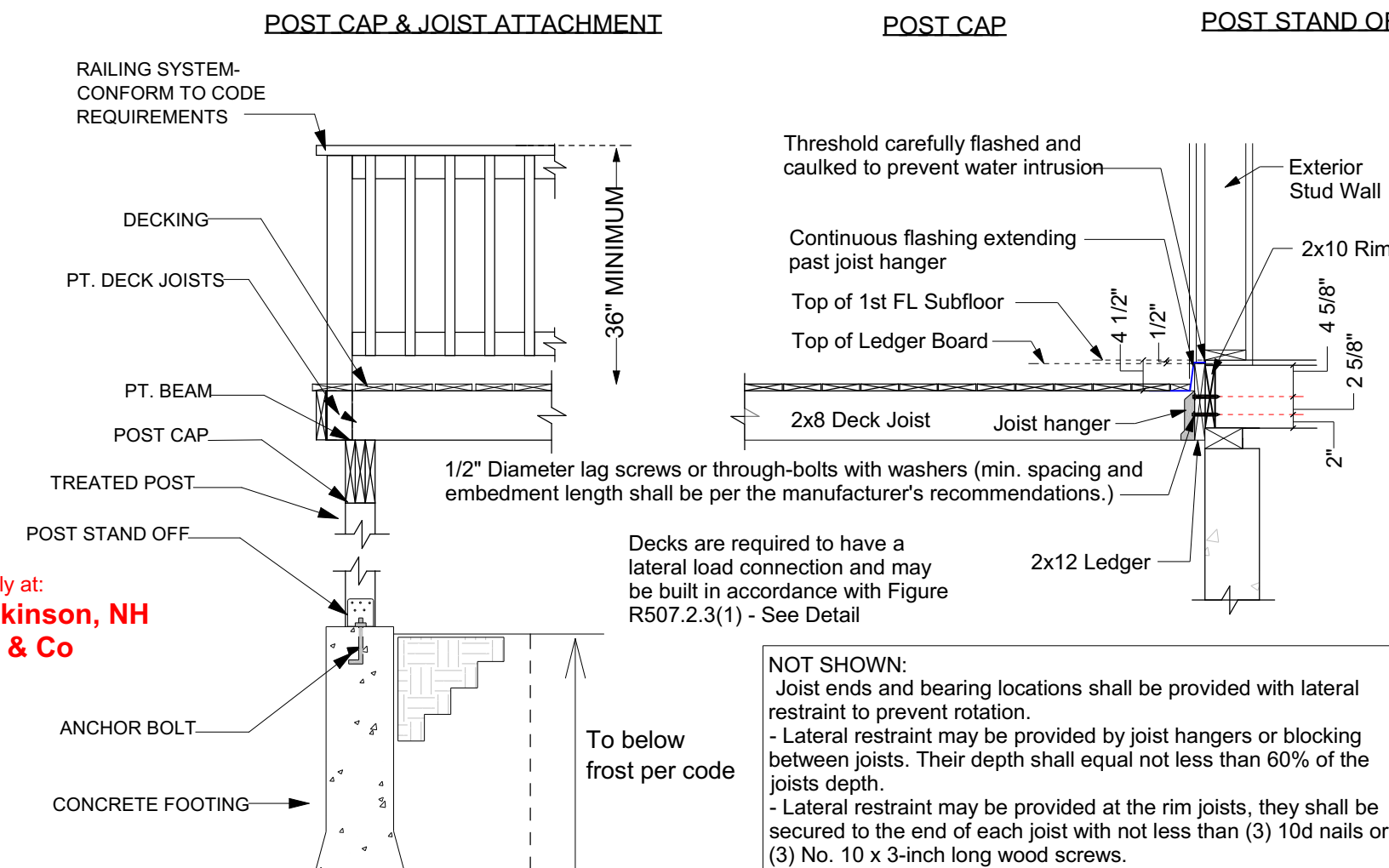
SIMPSON STRONG-TIE ACH WITH TWO HTS



POST CAP & JOIST ATTACHMENT



POST STAND OFF



Deck Ledger Attachment Detail for Step Down

Scale: 1/2" = 1'-0"

Follow manufacturer's instructions both for installation of joist hangers to joist and to beam. The illustration below, by Simpson Strong Tie, is provided as a courtesy. Consult their full manual for acceptable fastener sizes and other important instructions.



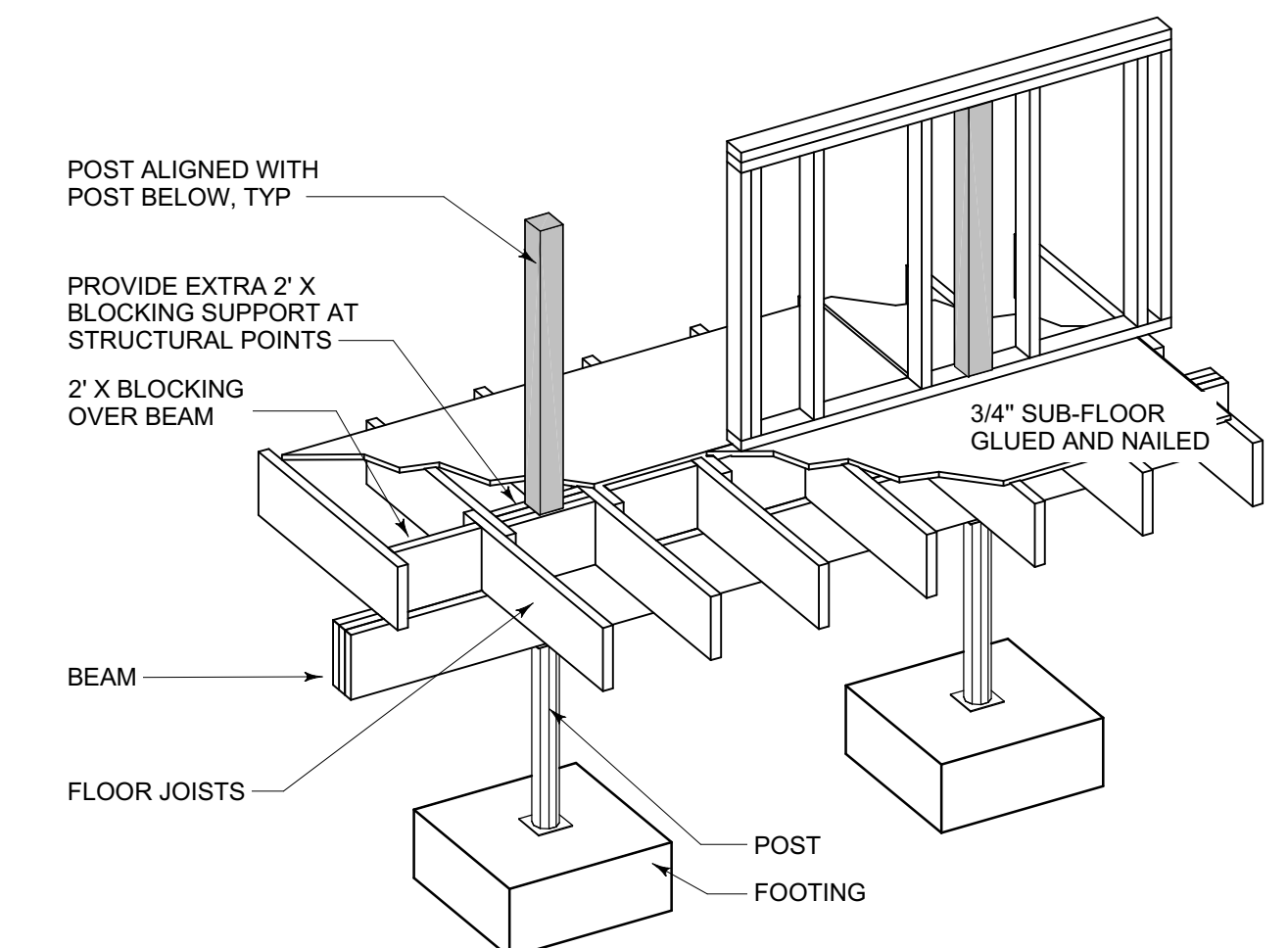
SHORT NAILS Do not use short (1 1/2\"/>

### Shear Wall Details

Not to Scale

Notes:

- See plans for locations where shear panels are required.
- Details shown here are for one method and for typical conditions. An alternate shear method allowed per code or approved by the code officer may be substituted.
- If the method at left is used at Garages where width of panel is 20" or more, wall height may be 10 ft as shown in detail at left. Where panel width is 18"-20", wall height may be 9 ft. Where panel is 16"-18", wall height may be 8 ft. Where panel is less, consult architect for additional design.
- If the method at left is used, increase foundation wall height at front and for 2 ft along wall returns as required to meet maximum wood stud wall heights, and extend sheathing and siding in front of wall to achieve desired aesthetics. Untreated wood may not be in direct contact with concrete - use treated wood or provide a barrier, such as a rubber membrane or felt paper.
- Note that if sheathing is to be used as wall bracing all vertical joints in required braced wall panels must be blocked. [2015 IRC section R602.10.10]



POST ALIGNED WITH POST BELOW, TYP  
PROVIDE EXTRA 2' X BLOCKING SUPPORT AT STRUCTURAL POINTS  
2' X BLOCKING OVER BEAM  
3/4\"/>

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Lot 19 Page Farm  
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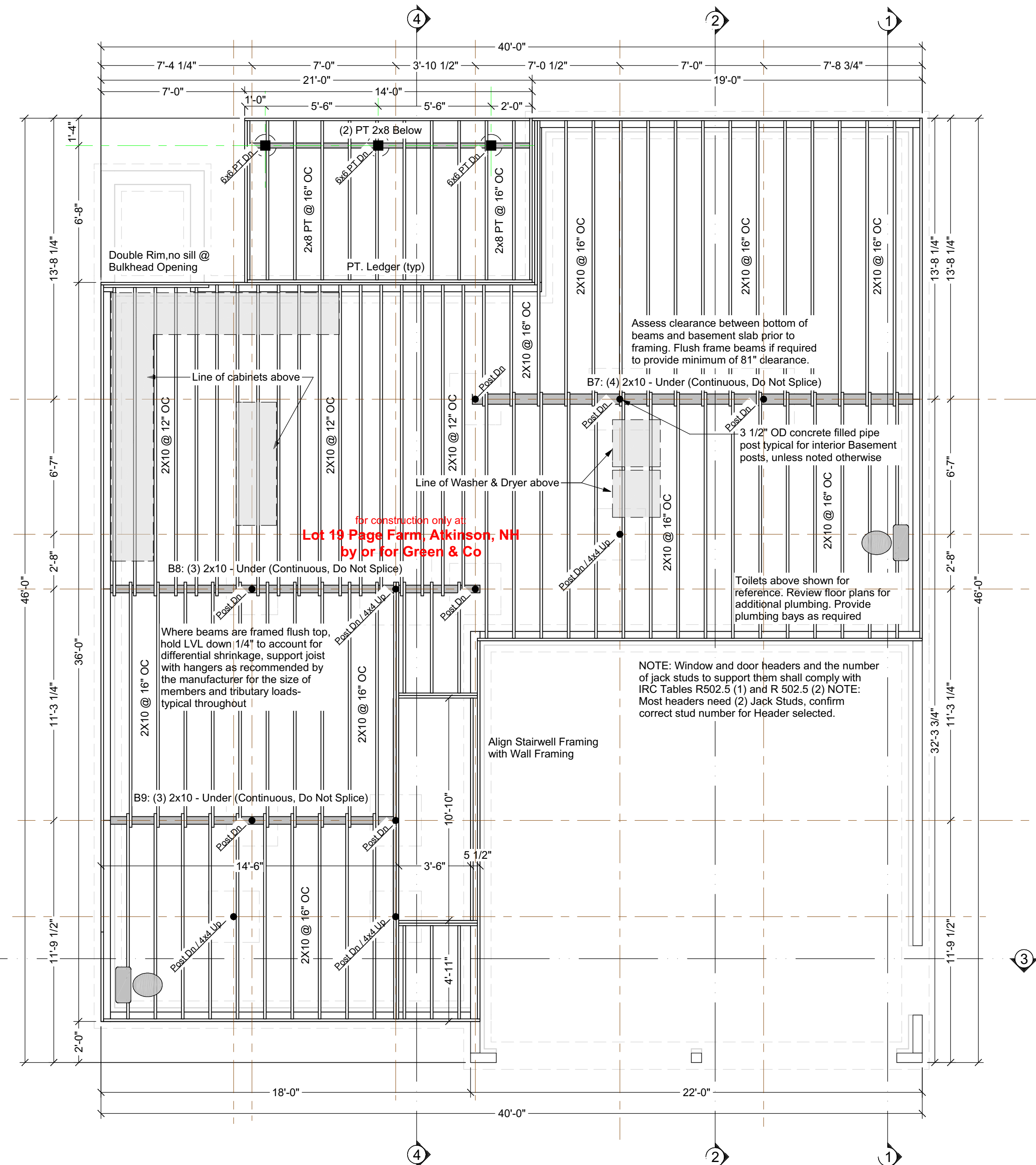


Wood Framing Notes:

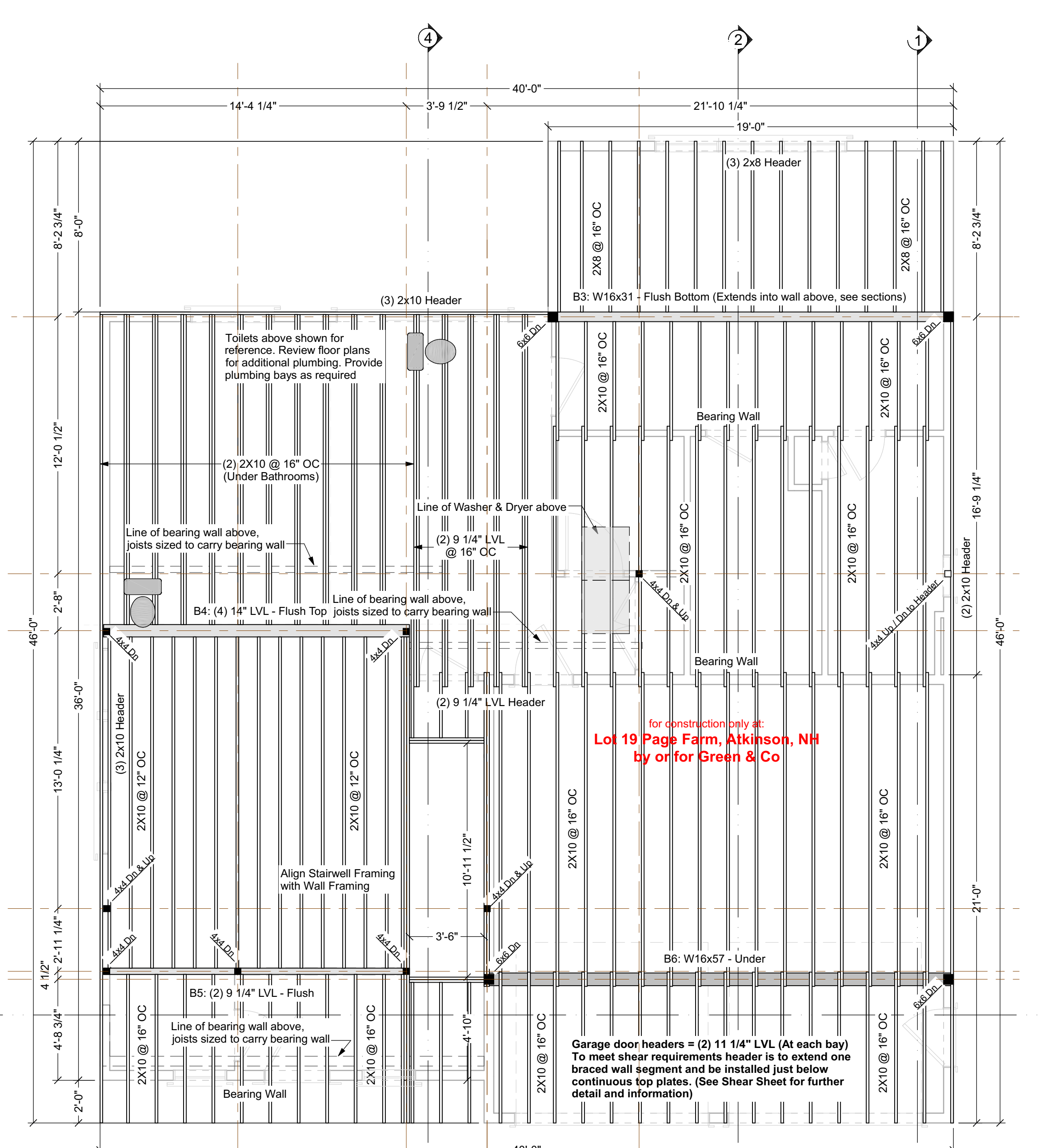
- All structural wood shall be identified by a grade mark or certificate of inspection by a recognized inspection agency.
- Structural wood shall be Spruce-Pine-Fir (SPF) #2 or better.
- When used, LVL or PSL indicate Laminated Veneer Lumber or Parallel Strand Lumber, respectively. Products used shall equal or exceed the strength properties for the size indicated as manufactured by TrusJoist.
- When used, TJI indicates wood I-joists as manufactured by TrusJoist. Products of alternate manufacturers may be substituted provided they meet or exceed the strength properties for the member specified.
- All floor joists shall have bridging installed at mid-span or at 8'-0" oc maximum.
- Floor systems are designed for performance with subfloor glued and screwed.
- Per code R502.6.1 Floor joists splicing over bearing walls allowed, shall lap a min 3' over walls and shall be nailed together with a minimum of (3) 10d face nails. Also permitted is a wood or metal splice with strength equal to or greater than that provided by the nailed lap.
- Per code R602.3.2 Ceiling joists splicing over bearing walls allowed, shall lap a min 3' or butted over bearing partitions or beams and toenailed to the bearing member. Where ceiling joists are used to provide resistance to rafter thrust, lapped joists shall be nailed together in accordance with Table R602.5.1(9), and butted joists shall be tied together in a manner to resist such thrust. Joists that do not resist thrust shall be permitted to be nailed together in accordance with Table R602.3(1).
- Provide blocking in the floor at structural points. Blocking may be 2x's or solid, but must have grain of wood vertical.
- All wood permanently exposed to the weather, in contact with concrete or in contact with the ground shall meet code requirements for wood in these environments.
- Deck ledgers shall be securely attached to the structure and/or independently supported. Deck lateral load connection required see IRC 2015 Section R507.2.4
- Whenever beams are noted as Flush framed, install joint hangers at all joists, sized appropriately for the members being connected.
- Support the lower end of roof beams via minimum 2" horizontal bearing on a post, ledger or via an appropriately sized and configured hanger.
- The ends of each joist, beam or girder shall have not less than 1.5" of bearing on wood or metal and not less than 3" on masonry or concrete except where supported on a 1" x 4" ribbon strip and nailed to the adjacent stud or by the use of approved joist hangers.
- Post caps where required are typically calculated by supplier using weights based on these framing plans. Contact Art Form if additional information is needed.
- Hangers, post caps, post bases, ties and other connectors shall be as manufactured by Simpson Strong Tie, as designed to connect the members shown, and shall be installed per manufacturer's instructions.

Prefabricated Wood Trusses

- Where trusses are indicated on the drawings, truss design shall be provided by truss manufacturer.
- Trusses shall be designed in accordance with applicable provisions of the latest edition of the National Design Specifications for Wood Construction (NDS), American Forest and Paper Association (AFPA), and Design Specifications for Metal Plate Connected Wood Trusses (ANSI/TPI 1), Truss Plate Institute (TPI) and code of jurisdiction.
- Manufacturer shall furnish design drawings bearing seal and registration number of a structural engineer licensed in the state where project will be built.



First Floor Framing Structure designed for Snow Load of 55 psf



Second Floor Framing Structure designed for Snow Load of 55 psf

Built-up Beams:

- Unless otherwise noted, connect multiple 1 3/4" ply beams as follows: 3 ply & up, fasteners are per side
- (2) 9 1/4" LVL:
  - Flush framed
  - (2) rows 3 3/8" TrussLock @ 24" oc, or
  - (2) rows SDS 1/4x3 1/2 @ 24" oc
- Framed under (2) rows 10d nails @ 24" oc

- (2) 11 1/4" LVL:
  - Flush framed
  - (2) rows 3 3/8" TrussLock @ 19.2" oc, or
  - (2) rows SDS 1/4x3 1/2 @ 19.2" oc
- Framed under (2) rows 10d nails @ 24" oc

- (2) 16" LVL or greater:
  - Flush framed
  - (3) rows 3 3/8" TrussLock @ 19.2" oc, or
  - (3) rows SDS 1/4x3 1/2 @ 19.2" oc
- Framed under (2) rows 10d nails @ 24" oc

- (3) 9 1/4" LVL:
  - Flush framed
  - (2) rows 3 3/8" TrussLock @ 19.2" oc, or
  - (2) rows SDS 1/4x3 1/2 @ 19.2" oc
- Framed under (2) rows 10d nails @ 24" oc

- (3) 11 1/4" LVL:
  - Flush framed
  - (2) rows 3 3/8" TrussLock @ 16" oc, or
  - (2) rows SDS 1/4x3 1/2 @ 16" oc
- Framed under (2) rows 10d nails @ 24" oc

- (3) 14" LVL:
  - Flush framed
  - (3) rows 3 3/8" TrussLock @ 16" oc, or
  - (3) rows SDS 1/4x3 1/2 @ 16" oc
- Framed under (2) rows 10d nails @ 24" oc

- (3) 16" LVL or greater:
  - Flush framed
  - (3) rows 3 3/8" TrussLock @ 16" oc, or
  - (3) rows SDS 1/4x3 1/2 @ 16" oc
- Framed under (2) rows 10d nails @ 24" oc

- (4) 9 1/4" LVL:
  - Flush framed
  - (2) rows 5" TrussLock @ 16" oc, or
  - (2) rows SDS 1/4x6 @ 16" oc
- Framed under (2) rows 10d nails @ 24" oc

- (4) 11 1/4" LVL:
  - Flush framed
  - (2) rows 5" TrussLock @ 16" oc, or
  - (2) rows SDS 1/4x6 @ 16" oc
- Framed under (2) rows 10d nails @ 12" oc

- (4) 16" LVL or greater:
  - Flush framed
  - (3) rows 5" TrussLock @ 16" oc, or
  - (3) rows SDS 1/4x6 @ 16" oc
- Framed under (2) rows 10d nails @ 12" oc

Beam Substitutions:  
(2) 9 1/4" LVL may replace a double or triple 2x10 beam. No other substitutions are allowed. Conventional lumber beams MAY NOT be substituted for LVL beams by any "rule of thumb". Substitutions must be calculated by either Artform or a structural engineer. If calculated by a structural engineer, provide stamped plans and/or calculations.

We specify LVL beams as built up members to allow framers to use existing stock. You may substitute single piece LVLs of equivalent overall size for built-up members, unless otherwise noted.

Built-up members MAY NOT replace single piece LVL's where specified.  
Where a beam of 1 3/4" or less in width is specified as framed under, either brace at 48" or double member for lateral stability.

Notes: Beam & Joist Sizing

- Our beams sizes often differ from prescriptive code, because our designs are rarely the old style box colonial or cape with a center bearing wall upon which prescriptive code is based. We size our beams via calculations for this specific design, which may carry those loads separately via second floor beams and/or roof transfer beams. Beam or joist sizes, types and/or spacing may not be reduced or alternates substituted without our express permission.
- Walls intended to be bearing are labeled as such. This information is provided to aid code officer in understanding the framing. It does not indicate permission to add loads to those walls, or any other walls.
- Framing is sized for normal residential conditions. Contact Artform if additional loads are anticipated, including but not limited to waterbeds, large fish tanks, indoor hot tubs, multiple framed soffits or coffers.
- In states where the designer is a licensed architect, (NH, MA, ME, CT & NY as of the date of issue) we are happy to stamp our drawings at no additional charge. In other states we are happy to provide calculations. Administration fees apply with provision of calculations. Code officer is encouraged to call with any questions about our methodology.

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**Gaira 40x46**  
 Lot 19 Page Farm  
 Atkinson, NH





# 481.124.v10 KR Sweet Cherry Pie



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Sweet Cherry Pie

	Main	Future	Apt	Main + Future	Main + Apt	All
Living Area	2404 SF	0 SF	0 SF	2404 SF	2404 SF	2404 SF
Bedrooms	3	1	0	4	3	4
Baths	2.5	0.0	0.0	2.5	2.5	2.5

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In addition to our Terms and Conditions (the "Terms"), please be aware of the following:

This design may not yet have Construction Drawings (as defined in the Terms), and is, therefore, only available as a Design Drawing (as defined in the Terms and together with Construction Drawings, "Drawings"). It is possible that during the conversion of a Design Drawing to a final Construction Drawing, changes may be necessary including, but not limited to, dimensional changes. Please see Plan Data Explained on [www.ArtformHomePlans.com](http://www.ArtformHomePlans.com) to understand room sizes, dimensions and other data provided. We are not responsible for typographical errors.

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**Facade Changes:**

- To maintain design integrity, we pay particular attention to features on the front facade, including but not limited to door surrounds, window casings, finished porch column sizes, and roof friezes. While we may allow builders to add their own flare to aesthetic elements, we don't allow our designs to be stripped of critical details. Any such alterations require the express written consent of Artform.
- Increasing ceiling heights usually requires adjustments to window sizes and other exterior elements.

**Floor plan layout and/or Structural Changes:**

- Structural changes always require the express written consent of Artform
- If you wish to move or remove walls or structural elements (such as removal of posts, increases in house size, ceiling height changes, addition of dormers, etc), please do not assume it can be done without other additional changes (even if the builder or lumber yard says you can).



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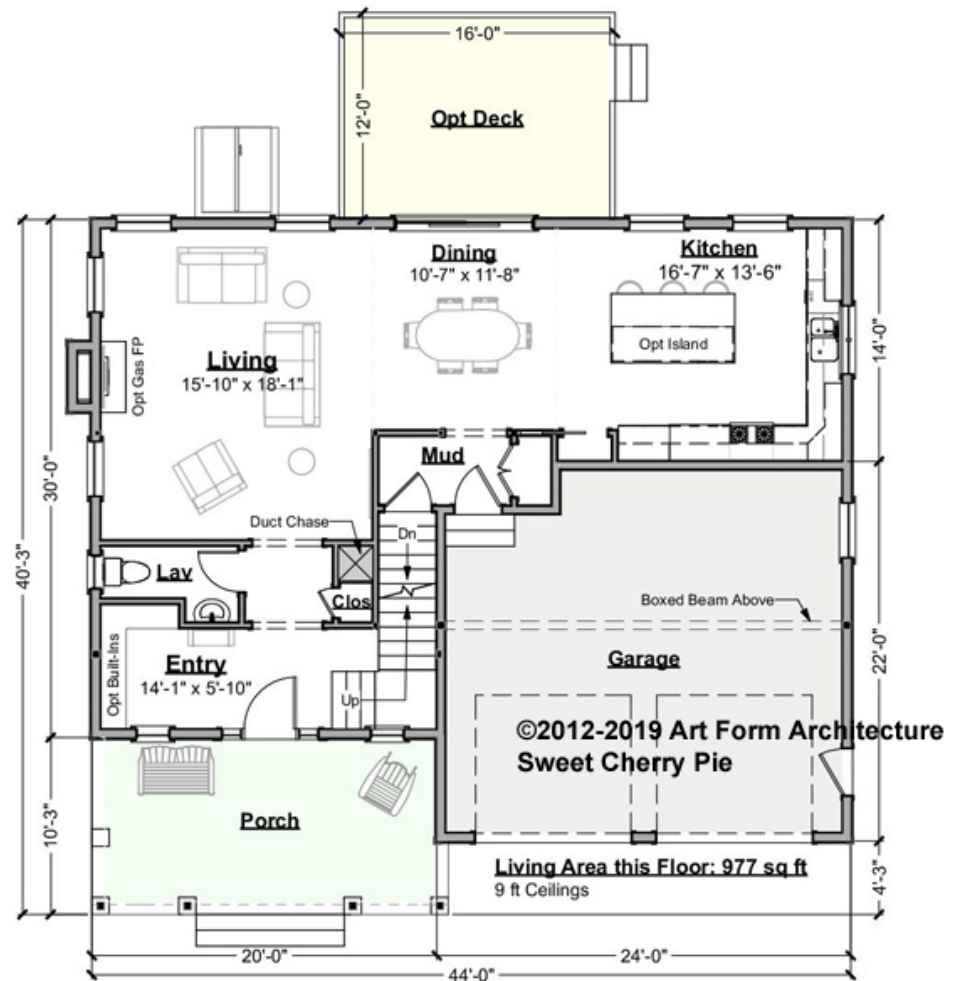
## First Floor

	Area	Beds	Baths
Main	977 SF	0	0.5
Future	0 SF	0	0
Apt	0 SF	0	0
<b>Total</b>	<b>977 SF</b>	<b>0</b>	<b>0.5</b>

Ceiling Height	
Shown	9'-0"
Possible*	8'-0"

\* See Major Change information on plan page for cost



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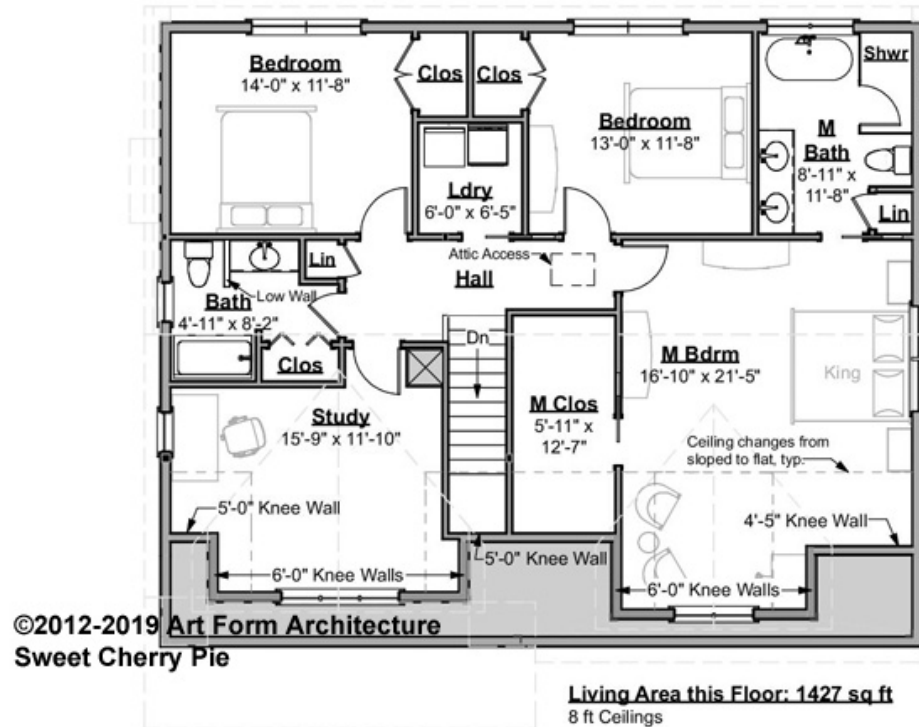
## Second Floor

	Area	Beds	Baths
Main	1427 SF	3	2
Future	0 SF	1	0
Apt	0 SF	0	0
<b>Total</b>	<b>1427 SF</b>	<b>4</b>	<b>2</b>

Ceiling Height	
Shown	8'-0"
Possible*	9'-0"

\* See Major Change information on plan page for cost



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## Basement Floor

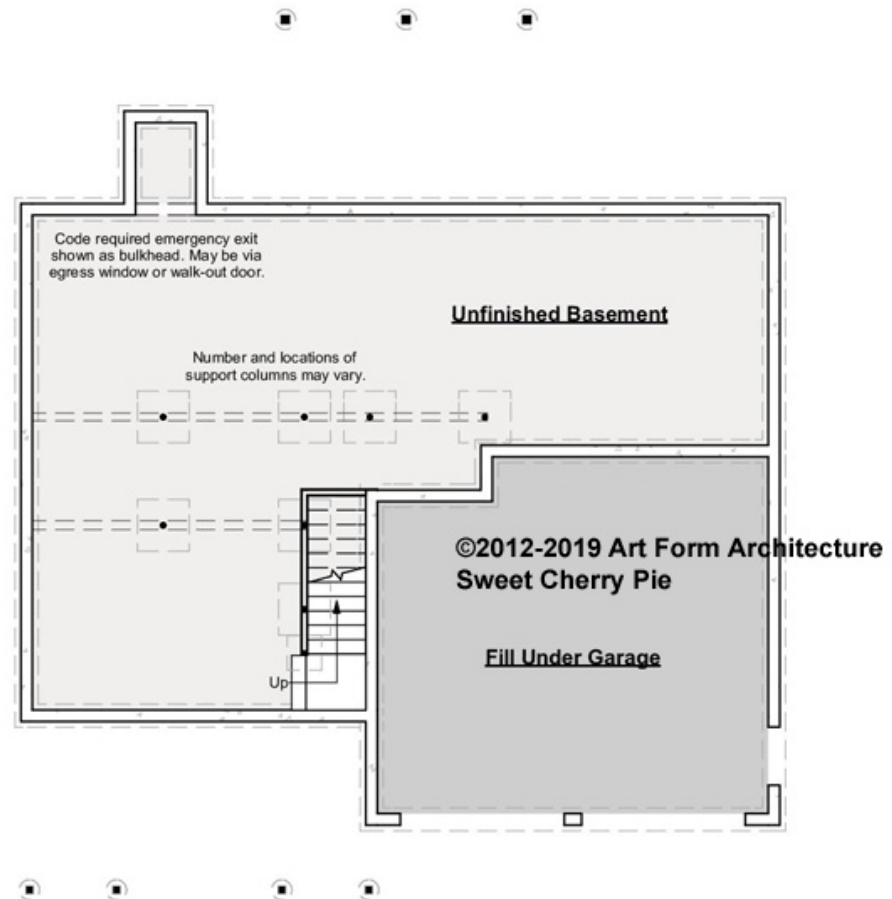
	Area	Beds	Baths
Main	0 SF	0	0
Future	0 SF	0	0
Apt	0 SF	0	0
Total	0 SF	0	0

### Ceiling Height

Shown 7'-8"

Possible\* 9'-0"

\* See Major Change information on plan page for cost



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## Front Elevation



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## Right Elevation



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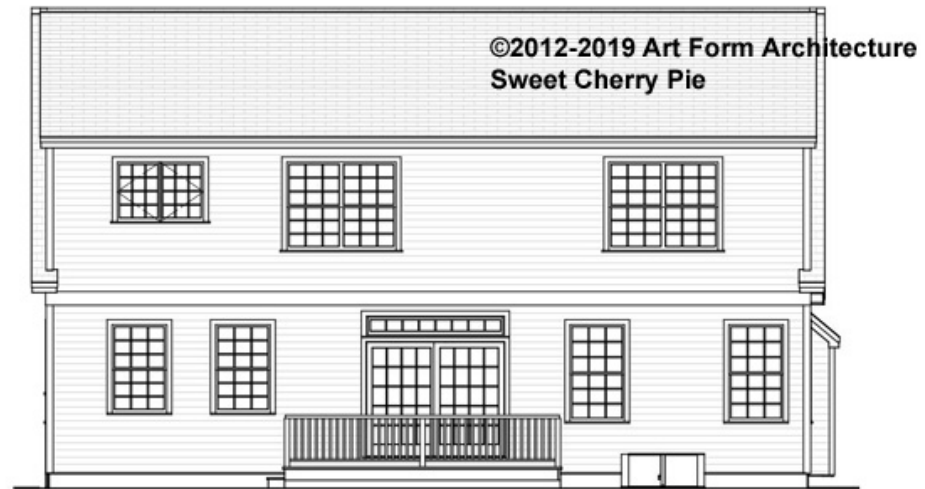
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# 481.124.v10 KR Sweet Cherry Pie

## Rear Elevation



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# 1032.124 GL Sinclair



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Sinclair

	Main	Future	Apt	Main + Future	Main + Apt	All
Living Area	2886 SF	0 SF	0 SF	2886 SF	2886 SF	2886 SF
Bedrooms	4	1	0	5	4	5
Baths	3.5	0.0	0.0	3.5	3.5	3.5

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### Facade Changes:

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### First Floor

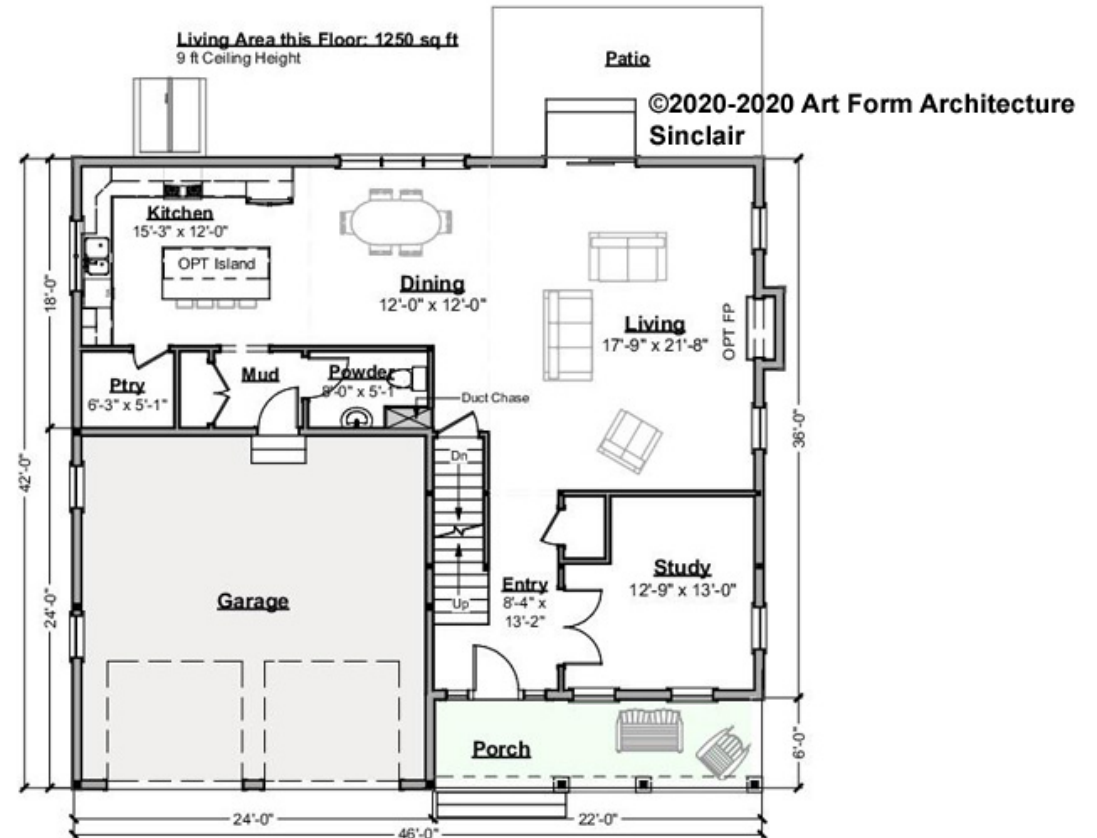
	Area	Beds	Baths
Main	1250 SF	0	0.5
Future	0 SF	1	0
Apt	0 SF	0	0
<b>Total</b>	<b>1250 SF</b>	<b>1</b>	<b>0.5</b>

#### Ceiling Height

Shown 9'-0"

Possible\* 8'-0"

\* See Major Change information on plan page for cost



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## Second Floor

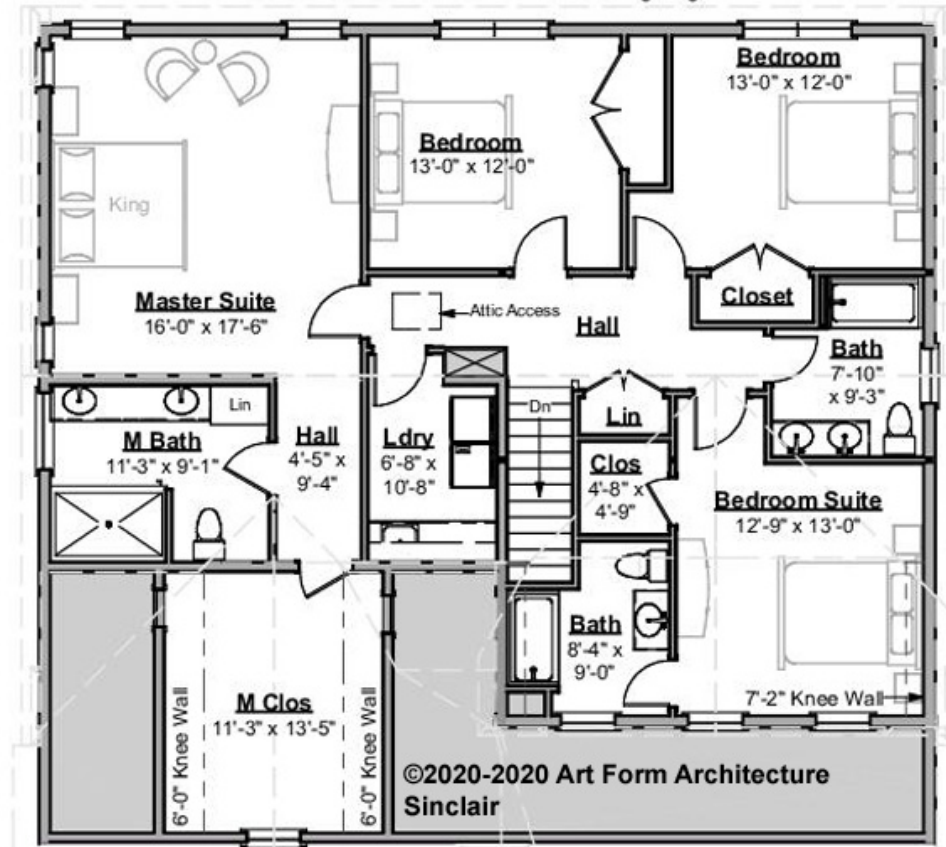
	Area	Beds	Baths
Main	1636 SF	4	3
Future	0 SF	0	0
Apt	0 SF	0	0
<b>Total</b>	<b>1636 SF</b>	<b>4</b>	<b>3</b>

Ceiling Height	
Shown	8'-0"
Possible*	8'-0"

\* See Major Change information on plan page for cost

**Living Area this Floor: 1636 sq ft**  
8 ft Ceiling Height



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## Basement Floor

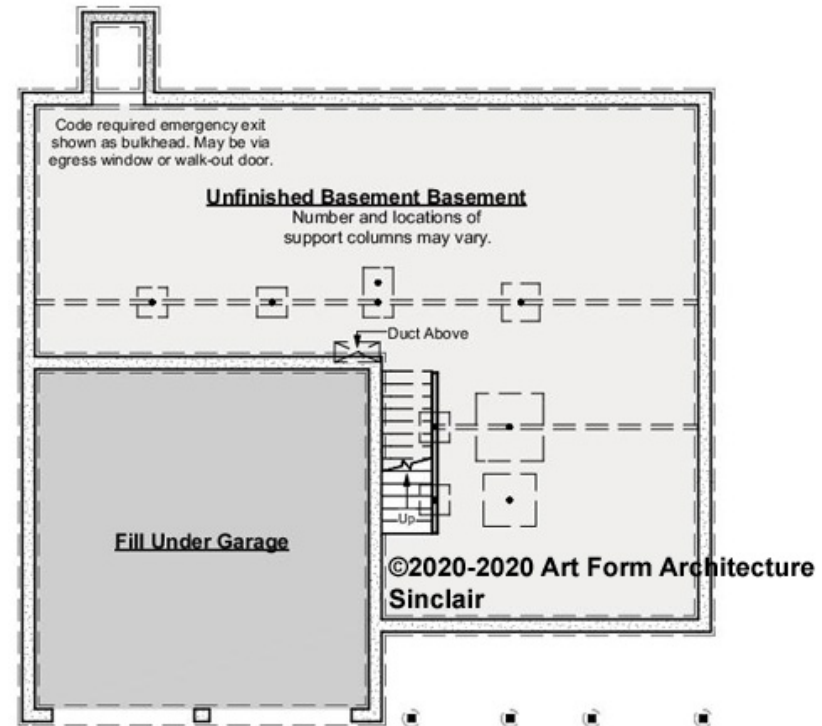
	Area	Beds	Baths
Main	0 SF	0	0
Future	0 SF	0	0
Apt	0 SF	0	0
Total	0 SF	0	0

### Ceiling Height

Shown 7'-8"

Possible\* 9'-0"

\* See Major Change information on plan page for cost



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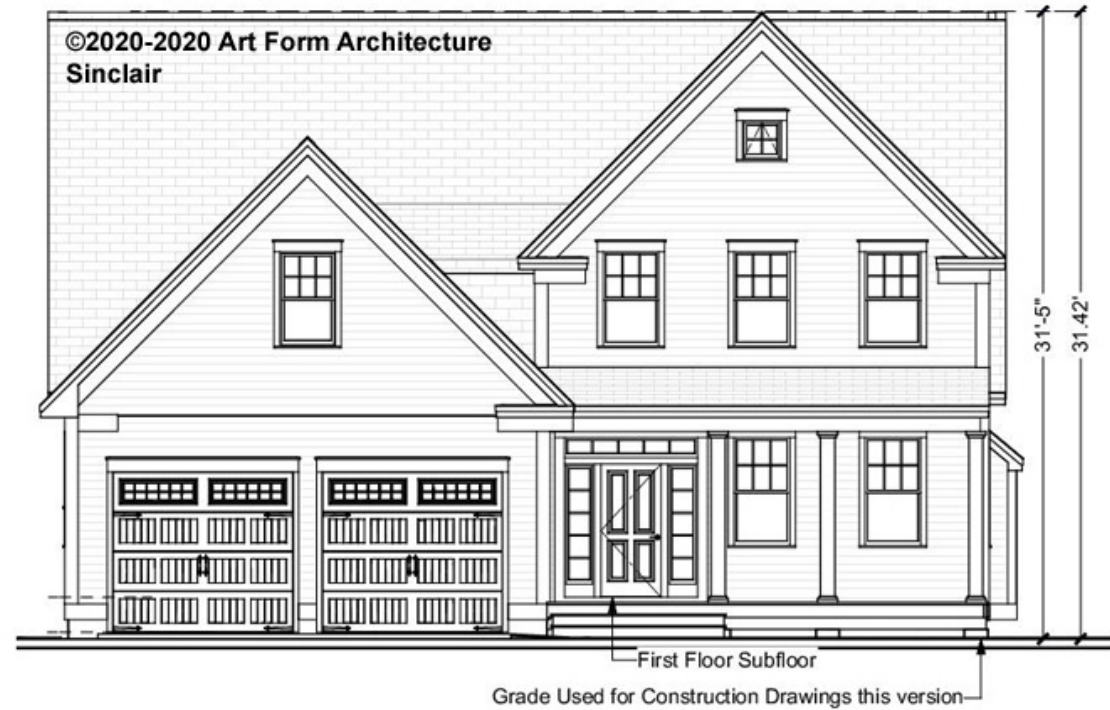
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## Front Elevation



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## Right Elevation



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## Rear Elevation



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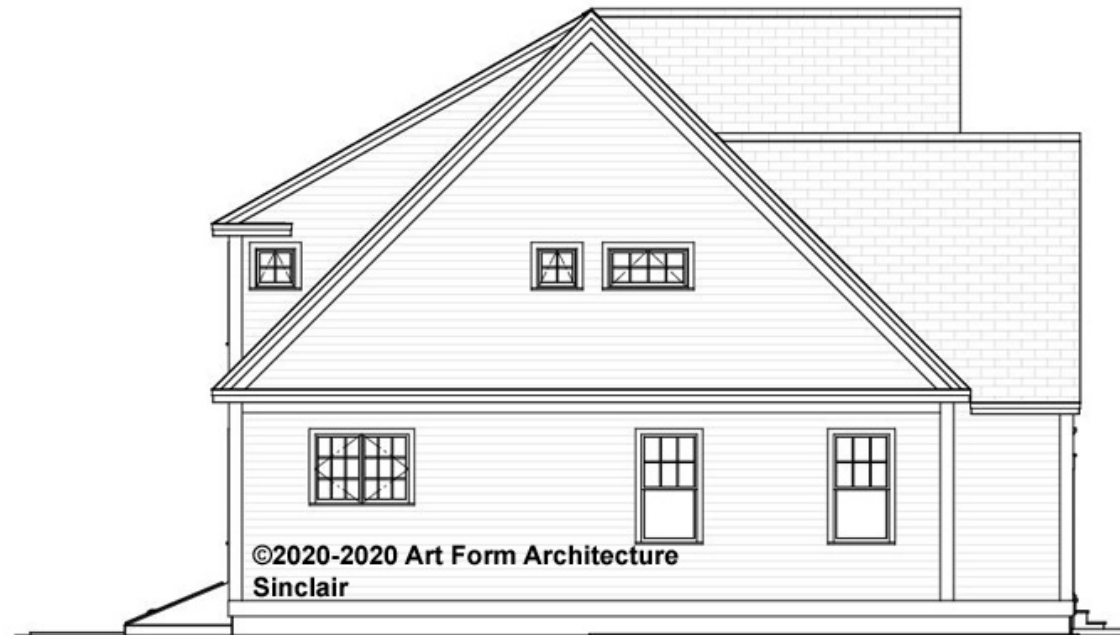
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## Left Elevation



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### Floor plan layout and/or Structural Changes:

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- If you wish to move or remove walls or structural elements (such as removal of posts, increases in house size, ceiling height changes, addition of dormers, etc), please do not assume it can be done without other additional changes (even if the builder or lumber yard says you can).

	Main	Future	Apt	Main + Future	Main + Apt	All
Living Area	1797 SF	0 SF	0 SF	1797 SF	1797 SF	1797 SF
Bedrooms	3	1	0	4	3	4
Baths	2.5	0.0	0.0	2.5	2.5	2.5

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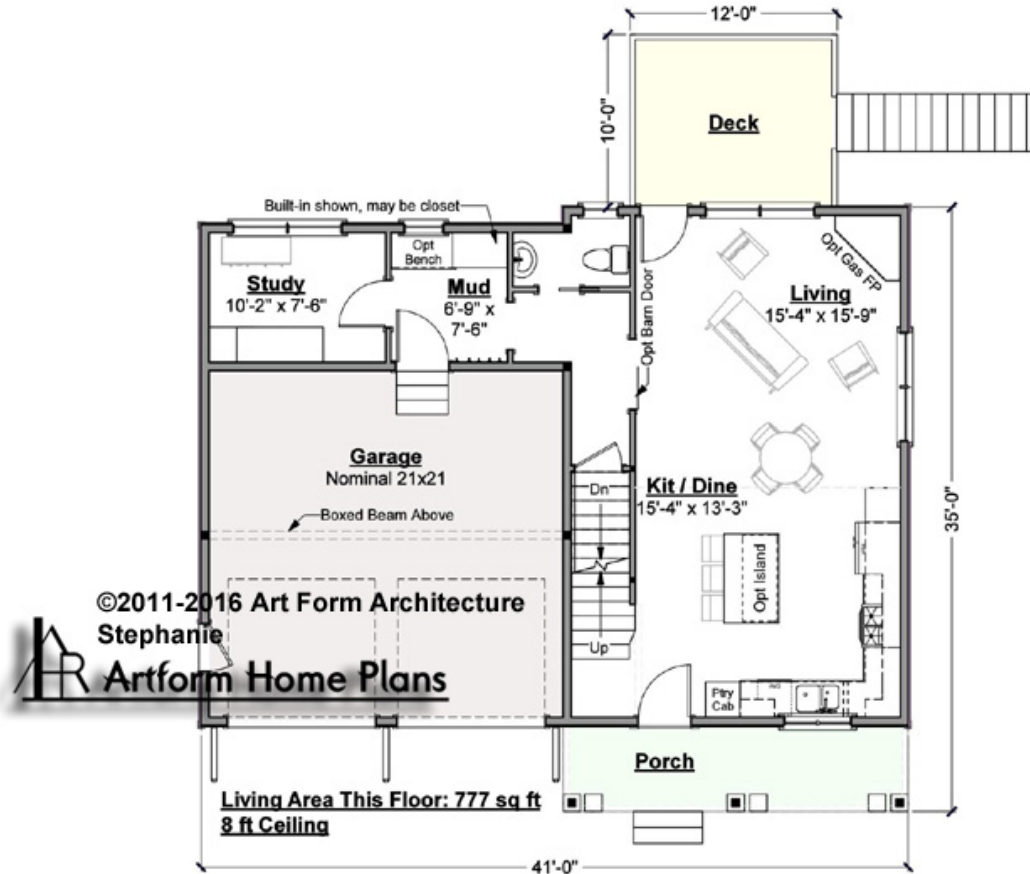
## First Floor

	Area	Beds	Baths
Main	777 SF	0	0.5
Future	0 SF	1	0
Apt	0 SF	0	0
<b>Total</b>	<b>777 SF</b>	<b>1</b>	<b>0.5</b>

Ceiling Height			
Shown	8'-0"		
Possible*	8'-8"		

\* See Major Change information on plan page for cost



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## Second Floor

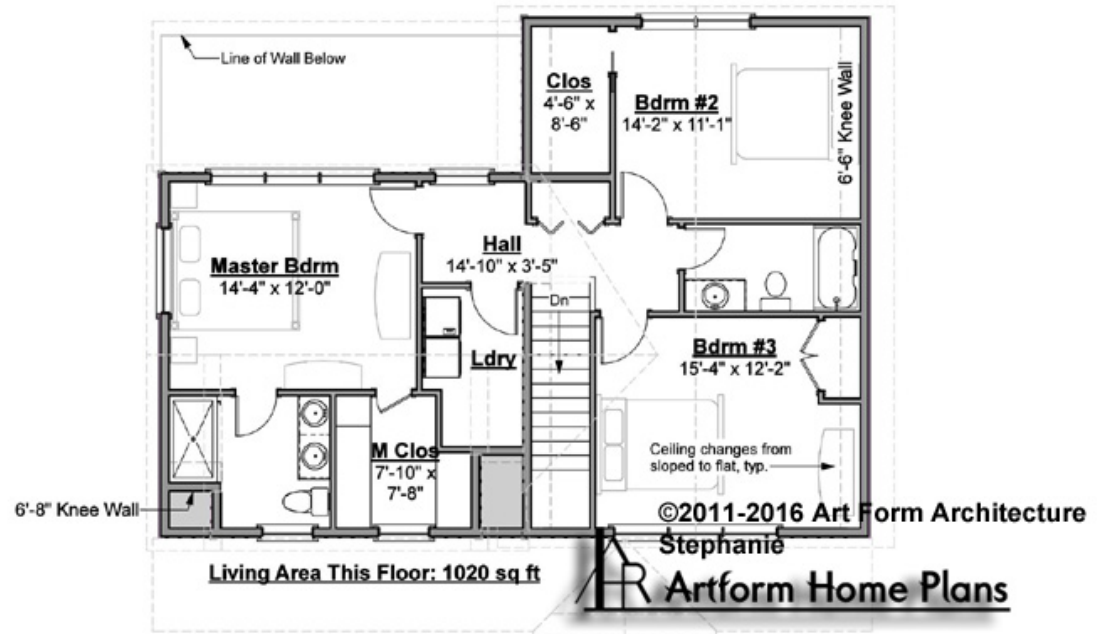
	Area	Beds	Baths
Main	1020 SF	3	2
Future	0 SF	0	0
Apt	0 SF	0	0
<b>Total</b>	<b>1020 SF</b>	<b>3</b>	<b>2</b>

### Ceiling Height

Shown 8'-0"

Possible\* 9'-0"

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## Basement Floor

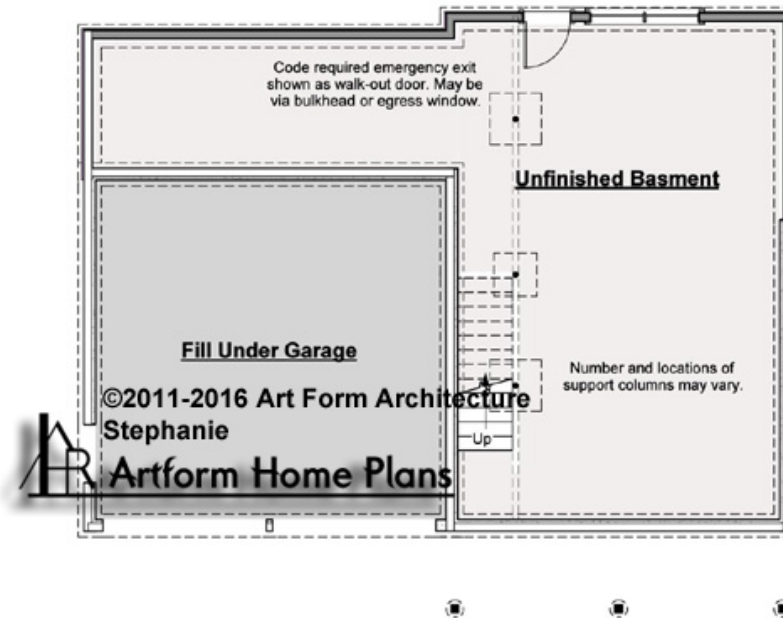
	Area	Beds	Baths
Main	0 SF	0	0
Future	0 SF	0	0
Apt	0 SF	0	0
Total	0 SF	0	0

### Ceiling Height

Shown 7'-8"

Possible\* 9'-0"

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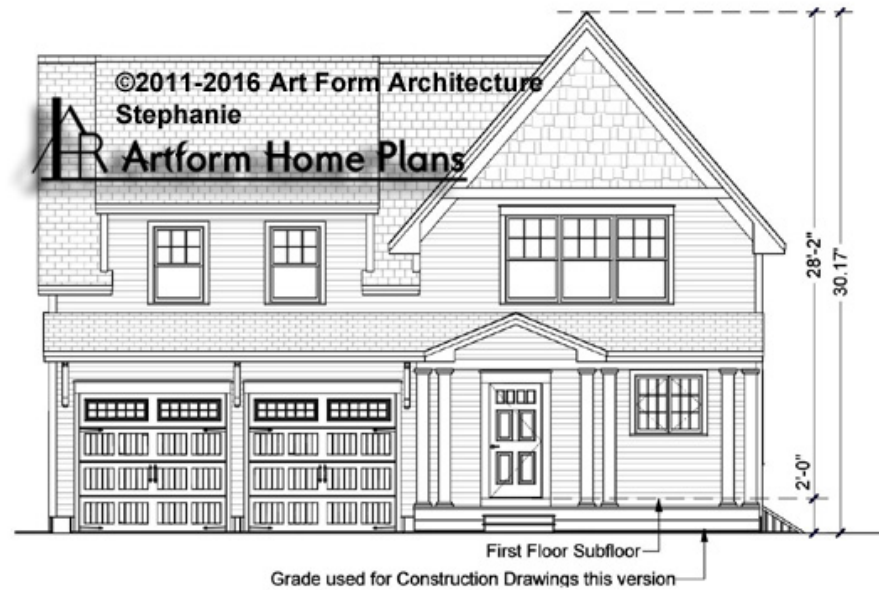
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## Front Elevation



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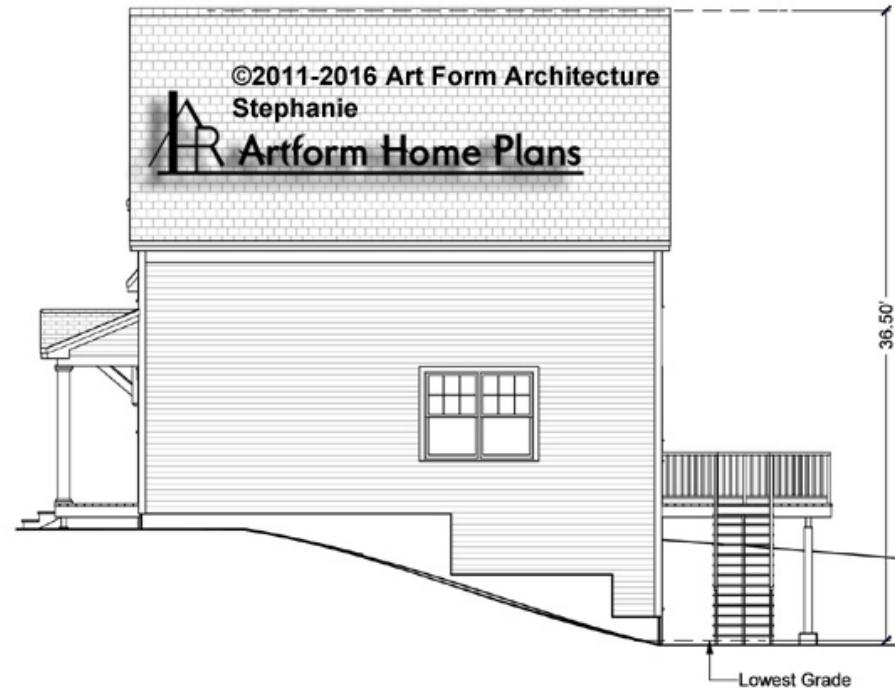
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## Right Elevation



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## Rear Elevation



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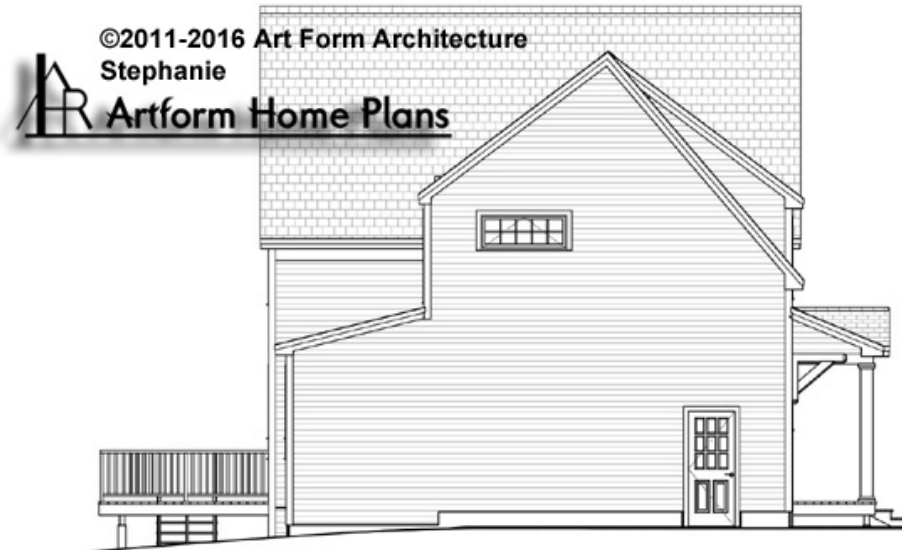
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## Left Elevation



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# 148.124.v6 KR Sweet Liberty



	Main	Future	Apt	Main + Future	Main + Apt	All
Living Area	2413 SF	0 SF	0 SF	2413 SF	2413 SF	2413 SF
Bedrooms	3	0	0	3	3	3
Baths	2.5	0.0	0.0	2.5	2.5	2.5

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## First Floor

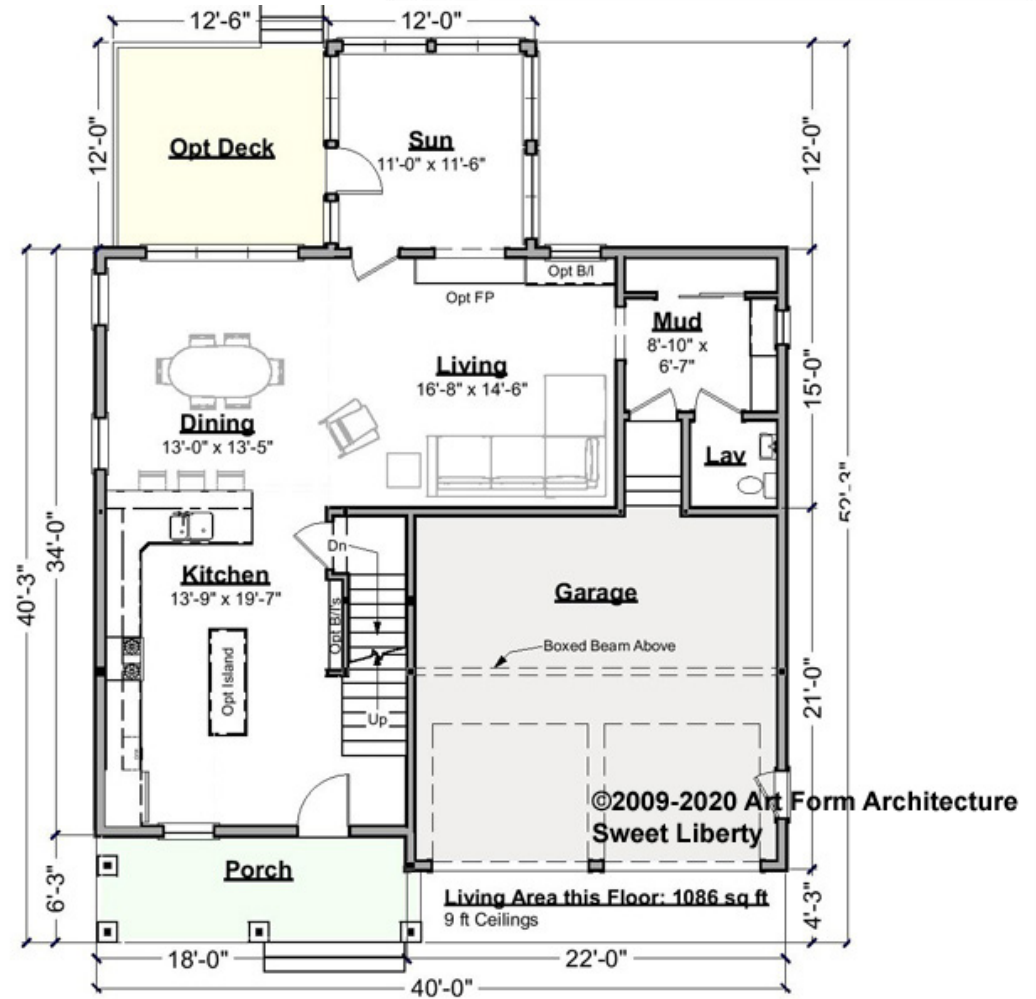
	Area	Beds	Baths
Main	1086 SF	0	0.5
Future	0 SF	0	0
Apt	0 SF	0	0
<b>Total</b>	<b>1086 SF</b>	<b>0</b>	<b>0.5</b>

Ceiling Height	
Shown	9'-0"
Possible*	8'-0"

\* See Major Change information on plan page for cost

### Notes This Design:

Side entry garage will require some structural redesign - a beam to transfer load from that post.



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### Second Floor

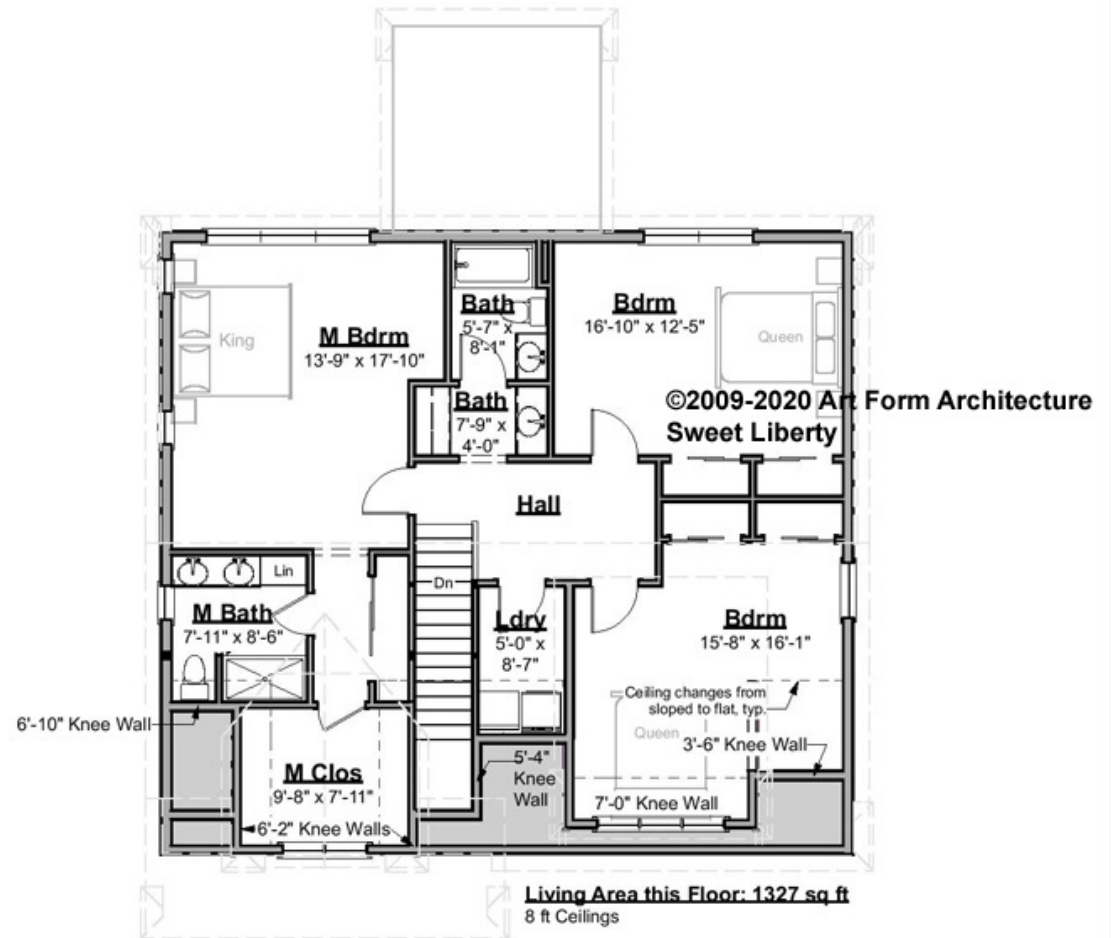
	Area	Beds	Baths
Main	1327 SF	3	2
Future	0 SF	0	0
Apt	0 SF	0	0
<b>Total</b>	<b>1327 SF</b>	<b>3</b>	<b>2</b>

#### Ceiling Height

Shown 8'-0"

Possible\* 9'-0"

\* See Major Change information on plan page for cost



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## Basement Floor

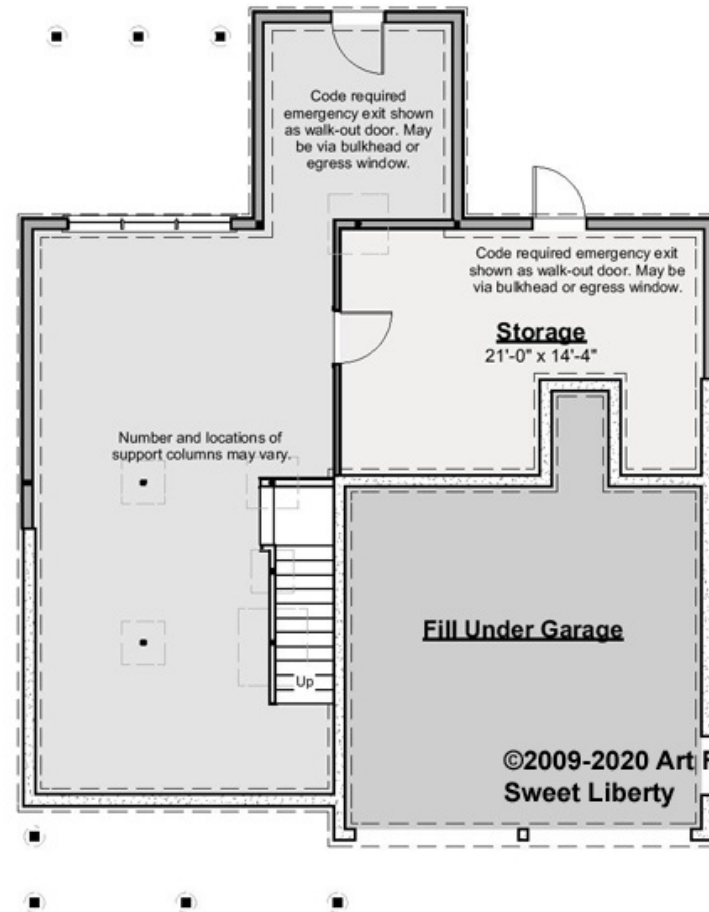
	Area	Beds	Baths
Main	0 SF	0	0
Future	0 SF	0	0
Apt	0 SF	0	0
<b>Total</b>	<b>0 SF</b>	<b>0</b>	<b>0</b>

### Ceiling Height

Shown 7'-8"

Possible\* 9'-0"

\* See Major Change information on plan page for cost



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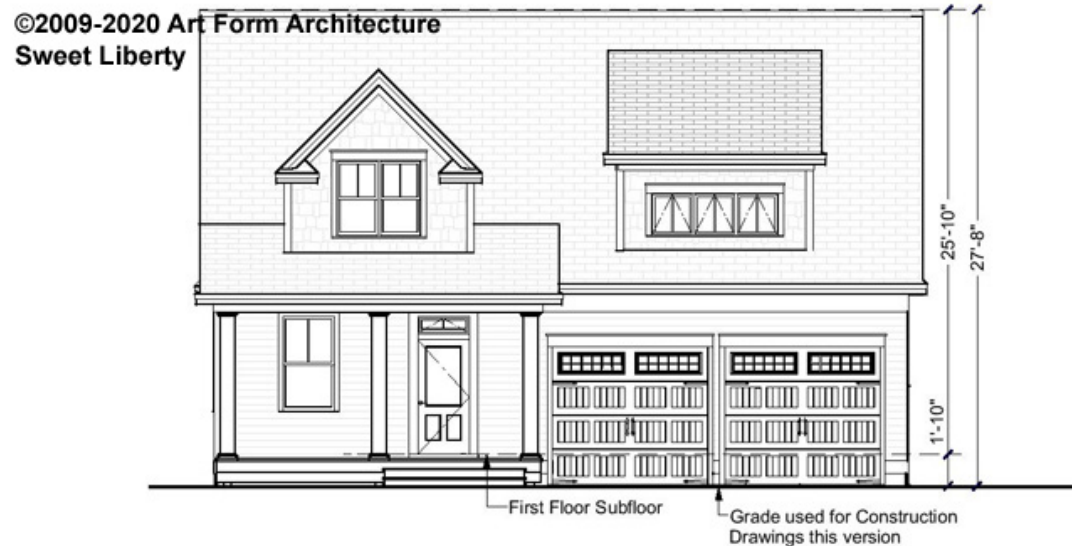
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## Front Elevation



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## Right Elevation



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## Rear Elevation



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## Left Elevation



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Some features show are optional. Your Purchase & Sale Agreement governs, whether items are labeled "optional" in this document or not.

We are not responsible for typographical errors.



**Wall Types**

Exterior walls 2x6 wood stud  
Interior walls 2x4 wood stud, unless noted otherwise

**Wall Keys**

- ② 2x wood studs on the flat
  - ⑥ 2x6 wood stud wall, 16" oc
- Note: 2x4 wood stud wall, 16" oc unless otherwise noted

**Key Notes**

- A 30" x 22" Minimum Attic Access Panel - Insulated (RO 34" x 26")
- F Field locate for plumbing or mechanical
- V Verify size of fixture or appliance. Adjust dimensions to accommodate
- C Center - Place door or window centered on wall
- SD Smoke Detector (HD) Heat Detector
- CO Carbon Monoxide Detector

**Dimensions**

- Dimensions are to face of stud, unless noted otherwise.
- Closets are 24" clear inside, unless dimensioned otherwise.

**Square Footages**

- Sq ft numbers are interior to room for use in calculating finishes.
- Cabinets and fixtures not subtracted.
- Add for doorways when floor finishes run through.

**Notes**

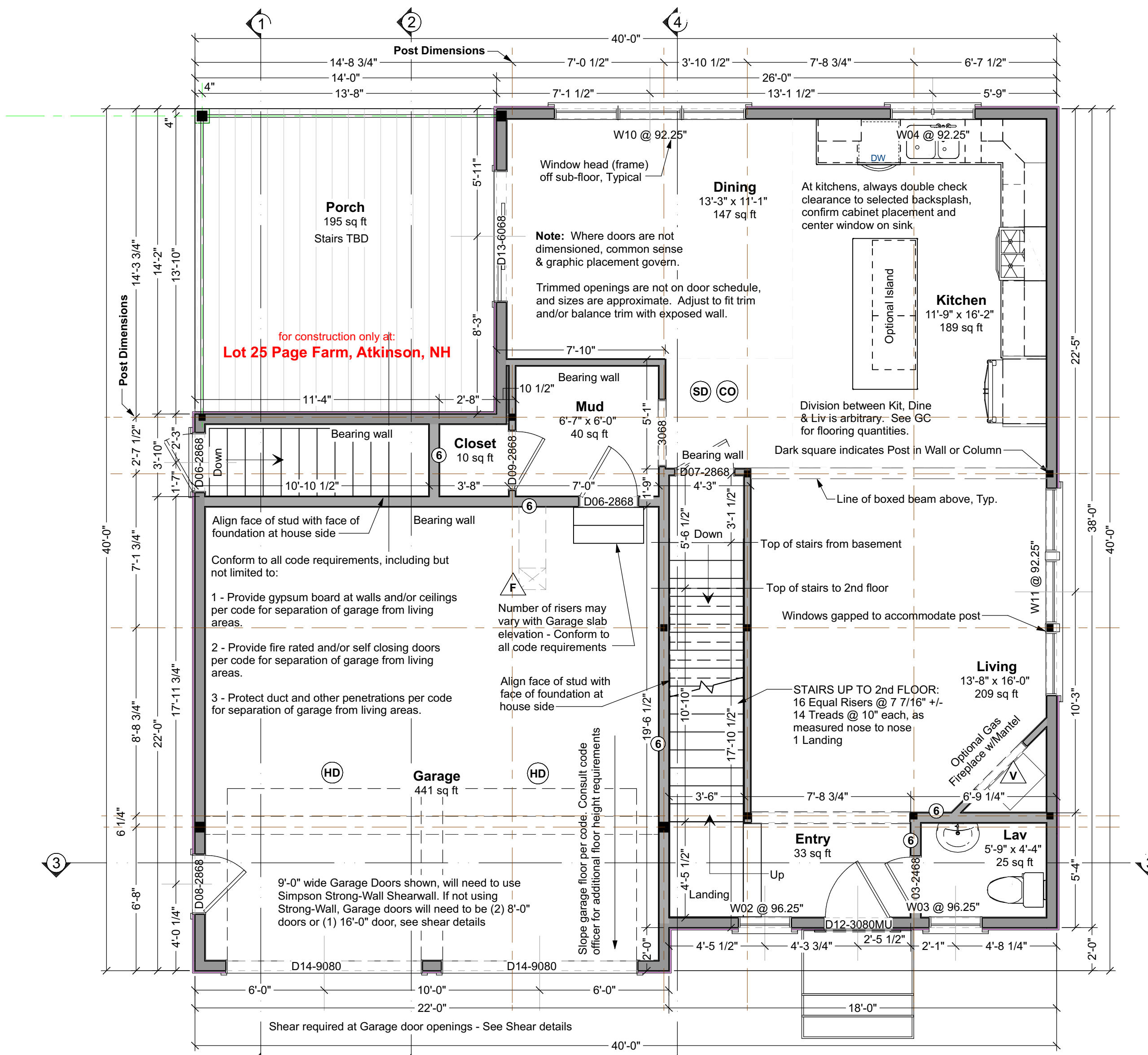
- Exterior walls 2x6 wood stud @ 16" oc. Provide insulation & vapor barrier conforming to state or local codes. Interior sheathing 1/2" gypsum board. Provide 1/2" exterior rated sheathing, house wrap with drainage plane and siding. Provide step flashing at walls adjacent to roof planes.
- Interior walls 2x4 wood stud @ 16" oc, unless noted otherwise.
- Roof - see structural for rafter sizes. Provide 5/8" exterior rated roof sheathing 15# roofing felt, ice & water shield at eaves and valleys, aluminum drip edge and asphalt shingles or metal roofing. Structure not calculated to support slate or tile. Flash all penetrations. Provide cricket at any added chimneys.
- Provide roof and/or ceiling insulation per code. Provide soffit and ridge vents where required for insulation strategy. (Verify with code officer - closed cell spray foam or dense-pack cellulose installed at rafters and filling ridge and eaves generally contra-indicates venting, but insulation always requires venting).
- Provide smoke, carbon monoxide, and heat detectors where shown and where required by code and where required by local authorities.
- Provide fire resistive materials where required by code, including but not limited to, firestopping at penetrations, 5/8" Type X drywall on walls and ceilings to separate garage (where garage present in design) from dwelling, and separation of dwellings (where more than one dwelling present in design), and protection of flammable insulation materials. See Table R306.6 IRC 2015.
- Compliance with code requirements for rooms size and clearances, (hallway widths, room sizes, etc) assume 1/2" drywall on walls and 1/2" drywall on 3/4" strapping on ceilings. Adjust as required if materials differ.
- Shear is only called out where Continuous Portal Frame will not suffice. See Section R602.10.4 (Pages 177 - 188) of the IRC 2015.

**General Design Notes**

- Builder shall consult and follow the building code and other regulations in effect for the building site for all construction details not shown in these drawings. Requirements described here are specific to this design and/or are provided as reference. Additional building code or local requirements may apply.
- Builder shall maintain a safe worksite, including but not limited to, provision of temporary supports where appropriate and adherence to applicable safety standards.
- Design is based on the snow load listed on the framing plans, 100 mph basic wind speed, Exposure type B, soil bearing capacity of 2000 psf, and Seismic Category C, unless otherwise noted on the framing plans. Builder shall promptly inform Artform Home Plans of differing conditions.

**Door & Window Notes**

- Rated Doors:** Provide fire rated and/or self-closing doors where required by local codes or local authorities
- Trimmed Openings:** Trimmed openings not shown on schedule. See Plan.
- Window Tempering:** Provide tempered windows where required by local codes or local authorities. Tempering column provided here for convenience. Windows have not been reviewed for tempering requirements.
- Window RO's:** 1/4" or 1/2" on each of 4 sides allowed for window RO's, typical. Review framing size vs RO size. Adjust per manufacturer's requirements and/or builder preference.
- Egress Windows:** Provide minimum one door or window meeting egress requirements in basement, in each sleeping room, in each potential sleeping room, and other locations required by local code, in sizes required by local code. Note that casement windows coded by manufacturer as meeting IRC 2015 egress requirements typically need to be ordered with specific hardware. Emergency Escape Window Sizes (Section R310.2.1, R310.2.2, R310.2.3 and R310.2.4). Will also comply with NFPA 101.
- Basement Windows:** Add basement windows as required to meet state or local code requirements, including but not limited to egress and light/ventilation.
- Skylights:** Skylights are not shown on this schedule, but may be required. Consult builder and/or see floor plan.
- Minimum window sill height:** IRC 2015 requires that floor window sills be 24" from floor. Confirm bottom of window opening relative to frame. Conform to IRC 2015 R312.1.



**First Floor Plan**

Living Area this Floor: 854 sq ft  
9 ft Finished Ceiling Height

**NOTE TO HOMEOWNER:**  
These construction plans ARE NOT a part of your construction contract with your builder, unless your F&S agreement specifies that they are. Your F&S and its attachments (like the builder's specifications or a review set of this design) describes what you and your builder agreed the builder would build for you. We here at Artform Home Plans do not have the authority to obligate your builder to provide you with amenities like fireplaces and spa tubs. The contract between you and your builder governs.

DOOR SCHEDULE							
NUMBER	QTY	FLOOR	SIZE	WIDTH	HEIGHT	TYPE	COMMENTS
D01	1	2	2068 R IN	24"	80"	HINGED	
D02	1	2	2468 L	28"	80"	POCKET	
D03	1	1	2468 L IN	28"	80"	HINGED	
D04	3	2	2468 L IN	28"	80"	HINGED	
D05	3	2	2468 R IN	28"	80"	HINGED	
D06	2	1	2868 L EX	32"	80"	HINGED	
D07	1	1	2868 L IN	32"	80"	HINGED	
D08	1	1	2868 R EX	32"	80"	HINGED	
D09	1	1	2868 R IN	32"	80"	HINGED	
D10	3	2	2868 L IN	32"	80"	HINGED	
D11	2	2	2868 R IN	32"	80"	HINGED	
D12	1	1	3080	36"	96"	MULLED UNIT	HINGED W/TRANSOM
D13	1	1	6088 R EX	72"	80"	SLIDER	
D14	2	1	9080	108"	96"	GARAGE	

WINDOW SCHEDULE								
NUMBER	QTY	WIDTH	HEIGHT	R/O	EGRESS	TEMPERED	DESCRIPTION	COMMENTS
W01	2	23 1/2"	23 1/2"	24"x24"			SINGLE AWNING	
W02	1	29 1/2"	41 1/2"	30"x42"		YES	SINGLE CASEMENT-HL	
W03	1	29 1/2"	41 1/2"	30"x42"			SINGLE CASEMENT-HR	
W04	1	47"	47 1/2"	47 1/2"x48"			DOUBLE CASEMENT-LHL/RHR	
W05	1	70 1/2"	23 1/2"	71"x24"			TRIPLE CASEMENT-LHL/RHR	
W06	1	106 1/2"	47 1/2"	107"x48"	YES		TRIPLE CASEMENT-LHL/RHR	
W07	1	23 1/2"	35 1/2"	24"x36"			DOUBLE HUNG	
W08	1	23 1/2"	47 1/2"	24"x48"		YES	DOUBLE HUNG	
W09	2	76"	61 1/2"	76 1/2"x62"	YES		2X DH	
W10	1	106 1/2"	85 1/2"	107"x66"			3X DH	
W11	1	115 1/2"	65 1/2"	116"x66"			3X DH	

**Giselle 40x40**



**Dear Code Officer,**

These are predesigned home plans, designed to bring good design and construction drawings to people at more affordable prices and faster time frames than traditional architecture. Where traditional "internet" home plans disclaim all responsibility, we split responsibility between us (Artform) and the owner. We encourage the future homeowners to use a quality builder who can assist them with this. They are responsible for thermal and moisture decisions and for meeting code in ways that a quality builder should know without an explicit detail. We are responsible for things that are directly related to the design and/or that a quality builder couldn't reasonably figure out on their own - specifically the following IRC 2015 code sections:

- Room sizes (Section R304)
- Ceiling Height (Section R305)
- Floor space & ceiling height at Toilet, Bath and Shower Spaces (Section R307)
- Hallway widths (Section R311.6)
- Door types & sizes (Section R311.2)
- Floor space in front of doors (Section R311.3)
- Stair width - The stairs in our designs will be a minimum of 36" wide measured wall surface to wall surface, allowing compliance with R311.7.1 with installation of correct handrail.
- Stairway headroom (Section R311.7.2)
- Stair treads and risers (Section R311.7.5)
- Landings for stairways (Section R311.7.6)
- Emergency Escape Window Sizes (Section R310.2.1, R310.2.2, R310.2.3 and R310.2.4). Casement windows may require manufacturer's emergency escape window hardware. Will also comply with NFPA 101.
- Structural Floor Framing (Section R502.3) Where dimensional lumber is shown, framing members will be sized according to this section of the code. Where engineered wood products are shown, those framing members will be sized according to the manufacturer's tables for loads and spans, or sizes will have been calculated using manufacturer's published materials properties.
- See structural sheets for additional notes.

The builder can and should add information to this set, such as Rescheck, a hand markup of our generic thermal and moisture section, additional information about doors and windows (such as fire rating, tempering, etc), foundation drops relative to site grading, and sometimes their chosen method of basement egress. These drawings are not intended to be used without that additional information.

Where a construction address is shown on the drawings, it is for copyright control only. We have not inspected the site, adapted the design to state specific laws (except where it says so in the drawings) or site or region specific climate conditions. Homeowner and/or Builder shall be responsible for thermal and moisture control strategies, materials choices and compliance with applicable laws and ordinances.

Please do feel free to call us with any questions. We can and do update our drawings and standard notes to address specific concerns, especially in jurisdictions where our clients will be building again.

**Dear Everybody,**

With these drawings a copyright license is granted for a single construction only at Lot 25 Page Farm, Atkinson, NH by or for Green & Company. This is a License to Build, and does not include a License to Modify, except as required to conform to building code or fulfill builder's/owners responsibilities.

**Permissible uses of these drawings:**

- All activities associated with construction at the listed address.
- Pricing or preliminary discussions with zoning or code officials for construction at other addresses, with prior notification to Artform Home Plans - just use the Contact form on the web site - <http://www.artformhomeplans.com/contact.aspx>.

**Not Permitted:**

- Application for any permits or other approvals for construction at properties other than the listed address, including but not limited to construction, zoning, conservation, or design review.
- Modification of the basic design.

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We can provide drawings suitable for use in obtaining design or zoning approvals without incurring the expense of a full set of construction drawings. Contact us for more information.

Artform Home Plans 2015, 2016 - IRC 2015

These drawings are intended for use by an experienced professional builder in responsible charge of the entire project, including but not limited to mechanical, electrical and sitework. Any additional adaptation for these trades or other trades must be determined prior to start of construction. Contact Artform for any adjustments needed.

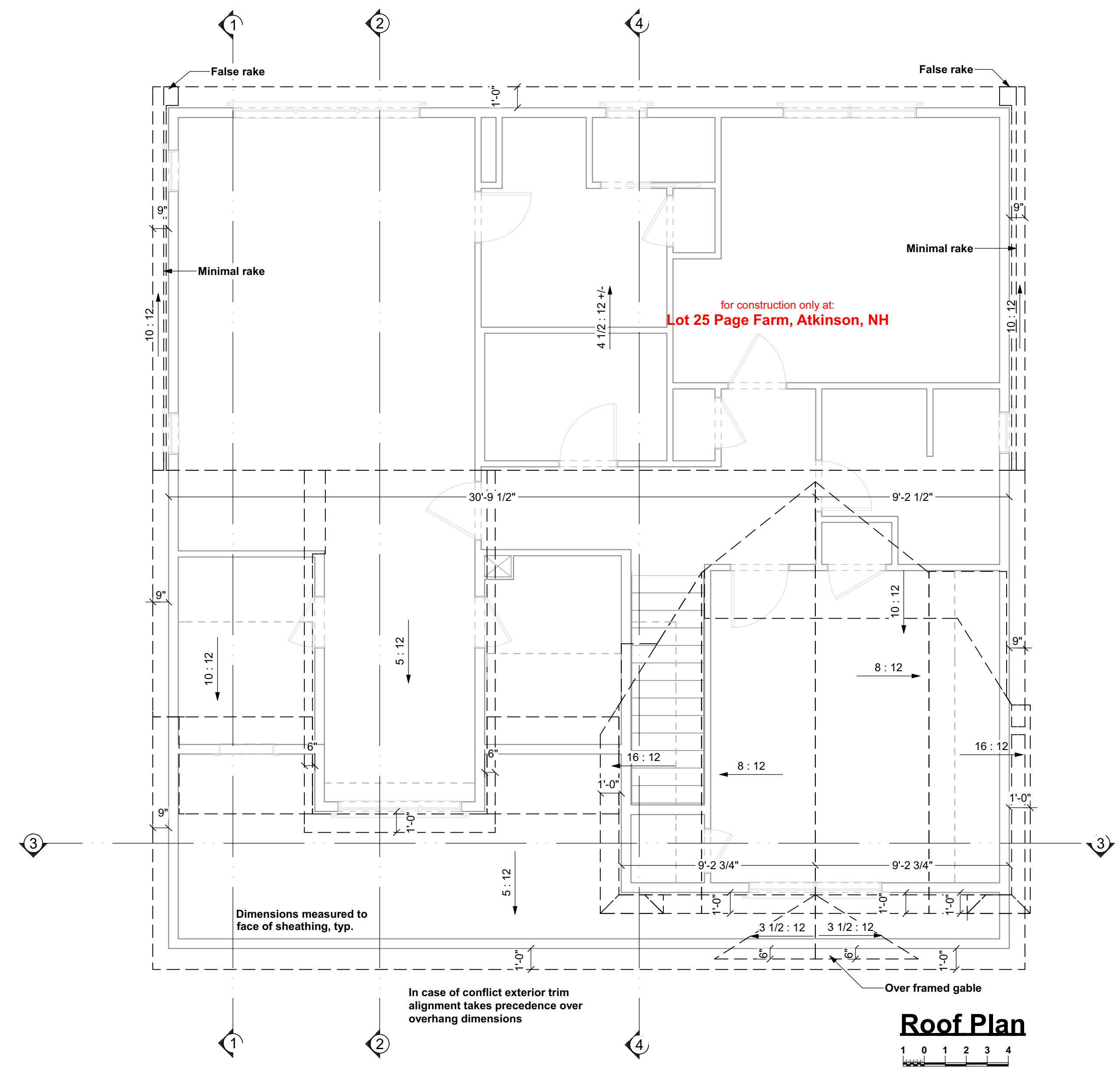
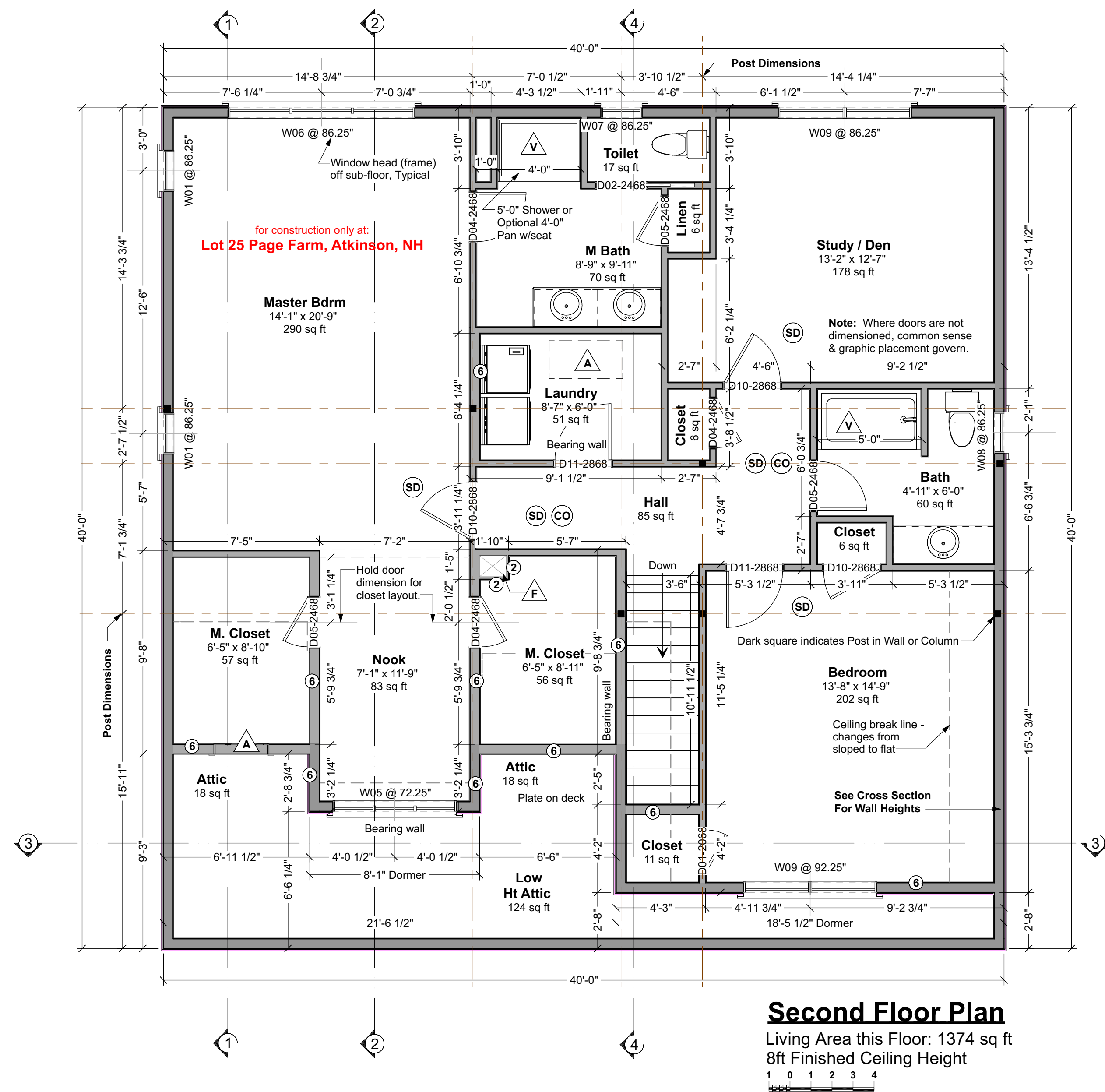
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**Giselle 40x40**  
Lot 25 Page Farm  
Atkinson, NH





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 Artform Home Plans Artform Design # 918.124.v3 GL © 2008-2020 Art Form Architecture 603.431.9559	Giselle 40x40 Lot 25 Page Farm Atkinson, NH	<b>2</b> Issued for: <b>Construction</b>
	<small>1/4"=1'-0" unless noted otherwise / Print @ 1:1          PDF created on: 4/23/2020, drawn by: ACJ</small>	



**Foundations**

- No footing shall be poured on loose or unsuitable soils, in water or on frozen ground.
- All exterior footings to conform to all applicable code requirements for frost protection.
- All concrete shall have a minimum compressive strength of at least 3000 PSI at 28 days.
- Foundation anchorage to comply with IRC 2015 Section R403.1.6, it shall consist of minimum size 1/2" diameter anchor bolts with 3/16" x 2" x 2" washers at a maximum of 72" oc for two stories or 48" oc for more than two stories, max of 12" from each corner, min of 2 bolts per wall. Anchor bolt shall extend 7" into concrete or grouted cells of concrete masonry units. Be aware that a garage under may be counted by your code officer as a story. Additional anchorage may be required at braced walls.
- Foundation reinforcing steel is to be installed in accordance with all applicable provisions of IRC 2015 Section 404.1.3.2

**TYPICAL PERIMETER FOUNDATION WALL:**

- 8" poured concrete, 8 ft forms, min 7'-10" finished, with total of 3 rebar, as follows:
  - (1) #4 rebar, 4" from top
  - (1) #4 rebar @ vertical midpoint. Omit this rebar at walls 4 ft high or less.
  - (1) #4 rebar, min 3" from bottom or per code
  - Lap corners & splices of rebar per code.
- Secure sill to foundation with 1/2" diameter anchor bolts that extend 7" into concrete and tightened with a nut and washer @ 6' oc & max 12" from each corner & each end @ wood sill splices - if built-up sill, bolts must extend through all sill plates or straps must secure all sill plates.

**TYPICAL PERIMETER FOOTING:**

- Use Footing chart(s) below to verify that depth of home matches chart. Depth is foundation dimension eave to eave. Contact Artform Home Plans if you believe the chart does not match the plan.
  - Select row for snow load shown on the structural plans.
  - Select a column for soil bearing pressure based on soil type and/or consultation with code officer.
  - The required footing size is at the intersection of the Snow Load and Soil PSF. Rebar is not required. Key or pin foundation wall to footing per code.
- FAQ - Adding rebar to footings does not reduce the required width. Rebar affects performance with earth movement, like an earthquake and has near zero effect on bearing capacity.

**Guide to Soil PSF**

3,000	Sandy gravel and/or gravel (GW and GP)
2,000	Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC)
1,500	Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH)

**8" wall - Footing Size for 28 Ft wide house**

Snow Load	Story and type of structure	1500 PSF	2000 PSF	3000 PSF
50 PSF	2 Story - Plus Basement	23 x 7.5	17 x 6	12 x 6
55 PSF	2 Story - Plus Basement	23.5 x 7.75	17.25 x 6	12 x 6
60 PSF	2 Story - Plus Basement	24 x 8	17.5 x 6	12 x 6
65 PSF	2 Story - Plus Basement	24.5 x 8.25	17.75 x 6	12 x 6
70 PSF	2 Story - Plus Basement	25 x 8.5	18 x 6	12 x 6

**8" wall - Footing Size for 32 Ft wide house**

Snow Load	Story and type of structure	1500 PSF	2000 PSF	3000 PSF
50 PSF	2 Story - Plus Basement	25 x 8.5	19 x 6	12 x 6
55 PSF	2 Story - Plus Basement	25.5 x 8.75	19.25 x 6	12.5 x 6
60 PSF	2 Story - Plus Basement	26 x 9	19.5 x 6	13 x 6
65 PSF	2 Story - Plus Basement	26.5 x 9.25	19.75 x 6	13.5 x 6
70 PSF	2 Story - Plus Basement	27 x 9.5	20 x 6	14 x 6

**8" wall - Footing Size for 36 Ft wide house**

Snow Load	Story and type of structure	1500 PSF	2000 PSF	3000 PSF
50 PSF	2 Story - Plus Basement	27 x 9.5	21 x 7	14 x 7
55 PSF	2 Story - Plus Basement	27.5 x 9.75	21.25 x 7	14.5 x 7
60 PSF	2 Story - Plus Basement	28 x 10	21.5 x 7	15 x 7
65 PSF	2 Story - Plus Basement	28.5 x 10.25	21.75 x 7	15.5 x 7
70 PSF	2 Story - Plus Basement	29 x 10.5	22 x 7	16 x 7

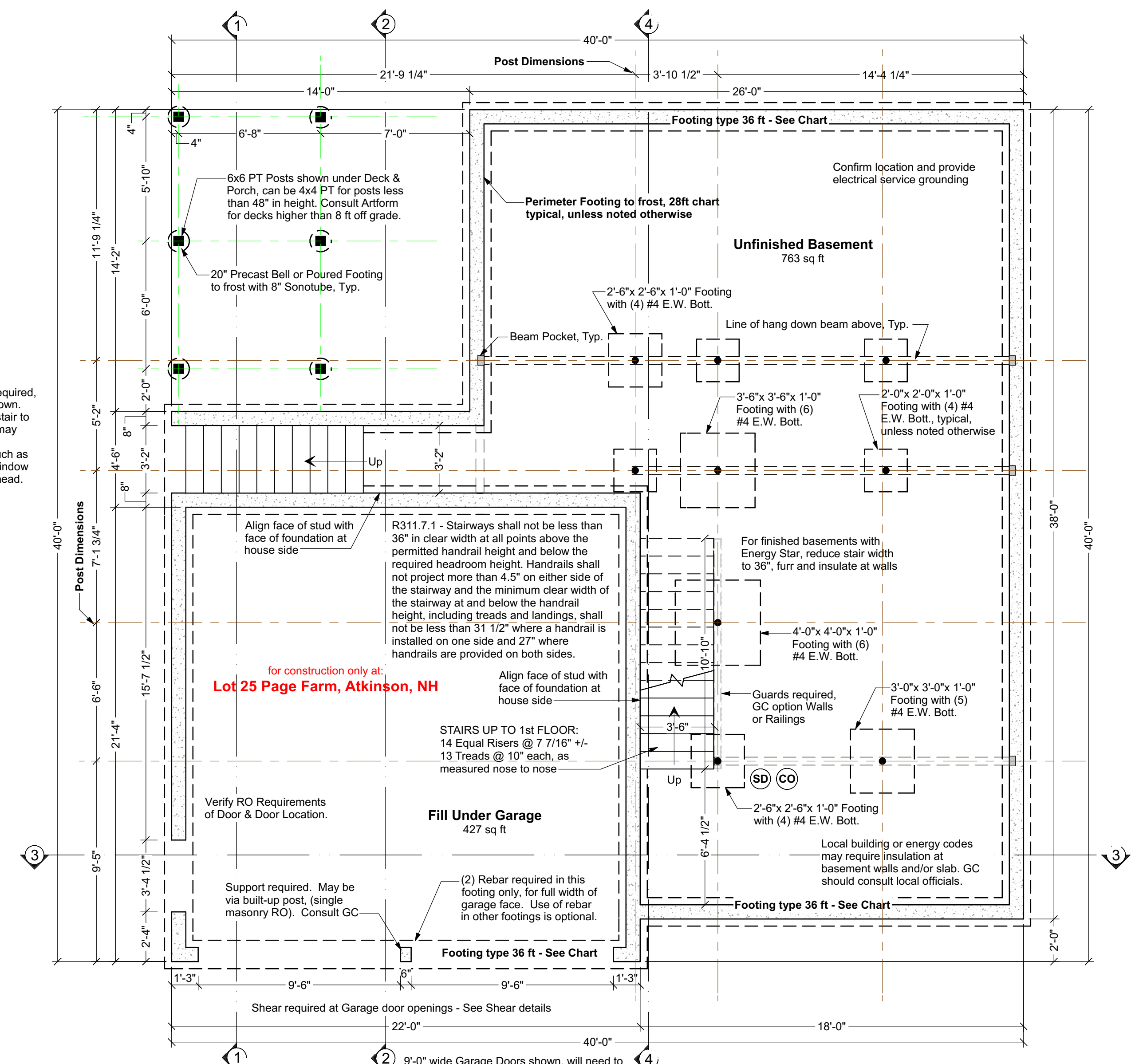
**Foundation Contractor Check List**

Confirm or review the following prior to forming & pouring foundation

- Initials Date Checked
- Confirmed soil bearing
  - Checked w/GC for added foundation steps to suit grade
  - Confirm sill plate thickness (foundation bolts to extend through all)
  - Confirmed garage door size
  - Checked w/GC for added basement windows
  - Checked w/GC for added basement man doors
  - Confirmed sizes & locations mech/plbg penetrations
  - Confirmed sizes and locations of beams w/GC, added or adjusted beam pockets
  - Confirmed location and installed electrical service grounding - See GC for location

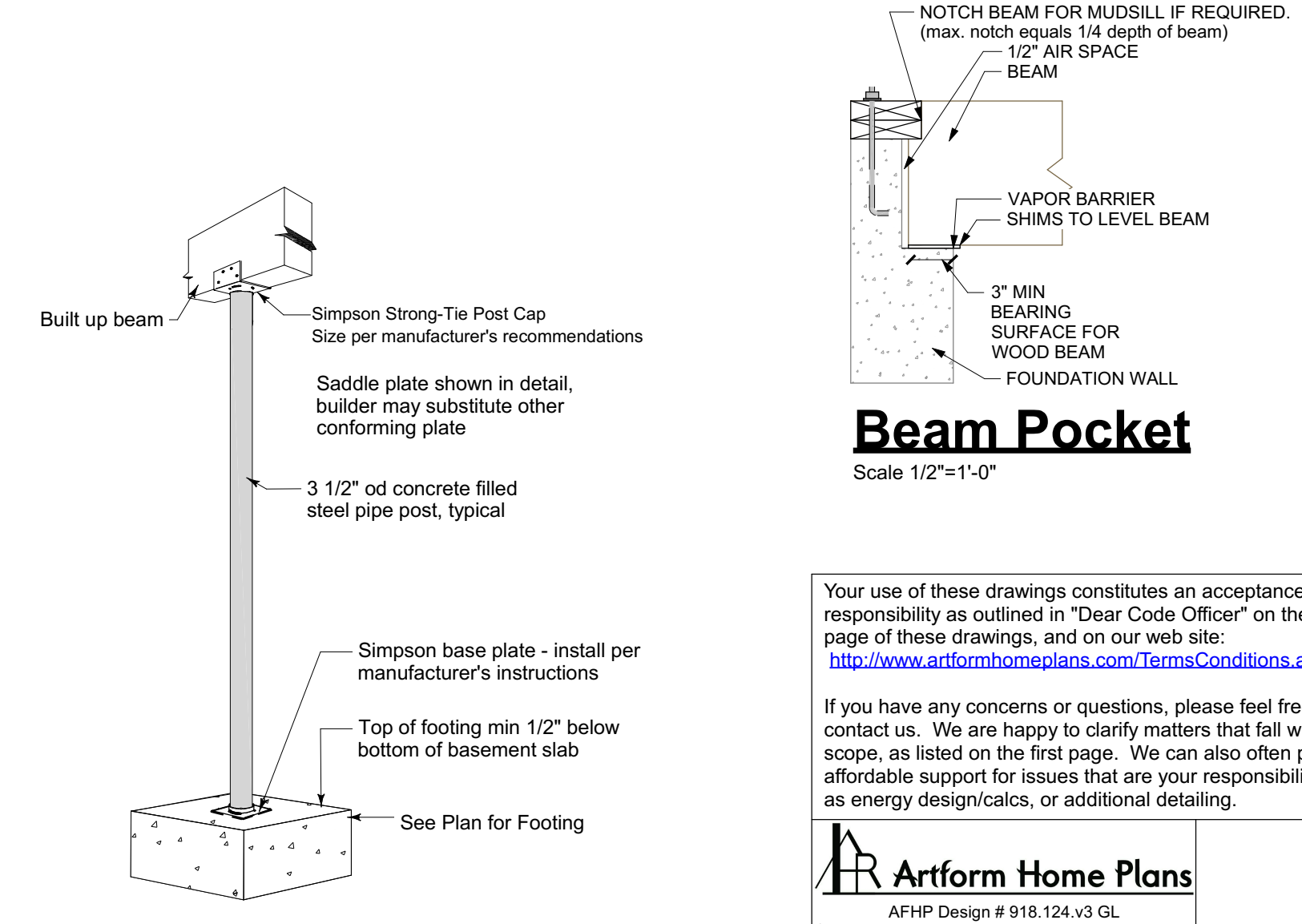
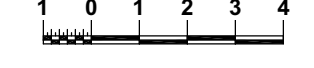
**MINIMUM VERTICAL REINFORCEMENT FOR 8-INCH (203MM) NOMINAL FLAT CONCRETE BASEMENT WALL**

MAXIMUM UNSUPPORTED WALL HEIGHT (ft)	MAXIMUM UNBALANCED BACKFILL HEIGHT (ft)	MINIMUM VERTICAL REINFORCEMENT - BAR SIZE AND SPACING (inches)		
		Soil classes and design lateral soil (psf per foot of depth)		
		GW, GP, SW, SP 30	GM, GC, SM, SM-SC and ML 45	SC, ML-CL and inorganic CL 60
8	4	NR	NR	NR
	5	NR	NR	NR
	6	NR	NR	6 @ 37
	7	NR	6 @ 36	6 @ 35
	8	6 @ 41	6 @ 35	6 @ 26



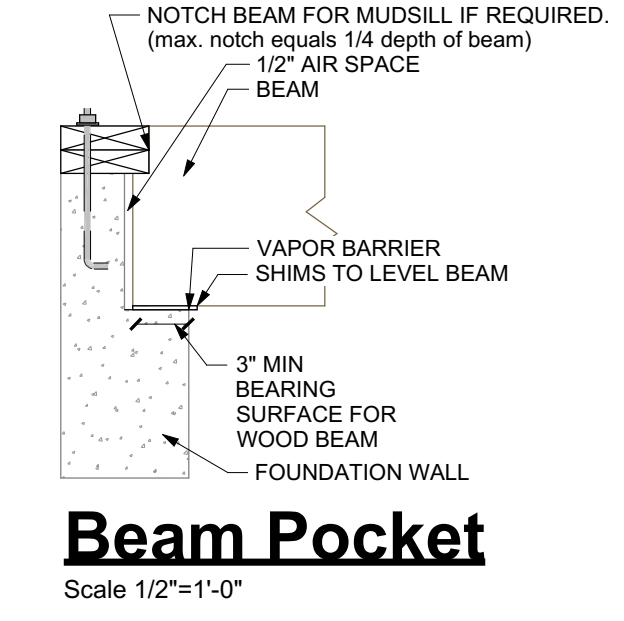
**Foundation Plan**

Structure designed for Snow Load of 55 psf  
Ceiling Height may vary: 8 ft forms



**Typical Basement Post**

Not to Scale



**Beam Pocket**

Scale 1/2"=1'-0"

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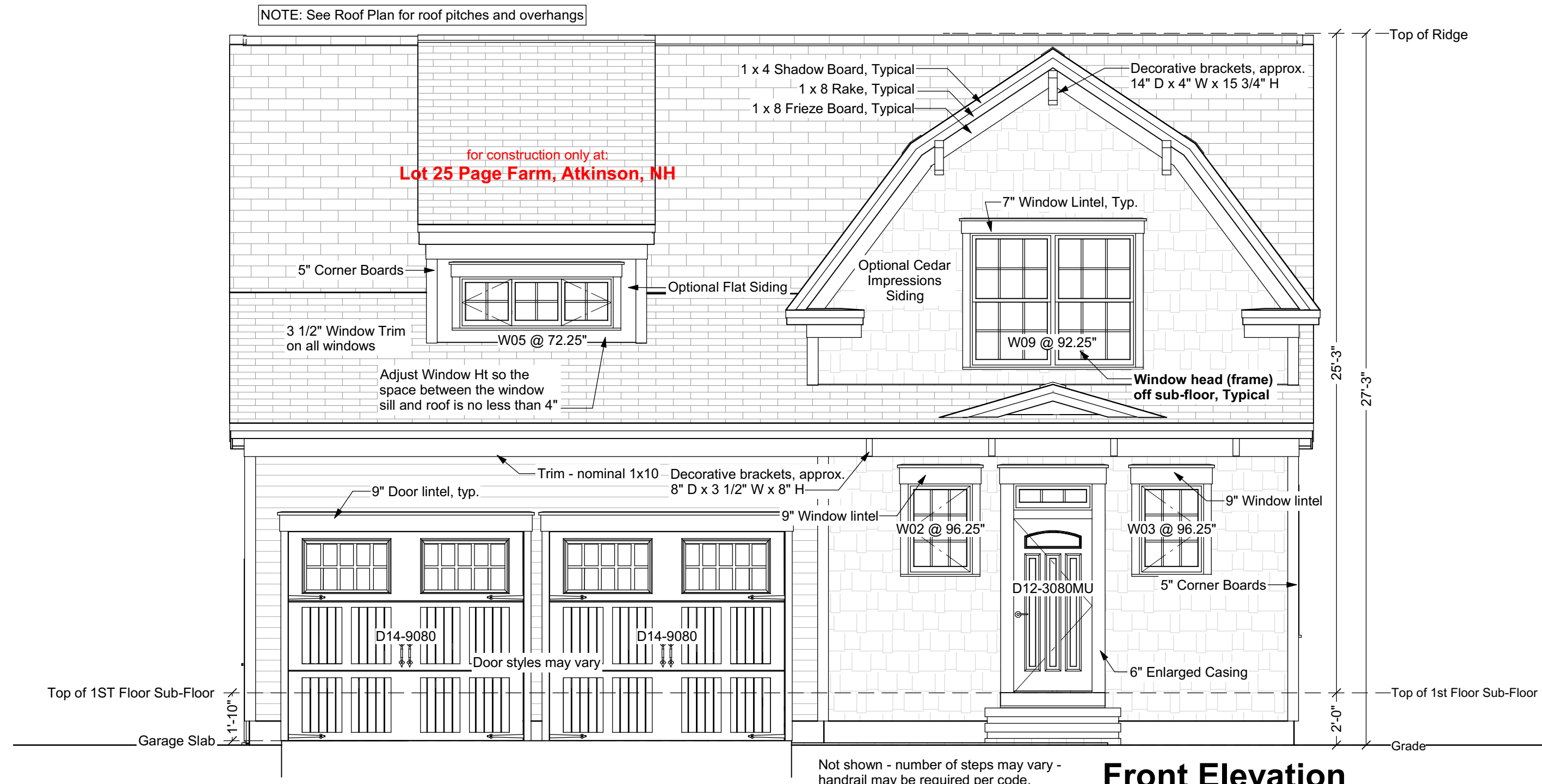
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**Giselle 40x40**  
 Lot 25 Page Farm  
 Atkinson, NH



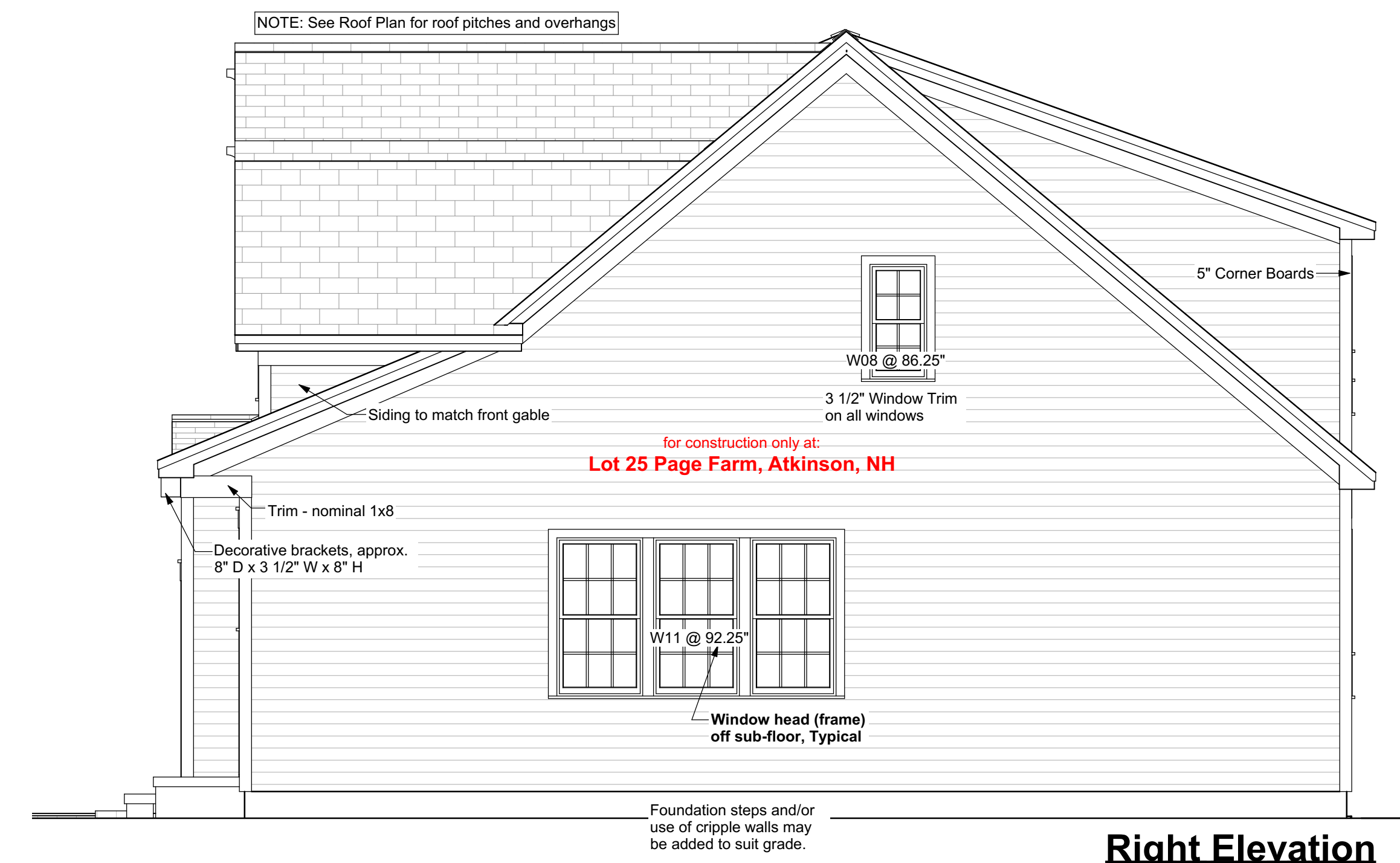
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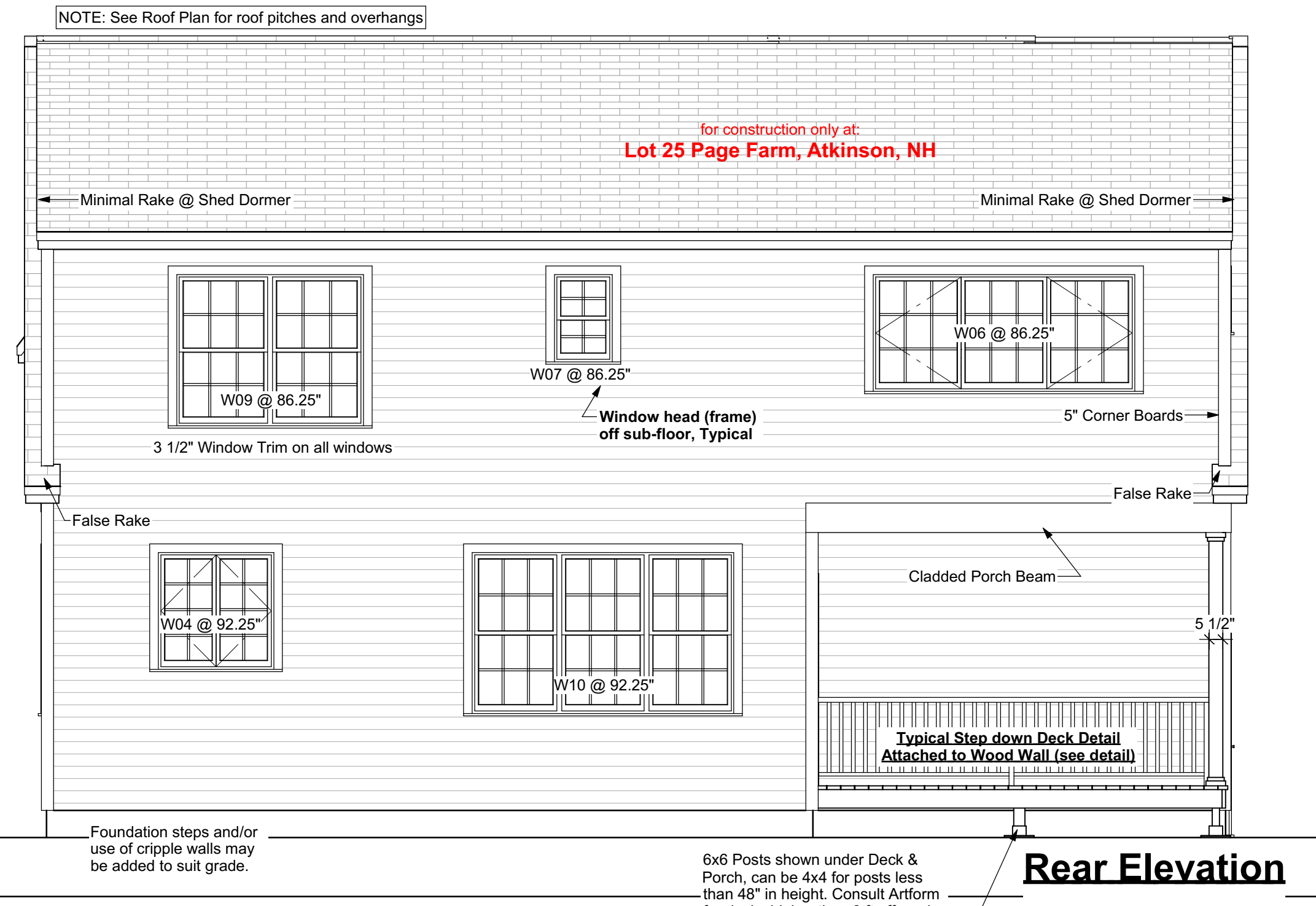
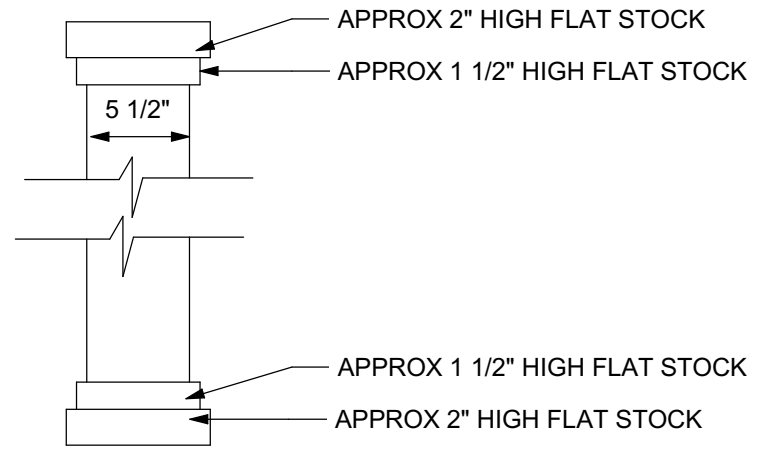
**Front Elevation**

Garage slab height may vary. If garage slab height is lower than shown, consult Artform for aesthetic direction. Taller garage doors, transoms, lintels and/or additional frieze boards may be required to achieve desired look.

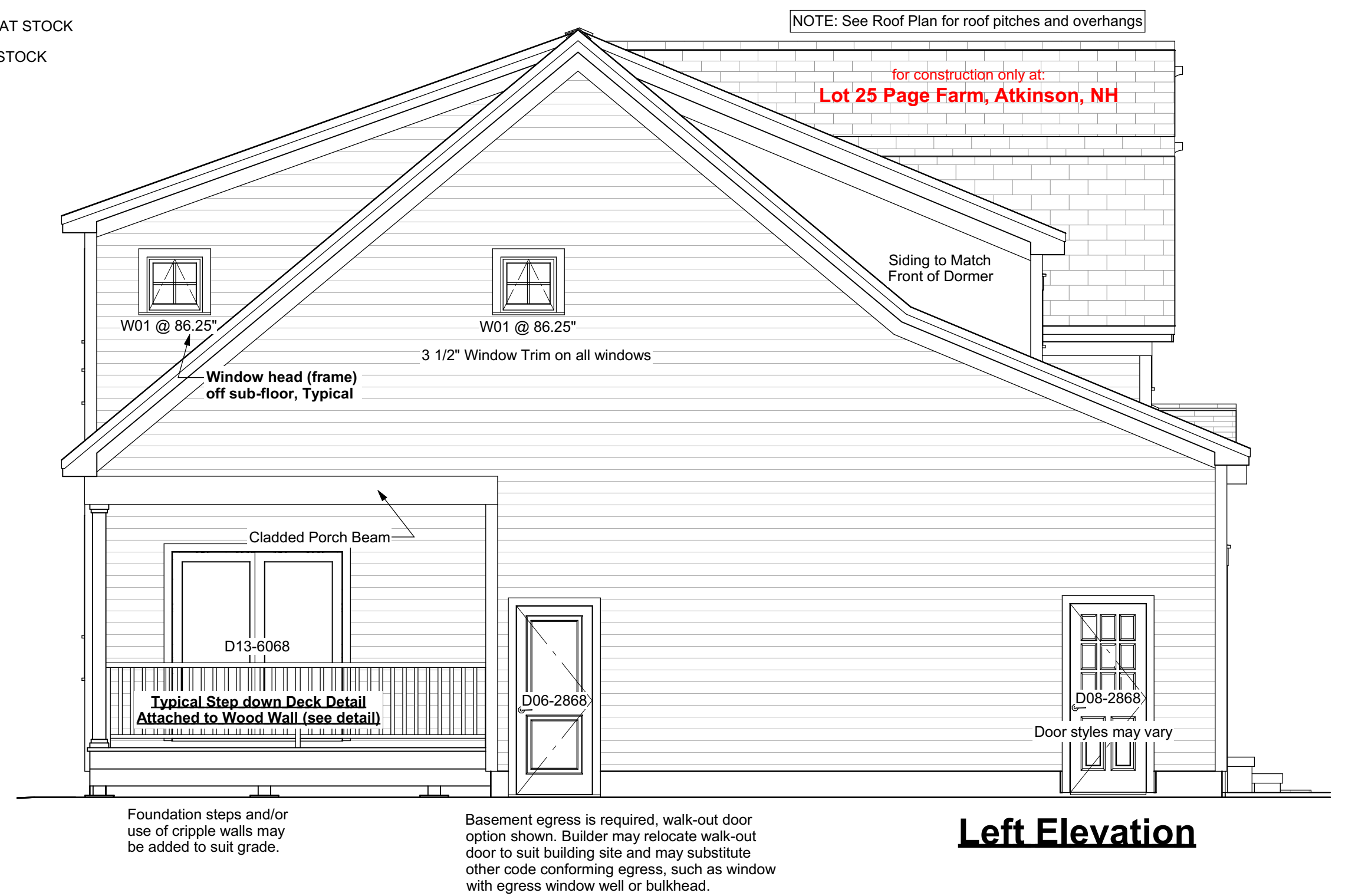
Note - Actual grade level may vary. Where zoning height restrictions apply, builder shall verify conformance. Manual markup of drawings to demonstrate compliance is recommended.



**Right Elevation**



**Rear Elevation**



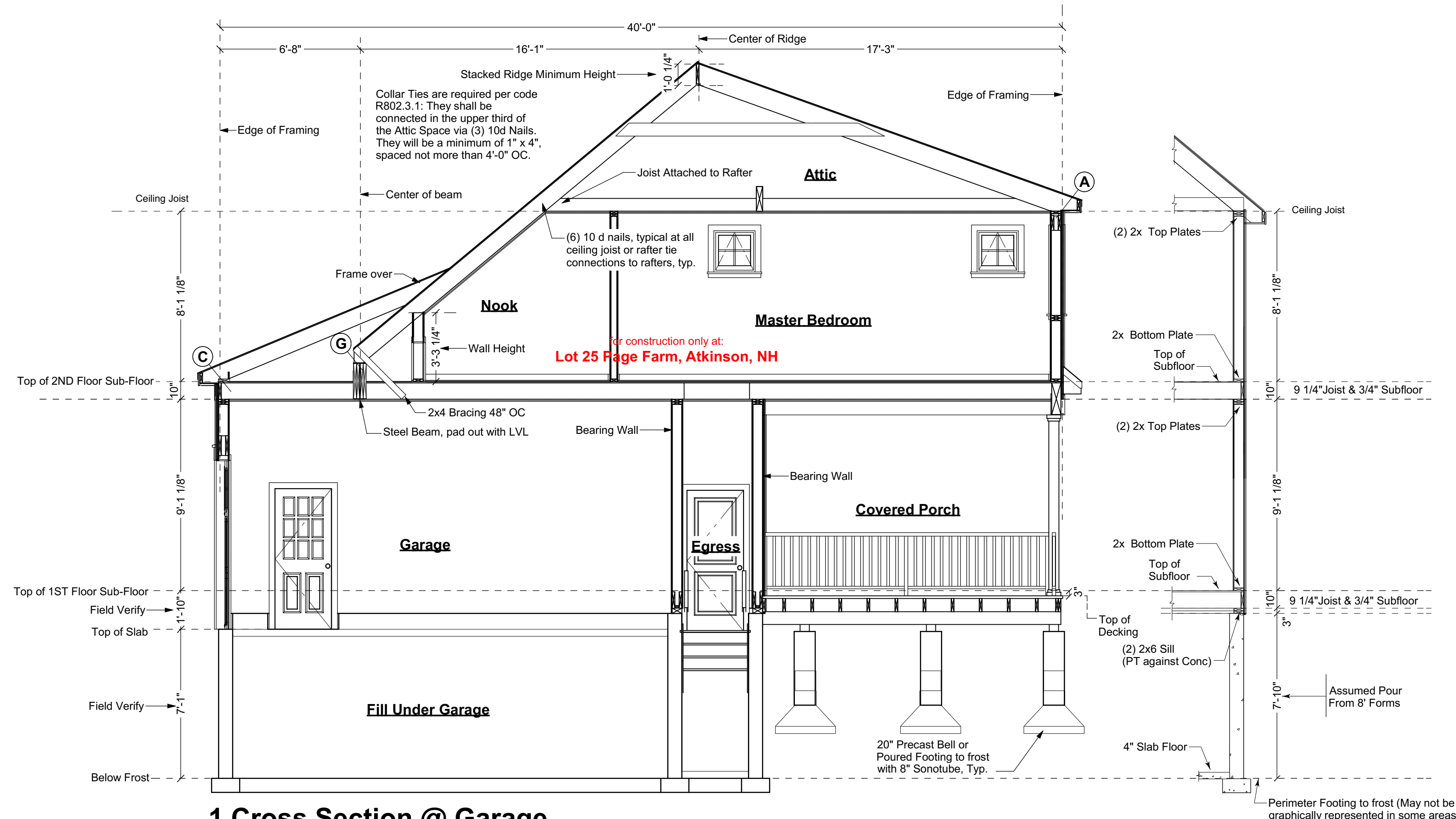
**Left Elevation**

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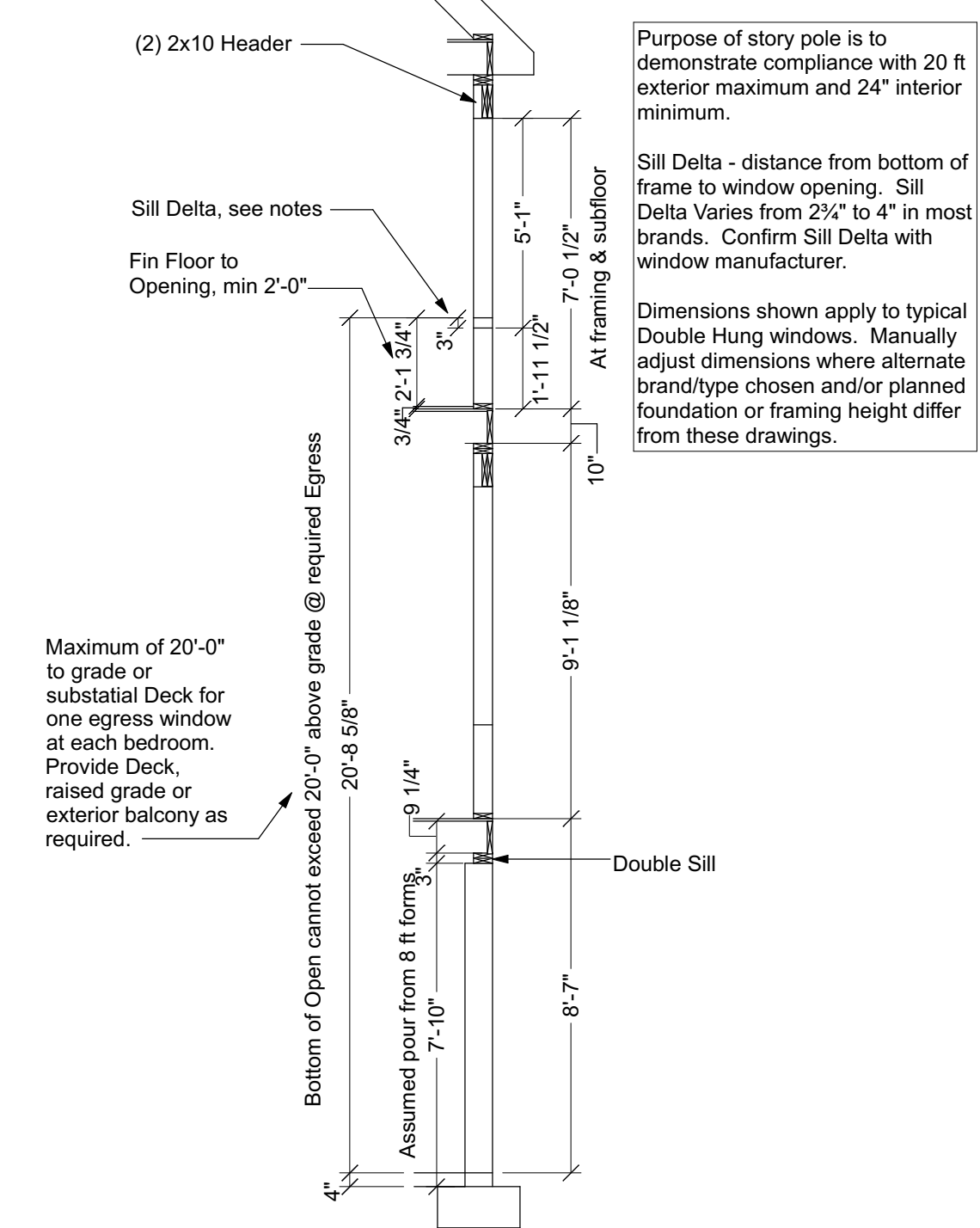
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	<p>1/4"=1'-0" unless noted otherwise / Print @ 1:1 PDF created on: 4/23/2020, drawn by ACJ</p>	

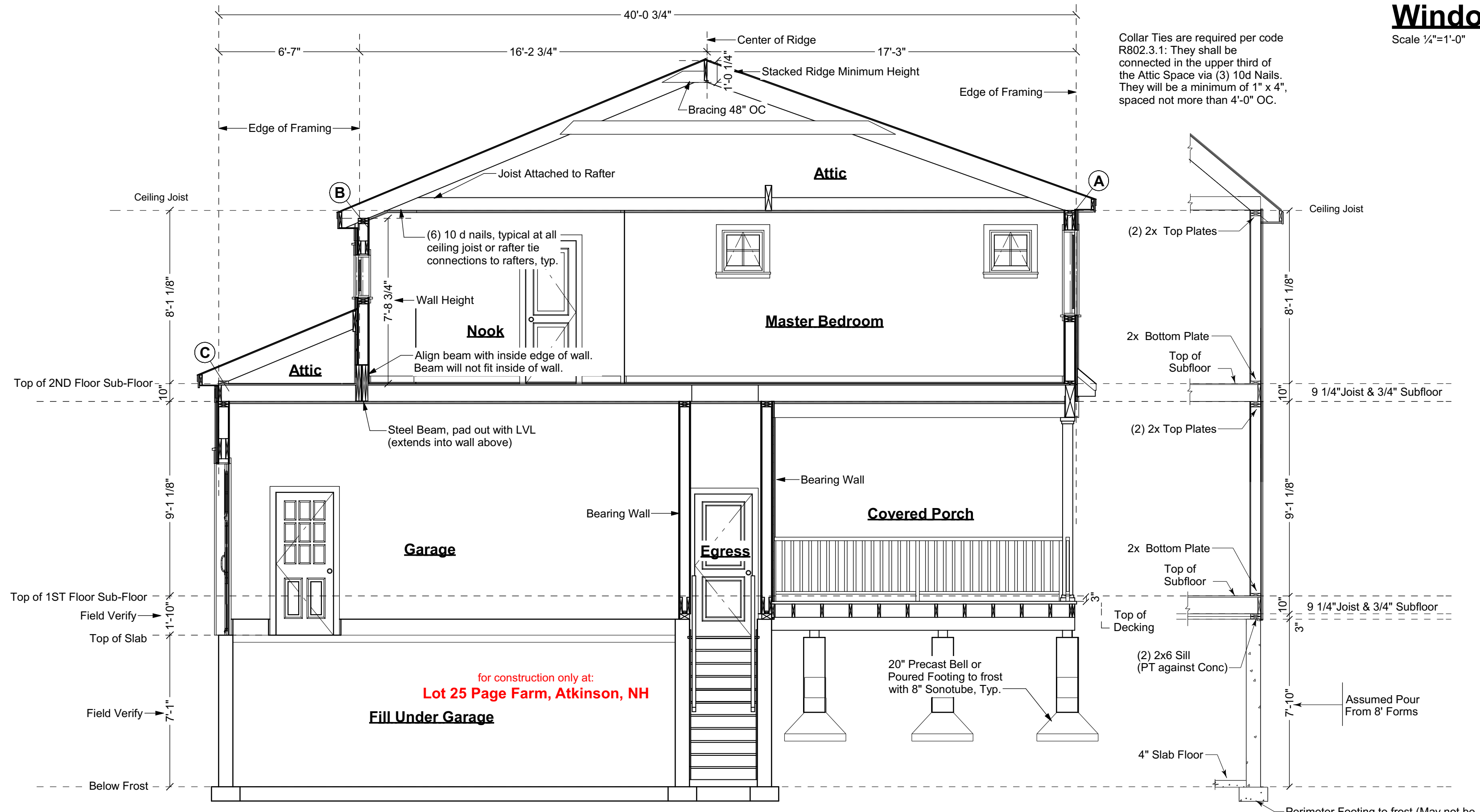
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**1 Cross Section @ Garage**



**Window Story Pole**  
Scale 1/2"=1'-0"



**2 Cross Section @ Garage Dormer**

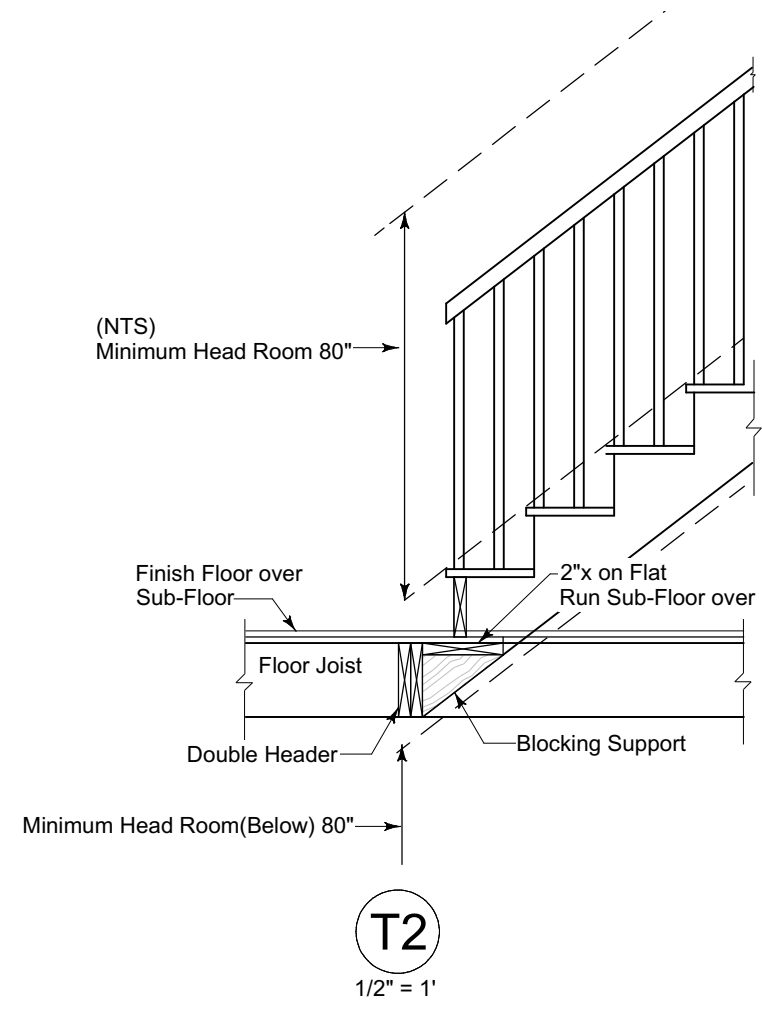
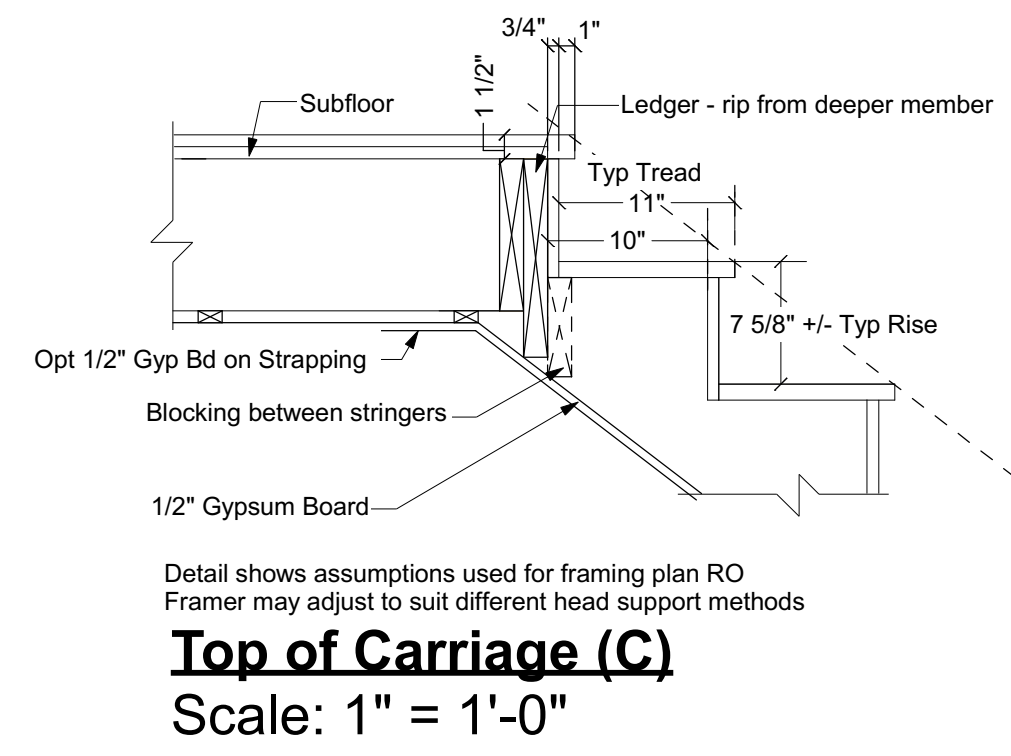
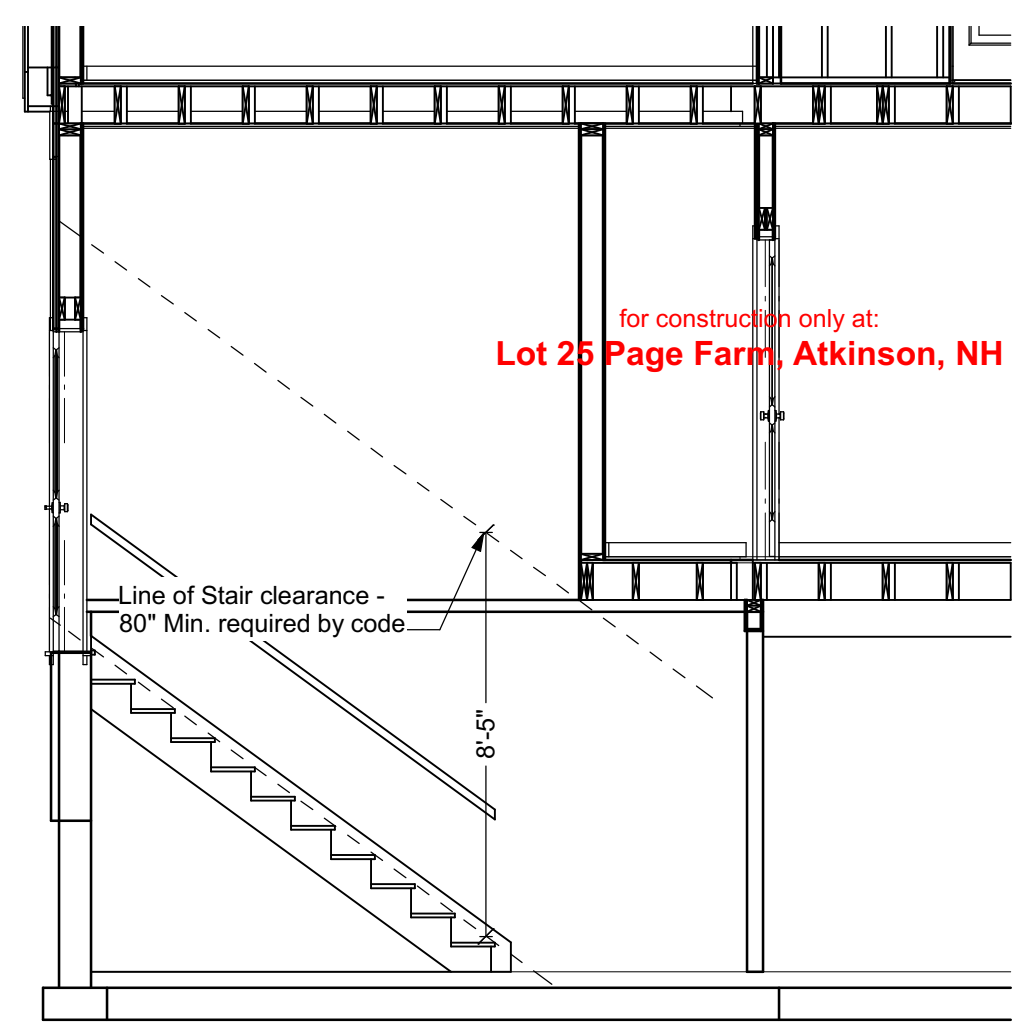
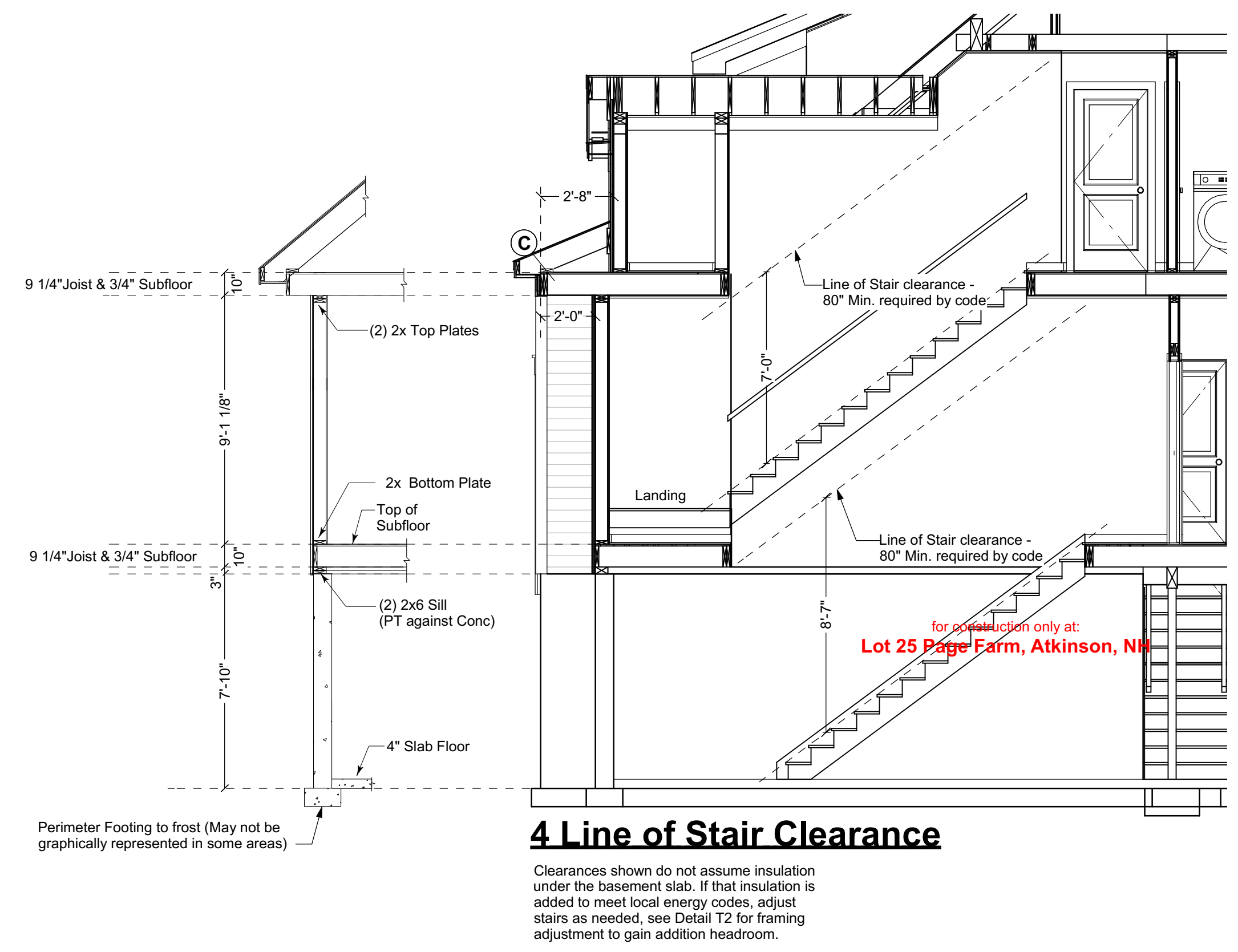
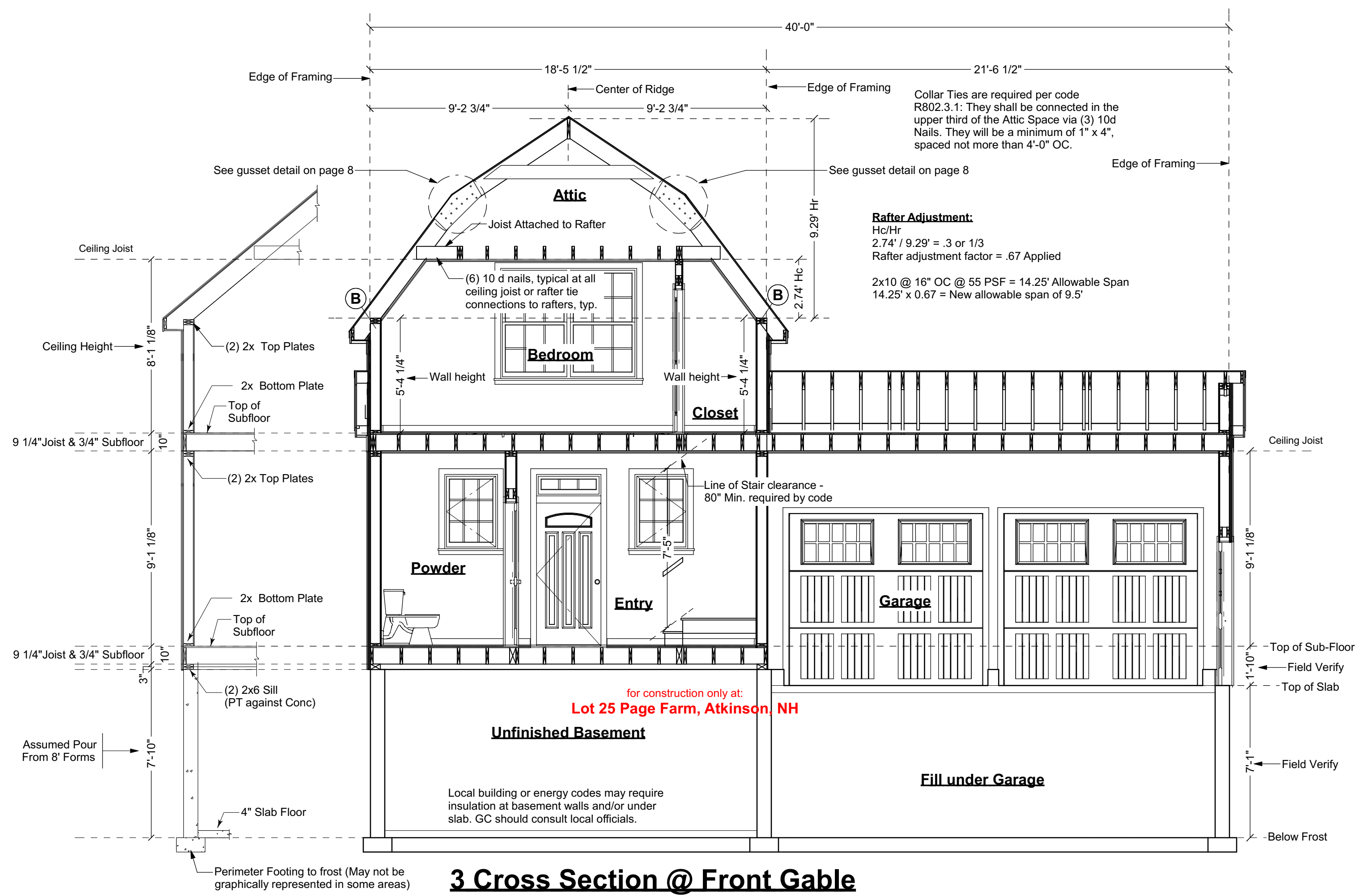
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	<p>1/4"=1'-0" unless noted otherwise / Print @ 1:1 PDF created on: 4/23/2020, drawn by ACJ</p>	



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Method PFG: Portal frame at garage door openings shall be constructed in accordance with Figure R602.10.6.3. Note this method is allowed on either side of garage door openings.

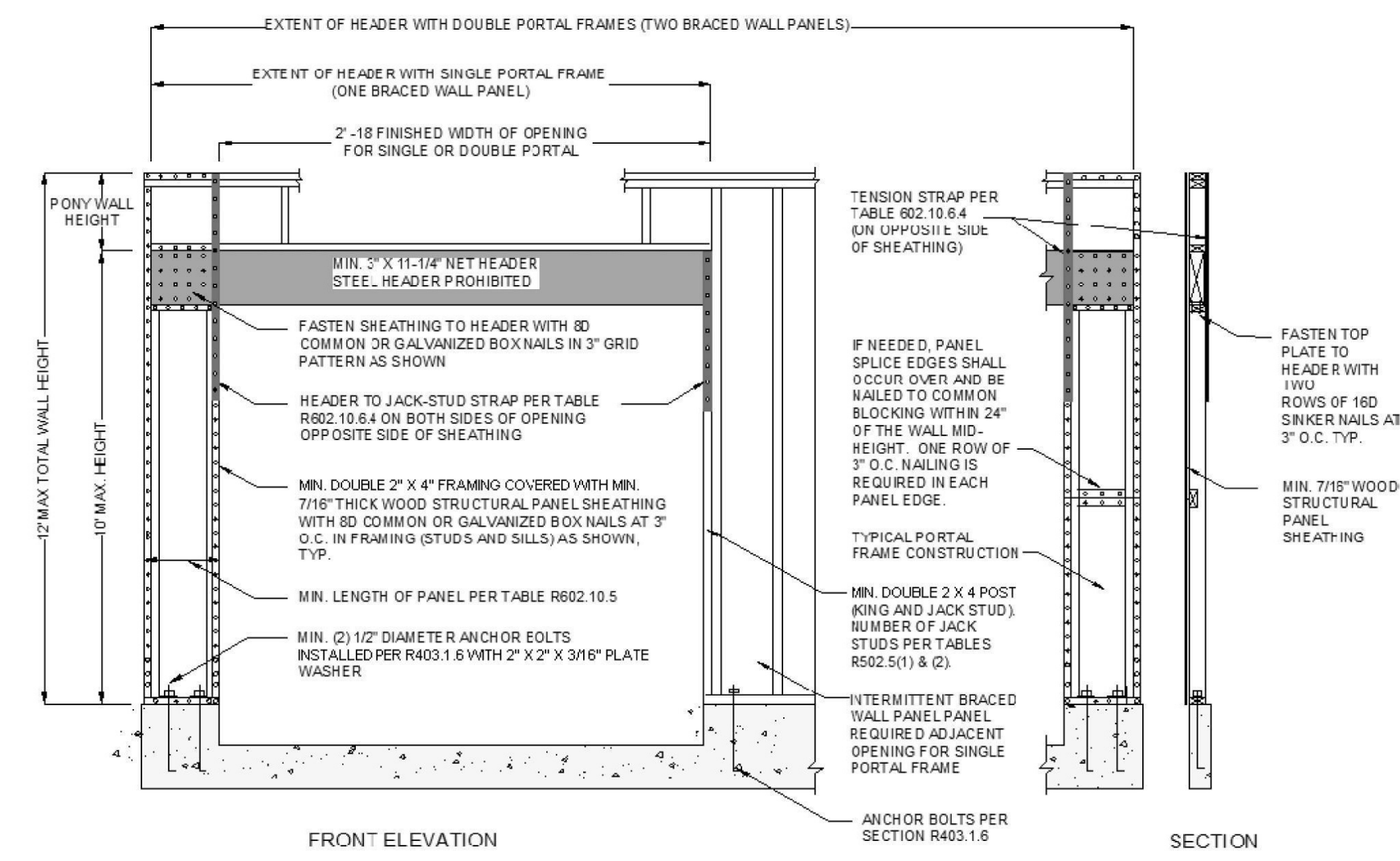


FIGURE R602.10.6.3  
METHOD PFG—PORTAL FRAME AT GARAGE DOOR OPENINGS IN SEISMIC DESIGN CATEGORIES A, B AND C

TABLE R602.10.6.4

TENSION STRAP CAPACITY FOR RESISTING WIND PRESSURES PERPENDICULAR TO METHODS PFH, PFG AND CS-PF BRACED WALL PANELS

MINIMUM WALL STUD FRAMING NOMINAL SIZE AND GRADE	MAXIMUM PONY WALL HEIGHT (feet)	MAXIMUM TOTAL WALL HEIGHT (feet)	MAXIMUM OPENING WIDTH (feet)	TENSION STRAP CAPACITY REQUIRED (pounds) <sup>a, b</sup>					
				Ultimate Design Wind Speed $V_{ult}$ (mph)					
				Exposure B			Exposure C		
2 x 4 No. 2 Grade	0	10	18	1,000	1,000	1,000	1,000	1,000	1,050
			9	1,000	1,000	1,000	1,000	1,000	1,750
			16	1,000	1,025	2,050	2,075	2,500	3,950
			18	1,000	1,275	2,375	2,400	2,850	DR
			9	1,000	1,000	1,475	1,500	1,875	3,125
			16	1,775	2,175	3,525	3,550	4,125	DR
	2	10	18	2,075	2,500	3,950	3,975	DR	DR
			9	1,150	1,500	2,650	2,675	3,175	DR
			16	2,875	3,375	DR	DR	DR	DR
			18	3,425	3,975	DR	DR	DR	DR
			9	2,275	2,750	DR	DR	DR	DR
			12	3,225	3,775	DR	DR	DR	DR
2 x 6 Stud Grade	2	12	9	1,000	1,000	1,700	1,700	2,025	3,050
			16	1,825	2,150	3,225	3,225	3,675	DR
			18	2,200	2,550	3,725	3,750	DR	DR
			9	1,450	1,750	2,700	2,725	3,125	DR
			16	2,050	2,400	DR	DR	DR	DR
			18	3,350	3,800	DR	DR	DR	DR

For S1: 1 inch = 25.4 mm, 1 mile per hour = 0.447 m/s.  
a. DR = Design Required.  
b. Straps shall be installed in accordance with manufacturer's recommendations.

R602.10.4 Construction methods for braced wall panels

Intermittent and continuously sheathed braced wall panels shall be constructed in accordance with this section and the methods listed in Table R602.10.4.

TABLE 91.5.602.10.4

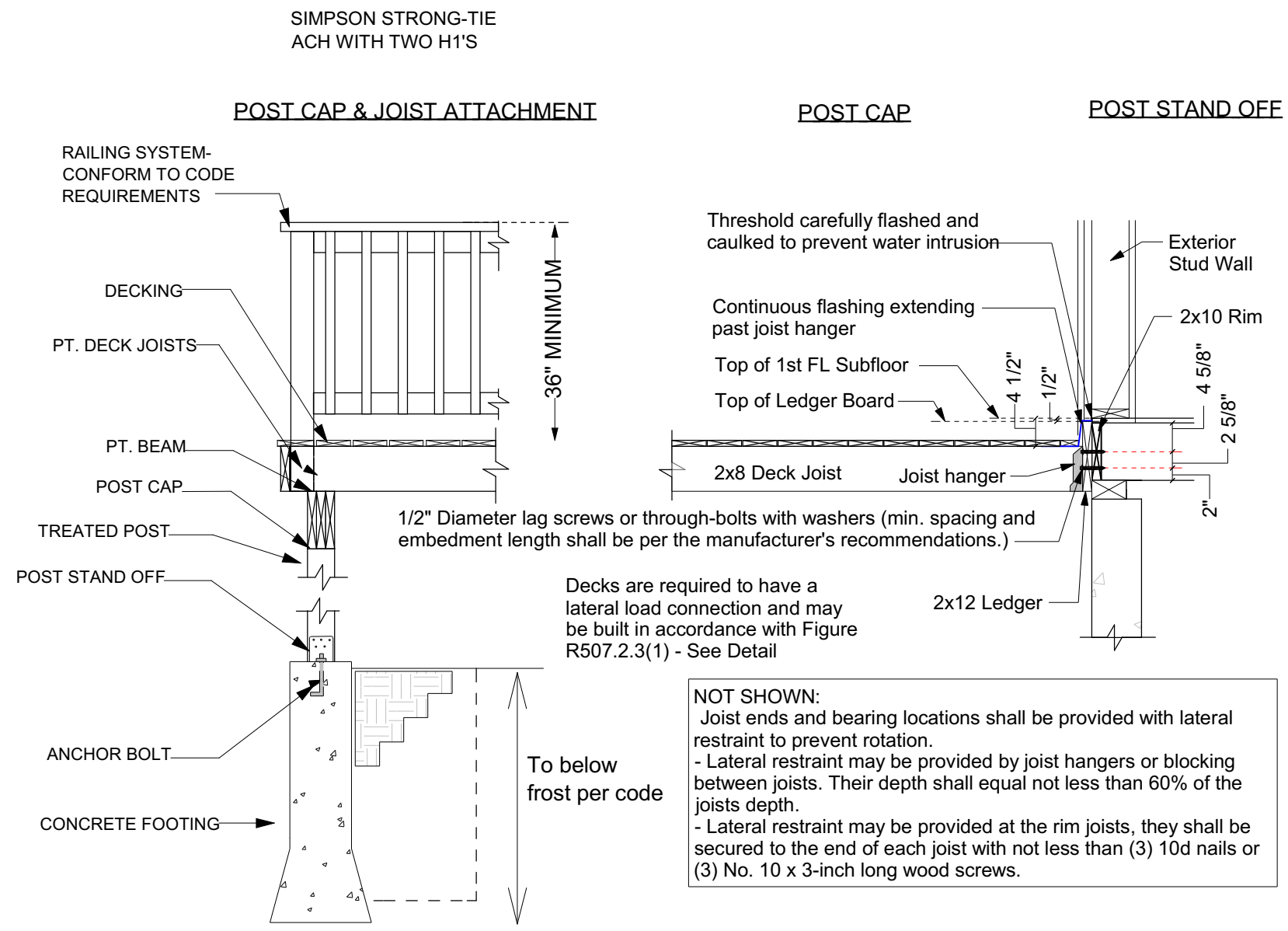
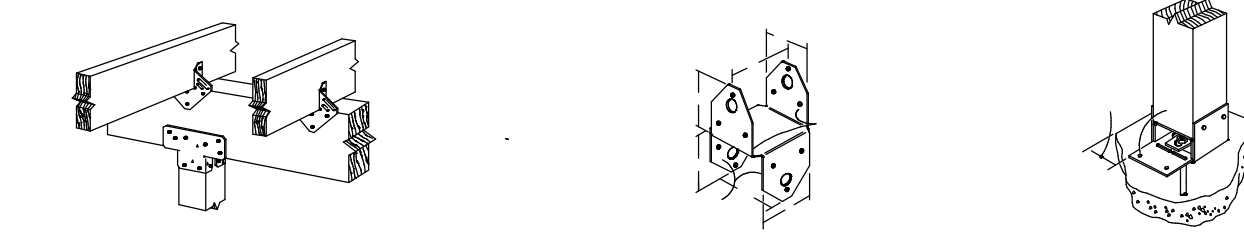
METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA <sup>a</sup>	
			Fasteners	Spacing
Intermittent Bracing Method	PFG Portal frame at garage	15/32"	See Section R602.10.6.3	See Section R602.10.6.3
Continuous Sheathing Methods	CS-WSP Continuously sheathed wood structural panel	15/32"	Exterior sheathing per Table R602.3(3) Interior sheathing per Table 91.5.602.3(1) or 91.5.602.3(2)	6' edges 12" field Varies by fastener

Shear Wall Details

Not to Scale

Notes:

- See plans for locations where shear panels are required.
- Details shown here are for one method and for typical conditions. An alternate shear method allowed per code or approved by the code officer may be substituted.
- Note that if sheathing is to be used as wall bracing all vertical joints in required braced wall panels must be blocked. [2015 IRC section R602.10.10]



Deck Ledger Attachment Detail for Step Down

Scale: 1/2" = 1'-0"

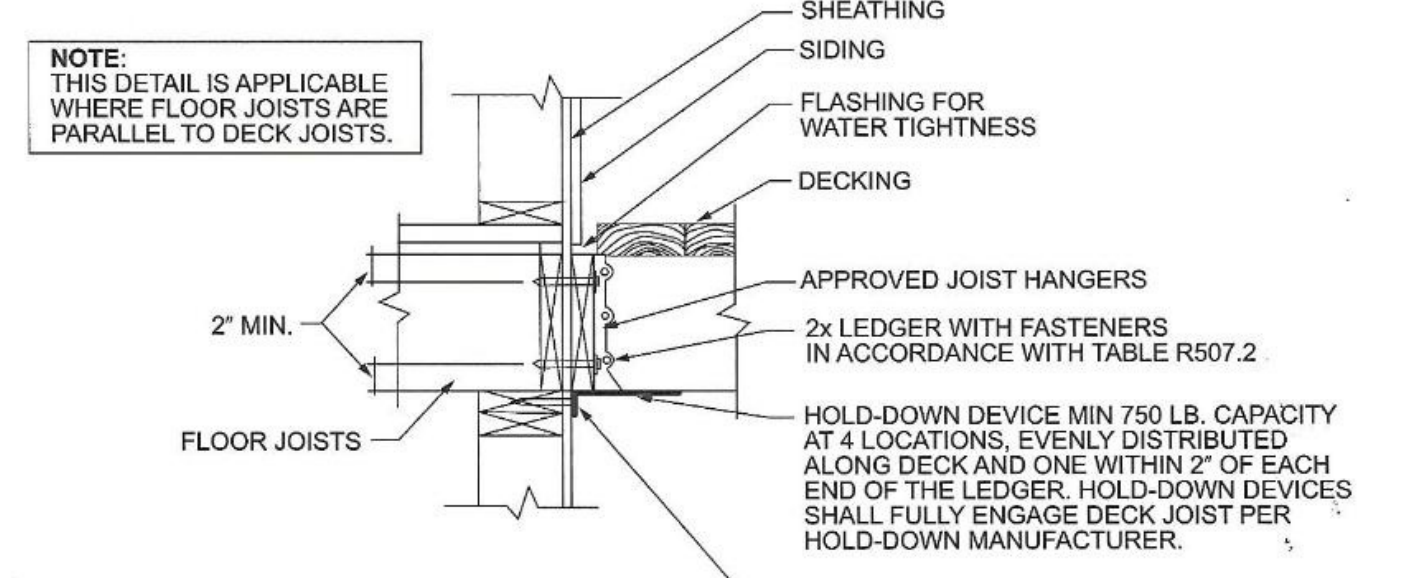


FIGURE R507.2.3(2)  
DECK ATTACHMENT FOR LATERAL LOADS

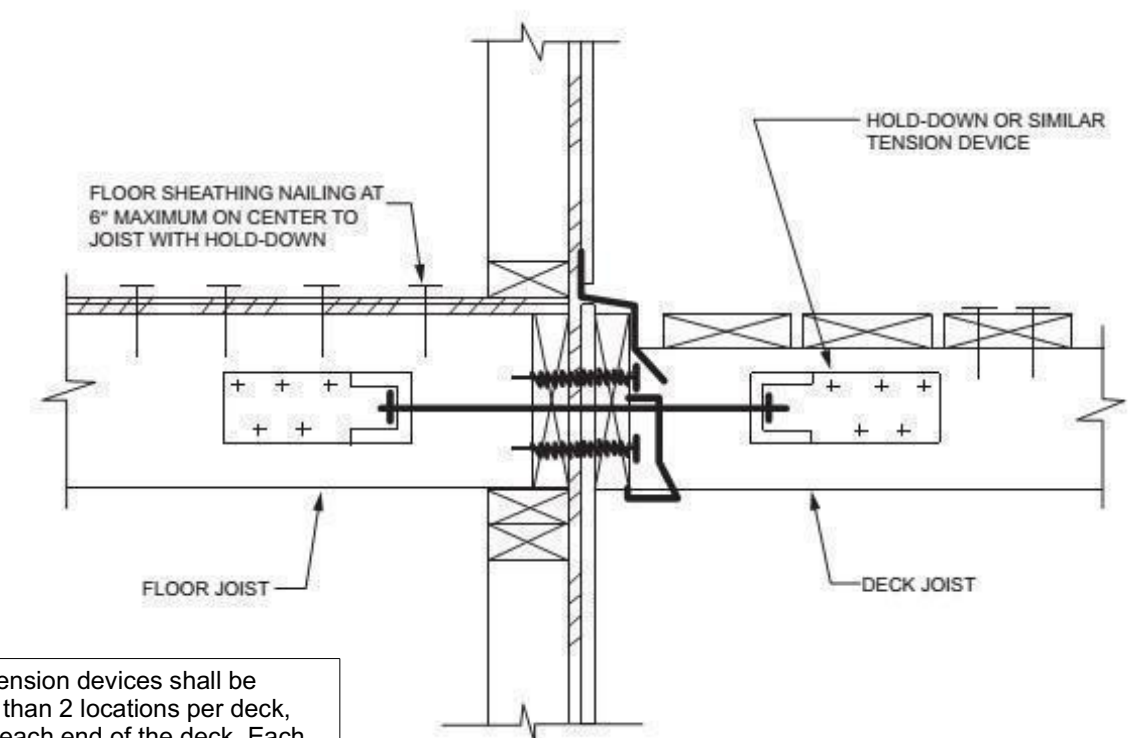
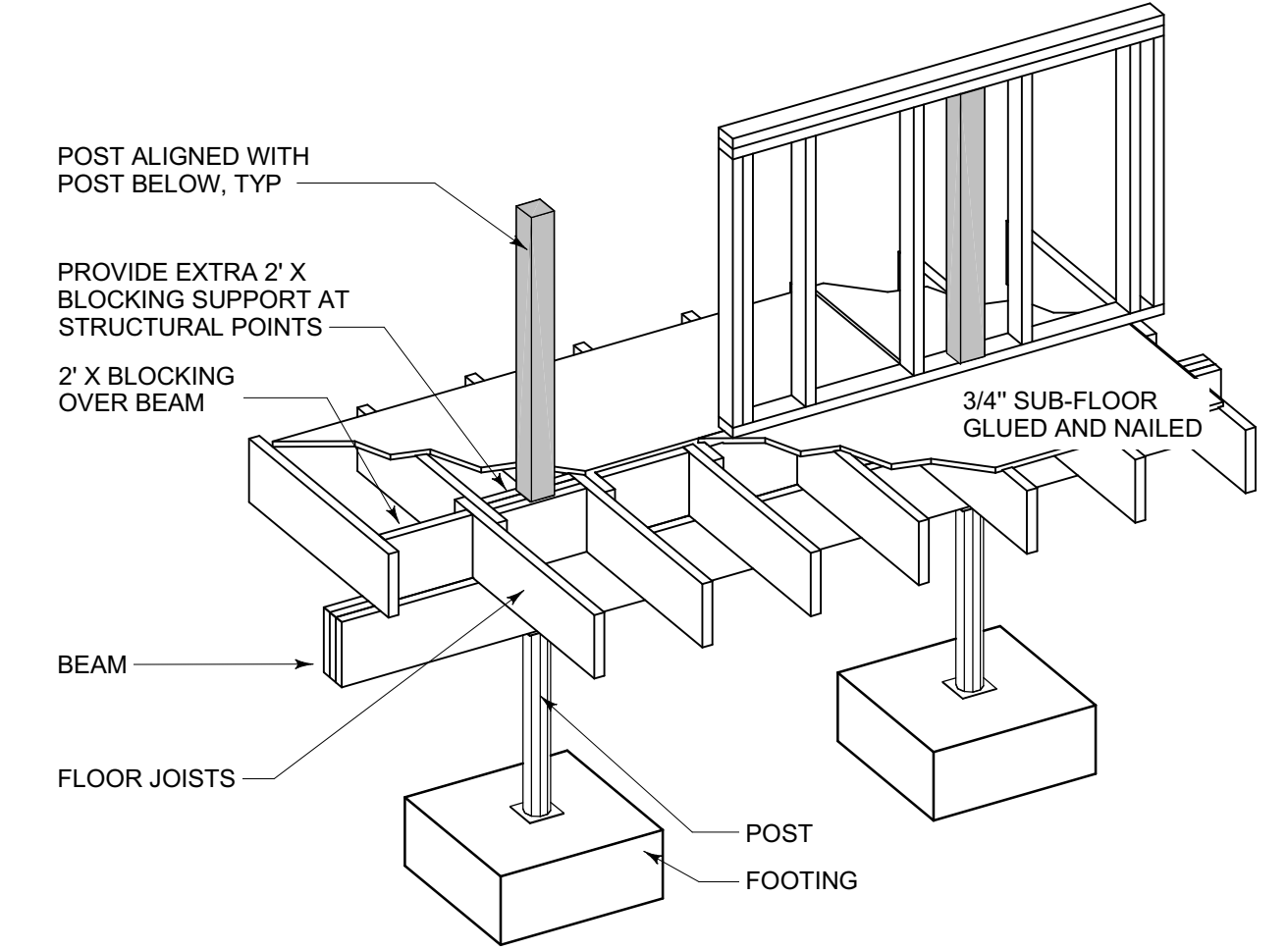


FIGURE R507.2.3(1)  
DECK ATTACHMENT FOR LATERAL LOADS

Follow manufacturer's instructions both for installation of joist hangers to joist and to beam. The illustration below, by Simpson Strong Tie, is provided as a courtesy. Consult their full manual for acceptable fastener sizes and other important instructions.





Wood Framing Notes:

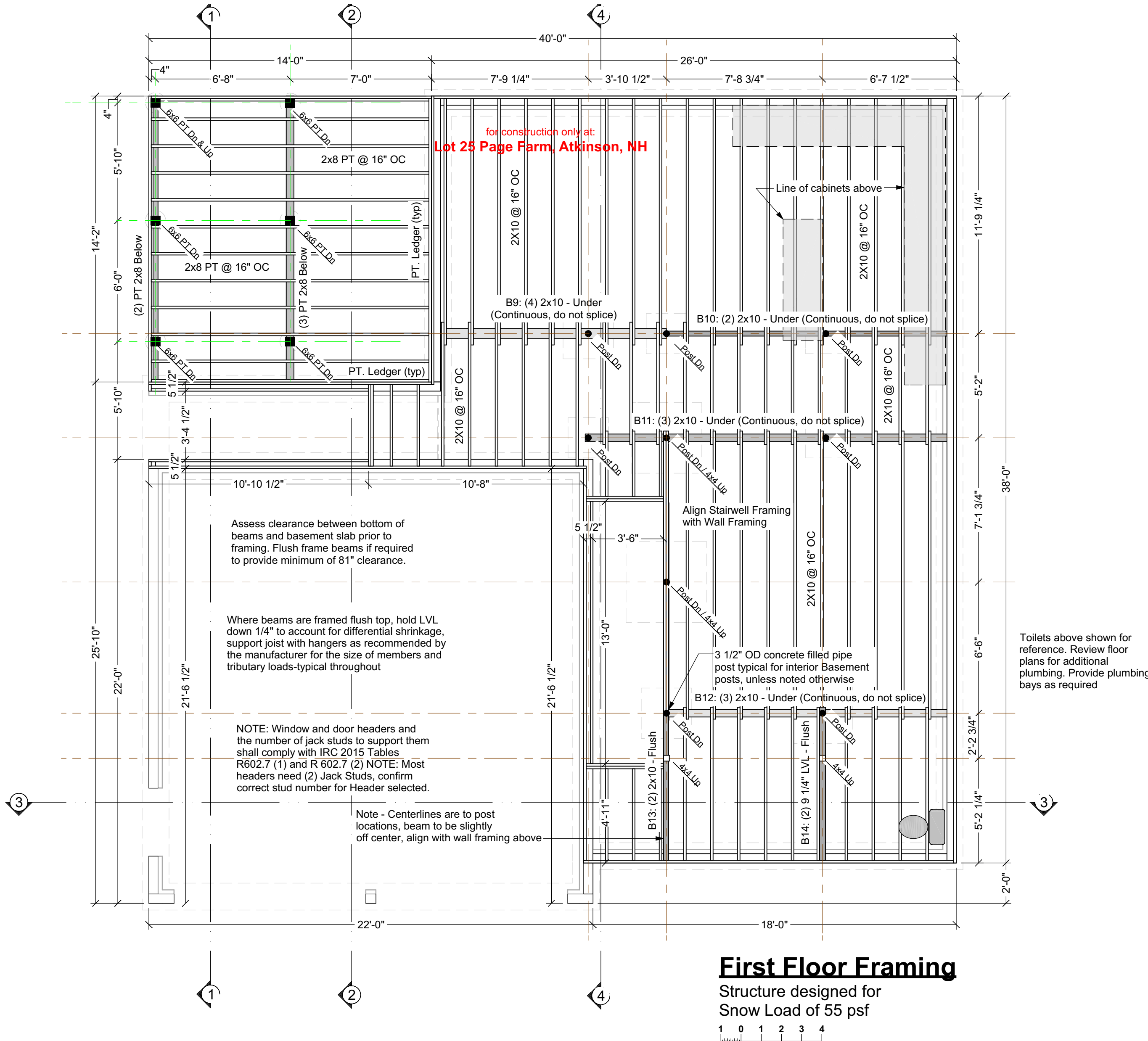
- All structural wood shall be identified by a grade mark or certificate of inspection by a recognized inspection agency.
- Structural wood shall be Spruce-Pine-Fir (SPF) #2 or better.
- When used, LVL or PSL indicate Laminated Veneer Lumber or Parallel Strand Lumber, respectively. Products used shall equal or exceed the strength properties for the size indicated as manufactured by TrusJoist.
- When used, TJI indicates wood I-joists as manufactured by TrusJoist. Products of alternate manufacturers may be substituted provided they meet or exceed the strength properties for the member specified.
- All floor joists shall have bridging installed at mid-span or at 8'-0" oc maximum.
- Floor systems are designed for performance with subfloor glued and screwed.
- Per code R502.6.1 Floor joists splicing over bearing walls allowed, shall lap a min 3" over walls and shall be nailed together with a minimum of (3) 10d face nails. Also permitted is a wood or metal splice with strength equal to or greater than that provided by the nailed lap.
- Per code R602.3.2 Ceiling joists splicing over bearing walls is allowed, shall lap a min 3" or butted over bearing partitions or beams and toenailed to the bearing member. Where ceiling joists are used to provide resistance to rafter thrust, lapped joists shall be nailed together in accordance with Table R602.5.1(9), and butted joists shall be tied together in a manner to resist such thrust. Joists that do not resist thrust shall be permitted to be nailed together in accordance with Table R602.3(1).
- Provide blocking in the floor at structural points. Blocking may be 2x's or solid, but must have grain of wood vertical.
- All wood permanently exposed to the weather, in contact with concrete or in contact with the ground shall meet code requirements for wood in these environments.
- Deck ledgers shall be securely attached to the structure and/or independently supported. Deck lateral load connection required see IRC 2015 Section R507.2.4
- Wherever beams are noted as Flush framed, install joint hangers at all joists, sized appropriately for the members being connected.
- Support the lower end of roof beams via minimum 2" horizontal bearing on a post, ledger or via an appropriately sized and configured hanger.
- The ends of each joist, beam or girder shall have not less than 1.5" of bearing on wood or metal and not less than 3" on masonry or concrete except where supported on a 1" x 4" ribbon strip and nailed to the adjacent stud or by the use of approved joist hangers.
- Post caps where required are typically calculated by supplier using weights based on these framing plans. Contact Art Form if additional information is needed.
- Hangers, post caps, post bases, ties and other connectors shall be as manufactured by Simpson Strong Tie, as designed to connect the members shown, and shall be installed per manufacturer's instructions.

Prefabricated Wood Trusses

- Where trusses are indicated on the drawings, truss design shall be provided by truss manufacturer.
- Trusses shall be designed in accordance with applicable provisions of the latest edition of the National Design Specifications for Wood Construction (NDS), American Forest and Paper Association (AFPA), and Design Specifications for Metal Plate Connected Wood Trusses (ANSI/TPI 1), Truss Plate Institute (TPI) and code of jurisdiction.
- Manufacturer shall furnish design drawings bearing seal and registration number of a structural engineer licensed in the state where project will be built.

Notes: Beam & Joist Sizing

- Our beams sizes often differ from prescriptive code, because our designs are rarely the old style box colonial or cape with a center bearing wall upon which prescriptive code is based. We size our beams via calculations for this specific design, which may carry those loads separately via second floor beams and/or roof transfer beams. Beam or joist sizes, types and/or spacing may not be reduced or alternates substituted without our express permission.
- Walls intended to be bearing are labeled as such. This information is provided to aid code officer in understanding the framing. It does not indicate permission to add loads to those walls, or any other walls.
- Framing is sized for normal residential conditions. Contact Artform if additional loads are anticipated, including but not limited to waterbeds, large fish tanks, indoor hot tubs, multiple framed soffits or coffer.
- In states where the designer is a licensed architect, (NH, MA, ME, CT & NY as of the date of issue) we are happy to stamp our drawings at no additional charge. In other states we are happy to provide calculations. Administration fees apply with provision of calculations. Code officer is encouraged to call with any questions about our methodology.



**Built-up Beams:**  
Unless otherwise noted, connect multiple 1 3/4" ply beams as follows:  
3 ply & up, fasteners are per side

- (2) 9 1/4" LVL:
  - Flush framed
  - (2) rows 3 3/8" TrussLock @ 24" oc, or
  - (2) rows SDS 1/4x3 1/2 @ 24" oc
  - Framed under (2) rows 10d nails @ 24" oc

- (2) 11 1/4" LVL:
  - Flush framed
  - (2) rows 3 3/8" TrussLock @ 19.2" oc, or
  - (2) rows SDS 1/4x3 1/2 @ 19.2" oc
  - Framed under (2) rows 10d nails @ 24" oc

- (2) 16" LVL or greater:
  - Flush framed
  - (3) rows 3 3/8" TrussLock @ 19.2" oc, or
  - (3) rows SDS 1/4x3 1/2 @ 19.2" oc
  - Framed under (2) rows 10d nails @ 24" oc

- (3) 9 1/4" LVL:
  - Flush framed
  - (2) rows 3 3/8" TrussLock @ 19.2" oc, or
  - (2) rows SDS 1/4x3 1/2 @ 19.2" oc
  - Framed under (2) rows 10d nails @ 24" oc

- (3) 11 1/4" LVL:
  - Flush framed
  - (2) rows 3 3/8" TrussLock @ 16" oc, or
  - (2) rows SDS 1/4x3 1/2 @ 16" oc
  - Framed under (2) rows 10d nails @ 24" oc

- (3) 14" LVL:
  - Flush framed
  - (3) rows 3 3/8" TrussLock @ 16" oc, or
  - (3) rows SDS 1/4x3 1/2 @ 16" oc
  - Framed under (2) rows 10d nails @ 24" oc

- (3) 16" LVL or greater:
  - Flush framed
  - (3) rows 3 3/8" TrussLock @ 16" oc, or
  - (3) rows SDS 1/4x3 1/2 @ 16" oc
  - Framed under (2) rows 10d nails @ 24" oc

- (4) 9 1/4" LVL:
  - Flush framed
  - (2) rows 5" TrussLock @ 16" oc, or
  - (2) rows SDS 1/4x6 @ 16" oc
  - Framed under (2) rows 10d nails @ 24" oc

- (4) 11 1/4" LVL:
  - Flush framed
  - (2) rows 5" TrussLock @ 16" oc, or
  - (2) rows SDS 1/4x6 @ 16" oc
  - Framed under (2) rows 10d nails @ 12" oc

- (4) 16" LVL or greater:
  - Flush framed
  - (3) rows 5" TrussLock @ 16" oc, or
  - (3) rows SDS 1/4x6 @ 16" oc
  - Framed under (2) rows 10d nails @ 12" oc

**Beam Substitutions:**  
(2) 9 1/4" LVL may replace a double or triple 2x10 beam. No other substitutions are allowed. Conventional lumber beams MAY NOT be substituted for LVL beams by any "rule of thumb". Substitutions must be calculated by either Artform or a structural engineer. If calculated by a structural engineer, provide stamped plans and/or calculations.

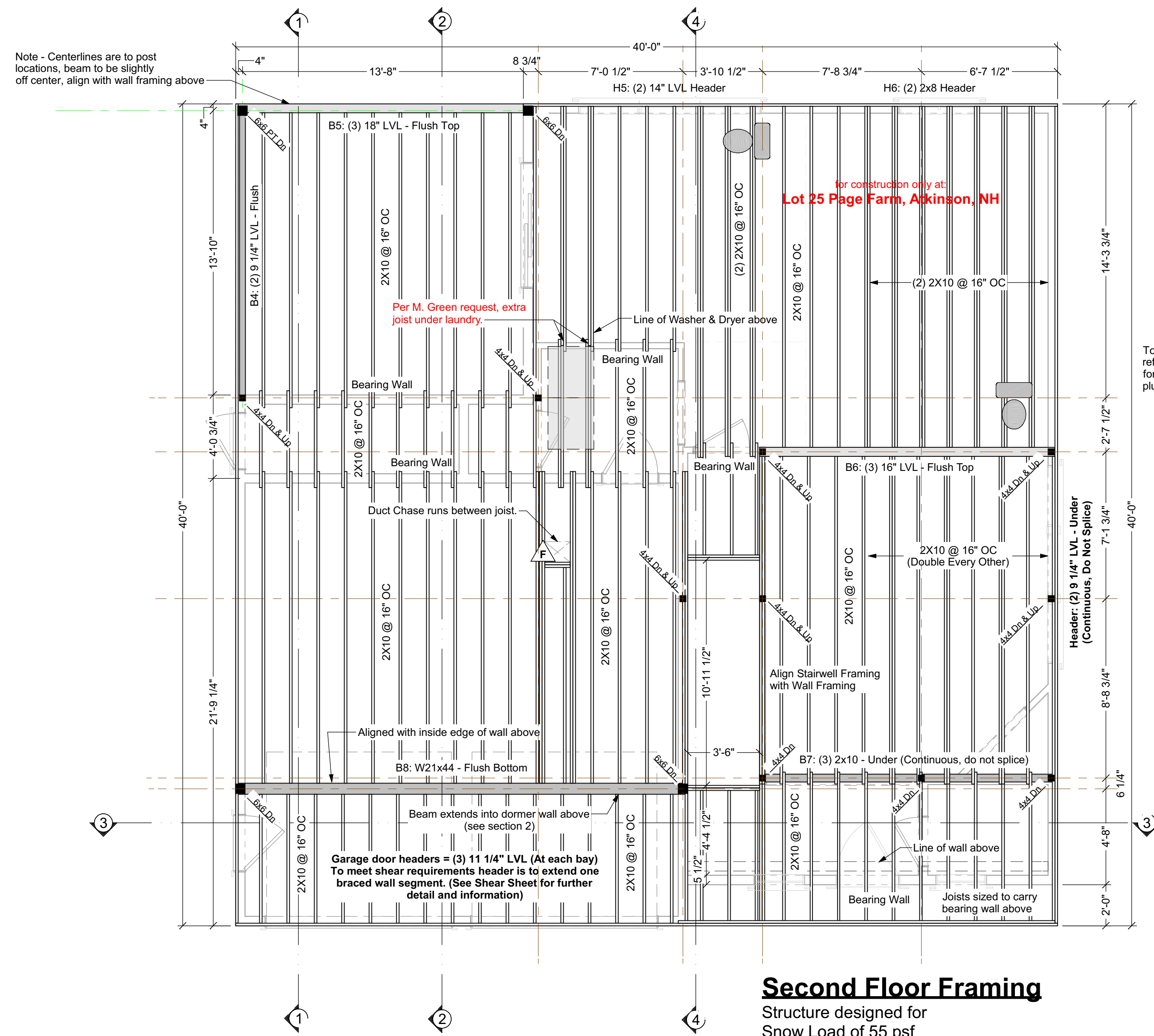
We specify LVL beams as built up members to allow framers to use existing stock. You may substitute single piece LVL's of equivalent overall size for built-up members, unless otherwise noted.

Built-up members MAY NOT replace single piece LVL's where specified.  
Where a beam of 1 3/4" or less in width is specified as framed under, either brace at 48" or double member for lateral stability.

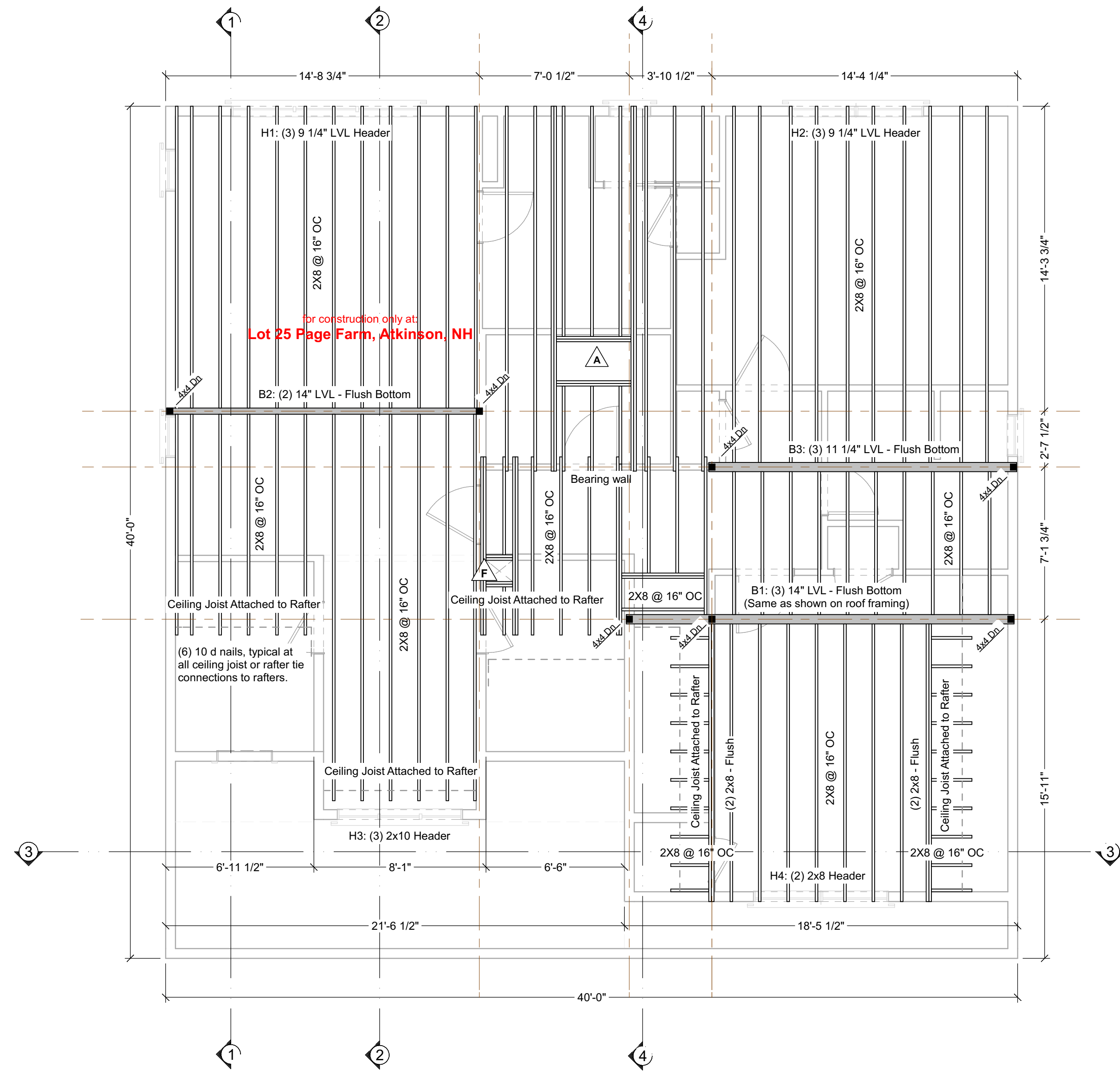
Your use of these drawings constitutes an acceptance of responsibility as outlined in "Dear Code Officer" on the first page of these drawings, and on our web site:  
<http://www.artformhomeplans.com/TermsConditions.a5w>

If you have any concerns or questions, please feel free to contact us. We are happy to clarify matters that fall within our scope, as listed on the first page. We can also often provide affordable support for issues that are your responsibility, such as energy design/calcs, or additional detailing.

 Artform Home Plans AHP Design # 918.124.v3.G1 © 2008-2020 Art Form Architecture 603.431.9559	<b>8</b> Giselie 40x40 Lot 25 Page Farm Atkinson, NH
1/4"=1'-0" unless noted otherwise / Print @ 1:1 PDF created on: 4/23/2020, drawn by ACJ	Issued for: <b>Construction</b>

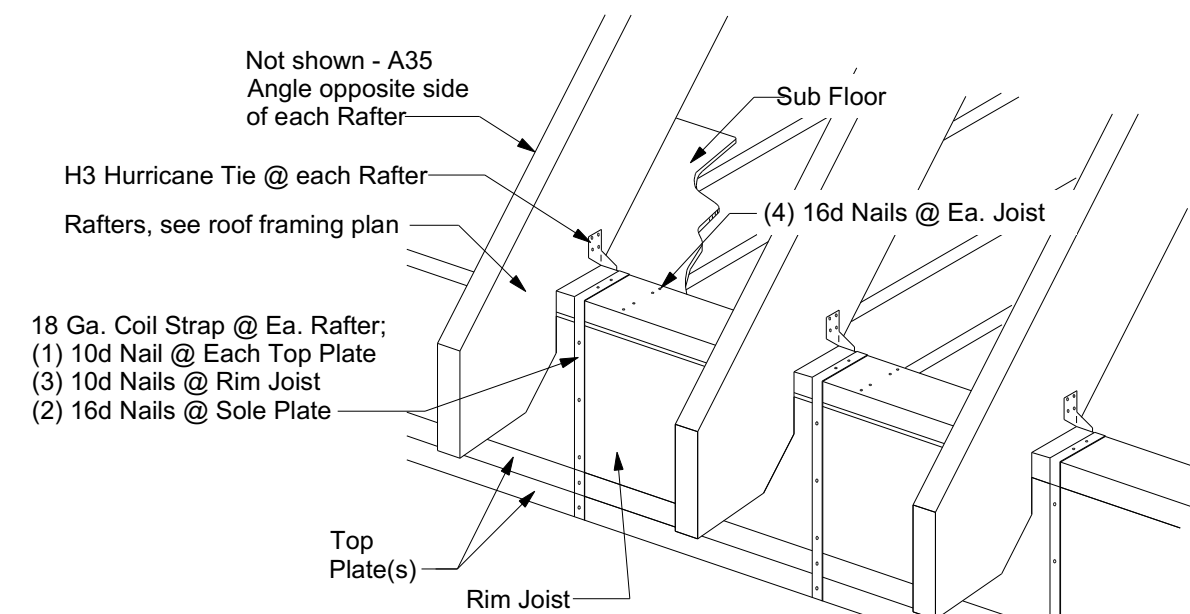
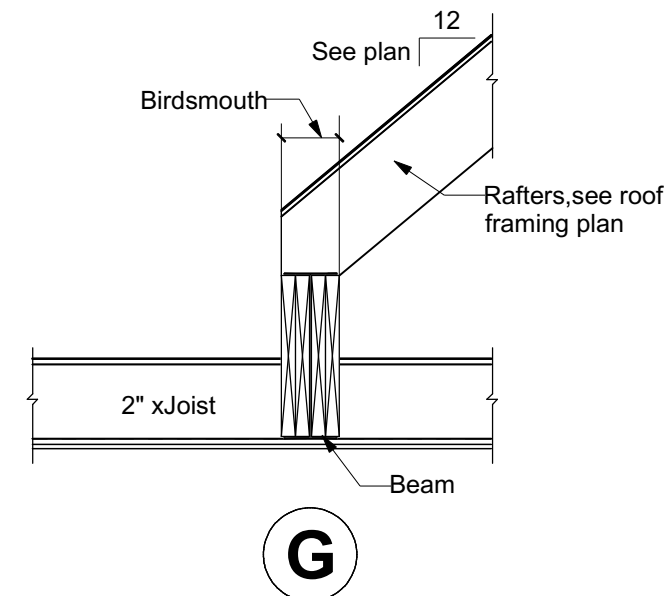
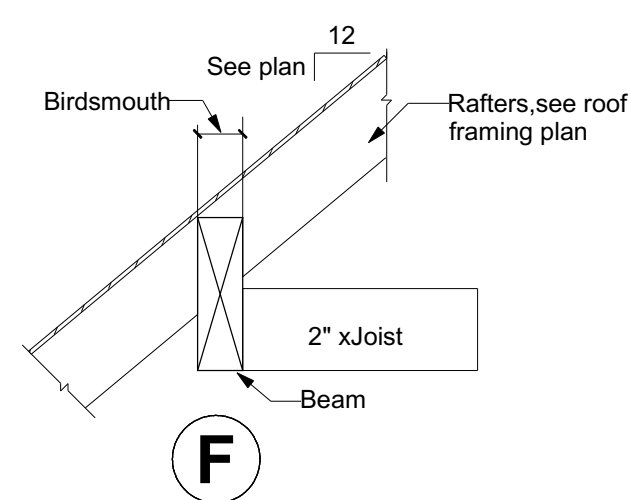
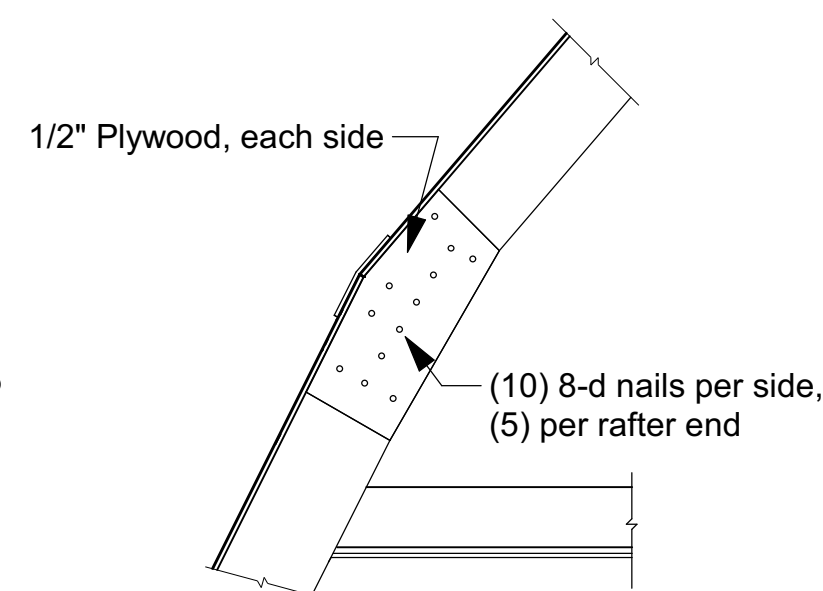
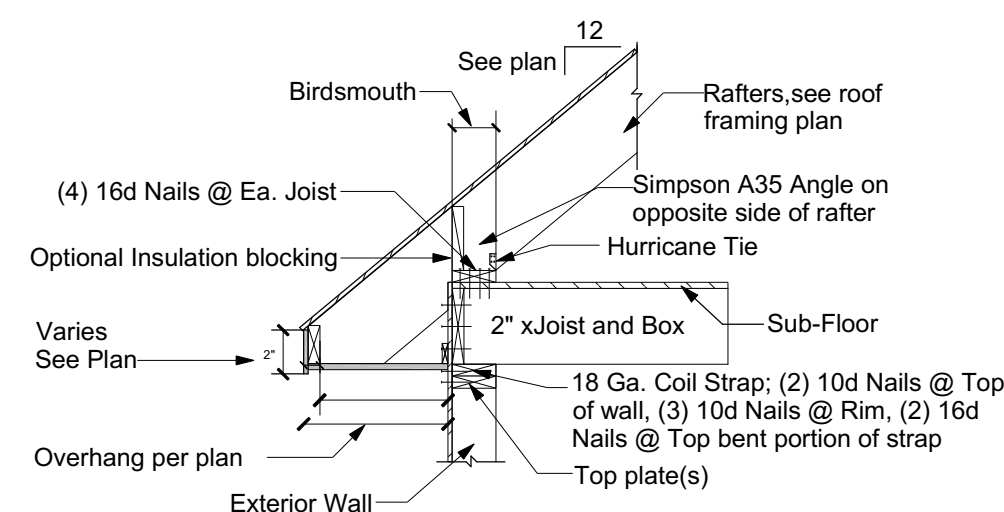
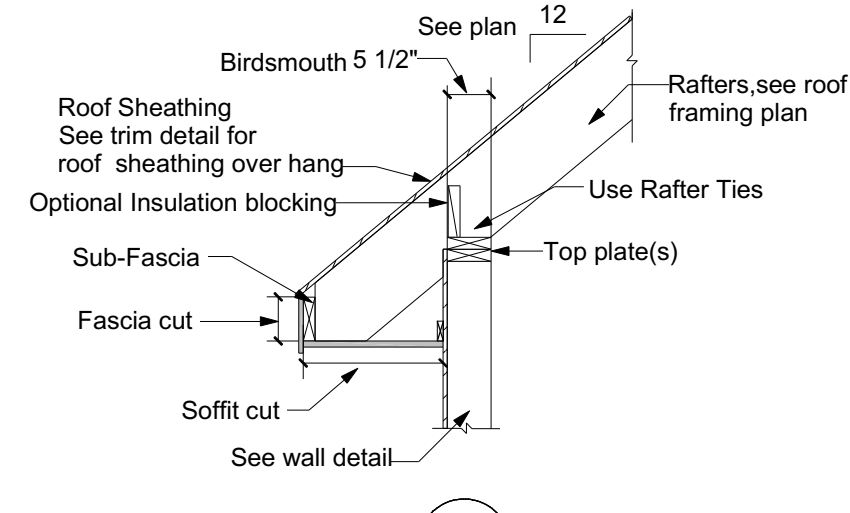
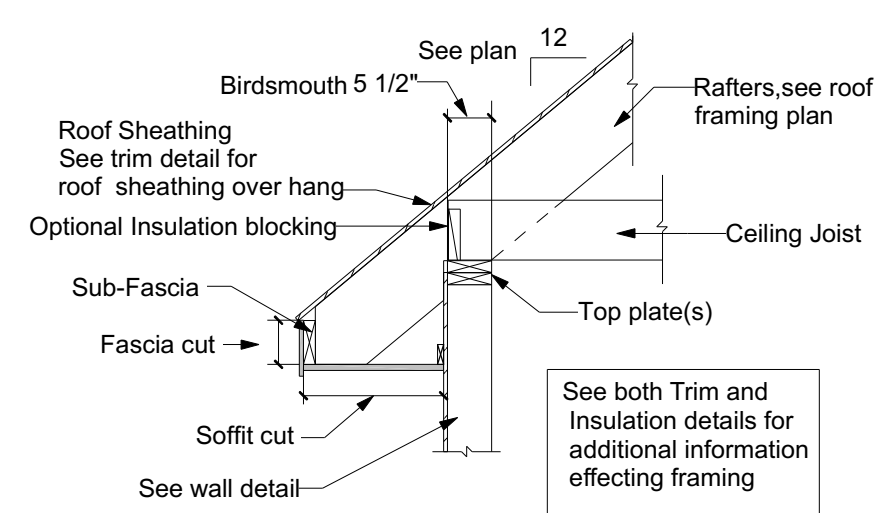


**Second Floor Framing**  
Structure designed for  
Snow Load of 55 psf

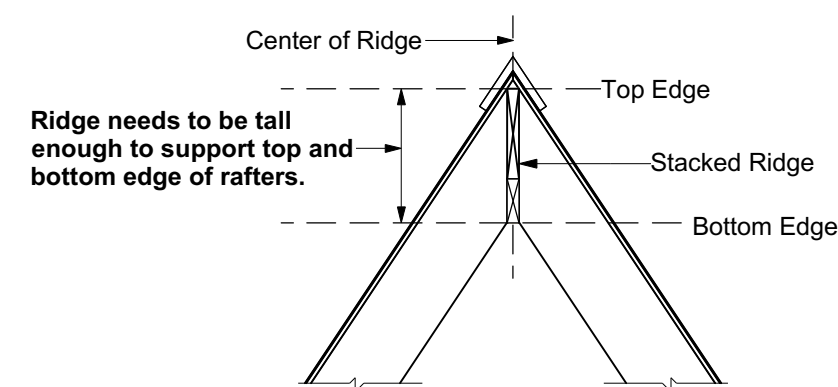


**Ceiling Framing**  
Structure designed for  
Snow Load of 55 psf

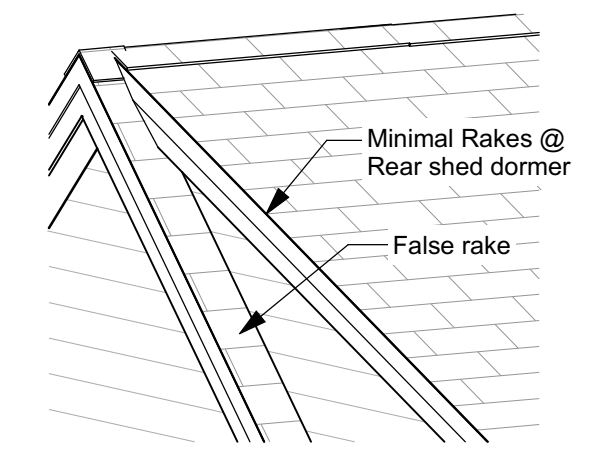




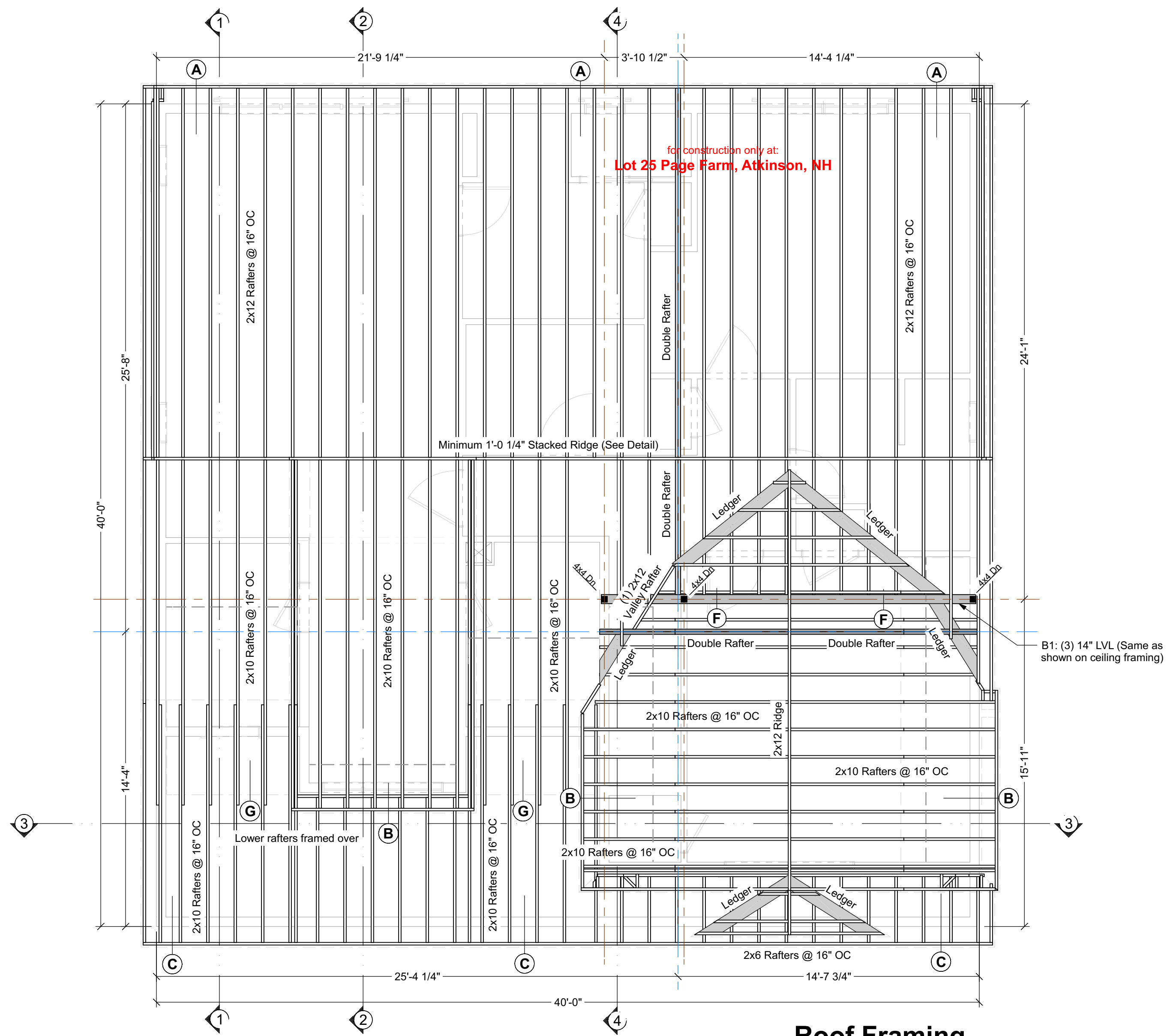
**Perspective View of Detail C**



**Stacked Ridge Detail**

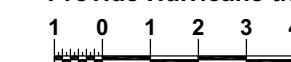


**Alternate:**  
12" False Rake and a 6" Shed Dormer Rake



**Roof Framing**

Structure designed for Snow Load of 55 psf  
Provide Hurricane ties per code



Your use of these drawings constitutes an acceptance of responsibility as outlined in "Dear Code Officer" on the first page of these drawings, and on our web site: <http://www.artformhomeplans.com/TermsConditions.a5w>

If you have any concerns or questions, please feel free to contact us. We are happy to clarify matters that fall within our scope, as listed on the first page. We can also often provide affordable support for issues that are your responsibility, such as energy design/calcs, or additional detailing.

**Artform Home Plans**  
AFHP Design # 918.124.v3 GL  
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Giselle 40x40  
Lot 25 Page Farm  
Atkinson, NH

# ***DRAINAGE ANALYSIS***

**F O R**

## **The Peverly Hill Road Condominiums**

**86 Peverly Hill Road  
Portsmouth, NH  
Rockingham County**

**Tax Map 242, Lot 4**

**Month April 19, 2021**

**Prepared By:**



Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

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## **1.0 - SUMMARY & PROJECT DESCRIPTION**

The project includes the development of a 56-Unit PUD on 83 Peverly Hill Road, Portsmouth, NH. The existing Tax Map 242 Lot 6 is approximately 4,604,509 sf / 105.7 Acres and currently contains one residential building. The site is within the Single Residence A (SRA) & Single Residence B (SRB) Zoning district is adjacent to a Calvary Cemetery to the North and a wetland to the south. The majority of the buildings on Peverly Hill Road are residential and the surrounding area consists of residential neighborhoods.

The proposed project is to construct 56 single-family unit condominium. Associated improvements include and are not limited to access, grading, utilities, stormwater management system, lighting, and landscaping. The project proposes 56 homes and a public road for access. The 56 buildings and roadway total 252,834 sf / 5.8 acres of impervious area with approximately 775,754 sf / 17.8 acres of disturbance to facilitate the development, this is approximately 5% effective impervious cover. Aside from the 17.8 acres of disturbance, the approximately 87.9 remaining acreage is to be held in a conservation easement. A path is to be constructed connecting the neighborhood with the existing bike path that is under development along the Boston and Main Railroad Tracks.

This analysis has been completed to verify the project will not pose adverse stormwater effects on-site and off-site. Compared to the pre-development conditions, the post-development stormwater management system has been designed to reduce peak runoff rates, reduces runoff volume, reduces the risk of erosion and sedimentation, and improves stormwater runoff quality. In addition, Best Management Practices employed to formulate a plan that assures stormwater quality both during and after construction. The following summarizes the findings from the study.

## **2.0 - CALCULATION METHODS**

The design storms analyzed in this study are the 2-year, 10-year, and 50-year 24-hour storm events. The software program, HydroCAD version 10.00<sup>1</sup> was utilized to calculate the peak runoff rates from these storm events. The program estimates the peak rates using the TR-20 method. A Type III storm pattern was used in the model. Rainfall frequencies for the analyzed region were also incorporated into the model. Rainfall frequencies from the higher of the Extreme Precipitation Rates from Cornell University's Northeast Regional Climate Center (see Appendix A) were used to determine the storm-event intensities, see Table 1. The site lies within the Great Bay Region, and the rainfalls were increased to take this into account. Design standards were taken from the New Hampshire Stormwater Manual, December 2008<sup>2</sup>.

	24-HOUR RAINFALL RATES		
Storm-Event (year)	Cornell University Rainfall (in)	Factor of Increase For the Great Bay Region	Design Rainfall (in)
2	3.22	115%	3.70
10	4.89	115%	5.62
50	7.43	115%	8.54

<sup>1</sup> HydroCAD version 10.00, HydroCAD Software Solutions LLC, Chocorua, NH, 2013.

<sup>2</sup> New Hampshire Stormwater Manual: Volume One - Stormwater and Antidegradation, December 2008; Volume Two - Post-Construction Best Management Practices Selection and Design, December 2008; Volume Three - Erosion and Sediment Controls During Construction, December 2008.



### **Table 1 – 24-Hour Rainfall Rates**

Time of Concentration is the time it takes for water to flow from the hydraulically most remote point in the watershed (with the longest travel time) to the watershed outlet. This time is determined by calculating the time it takes runoff to travel this route under one of three hydrologic conditions: sheet flow, shallow concentrated flow, or channel flow. Because the Intensity-Duration-Frequency (IDF) curve is steep with short TC's, estimating the actual intensity is subject to error and overestimates actual runoff. Due to this, the TC's are adjusted to a minimum of 6 minutes.

### **3.0 – EXISTING SITE CONDITIONS**

The soils within the proposed area of disturbance are identified in accordance with the Site-Specific Soil Survey (see Existing Conditions detail and soil locations). The Site-Specific Soil Survey identifies the soils within the disturbed project area as primarily Newfields sandy loam (HSG B), Hoosic gravelly loamy sand (HSG A), Deerfield loamy sand (HSG B) and Canton sandy loam (HSG B). Hydrologic Soil Group A is classified as having low runoff potential and Hydrologic Soil Group B is classified as moderately low runoff potential.

All other areas that contribute runoff to the project site are composed of Boxford silt loam (HSG C), Scitico silt loam (HSG C), Walpole sandy loam, (HSG C). Hydrologic Soil Group C is classified as having moderately high runoff potential when thoroughly wet.

Offsite soils draining onto the site are classified by the Natural Resource Conservation Service (NRCS) as Scitico Silt Loam (HSG C/D), Eldridge Fine Sandy Loam (HSG C/D), Maybid Silt Loam (HSG C/D), Deefield Loamy Fine Sand (HSG A), Pennichuck Channery Very Fine Sand Loam (HSG C), Natchaug Mucky Peat (HSG B/D), Hoosic Gravelly Fine Sandy Loam (HSG A) and Squamscott Fine Sandy Loam (HSG C/D). In dual group classifications, the first letter is for drained areas while the second is for un-drained areas.

### **4.0 - PRE-DEVELOPMENT CONDITIONS**

The pre-development condition is characterized by six watersheds. Pre-development subcatchment areas are depicted on the attached plan entitled "Pre-Development Drainage Map," Sheet D-01 in.

Stormwater runoff from the site that does not infiltrates into the soil, drains into the wetland along the south side of the property (EPOI-1, EPOI-2, EPOI-3 and EPOI-5). A small portion, along the northern edge of the property, drains into the woodlands on the abutting property (EPOI-4 and EPOI-6).

In the pre-development condition, the total impervious area is 78,390 sf over a total drainage analysis area of 775,754 sf.

### **5.0 - POST-DEVELOPMENT CONDITIONS**

The post-development condition is characterized by six watershed divided into many subcatchment areas. Post-development subcatchment areas are depicted on the attached plan entitled "Post-Development Drainage Map," sheet D-02.

In the post-development condition, the total impervious area is 335,600 sf over a total drainage analysis area of 775,754 sf. Impervious area from the project consists 56 single-family residential buildings, 2925 lf of roadway and associated improvements. Two bioretention areas

and one subsurface gravel wetland are proposed to treat and mitigate the stormwater runoff from the impact of the new impervious area from the proposed development.

The proposed project will reduce peak rates of runoff compared to existing conditions for all storm events, in accordance with AoT regulations and City stormwater regulations. Additionally, per NHDES, the 2-year 24-hour storm will not result in an increased peak flow rate or volume from the pre-development to post-development condition. There will be no adverse effects on the abutting properties from the proposed stormwater management system.

Appendices B and D summarizes all 24-hour storm events for pre- and post-development drainage calculations using HydroCAD analysis. Appendices C and E provide a full summary of the 10-year, 24-hour storm for the pre- and post-development drainage calculations using HydroCAD analysis.

## **6.0 – REGULATORY COMPLIANCE**

The project shall meet the stricter of the stormwater standards identified in the New Hampshire Department of Environmental Services (DES) Env-Wq 1500 Alteration of Terrain Regulations and City/Town stormwater management regulations.

### **6.1 – ALTERATION OF TERRAIN (AOT) CRITERIA**

The following regulatory requirements are provided to show the project conformance to the applicable criteria of the NHDES Env-Wq 1500 Alteration of Terrain Regulations which include and are not limited to the following:

*Env-Wq 1507.03(a) Pollutant Discharge Minimization Requirements: Stormwater treatment practices described in Env-Wq 1508.03 through Env-Wq 1508.10 shall be acceptable methods for minimizing pollutant discharges to surface waters.*

Stormwater is treated using an infiltration practice, specifically a subsurface infiltration basin. The subsurface infiltration basins are designed in accordance with the applicable criteria of Env-Wq 1508.06 as follows:

Per 1508.06(e), the volume of the practice shall be large enough to contain the WQV without depending on infiltration. Refer to the corresponding BMP Worksheet in Section 12 for verification.

Per 1508.06(f), the practice completely drains the WQV within 72 hours or less. Refer to the corresponding BMP Worksheet in Section 12 for verification.

*Env-Wq 1507.03(c) Pollutant Discharge Minimization Requirements: Stormwater treatment practices shall be designed with infiltration rates in accordance with Env-Wq 1504.14*

Per 1508.06(a), the design infiltration rate of underlying native soil was considered in accordance with Env-Wq 1504.14. The design infiltration rate for each subsurface infiltration basin is the average from each infiltration test in each basin. Refer to the Infiltration Feasibility Report.

*Env-Wq 1507.03(e) Pollutant Discharge Minimization Requirements: Stormwater treatment practices shall be designed for the WQV/WQF, calculated in accordance with Env-Wq 1504.10 and Env-Wq 1504.11.*

The regulation is met. Refer to the corresponding BMP Worksheets.

*Env-Wq 1507.04(a) Groundwater Recharge Requirements: The proposed development shall reduce to the maximum extent practicable by using groundwater recharge practices as described in Env-Wq 1508.16.*

The regulation is met. Refer to the corresponding BMP Worksheet in Section 12 for verification.

*Env-Wq 1507.04(c) Groundwater Recharge Requirements: Design Infiltration rates for groundwater recharge practices shall be determined in accordance with Env-Wq 1504.14.*

Design infiltration rates were obtained per Ksat testing using a Guelph Permeameter (Amoozemeter) per Env-Wq 1504.14(d). The design infiltration rate for each subsurface infiltration basin is the average from each infiltration test in each basin. Refer to the Infiltration Feasibility Report in Section 16 for verification.

*Env-Wq 1507.05 Channel Protection Requirements: The 2-year 24-hour post development peak rate shall not exceed the pre-development peak flow rate for all flows leaving the site and the conditions of Env-Wq 1507.05(b), Env-Wq 1507.05(b)(2), or Env-Wq 1507.05(b)(3).*

The 2-year 24-hour post development peak rate and volume is less than the pre-development rate per Env-Wq 1507.05(b)(1)(a). Refer to 5.0 Post Development Conditions.

*Env-Wq 1507.06 Control Peak Runoff: The 10-year and 50-year 24-hour post development peak rate shall not exceed the pre-development peak flow rate for all flows leaving the site.*

The regulation is met. Refer to Table 2 for peak discharge rate comparison.

## **7.0 – BEST MANAGEMENT PRACTICES**

Best Management Practices will be developed in accordance with the *New Hampshire Stormwater Manual, Volumes Two and Three, December 2008*<sup>3</sup> to formulate a plan that assures stormwater quality both during and after construction. The intent of the outlined measures is to minimize erosion and sedimentation during construction, stabilize and protect the site from erosion after construction is complete and mitigate any adverse impacts to stormwater quality resulting from development. Best Management Practices for this project include:

- Temporary practices to be implemented during construction.
- Permanent practices to be implemented after construction.

## **7.1 – TEMPORARY PRACTICES**

1. Erosion, sediment, and stormwater detention measures must be installed as directed by the engineer.
2. All disturbed areas, as well as loam stockpiles, shall be seeded and contained by a silt barrier.

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<sup>3</sup> New Hampshire Stormwater Manual: Volume One - Stormwater and Antidegradation, December 2008; Volume Two - Post-Construction Best Management Practices Selection and Design, December 2008; Volume Three - Erosion and Sediment Controls During Construction, December 2008.



3. Silt barriers must be installed prior to any construction commencing. All erosion control devices including silt barriers and storm drain inlet filters shall be inspected at least once per week and following any rainfall. All necessary maintenance shall be completed within twenty-four (24) hours.
4. Any silt barriers found to be failing must be replaced immediately. Sediment is to be removed from behind the silt fence if found to be one-third the height of the silt barrier or greater.
5. Any area of the site, which has been disturbed and where construction activity will not occur for more than twenty-one (21) days, shall be temporarily stabilized by mulching and seeding.
6. No construction materials shall be buried on-site.
7. After all areas have been stabilized, temporary practices are to be removed, and the area they are removed from must be smoothed and revegetated.
8. Areas must be temporarily stabilized within 14 days of disturbance or seeded and mulched within 3 days of final stabilization.
9. After November 15<sup>th</sup>, incomplete driveways or parking areas must be protected with a minimum of 3" of crushed gravel, meeting the standards of NHDOT item 304.3.
10. An area shall be considered stable if one of the following has occurred:
  - a) Base course gravels are installed in areas to be paved.
  - b) A minimum of 85% vegetated growth has been established.
  - c) A minimum of 3" of non-erosive material such as stone or rip rap has been installed.
  - d) Erosion control blankets have been properly installed.

## **7.2 – PERMANENT PRACTICES**

The objectives for developing permanent Best Management Practices for this site include the following:

1. Maintain existing runoff flow characteristics.
  - a) Drainage is structured to minimize any offsite increase in runoff
2. Treatment BMP's are established to ensure the water quality.
3. Maintenance schedules are set to safeguard the long term working of the stormwater BMP's.

A Stormwater Management Operations & Maintenance Manual is provided to ensure the proper functioning of the system over time.

## **7.3 – BEST MANAGEMENT PRACTICE EFFICIENCIES**

Appendix E of Volume 2 of the New Hampshire Stormwater <sup>4</sup> lists the pollutant removal efficiencies of various BMP's. All proposed BMP's meet all state and City requirements for

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<sup>4</sup> New Hampshire Stormwater Manual: Volume One - Stormwater and Antidegradation, December 2008; Volume Two - Post-Construction Best Management Practices Selection and Design, December 2008; Volume Three - Erosion and Sediment Controls During Construction, December 2008.

total suspended solids (TSS) and pollutant removal, Total Nitrogen (TN), and Total Phosphorous (TP).

Bioretention Systems have a 90% TSS removal efficiency, 65% TN removal efficiency, and 65% TP efficiency.

Gravel Wetlands have a 95% TSS removal efficiency, 85% TN removal efficiency, and 64% TP efficiency. Gravel Wetlands have the highest removal rating for total nitrogen. The surface of the wetland creates an aerobic zone allowing nitrification of the organic nitrogen and plant debris, and the rock area under the wetland soil allows for an anaerobic zone causing denitrification of the stormwater, releasing nitrogen gas back into the atmosphere.

Bioretention Area #1 and Gravel Wetland #1 both use sediment forebays to pretreat the stormwater. Bioretention Area #2 only receives impervious runoff from roofs and not pretreatment is required. The pretreatment areas help to settle sediment and prevent clogging of treatment areas.

### **7.3.1 – LID PRACTICES**

Gravel Wetlands and Bioretention Areas are both Low Impact Design. The goal of LID systems is to mimic a site's precondition hydrology by infiltrating, filtering, storming, evaporating and detaining stormwater but use of natural landscape features. These treatments filter and detain the stormwater. They use natural processes, such as soil filtration, evapotranspiration (from the plants in the system) and anaerobic and aerobic treatment of stormwater. The detain the stormwater and release it to mimic the predevelopment storm flows.

### **9.0 – CONCLUSION**

The proposed stormwater management system will treat, infiltrate, and mitigate the runoff generated from the proposed development and provide protection of groundwater and surface waters as required through the Alteration of Terrain Bureau and City stormwater management regulations. The project has been designed in accordance with NHDES and City regulations. There is little change in the flow characteristics of the site. The proposed project has been designed to pose no adverse effects on surrounding properties.

Respectfully,  
**TFMoran, Inc.**

**Jack McTigue, PE, CPESC**  
*Project Manager*

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# **APPENDIX A – EXTREME PRECIPITATION RATES**

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**APPENDIX B – PRE-DEVELOPMENT  
CALCULATIONS**



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**APPENDIX C – PRE-DEVELOPMENT  
CALCULATIONS (10-YEAR STORM EVENT)**

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**APPENDIX D – POST-DEVELOPMENT  
CALCULATIONS**

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**APPENDIX E – POST-DEVELOPMENT  
CALCULATIONS (10-YEAR STORM EVENT)**



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**LEGEND**

PROPOSED	
	PROPERTY LINE
	ZONING LINE
	EASEMENT
	BASELINE
	FLOODPLAIN
	EDGE OF WATERBODY
	EDGE OF WETLAND
	SETBACK (WETLAND)
	SETBACK (STRUCTURE)
	SETBACK (PARKING)
	SETBACK (LANDSCAPE)
	GRAVEL ROAD
	EDGE OF PAVEMENT
	VERTICAL GRANITE CURB
	SLOPED GRANITE CURB
	CONCRETE CURB
	INTEGRATED CONCRETE CURB
	BUTIMINOUS ASPHALT CURB
	CAPE COD BERM
	SAWCUT
	BUILDING
	BUILDING ROOF OVERHANG
	BUILDING FOUNDATION
	BUILDING ENTRANCE
	OVERHEAD DOOR
	TREE LINE
	FENCE (CHAIN LINK)
	FENCE (WIRE)
	FENCE (STOCKADE)
	GUARDRAIL
	STONE WALL
	RETAINING WALL
	SILT FENCE
	SOIL SOCK
	SOIL BOUNDARY
	LIMIT OF GRADING
	CONTOUR
	SPOT GRADE
	PARKING COUNT
	YELLOW DOUBLE SOLID LINE
	YELLOW SINGLE SOLID LINE
	WHITE SINGLE SOLID LINE
	WHITE SINGLE BROKEN LINE
	STOP BAR
	CROSSWALK
	ACCESSIBLE PARKING SYMBOL
	PAVEMENT ARROW
	TRAFFIC FLOW ARROW (NOT PAINTED)
	SIGN (SINGLE POST)
	SIGN (DOUBLE POST)
	SIGN (PYLON)
	SIGN (MONUMENT)
	BOLLARD
	DUMPSTER PAD

PROPOSED	
	CONCRETE
	GRAVEL
	HEAVY DUTY PAVEMENT
	CONSTRUCTION ENTRANCE
	SNOW STORAGE
	RIPRAP
	INLET PROTECTION
	DRAIN LINE
	DRAINAGE SWALE
	STORMWATER BMP
	SEWER LINE
	SEWER FORCE MAIN LINE
	WATER LINE
	GAS LINE
	OVERHEAD UTILITY LINE
	UNDERGROUND UTILITY LINE
	CATCH BASIN
	DRAIN INLET
	OUTLET CONTROL STRUCTURE
	ROOF DRAIN
	DRAIN CLEANOUT
	DRAIN MANHOLE
	FARED END SECTION
	SEWER CLEAN OUT
	SEWER MANHOLE
	SEWER VENT
	DRAIN/SEWER/WATER PLUG OR CAP
	HYDRANT
	FIRE DEPARTMENT CONNECTION
	WATER GATE VALVE
	WATER SHUTOFF
	THRUST BLOCK
	WATER METER
	WATER MANHOLE
	WELL
	GAS GATE VALVE
	GAS SHUT OFF
	GAS METER
	TELEPHONE MANHOLE
	ELECTRIC MANHOLE
	TRAFFIC CONTROL CABINET
	ELECTRIC HANDHOLE
	ELECTRIC PULL BOX
	ELECTRIC METER
	FLOOD LIGHT
	LIGHT POLE
	UTILITY POLE
	GUY POLE
	TRANSFORMER PAD
	BORING LOCATION
	TEST PIT LOCATION
	INFILTRATION TEST LOCATION
	MONITORING WELL

**ABBREVIATIONS**

GENERAL		PERF		UTILITIES	
ABAN	ABANDON	PERF	PERFORATED	CB	CATCH BASIN
AC	ACRES	PROP	PROPOSED	CIP	CAST IRON PIPE
ADJ	ADJUST	R	RADIUS	CMP	CORRUGATED METAL PIPE
APPROX	APPROXIMATE	R&D	REMOVE AND DISPOSE	CO	CLEANOUT
BC	BOTTOM OF CURB	R&R	REMOVE AND RESET	COND	CONDUIT
BIT	BUTIMINOUS	RET	RETAIN	DCB	DOUBLE CATCH BASIN
BK/PG	BOOK & PAGE	LF	LINEAR FEET	DIP	DUCTILE IRON PIPE
BLDG	BUILDING	LSA	LANDSCAPE AREA	DMH	DRAIN MANHOLE
BS	BOTTOM OF SLOPE	MAX	MAXIMUM	F&C	FRAME AND COVER
BW	BOTTOM OF WALL	MIN	MINIMUM	F&G	FRAME AND GRATE
CONC	CONCRETE	N/F	NOW OR FORMERLY	FES	FLARED END SECTION
COORD	COORDINATE	NTS	NOT TO SCALE	GT	GREASE TRAP
DIA	DIAMETER	OC	ON CENTER	HDPE	HIGH DENSITY POLYETHYLENE PIPE
ELEV	ELEVATION	PAVE	PAVEMENT	HH	HANDHOLE
EP	EDGE OF PAVEMENT			HW	HEADWALL
				HYD	HYDRANT
				LP	LIGHT POLE
				OCS	OUTLET CONTROL STRUCTURE
				PVC	POLYVINYL CHLORIDE PIPE
				RCP	REINFORCED CONCRETE PIPE
				RD	ROOF DRAIN
				SMH	SEWER MANHOLE
				SOS	SEDIMENT OIL SEPARATOR
				TSV	TAPPING SLEEVE, VALVE, AND BOX
				UP	UTILITY POLE

**GENERAL NOTES**

- THESE PLANS ARE PERMIT DRAWINGS ONLY AND HAVE NOT BEEN DETAILED FOR CONSTRUCTION OR BIDDING.
- THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER, TFMORAN, INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-COMFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
- THE CONDOMINIUM SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- ALL IMPROVEMENTS SHOWN ON THE 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 CITY OF PORTSMOUTH.
- ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF PORTSMOUTH, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL WORK WITHIN THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS. ALL WORK WITHIN THE RIGHT-OF-WAY OF THE CITY AND/OR STATE SHALL COMPLY WITH APPLICABLE STANDARDS. COORDINATE ALL WORK WITHIN THE RIGHT-OF-WAY WITH APPROPRIATE CITY, COUNTY, AND/OR STATE AGENCY.
- AN ALTERATION OF TERRAIN PERMIT IS REQUIRED PER ENV-WQ 1503.02. THE SITE CONTRACTOR SHALL ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF NHDES ENV-WQ 1500 OR AS APPLICABLE.
- SEE EXISTING CONDITIONS PLAN FOR THE HORIZONTAL AND VERTICAL DATUM.
- SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION. VERIFY TBM ELEVATIONS PRIOR TO CONSTRUCTION.
- CONTACT EASEMENT OWNERS PRIOR TO COMMENCING ANY WORK WITHIN THE EASEMENTS.
- PRIOR TO COMMENCING ANY SITE WORK ALL LIMITS OF WORK SHALL BE CLEARLY MARKED IN THE FIELD.
- SITE WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS, NOT ALL FEATURES ARE DETAIL ON EVERY PLAN. THE ENGINEER IS TO BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.
- TFMORAN, INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ENGINEER OF RECORD.
- TEMPORARY FENCING SHALL BE PROVIDED AND COVERED WITH A FABRIC MATERIAL TO CONTROL DUST MITIGATION.
- ALL DEMOLITION SHALL INSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKWAYS, AND ANY OTHER ADJACENT OPERATING FACILITIES. PRIOR WRITTEN PERMISSION FROM THE OWNER/DEVELOPER AND LOCAL PERMITTING AUTHORITY IS REQUIRED IF CLOSURE/OBSTRUCTIONS TO ROADS, STREET, WALKWAYS, AND OTHERS IS DEEMED NECESSARY. CONTRACTOR TO PROVIDE ALTERNATE ROUTES AROUND CLOSURES/OBSTRUCTIONS PER LOCAL/STATE/FEDERAL REGULATIONS.
- REFER TO ARCHITECTURAL PLANS FOR LAYOUT OF BUILDING FOUNDATIONS AND CONCRETE ELEMENTS WHICH ABUT THE BUILDING SUCH AS STAIRS, SIDEWALKS, LOADING DOCK RAMPS, PADS, AND COMPACTOR PADS. DO NOT USE SITE PLANS FOR LAYOUT OF FOUNDATIONS.
- IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS, AND DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
- IF CONDITIONS AT THE SITE ARE DIFFERENT THAN SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
- CONTRACTOR'S GENERAL RESPONSIBILITIES:
  - BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS, AND STANDARDS.
  - NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES OF PROPOSED LAYOUT AND/OR EXISTING FEATURES.
  - EMPLOY A LICENSED SURVEYOR TO DETERMINE ALL LINES AND GRADES AND LAYOUT OF SITE ELEMENTS AND BUILDINGS.
  - THE CONTRACTOR SHALL BE RESPONSIBLE TO BECOME FAMILIAR WITH THE SITE AND ALL SURROUNDING CONDITIONS. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF INTENTIONS AT LEAST 48 HOURS IN ADVANCE.
  - TAKE APPROPRIATE MEASURES TO REDUCE, TO THE FULLEST EXTENT POSSIBLE, NOISE, DUST AND UNSIGHTLY DEBRIS. CONSTRUCTION ACTIVITIES SHALL BE CARRIED OUT BETWEEN THE HOURS OF 7:00 AM AND 9:00 PM, MONDAY THROUGH FRIDAY IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR CONSTRUCTION, PORTSMOUTH, NEW HAMPSHIRE"
  - MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY WORK AT ALL TIMES.
  - IN ACCORDANCE WITH RSA 430:53 AND AGR 3800, THE CONTRACTOR SHALL NOT TRANSPORT INVASIVE SPECIES OFF THE PROPERTY, AND SHALL DISPOSE OF INVASIVE SPECIES ON-SITE IN A LEGAL MANNER.
  - COORDINATE WITH ALL UTILITY COMPANIES AND CONTACT DIGSAFE (811 OR 888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION.
    - PROTECT NEW AND EXISTING BURIED UTILITIES DURING INSTALLATION OF ALL SITE ELEMENTS. DAMAGED UTILITIES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
    - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY TFMORAN, INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
  - WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.
  - VERIFY LAYOUT OF PROPOSED BUILDING FOUNDATIONS WITH ARCHITECT AND THAT PROPOSED FOUNDATION MEETS PROPERTY LINE SETBACKS PRIOR TO COMMENCING ANY FOUNDATION CONSTRUCTION.
  - PROVIDE AN AS-BUILT PLAN AT THE COMPLETION OF THE PROJECT TO THE PLANNING DIRECTOR AND PER CITY REGULATIONS.
  - IF ANY DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS HAVE BEEN MADE, THE SITE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS STAMPED BY A LICENSED SURVEYOR OR QUALIFIED ENGINEER ALONG WITH A LETTER STAMPED BY A QUALIFIED ENGINEER DESCRIBING ALL SUCH DEVIATIONS, AND BEAR ALL COSTS FOR PREPARING AND FILING ANY NEW PERMITS OR PERMIT AMENDMENTS THAT MAY BE REQUIRED.
  - AT COMPLETION OF CONSTRUCTION, THE SITE CONTRACTOR SHALL PROVIDE A LETTER CERTIFYING THAT THE PROJECT WAS COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND A LETTER STAMPED BY A QUALIFIED ENGINEER THAT THEY HAVE OBSERVED ALL UNDERGROUND DETENTION SYSTEMS, INFILTRATION SYSTEMS, OR FILTERING SYSTEMS PRIOR TO BACKFILL, AND THAT SUCH SYSTEMS CONFORM TO THE APPROVED PLANS AND SPECIFICATIONS.

**GRADING NOTES**

- THE CONTRACTOR SHALL ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF NHDES ENV-WQ 1500 AS APPLICABLE.
- THE CONTRACTOR SHALL PREPARE, MAINTAIN, AND EXECUTE A S.W.P.P.P. IN ACCORDANCE WITH EPA REGULATIONS AND THE CONSTRUCTION GENERAL PERMIT.
- THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO SUBMIT AN eNOI AT LEAST 14 DAYS IN ADVANCE OF ANY EARTHWORK ACTIVITIES AT THE SITE.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK THE ACCURACY OF THE TOPOGRAPHY AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO ANY EARTHWORK BEING PERFORMED ON THE SITE. NO CLAIM FOR EXTRA WORK WILL BE CONSIDERED FOR PAYMENT AFTER EARTHWORK HAS COMMENCED.
- THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR INFORMATION ABOUT SOIL AND GROUNDWATER CONDITIONS. THE CONTRACTOR SHALL FOLLOW THE GEOTECHNICAL ENGINEERS RECOMMENDED METHODS TO ADDRESS ANY SOIL AND GROUNDWATER ISSUES THAT ARE FOUND ON SITE.
- COORDINATE WITH GEOTECHNICAL/STRUCTURAL PLANS FOR SITE PREPARATION AND OTHER BUILDING INFORMATION.
- COORDINATE WITH ARCHITECTURAL PLANS FOR DETAILED GRADING AT BUILDING, AND SIZE AND LOCATION OF ALL BUILDING SERVICES.
- COORDINATE WITH MECHANICAL AND PLUMBING PLANS FOR ROOF DRAIN INFORMATION.
- LIMITS OF WORK ARE SHOWN AS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE ALL WORK TO PROVIDE SMOOTH TRANSITIONS. THIS INCLUDES GRADING, PAVEMENT, CURBING, SIDEWALKS, AND ALIGNMENTS.
- THE CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE, RAMPS AND LOADING AREAS.
- THE SITE SHALL BE GRADED SO ALL FINISHED PAVEMENT HAS POSITIVE DRAINAGE AND SHALL NOT POND WATER DEEPER THAN 1/4" FOR A PERIOD OF MORE THEN 15 MINUTES AFTER FLOODING.
- ALL ELEVATIONS SHOWN AT CURB ARE TO THE BOTTOM OF CURB UNLESS OTHERWISE NOTED. CURBS HAVE A 6" REVEAL UNLESS OTHERWISE NOTED.
- ALL SIDEWALK AND OTHER CURB REVEALS SHALL BE 6" WITH A TOLERANCE OF PLUS OR MINUS 3/8". WHERE SIDEWALK IS TO BE FLUSH, THE PAVEMENT REVEAL SHALL BE 1/4" WITH A TOLERANCE OF 1/8".
- THE FINISHED GRADE AT BOTTOM OF ALL ACCESSIBLE RAMPS SHALL BE FLUSH WITH PAVEMENT WITH A TOLERANCE OF PLUS OR MINUS 1/4".
- ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE PRIOR TO INSTALLATION OF FINISHED PAVEMENT.
- ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS AND SHALL MEET LOCAL STANDARDS AND THE REQUIREMENTS OF THE LATEST NHDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION AND THE NHDOT STANDARD STRUCTURE DRAWINGS UNLESS OTHERWISE NOTED.
- STORMWATER DRAINAGE SYSTEM SHALL BE CONSTRUCTED TO LINE AND GRADE AS SHOWN ON THE PLANS. CONSTRUCTION METHODS SHALL CONFORM TO NHDOT STANDARD SPECIFICATIONS, SECTION 603. CATCH BASINS AND DRAIN MANHOLES SHALL CONFORM TO SECTION 604. ALL CATCH BASIN GRATES SHALL BE TYPE B AND CONFORM TO NHDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
- NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
- ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
- ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
- DENSITY REQUIREMENTS:
 

MINIMUM DENSITY*	LOCATION
95%	BELOW PAVED OR CONCRETE AREAS
95%	TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL
90%	BELOW LOAM AND SEED AREAS

\*ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C. FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM D-6938.

**UTILITY NOTES**

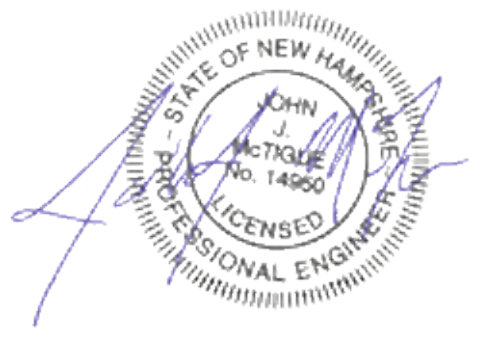
- LENGTH OF PIPE IS FOR CONVENIENCE ONLY. ACTUAL PIPE LENGTH SHALL BE DETERMINED IN THE FIELD.
- ALL PROPOSED UTILITY WORK, INCLUDING MATERIAL, INSTALLATION, TERMINATION, EXCAVATION, BEDDING, BACKFILL, COMPACTION, TESTING, CONNECTIONS, AND CONSTRUCTION SHALL BE COORDINATED WITH AND COMPLETED IN ACCORDANCE WITH THE APPROPRIATE REQUIREMENTS, CODES, AND STANDARDS OF ALL CORRESPONDING UTILITY ENTITIES AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE, AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE DIGGING.
- COORDINATE ALL WORK ADJACENT TO PROPOSED BUILDINGS WITH ARCHITECTURAL BUILDING DRAWINGS. CONFIRM UTILITY PENETRATIONS AND INVERT ELEVATIONS ARE COORDINATED PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
- THE EXACT LOCATION OF NEW UTILITY CONNECTIONS SHALL BE DETERMINED BY THE CONTRACTOR IN COORDINATION WITH UTILITY COMPANY, COUNTY AGENCY, AND/OR PRIVATE UTILITY COMPANY.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER THE UTILITY INSTALLATION COMPLETE AND OPERATIONAL.
- ALL UTILITY COMPANIES REQUIRE INDIVIDUAL CONDUITS. CONTRACTOR TO COORDINATE WITH TELEPHONE, CABLE, AND ELECTRIC COMPANIES REGARDING NUMBER, SIZE, AND TYPE OF CONDUITS REQUIRED PRIOR TO INSTALLATION OF ANY CONDUIT.
- SANITARY SEWER SHALL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATIONS AS SHOWN ON THESE PLANS. ALL SEWER MAINS AND FITTINGS SHALL BE PVC AND SHALL CONFORM TO ASTM F 679 (SDR 35 MINIMUM). ALL SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH NH CODE OF ADMINISTRATIVE RULES ENV-WQ 700. SANITARY MANHOLES SHALL CONFORM TO NHDES WATER DIVISION WASTEWATER ENGINEERING BUREAU STANDARDS AND SPECIFICATIONS SHOWN HEREON.
- ON-SITE WATER DISTRIBUTION SHALL BE TO CITY OF PORTSMOUTH STANDARDS AND SPECIFICATIONS. WATER MAINS SHALL HAVE A MINIMUM OF 5.5' COVER. WHERE WATER PIPES CROSS SEWER LINES A MINIMUM OF 18" VERTICAL SEPARATION BETWEEN THE TWO OUTSIDE PIPE WALLS SHALL BE OBSERVED. HORIZONTAL SEPARATION BETWEEN WATER AND SEWER SHALL BE 10' MINIMUM. WHERE A SANITARY LINE CROSSES A WATER LINE, ENCASE THE SANITARY LINE IN 6" THICK CONCRETE FOR A DISTANCE OF 10' EITHER SIDE OF THE CROSSING, OR SUBSTITUTE RUBBER-GASKETED PRESSURE PIPE FOR THE SAME DISTANCE. WHEN SANITARY LINES PASS BELOW WATER LINES, LAY PIPE SO THAT NO JOINT IN THE SANITARY LINE WILL BE CLOSER THAN 3' HORIZONTALLY TO THE WATER LINE.
- THRUST BLOCKS SHALL BE PROVIDED AT ALL LOCATIONS WHERE WATER LINE CHANGES DIRECTIONS OR CONNECTS TO ANOTHER WATER LINE.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONDUIT AND WIRING TO ALL SIGNS AND LIGHTS. CONDUIT TO BE A MINIMUM OF 24" BELOW FINISH GRADE.
- ALL PROPOSED UTILITIES SHALL BE UNDERGROUND. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES.
- THE CONTRACTOR SHALL ARRANGE AND PAY FOR ALL INSPECTIONS, TESTING AND RELATED SERVICES AND SUBMIT COPIES OF ACCEPTANCE TO THE OWNER, UNLESS OTHERWISE INDICATED.
- PROVIDE PERMANENT PAVEMENT REPAIR FOR ALL UTILITY TRENCHES IN EXISTING ROAD OR PAVEMENT TO REMAIN. SAW CUT TRENCH, PAVEMENT AND GRANULAR BASE THICKNESS TO MATCH EXISTING PAVEMENT. OBTAIN ALL PERMITS REQUIRED FOR TRENCHING.
- UNLESS OTHERWISE SPECIFIED, ALL UNDERGROUND STRUCTURES, PIPES, CHAMBERS, ETC. SHALL BE COVERED WITH A MINIMUM OF 18" OF COMPACTED SOIL BEFORE EXPOSURE TO VEHICLE LOADS.
- THE PROPERTY WILL BE SERVICED BY THE FOLLOWING:
 

DRAINAGE	MUNICIPAL
SEWER	MUNICIPAL
WATER	MUNICIPAL
GAS	UNILIT
ELECTRIC	EVERSOURCE
TELEPHONE	CONSOLIDATED COMMUNICATIONS FKA FAIRPOINT COMMUNICATIONS
CABLE	COMCAST

**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**NOTES AND LEGEND**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**

**1"=40' (11"X17")**  
**SCALE: N78° (22'X34')** **APRIL 19, 2021**



Seacoast Division			
	Civil Engineers	170 Commerce Way, Suite 102	
	Structural Engineers	Portsmouth, NH 03801	
	Traffic Engineers	Phone (603) 431-2222	
	Land Surveyors	Fax (603) 431-0910	
	Landscape Architects	www.tfmoran.com	
	Scientists		

REV	DATE	DESCRIPTION	DR	CK

F I L E	47388.11	DR	JSM	FB	-
		CK	JUM	CADFILE	47388-11_NOTES
					C-01

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LEGEND:

Map 137 Lot 11 legend table with columns for symbol and description, including CHB, CHL, I, L, NRP, N/F, R, RU, RCRD, A, S.F., SRA, SRB, TC, and boundary types like STONE WALL, WIRE FENCE, etc.

Legend symbols for various features like stone wall, wire fence, wetland, etc.

- 1. "PLAN OF A LOT OF LAND BELONGING TO CHARLES H. HAYES PORTSMOUTH, N.H." BY A.C. HOYT SURVEYOR, DATED JULY 1896. RCRD PLAN #0171.
2. "PLAN OF LAND FOR JOHN & MAUD HETT PORTSMOUTH, N.H. SURVEY BY ME JENKINS, LEE, N.H.," DATED DEC. 1988. RCRD PLAN #C-19399.
3. "PROPERTY OF SWIFTWATER GIRL SCOUT COUNCIL CITY OF PORTSMOUTH N.H." SURVEYED BY JON MOORE, DATED AUGUST 1972. RCRD PLAN #D-3206.
4. "SUBDIVISION OF LAND FOR ROBERT E. DOWD IN PORTSMOUTH, N.H." BY BRUCE L. POHOPEK LAND SURVEYORS DOVER, N.H., DATED MAY 31, 1978, REVISED OCT 5, 78. RCRD PLAN #D-8312.
5. "SUBDIVISION PLAN OF LAND FOR THEODORE C. BURTT BANFIELD ROAD COUNTY OF ROCKINGHAM PORTSMOUTH, N.H." BY RICHARD P. MILLETTE AND ASSOCIATES, DATED DECEMBER 1981, WITH REVISION 2 DATED JANUARY, 1982. RCRD PLAN #D-10795.
6. "STANDARD BOUNDARY SURVEY MAP 242 - LOT 1 MAP 258 - LOT 54 MAP 263 - LOT 1-6 & 2 FOR THE NATURE CONSERVANCY N.H. ROUTE 33 GREENLAND ROAD COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE" BY AMBIT ENGINEERING, INC., DATED FEBRUARY 2006, WITH REVISION 1, DATED 4/13/06. RCRD PLAN #D-33859.
7. "LOT LINE RELOCATION PLAN MAP R-65 LOTS 2A & 2B FOR HAROLD & MARILYN ECKER AND ELIZABETH K. HURLEY 422 & 470 BANFIELD ROAD PORTSMOUTH, N.H. COUNTY OF ROCKINGHAM" BY AMBIT ENGINEERING, INC., DATED MAY 2000, WITH REVISION 0 DATED 5/26/00. RCRD PLAN #D-28209.

Legend symbols for various features like stone wall, wire fence, wetland, etc.

- 1. THE RIGHT TO USE SAID DRIVEWAY IN COMMON WITH PETER STOKEL AND HIS HEIRS FROM SAID GREENLAND ROAD, ALONG BY SAID CEMETERY, AND ALONG THE BOUNDARY BETWEEN THE LANDS OF SAID PETER AND STELLA TO SAID RAILROAD, AND SUBJECT TO SAID PETER'S RIGHT TO USE THE SAME IN COMMON. (SEE RCRD BK.#5066 PG.#1603).
2. RIGHTS OF PETER AND STELLA STOKEL AND THEIR RESPECTIVE HEIRS AND ASSIGNS SHALL HAVE EQUAL RIGHTS TO THE WATER OF SAID WELL, SAID PUMP, THE PIPES AND ANY OTHER EQUIPMENT USED NOW OR HEREAFTER IN COMMON, CHARGES OF CARE, UPKEEP, REPAIRS OR REPLACEMENT TO BE BORNE EQUALLY, WITH MUTUAL EASEMENTS TO ENTER ON THE LAND OF THE OTHER WHENEVER NECESSARY FOR ANY OF SAID PURPOSES. (SEE RCRD BK.#5066 PG.#1603).
3. 110' WIDE POWER LINE EASEMENT TO THE NEW HAMPSHIRE GAS & ELECTRIC COMPANY. (SEE RCRD BK.#1052 PG.#321).

LINE TABLE with columns for LINE #, BEARING, and DISTANCE. Lists bearings and distances for lines L1 through L42.

LINE TABLE with columns for LINE #, BEARING, and DISTANCE. Lists bearings and distances for lines L43 through L82.

ABUTTERS ACROSS PEVERLY HILL ROAD:

MAP 232 LOT 92 N/F DYANNA L. INNES 78 PEVERLY HILL ROAD PORTSMOUTH, NH 03801 RCRD BK.#3754 PG.#0099

MAP 232 LOT 88 N/F NATHAN M. & SHERRI M. TARLETON 74 LEAVITT AVENUE PORTSMOUTH, NH 03801 RCRD BK.#5885 PG.#1471

MAP 232 LOT 93 N/F KENNETH T. BLACK 82 PEVERLY HILL ROAD PORTSMOUTH, NH 03801 RCRD BK.#3743 PG.#1942

MAP 232 LOT 87 N/F SUSAN L. DIXON 68 WIBIRD STREET PORTSMOUTH, NH 03801 RCRD BK.#2504 PG.#0028

MAP 232 LOT 95 N/F CITY OF PORTSMOUTH DPW PO BOX 628 PORTSMOUTH, NH 03802 RCRD BK.#2247 PG.#0239

MAP 243 LOT 50 N/F ASRT, LLC 266 MIDDLE STREET PORTSMOUTH, NH 03801 RCRD BK.#6184 PG.#1176

MAP 243 LOT 51 N/F AJEI REAL ESTATE LLC 163 SPINNEY ROAD PORTSMOUTH, NH 03801 RCRD BK.#5887 PG.#0463

MAP 243 LOT 52 N/F CITY OF PORTSMOUTH DPW PO BOX 628 PORTSMOUTH, NH 03802 RCRD BK.#2042 PG.#0498

MAP 265 LOT 2D N/F CITY OF PORTSMOUTH DPW PO BOX 628 PORTSMOUTH, NH 03802 RCRD BK.#2413 PG.#0222

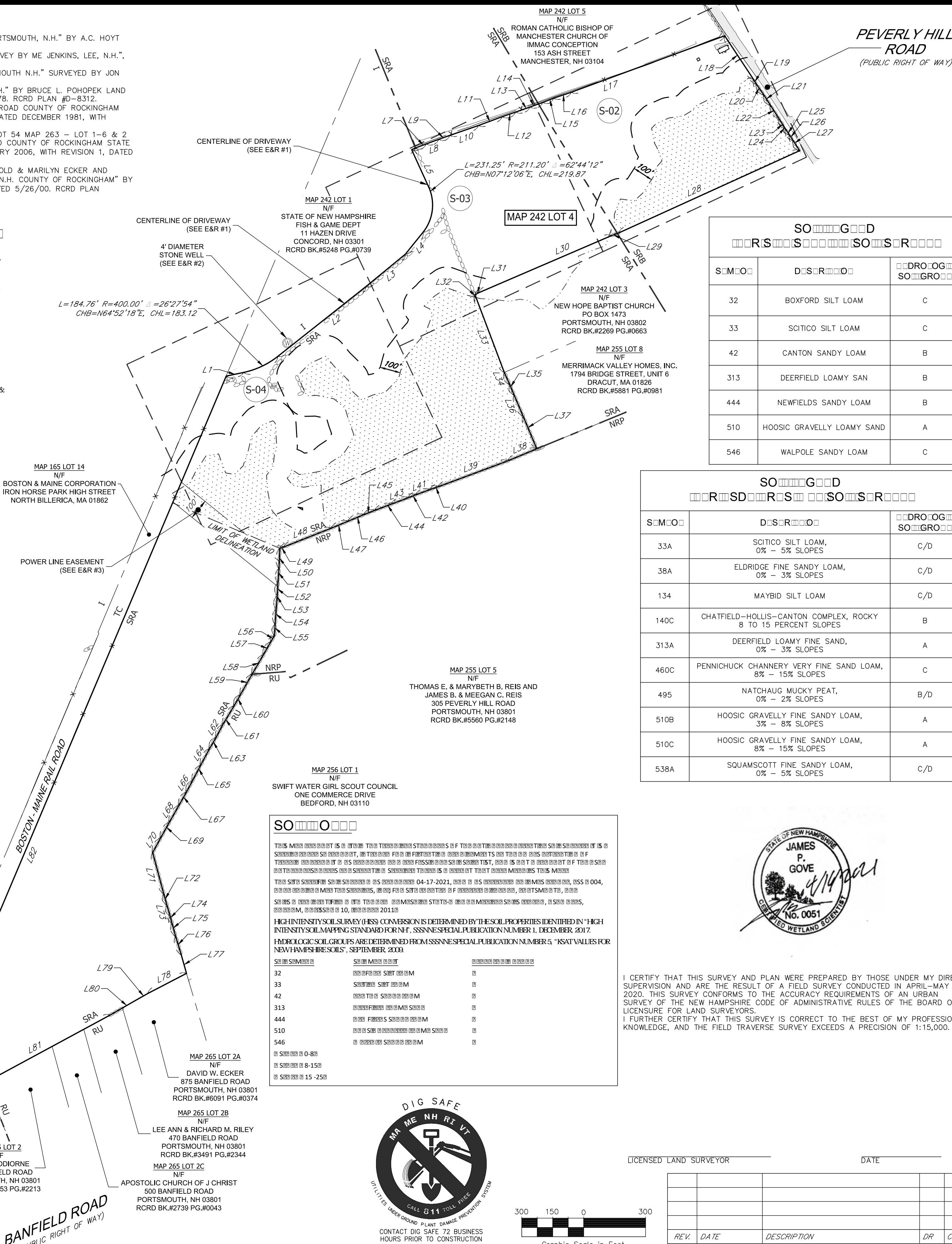
MAP 265 LOT 2E N/F CITY OF PORTSMOUTH 1 JUNKINS AVENUE PORTSMOUTH, NH 03801 RCRD BK.#5077 PG.#1943

MAP 265 LOT 2A N/F DAVID W. ECKER 875 BANFIELD ROAD PORTSMOUTH, NH 03801 RCRD BK.#6091 PG.#0374

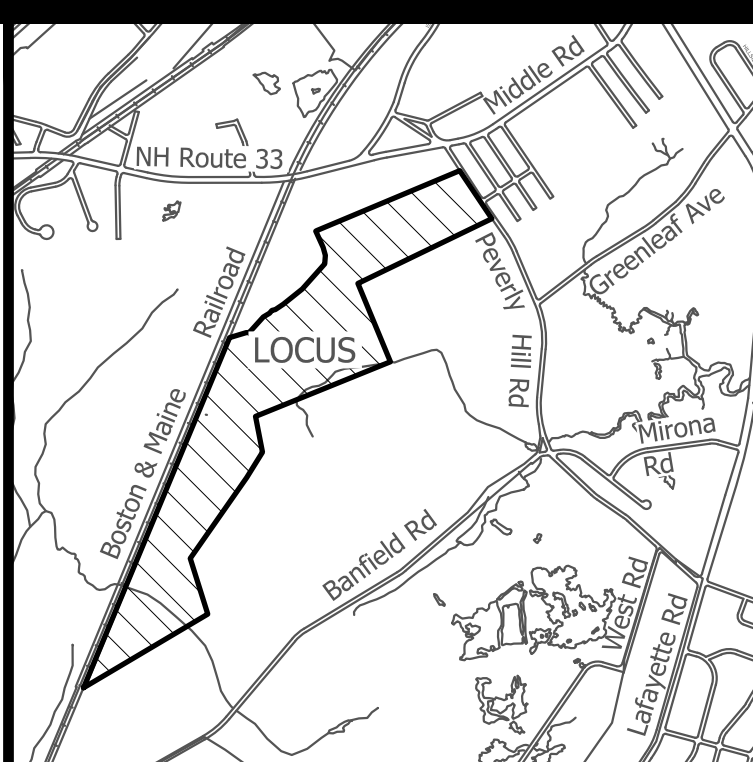
MAP 265 LOT 2B N/F LEE ANN & RICHARD M. RILEY 470 BANFIELD ROAD PORTSMOUTH, NH 03801 RCRD BK.#3491 PG.#2344

MAP 265 LOT 2C N/F APOSTOLIC CHURCH OF J. CHRIST 500 BANFIELD ROAD PORTSMOUTH, NH 03801 RCRD BK.#2739 PG.#0043

MAP 265 LOT 2E N/F MARK H. ODORNE 520 BANFIELD ROAD PORTSMOUTH, NH 03801 RCRD BK.#3353 PG.#2213



PEVERLY HILL ROAD (PUBLIC RIGHT OF WAY)



Soil Legend table with columns for S.M.O., D.S.R., and DRO/OG/SO/GRO. Lists soil types like BOXFORD SILT LOAM, SCITICO SILT LOAM, etc.

Soil Legend table with columns for S.M.O., D.S.R., and DRO/OG/SO/GRO. Lists soil types like SCITICO SILT LOAM, ELDRIDGE FINE SANDY LOAM, etc.

- 1. THE PARCEL IS LOCATED IN THE SINGLE RESIDENCE A (SRA) & SINGLE RESIDENCE B (SRB) ZONING DISTRICTS.
2. THE PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 242 AS LOT 4.
3. THE PARCEL IS LOCATED IN ZONE X AS SHOWN ON NATIONAL FLOOD INSURANCE PROGRAM (NFIP), FLOOD INSURANCE RATE MAP (FIRM) ROCKINGHAM COUNTY, NEW HAMPSHIRE, PANEL 270 OF 681, MAP NUMBER 3301SC0270F. MAP REVISED JANUARY 29, 2021.
4. DIMENSIONAL REQUIREMENTS: REQUIRED: MINIMUM LOT AREA: LOT AREA PER DWELLING UNIT: CONTINUOUS STREET FRONTAGE: LOT DEPTH: MINIMUM YARD DIMENSIONS: FRONT: SIDE: REAR: MAXIMUM STRUCTURE DIMENSIONS: STRUCTURE HEIGHT: SLOPED ROOF: FLAT ROOF: BUILDING COVERAGE: MINIMUM OPEN SPACE: PER THE CITY OF PORTSMOUTH ZONING ORDINANCE SECTION 10.520.
5. OWNER OF RECORD: MAP 242 LOT 4: STELLA B. STOKEL 1993 TRUST, NANCY A. STOKEL 1993 TRUST & PHILIP J. STOKEL 83 PEVERLY HILL ROAD PORTSMOUTH, NH 03801 RCRD BK.#5066 PG.#1603
6. PARCEL AREA: MAP 242 LOT 4: 4,604.509 SF. (105.7050 ACRES)
7. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH THE CURRENT LEGAL DESCRIPTIONS. IT IS NOT AN ATTEMPT TO DEFINE THE EXTENT OF OWNERSHIP OR DEFINE THE LIMITS OF TITLE.
8. THE PURPOSE OF THIS PLAN IS TO SHOW THE OVERALL BOUNDARY LINES OF MAP 242 LOT 4. FIELD SURVEY COMPLETED BY TCE, MVP & PUT IN APRIL-MAY 2020 USING A TOPCON SD103, TOPCON HIPER-SR, TOPCON HIPER-V AND A CARLSON RT4 DATA COLLECTOR.
9. HORIZONTAL DATUM IS NAD83 (2011) PER STATIC GPS OBSERVATIONS. THE VERTICAL DATUM IS NAVD83 (GEOID12B) PER STATIC GPS OBSERVATIONS. THE CONTOUR INTERVAL IS 2 FEET. EASEMENTS, RIGHTS, AND RESTRICTIONS SHOWN OR IDENTIFIED ARE THOSE WHICH WERE FOUND DURING RESEARCH PERFORMED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER RIGHTS, EASEMENTS, OR RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF SUBJECT PARCEL(S) WOULD DETERMINE.
10. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. IFMORAN, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UNDERGROUND UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE.
11. WETLAND DELINEATION WAS COMPLETED BY GOVE ENVIRONMENTAL SERVICES ON FEBRUARY 18, 2020 AND REVISED ON MAY 14, 2020 IN ACCORDANCE WITH THE 1987 ARMY CORP OF ENGINEERS WETLAND MANUAL AND THE 2012 REGIONAL SUPPLEMENT TO THE CORP OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, FIELD LOCATED BY IFMORAN, INC.
12. THE ABANDONED CEMETERY SHOWN ON SHEET S-03 IS BELIEVED TO BE THE FORMER HAYES FAMILY CEMETERY. CURRENT OWNERS OF THE PROPERTY ACKNOWLEDGE THAT ALL BODIES HAVE BEEN EXHUMED FROM THIS LOCATION. NO GRAVESTONES EXIST AT THIS CEMETERY. THE 25' BUFFER TO THE CEMETERY IS SHOWN AS AN ABUNDANCE OF CAUTION.



THIS MAP REPRESENTS THE FIELD SURVEY OF THE BOUNDARIES OF THE PARCELS SHOWN HEREON AS SHOWN ON THE SURVEY MAP. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE BOARD OF LICENSURE FOR LAND SURVEYORS.

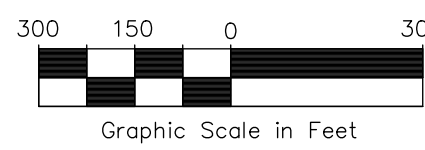


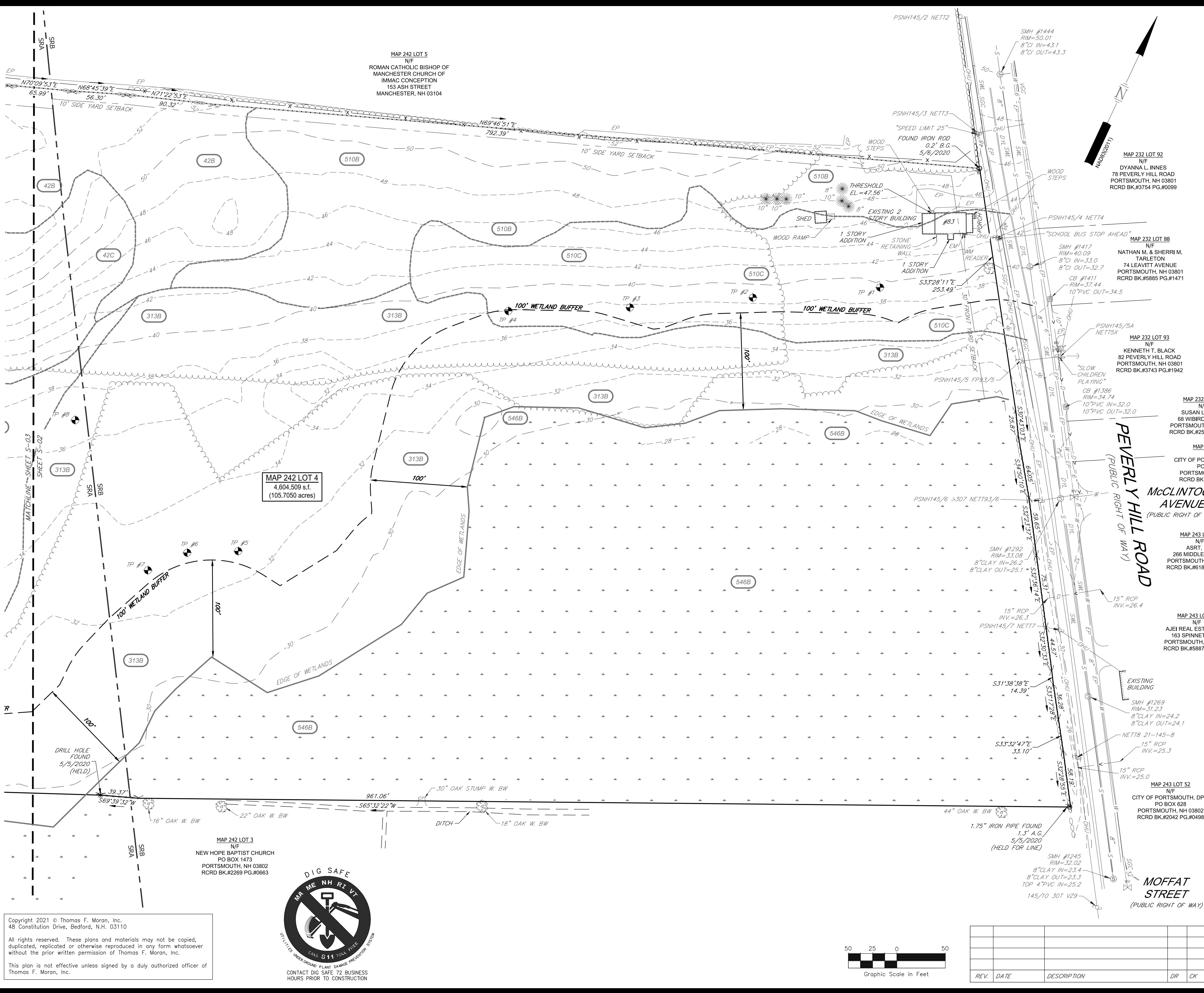
Table with columns for REV. DATE, DESCRIPTION, DR, and CK. Includes a signature line for the Licensed Land Surveyor and Date.

TAX MAP 242 LOT 4 OVERALL EXISTING CONDITIONS PLAN PEVERLY HILL ROAD 83 PEVERLY HILL ROAD PORTSMOUTH, NEW HAMPSHIRE COUNTY OF ROCKINGHAM OWNED BY STELLA B. STOKEL 1993 TRUST, NANCY A. STOKEL 1993 TRUST & PHILIP J. STOKEL SCALE: 1" = 300' (22x34) 1" = 600' (11x17) APRIL 19, 2021

Seacoast Division TFM logo and contact information: Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists. 170 Commerce Way, Suite 102 Portsmouth, NH 03801 Phone (603) 431-2222 Fax (603) 431-0910 www.tfmoran.com

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**LEGEND:**

- MAP 137 LOT 11**
- A.C. ABOVE GRADE
  - B.G. BELOW GRADE
  - BK. PG. BOOK / PAGE
  - BW BARBED WIRE
  - CI CAST IRON
  - DYL DOUBLE YELLOW LINE
  - EL ELEVATION
  - EM ELECTRIC METER
  - EP EDGE OF PAVEMENT
  - I INDUSTRIAL ZONE
  - INV. INVERT
  - NETT NEW ENGLAND TELEPHONE
  - NRP NATURAL RESOURCE PROTECTION ZONE
  - N/F NOW OR FORMERLY
  - PSNH PUBLIC SERVICE COMPANY OF NH
  - PVC POLYVINYL CHLORIDE
  - R RADIUS
  - RCRD ROCKINGHAM COUNTY REGISTRY OF DEEDS
  - RCP REINFORCED CONCRETE PIPE
  - RU RURAL ZONE
  - S.F. SQUARE FEET
  - SGC SLOPED GRANITE CURB
  - SMP SEWER MANHOLE
  - SRA SINGLE RESIDENCE A ZONE
  - SRB SINGLE RESIDENCE B ZONE
  - SMH SEWER MANHOLE
  - SWL SINGLE WHITE LINE
  - TBM TEMPORARY BENCHMARK
  - VOC VERTICAL GRANITE CURB
  - W WITH
  - WM WATER METER
  - DRILL HOLE FOUND
  - IRON PIPE/ROD FOUND
  - BOUND FOUND
  - GUY WIRE
  - UTILITY POLE
  - CATCH BASIN
  - MAILBOX
  - POST
  - STUMP
  - CONIFEROUS TREE
  - DECIDUOUS TREE
  - SEWER MANHOLE
  - HYDRANT
  - WATER SHUT OFF
  - WATER GATE VALVE
  - TEST PIT
  - SIGN
  - SOIL SYMBOL
  - SOILS LINE
  - OHU OVERHEAD UTILITY LINES
  - CHAINLINK FENCE
  - BOUNDARY LINE
  - SETBACK LINE
  - TREE LINE
  - DRAIN LINE
  - SEWER LINE
  - GAS LINE
  - WATER LINE
  - EXISTING CONTOUR
  - STONEWALL
  - EDGE OF WETLAND
  - ZONE LINE
  - MATCH LINE
  - PAVEMENT
  - WETLANDS

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY THOSE UNDER MY DIRECT SUPERVISION AND ARE THE RESULT OF A FIELD SURVEY CONDUCTED IN APRIL-MAY 2020. THIS SURVEY CONFORMS TO THE ACCURACY REQUIREMENTS OF AN URBAN SURVEY OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I FURTHER CERTIFY THAT THIS SURVEY IS CORRECT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, AND THE FIELD TRAVERSE SURVEY EXCEEDS A PRECISION OF 1:15,000.

LICENSED LAND SURVEYOR \_\_\_\_\_ DATE \_\_\_\_\_

**TAX MAP 242 LOT 4**  
**EXISTING CONDITIONS PLAN**  
**PEVERLY HILL ROAD**  
**83 PEVERLY HILL ROAD**  
**PORTSMOUTH, NEW HAMPSHIRE**  
**COUNTY OF ROCKINGHAM**  
 OWNED BY  
**STELLA B. STOKEL 1993 TRUST &**  
**NANCY A. STOKEL 1993 TRUST**

SCALE: 1" = 50' (22x34)  
 1" = 100' (11x17) APRIL 19, 2021

**Seacoast Division**

**TFM**

Civil Engineers  
 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists

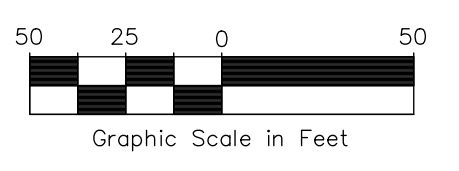
170 Commerce Way, Suite 102  
 Portsmouth, NH 03801  
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 Fax (603) 431-0910  
 www.tfmoran.com

47388-11	DR	MVP	FB	568	S-02
	CK	BMK	CADFILE		

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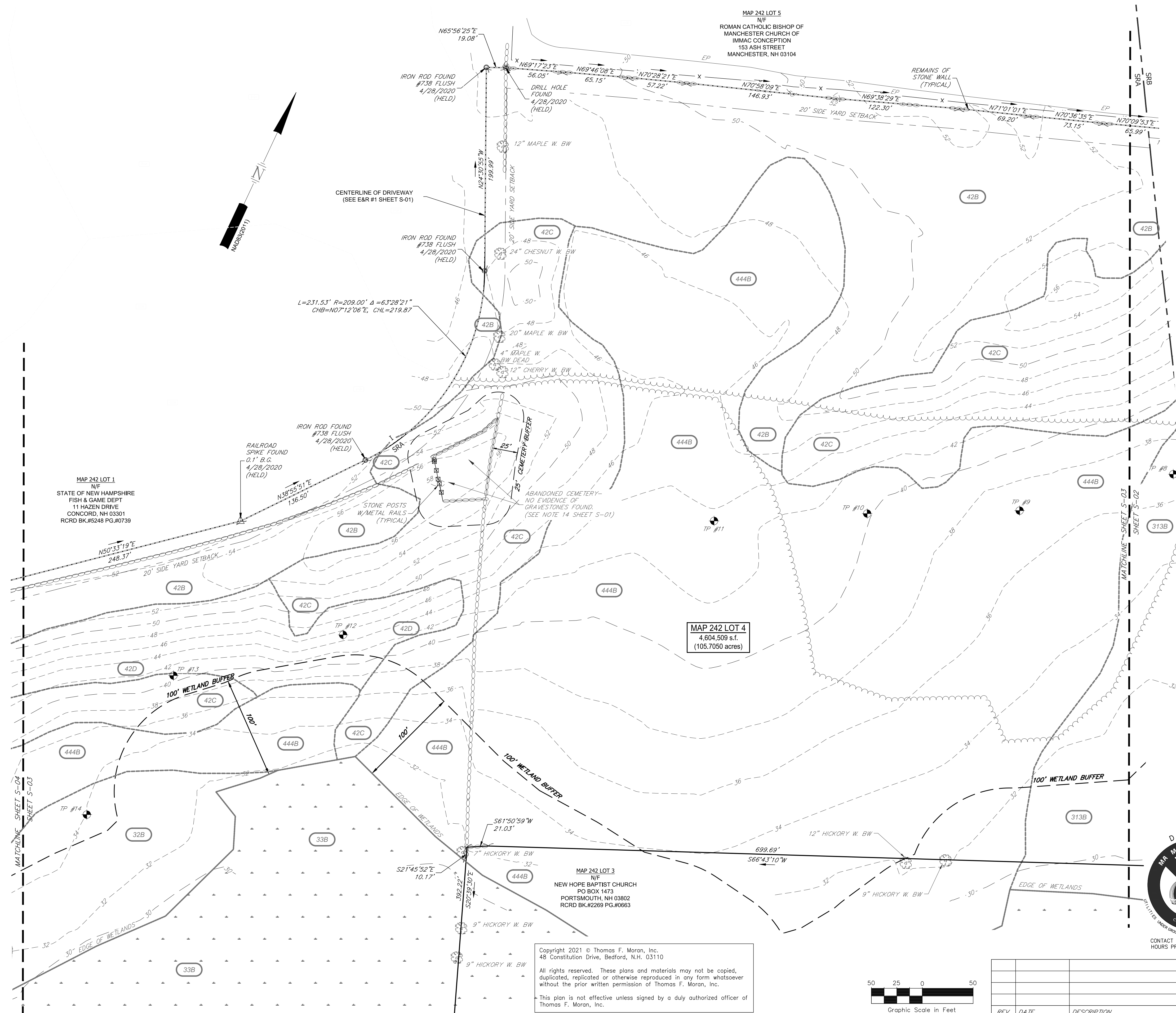
REV.	DATE	DESCRIPTION	DR	CK

**LEGEND:**

- MAP 137 LOT 11**
- B.G. BELOW GRADE
  - BK. PG. BOOK / PAGE
  - BW BARBED WIRE
  - CHB CHORD BEARING
  - CHL CHORD LENGTH
  - EP EDGE OF PAVEMENT
  - I INDUSTRIAL ZONE
  - L LENGTH
  - N/F NOW OR FORMERLY
  - R RADIUS
  - RCRD ROCKINGHAM COUNTY REGISTRY OF DEEDS
  - RU RURAL ZONE
  - S.F. SQUARE FEET
  - SRA SINGLE RESIDENCE A ZONE
  - SRB SINGLE RESIDENCE B ZONE
  - TP TEST PIT
  - W WITH
  - POST POST
  - Δ CENTRAL ANGLE
  - TEST PIT
  - DECIDUOUS TREE
  - SOIL SYMBOL
  - SOILS LINE
  - X CHAINLINK FENCE
  - BOUNDARY LINE
  - SETBACK LINE
  - TREE LINE
  - 100 EXISTING CONTOUR
  - STONEWALL
  - EDGE OF WETLAND
  - ZONE ZONE
  - MATCH LINE
  - PAVEMENT
  - WETLANDS



1. SEE SHEET S-01 FOR OVERALL BOUNDARY, NOTES, PLAN REFERENCES AND LOCATION PLAN.



LICENSED LAND SURVEYOR \_\_\_\_\_ DATE \_\_\_\_\_

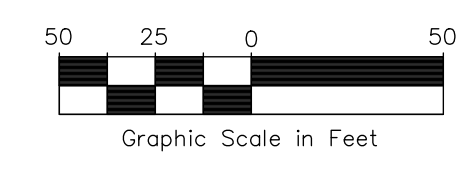
**TAX MAP 242 LOT 4**  
**EXISTING CONDITIONS PLAN**  
**PEVERLY HILL ROAD**  
**83 PEVERLY HILL ROAD**  
**PORTSMOUTH, NEW HAMPSHIRE**  
**COUNTY OF ROCKINGHAM**  
 OWNED BY  
**STELLA B. STOKEL 1993 TRUST &**  
**NANCY A. STOKEL 1993 TRUST**

SCALE: 1" = 50' (22x34)  
 1" = 100' (11x17) APRIL 19, 2021



CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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REV.	DATE	DESCRIPTION	DR	CK

Seacoast Division

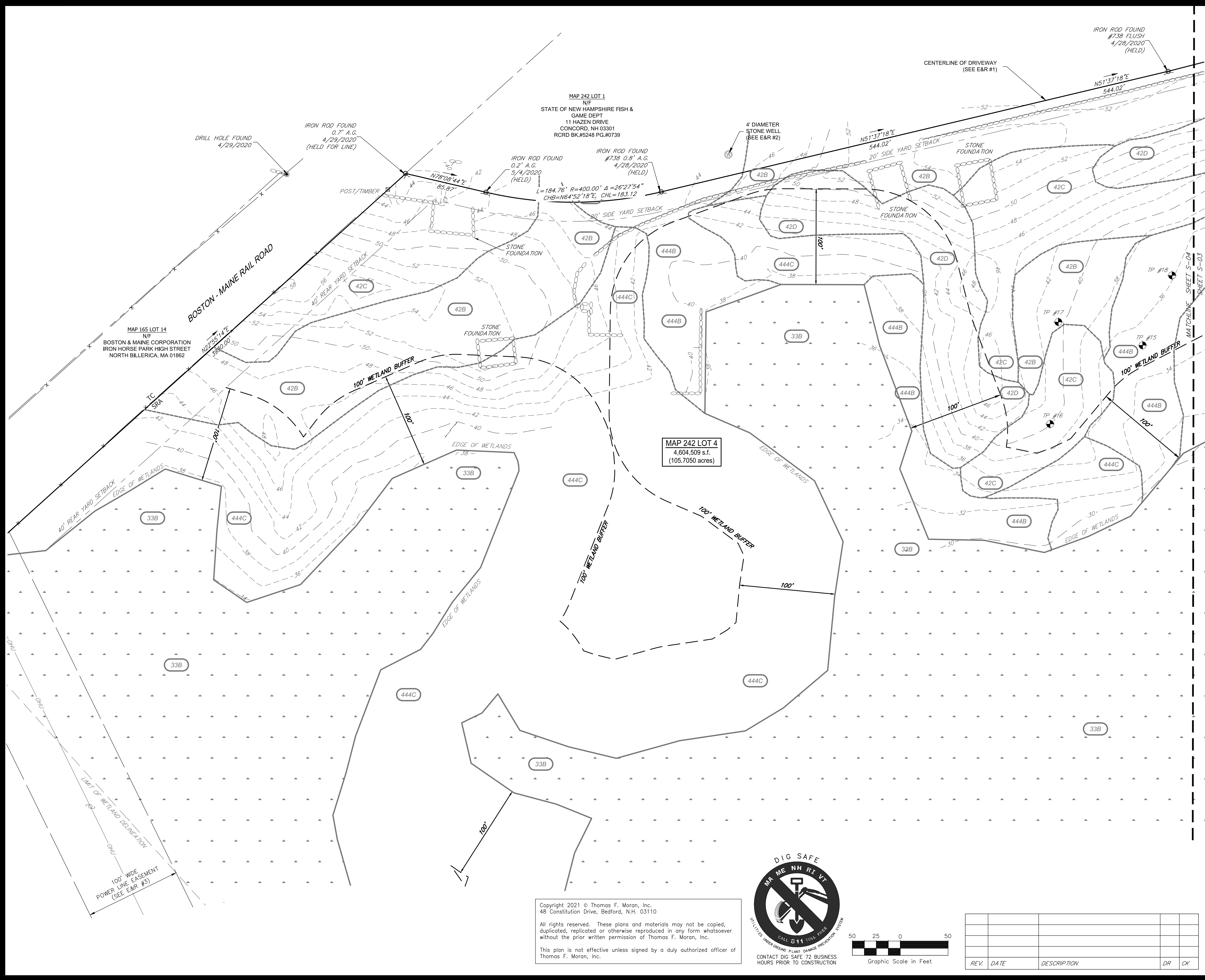
**TFM**

Civil Engineers  
 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists

170 Commerce Way, Suite 102  
 Portsmouth, NH 03801  
 Phone (603) 431-2222  
 Fax (603) 431-0910  
 www.tfmoran.com

47388-11 DR MYP FB 568 S-03





**LEGEND:**

- MAP 137 LOT 11** ASSESSORS MAP AND LOT NUMBER
- A.G. ABOVE GRADE
  - BK. PG. BOOK / PAGE
  - CHB CHORD BEARING
  - CHL CHORD LENGTH
  - I INDUSTRIAL ZONE
  - L LENGTH
  - N/F NOW OR FORMERLY
  - R RADIUS
  - RCRD ROCKINGHAM COUNTY REGISTRY OF DEEDS
  - S.F. SQUARE FEET
  - SRA SINGLE RESIDENCE A ZONE
  - TO TRANSPORTATION CORRIDOR ZONE
  - TP TEST PIT
  - Δ CENTRAL ANGLE
  - DRILL HOLE FOUND
  - ⊕ IRON PIPE/ROD FOUND
  - ⊖ POST
  - ⊙ TEST PIT
  - 42D SOIL SYMBOL
  - SOILS LINE
  - X- CHAINLINK FENCE
  - BOUNDARY LINE
  - SETBACK LINE
  - TREE LINE
  - 100' EXISTING CONTOUR
  - STONEMASS
  - EDGE OF WETLAND
  - ZONE ZONE
  - MATCH LINE
  - PAVEMENT
  - WETLANDS

1. SEE SHEET S-01 FOR OVERALL BOUNDARY, NOTES, PLAN REFERENCES AND LOCATION PLAN.

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY THOSE UNDER MY DIRECT SUPERVISION AND ARE THE RESULT OF A FIELD SURVEY CONDUCTED IN APRIL-MAY 2020. THIS SURVEY CONFORMS TO THE ACCURACY REQUIREMENTS OF AN URBAN SURVEY OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I FURTHER CERTIFY THAT THIS SURVEY IS CORRECT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, AND THE FIELD TRAVERSE SURVEY EXCEEDS A PRECISION OF 1:15,000.

LICENSED LAND SURVEYOR \_\_\_\_\_ DATE \_\_\_\_\_

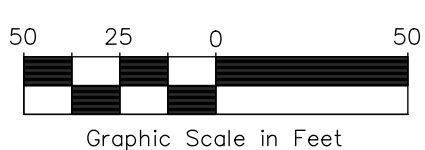
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REV.	DATE	DESCRIPTION	DR	CK





**NOTES**

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATIONS, SIZE, AND ELEVATIONS OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS PRIOR TO THE START OF ANY DEMOLITION. THE LOCATIONS SHOWN ON THESE PLANS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED DEMOLITION TO DETERMINE APPROPRIATE ACTION TO BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO ANTICIPATE CONFLICTS AND REPAIR EXISTING UTILITIES AS NECESSARY TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
2. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY WORK AT ALL TIMES.
3. THE CONTRACTOR SHALL VERIFY ALL SURVEY INFORMATION IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.
4. EXISTING UTILITY SERVICES TO BE DISCONTINUED ARE TO BE CAPPED AS REQUIRED BY THE RESPECTIVE UTILITY COMPANIES.
5. CONSTRUCTION DEBRIS AND INVASIVE SPECIES SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A LEGAL MANNER.
6. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL PLACE ORANGE CONSTRUCTION FENCING AROUND EACH TREE TO BE RETAINED THROUGHOUT CONSTRUCTION. NO STOCKPILES OF MATERIAL ARE PERMITTED WITHIN THE DRIP LINE OF THE TREES TO BE SAVED.
7. CONTACT THE LANDSCAPE ARCHITECT IMMEDIATELY IF ANY TREES ARE DAMAGED DURING CONSTRUCTION.

**CONSTRUCTION SEQUENCE NOTES**

TO MINIMIZE EROSION AND SEDIMENTATION DUE TO CONSTRUCTION, CONSTRUCTION SHALL FOLLOW THIS GENERAL CONSTRUCTION SEQUENCE.  
 MODIFICATIONS TO THE SEQUENCE NECESSARY DUE TO THE CONTRACTOR'S SCHEDULE SHALL INCLUDE APPROPRIATE TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL MEASURES.

THE CONTRACTOR SHALL SCHEDULE WORK SUCH THAT ANY CONSTRUCTION AREA IS STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE EXCEPT AS NOTED BELOW. NO MORE THAN 5 ACRES OF DISTURBED LAND SHALL BE UNSTABILIZED AT ANY ONE TIME.

THE PROJECT SHALL BE MANAGED SO THAT IT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER ARG 3800 RELATIVE TO INVASIVE SPECIES.

DO NOT TRAFFIC EXPOSED SOIL SURFACE OF INFILTRATION SYSTEMS WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.

DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE INFILTRATION SYSTEM. STORMWATER RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMP'S ARE STABILIZED.

DO NOT PLACE INFILTRATION SYSTEMS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.

AFTER THE INFILTRATION SYSTEM IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE THE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.

1. NOTIFY EASEMENT OWNERS PRIOR TO COMMENCEMENT OF WORK.
2. INSTALL ALL PERIMETER EROSION PROTECTION MEASURES AS INDICATED ON THE PLANS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. PONDS AND SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
4. DURING CONSTRUCTION EVERY EFFORT SHALL BE MADE TO MANAGE SURFACE RUNOFF QUALITY.
5. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DITCHES, SILT BARRIERS, SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED. (TEMPORARY SEED MIXTURE OF WINTER RYE APPLIED AT A RATE OF 2.5 LBS/1000 SF SHALL BE USED).
6. CONDUCT MAJOR EARTHWORK, INCLUDING CLEARING AND GRUBBING, WITHIN THE LIMITS OF WORK. ALL CUT AND FILL SLOPES SHALL BE SEEDDED WITHIN 72 HOURS AFTER GRADING.
7. ALL STRIPPED TOPSOIL AND OTHER EARTH MATERIALS SHALL BE STOCKPILED OUTSIDE THE IMMEDIATE WORK AND WETLAND AREAS. A SILT BARRIER SHALL BE CONSTRUCTED AROUND THESE PILES IN A MANNER TO PROVIDE ACCESS AND AVOID SEDIMENT OUTSIDE OF THE WORK AREA.
8. CONSTRUCT BUILDING PAD AND COMMENCE NEW BUILDING CONSTRUCTION.
9. CONSTRUCT TEMPORARY CULVERTS AND DIVERSIONS AS REQUIRED.
10. BEGIN PERMANENT AND TEMPORARY INSTALLATION OF SEED AND MULCH.
11. PERFORM EARTHWORK NECESSARY TO ESTABLISH ROUGH GRADING AROUND PARKING FIELDS AND ACCESS DRIVES. MANAGE EXPOSED SOIL SURFACES TO AVOID TRANSPORTING SEDIMENTS INTO WETLANDS. PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
12. INSTALL SUBSURFACE UTILITIES (WATER, SEWER, GAS, ELECTRIC, COMMUNICATIONS, DRAINAGE, DRAINAGE FACILITIES, ETC.).
13. CONSTRUCT PROPOSED ROADWAY, RAIN GARDENS, GRAVEL WETLANDS AND DRAINAGE SWALES. ALL DITCHES, SWALES, AND GRAVEL WETLANDS SHALL BE FULLY STABILIZED PRIOR TO DIRECTING FLOW TO THEM.
14. COMPLETE BUILDING AND ALL OFF-SITE IMPROVEMENTS.
15. COMPLETE SEEDING AND MULCHING. SEED TO BE APPLIED WITH BROADCAST SPREADER OR BY HYDRO-SEEDING, THEN ROLLED, RAKED OR DRAGGED TO ASSURE SEED/SOIL CONTACT.
16. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDDED AREAS HAVE BECOME FIRMLY ESTABLISHED AND SITE IMPROVEMENTS ARE COMPLETE.
17. DURING THE COURSE OF THE WORK AND UPON COMPLETION, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT DEPOSITS, EITHER ON OR OFF SITE, INCLUDING CATCH BASINS, AND SUMPS, DRAIN PIPES AND DITCHES, CURB LINES, ALONG SILT BARRIERS, ETC. RESULTING FROM SOIL AND/OR CONSTRUCTION OPERATIONS.
18. SEE WINTER CONSTRUCTION SEQUENCE FOR WORK CONDUCTED AFTER OCTOBER 15TH.

**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**SITE PREPARATION & DEMOLITION PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**

SCALE: AS SHOWN

APRIL 19, 2021

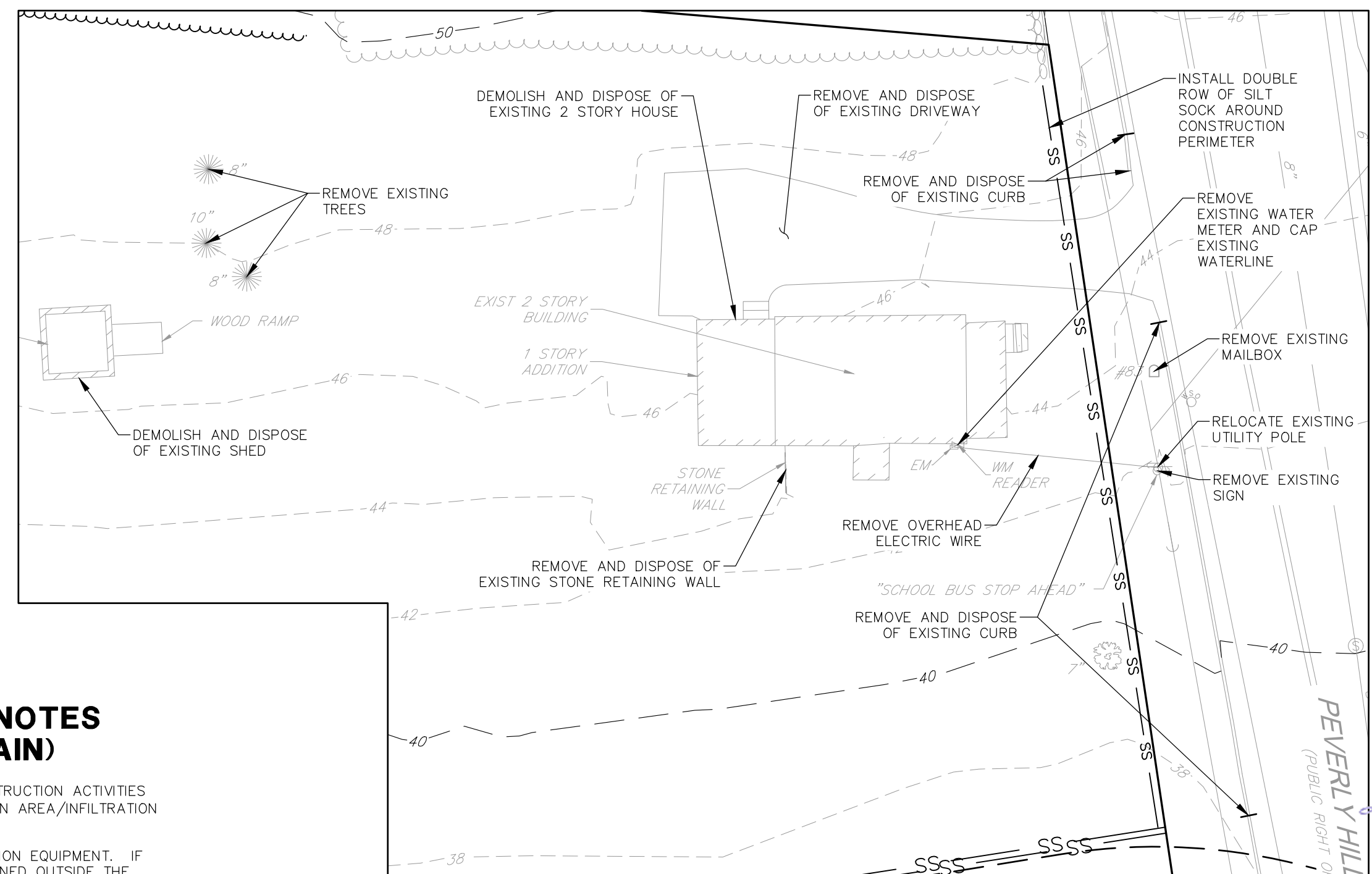
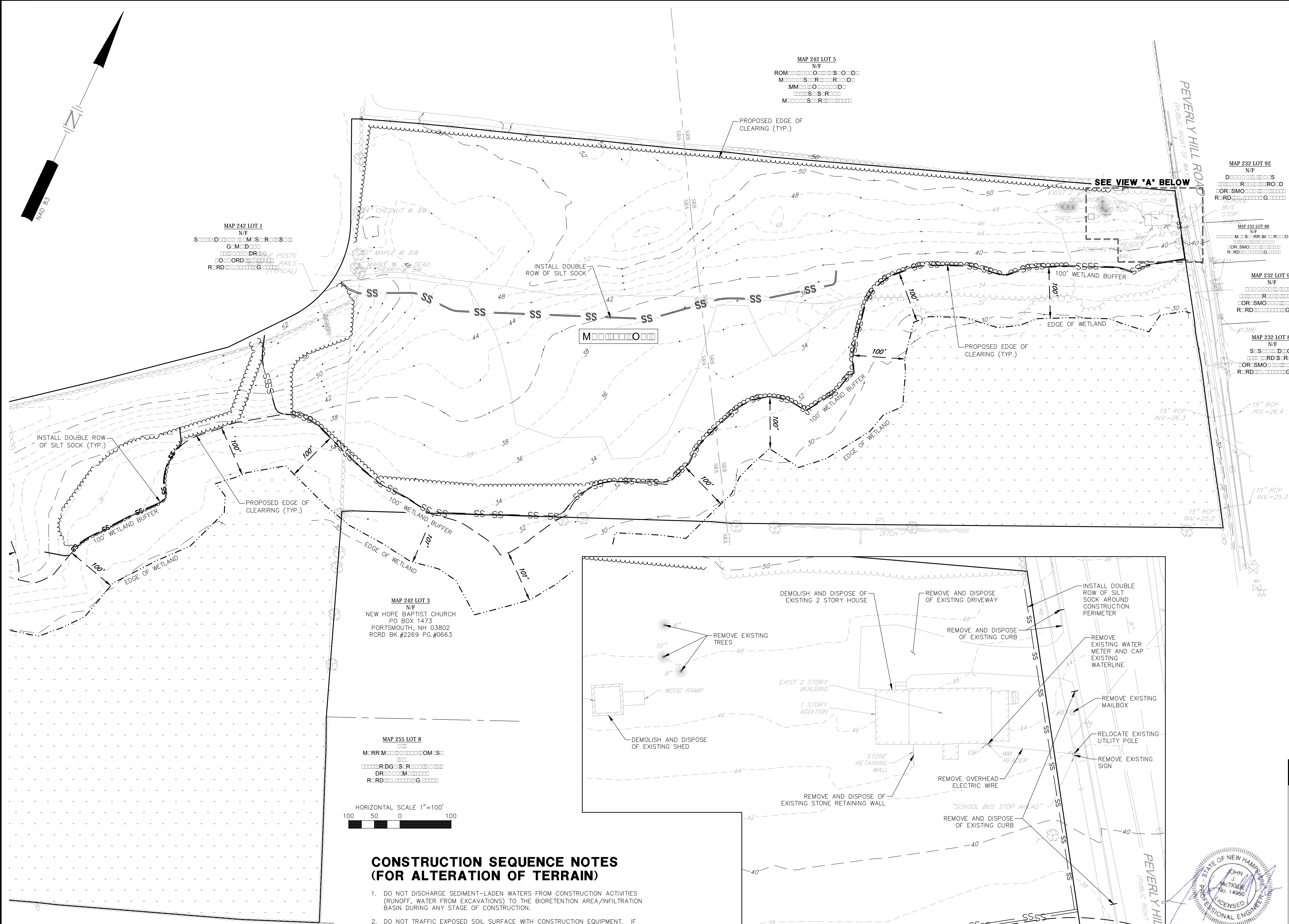
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 Landscape Architects  
 Scientists

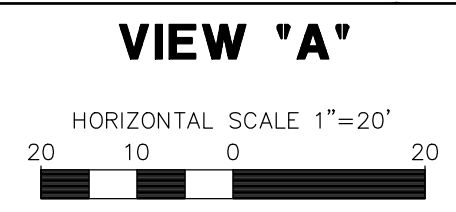
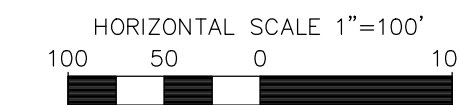
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				C-02

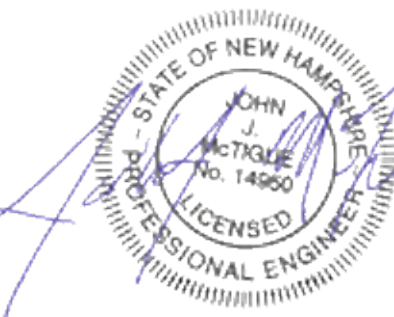


**CONSTRUCTION SEQUENCE NOTES (FOR ALTERATION OF TERRAIN)**

1. DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE BIORETENTION AREA/INFILTRATION BASIN DURING ANY STAGE OF CONSTRUCTION.
2. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.
3. AFTER THE BASIN IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.
4. DO NOT PLACE THE BIORETENTION AREA/INFILTRATION SYSTEMS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
5. DO NOT PLACE THE BIORETENTION SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.



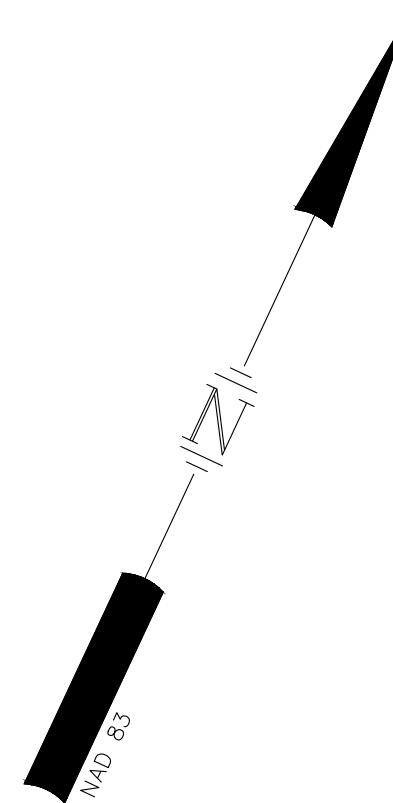
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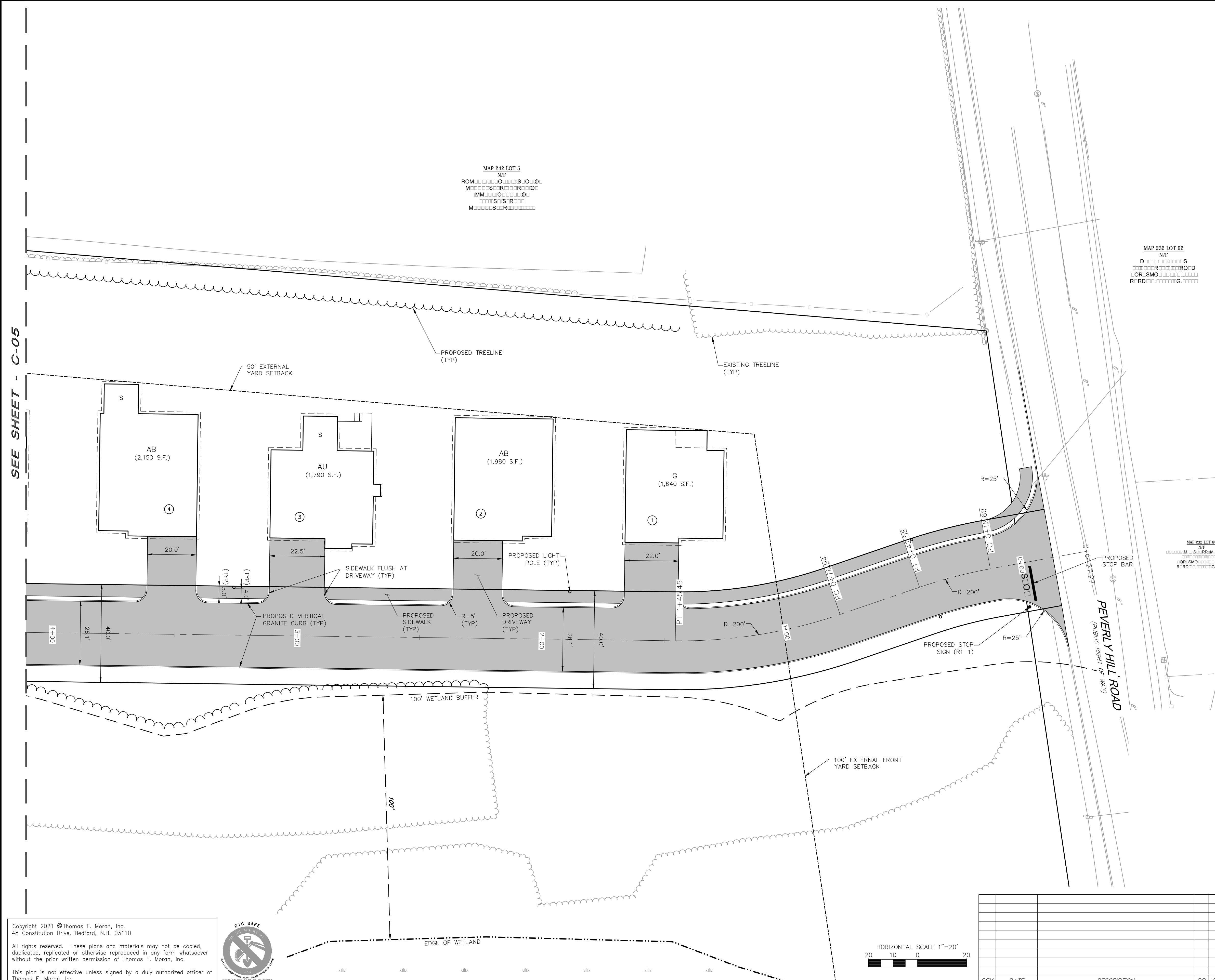
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N/F  
ROM: S-O-D  
M: S-R-O  
MM: O  
S: S-R  
M: S-R

MAP 232 LOT 92  
N/F  
D: S  
R: R-O-D  
OR: SMO  
R: RD-G

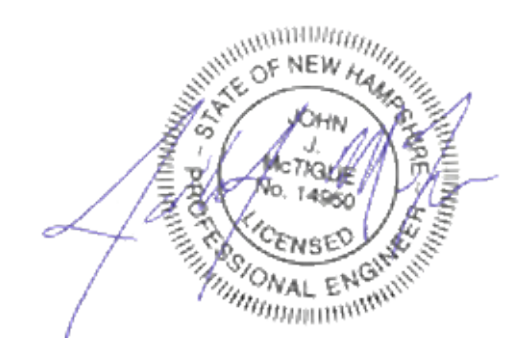
**NOTES**

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SEE SHEET - C-05

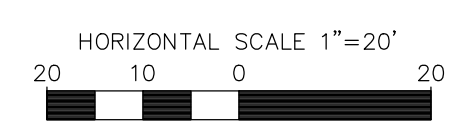


MAP 232 LOT 88  
N/F  
M: S-R-M  
OR: SMO  
R: RD-G



**SITE DEVELOPMENT PLANS**  
TAX MAP 242 LOT 4  
**SITE LAYOUT PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**  
1"=40' (11"X17")  
SCALE: 1"=20' (22"X34") **APRIL 19, 2021**

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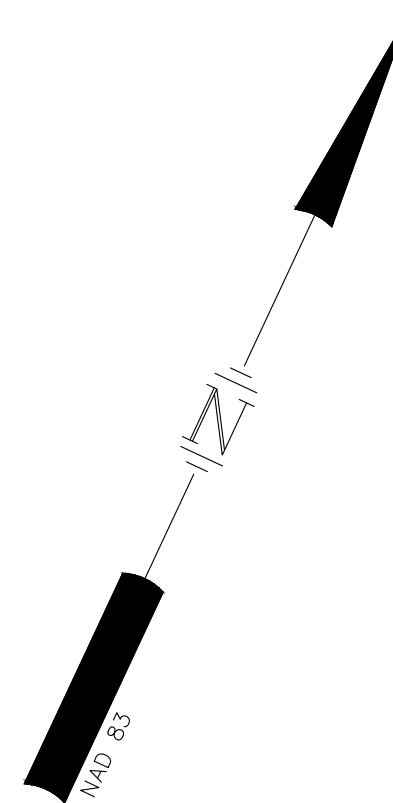


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Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

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47388.11	DR JSM	FB	-	C-04
	CK JUM	CADFILE	47388-11_SITELAYOUT	



MAP 242 LOT 5  
 N/F  
 ROM  
 M  
 M  
 M

SEE SHEET - C-06

SEE SHEET - C-04



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**SITE LAYOUT PLAN**  
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 83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
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SEE SHEET - C-08

HORIZONTAL SCALE 1"=20'  
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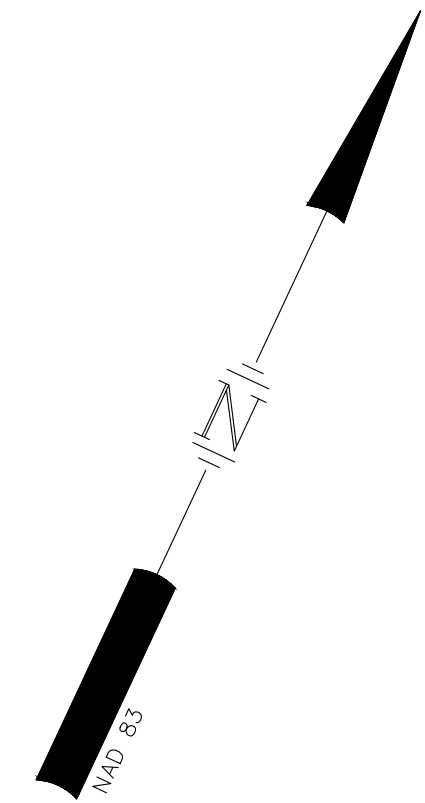
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SEE SHEET - C-07

SEE SHEET - C-05

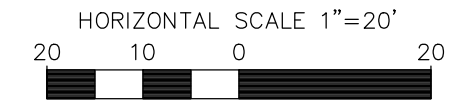


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 TAX MAP 242 LOT 4  
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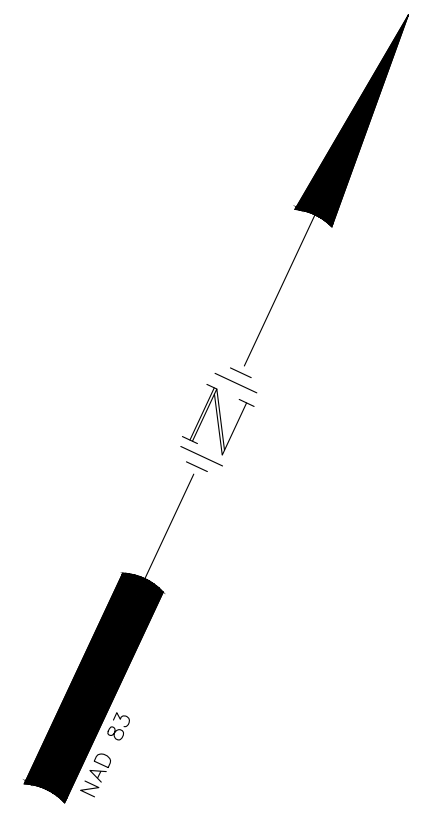


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47388.11	DR JSM	FB	-	C-06
	CK JJM	CADFILE	47388-11_SITELAYOUT	

MAP 242 LOT 1  
 N/F  
 S O O O M S R S  
 G M D  
 O O O D R  
 O O O R D  
 R R D O O G O



SEE SHEET - C-06

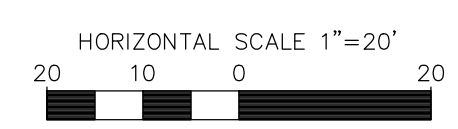


**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**SITE LAYOUT PLAN**  
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SEE SHEET - C-10



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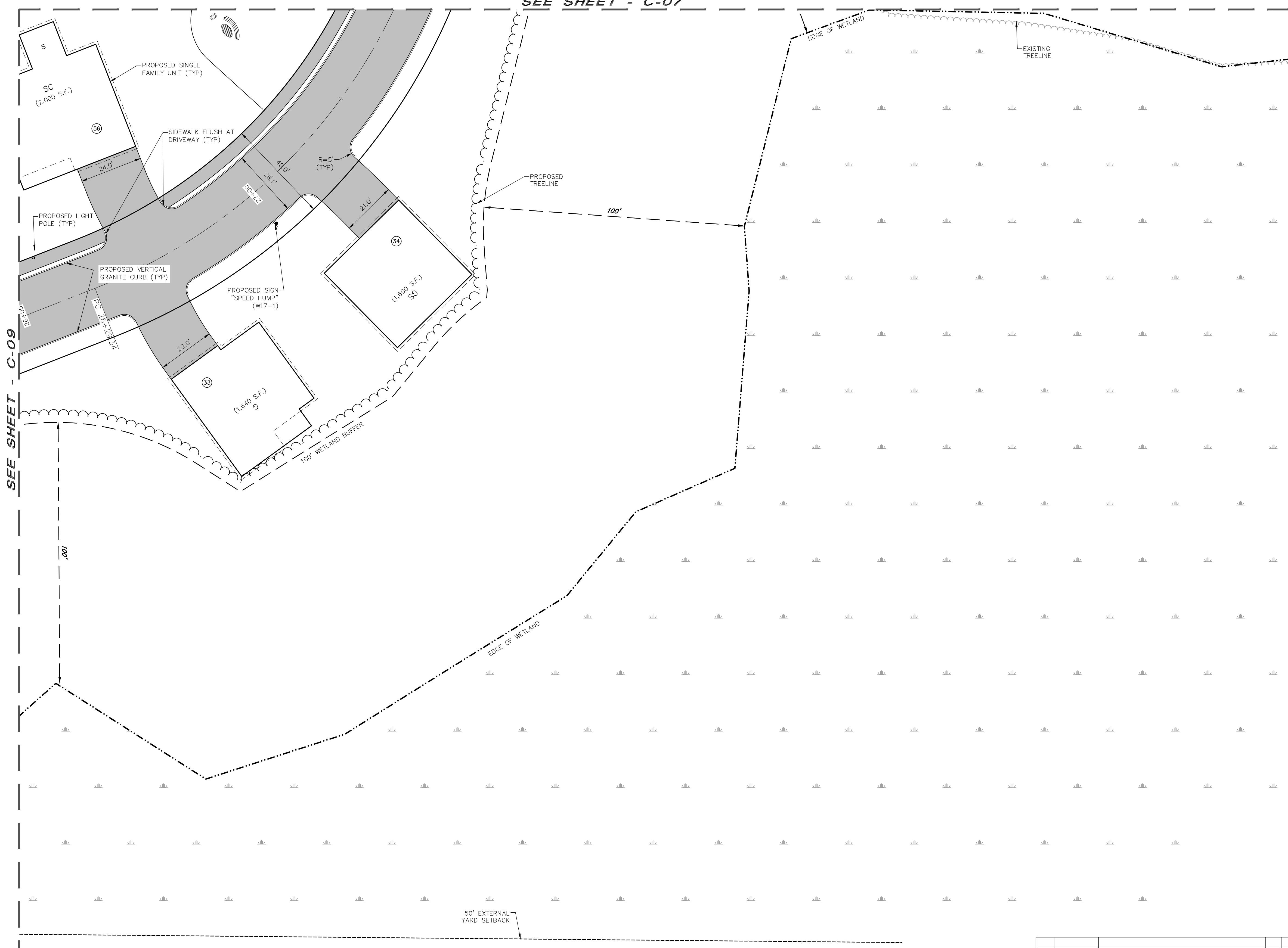
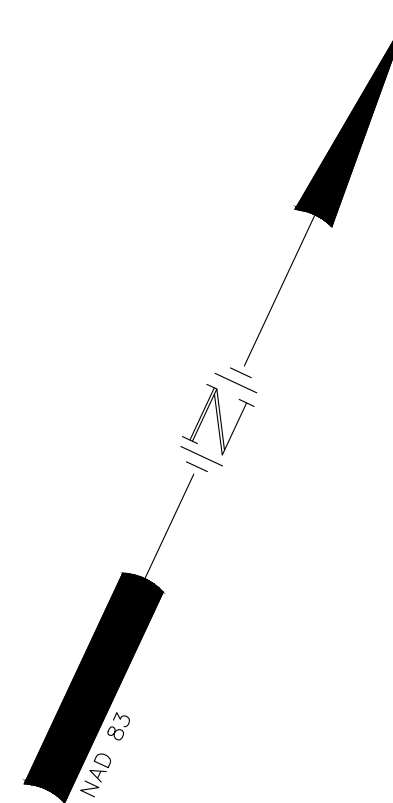
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		CK	JJM	CADFILE	47388-11_SITELAYOUT	C-07



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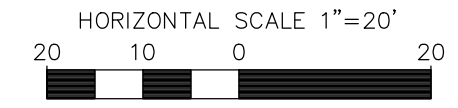


SEE SHEET - C-09



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**SITE LAYOUT PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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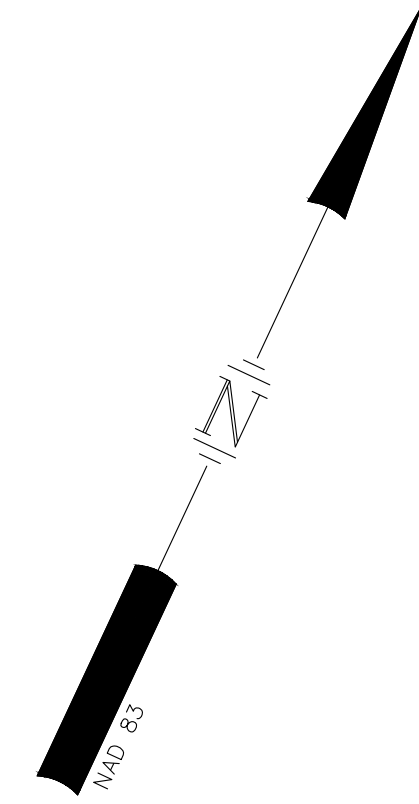
47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_SITELAYOUT C-08



SEE SHEET - C-08

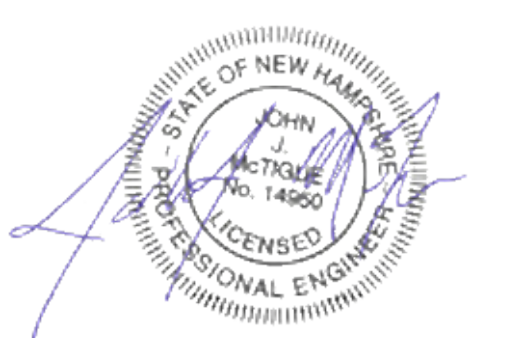
SEE SHEET - C-10

SEE SHEET - C-08



**NOTES**

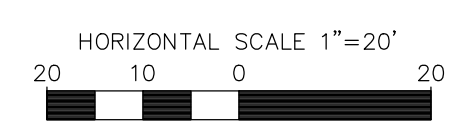
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**SITE DEVELOPMENT PLANS**


TAX MAP 242 LOT 4  
**SITE LAYOUT PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
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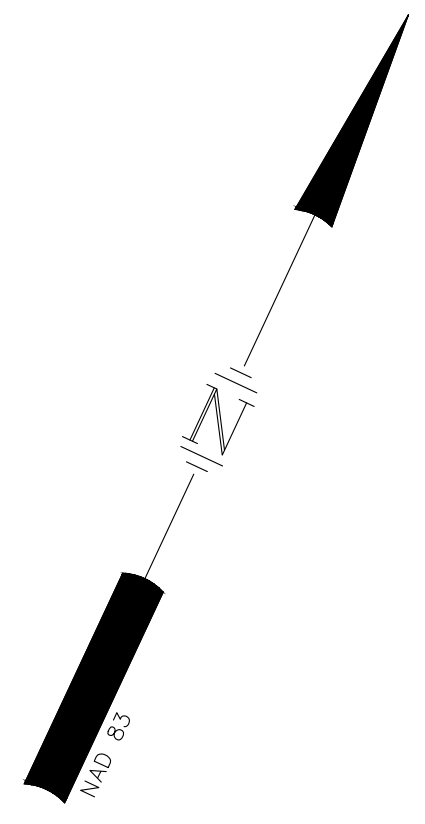
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CK JUM CADFILE 47388-11\_SITELAYOUT C-09





MAP 242 LOT 1  
 N/F  
 S:O:O:M:S:R:O:S  
 G:M:D  
 O:DR  
 O:ORD  
 R:RD:G



SEE SHEET - C-12

SEE SHEET - C-10

50' EXTERNAL YARD SETBACK

PROPOSED TREELINE FOR BMP MAINTENANCE ACCESS

100' WETLAND BUFFER

EDGE OF WETLAND

50' EXTERNAL YARD SETBACK

PROPOSED TREELINE

(2,230 S.F.)  
 B

(2,170 S.F.)  
 BY

(1,830 S.F.)  
 D

R=5' (TYP)

PROPOSED DRIVEWAY (TYP)

18+00

17+00

22.0'

20.0'

100'

100'

HORIZONTAL SCALE 1"=20'  
 20 10 0 20



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**SITE LAYOUT PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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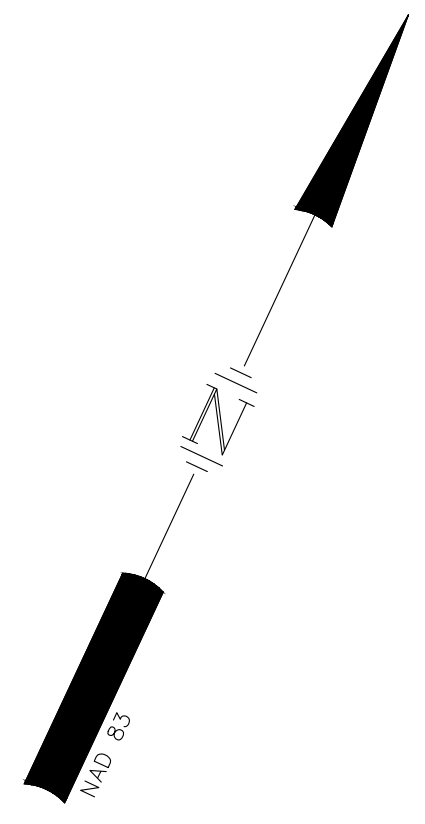
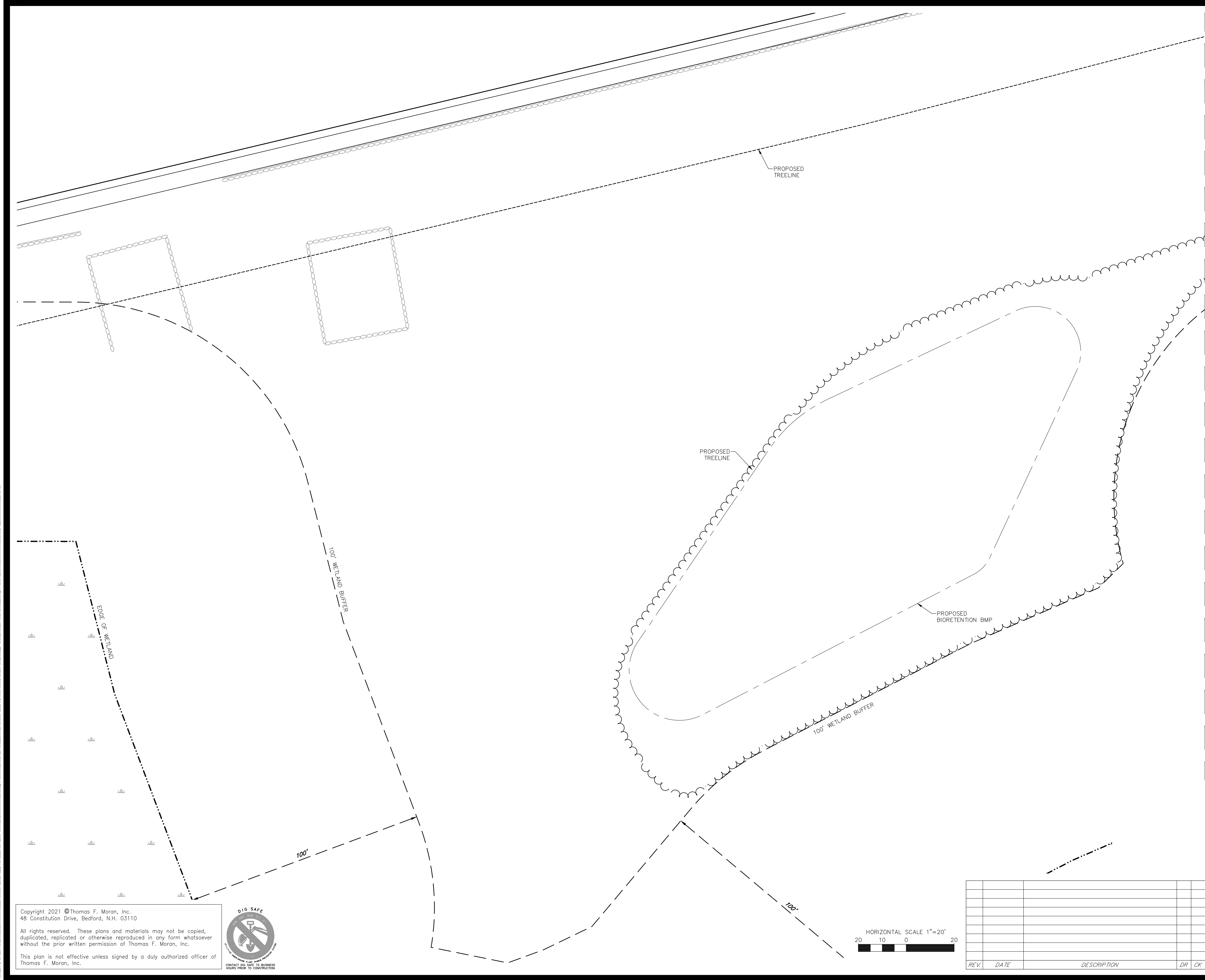


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SEE SHEET - C-11



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**SITE LAYOUT PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
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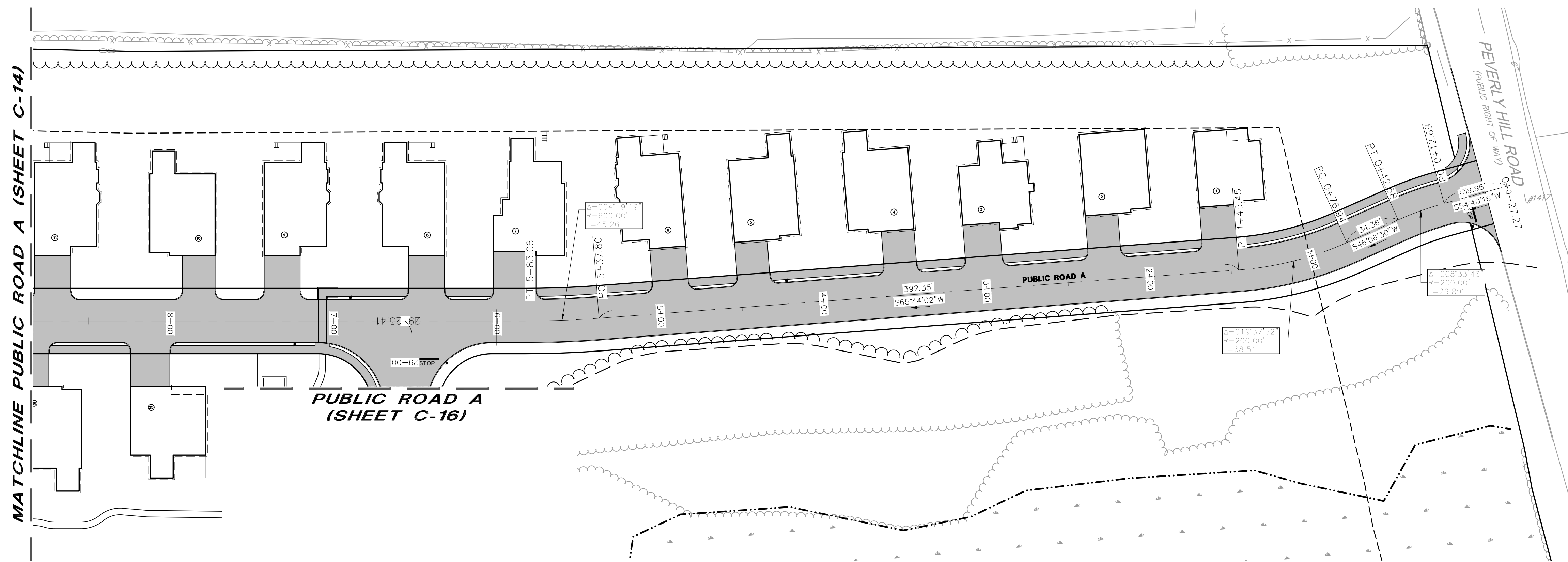
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REV	DATE	DESCRIPTION	DR	CK

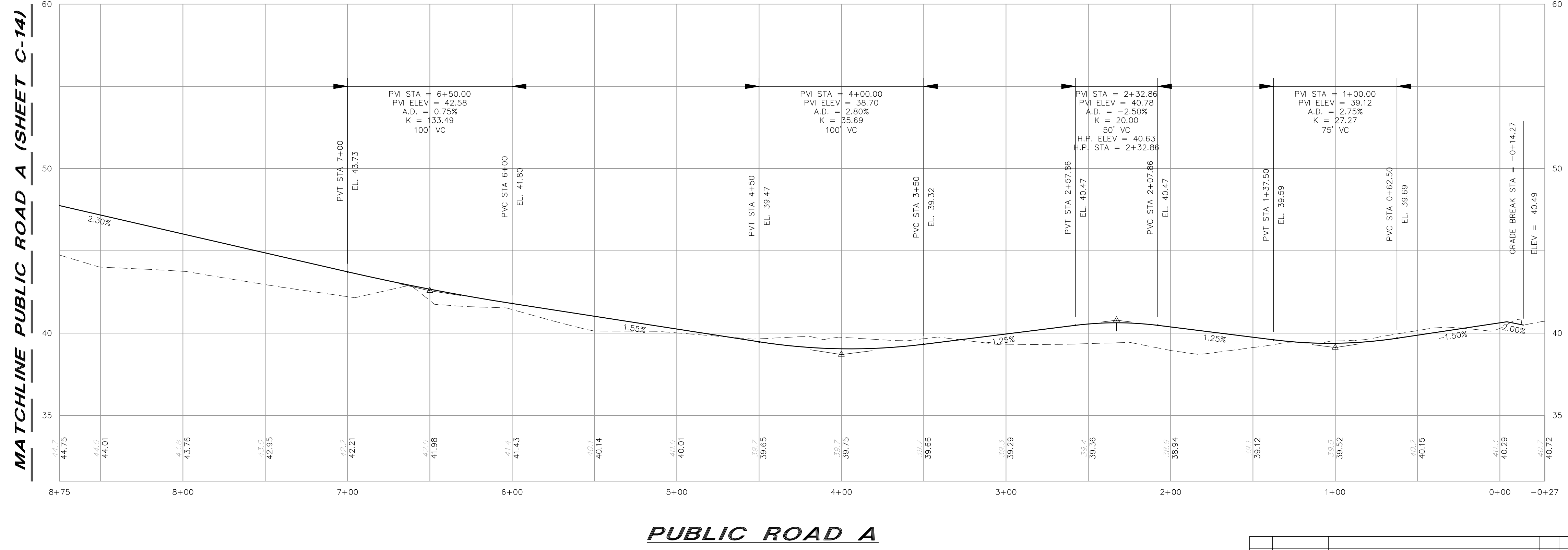
Seacoast Division  
**TFM**  
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 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists

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 Portsmouth, NH 03801  
 Phone (603) 431-2222  
 Fax (603) 431-0910  
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47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_SITELAYOUT C-12



HORIZONTAL SCALE 1"=40'  
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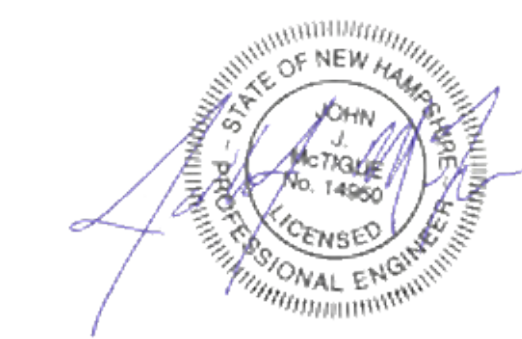
**PUBLIC ROAD A**

MATCHLINE PUBLIC ROAD A (SHEET C-14)

**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**ROAD-A PLAN & PROFILE**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
 83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**

**1"=80' (11"X17')**  
**SCALE: 1"=40' (22"X34')** **APRIL 19, 2021**



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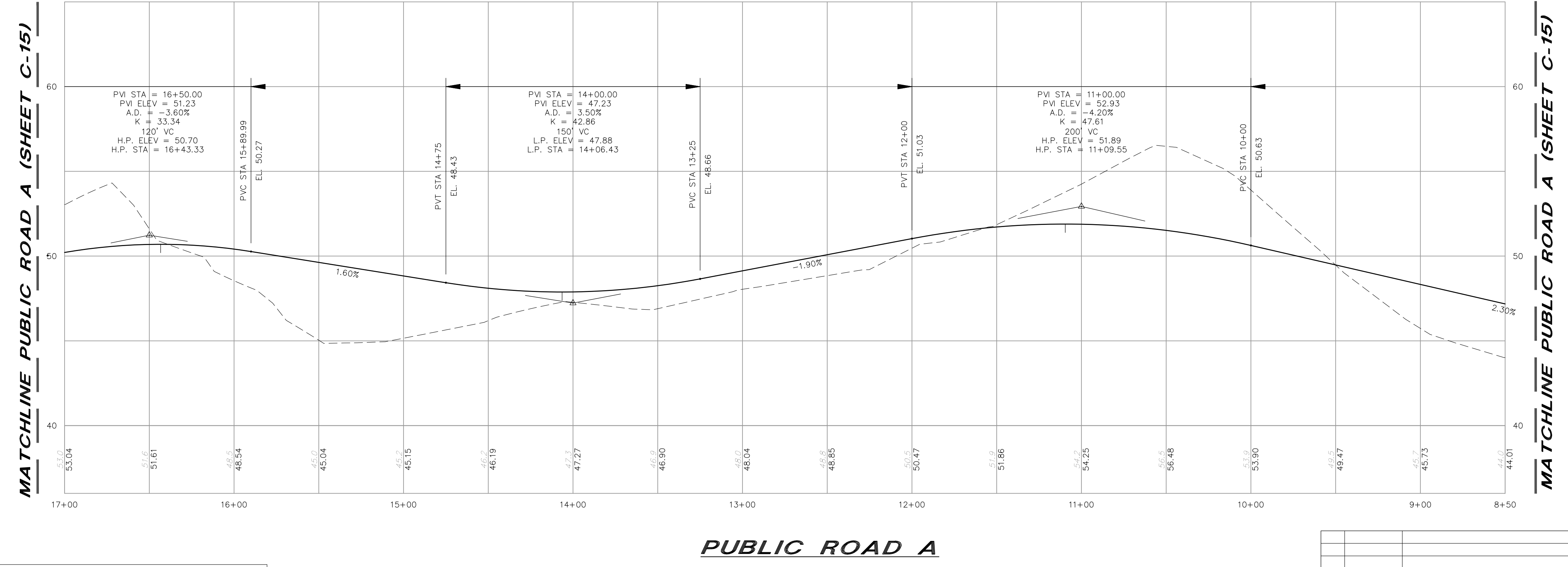
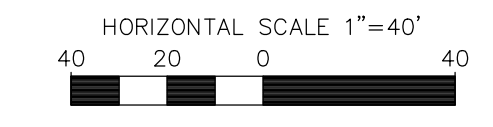
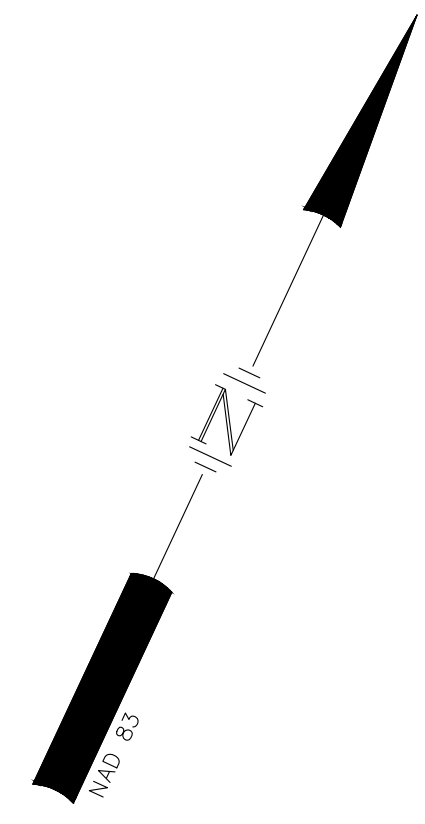
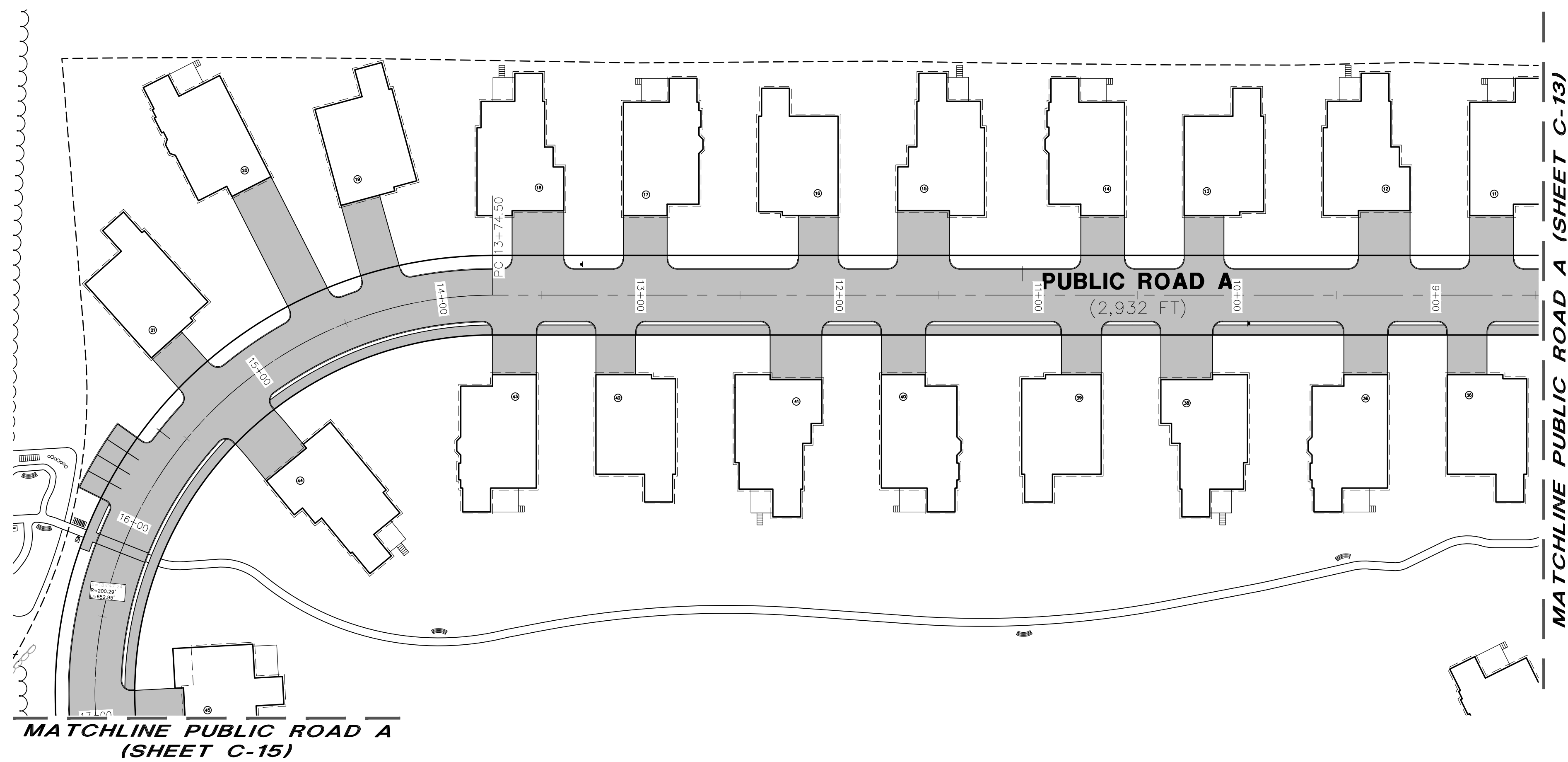


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FILE NO. 47388.11  
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 C-13





**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
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 1"=80' (11"X17")  
 SCALE: 1"=40' (22"X34") APRIL 19, 2021

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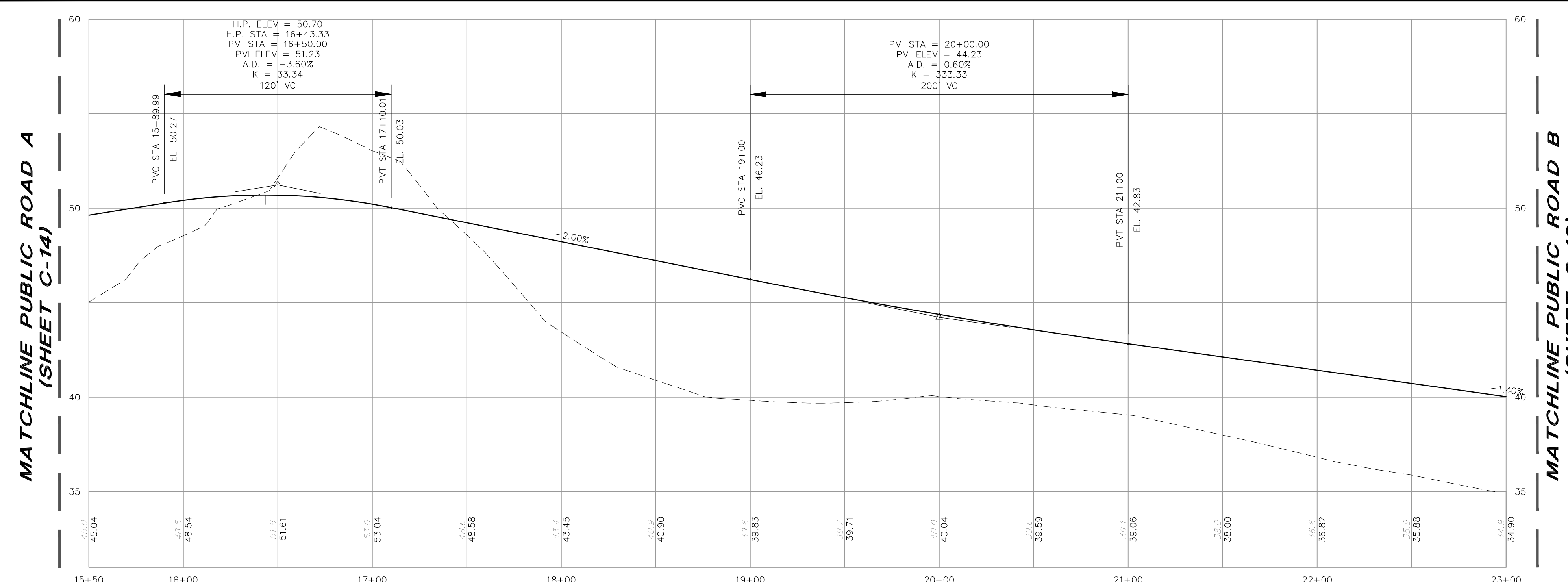
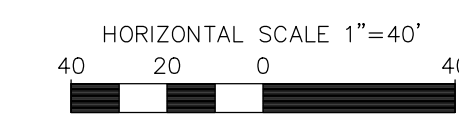
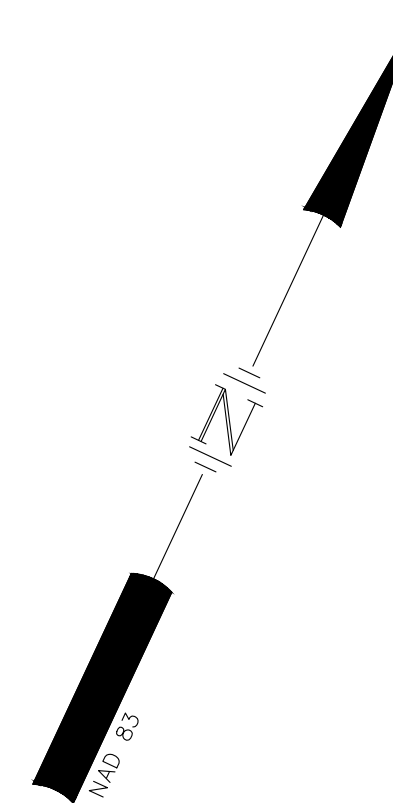
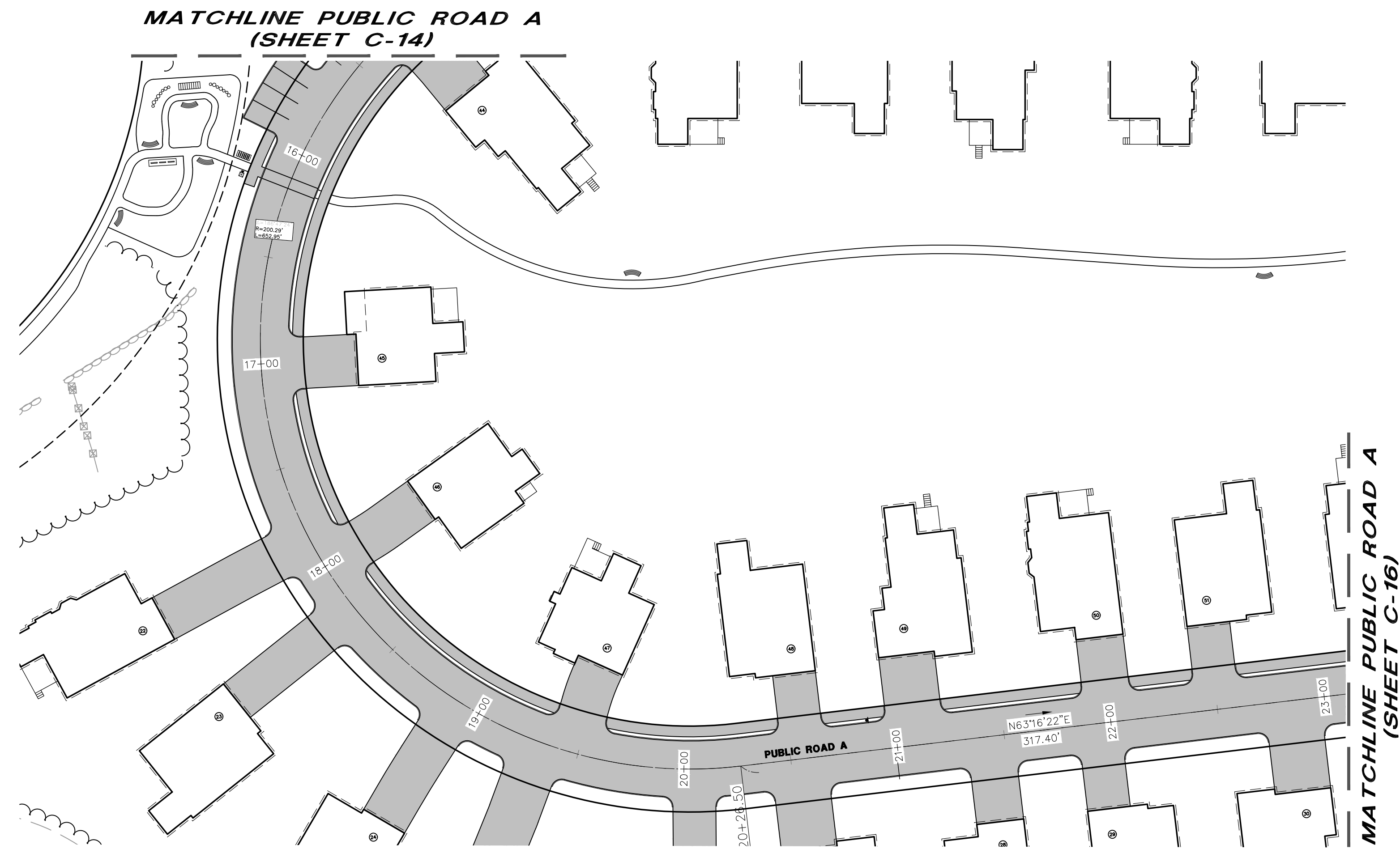
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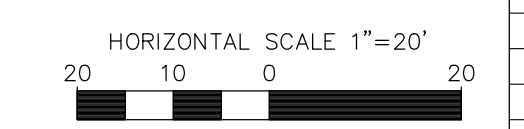
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 CK: JUM  
 CADFILE: 47388-11\_PLANPROFILE  
 SHEET: C-14





**SITE DEVELOPMENT PLANS**  
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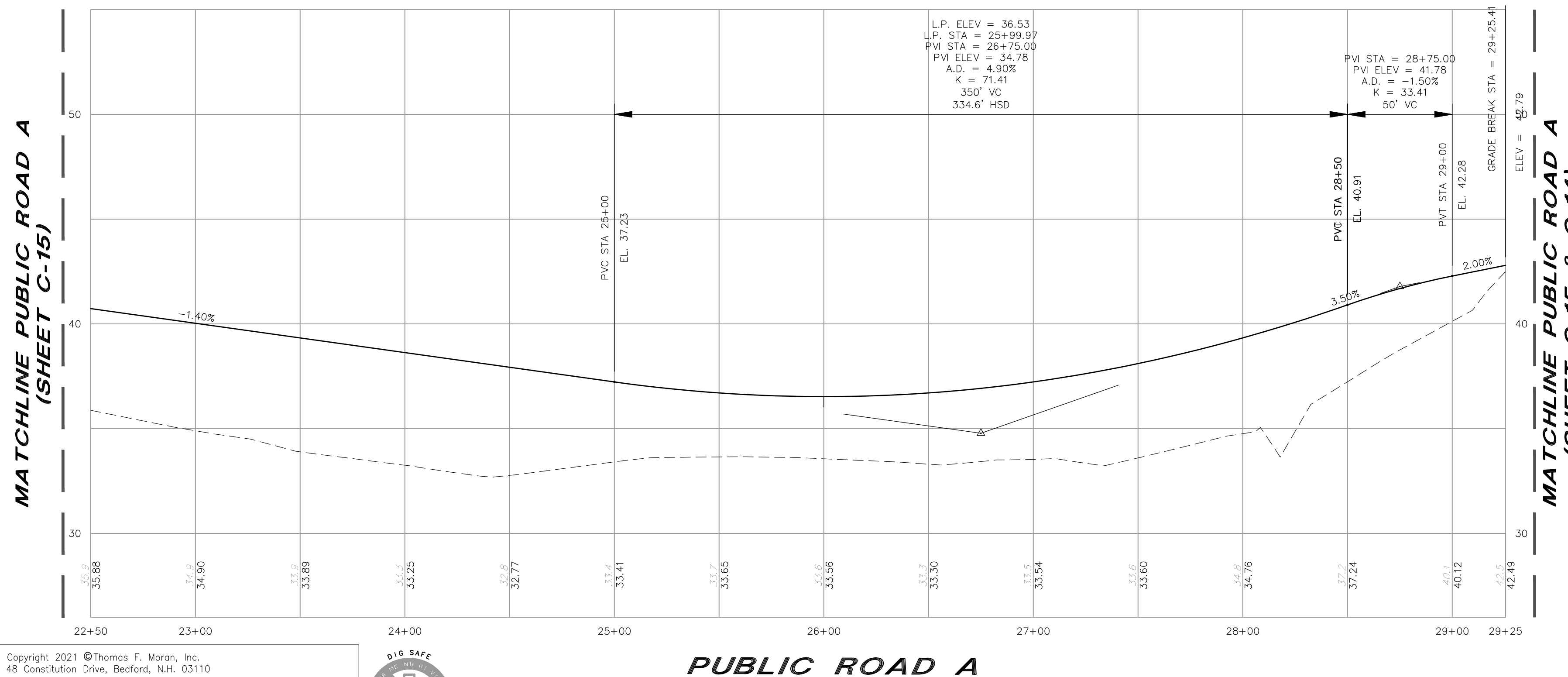
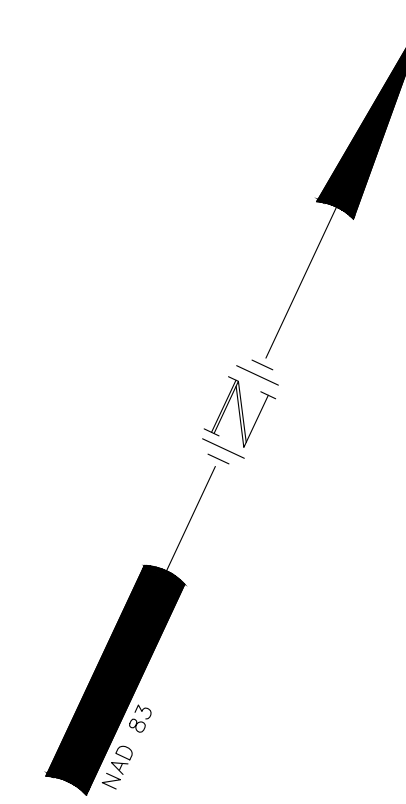
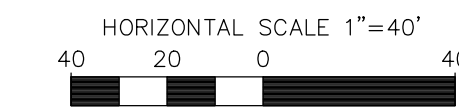
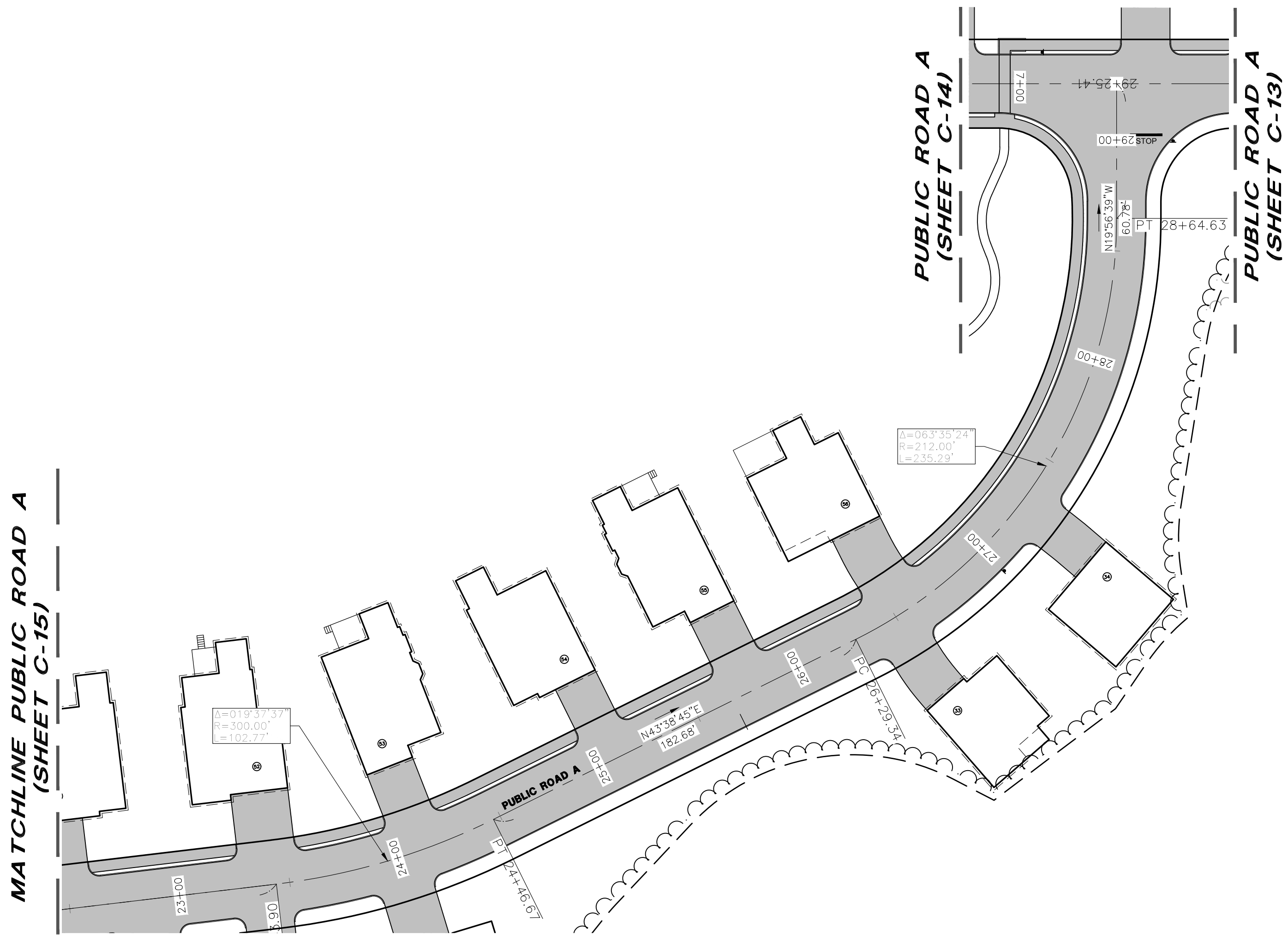
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**PUBLIC ROAD A**

REV.	DATE	DESCRIPTION	DR	CK

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FILE NO: 47388.11  
 DR: JSM  
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 CADFILE: 47388-11\_PLANPROFILE  
 SHEET: C-16

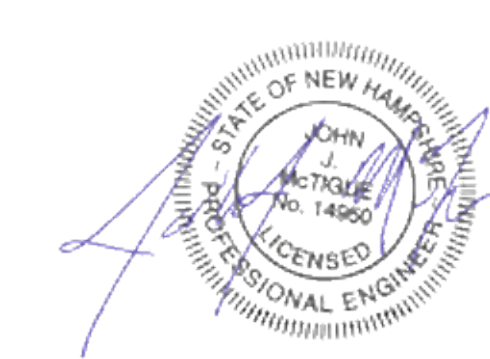
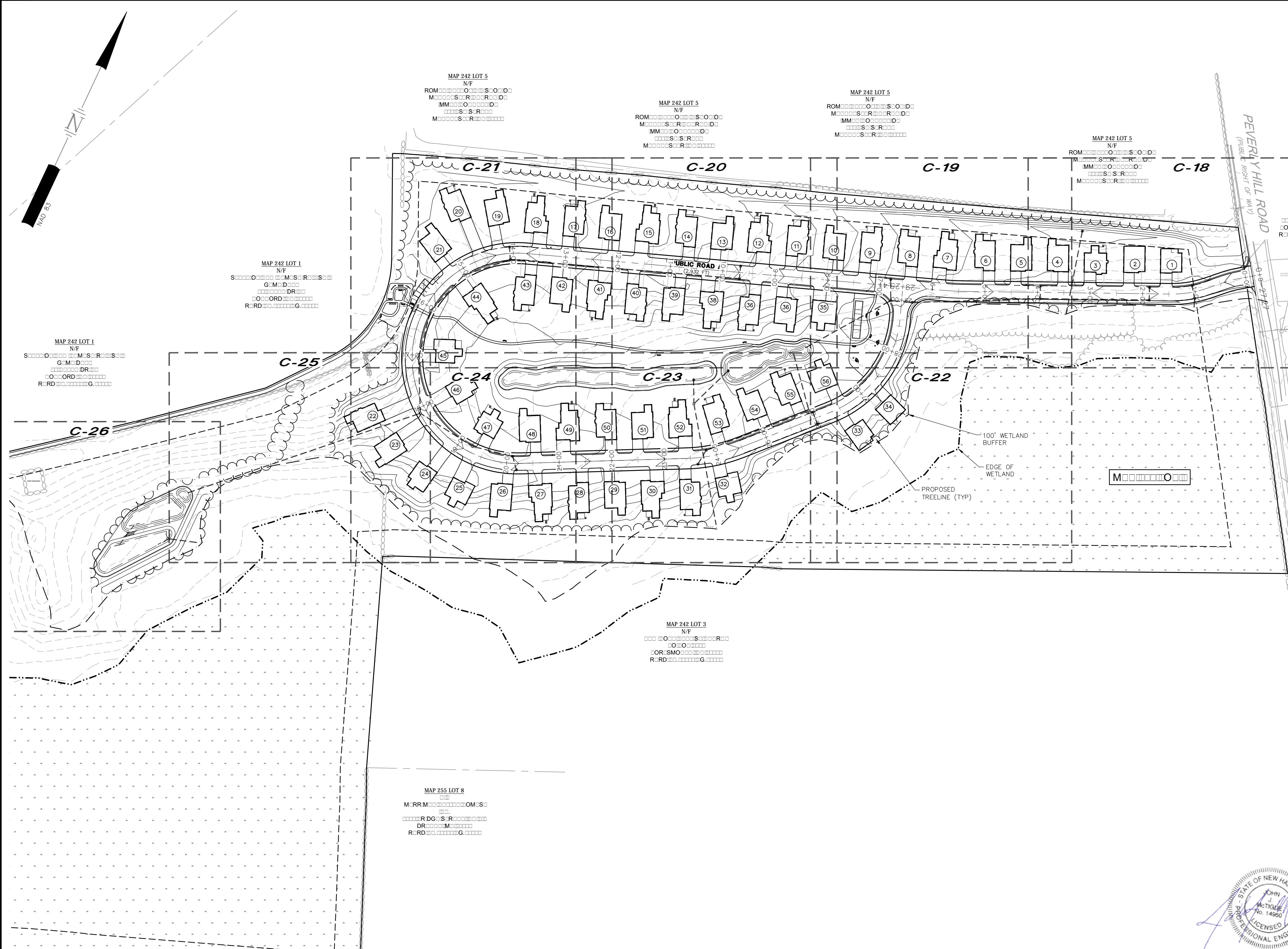


**BEST MANAGEMENT PRACTICES FOR BLASTING**

1. PURPOSE, THE PURPOSE OF THIS PART IS TO ESTABLISH BEST MANAGEMENT PRACTICES FOR BLASTING TO MINIMIZE THE POTENTIAL FOR GROUNDWATER CONTAMINATION, TO ENSURE THAT THE GROUNDWATER CAN BE USED FOR EXISTING AND FUTURE DRINKING WATER SUPPLY SOURCES. (SEE RN3 AT P. V) #12342, EFF 8-15-17
2. LOADING PRACTICES, THE FOLLOWING BLAST HOLE LOADING PRACTICES SHALL BE IMPLEMENTED:
  - A. THE DRILLER SHALL MAINTAIN DRILLING LOGS TO DOCUMENT:
    - I. THE DEPTHS AND LENGTHS OF VOIDS, CAVITIES, AND FAULT ZONES OR OTHER WEAK ZONES ENCOUNTERED; AND
    - II. GROUNDWATER CONDITIONS;
  - B. THE DRILLER SHALL COMMUNICATE THE CONTENTS OF THE DRILLING LOGS DIRECTLY TO THE BLASTER;
  - C. EXPLOSIVE PRODUCTS SHALL BE MANAGED ON SITE SUCH THAT THEY ARE:
    - I. USED IN THE BOREHOLE;
    - II. RETURNED TO THE DELIVERY VEHICLE; OR
    - III. PLACED IN SECURE CONTAINERS FOR OFF-SITE DISPOSAL;
  - D. SPILLAGE AROUND THE BOREHOLE SHALL BE:
    - I. PLACED IN THE BOREHOLE; OR
    - II. CLEANED UP AND RETURNED TO AN APPROPRIATE VEHICLE FOR HANDLING OR PLACEMENT IN SECURED CONTAINERS FOR OFF-SITE DISPOSAL;
  - E. LOADED EXPLOSIVES SHALL BE DETONATED AS SOON AS POSSIBLE AND NOT LEFT IN THE BLAST HOLES OVERNIGHT, UNLESS WEATHER OR OTHER SAFETY CONCERNS REASONABLY DICTATE THAT DETONATION SHOULD BE POSTPONED;
  - F. LOADING EQUIPMENT SHALL BE CLEANED IN AN AREA WHERE WASTEWATER CAN BE PROPERLY CONTAINED AND HANDLED IN A MANNER THAT PREVENTS RELEASE OF CONTAMINANTS TO THE ENVIRONMENT; AND
  - G. EXPLOSIVES SHALL BE LOADED IN ACCORDANCE WITH INDUSTRY STANDARD PRACTICES FOR PRIMING, STEMMING, DECKING AND COLUMN RISE TO MAINTAIN GOOD CONTINUITY IN THE COLUMN LOAD TO PROMOTE COMPLETE DETONATION. SOURCE: (SEE RN3 AT P. V) #12342, EFF 8-15-17
3. EXPLOSIVE SELECTION, EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT ARE:
  - A. APPROPRIATE FOR SITE CONDITIONS AND SAFE BLAST EXECUTION; AND
  - B. HAVE THE APPROPRIATE WATER RESISTANCE FOR THE SITE CONDITIONS PRESENT.
4. PREVENTION OF MISFIRES, INDUSTRY-STANDARD PRACTICES SHALL BE IMPLEMENTED TO PREVENT MISFIRES.
5. MUCK AND ROCK MANAGEMENT, THE FOLLOWING DEFINITIONS APPLY:
  - A. FOR PURPOSES OF THIS PART, THE FOLLOWING DEFINITIONS APPLY:
    - I. "BLASTED MATERIAL" MEANS ALL OF THE EARTH MATERIAL LOOSENED AS A RESULT OF THE BLASTING;
    - II. "MUCK" MEANS THE BLASTED MATERIAL REMAINING AFTER THE ROCKS HAVE BEEN REMOVED; AND
    - III. "ROCKS" MEANS THE LARGER PIECES OF BLASTED MATERIAL THAT ARE SEPARATED FROM THE MUCK FOR USE ELSEWHERE;
  - B. MUCK SHALL BE REMOVED FROM THE BLAST AREA AS SOON AS REASONABLY POSSIBLE;
  - C. ROCKS SHALL BE MANAGED SO AS TO PREVENT WATER SUPPLY WELLS OR SURFACE WATERS FROM BEING CONTAMINATED BY RUNOFF.
6. SPILL PREVENTION MEASURES AND SPILL MITIGATION,
  - A. FUEL AND OTHER REGULATED SUBSTANCES SHALL BE MANAGED AS REQUIRED BY ENV-WQ 401.04.
  - B. PERSONNEL WORKING AT THE BLAST SITE SHALL BE TRAINED IN HOW TO RESPOND TO A SPILL OF THE REGULATED SUBSTANCES BEING USED AT THE SITE.
7. FUELING AND MAINTENANCE OF CONSTRUCTION EQUIPMENT,
  - A. IF ANY CONSTRUCTION EQUIPMENT, INCLUDING BUT NOT LIMITED TO EARTHMOVING, EXCAVATION, AND BORING EQUIPMENT, WILL BE FUELED FROM A TANK TRUCK OR OTHER CONTAINER THAT IS MOVED AROUND THE SITE, THE FOLLOWING SHALL APPLY:
    - I. PORTABLE CONTAINMENT EQUIPMENT THAT IS SIZED TO CONTAIN THE MOST LIKELY VOLUME OF FUEL TO BE SPILLED DURING A FUEL TRANSFER SHALL BE USED, WHERE THE MOST LIKELY VOLUME TO BE SPILLED IS DETERMINED BASED ON THE FUEL TRANSFER RATE, THE AMOUNT OF FUEL BEING TRANSFERRED, THE DISTANCE BETWEEN THE HOSE NOZZLE AND PUMP SHUT OFF SWITCH, AND THE RESPONSE TIME OF PERSONNEL AND EQUIPMENT AVAILABLE AT THE FACILITY;
    - II. THE CONTAINMENT EQUIPMENT SHALL BE POSITIONED TO CATCH ANY FUEL SPILLS DUE TO OVERFILLING THE EQUIPMENT AND ANY OTHER SPILLS THAT MIGHT OCCUR AT OR NEAR THE FUEL FILLER PORT TO THAT EQUIPMENT;
    - III. THE TYPE OF CONTAINMENT EQUIPMENT USED AND ITS POSITIONING AND USE SHALL ACCOUNT FOR ALL OF THE DRIP POINTS ASSOCIATED WITH THE FUEL FILLING PORT AND THE HOSE FROM THE FUEL DELIVERY TRUCK; AND
    - IV. PERSONNEL SHALL NOT LEAVE THE IMMEDIATE AREA WHILE FUEL IS BEING TRANSFERRED, TO ENSURE THAT ANY SPILLS WILL BE OF LIMITED VOLUME.
  - B. IF THE SITE WILL HAVE A FIXED LOCATION FOR FUELING CONSTRUCTION EQUIPMENT, THE FOLLOWING SHALL APPLY:
    - I. ALL FUEL CONTAINERS, INCLUDING BUT NOT LIMITED TO SKID-MOUNTED TANKS, DRUMS, AND FIVE GALLON CANS, SHALL HAVE SECONDARY CONTAINMENT THAT:
      1. IS CAPABLE OF CONTAINING 110% OF THE VOLUME OF THE LARGEST FUEL STORAGE CONTAINER; AND
      2. HAS AN IMPERVIOUS FLOOR;
    - II. SECONDARY CONTAINMENT FOR TANKS MAY COMPRISE A METAL, PLASTIC, POLYMER OR PRECAST CONCRETE VAULT PROVIDING 110 PERCENT OF THE VOLUME OF THE LARGEST FUEL STORAGE CONTAINER;
    - III. FOR FUEL CONTAINERS, SECONDARY CONTAINMENT MAY COMPRISE CONTAINMENT PALLETES; THE AREA WHERE FUEL IS TRANSFERRED SHALL BE A FLAT, IMPERVIOUS AREA THAT:
      1. IS ADJACENT TO THE FUEL CONTAINER(S); AND
      2. EXTENDS BEYOND THE FULL REACH, OR LENGTH, OF THE FUEL HOSE; AND
    - IV. SECONDARY CONTAINMENT AREAS MAY BE IN THE FORM OF A BASIN THAT IS:
      1. SLOPED DOWN TO A CENTRAL LOW POINT OR BERMED ALONG THE PERIMETER;
      2. LINED WITH A CONTINUOUS SHEET OF 20 MIL OR THICKER POLYMER MATERIAL OR APPROPRIATE GEOMEMBRANE LINER; AND
      3. BACKFILLED WITH AT LEAST 6 INCHES OF SAND.

**NOTES:**

1. A THIRD PARTY SHALL INSPECTOR SHALL BE ON SITE TO INSPECT THE INSTALLATION OF THE STORM DRAINAGE SYSTEMS.
2. SEE GRADING NOTES ON NOTES & LEGEND SHEET (C-01).
3. LOT GRADING SHOWN IS APPROXIMATE AND MAY VARY DEPENDING ON HOUSE SIZE, STYLE, AND LOCATION. STORMWATER SHALL BE DIRECTED TO AREAS SHOWN ON THIS PLAN.



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**OVERALL GRADING & DRAINAGE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
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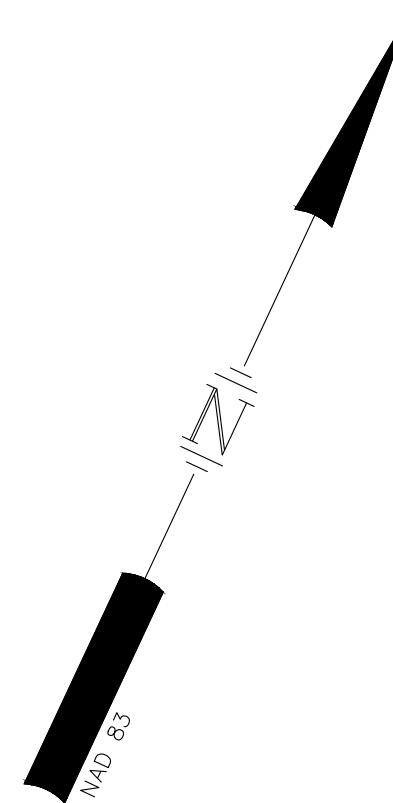


HORIZONTAL SCALE 1"=100'  
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E		CK	JUM	CADFILE	47388-11_GRADINGDRAINAGE	C-17





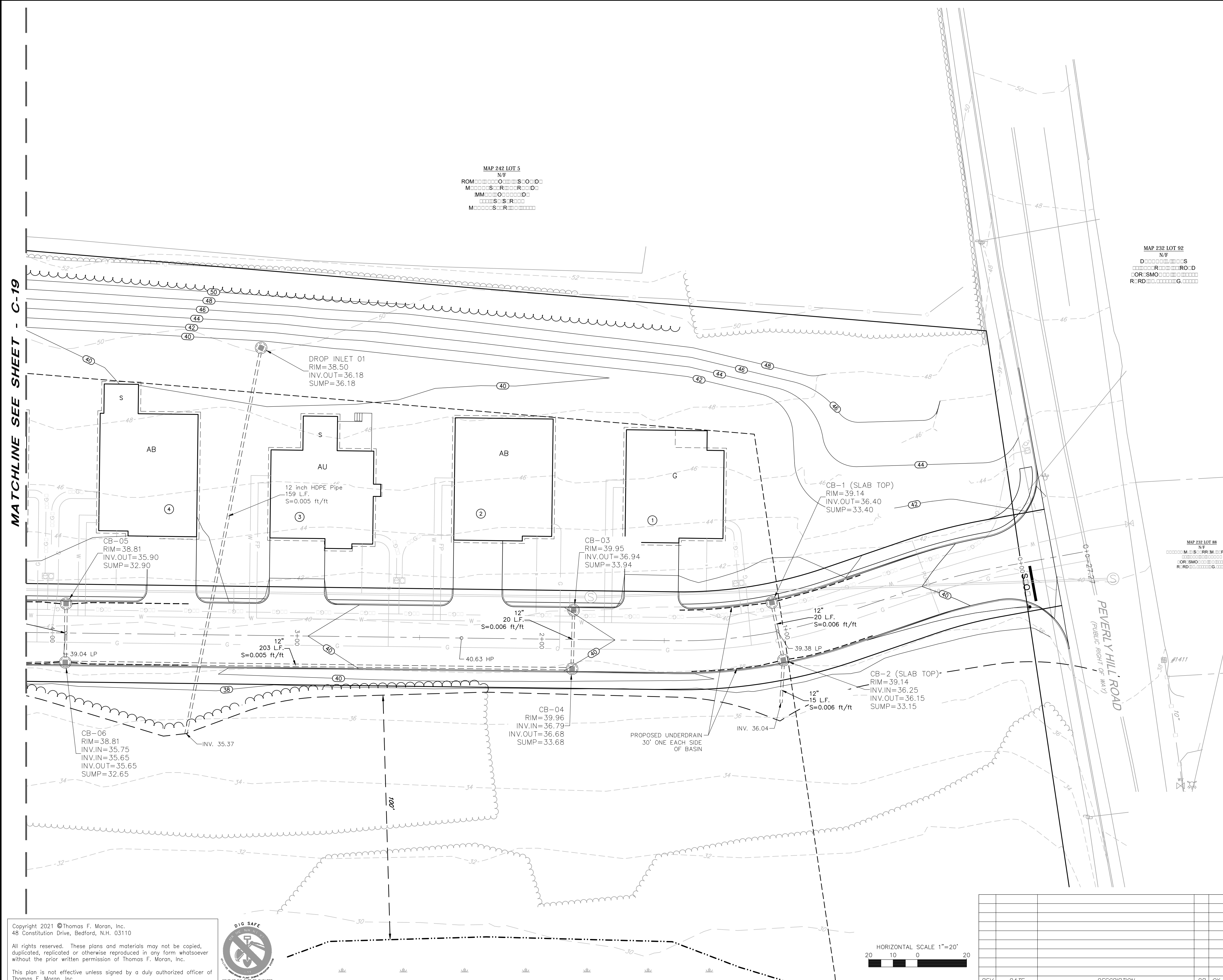
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MAP 232 LOT 92  
 N/F  
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MAP 232 LOT 88  
 N/F  
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 R: R: D: G: D:



MATCHLINE SEE SHEET - C-19



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HORIZONTAL SCALE 1"=20'  
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REV.	DATE	DESCRIPTION	DR	CK

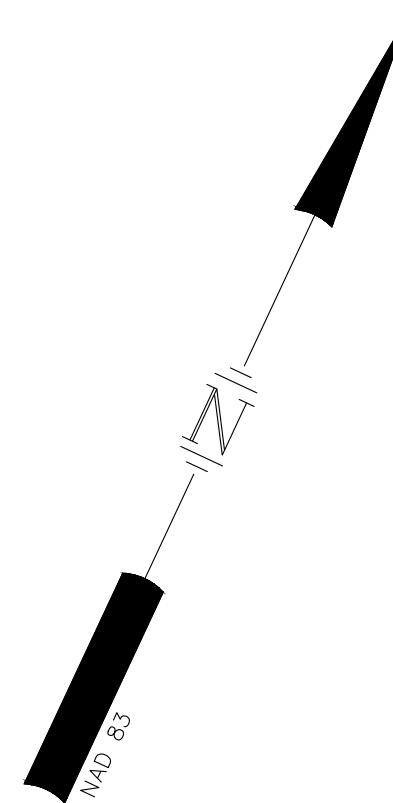
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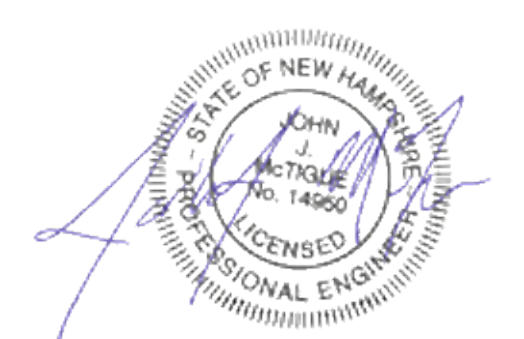
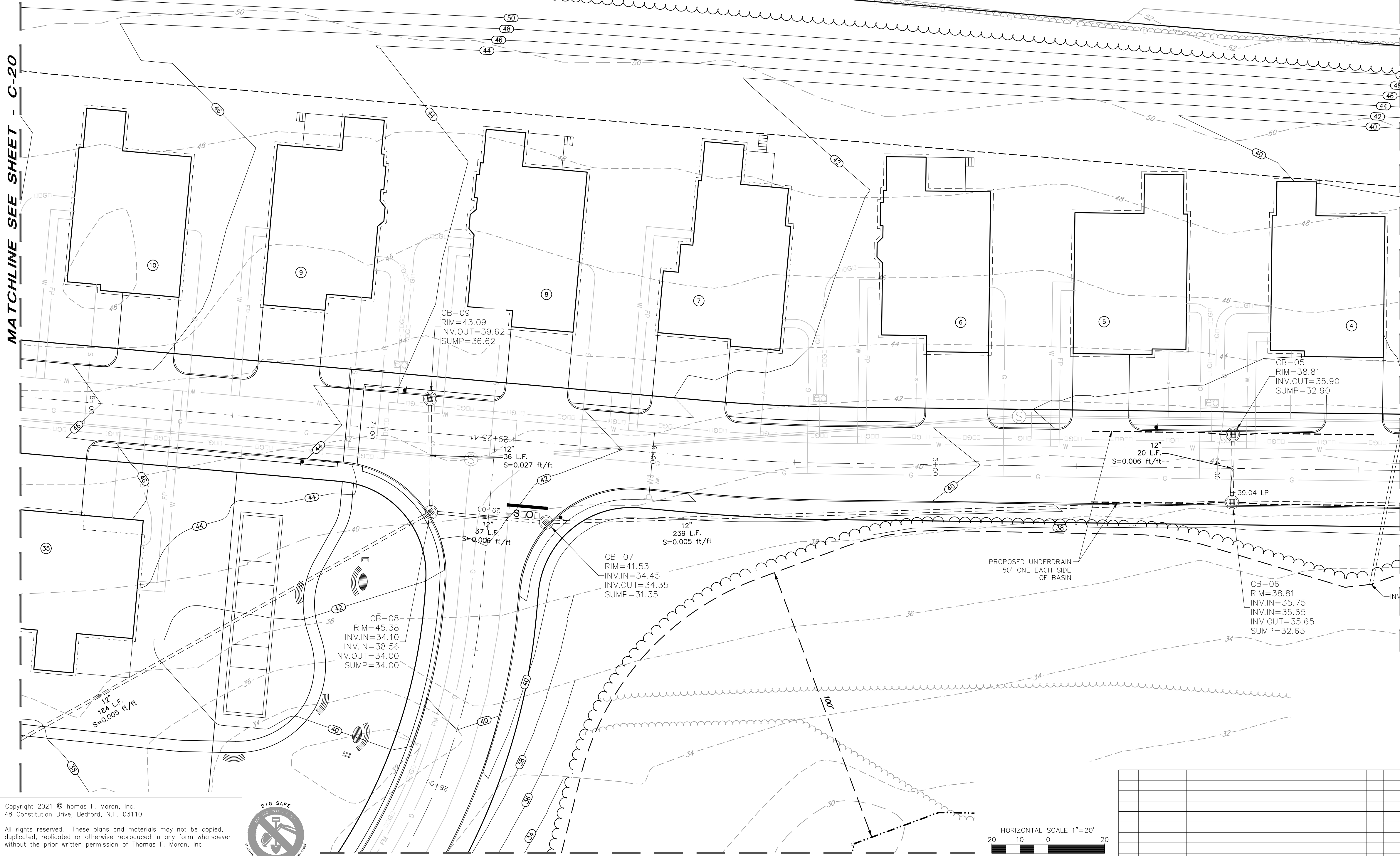




MAP 242 LOT 5  
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MATCHLINE SEE SHEET - C-20

MATCHLINE SEE SHEET - C-18



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MATCHLINE SEE SHEET - C-22

HORIZONTAL SCALE 1"=20'  
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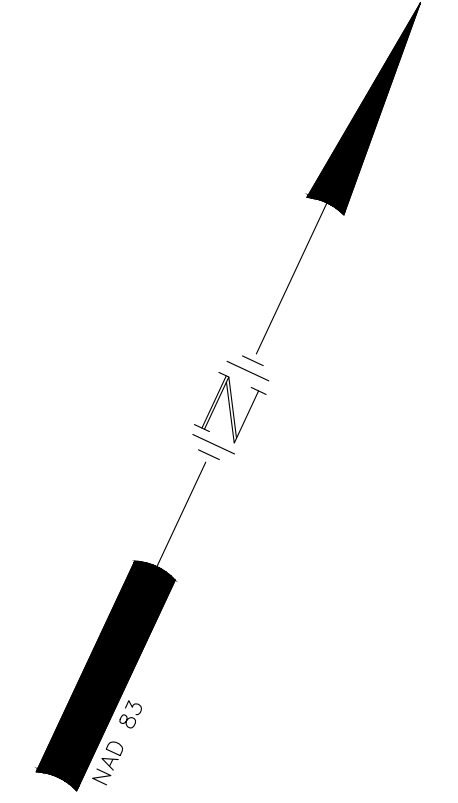
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MATCHLINE SEE SHEET - C-21

MATCHLINE SEE SHEET - C-19



**SITE DEVELOPMENT PLANS**

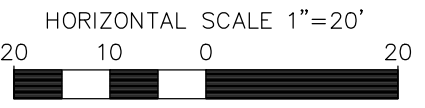
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DRAIN MH 09  
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 INV.IN=32.25  
 INV.IN=33.50



**MATCHLINE SEE SHEET - C-23**

REV.	DATE	DESCRIPTION	DR	CK

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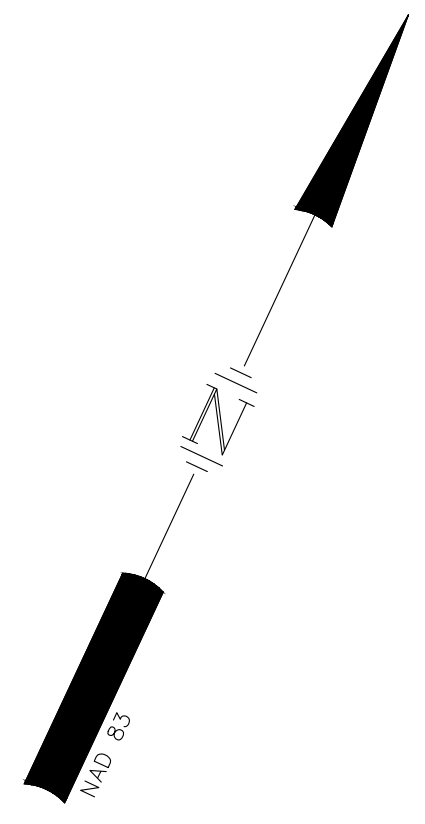
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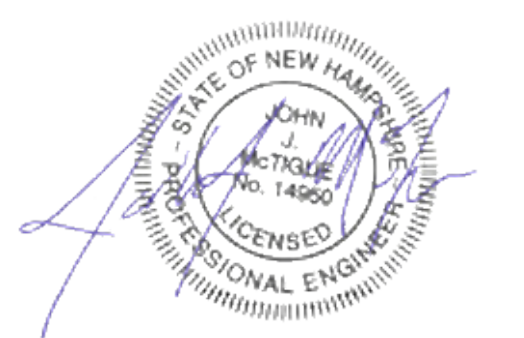
47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_GRADINGDRAINAGE C-20



MAP 242 LOT 1  
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 G M D  
 O O O O O O D R  
 O O O O O O C O R D  
 R R D O O O O O G O

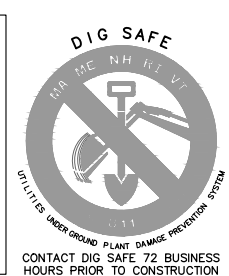


MATCHLINE SEE SHEET - C-20



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**GRADING & DRAINAGE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
 83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**  
 1"=40' (11'X17")  
 SCALE: 1"=20' (22'X34") **APRIL 19, 2021**

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MATCHLINE SEE SHEET - C-24

HORIZONTAL SCALE 1"=20'  
 20 10 0 20

REV	DATE	DESCRIPTION	DR	CK

Seacoast Division  
**TFM**  
 Civil Engineers  
 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists

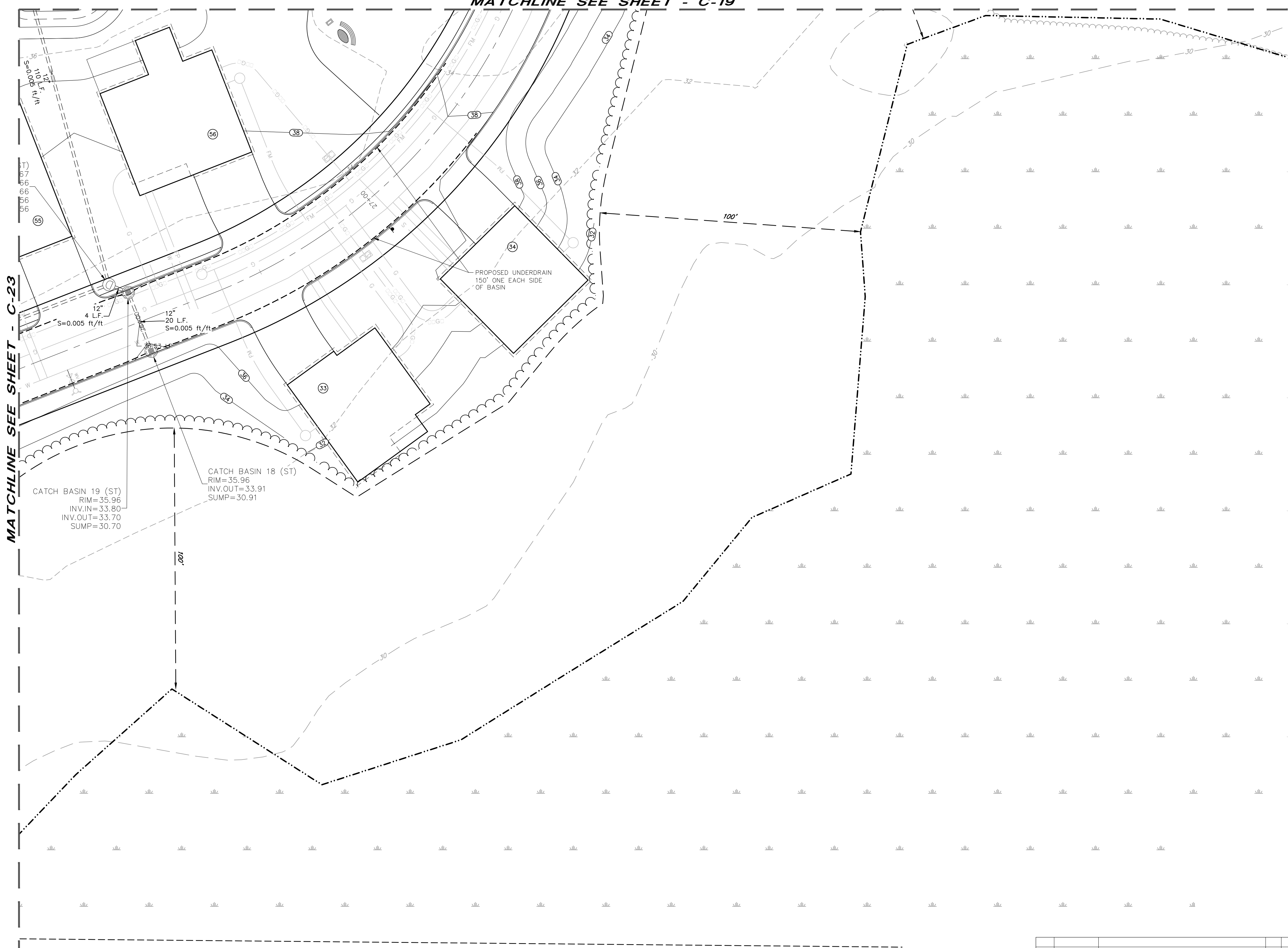
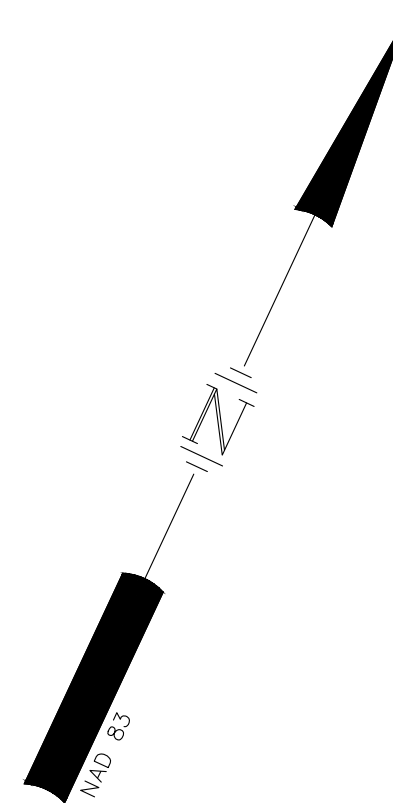
170 Commerce Way, Suite 102  
 Portsmouth, NH 03801  
 Phone (603) 431-2222  
 Fax (603) 431-0910  
 www.tfmoran.com

47388.11	DR JSM	FB		
	CK JUM	CADFILE	47388-11_GRADINGDRAINAGE	C-21



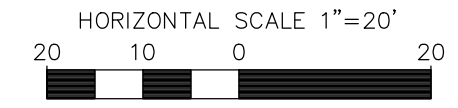
MATCHLINE SEE SHEET - C-19

MATCHLINE SEE SHEET - C-23



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**GRADING & DRAINAGE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
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**1"=40' (11'X17')**  
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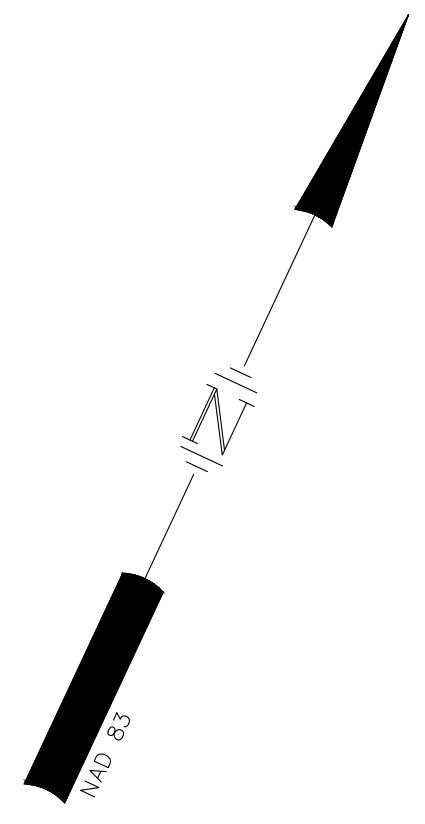
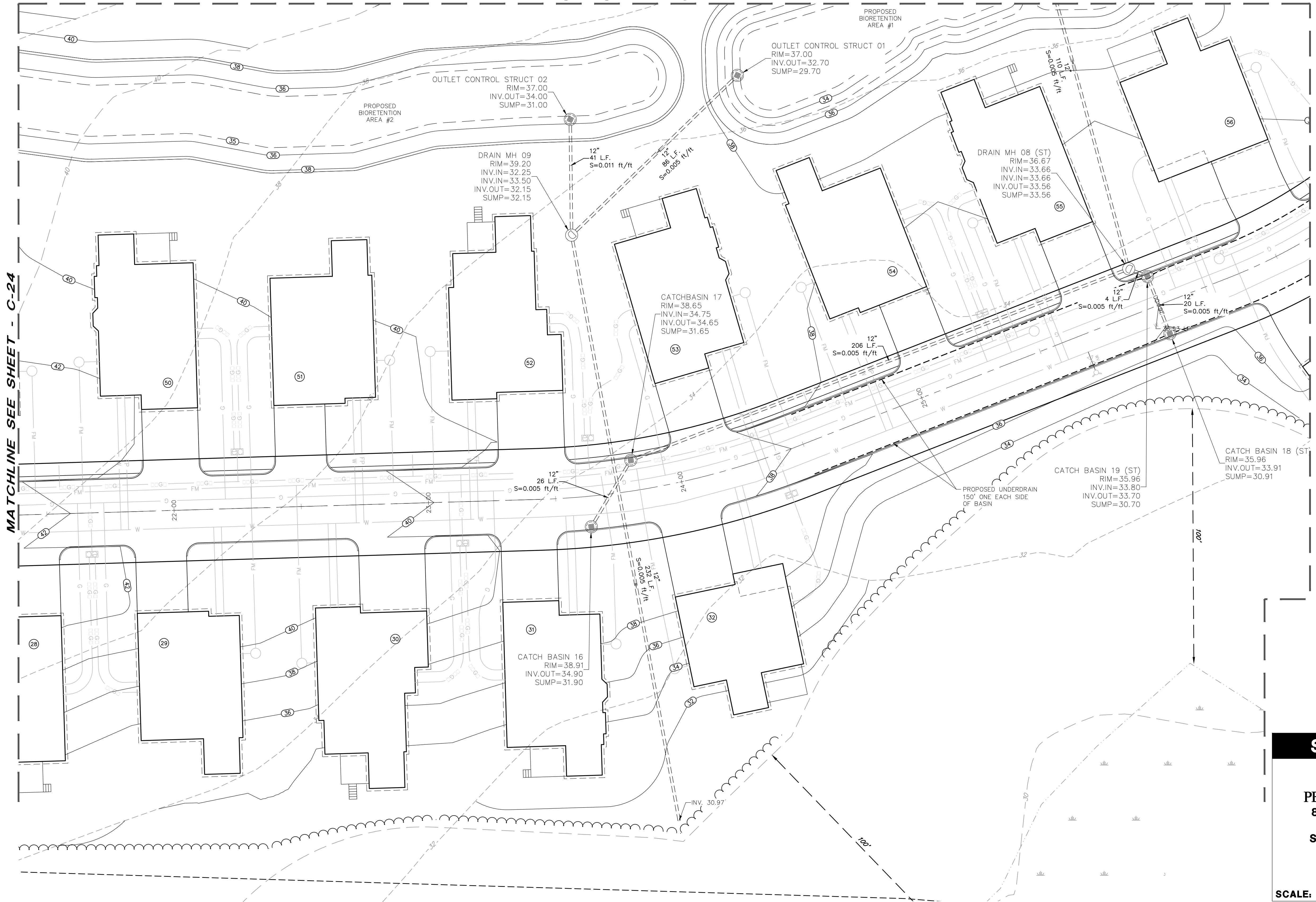
Seacoast Division  
**TFM**  
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 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists

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47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_GRADINGDRAINAGE C-22

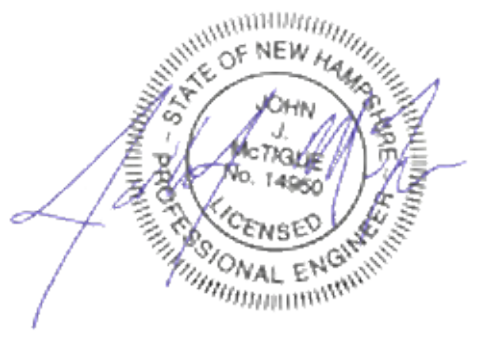


MATCHLINE SEE SHEET - C-21



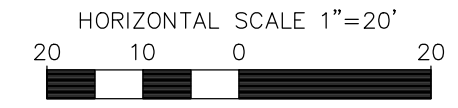
MATCHLINE SEE SHEET - C-24

MATCHLINE SEE SHEET - C-22



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**GRADING & DRAINAGE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
 83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
 OWNED BY  
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REV	DATE	DESCRIPTION	DR	CK

Seacoast Division

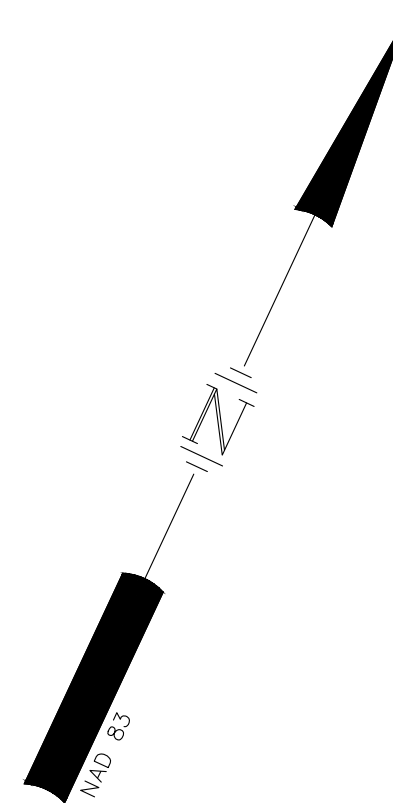
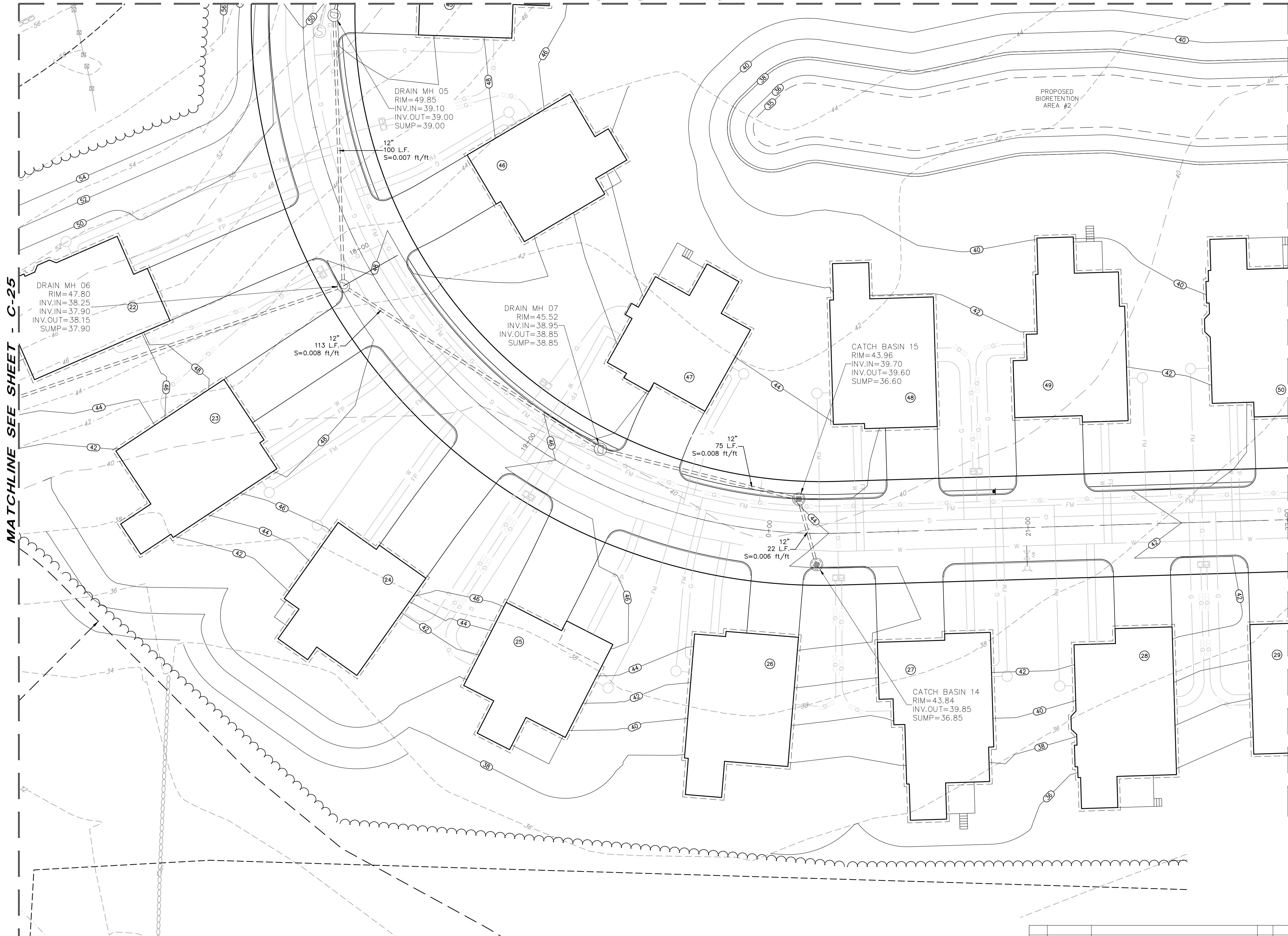
Civil Engineers  
 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists

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47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_GRADINGDRAINAGE C-23



MATCHLINE SEE SHEET - C-21



MATCHLINE SEE SHEET - C-25

MATCHLINE SEE SHEET - C-23

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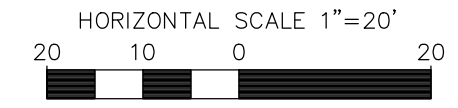
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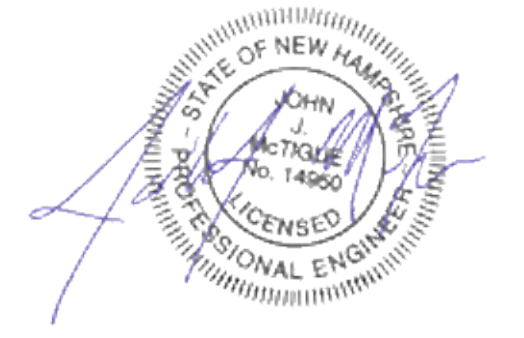


MAP 242 LOT 3  
 N/F

OR SMO



REV.	DATE	DESCRIPTION	DR	CK



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**GRADING & DRAINAGE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
 83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
 OWNED BY  
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 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**

**1"=40' (11"X17")**  
**SCALE: 1"=20' (22"X34")** **APRIL 19, 2021**

Seacoast Division

Civil Engineers  
 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists

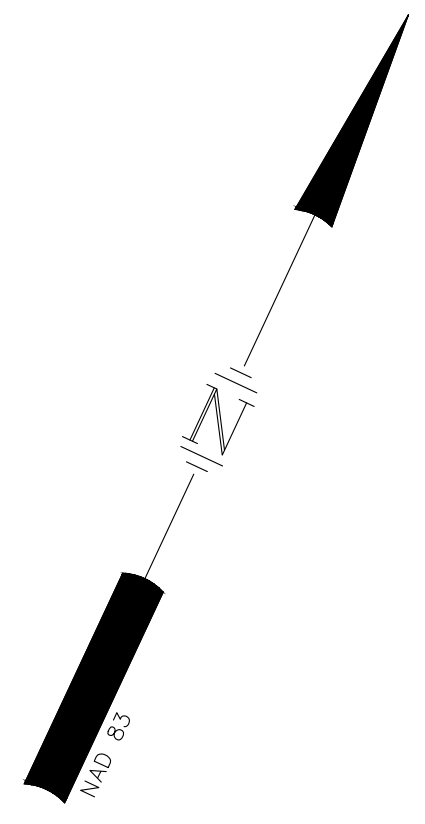
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47388.11	DR	JSM	FB	
	CK	JJM	CADFILE	47388-11_GRADINGDRAINAGE

C-24

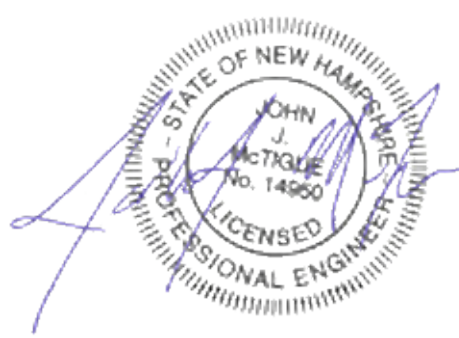
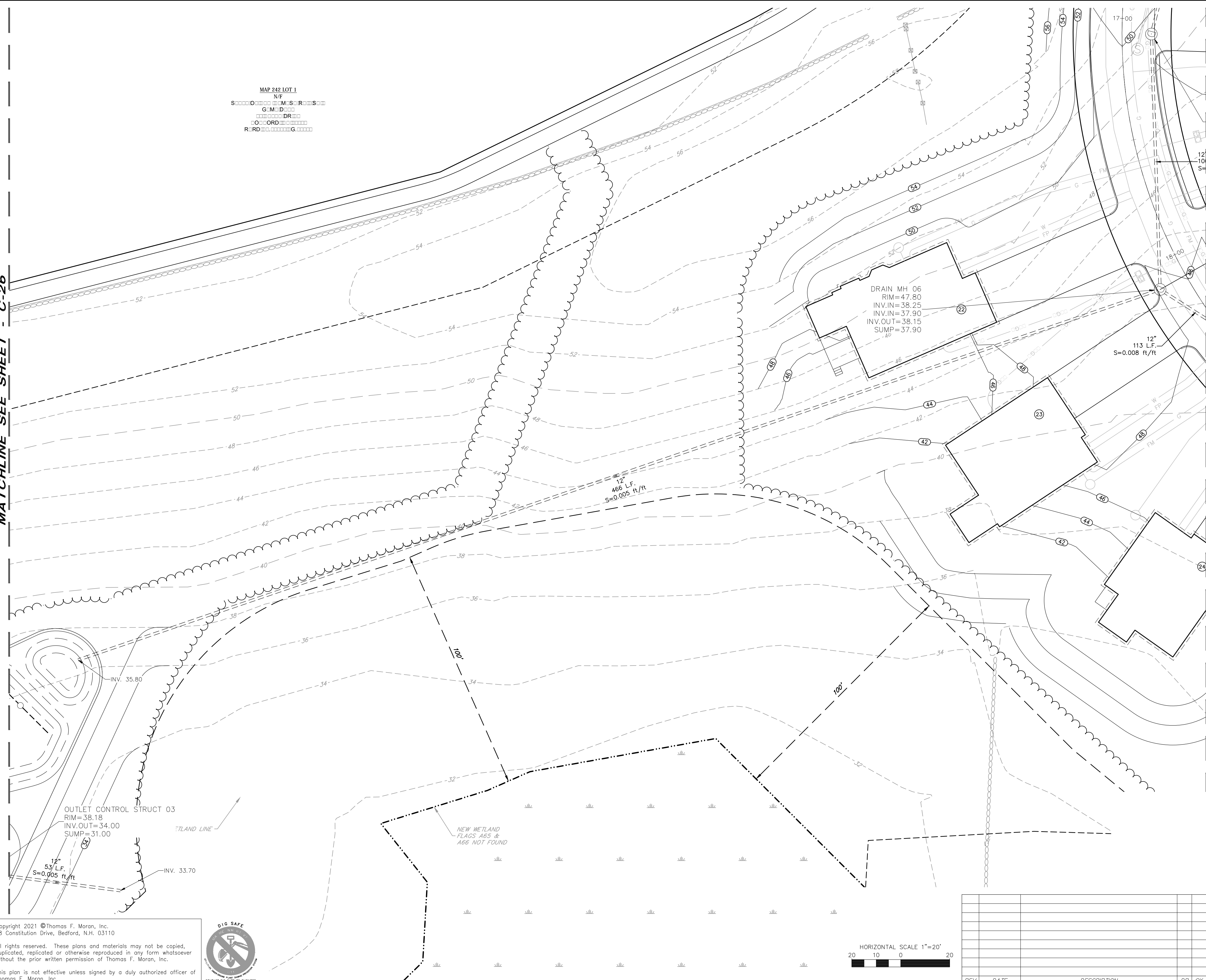


MAP 242 LOT 1  
 N/F  
 S: O M: S: R: S:  
 G: M: D:  
 DR:  
 O: ORD:  
 R: RD: G:



MATCHLINE SEE SHEET - C-26

MATCHLINE SEE SHEET - C-24



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**GRADING & DRAINAGE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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**GREEN & COMPANY REAL ESTATE**

**1"=40' (11'X17')**  
**SCALE: 1"=20' (22'X34')** **APRIL 19, 2021**

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HORIZONTAL SCALE 1"=20'  
 20 10 0 20

REV.	DATE	DESCRIPTION	DR	CK

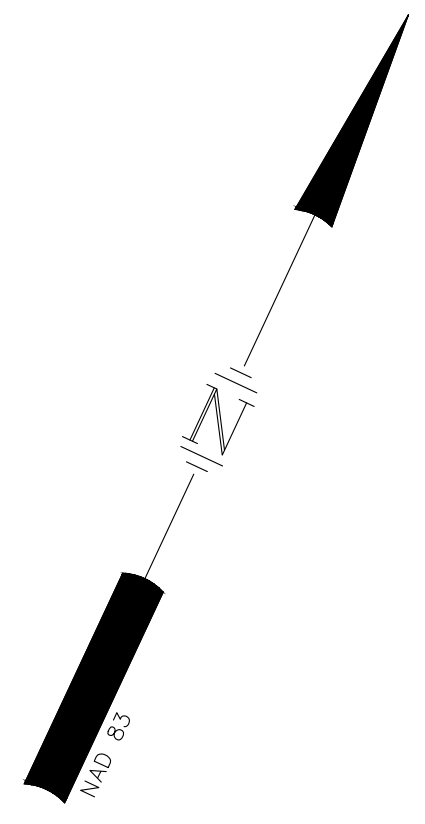
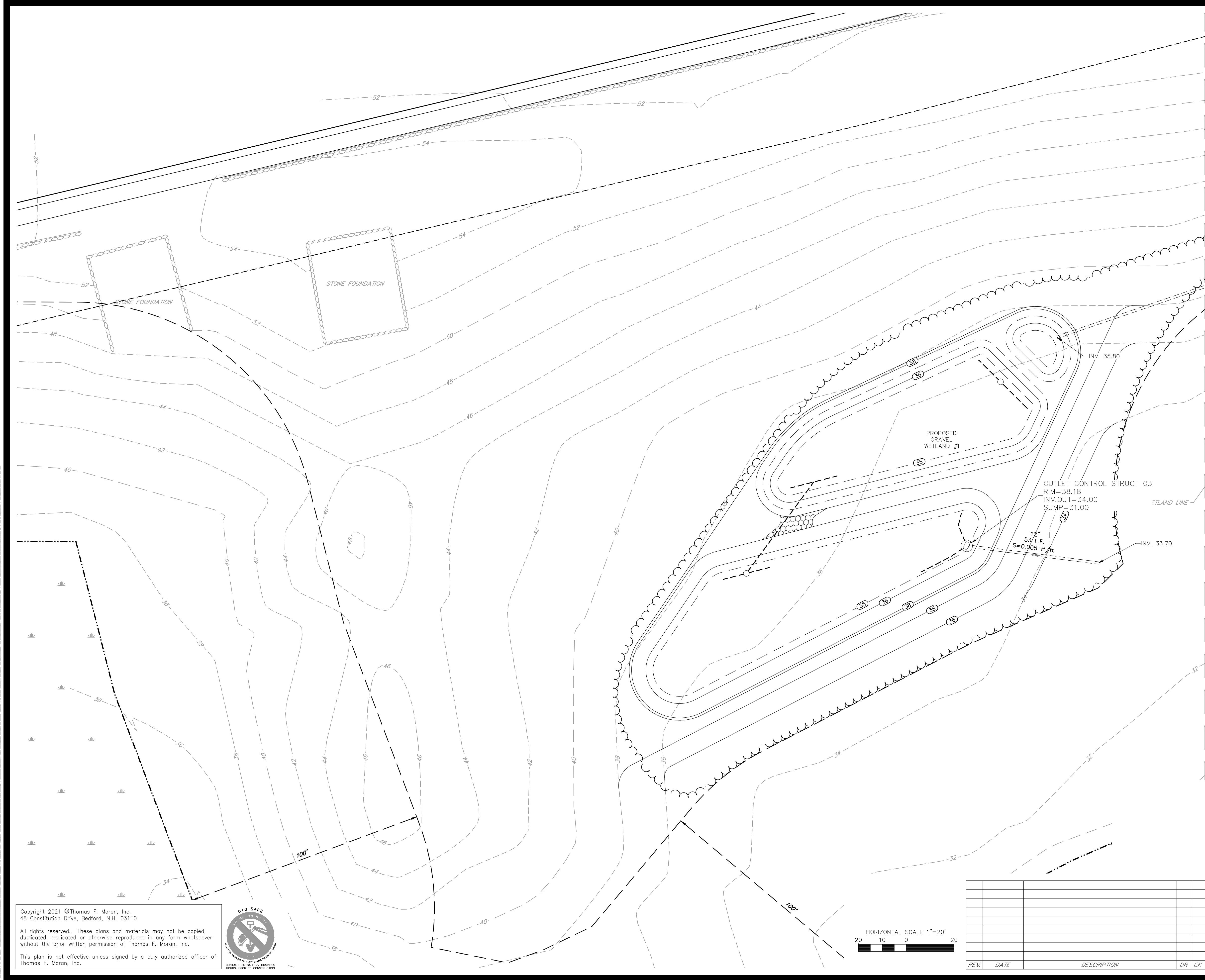
Seacoast Division

Civil Engineers  
 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists

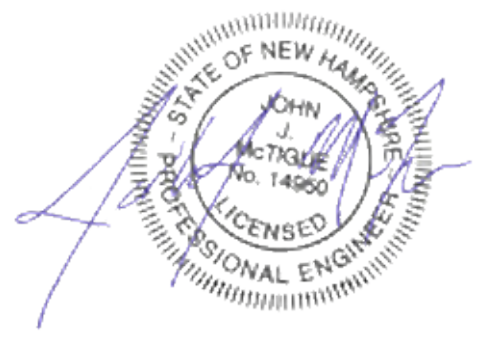
170 Commerce Way, Suite 102  
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47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_GRADINGDRAINAGE C-25





MATCHLINE SEE SHEET - C-25

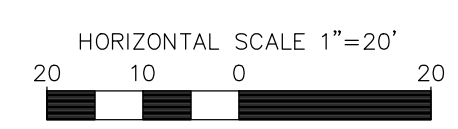


**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**GRADING & DRAINAGE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**

**1"=40' (11"X17")**  
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REV	DATE	DESCRIPTION	DR	CK

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 Landscape Architects  
 Scientists

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47388.11	DR	JSM	FB	-
	CK	JJM	CADFILE	47388-11_GRADINGDRAINAGE

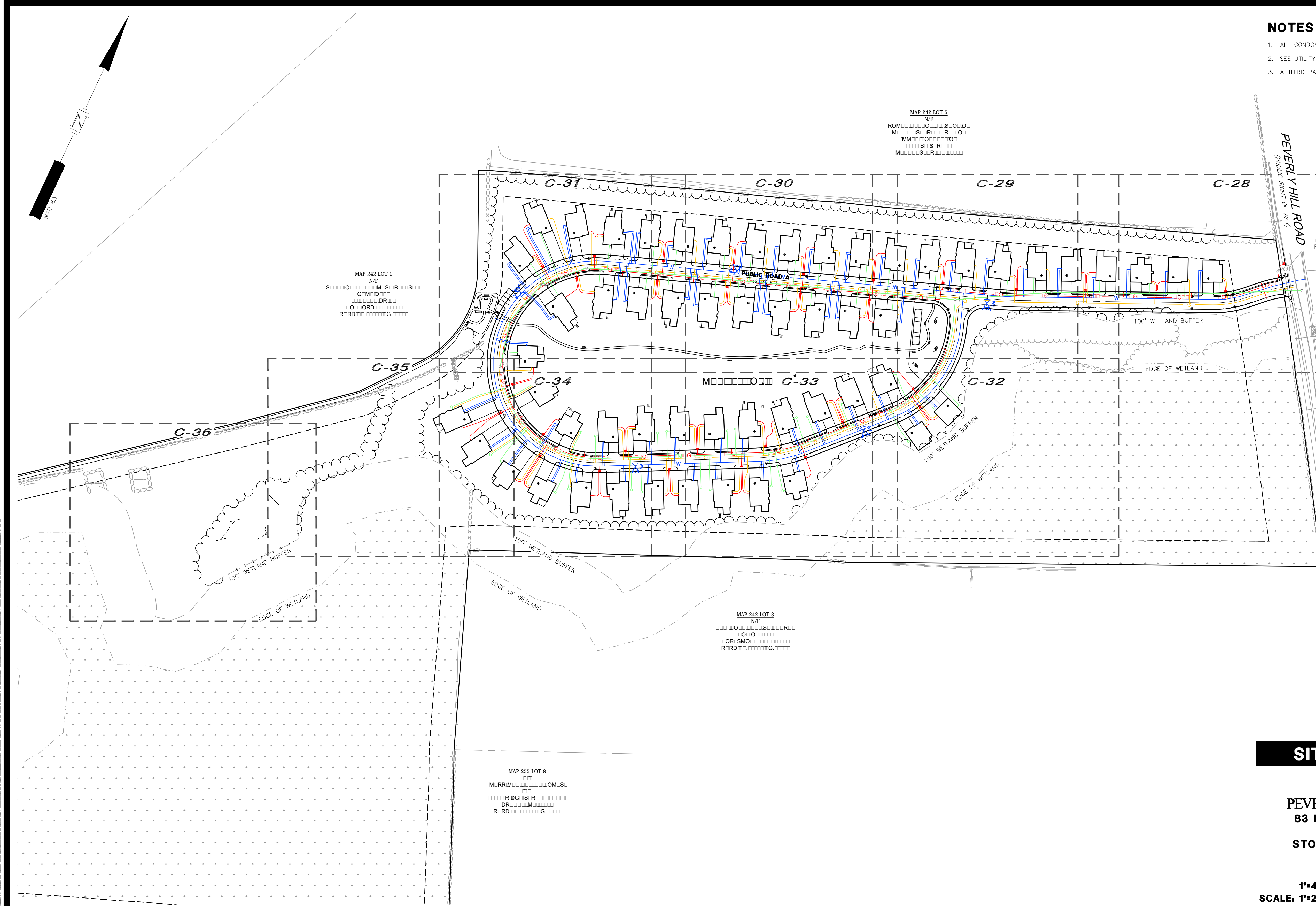
C-26



**NOTES**

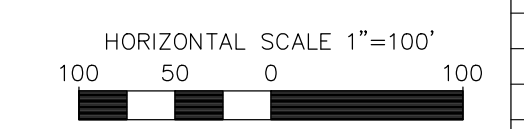
1. ALL CONDOMINIUM UNITS SHALL HAVE FIRE SUPPRESSION SPRINKLERS SYSTEMS INSTALLED.
2. SEE UTILITY NOTES ON NOTES & LEGEND SHEET (C-01).
3. A THIRD PARTY INSPECTOR SHALL BE ON SITE TO INSPECT THE INSTALLATION OF THE UTILITIES.

UTILITY COLOR LEGEND	
WATER	Blue
SEWER	Green
ELECTRIC & COMMUNICATIONS	Red
GAS	Yellow



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**OVERALL UTILITY PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**  
**1"=40' (11"X17")**  
**SCALE: 1"=20' (22"X34")** **APRIL 19, 2021**

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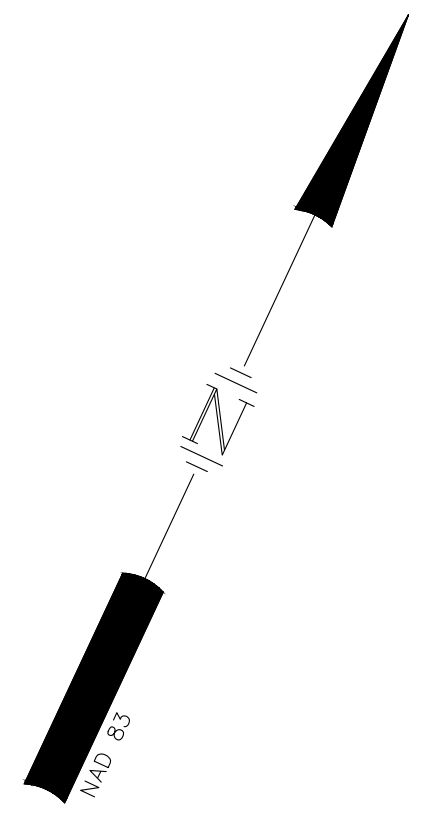


REV	DATE	DESCRIPTION	DR	CK

Seacoast Division  
**TFM**  
 Civil Engineers  
 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists  
 170 Commerce Way, Suite 102  
 Portsmouth, NH 03801  
 Phone (603) 431-2222  
 Fax (603) 431-0910  
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FILE: 47388.11	DR: JSM	FB: -	
	CK: JUM	CADFILE: 47388-11_UTILITY	C-27





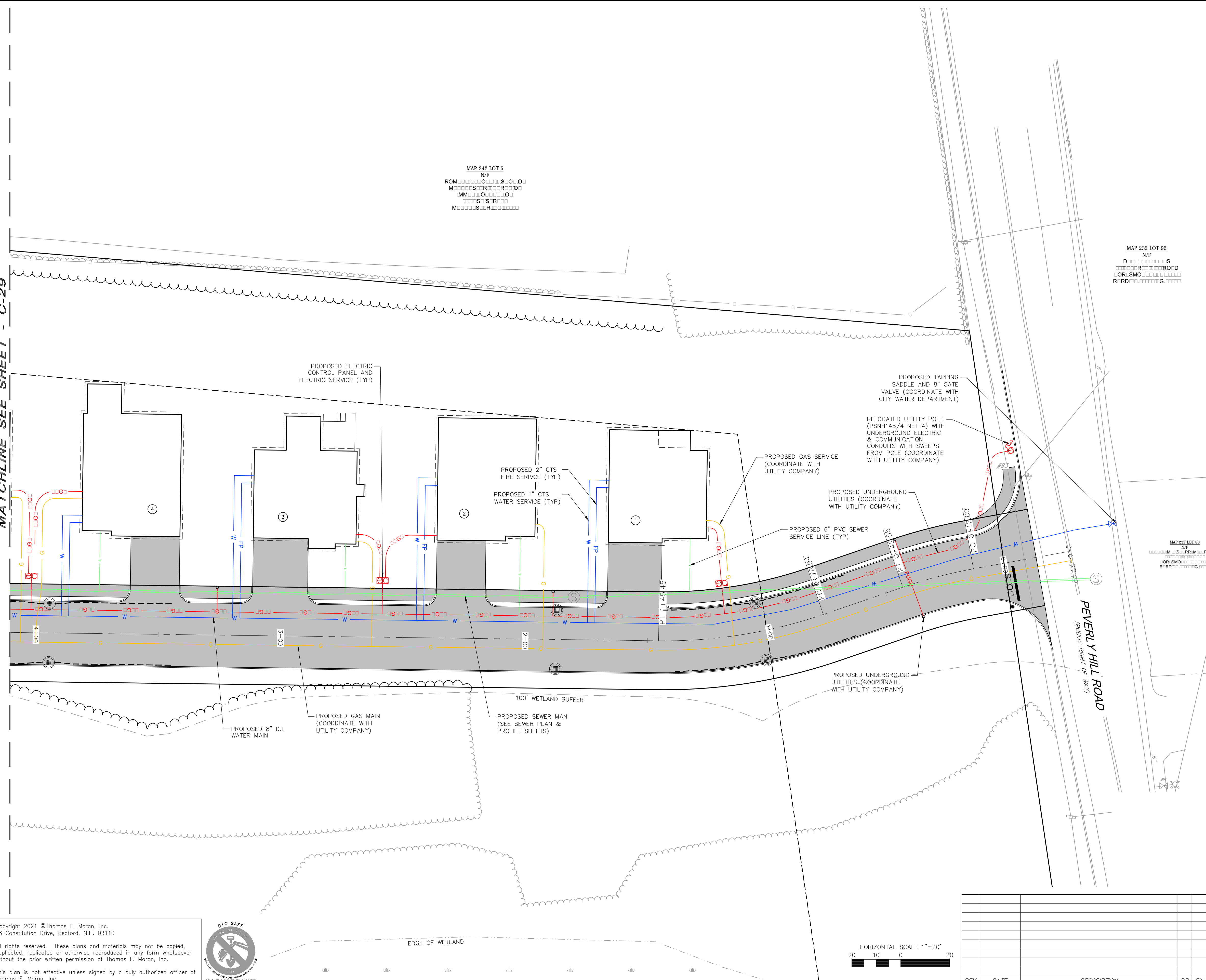
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N/F  
ROM: S: S: O: O:  
M: S: R: R: O: O:  
MM: O: O: O: O:  
S: S: R: R:  
M: S: S: R: R:

MAP 232 LOT 92  
N/F  
D: O: O: O: O: S:  
O: O: O: O: R: O: O:  
O: R: S: M: O: O: O: O:  
R: R: O: O: O: O: G: O: O:

MAP 232 LOT 88  
N/F  
O: O: O: O: S: R: R: M: O: R:  
O: O: O: O: O: O: O: O:  
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R: R: O: O: O: O: G: O: O:

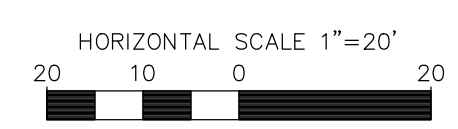


MATCHLINE SEE SHEET - C-29



**SITE DEVELOPMENT PLANS**  
TAX MAP 242 LOT 4  
**UTILITY PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**  
**1"=40' (11"X17")**  
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REV	DATE	DESCRIPTION	DR	CK

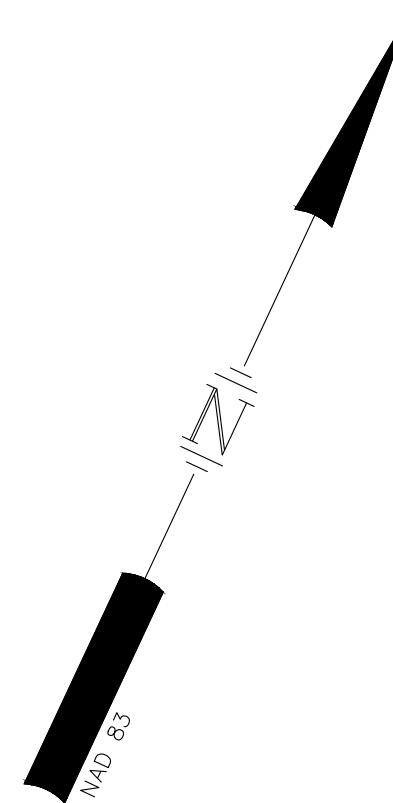
Seacoast Division

Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

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Phone (603) 431-2222  
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FILE NO.	47388.11	DR	JSM	FB	-
		CK	JJM	CADFILE	47388-11_UTILITY
					C-28

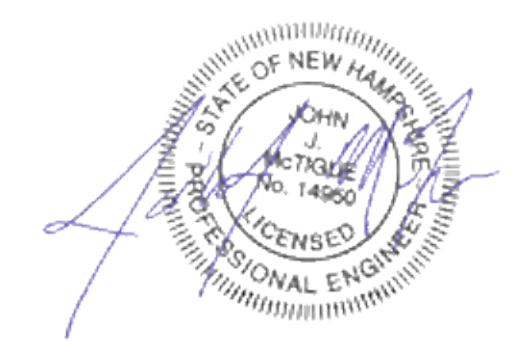




MAP 242 LOT 5  
 N/F  
 ROM  
 M  
 M  
 M

MATCHLINE SEE SHEET - C-30

MATCHLINE SEE SHEET - C-28



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**UTILITY PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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MATCHLINE SEE SHEET - C-32

HORIZONTAL SCALE 1"=20'  
 20 10 0 20

REV	DATE	DESCRIPTION	DR	CK

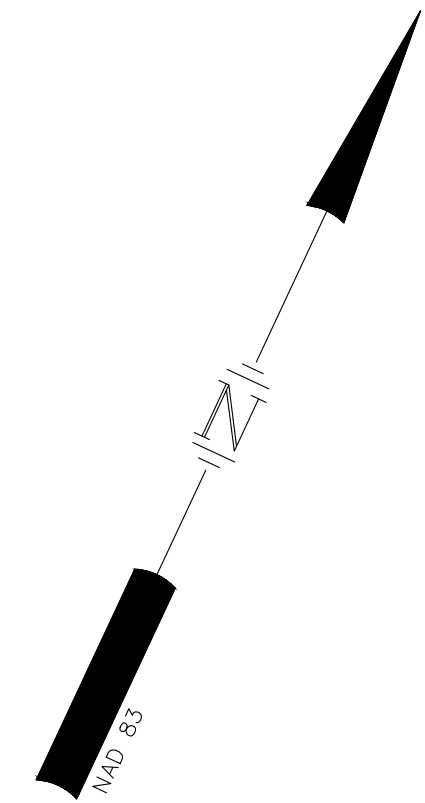
Seacoast Division

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 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists

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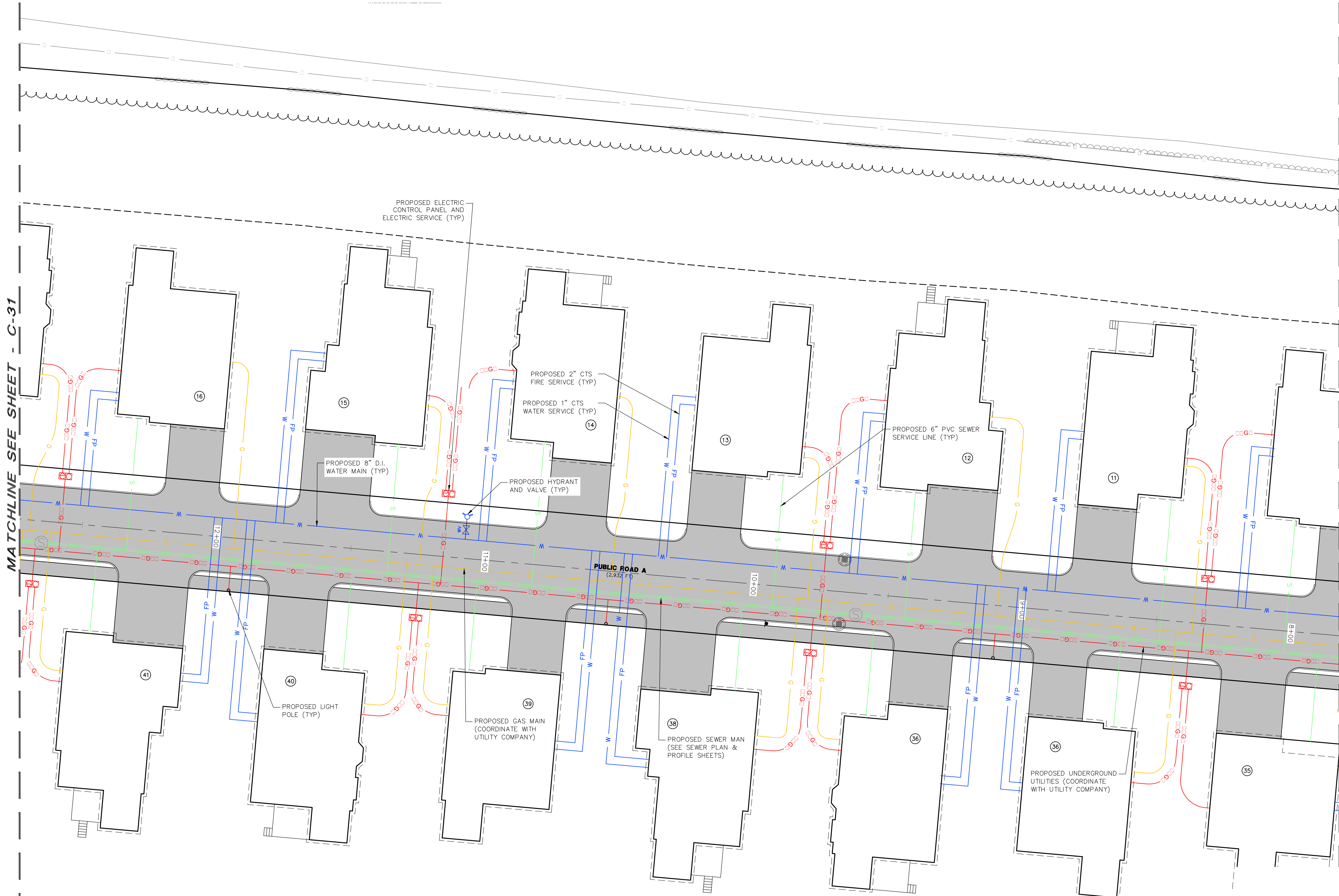
47388.11	DR JSM	FB	-	C-29
	CK JUM	CADFILE	47388-11_UTILITY	





MATCHLINE SEE SHEET - C-31

MATCHLINE SEE SHEET - C-29



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**UTILITY PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**  
 1"=40' (11"X17")  
 SCALE: 1"=20' (22"X34") APRIL 19, 2021

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MATCHLINE SEE SHEET - C-33

HORIZONTAL SCALE 1"=20'  
 20 10 0 20

REV.	DATE	DESCRIPTION	DR	CK

Seacoast Division



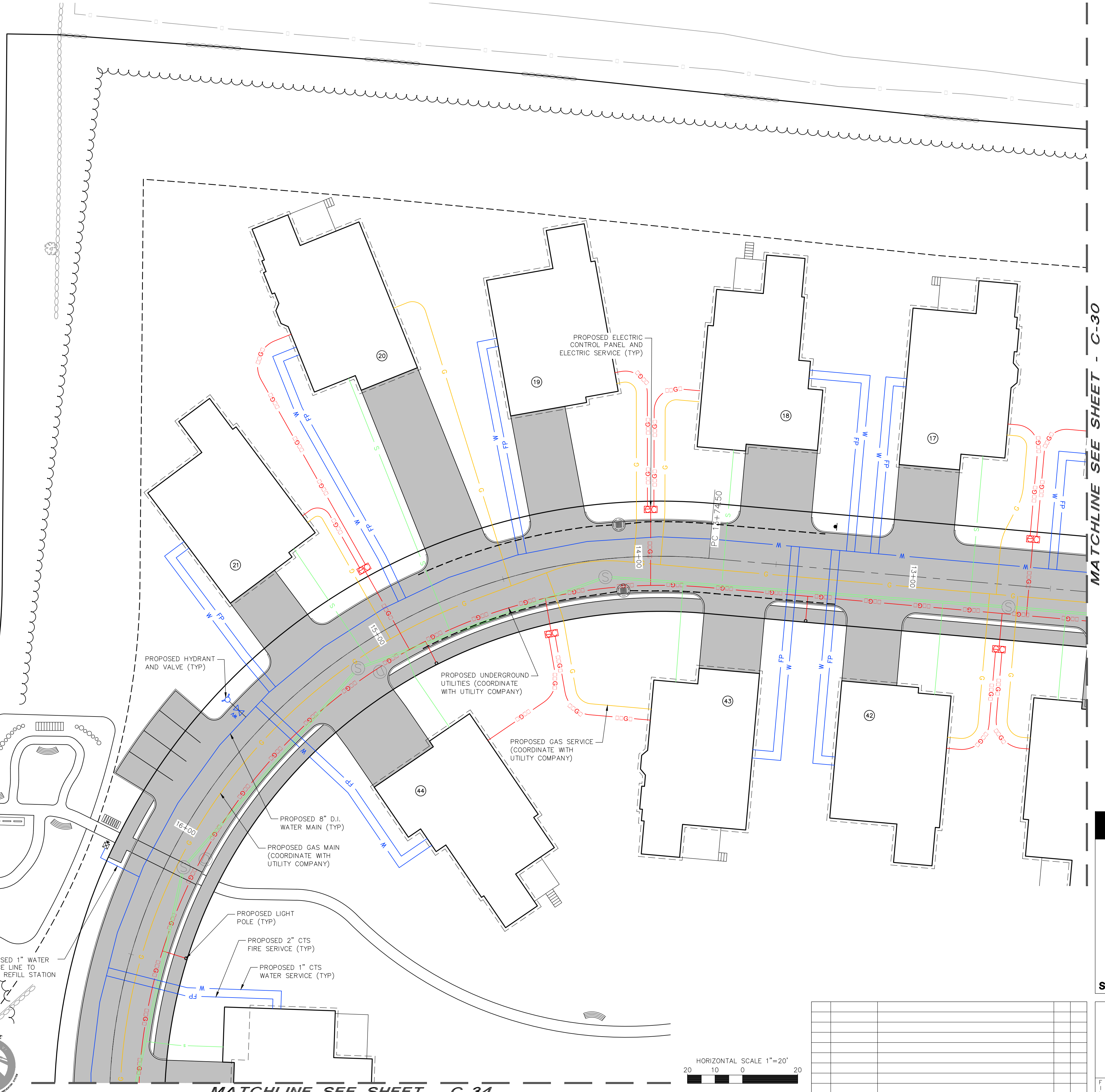
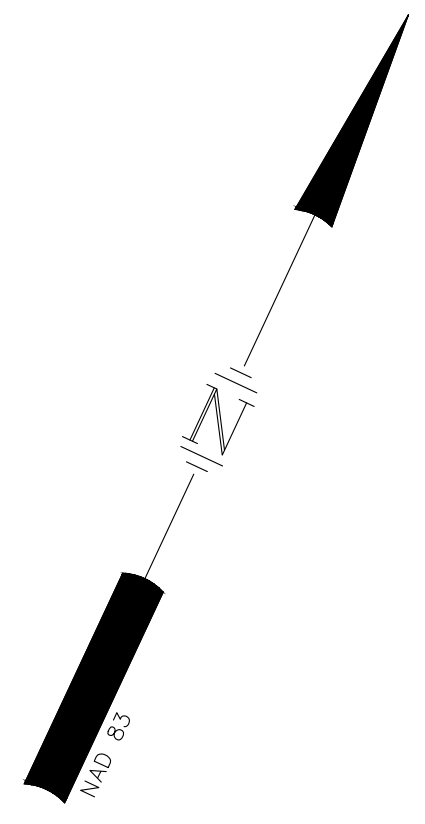
Civil Engineers  
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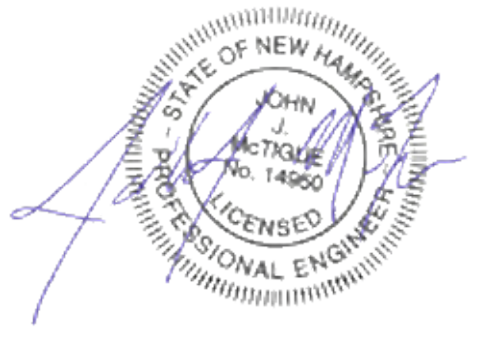
47388.11	DR JSM	FB	-	C-30
	CK JUM	CADFILE	47388-11_UTILITY	



MAP 242 LOT 1  
 N/F  
 S O O O O M S R O S  
 G M D  
 O O O O D R  
 O O O O R D  
 R R D O O O G O O



MATCHLINE SEE SHEET - C-30



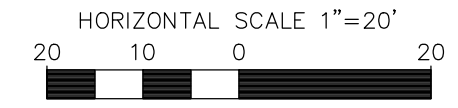
**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**UTILITY PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
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**1"=40' (11'X17')**  
**SCALE: 1"=20' (22'X34')** **APRIL 19, 2021**

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MATCHLINE SEE SHEET - C-34



REV	DATE	DESCRIPTION	DR	CK

Seacoast Division

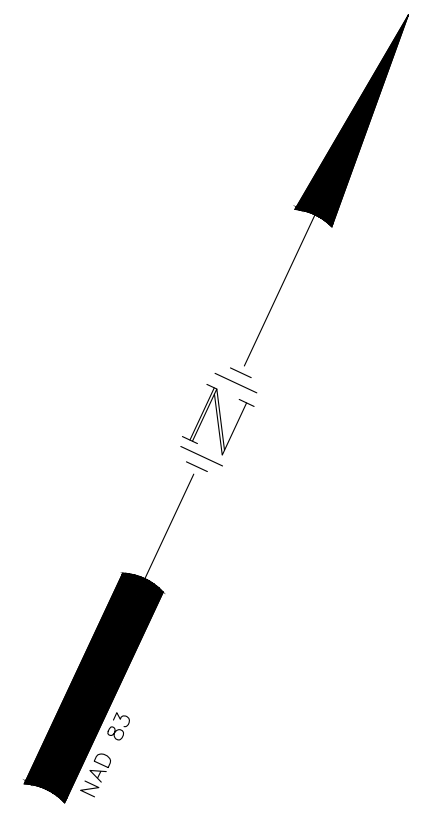
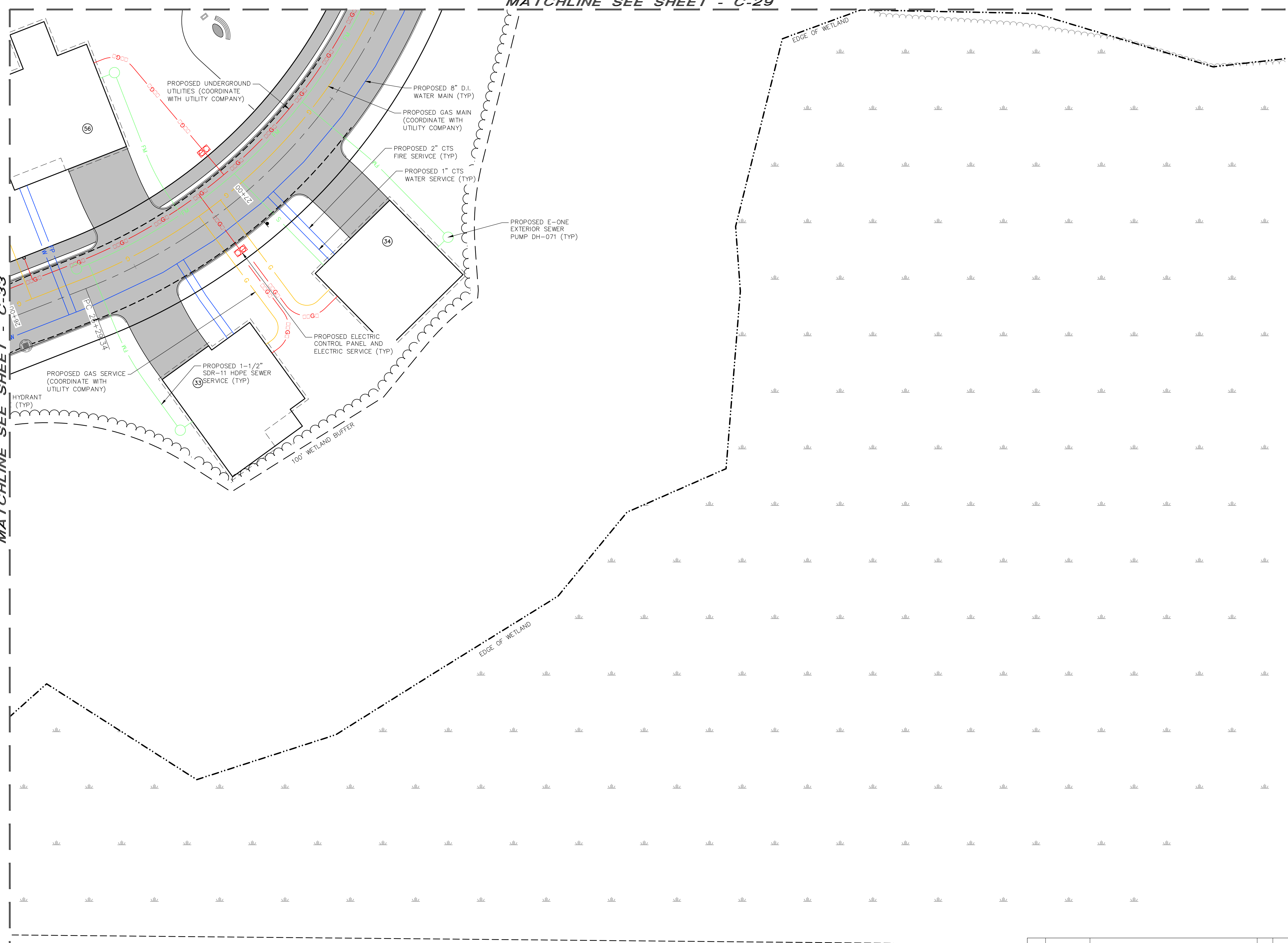
Civil Engineers  
 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists

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47388.11	DR JSM	FB	-	C-31
CK JUM	CADFILE	47388-11_UTILITY		

MATCHLINE SEE SHEET - C-29

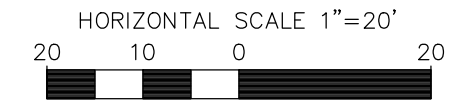
MATCHLINE SEE SHEET - C-33



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**UTILITY PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**  
**1"=40' (11"X17")**  
**SCALE: 1"=20' (22"X34")** **APRIL 19, 2021**

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Seacoast Division

Civil Engineers  
 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists

170 Commerce Way, Suite 102  
 Portsmouth, NH 03801  
 Phone (603) 431-2222  
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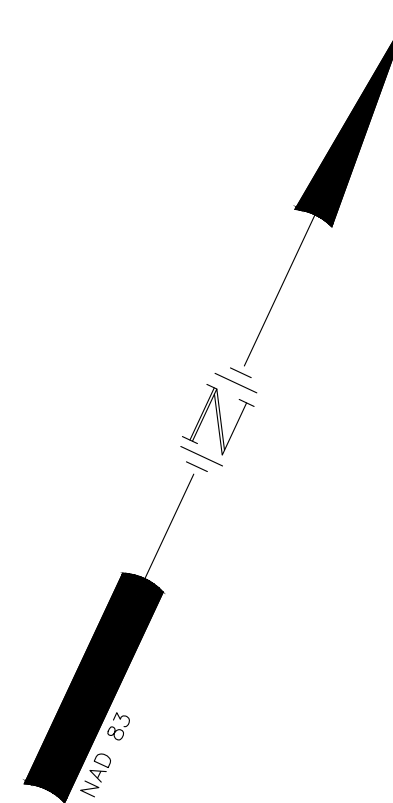
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	CK JUM	CADFILE	47388-11_UTILITY	



MATCHLINE SEE SHEET - C-30

MATCHLINE SEE SHEET - C-34

MATCHLINE SEE SHEET - C-32



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**UTILITY PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
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HORIZONTAL SCALE 1"=20'  
 20 10 0 20

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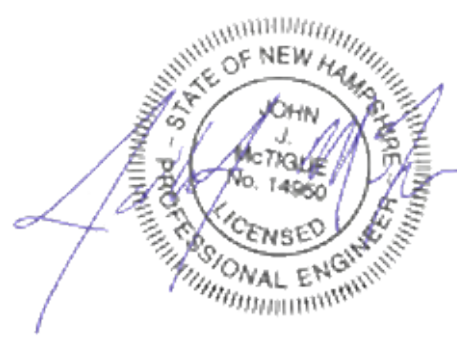
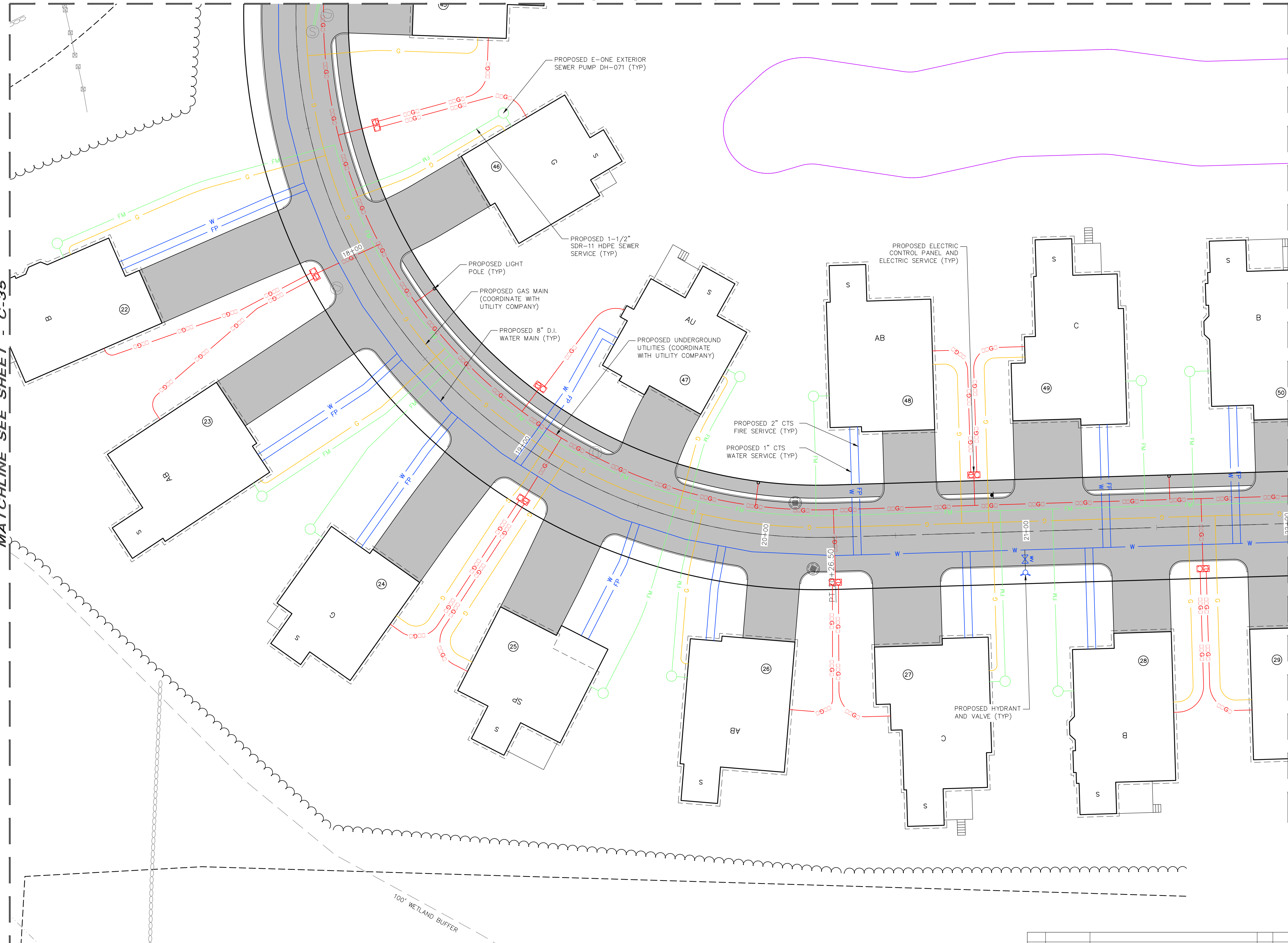
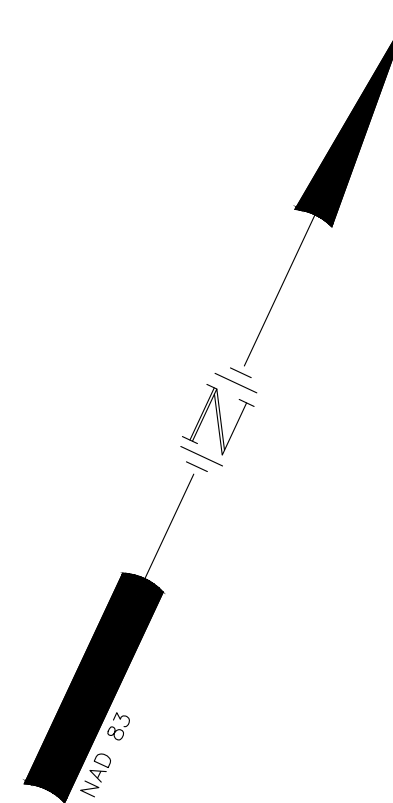
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	CK JUM	CADFILE	47388-11_UTILITY	



MATCHLINE SEE SHEET - C-31

MATCHLINE SEE SHEET - C-35

MATCHLINE SEE SHEET - C-33



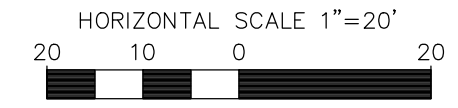
**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
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**PEVERLY HILL ROAD CONDOMINIUMS**  
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MAP 242 LOT 3  
N/E  
OR SMO  
D-DA



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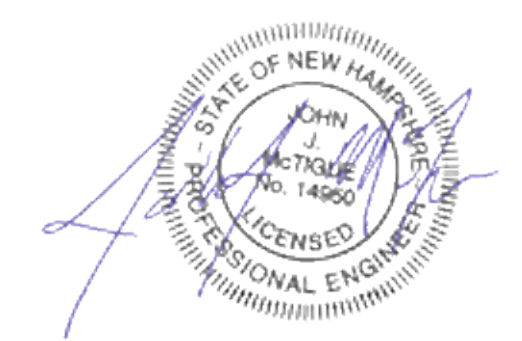
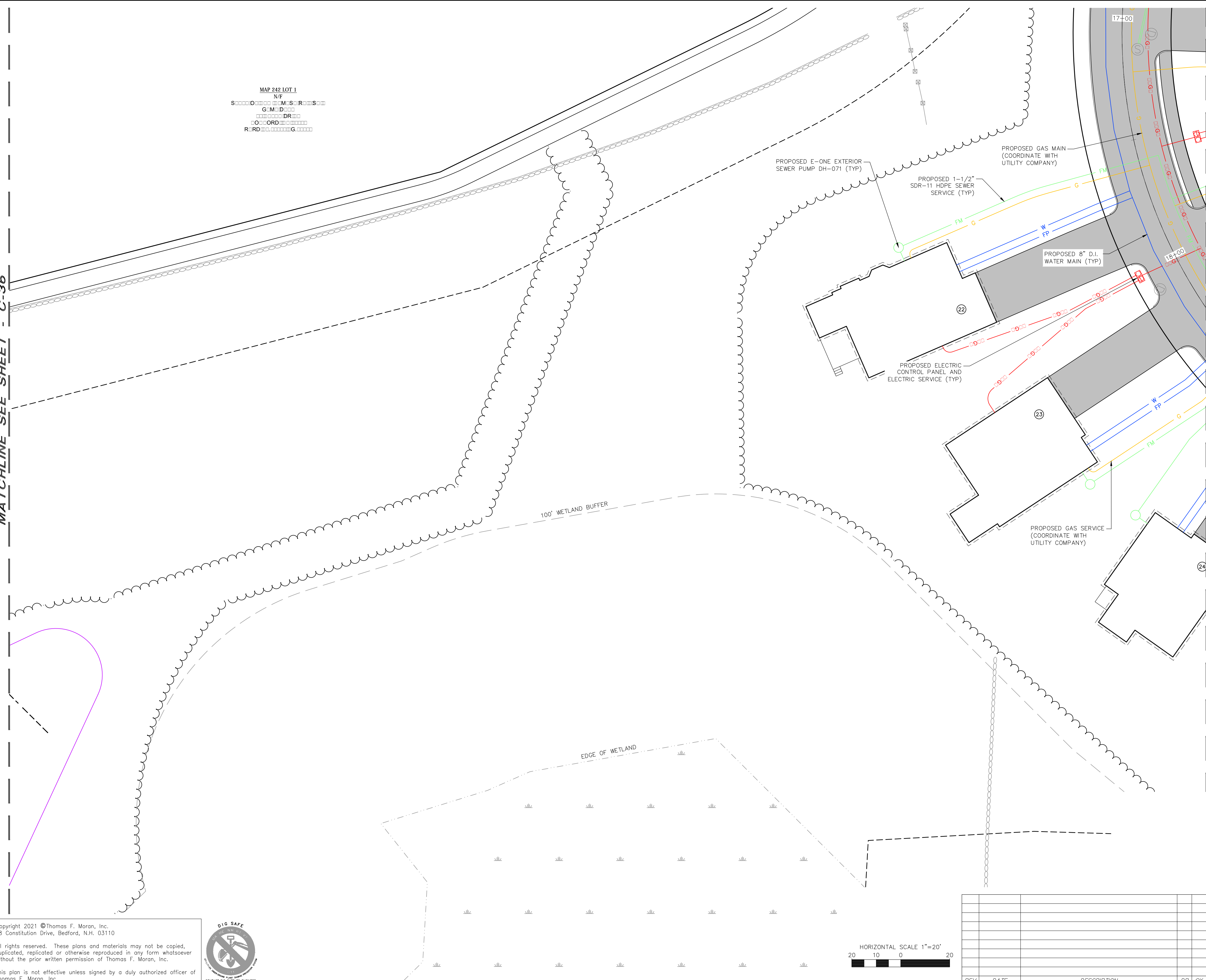
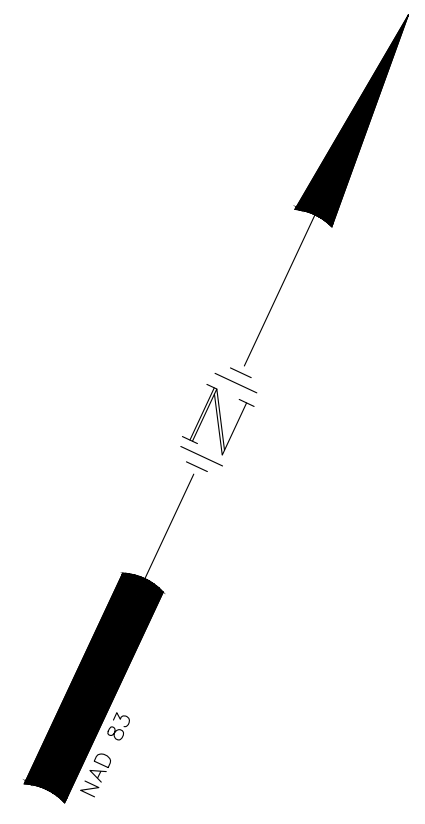
47388.11	DR JSM	FB	-	C-34
CK JUM	CADFILE	47388-11_UTILITY		



MAP 242 LOT 1  
 N/F  
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 G:○○○○○ D:○○○○○  
 O:○○○○○ DR:○○○○○  
 R:○○○○○ G:○○○○○

MATCHLINE SEE SHEET - C-36

MATCHLINE SEE SHEET - C-34



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**UTILITY PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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HORIZONTAL SCALE 1"=20'  
 20 10 0 20

REV	DATE	DESCRIPTION	DR	CK

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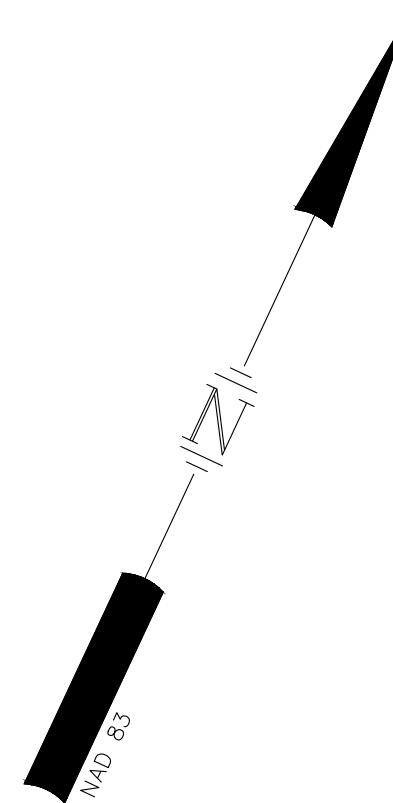
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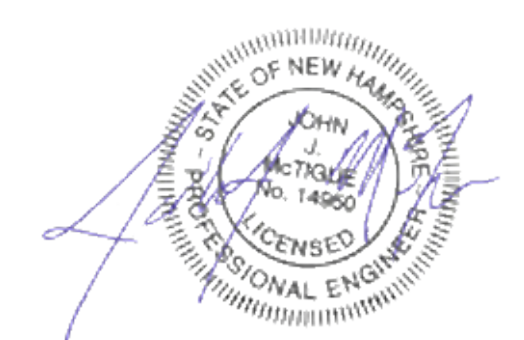
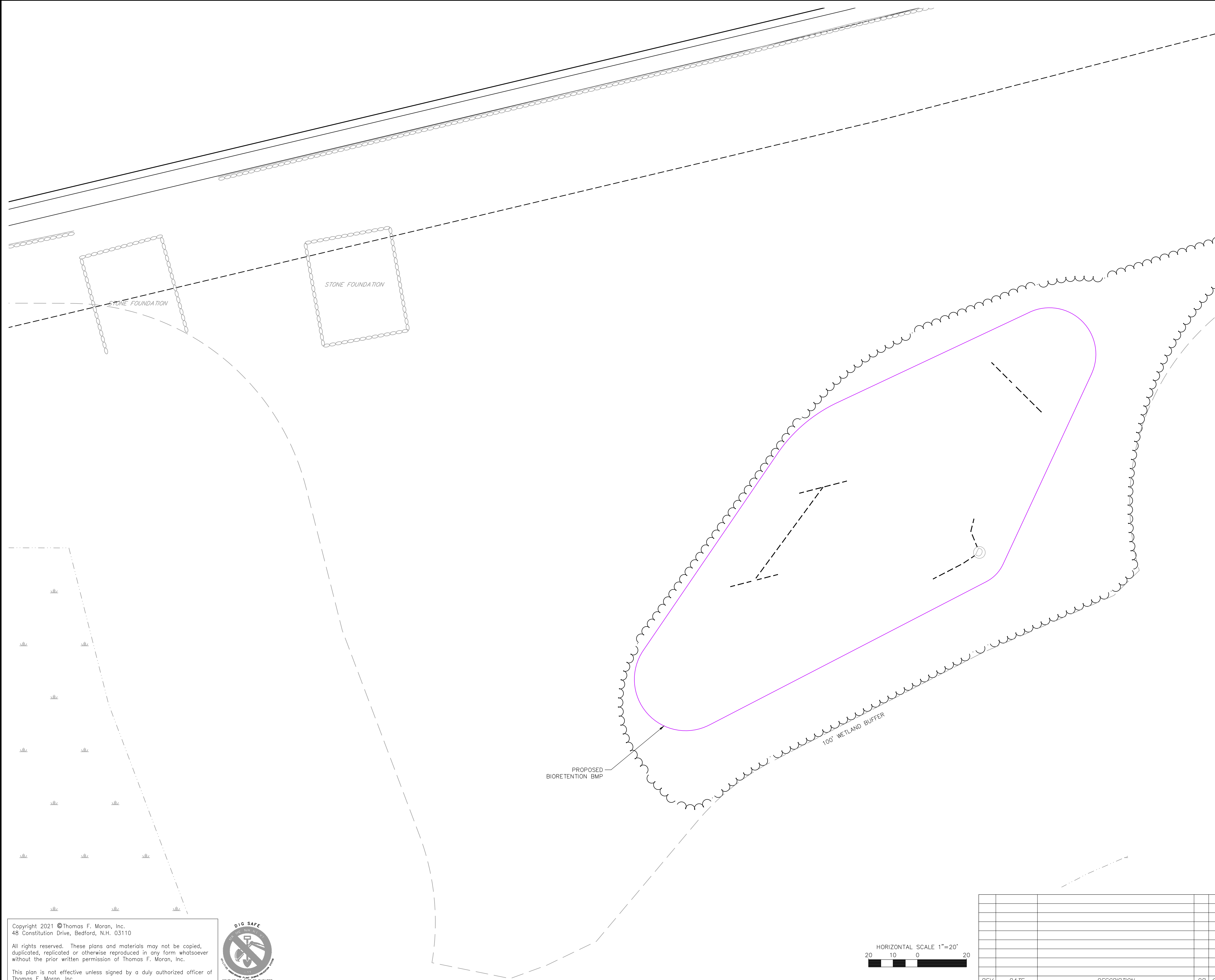
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47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_UTILITY C-35





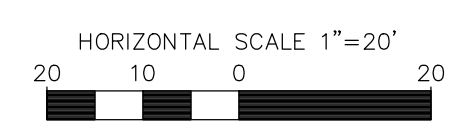
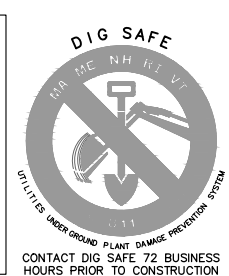
MATCHLINE SEE SHEET - C-35



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**UTILITY PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
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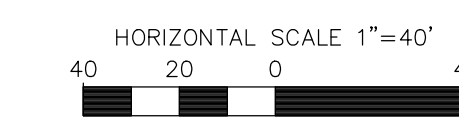
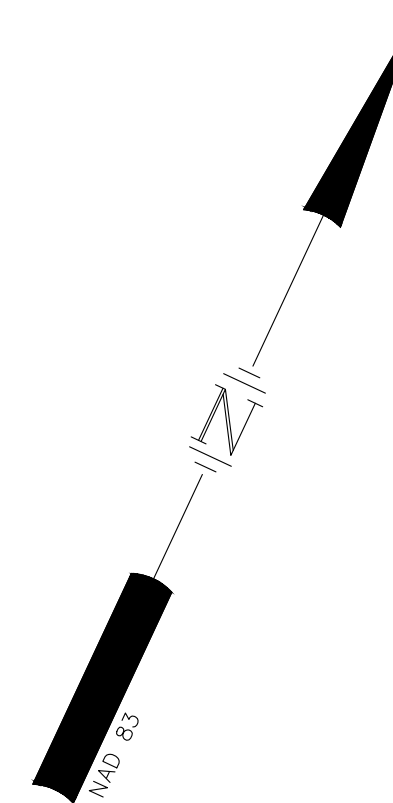
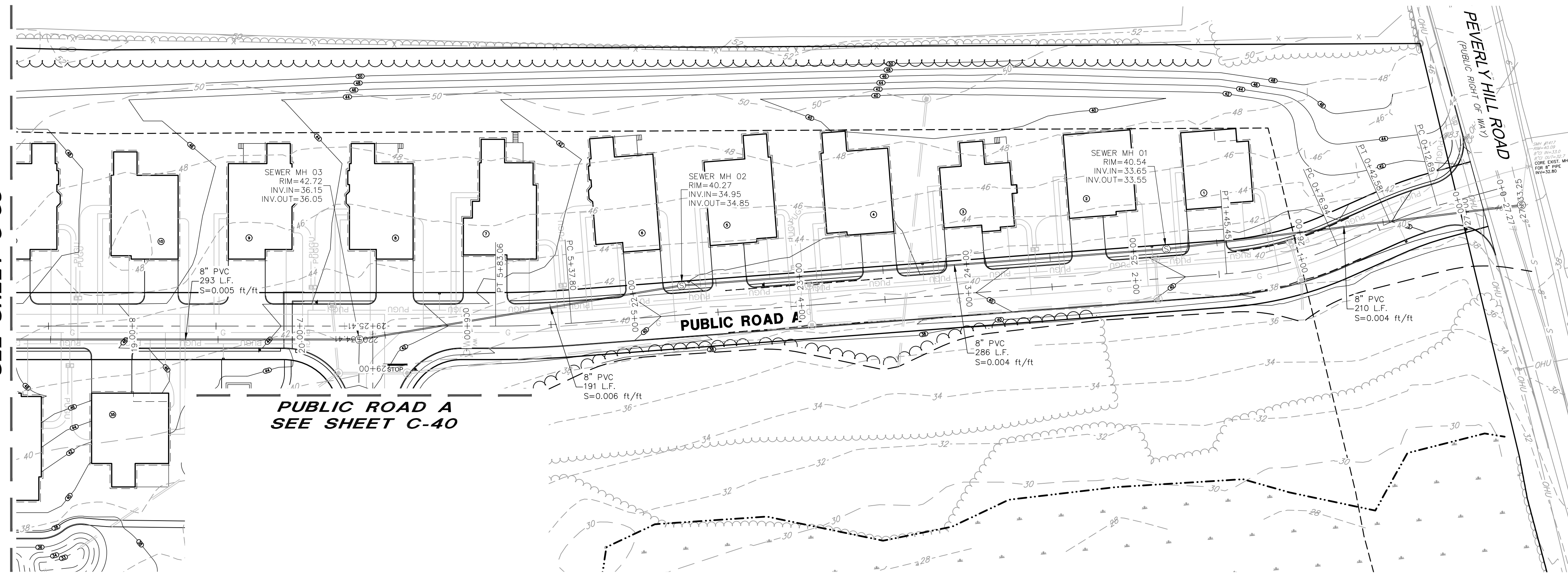
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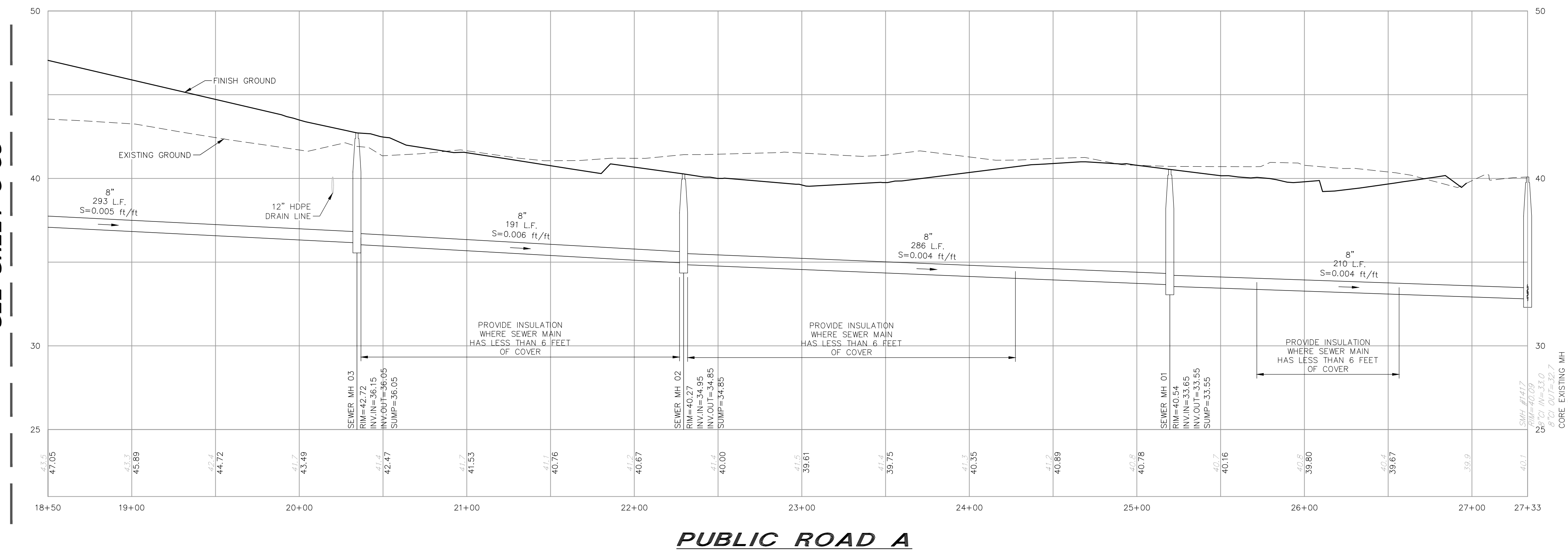
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	CK	JJM	CADFILE	47388-11_UTILITY

C-36

MATCHLINE PUBLIC ROAD A  
SEE SHEET C-38



MATCHLINE PUBLIC ROAD A  
SEE SHEET C-38



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**SEWER PLAN & PROFILE**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
 83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
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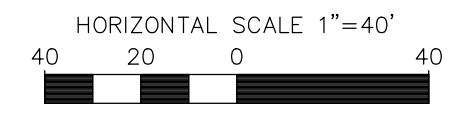
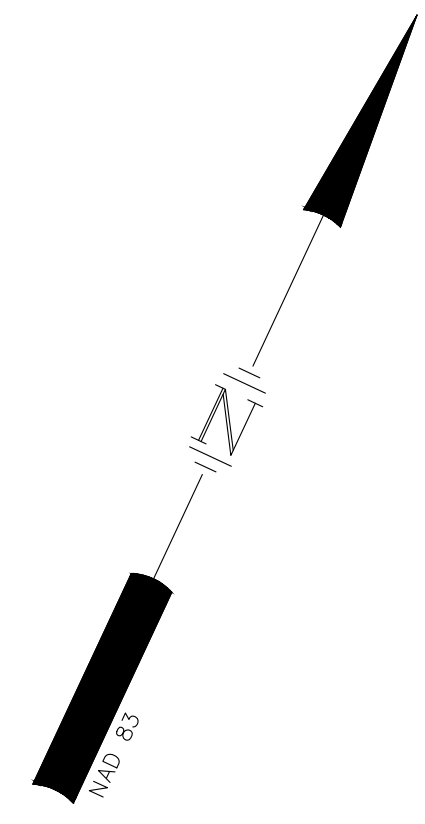
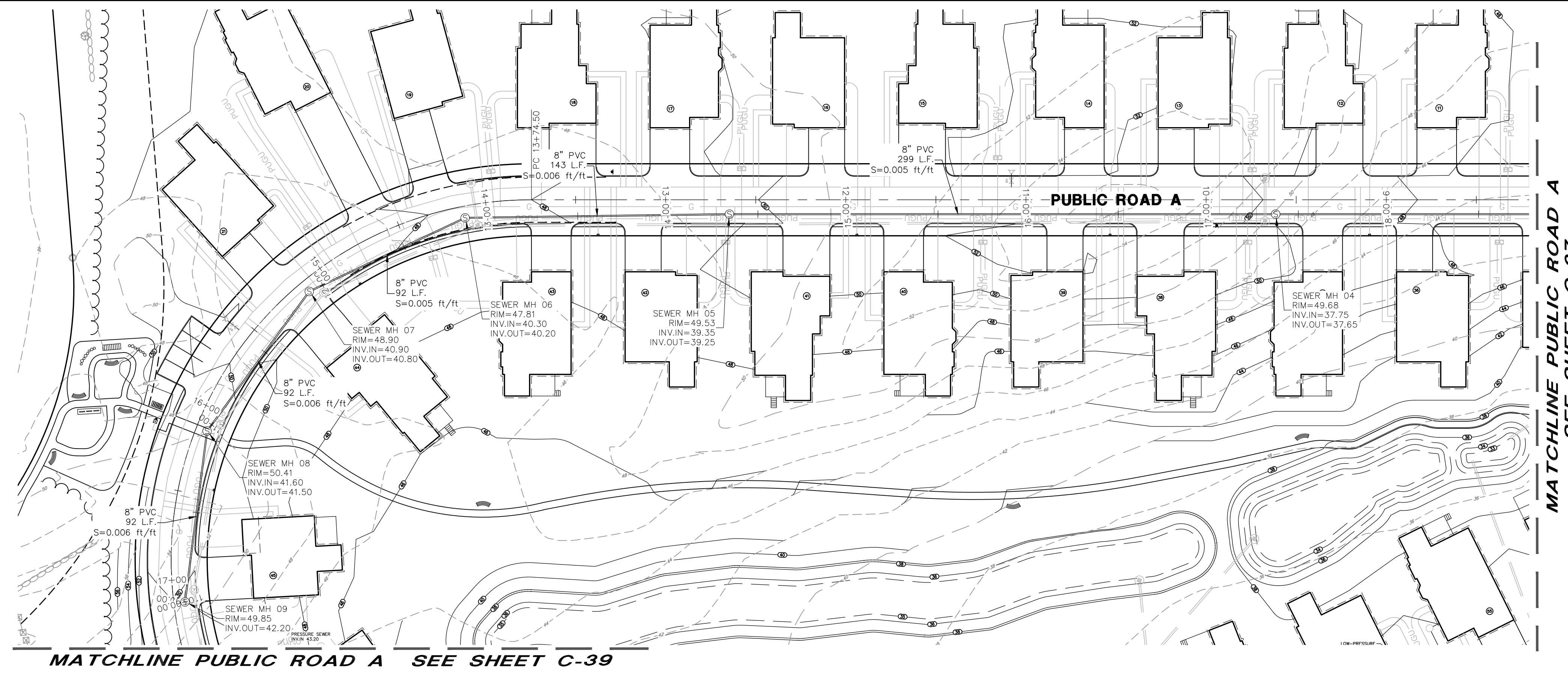


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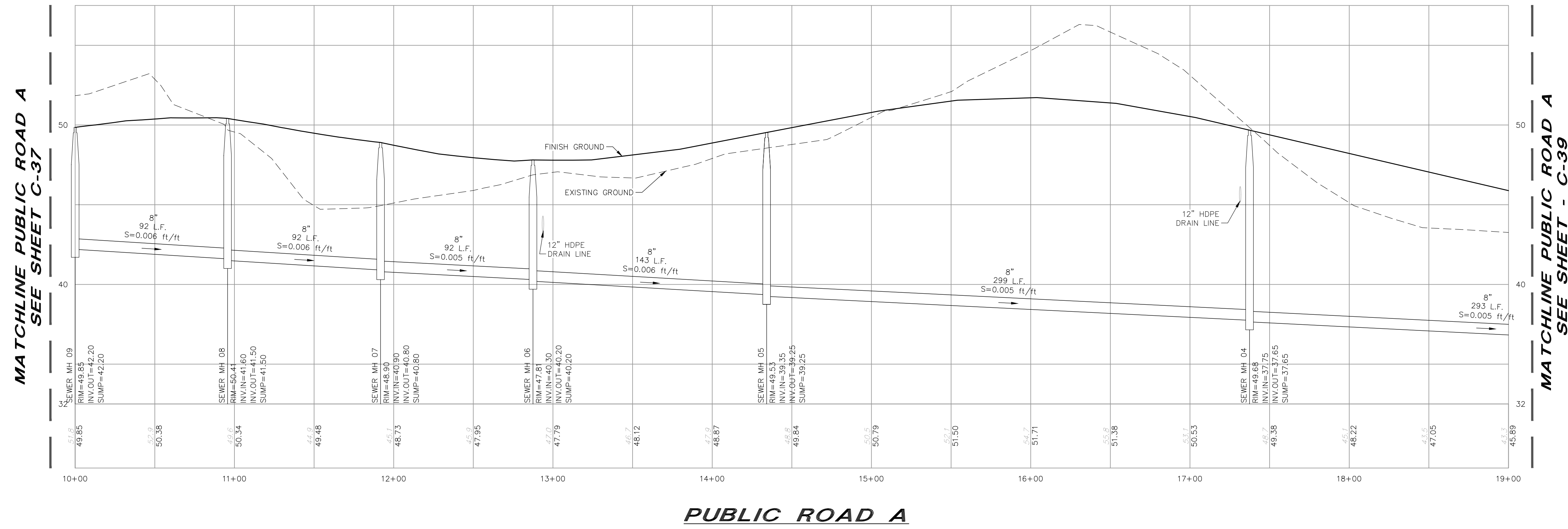
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 C-37





MATCHLINE PUBLIC ROAD A SEE SHEET C-39

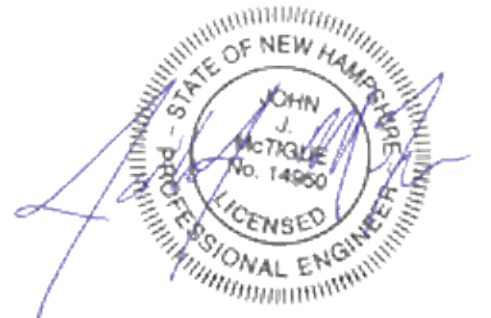
MATCHLINE PUBLIC ROAD A SEE SHEET C-37



MATCHLINE PUBLIC ROAD A SEE SHEET C-37

MATCHLINE PUBLIC ROAD A SEE SHEET C-39

PUBLIC ROAD A



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**SEWER PLAN & PROFILE**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
 83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
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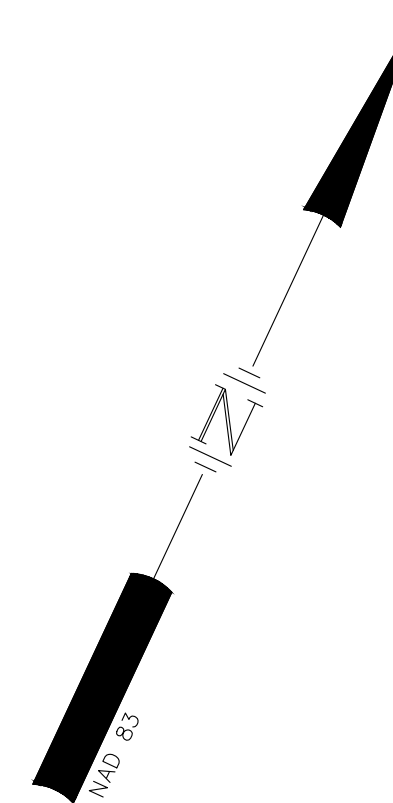
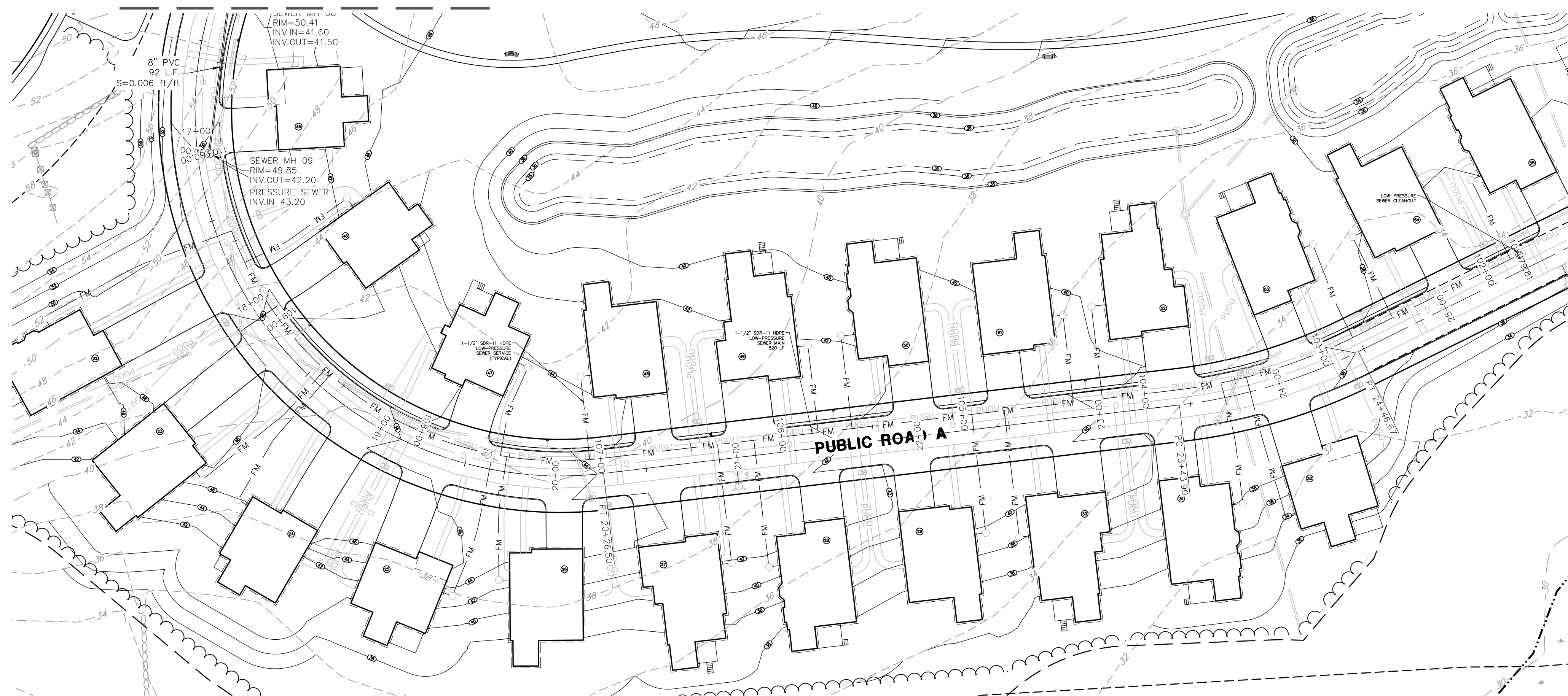
REV.	DATE	DESCRIPTION	DR	CK

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47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_SEWERPROFILES C-38



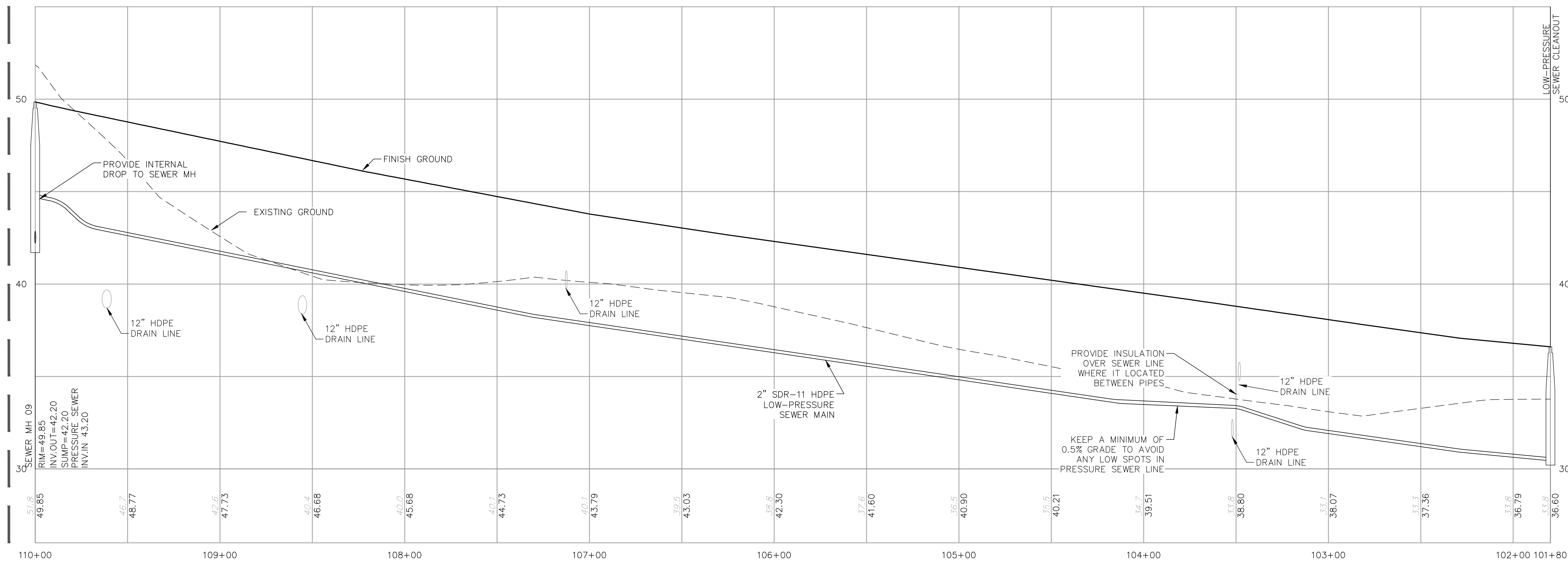
MATCHLINE PUBLIC ROAD A  
SEE SHEET C-38



HORIZONTAL SCALE 1"=40'  
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MATCHLINE PUBLIC ROAD A  
SEE SHEET C-40

MATCHLINE PUBLIC ROAD A  
SEE SHEET C-38



MATCHLINE PUBLIC ROAD A  
SEE SHEET C-40

PUBLIC ROAD A

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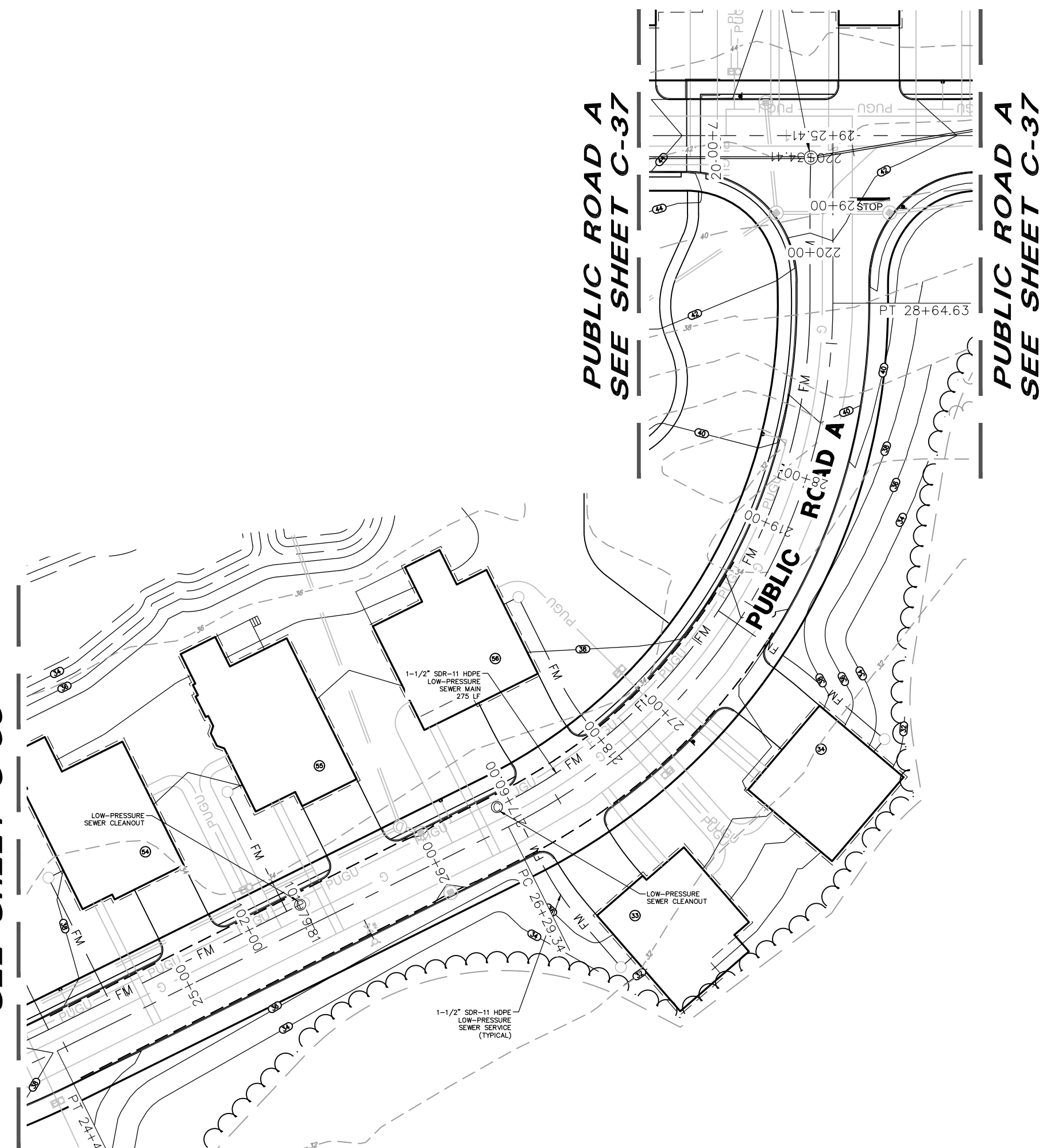
**SITE DEVELOPMENT PLANS**  
TAX MAP 242 LOT 4  
**SEWER PLAN & PROFILE**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
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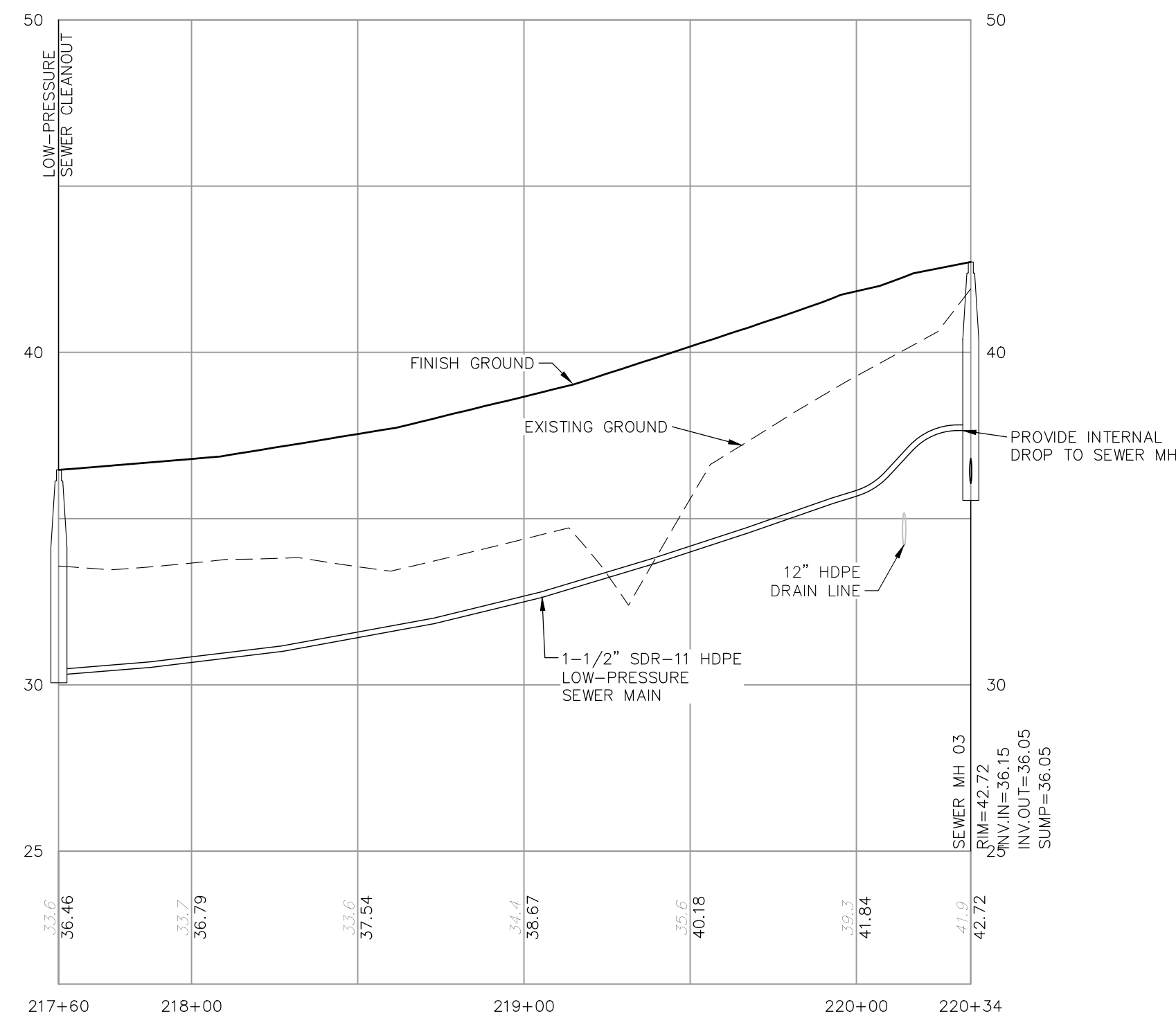
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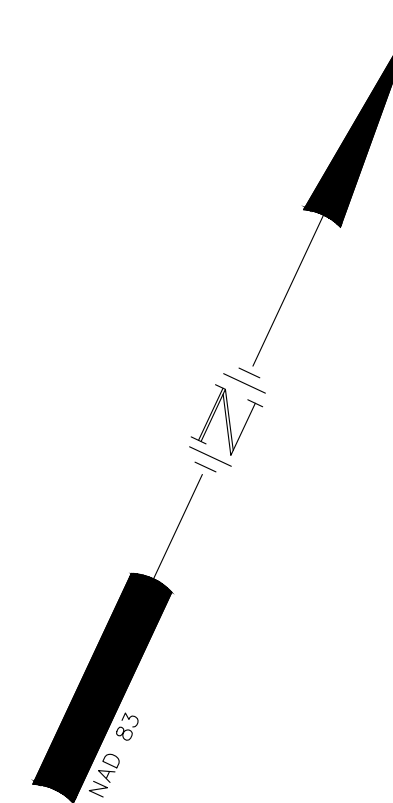
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SEE SHEET C-39



MATCHLINE PUBLIC ROAD B  
SEE SHEET C-39



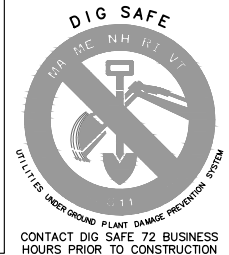
PUBLIC ROAD A



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**SEWER PLAN & PROFILE**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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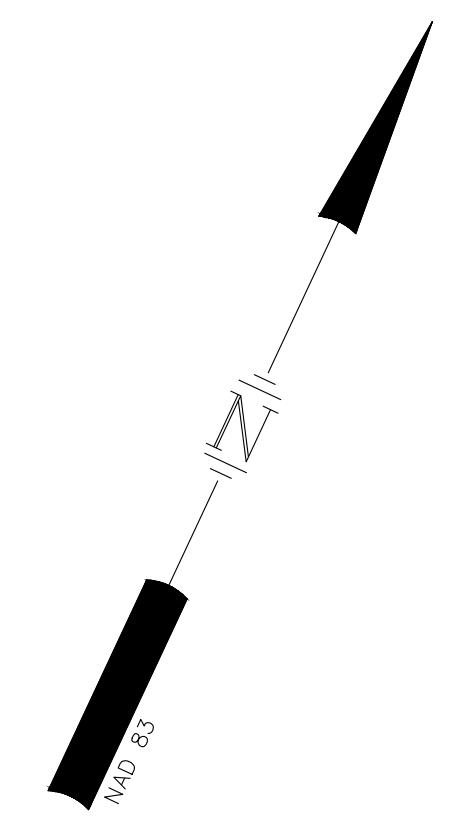
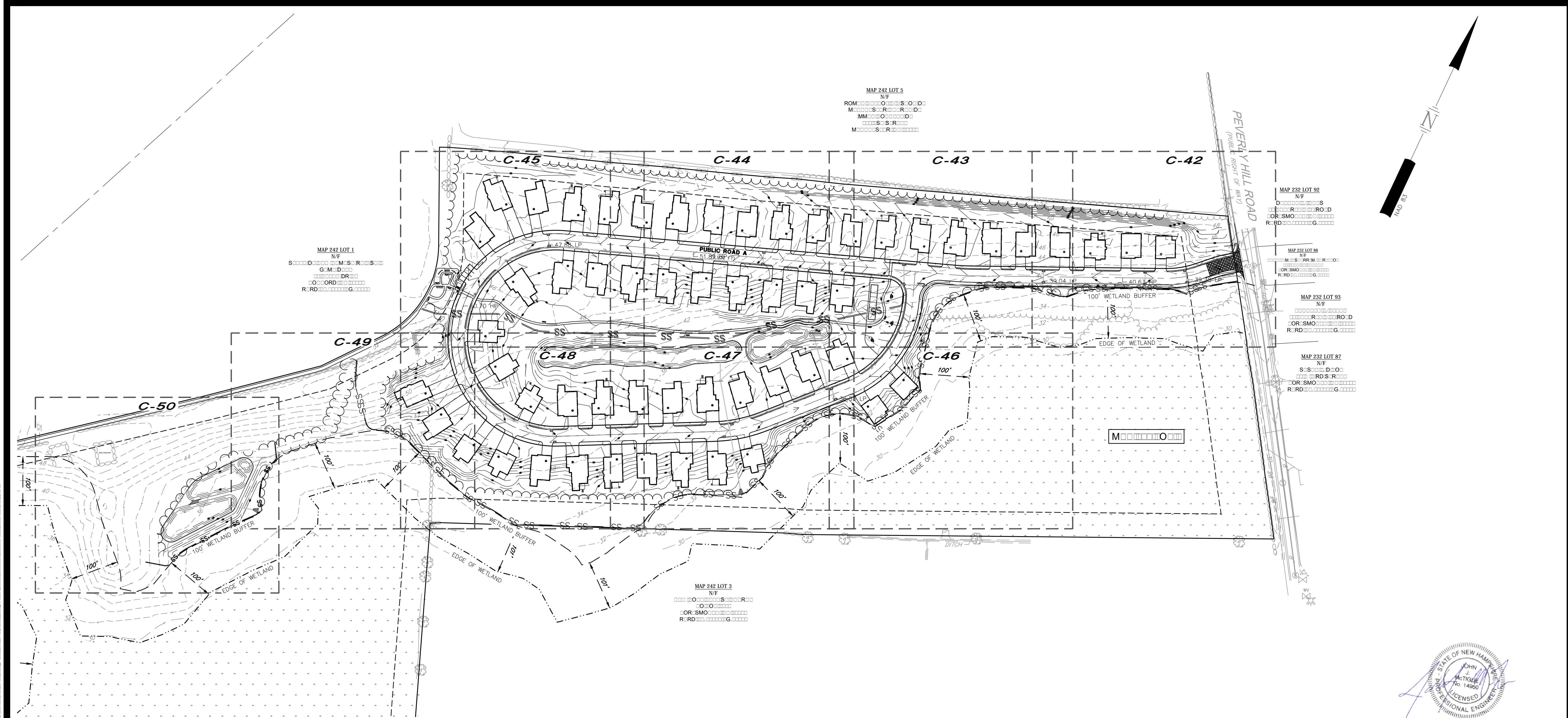
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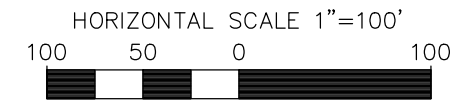
47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_SEWERPROFILES C-40





**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**OVERALL EROSION CONTROL PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_EROSIONCONTROL C-41



MATCHLINE SEE SHEET - C-43

MAP 242 LOT 5  
N/F  
ROM: S: R: O: O:  
M: S: R: R: O:  
MM: O: O: O:  
S: S: R: O:  
M: S: S: R: O:

MAP 232 LOT 92  
N/F  
D: S:  
OR: SMO:  
R: RD: G:

**NOTES**

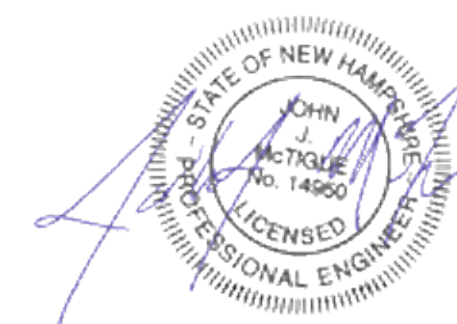
- SEE GENERAL EROSION CONTROL NOTES ON THE EROSION CONTROL DETAIL SHEET AND THE APPROVED SWPPP.
- INSTALL SILT BARRIER ALONG THE PERIMETER OF THE AREA TO BE DISTURBED AS FIRST ORDER OF WORK.
- PROVIDE INLET PROTECTION BARRIERS AROUND ALL EXISTING AND PROPOSED STORM DRAINAGE INLETS WITHIN THE WORK LIMITS AND MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED. INLET PROTECTION BARRIERS SHALL BE IN PLACE AT ALL CATCH BASINS PRIOR TO THE DISTURBANCE OF SOIL.
- DUST CONTROL SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. IT SHALL BE ACCOMPLISHED BY THE UNIFORM APPLICATION OF CALCIUM CHLORIDE AT THE RATE OF 1-1/2 POUNDS PER SQUARE YARD BY MEANS OF A LIME SPREADER OR OTHER APPROVED METHOD. WATER MAY ALSO BE USED FOR DUST CONTROL, AND APPLIED BY SPRINKLING WITH WATER TRUCK DISTRIBUTORS, AS REQUIRED.
- THE SITE WILL REQUIRE A USEPA NPDES PERMIT FOR STORMWATER DISCHARGE FOR THE SITE CONSTRUCTION SINCE THE DISTURBANCE EXCEEDS ONE ACRE. THE CONSTRUCTION SITE OPERATOR SHALL DEVELOP AND IMPLEMENT A CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH EPA REGULATIONS AND THE CONSTRUCTION GENERAL PERMIT WHICH SHALL REMAIN ON SITE AND MADE ACCESSIBLE TO THE PUBLIC. THE SITE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO SUBMIT AN NOI AT LEAST 14 DAYS IN ADVANCE OF ANY EARTHWORK ACTIVITIES AT THE SITE. A COMPLETED NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO NPDES PERMITTING AUTHORITY WITHIN 30 DAYS AFTER EITHER OF THE FOLLOWING CONDITIONS HAVE BEEN MET: FINAL STABILIZATION HAS BEEN ACHIEVED ON ALL PORTIONS OF THE SITE FOR WHICH THE PERMITTEE IS RESPONSIBLE FOR, OR ANOTHER OPERATOR/PERMITTEE HAS ASSUMED CONTROL OVER ALL AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
- SILT PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS CONTAINED IN THIS PLAN SET.
- CONSTRUCT JUTE MATTING ON ALL SLOPES STEEPER THAN 3:1, DISTURBED AREAS SLOPING TOWARDS WETLANDS AND ALL LOCATIONS SHOWN ON PLAN.
- INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER EACH RAIN STORM OF 0.10" OR GREATER. REPAIR/MODIFY SILT BARRIER AS NECESSARY TO MAXIMIZE FILTER EFFICIENCY. REMOVE SEDIMENT WHEN SEDIMENT IS 1/3 THE STRUCTURE HEIGHT.
- PROVIDE SILT BARRIERS AT THE BASE OF CUT AND FILL SLOPES UNTIL COMPLETION OF THE PROJECT OR UNTIL VEGETATION BECOMES ESTABLISHED ON SLOPES. EROSION PROTECTION BELOW FILL SLOPES SHALL BE PLACED IMMEDIATELY AFTER CLEARING, PRIOR TO EMBANKMENT CONSTRUCTION.
- ALL DISTURBED AREAS SHALL BE REVEGETATED AS QUICKLY AS POSSIBLE. ALL CUT AND FILL SLOPES SHALL BE SEEDED WITHIN 72 HOURS AFTER GRADING.
- ALL WORK AREAS TO BE STABILIZED AT THE END OF EACH WORK DAY AND PRIOR TO ANY PREDICTED SIGNIFICANT RAIN EVENT.
- AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:  
A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED  
B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED  
C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED  
D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED
- ALL CATCH BASINS, MANHOLES, AND DRAIN LINES SHALL BE THOROUGHLY CLEANED OF ALL SEDIMENT AND DEBRIS AFTER ALL AREAS HAVE BEEN STABILIZED.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SLOPE STABILITY DURING CONSTRUCTION.
- THE EROSION CONTROL PRACTICES SHOWN ON THESE PLANS ARE ILLUSTRATIVE ONLY AND SHALL BE SUPPLEMENTED BY THE SITE CONTRACTOR AS NEEDED.
- EROSION CONTROL BERM MAY BE USED IN PLACE OF AN LAYER OF SILT SOCK.
- TURBIDITY CURTAIN TO BE USED IN PLACE OF DOUBLE LAYER OF SILT SOCK WHEN STANDING WATER IS ENCOUNTERED.

**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**EROSION CONTROL PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**

**1"=40' (11"X17")**  
**SCALE: 1"=20' (22"X34")** **APRIL 19, 2021**

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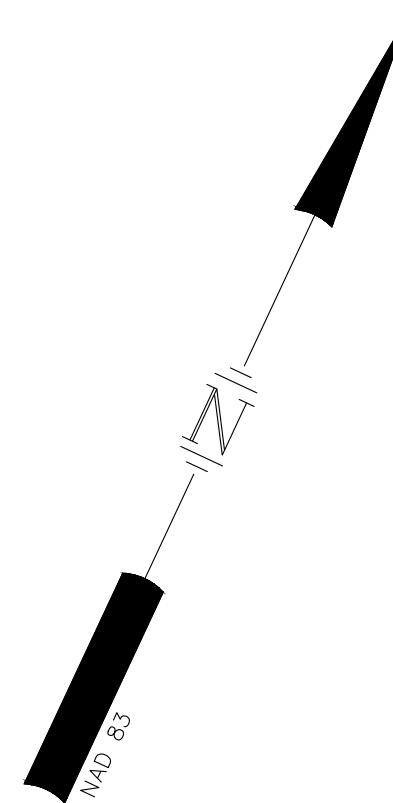
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Traffic Engineers  
Land Surveyors  
Landscape Architects  
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FILE NO.	47388.11	DR	JSM	FB	
		CK	JJM	CADFILE	47388-11_EROSIONCONTROL
					C-42





MAP 242 LOT 5  
 N/F  
 ROM: O O S O O  
 M: S R R O  
 MM: O O O  
 S: S R  
 M: S R

MATCHLINE SEE SHEET - C-44

MATCHLINE SEE SHEET - C-42



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**EROSION CONTROL PLAN**  
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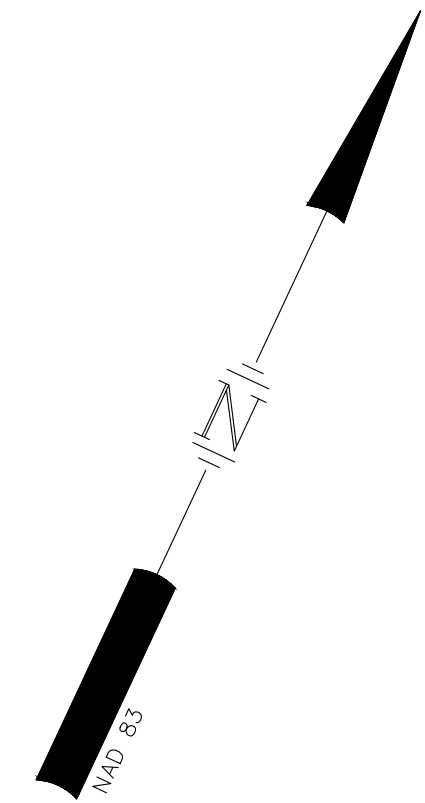
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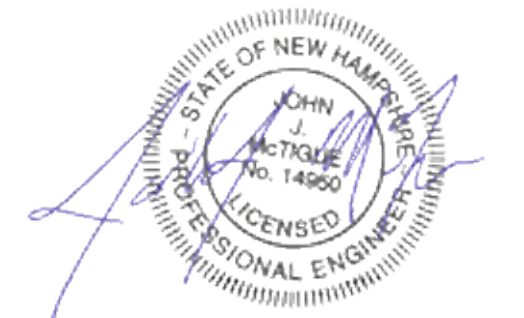
47388.11	DR JSM	FB		
	CK JUM	CADFILE	47388-11_EROSIONCONTROL	C-43





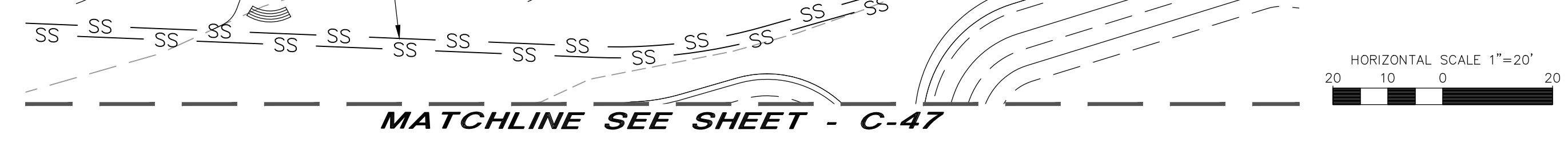
MATCHLINE SEE SHEET - C-45

MATCHLINE SEE SHEET - C-43




**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**EROSION CONTROL PLAN**  
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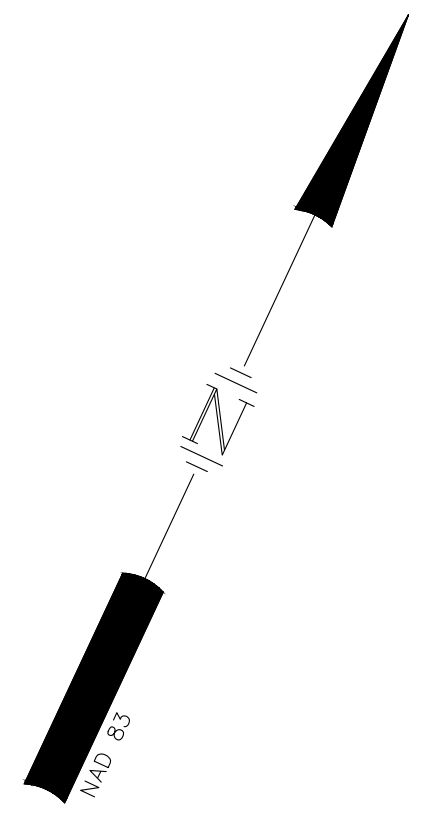


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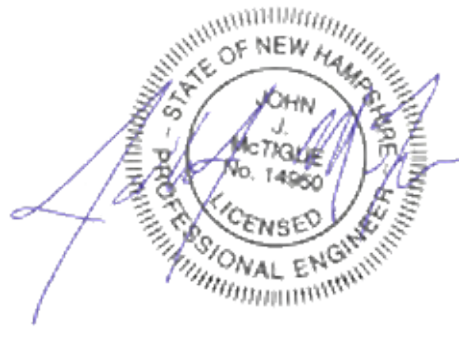


MAP 242 LOT 1  
 N/F  
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 G:M-D:○○○○○  
 DR:○○○○○  
 ORD:○○○○○  
 R-RD:○○○○○G:○○○○○



MATCHLINE SEE SHEET - C-44

MATCHLINE SEE SHEET - C-48



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
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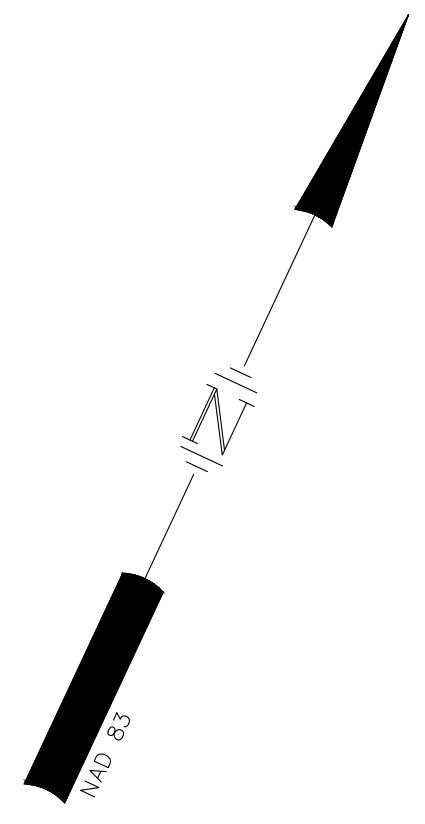
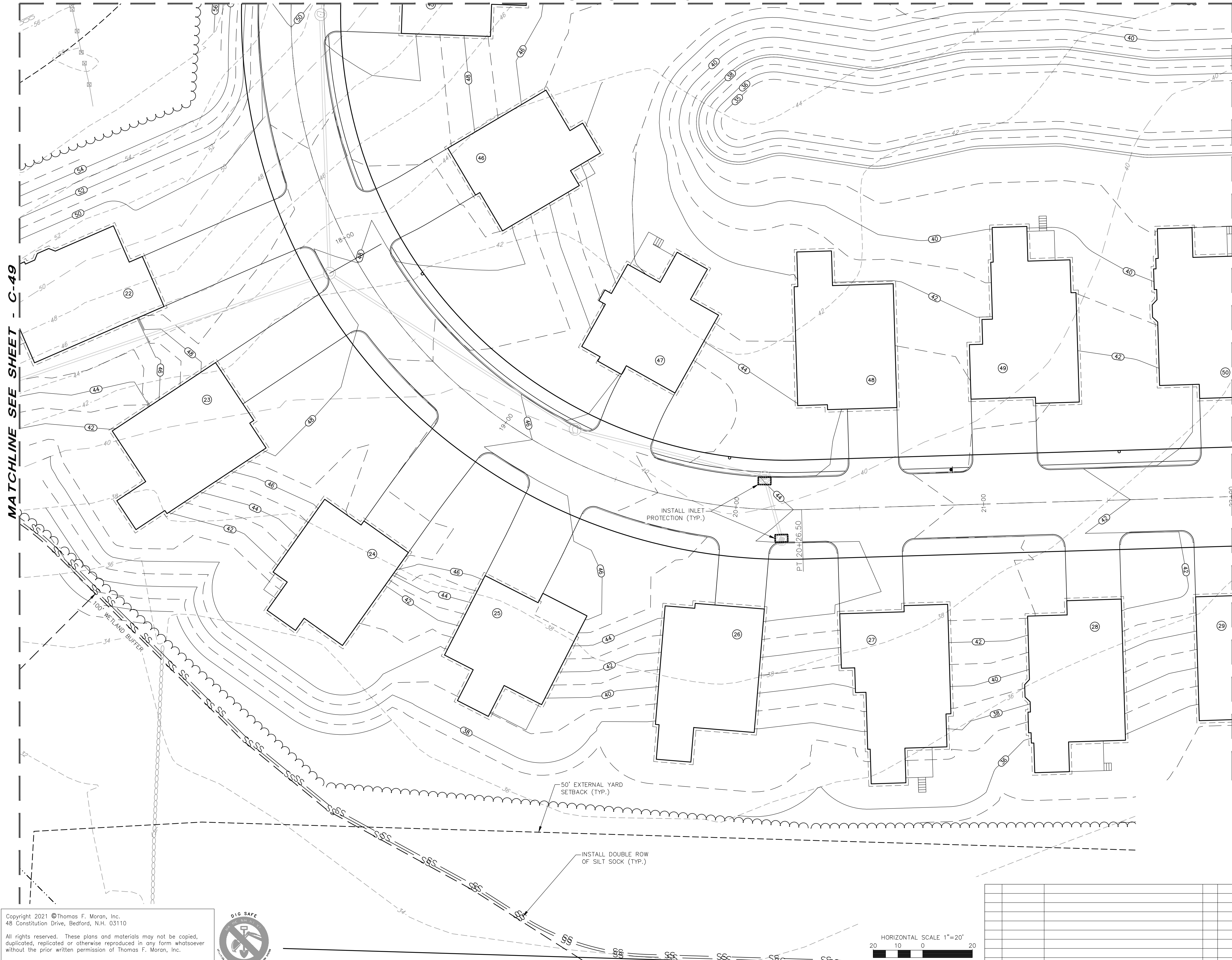






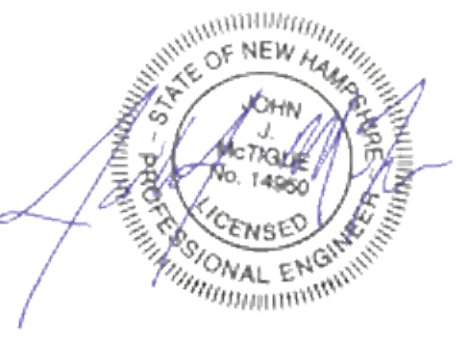


MATCHLINE SEE SHEET - C-45



MATCHLINE SEE SHEET - C-49

MATCHLINE SEE SHEET - C-47



### SITE DEVELOPMENT PLANS

TAX MAP 242 LOT 4  
**EROSION CONTROL PLAN**  
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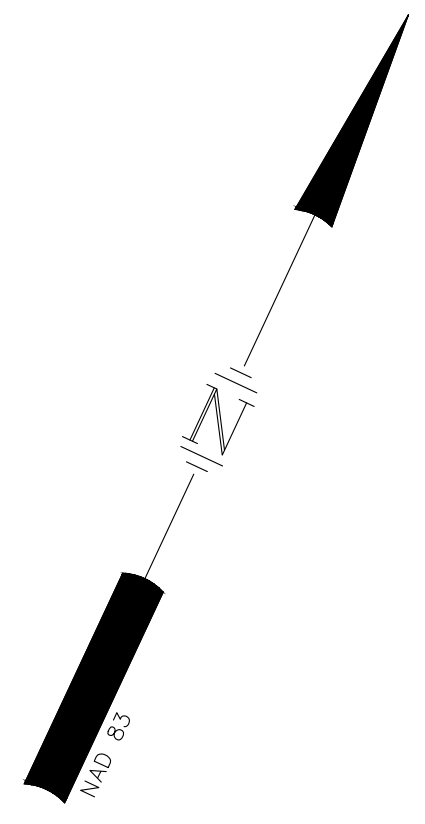
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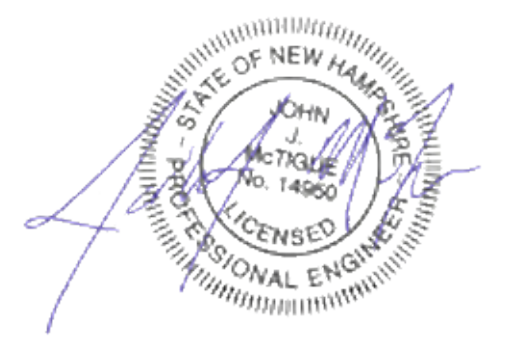
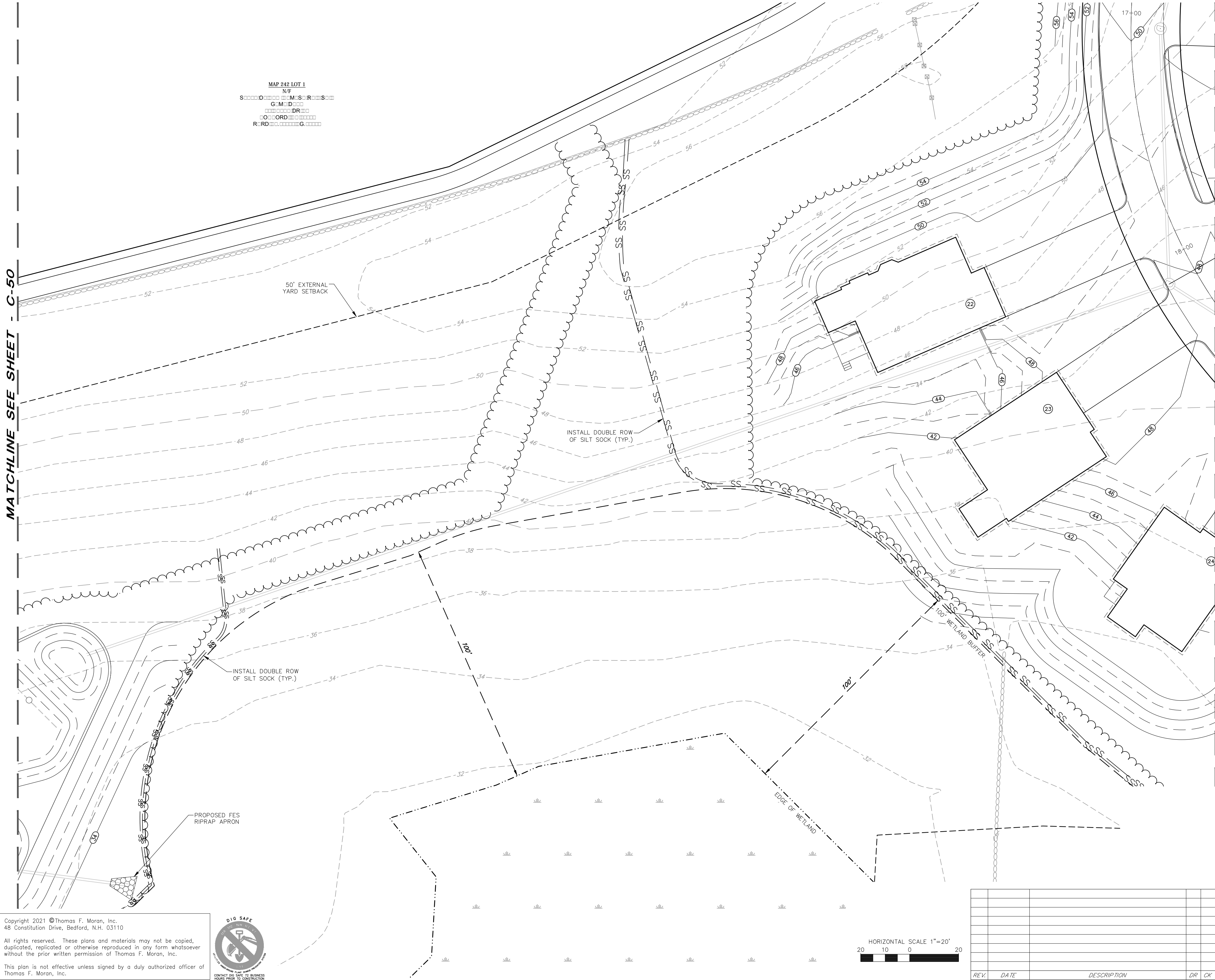


MAP 242 LOT 1  
 N/F  
 S: O: M: S: R: S:  
 G: M: D:  
 DR:  
 O: ORD:  
 R: RD: G:



MATCHLINE SEE SHEET - C-50

MATCHLINE SEE SHEET - C-48



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
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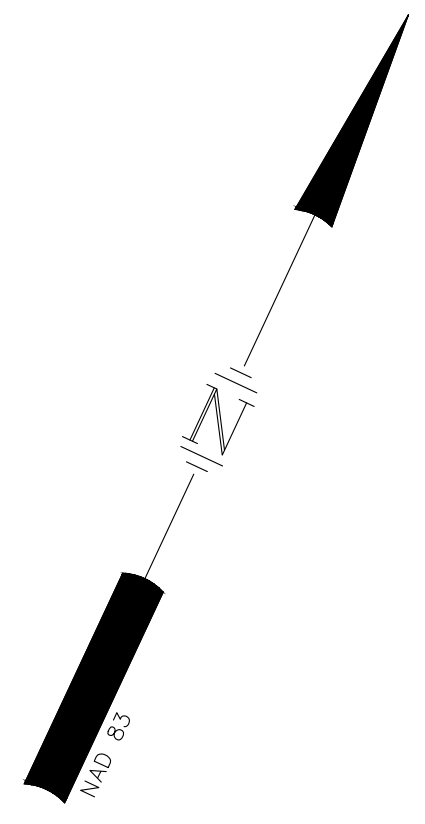
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C-49





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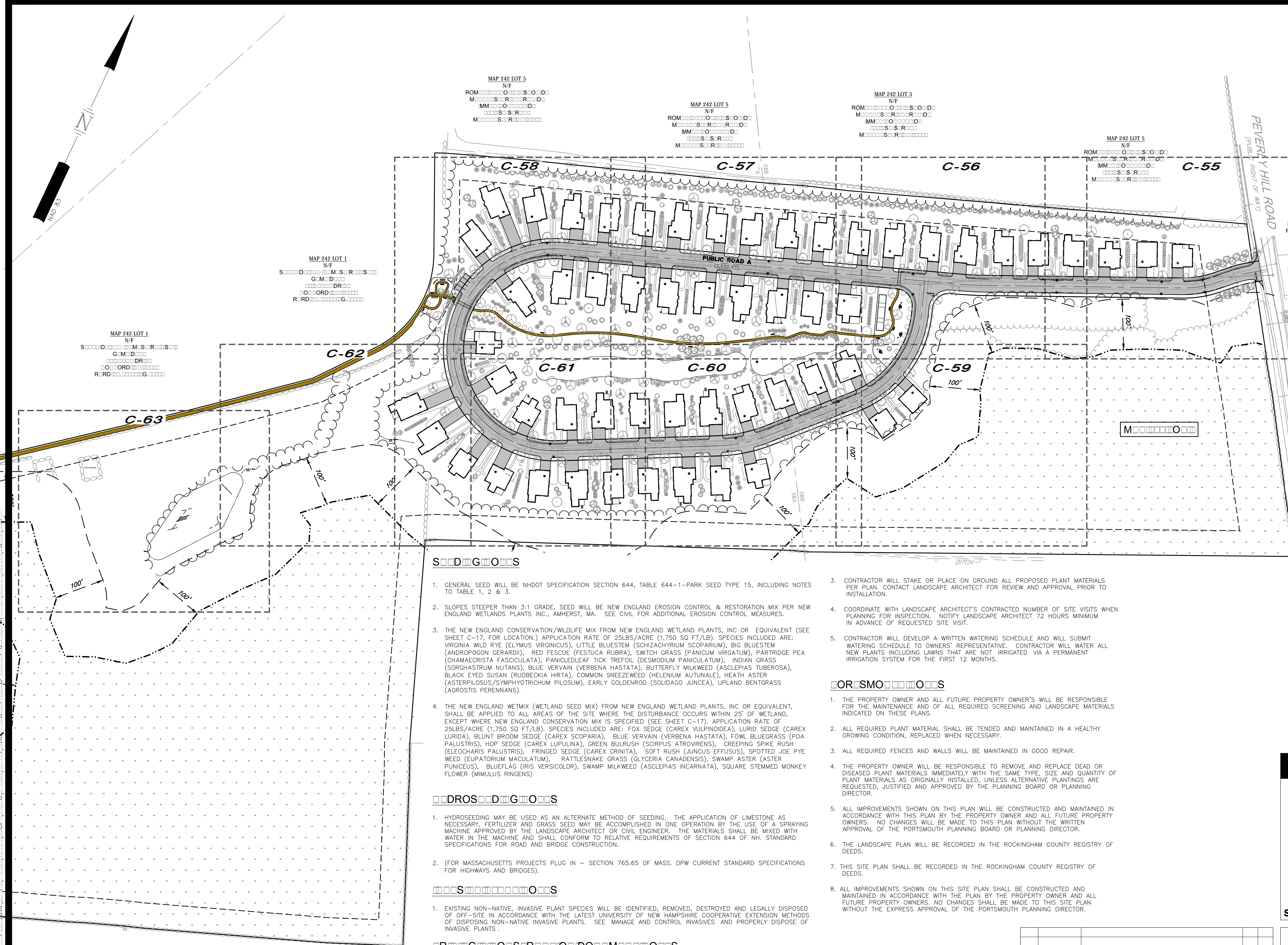
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	CK JUM	CADFILE	47388-11_EROSIONCONTROL	









- DS OCS**
- CONTRACTOR WILL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWNWORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES WILL IMMEDIATELY BE REPORTED TO THE LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE, SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
  - CONTRACTOR WILL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. IN CASES OF DISCREPANCY BETWEEN PLAN AND LIST CLARIFY WITH LANDSCAPE ARCHITECT PRIOR TO PLACING PURCHASE ORDER AND AGAIN PRIOR TO PLANTING.
  - SEE PLANTING DETAILS AND IF INCLUDED, SPECIFICATIONS FOR ADDITIONAL INFORMATION.
  - PLANT TYPES MAY VARY BASED ON AVAILABILITY AND SUPPLY. THIS LAYOUT REPRESENTS THE INTENT OF THE PLANTING AND APPROXIMATE NUMBERS OF PLANTS TO BE PROVIDED.
  - IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE THE APPROPRIATE ARRANGEMENTS TO PROVIDE ALL PLANTS AND MATERIALS TO ACCOMMODATE PLANTING WITHIN THE TIME ALLOWED BY THE CONSTRUCTION SCHEDULE.
  - PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 15TH UNLESS OTHERWISE NOTED IN SPECIFICATIONS. THERE WILL BE NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT BY PROVIDING ADDITIONAL WATERING.
  - ALL PLANTS WILL BE NURSERY GROWN.
  - PLANTS WILL BE IN ACCORDANCE, AT A MINIMUM, WITH CURRENT EDITION OF "AMERICAN STANDARDS FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN HORTICULTURE INDUSTRY ASSOCIATION.
  - TREES WILL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 PART 1, "TREE, SHRUB AND OTHER WOODY PLANT MAINTENANCE STANDARD PRACTICES".
  - PLANTS MATERIAL IS SUBJECT TO APPROVAL / REJECTION BY THE LANDSCAPE ARCHITECT AT THE SITE AND AT THE NURSERY.
  - ALL PLANTS WILL BE MOVED WITH ROOT SYSTEMS AS SOLID UNITS AND WITH BALLS OF EARTH FIRMLY WRAPPED WITH BURLAP. NO PLANT WILL BE ACCEPTED WHEN BALL OF EARTH SURROUNDING ITS ROOTS HAS BEEN BADLY CRACKED OR BROKEN BEFORE PLANTING. ALL PLANTS THAT CANNOT BE PLANTED AT ONCE WILL BE HEEL-ED-IN BY SETTING IN THE GROUND AND COVERING THE BALLS WITH SOIL AND THEN WATERING. DURING TRANSPORT, ALL PLANT MATERIALS WILL BE WRAPPED WITH WIND PROOF COVERING.
  - NEWLY PLANTED MATERIAL WILL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL GRADE OF THE PLANT PRIOR TO DIGGING.
  - PROPOSED TREES OVERHANGING SIDEWALKS, ROADS OR PARKING WILL BEGIN BRANCHING NATURALLY (NOT PRUNED) AT 6' HEIGHT.
  - MULCH FOR PLANTED AREAS (NOT INCLUDING RAIN GARDENS) WILL BE AGED SHREDDED PINE BARK, PARTIALLY DECOMPOSED, DARK BROWN IN COLOR AND FREE OF WOOD CHIPS UNLESS OTHERWISE SHOWN.
  - PLANT MATERIAL WILL BE LOCATED OUTSIDE BUILDING DRIPLINES AND ROOF VALLEY POINTS OF CONCENTRATION TO PREVENT DAMAGE TO PLANTS. CLARIFY DISCREPANCIES WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
  - ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, WILL RECEIVE SIX (6) INCH LOAM AND SEED AT THE DIRECTION OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
  - ALL PLANT GROUPINGS WILL BE IN MULCH BEDS UNLESS OTHERWISE SPECIFIED OR NOTED ON PLANS. WHERE MULCHED PLANT BED ABUTS LAWN, PROVIDE TURF CUT EDGE.

- DS GOR DM OCS**
- CONTRACTOR WILL BE RESPONSIBLE FOR ALL MEANS, METHODS AND TECHNIQUES OF WATERING.
  - CONTRACTOR WILL BEGIN WATERING IMMEDIATELY AFTER PLANTING. ALL PLANTS WILL BE THOROUGHLY WATERED TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS WILL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON BUT NOT LESS THAN ONE YEAR.
  - WATER ALL LAWNS AS REQUIRED. DO NOT LET NEWLY PLANTED LAWNS DRY OUT DURING THE FIRST FOUR WEEKS MINIMUM.
  - ALL NEW LAWNS WILL BE MAINTAINED AND MOWED A MINIMUM THREE (3) TIMES BEFORE REQUESTING REVIEW BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE FOR ACCEPTANCE. MAINTENANCE AND MOWING WILL CONTINUE UNTIL ACCEPTED BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE IS ISSUED IN WRITING.
  - THE CONTRACTOR WILL MAINTAIN AND GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF ONE (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE SHOWING LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE (1) YEAR PERIOD WILL BE IMMEDIATELY REPLACED BY THE CONTRACTOR.
  - DECIDUOUS PLANT MATERIAL INSTALLED AFTER SEPTEMBER 30 AND BEFORE APRIL 15 WILL NOT BE REVIEWED THAT SEASON FOR ACCEPTANCE DUE TO STAGE OF LEAF PHYSIOLOGY. THIS PLANT MATERIAL WILL NOT BE REVIEWED UNTIL FOLLOWING GROWING SEASON. GUARANTEE PERIOD WILL BEGIN ONLY AFTER ACCEPTANCE BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE.
  - EVERGREEN PLANT MATERIAL INSTALLED AFTER OCTOBER 30 AND BEFORE APRIL 15 WILL NOT BE REVIEWED THAT SEASON FOR ACCEPTANCE DUE TO END OF GROWTH SEASON. THIS PLANT MATERIAL WILL NOT BE REVIEWED UNTIL FOLLOWING GROWING SEASON. GUARANTEE PERIOD WILL BEGIN ONLY AFTER ACCEPTANCE BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE.

- S D D G O O S**
- GENERAL SEED WILL BE NHDOT SPECIFICATION SECTION 644, TABLE 644-1-PARK SEED TYPE 15, INCLUDING NOTES TO TABLE 1, 2 & 3.
  - SLOPES STEEPER THAN 3:1 GRADE, SEED WILL BE NEW ENGLAND EROSION CONTROL & RESTORATION MIX PER NEW ENGLAND WETLANDS PLANTS INC., AMHERST, MA. SEE CIVIL FOR ADDITIONAL EROSION CONTROL MEASURES.
  - THE NEW ENGLAND CONSERVATION/WILDLIFE MIX FROM NEW ENGLAND WETLAND PLANTS, INC OR EQUIVALENT (SEE SHEET C-17, FOR LOCATION.) APPLICATION RATE OF 25LBS/ACRE (1,750 SQ FT/LB). SPECIES INCLUDED ARE: VIRGINIA WILD RYE (Elymus virginicus), LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM), BIG BLUESTEM (ANDROPOGON GERARDII), RED FESCUE (FESTUCA RUBRA), SWITCH GRASS (PANICUM VIRGATUM), PARTRIDGE PEA (CHAMAECRISTA FASCICULATA), PANICLEDLEAF TICK TREFOIL (DESMODIUM PANICULATUM), INDIAN GRASS (SORGHASTRUM NUTANS), BLUE VERVAIN (VERBENA HASTATA), BUTTERFLY MILKWEED (ASCLEPIAS TUBEROSA), BLACK EYED SUSAN (RUBECKIA HIRTA), COMMON SNEEZEWEED (HELENIUM AUTUNNALE), HEATH ASTER (ASTERPILOSUS/SYMPHYOTRICHUM PILOSUM), EARLY GOLDENROD (SOLIDAGO JUNCEA), UPLAND BENTGRASS (AGROSTIS PERENNANS).
  - THE NEW ENGLAND WETMIX (WETLAND SEED MIX) FROM NEW ENGLAND WETLAND PLANTS, INC OR EQUIVALENT, SHALL BE APPLIED TO ALL AREAS OF THE SITE WHERE THE DISTURBANCE OCCURS WITHIN 25' OF WETLAND, EXCEPT WHERE NEW ENGLAND CONSERVATION MIX IS SPECIFIED (SEE SHEET C-17). APPLICATION RATE OF 25LBS/ACRE (1,750 SQ FT/LB). SPECIES INCLUDED ARE: FOX SEDGE (CAREX VULPINOIDEA), LURID SEDGE (CAREX LURIDA), BLUNT BROOM SEDGE (CAREX SCOPARIA), BLUE VERVAIN (VERBENA HASTATA), FOWL BLUEGRASS (POA PALUSTRIS), HOP SEDGE (CAREX LUPULINA), GREEN BULRUSH (SCIRPUS ATROVIRENS), CREEPING SPIKE RUSH (ELEOCHARIS PALUSTRIS), FRINGED SEDGE (CAREX CRINITA), SOFT RUSH (JUNCUS EFFUSUS), SPOTTER JOE PYE WEED (EUPATORIUM MACULATUM), RATTLESNAKE GRASS (GLYCERIA CANADENSIS), SWAMP ASTER (ASTER PUNICEUS), BLUEFLAG (IRIS VERSICOLOR), SWAMP MILKWEED (ASCLEPIAS INCARNATA), SQUARE STEMMED MONKEY FLOWER (MIMULUS RINGENS)

- DROS D G O O S**
- HYDROSEEDING MAY BE USED AS AN ALTERNATE METHOD OF SEEDING. THE APPLICATION OF LIMESTONE AS NECESSARY, FERTILIZER AND GRASS SEED MAY BE ACCOMPLISHED IN ONE OPERATION BY THE USE OF A SPRAYING MACHINE APPROVED BY THE LANDSCAPE ARCHITECT OR CIVIL ENGINEER. THE MATERIALS SHALL BE MIXED WITH WATER IN THE MACHINE AND SHALL CONFORM TO RELATIVE REQUIREMENTS OF SECTION 644 OF NH. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
  - (FOR MASSACHUSETTS PROJECTS PLUG IN - SECTION 765.65 OF MASS. DPW CURRENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES).

- S O S O O O O O S**
- EXISTING NON-NATIVE, INVASIVE PLANT SPECIES WILL BE IDENTIFIED, REMOVED, DESTROYED AND LEGALLY DISPOSED OF OFF-SITE IN ACCORDANCE WITH THE LATEST UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION METHODS OF DISPOSING NON-NATIVE INVASIVE PLANTS. SEE MANAGE AND CONTROL INVASIVES AND PROPERLY DISPOSE OF INVASIVE PLANTS.

- R G O S R O O D O M O O S**
- CONTRACTOR WILL PRICE PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE PLANTINGS GRAPHICALLY SHOWN ON THESE DRAWINGS OR IN PLANT LIST, WHICHEVER IS GREATER. IN CASES OF DISCREPANCY BETWEEN PLAN AND LIST CLARIFY WITH LANDSCAPE ARCHITECT PRIOR TO PLACING PURCHASE ORDER AND AGAIN PRIOR TO PLANTING.
  - CONTRACTOR WILL VERIFY PRIOR TO PRICING IF SITE SOILS ARE VERY POORLY DRAINING OR IF LEDGE IS PRESENT. IF CONTRACTOR ENCOUNTERS VERY POORLY DRAINING SOILS (BATH TUB EFFECT) OR LEDGE THAT IMPACTS PROPOSED PLANTING PLAN, NOTIFY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE FOR DIRECTION PRIOR TO PRICING AND AGAIN PRIOR TO PERFORMING ANY WORK.

- OR SMO O O S**
- THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNER'S WILL BE RESPONSIBLE FOR THE MAINTENANCE AND OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS INDICATED ON THESE PLANS.
  - ALL REQUIRED PLANT MATERIAL SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACED WHEN NECESSARY.
  - ALL REQUIRED FENCES AND WALLS WILL BE MAINTAINED IN GOOD REPAIR.
  - THE PROPERTY OWNER WILL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR.
  - ALL IMPROVEMENTS SHOWN ON THIS PLAN WILL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THIS PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES WILL BE MADE TO THIS PLAN WITHOUT THE WRITTEN APPROVAL OF THE PORTSMOUTH PLANNING BOARD OR PLANNING DIRECTOR.
  - THE LANDSCAPE PLAN WILL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
  - 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.

- OR SMO O O S**
- THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNER'S WILL BE RESPONSIBLE FOR THE MAINTENANCE AND OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS INDICATED ON THESE PLANS.
  - ALL REQUIRED PLANT MATERIAL SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACED WHEN NECESSARY.
  - ALL REQUIRED FENCES AND WALLS WILL BE MAINTAINED IN GOOD REPAIR.
  - THE PROPERTY OWNER WILL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR.
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  - THE LANDSCAPE PLAN WILL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
  - THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
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HORIZONTAL SCALE 1"=100'

REV.	DATE	DESCRIPTION	DR	CK

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**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**OVERALL LANDSCAPE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**

1"=200'(11"x17")  
 SCALE: 1"=100'(22"x34")

APRIL 19, 2021

Seacoast Division

**TFM**

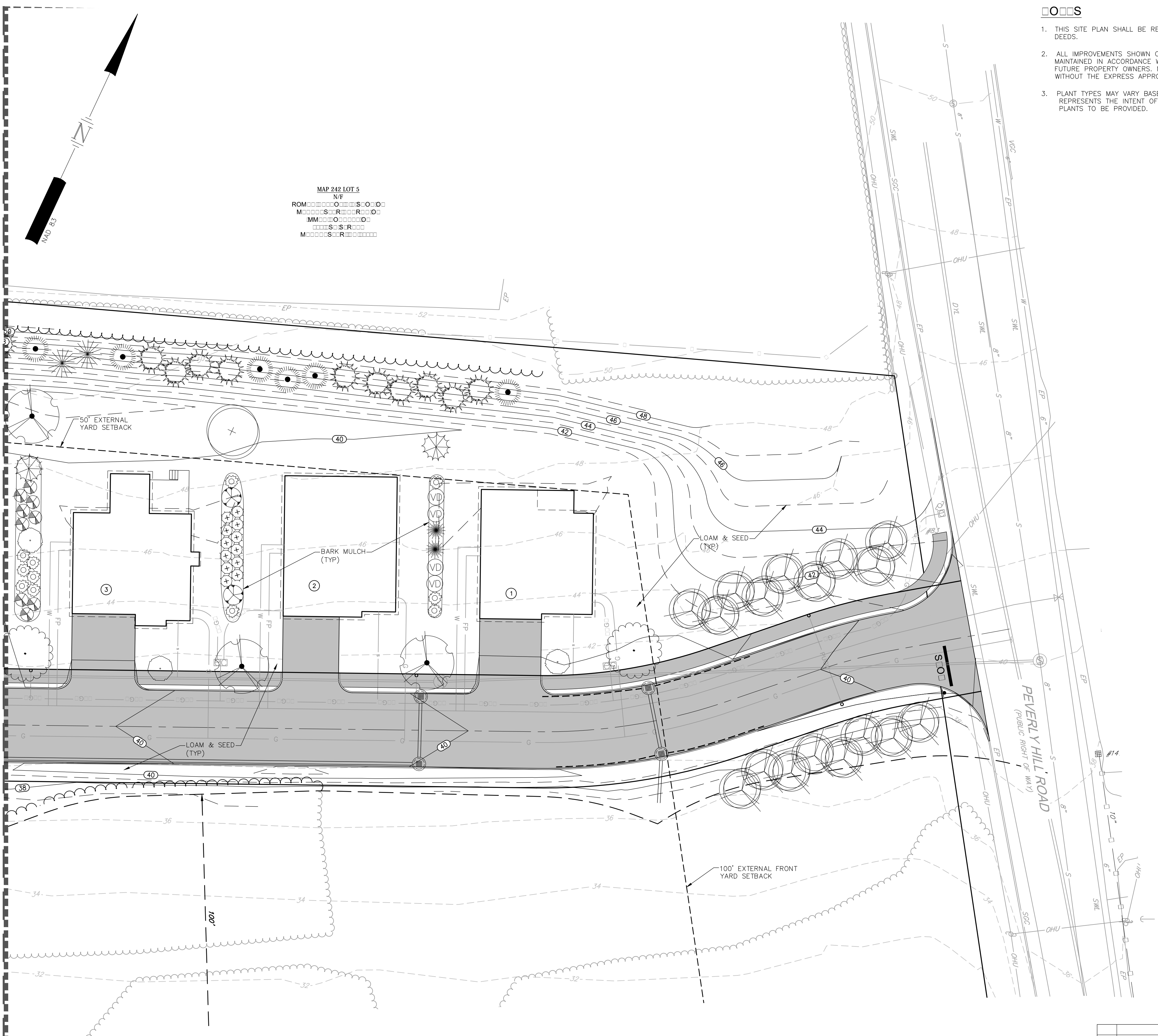
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 Landscape Architects  
 Scientists

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47388.11	DR	JSM	FB		
	CK	JJM	CADFILE	47388-11_LANDSCAPE	C-54



MATCHLINE SEE SHEET - C-56



□□□□S

1. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
2. 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.
3. PLANT TYPES MAY VARY BASED ON AVAILABILITY AND SUPPLY. THIS LAYOUT REPRESENTS THE INTENT OF THE PLANTINGS AND APPROXIMATE NUMBERS OF PLANTS TO BE PROVIDED.

**LANDSCAPE LEGEND**

SYMBOL	QTY	BOTANICAL NAME COMMON NAME	SIZE	REMARKS
<b>SHADE TREES</b>				
	38	ACER RUBRUM 'OCTOBER GLORY' **OCTOBER GLORY RED MAPLE	3" TO 3 1/2" CAL.	B&B
	32	ACER SACCHARUM 'COMMEMORATION' **COMMEMORATION SUGAR MAPLE	3" TO 3 1/2" CAL.	B&B
	47	BETULA N. 'HERITAGE' *RIVER BIRCH	12' TO 14' CLUMP	B&B
	24	NYSSA SYLVATICA *BLACK GUM	2 1/2 TO 3" CAL.	B&B
	25	QUERCUS ALBA *WHITE OAK	3" TO 3 1/2" CAL.	B&B
	25	PLATANUS X A. 'EXCLAMATION' EXCLAMATION PLANETREE	3" TO 3 1/2" CAL.	B&B
<b>SMALL/FLOWERING TREES</b>				
	50	CRATAEGUS CRUSGALLI INERMIS **THORNLESS COCKSPUR HAWTHORN	2 1/2" TO 3" CAL.	B&B
	25	PRUNUS VIRGINIANA 'SCHUBERT' *CANADA RED CHERRY	2 1/2" TO 3" CAL.	B&B
<b>DECIDUOUS SHRUB</b>				
	10	AMELANCHEIR CANADENSIS *SHADBLOW SERVICEBERRY	5' TO 6' CLUMP	B&B
	49	CLETHRA ALNIFOLIA 'COMPACTA' **COMPACT SUMMERSWEET	7 GAL.	CONT.
	76	CORNUS SERICEA 'ALLEMAN'S COMPACTA' **ALLEMAN'S COMPACT RED-OSIER DOGWOOD	3' TO 4'	CONT.
	67	VIBURNUM DENTATUM *ARROWWOOD VIBURNUM	4' TO 5'	B&B
	21	VIBURNUM TRILOBUM *AMERICAN CRANBERRY VIBURNUM	4' TO 5'	B&B
<b>EVERGREEN SHRUB</b>				
	108	ILEX GLABRA 'COMPACTA' **COMPACT INKBERRY	3 GAL.	CONT.
	141	JUNIPERUS C. 'PFITZERIANA COMPACTA' COMPACT PFITZER JUNIPER	3 GAL.	CONT.
	129	THUJA O. NIGRA *DARK AMERICAN ARBORVITAE	5' TO 6'	B&B

\*NATIVE  
\*\* IMPROVED NATIVE

**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**LANDSCAPE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**

**1"=40'**  
**SCALE: 1"=20'** **APRIL 19, 2021**

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HORIZONTAL SCALE 1"=20'  
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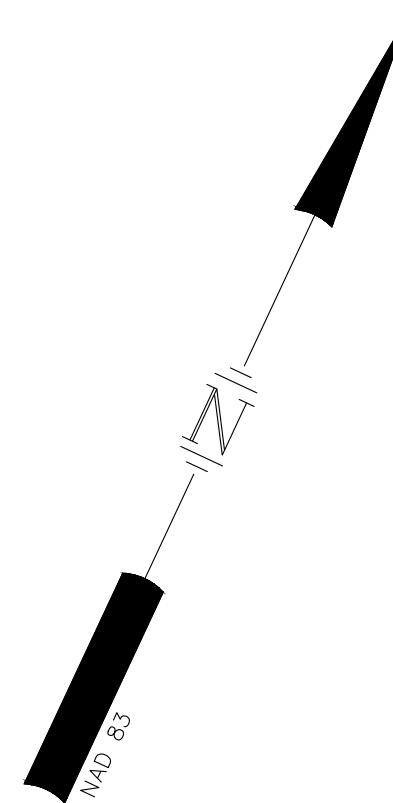
REV.	DATE	DESCRIPTION	DR	CK

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 Landscape Architects  
 Scientists

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F 47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_LANDSCAPE C-55





MAP 242 LOT 5  
 N/F  
 ROM  
 M  
 M  
 M

MATCHLINE SEE SHEET - C-57

MATCHLINE SEE SHEET - C-55



MATCHLINE SEE SHEET - C-59

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 20 10 0 20

REV.	DATE	DESCRIPTION	DR	CK

**SITE DEVELOPMENT PLANS**

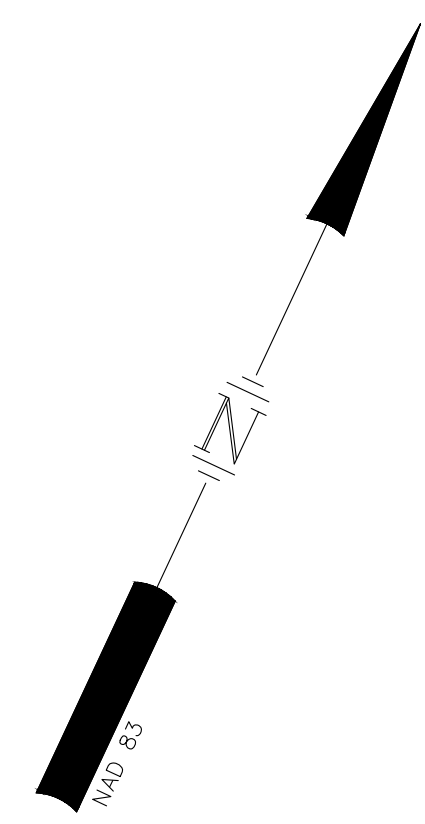
TAX MAP 242 LOT 4  
**LANDSCAPE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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47388.11	DR JSM	FB		
	CK JUM	CADFILE	47388-11_LANDSCAPE	C-56





MATCHLINE SEE SHEET - C-58

MATCHLINE SEE SHEET - C-56



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**LANDSCAPE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
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1"=40'  
SCALE: 1"=20' APRIL 19, 2021

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MATCHLINE SEE SHEET - C-60

HORIZONTAL SCALE 1"=20'  
20 10 0 20

REV.	DATE	DESCRIPTION	DR	CK

Seacoast Division



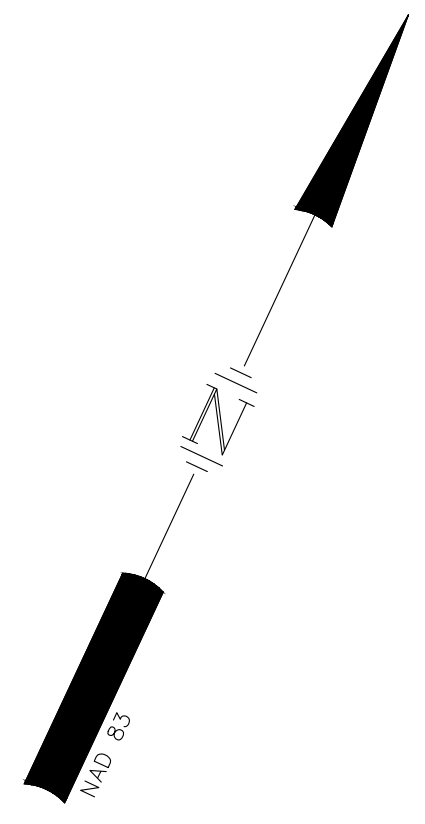
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	CK JUM	CADFILE	47388-11_LANDSCAPE	C-57



MAP 242 LOT 1  
 N/F  
 S O O M S R S  
 G M D  
 O C O R D  
 R R D G



MATCHLINE SEE SHEET - C-57

**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**LANDSCAPE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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**1"=40'**  
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47388.11	DR	JSM	FB				
	CK	JJM	CADFILE	47388-11_LANDSCAPE			C-58

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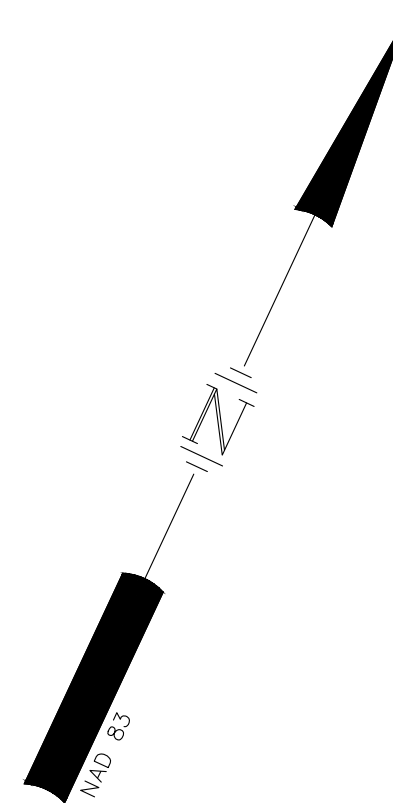
MATCHLINE SEE SHEET - C-61

REV	DATE	DESCRIPTION	DR	CK

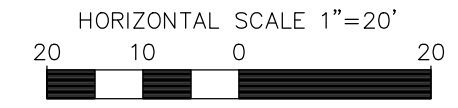


MATCHLINE SEE SHEET - C-56

MATCHLINE SEE SHEET - C-60



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REV	DATE	DESCRIPTION	DR	CK

**SITE DEVELOPMENT PLANS**  
TAX MAP 242 LOT 4  
**LANDSCAPE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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**1"=40'**  
**SCALE: 1"=20'** **APRIL 19, 2021**

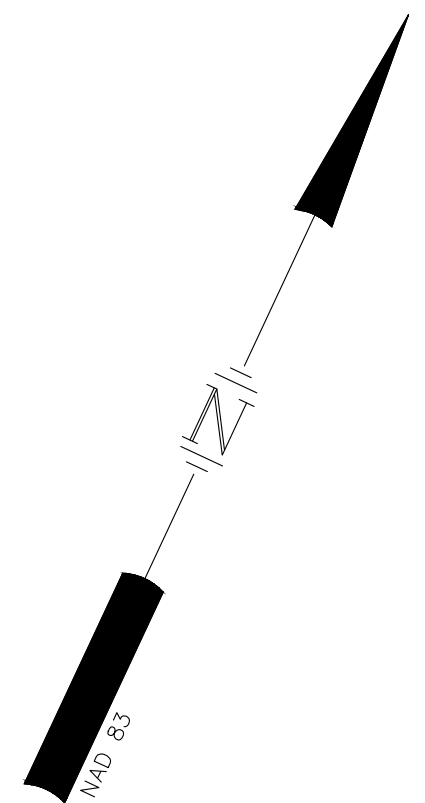
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47388.11	DR	JSM	FB	-
	CK	JJM	CADFILE	47388-11_LANDSCAPE

C-59

MATCHLINE SEE SHEET - C-57



MATCHLINE SEE SHEET - C-61

MATCHLINE SEE SHEET - C-59

**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**LANDSCAPE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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HORIZONTAL SCALE 1"=20'  
 20 10 0 20

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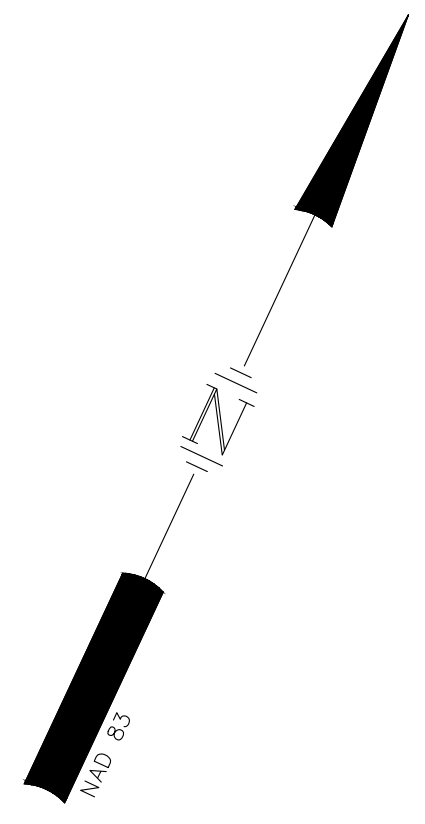
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	CK JUM	CADFILE	47388-11_LANDSCAPE	C-60





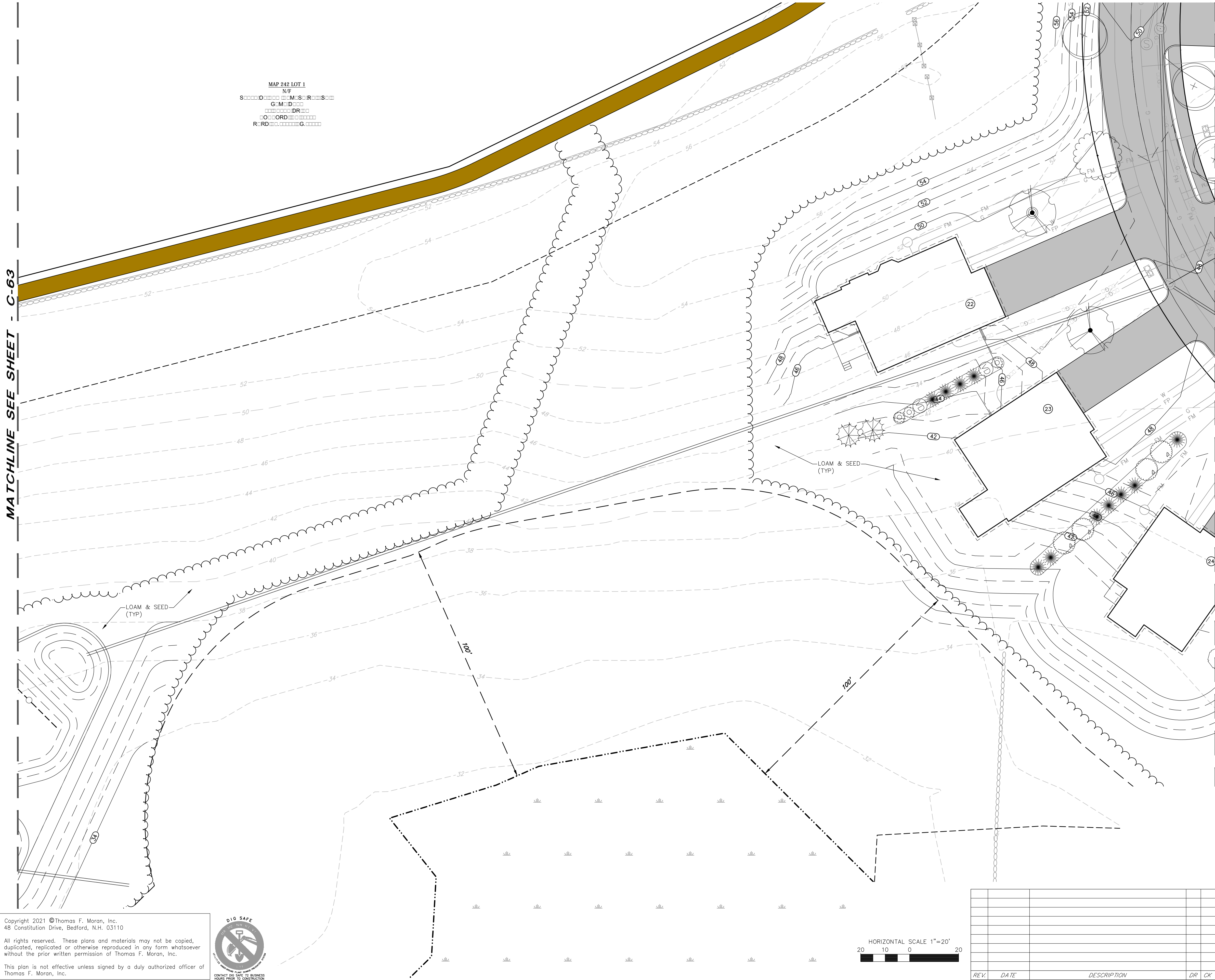


MAP 242 LOT 1  
 N/F  
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 G: M: D:  
 DR:  
 O: ORD:  
 R: RD: G:



MATCHLINE SEE SHEET - C-63

MATCHLINE SEE SHEET - C-61



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**LANDSCAPE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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**1"=40'**  
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HORIZONTAL SCALE 1"=20'  
 20 10 0 20

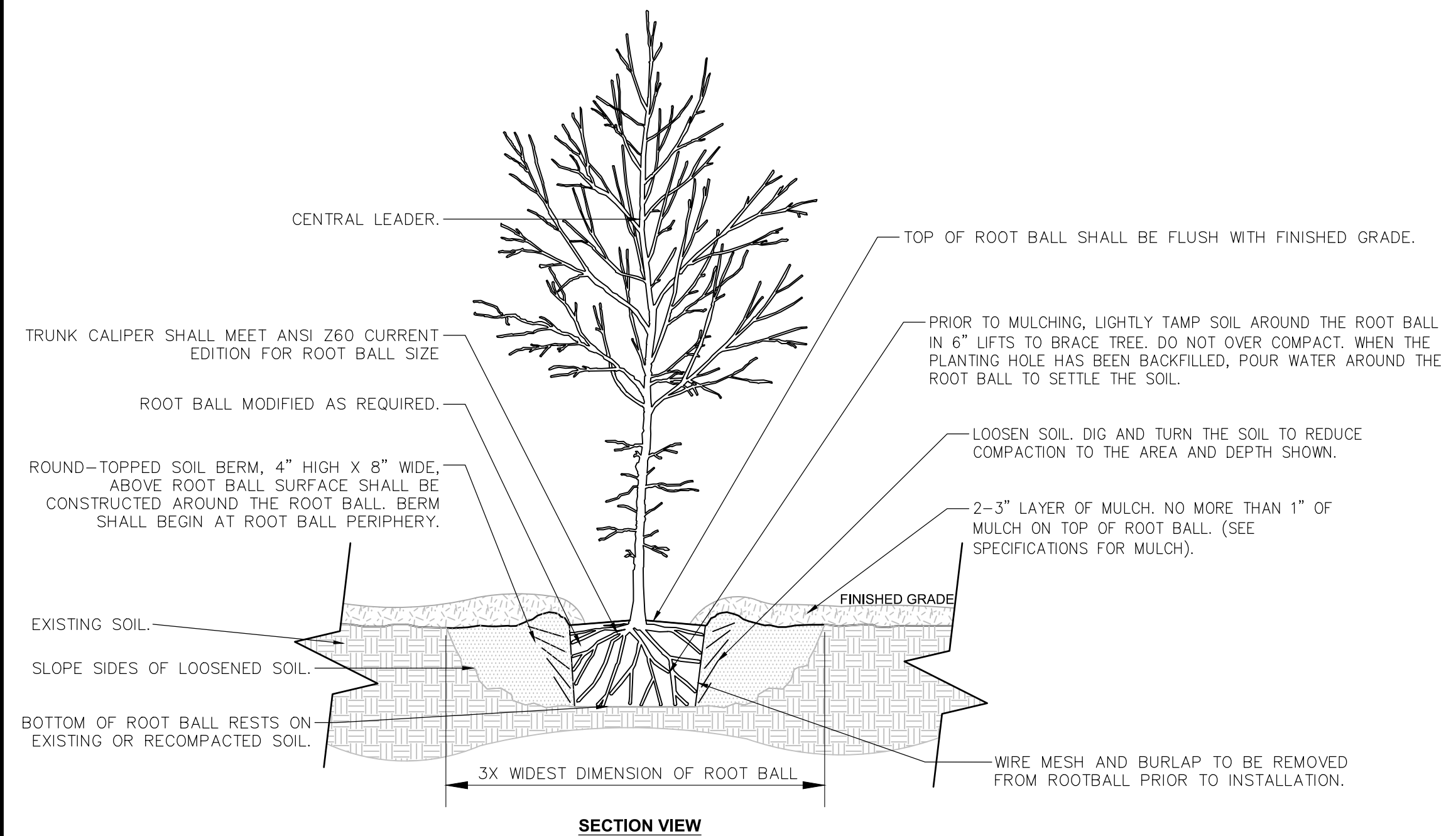
REV	DATE	DESCRIPTION	DR	CK

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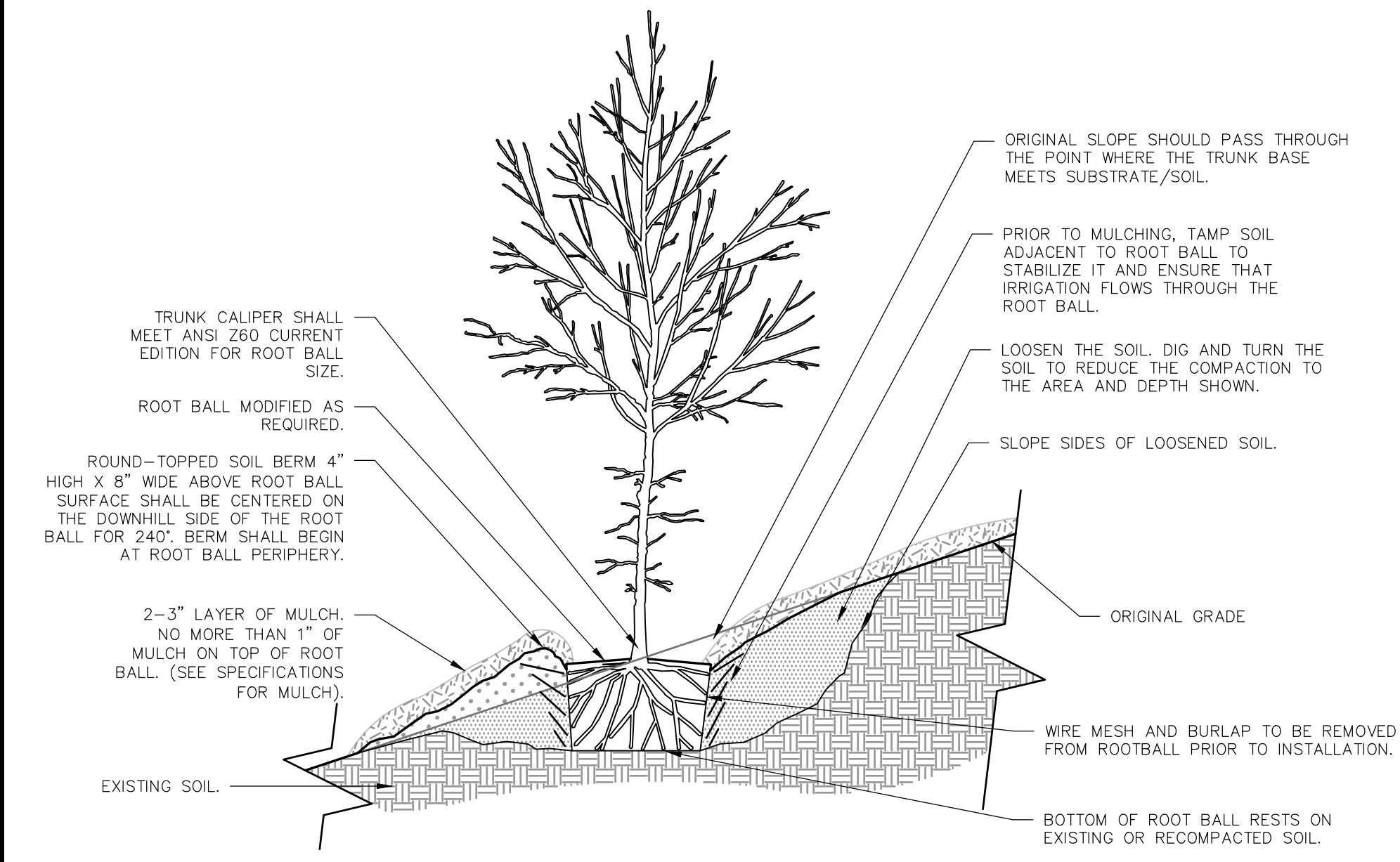
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47388.11	DR JSM	FB	-	C-62
	CK JUM	CADFILE	47388-11_LANDSCAPE	



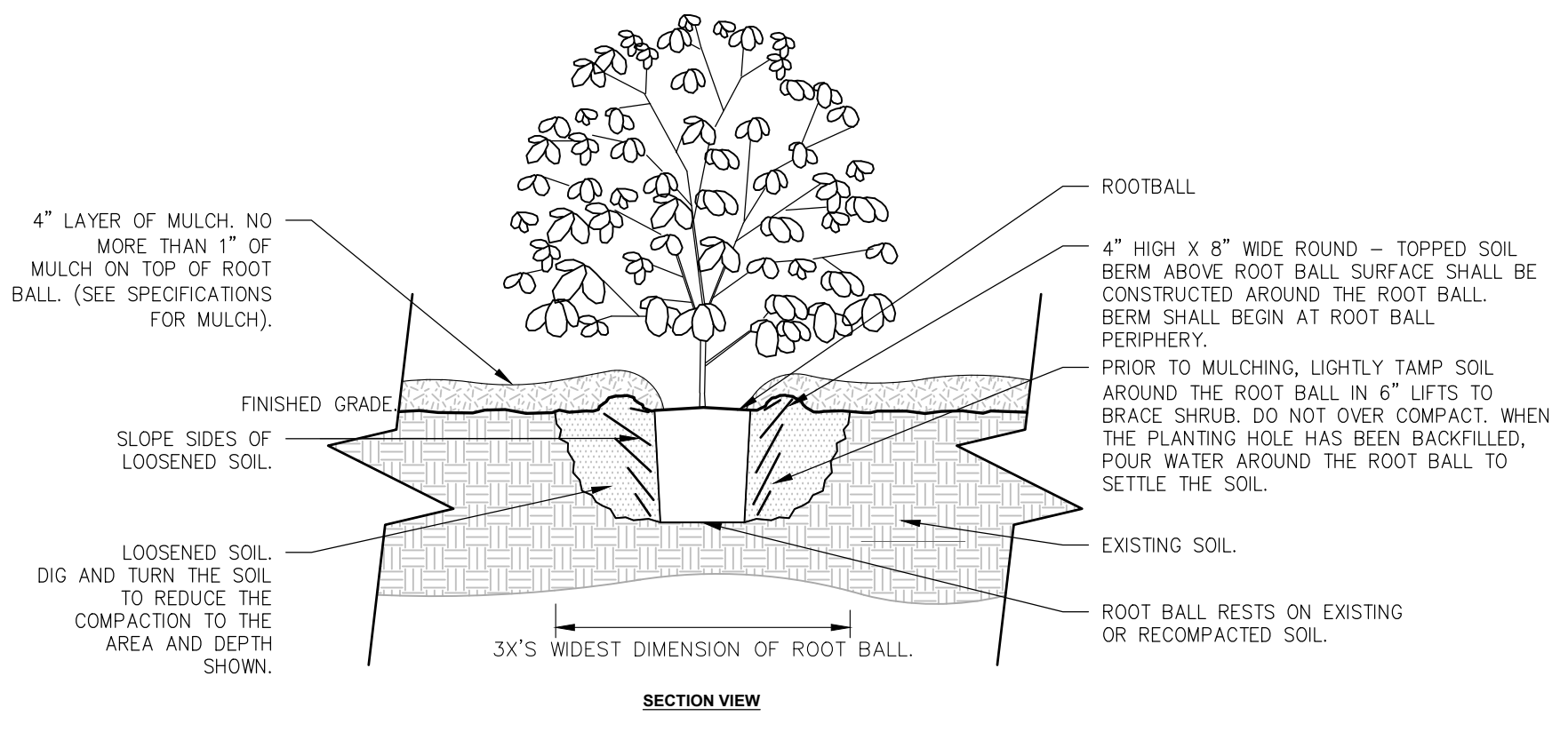
**TREE WITH MULCH BERM**

NOT TO SCALE



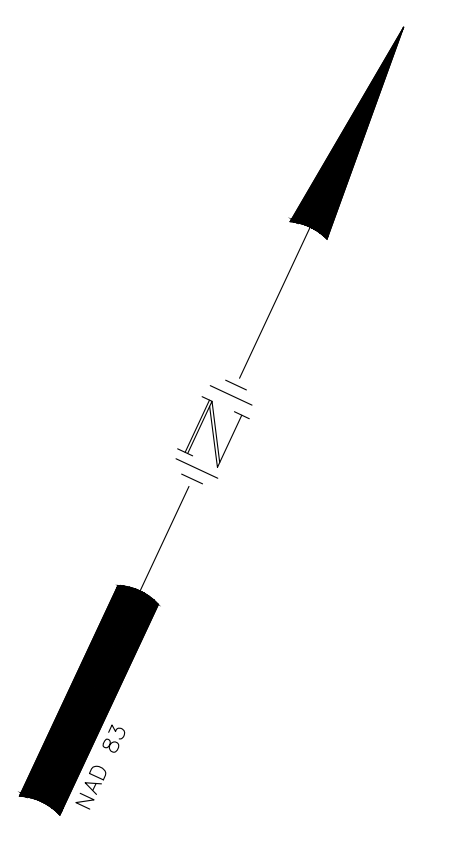
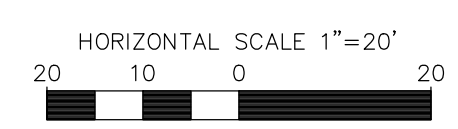
**TREE ON SLOPE 5% (20:1) TO 50% (2:1)**

NOT TO SCALE



**SHRUB PLANTING**

NOT TO SCALE



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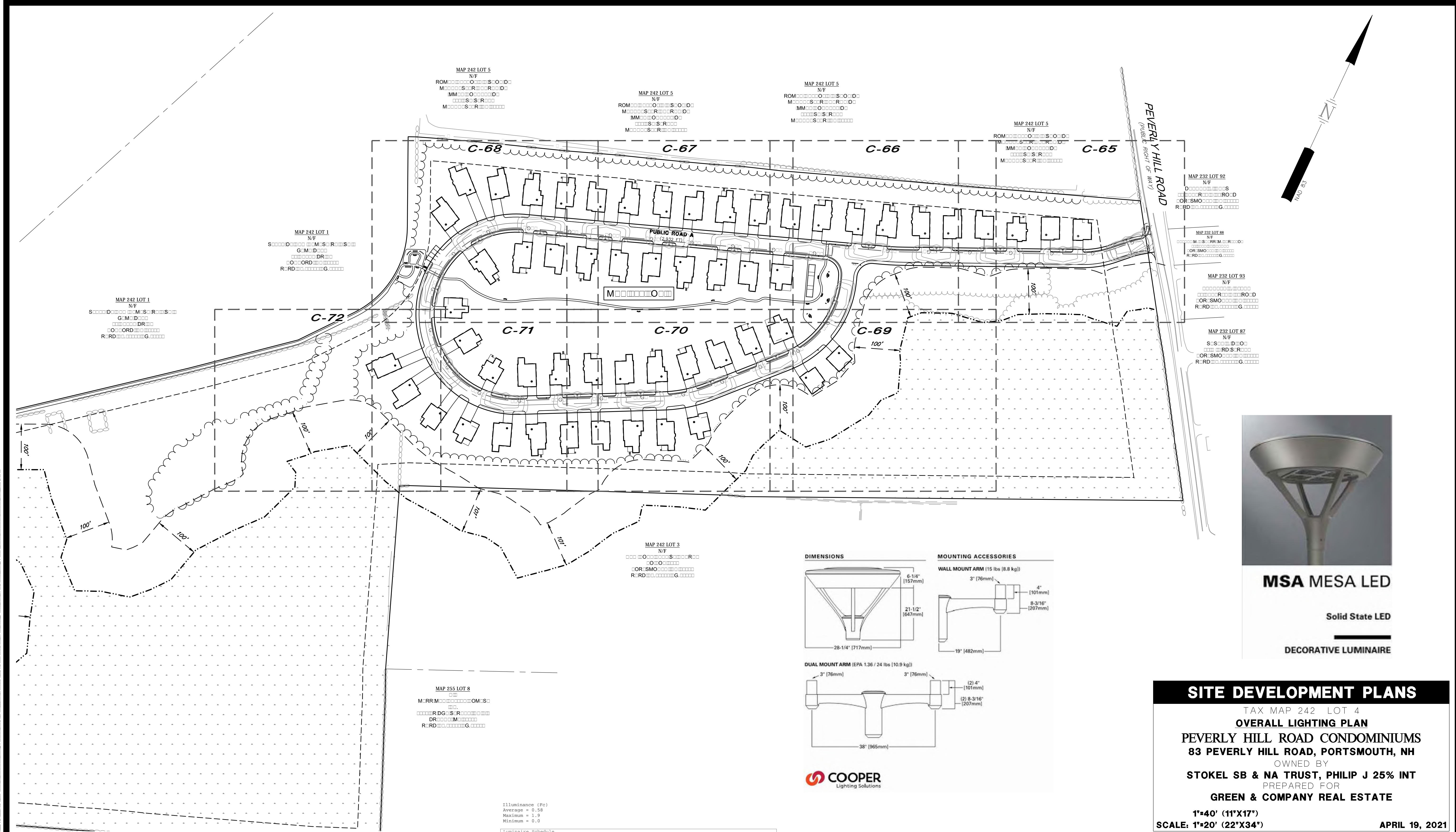
**SITE DEVELOPMENT PLANS**  
TAX MAP 242 LOT 4  
**LANDSCAPE PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
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**1"=40'**  
**SCALE: 1"=20'** **APRIL 19, 2021**

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REV	DATE	DESCRIPTION	DR	CK
47388.11	DR JSM FB			
	CK JUM CADFILE	47388-11_LANDSCAPE		

C-63

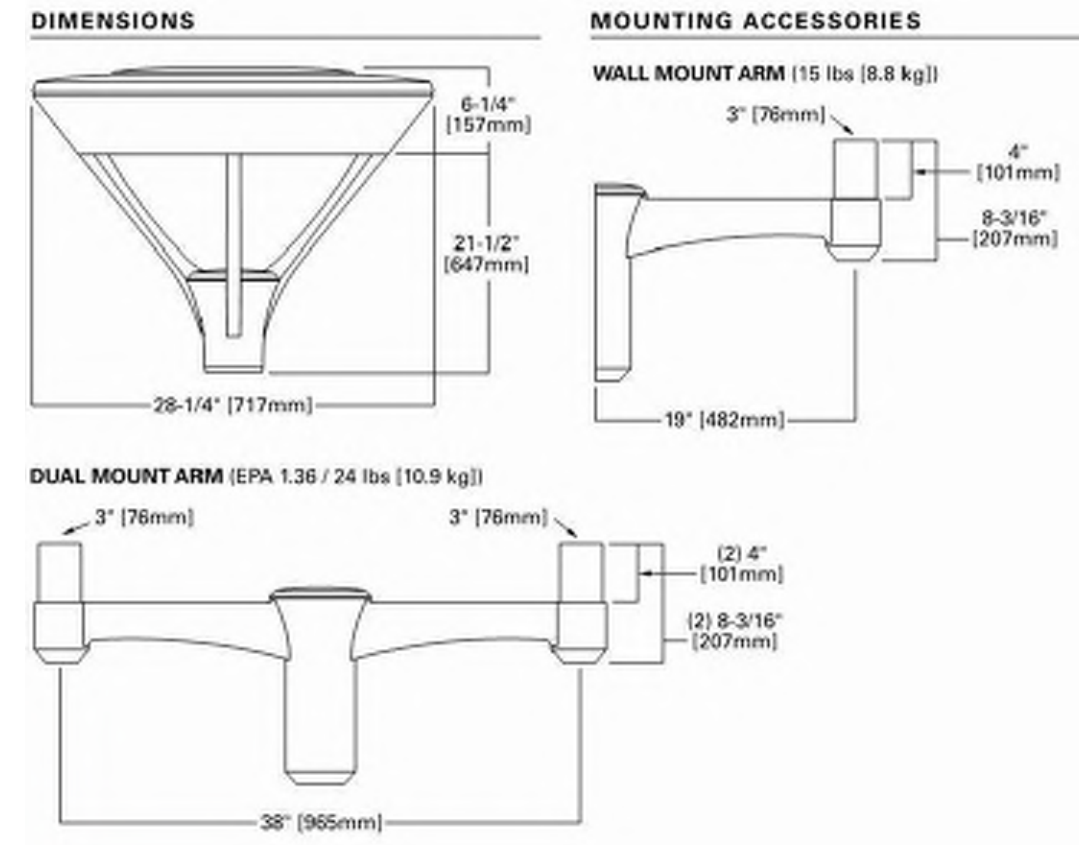




**MSA MESA LED**

Solid State LED

DECORATIVE LUMINAIRE



Illuminance (Fc)  
 Average = 0.58  
 Maximum = 1.9  
 Minimum = 0.0

Symbol	Qty	Label	Arrangement	Description
○	19	P2	SINGLE	MSA-SALB-735-U-SL2-HSS/ RT84T15AXX9 (15' POLE)



REV	DATE	DESCRIPTION	DR	CK

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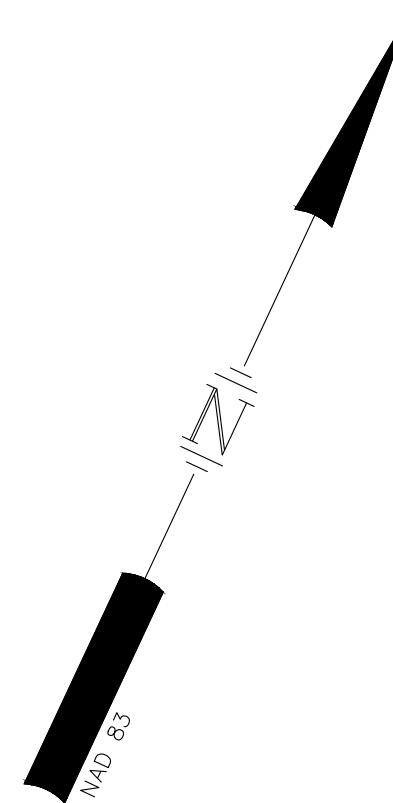
**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**OVERALL LIGHTING PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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**1"=40' (11'X17")**  
**SCALE: 1"=20' (22'X34")** **APRIL 19, 2021**

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47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_LIGHTING C-64



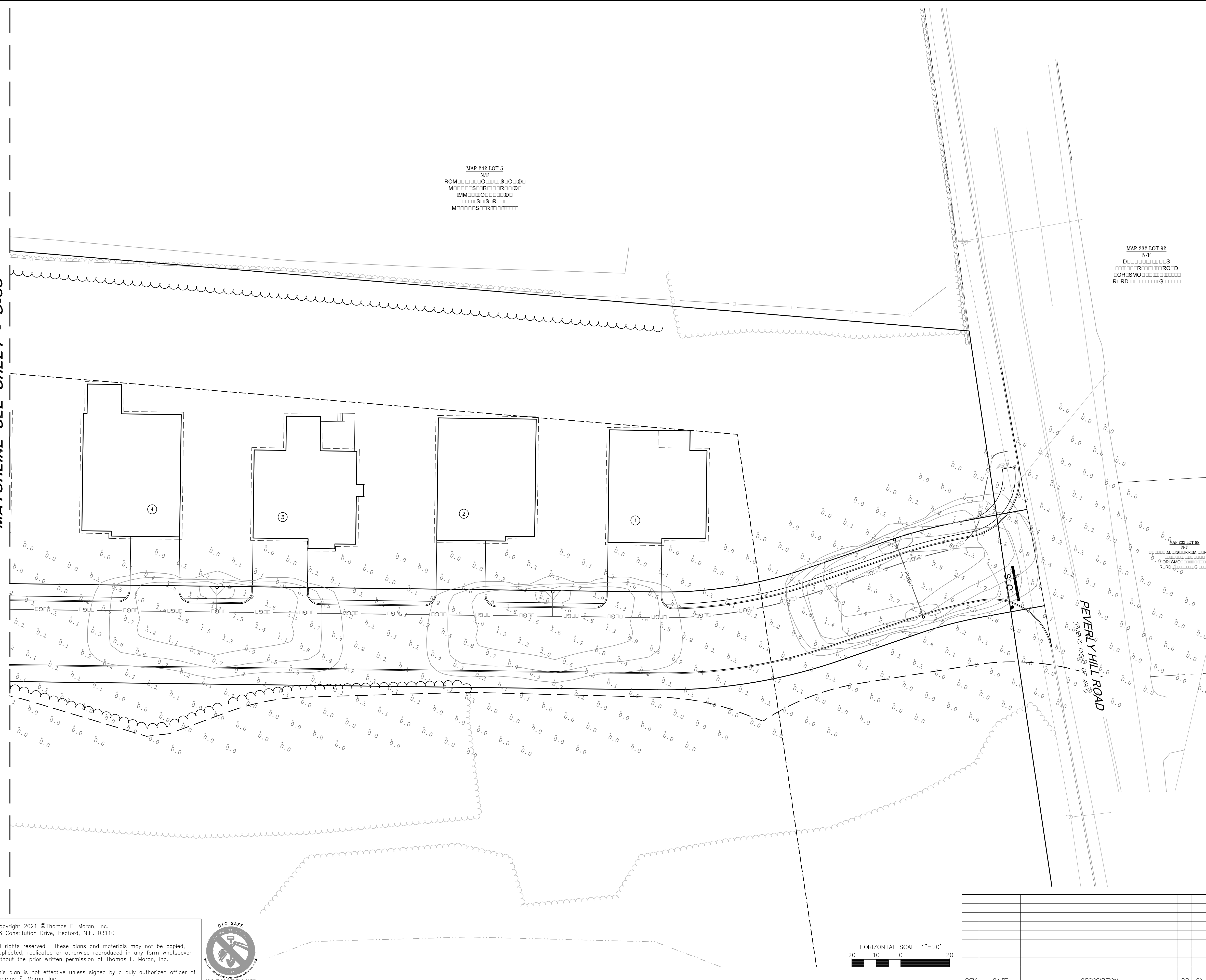


MAP 242 LOT 5  
N/F  
ROM: S: S: O: O:  
M: S: R: R: O: O:  
MM: S: S: R: O:  
S: S: R: O:  
M: S: S: R: O:

MAP 232 LOT 92  
N/F  
D: S: S: S:  
O: R: S: M: O: R: O: D:  
R: R: O: S: S: G: G:

MAP 232 LOT 88  
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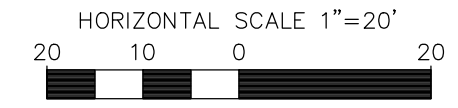
MATCHLINE SEE SHEET - C-66



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**LIGHTING PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
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REV	DATE	DESCRIPTION	DR	CK

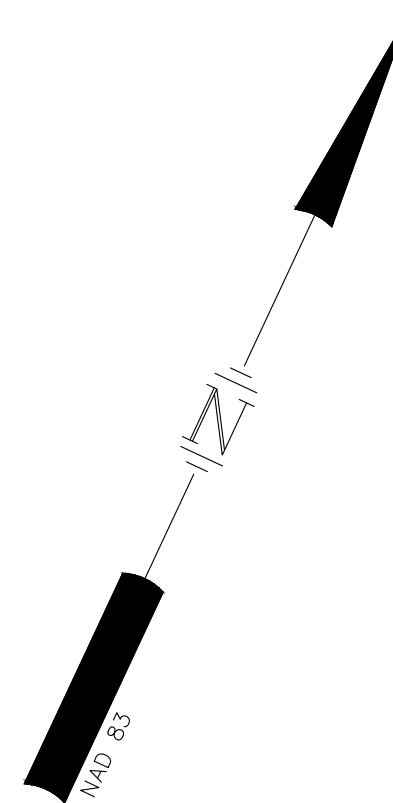
Seacoast Division

Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

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Portsmouth, NH 03801  
Phone (603) 431-2222  
Fax (603) 431-0910  
www.tfmoran.com

FILE NO: 47388.11	DR: JSM	FB: -	
	CK: JUM	CADFILE: 47388-11_LIGHTING	

C-65



MAP 242 LOT 5  
 N/F  
 ROM: O S O O  
 M: S R R R O  
 MM: O O O  
 S: S R  
 M: S R

MATCHLINE SEE SHEET - C-67

MATCHLINE SEE SHEET - C-65



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**LIGHTING PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**  
 1"=40' (11'X17")  
 SCALE: 1"=20' (22'X34") **APRIL 19, 2021**

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MATCHLINE SEE SHEET - C-69

HORIZONTAL SCALE 1"=20'  
 20 10 0 20

REV	DATE	DESCRIPTION	DR	CK

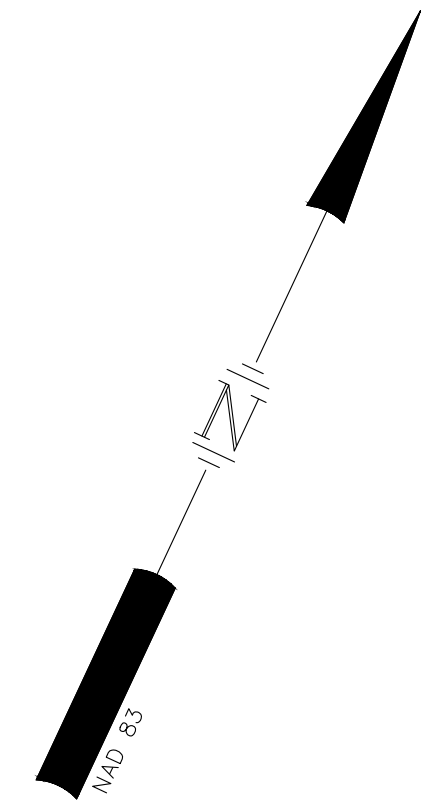
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47388.11	DR JSM	FB	-	C-66
	CK JJM	CADFILE	47388-11_LIGHTING	



MATCHLINE SEE SHEET - C-68

MATCHLINE SEE SHEET - C-66



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**LIGHTING PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**  
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 SCALE: 1"=20' (22'X34") APRIL 19, 2021

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MATCHLINE SEE SHEET - C-70

HORIZONTAL SCALE 1"=20'  
 20 10 0 20

REV	DATE	DESCRIPTION	DR	CK

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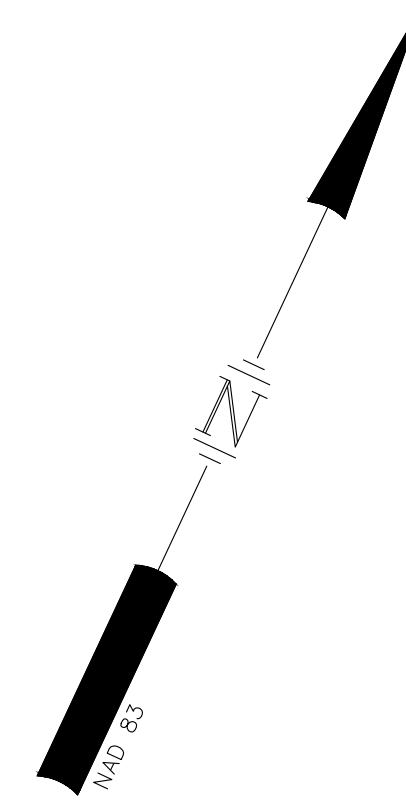
47388.11	DR JSM	FB	-	C-67
	CK JJM	CADFILE	47388-11_LIGHTING	



MATCHLINE SEE SHEET - C-68

MATCHLINE SEE SHEET - C-72

MATCHLINE SEE SHEET - C-70



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4

**LIGHTING PLAN**

**PEVERLY HILL ROAD CONDOMINIUMS**

**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**

OWNED BY

**STOKEL SB & NA TRUST, PHILIP J 25% INT**

PREPARED FOR

**GREEN & COMPANY REAL ESTATE**

**1"=40' (11'X17")**

**SCALE: 1"=20' (22'X34")**

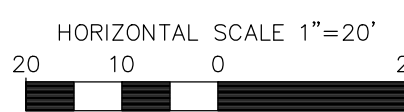
**APRIL 19, 2021**

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MAP 242 LOT 3  
N/F

OR SMO



REV	DATE	DESCRIPTION	DR	CK

Seacoast Division



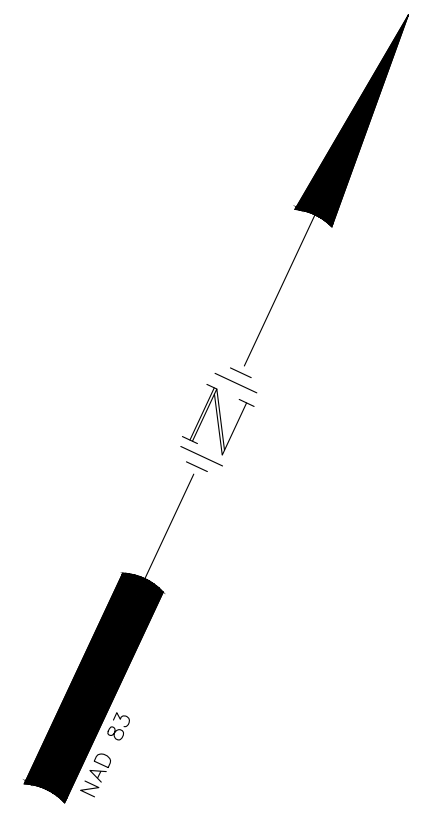
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Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

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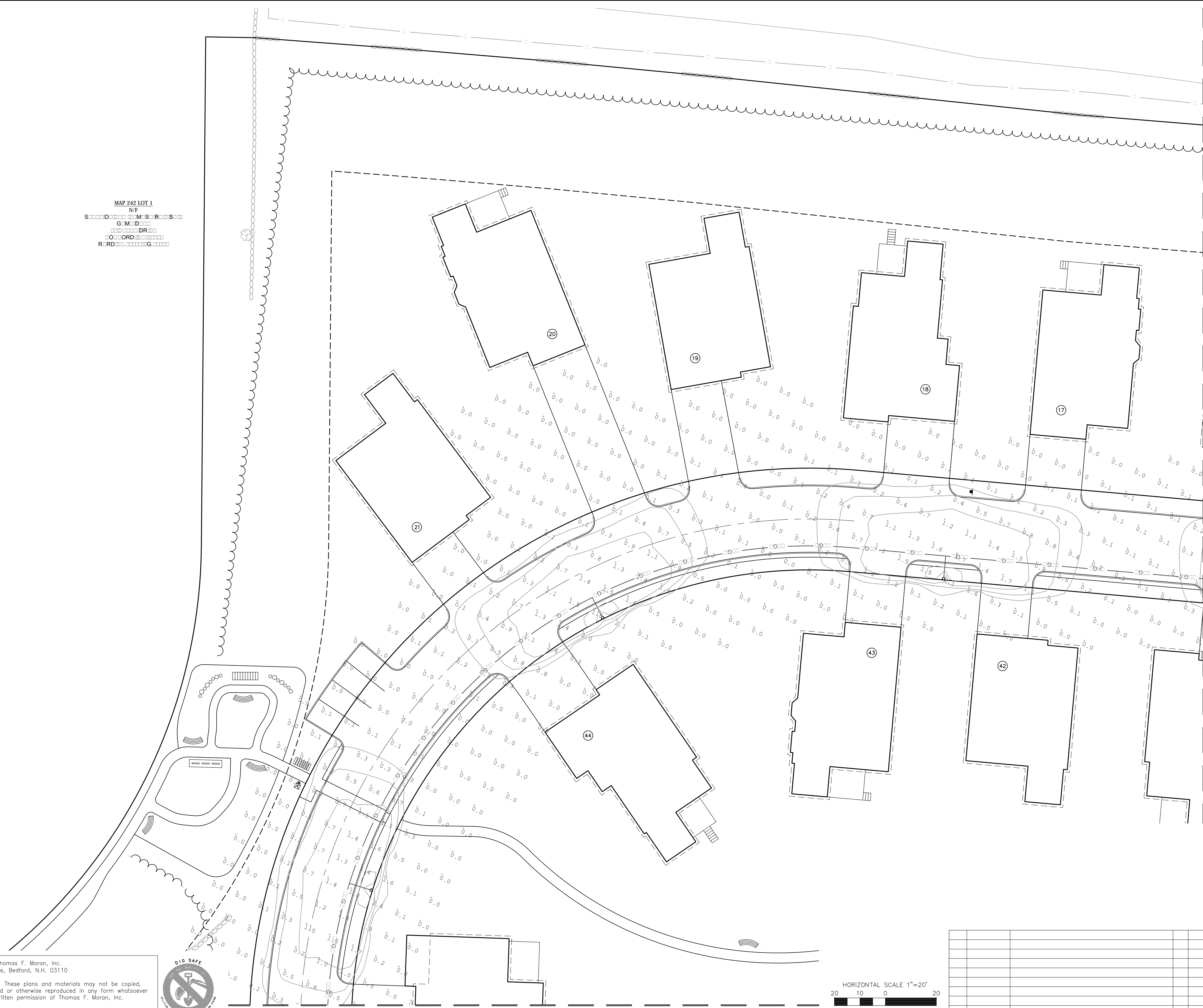
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	CK: JUM	CADFILE: 47388-11_LIGHTING	

C-71

MAP 242 LOT 1  
 N/F  
 S O O M S R S  
 G M D  
 O O R D R  
 O O C O R D  
 R R D G



MATCHLINE SEE SHEET - C-67



**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**LIGHTING PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
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MATCHLINE SEE SHEET - C-71

HORIZONTAL SCALE 1"=20'  
 20 10 0 20

REV	DATE	DESCRIPTION	DR	CK

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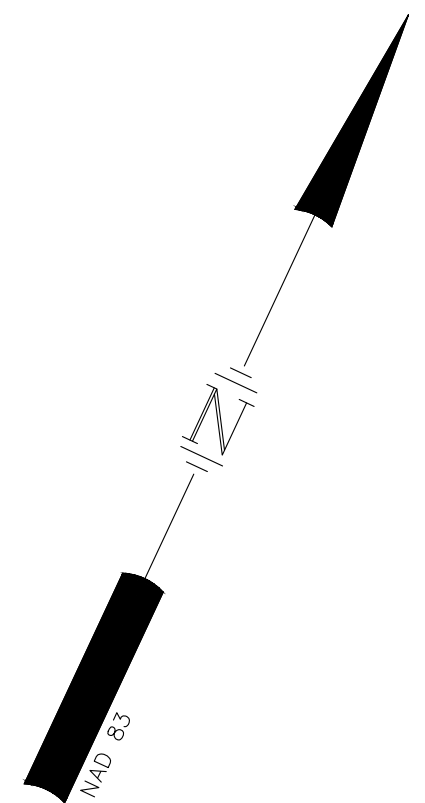
47388.11	DR JSM	FB	-	C-68
	CK JUM	CADFILE	47388-11_LIGHTING	







MAP 242 LOT 1  
 N/F  
 S: O: M: S: R: S:  
 G: M: D:  
 O: DR:  
 O: ORD:  
 R: RD: G:



MATCHLINE SEE SHEET - C-71

**NOTES**

1.

**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**LIGHTING PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**  
 1"=40' (11"X17")  
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HORIZONTAL SCALE 1"=20'  
 20 10 0 20

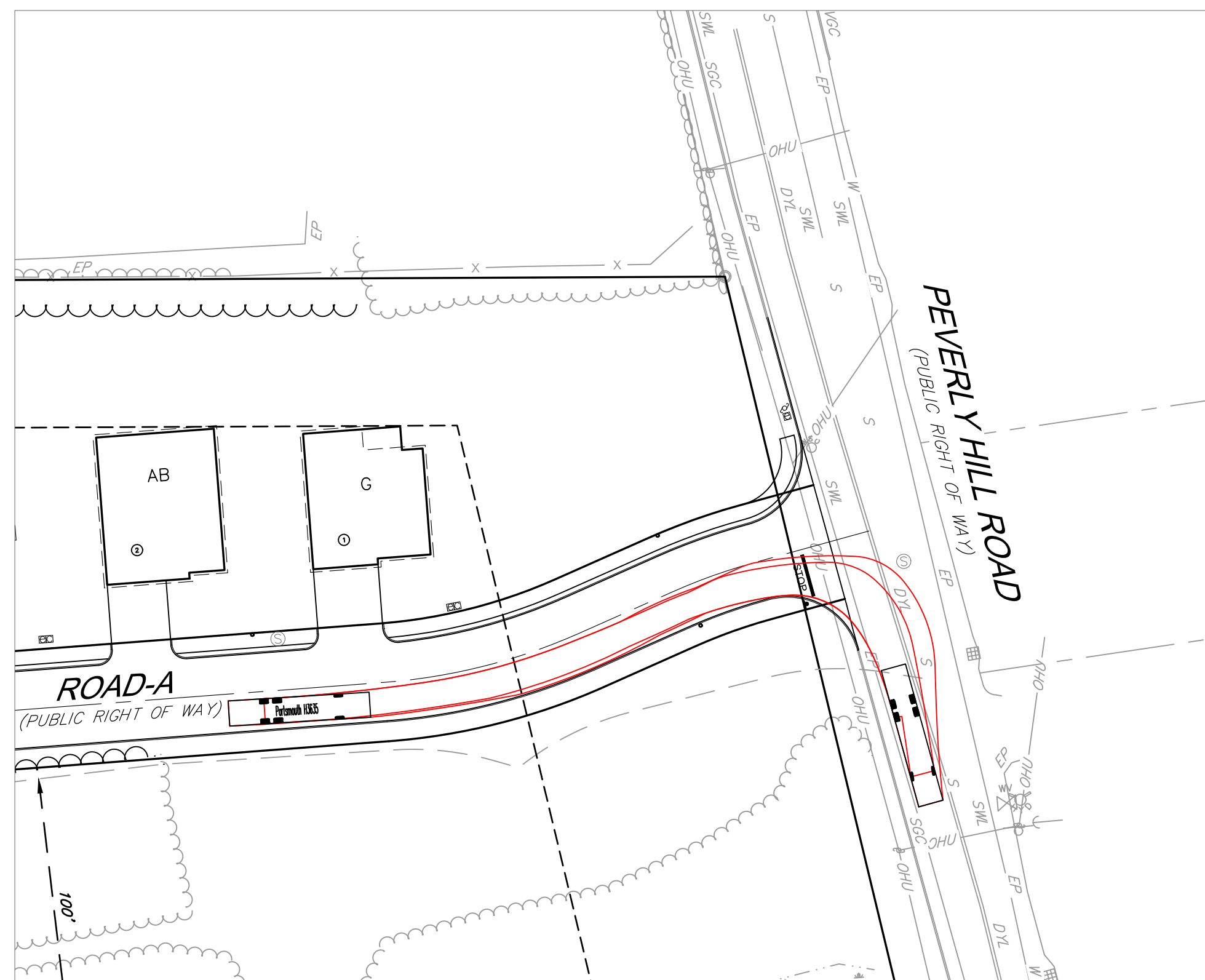
REV	DATE	DESCRIPTION	DR	CK

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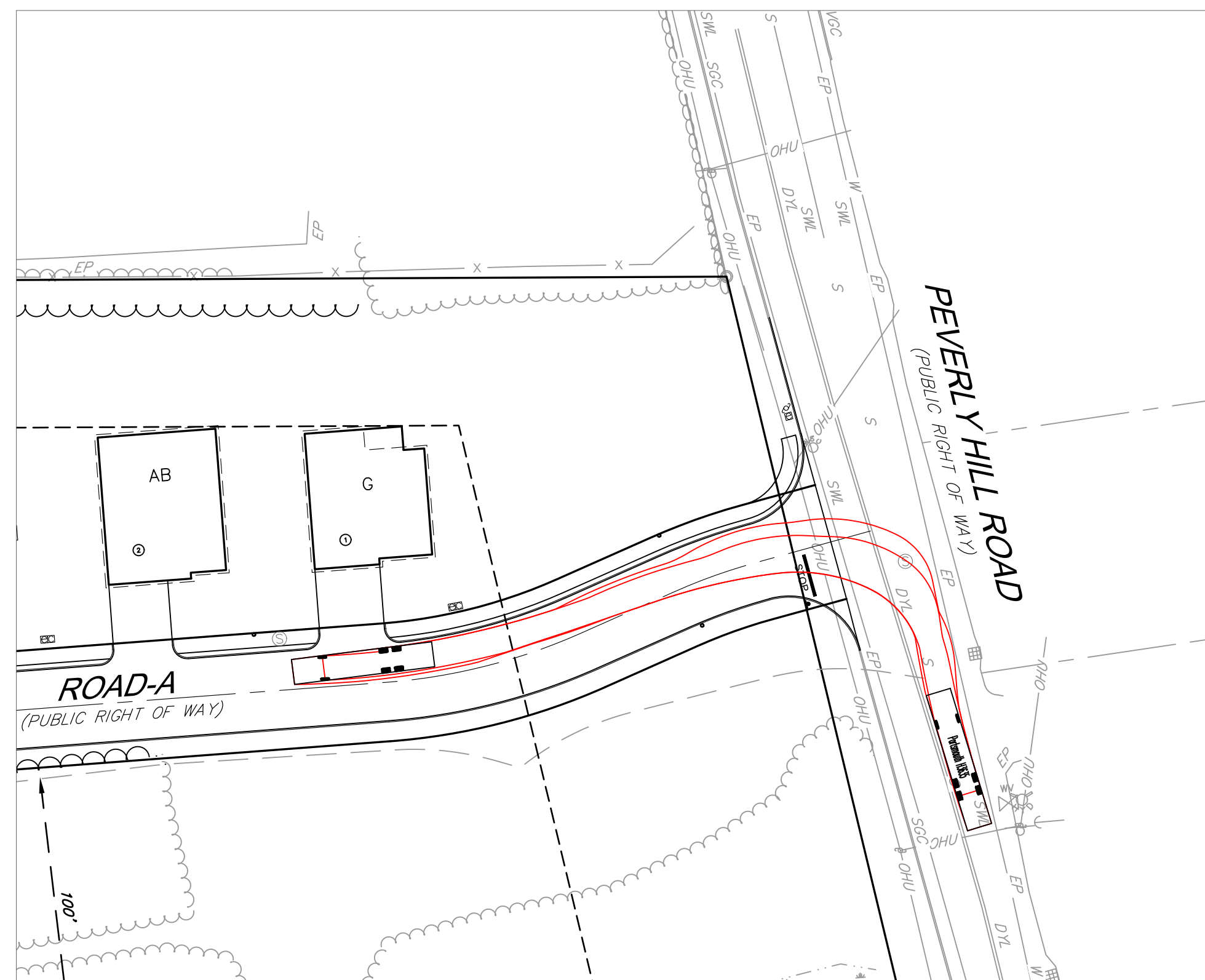


CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION





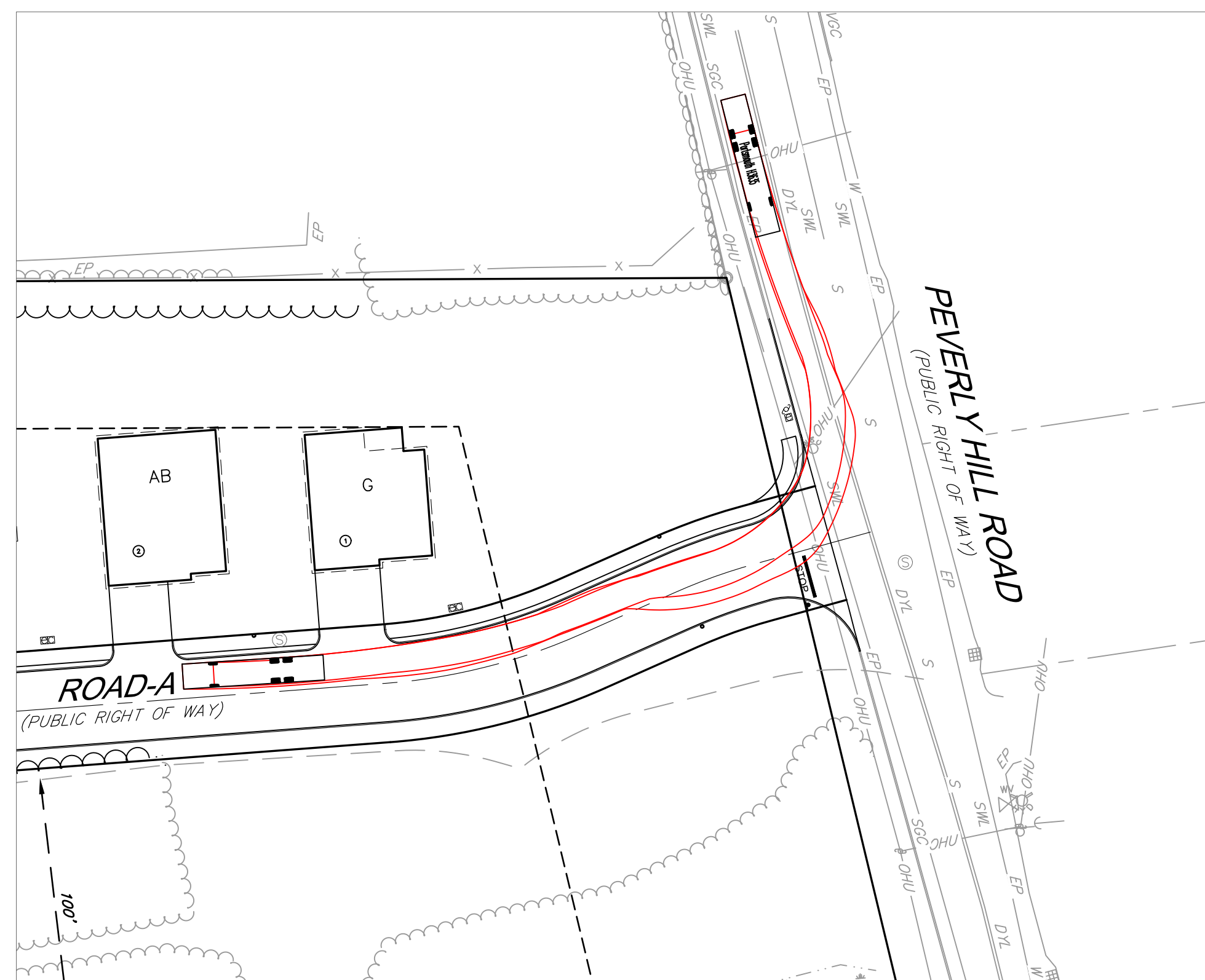
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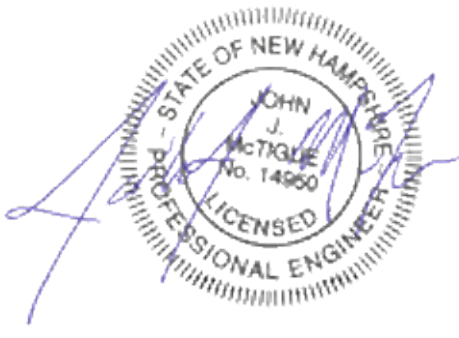
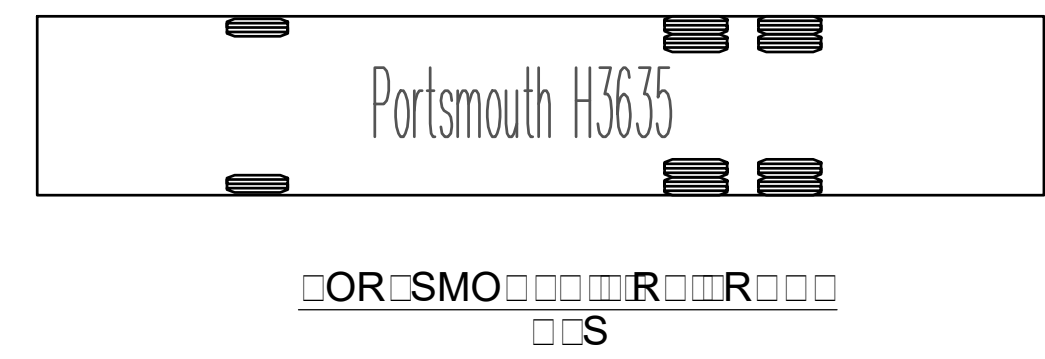
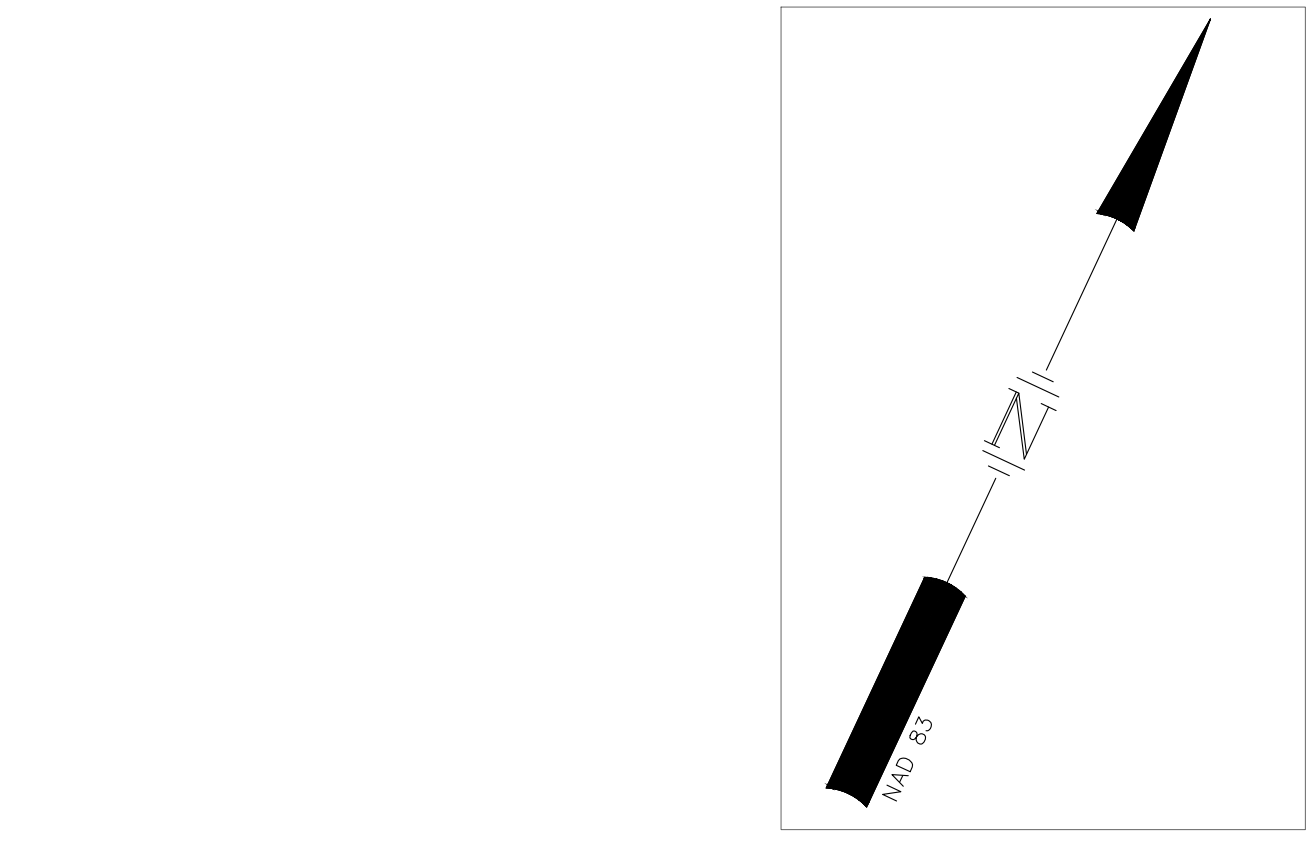
R R G ROM RO D OR S O O RO D



R R G ROM RO D OR S O O R RO D

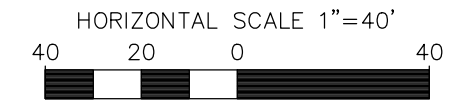
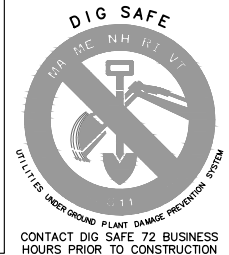


R R G ROM RO D SO S O O R RO D



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**FIRE TRUCK MOVEMENT PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
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**GREEN & COMPANY REAL ESTATE**  
 1"=80' (11"X17")  
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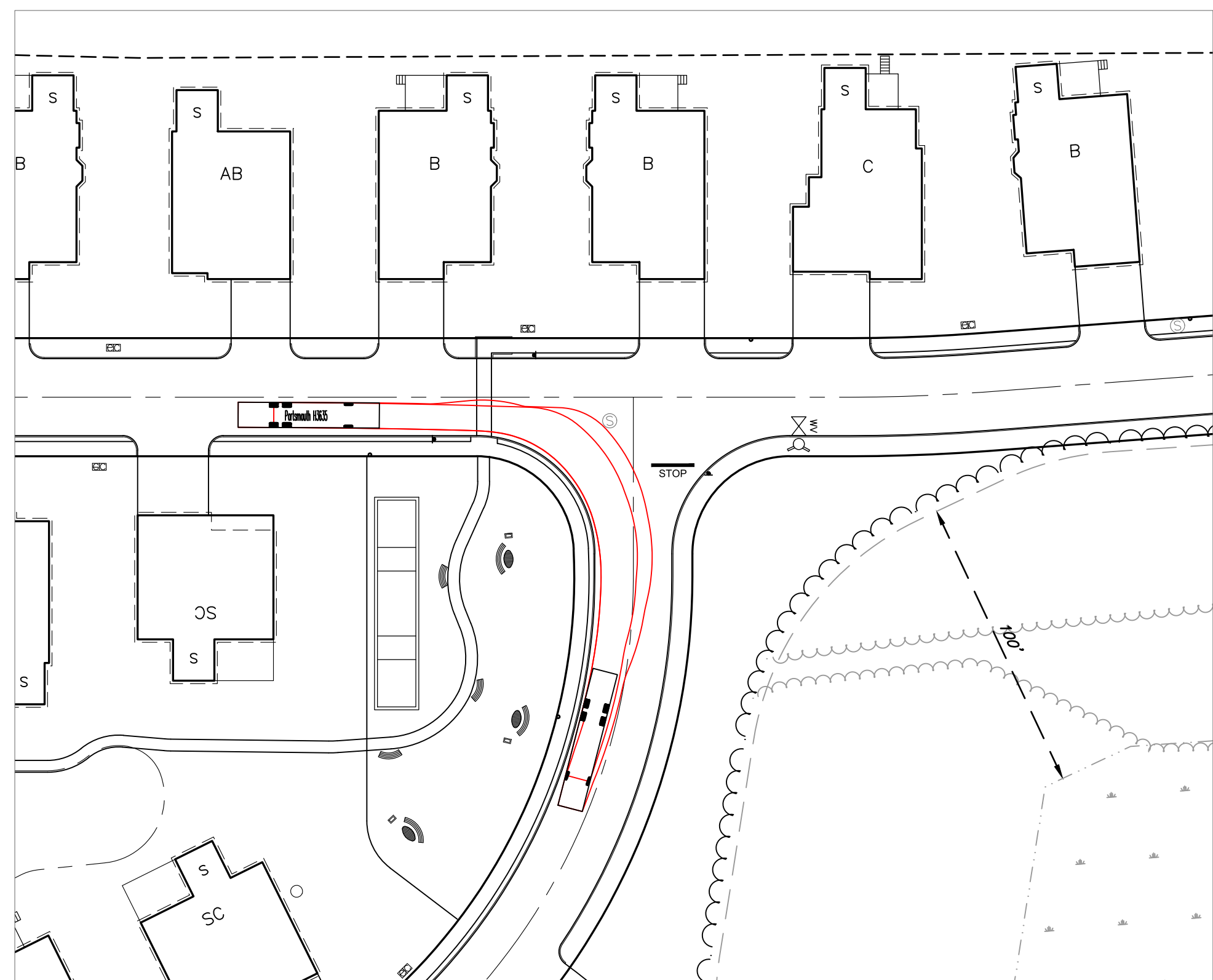
REV.	DATE	DESCRIPTION	DR	CK

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 Landscape Architects  
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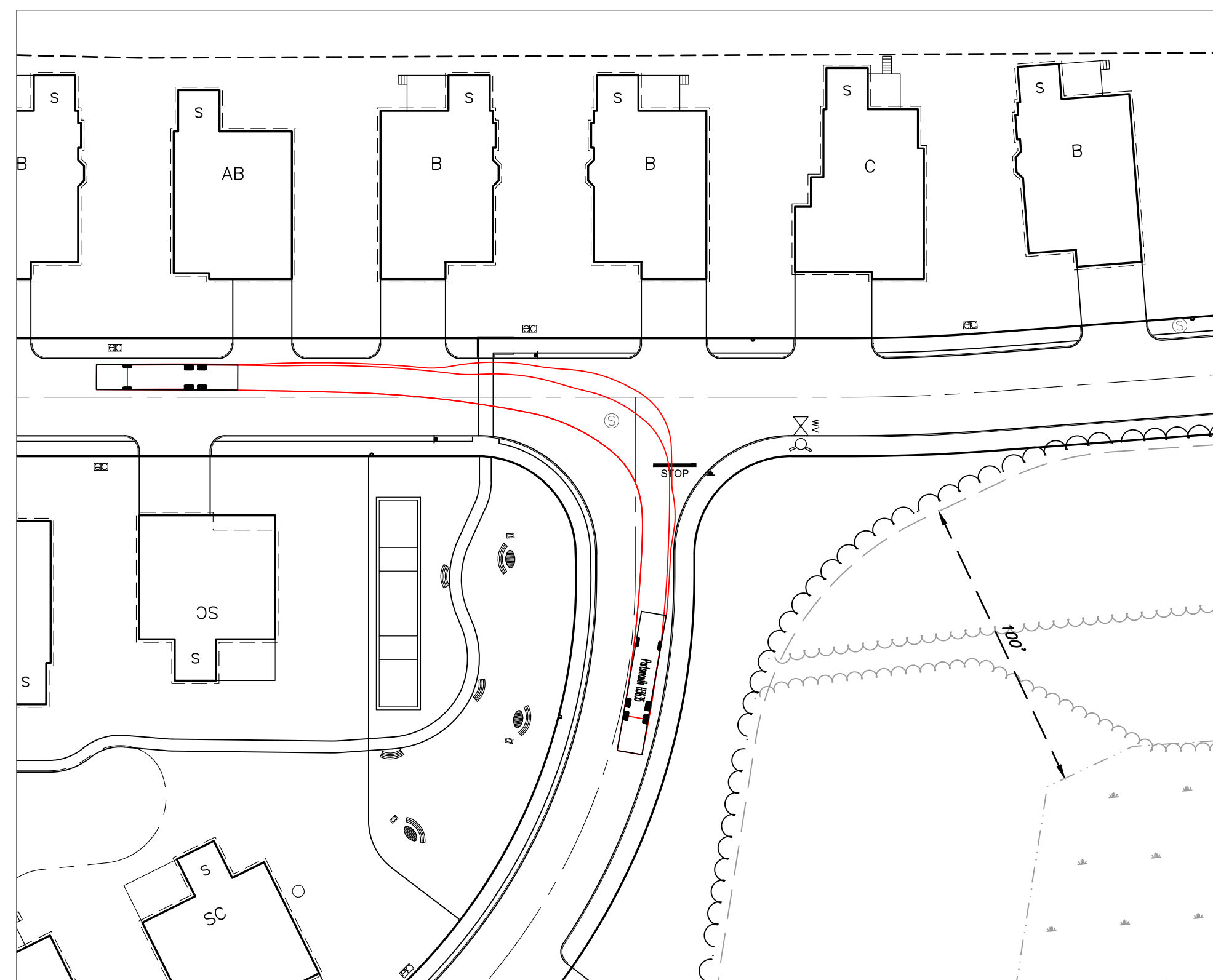
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47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_TRUCKMOVEMENT C-73

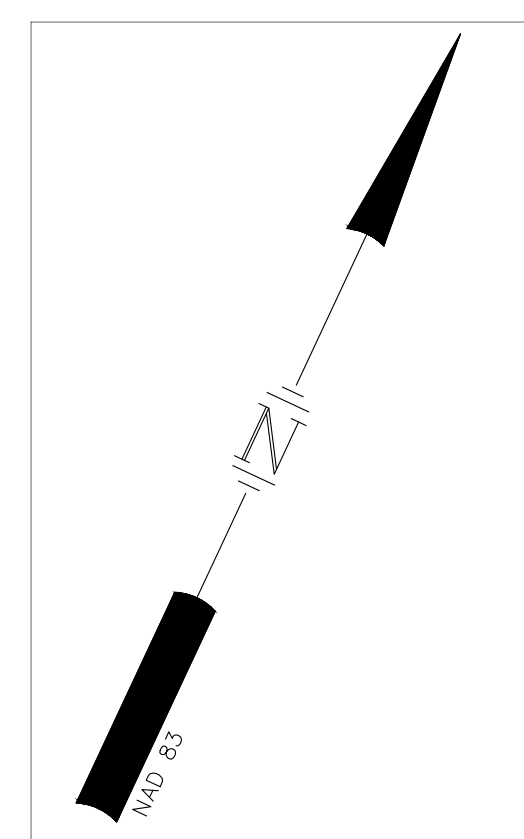




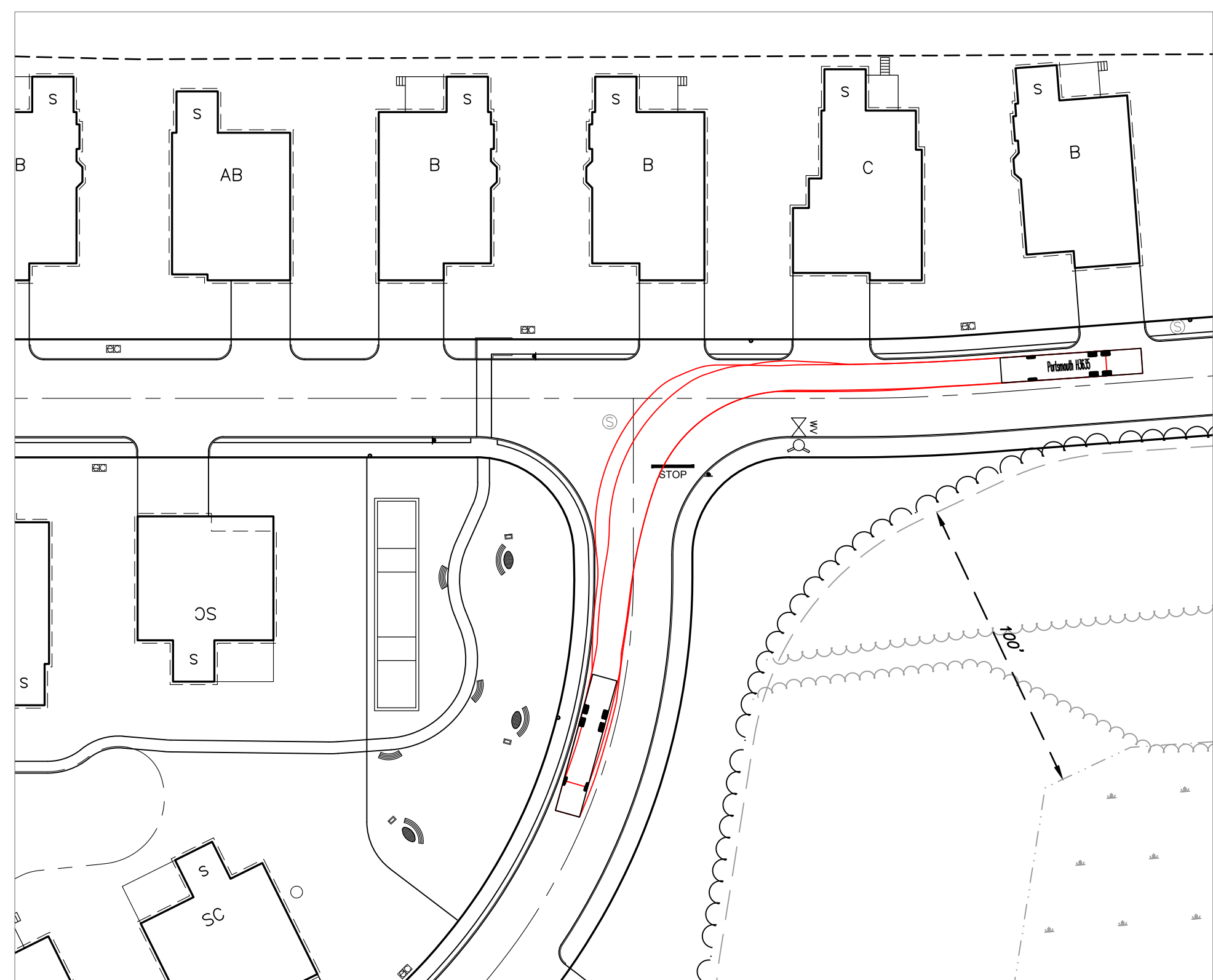
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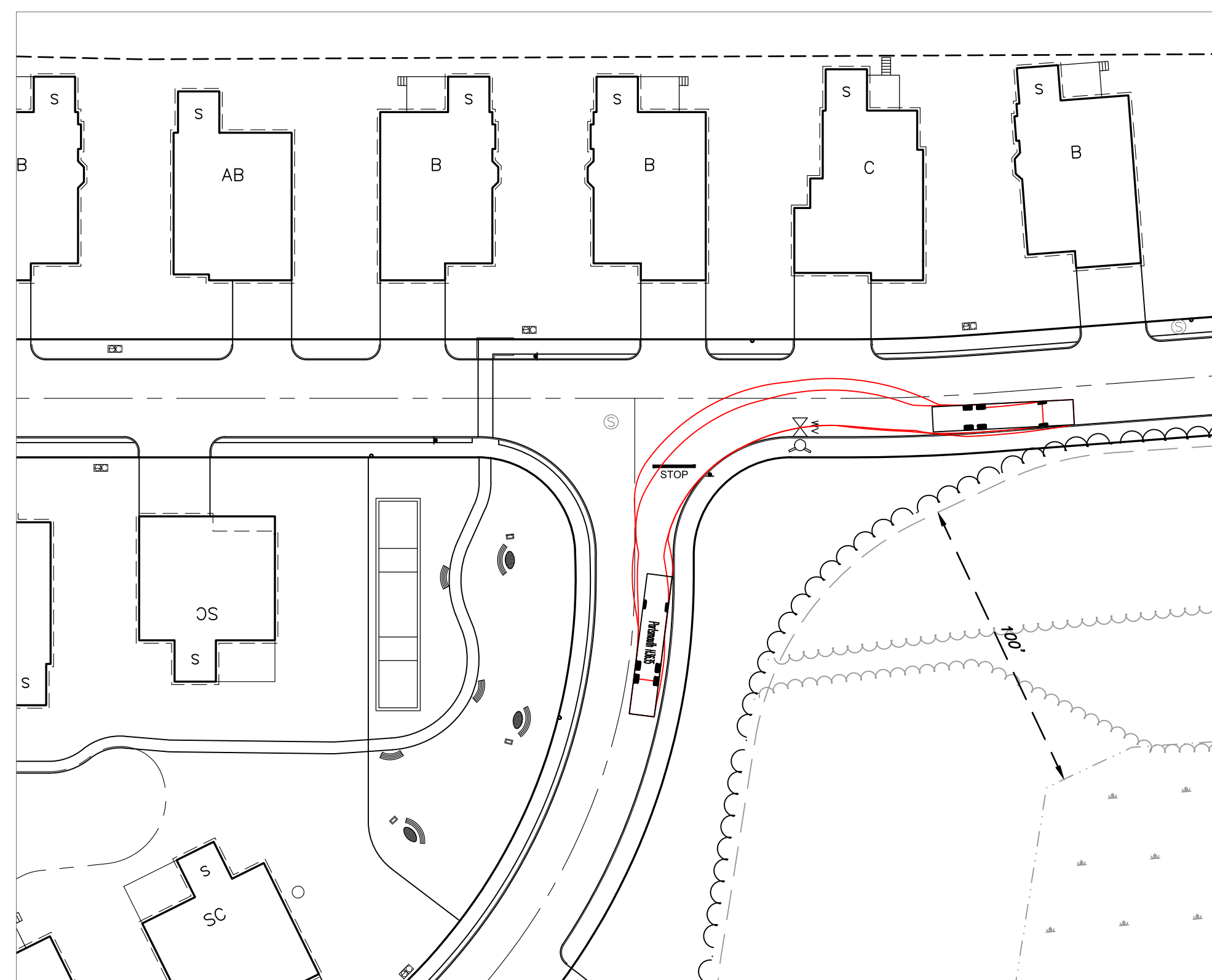
R R G ROM RO D OR S O O RO D



OR SMO R R S



R R G ROM RO D SO S O O RO D

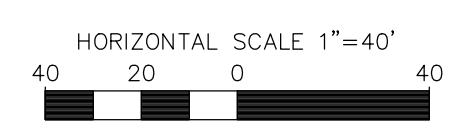
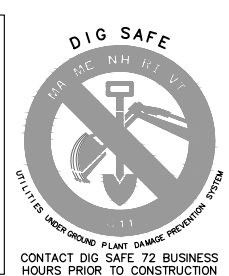


R R G ROM RO D OR S O O RO D



**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**FIRE TRUCK MOVEMENT PLAN**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**  
 1"=80' (11"X17")  
 SCALE: 1"=40' (22"X34") **APRIL 19, 2021**

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FILE NO.	47388.11	DR	JSM	FB	-
CK	JJM	CADFILE	47388-11_TRUCKMOVEMENT		

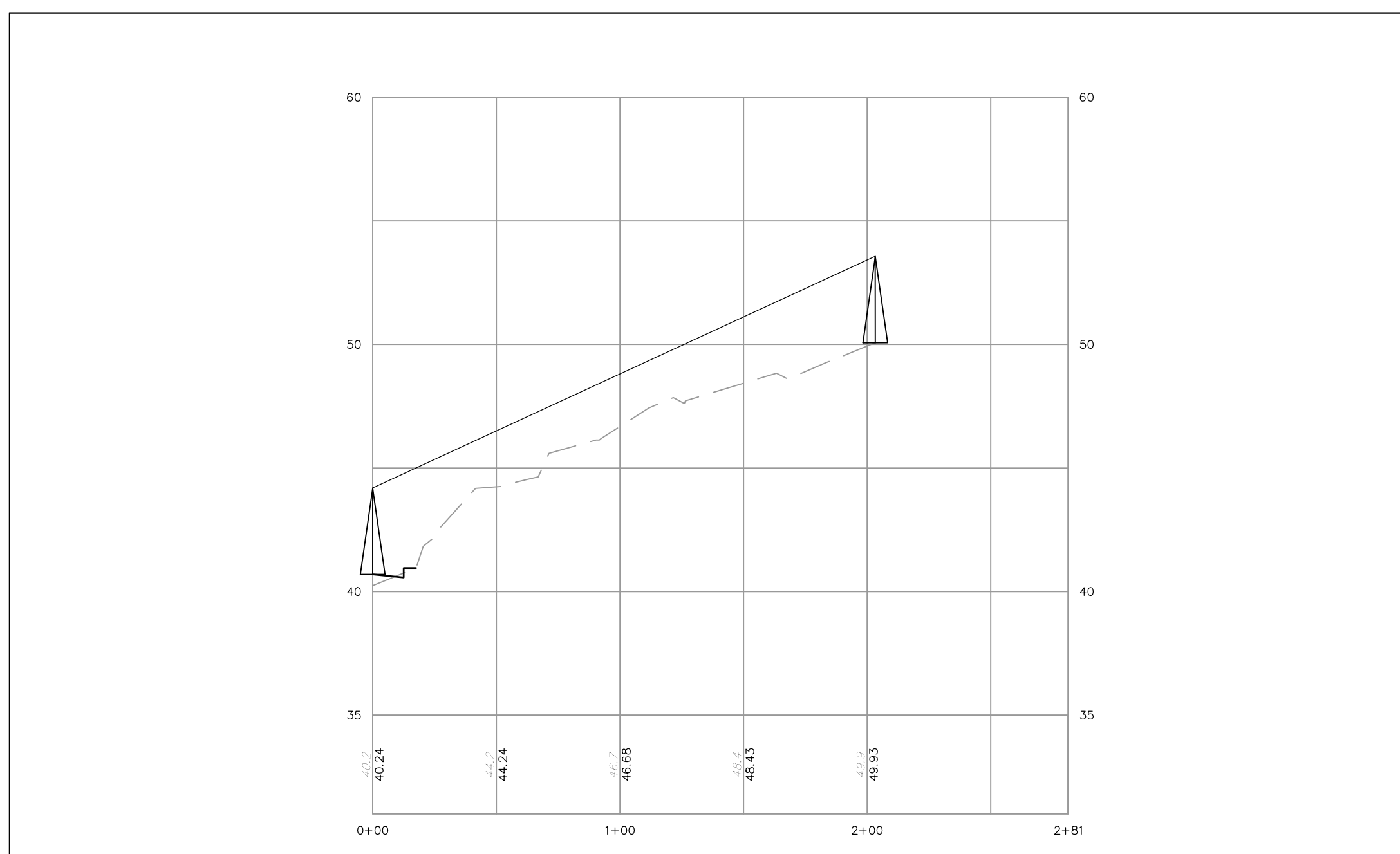
C-74





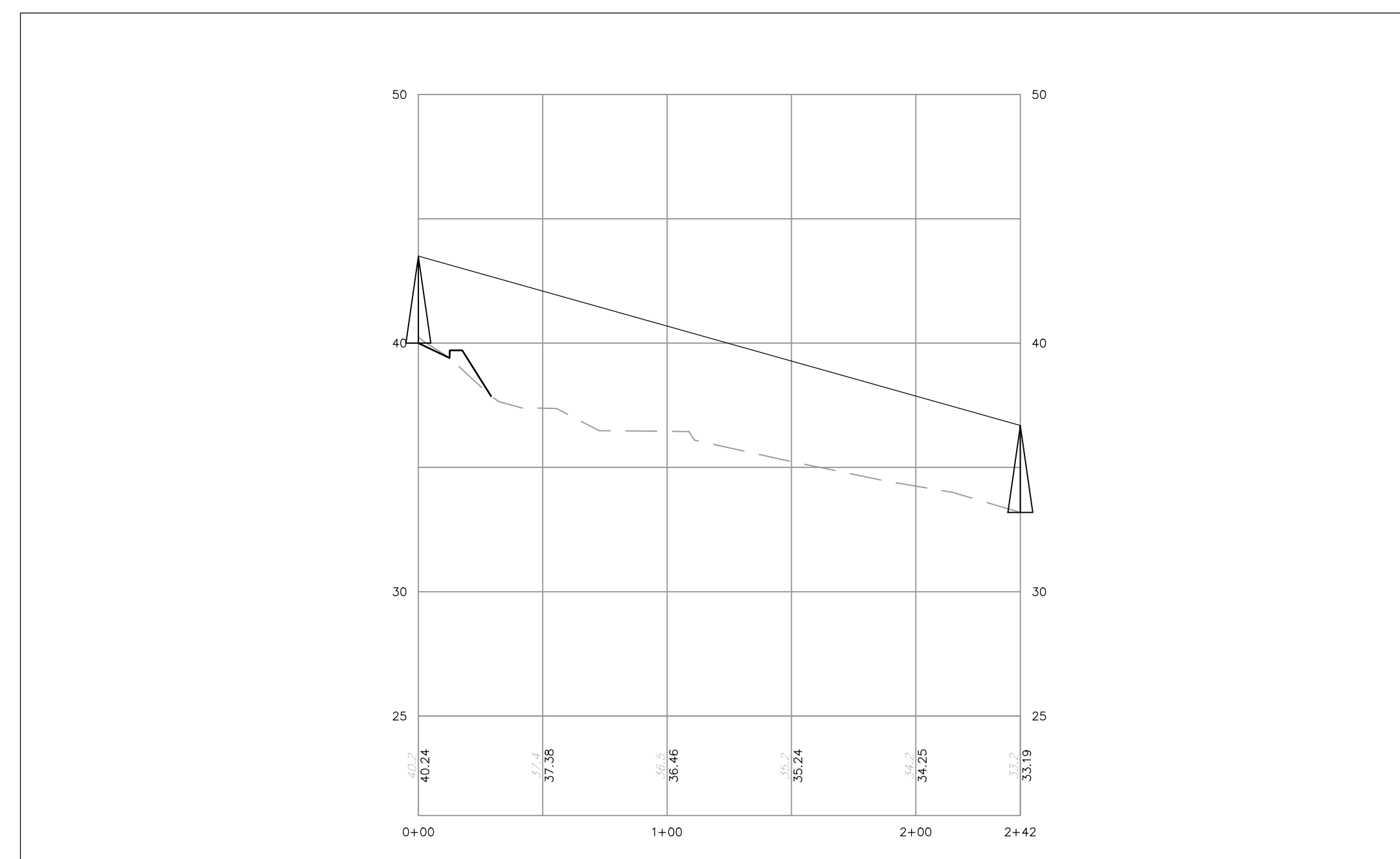
HORIZONTAL SCALE 1"=40'  
40 20 0 40

**SITE DISTANCE**



**LOOKING LEFT (NORTH) ONTO PEVERLY HILL ROAD**

HORIZONTAL SCALE 1"=50'  
50 25 0 50



**LOOKING RIGHT (SOUTH) ONTO PEVERLY HILL ROAD**

**SITE DEVELOPMENT PLANS**

TAX MAP 242 LOT 4  
**SITE DISTANCE PLAN & PROFILE**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**  
 (11'X17')  
**SCALE: AS SHOWN (34')** **APRIL 19, 2021**

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47388.11 DR JSM FB  
 CK JUM CADFILE 47388-11\_SITEDISTANCE

C-75

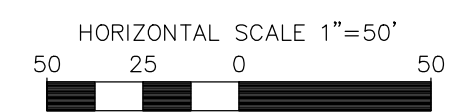




**EASEMENTS AND RESTRICTIONS (E&R)**

1. THE RIGHT TO USE SAID DRIVEWAY IN COMMON WITH PETER STOKEL AND HIS HEIRS FROM SAID GREENLAND ROAD, ALONG BY SAID CEMETERY, AND ALONG THE BOUNDARY BETWEEN THE LANDS OF SAID PETER AND STELLA TO SAID RAILROAD, AND SUBJECT TO SAID PETER'S RIGHT TO USE THE SAME IN COMMON. (SEE RCRD BK.#5066 PG.#1603).

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REV	DATE	DESCRIPTION	DR	CK

**SITE DEVELOPMENT PLANS**  
 TAX MAP 242 LOT 4  
**PEDESTRIAN & BIKE PATH**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
**83 PEVERLY HILL ROAD, PORTSMOUTH, NH**  
 OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
 PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**  
**1"=100'(11"X17')**  
**SCALE: 1"=50' (22"X34')** **APRIL 19, 2021**

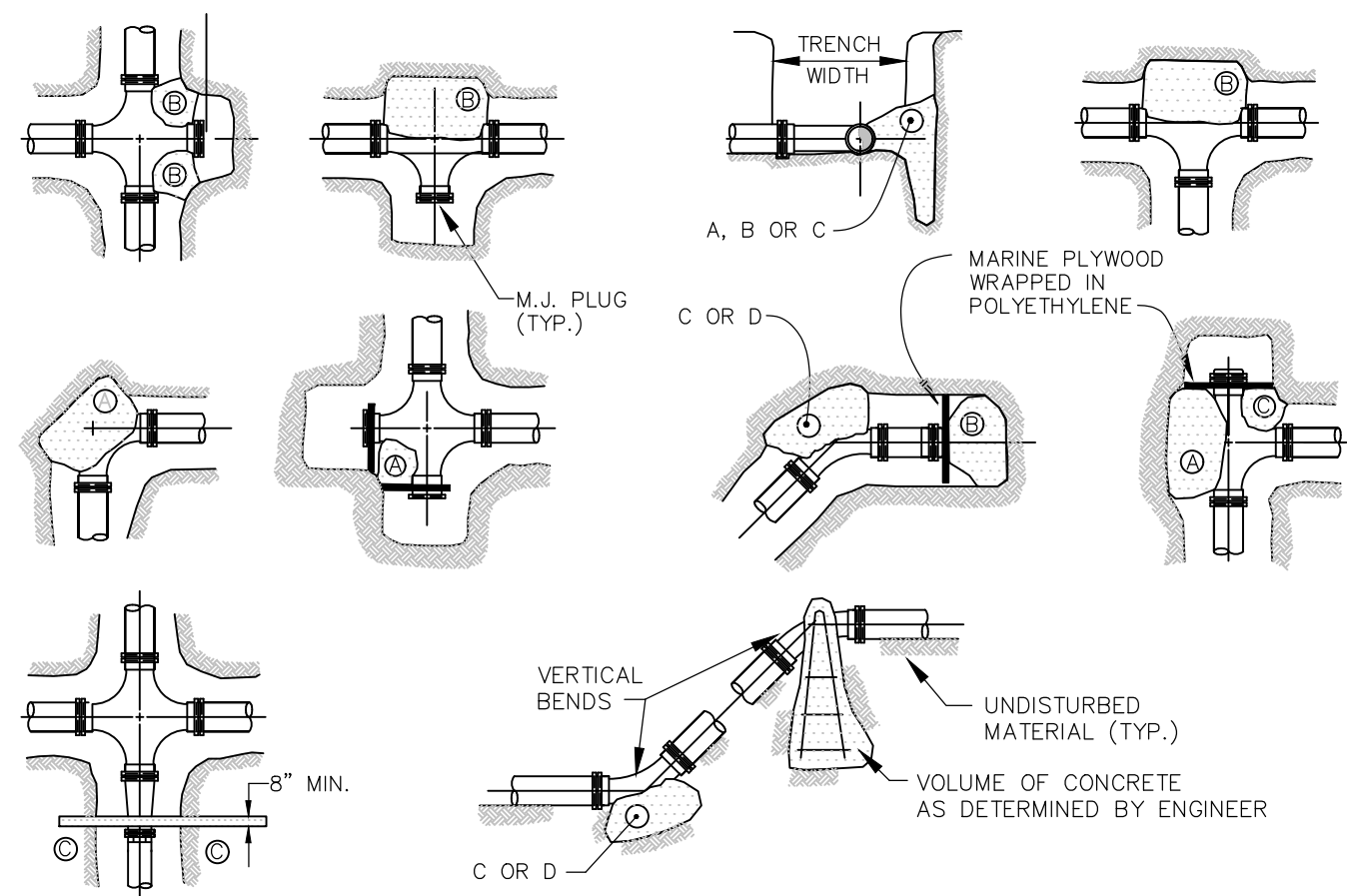
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FILE: 47388.11 DR JSM FB CK JUM CADFILE 47388-11\_PATH C-76





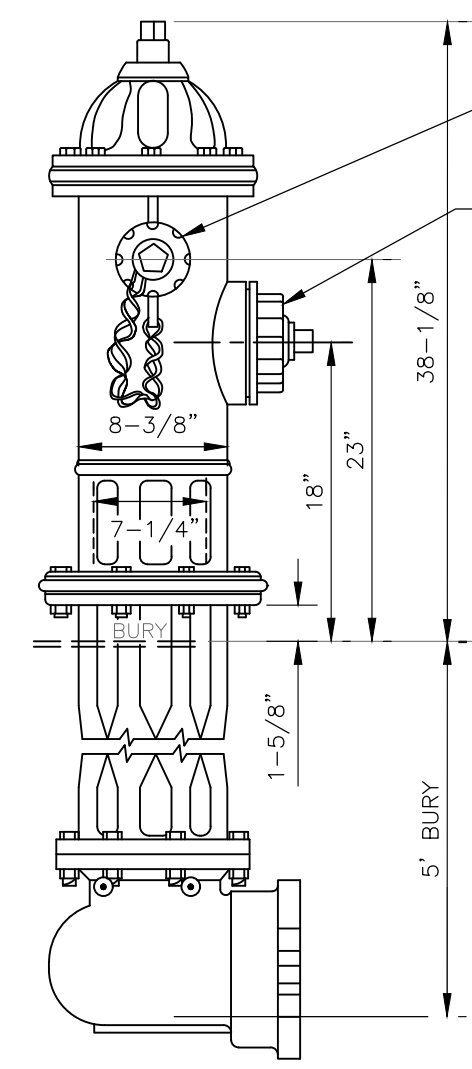
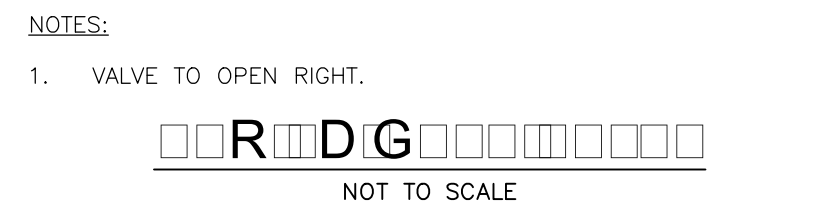
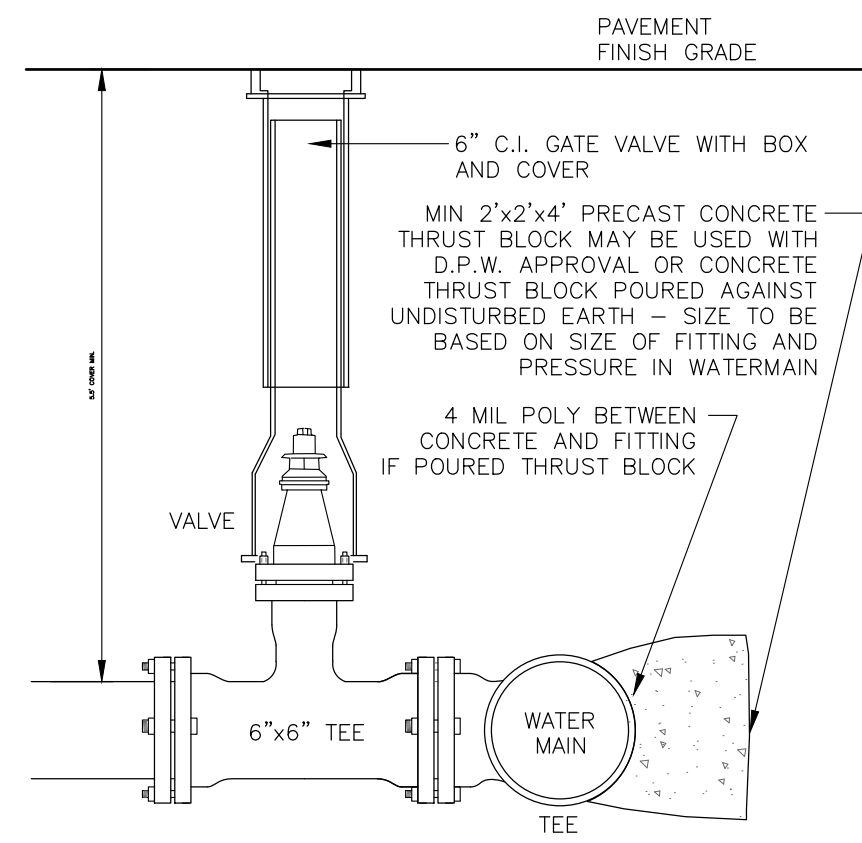




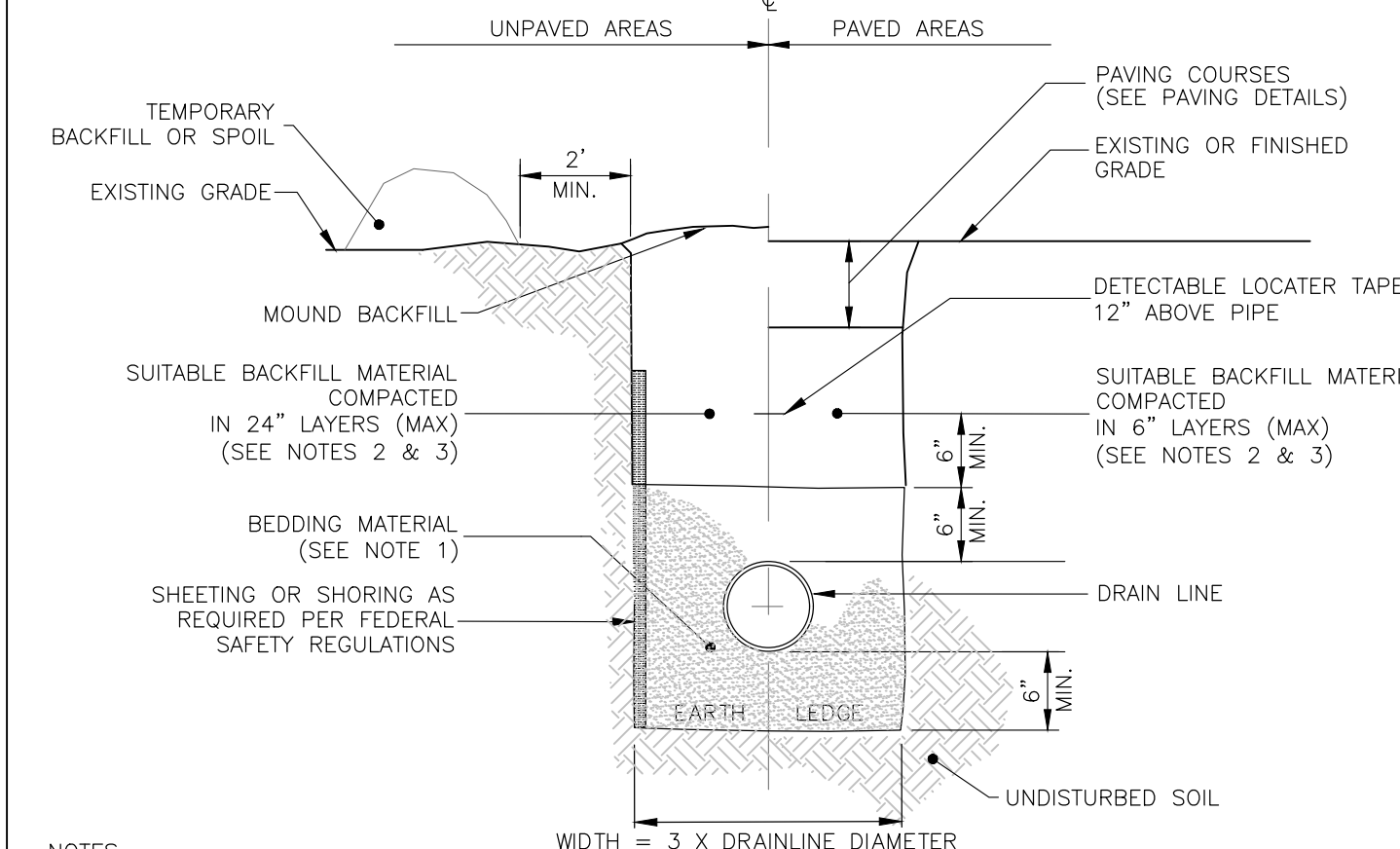
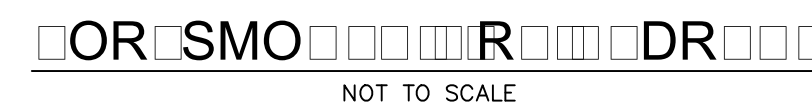
**NOTES**

- POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO PIPE JOINTS SHALL BE COVERED WITH CONCRETE.
- ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
- PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
- WHERE MECHANICAL JOINT PIPE IS USED, MECHANICAL JOINT PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
- INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE CITY/TOWN ESTABLISHED RULES AND PROCEDURES.

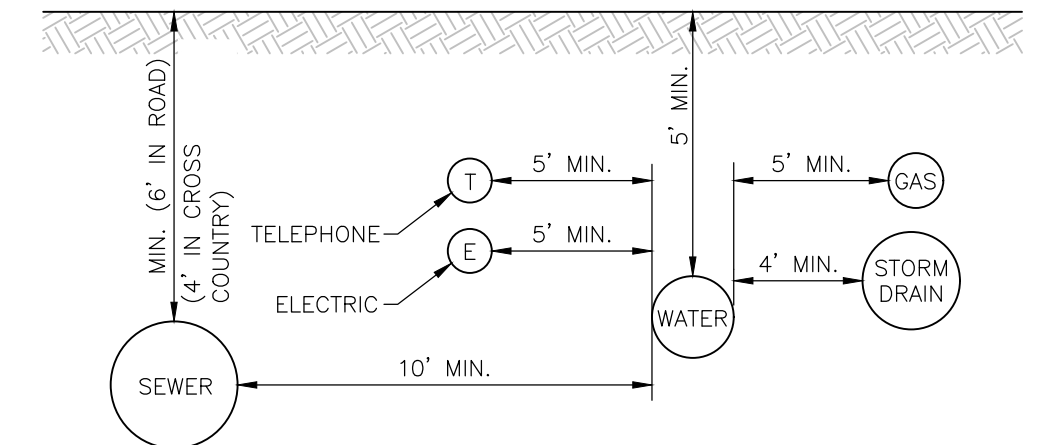
REACTION TYPE	PIPE SIZE			
	4"	6"	8"	10"
A 90°	0.89	2.19	3.82	11.14
B 180°	0.65	1.55	2.78	8.38
C 45°	0.48	1.19	2.12	6.02
D 22-1/2°	0.25	0.60	1.06	3.08
E 11-1/4°	0.13	0.30	0.54	2.38



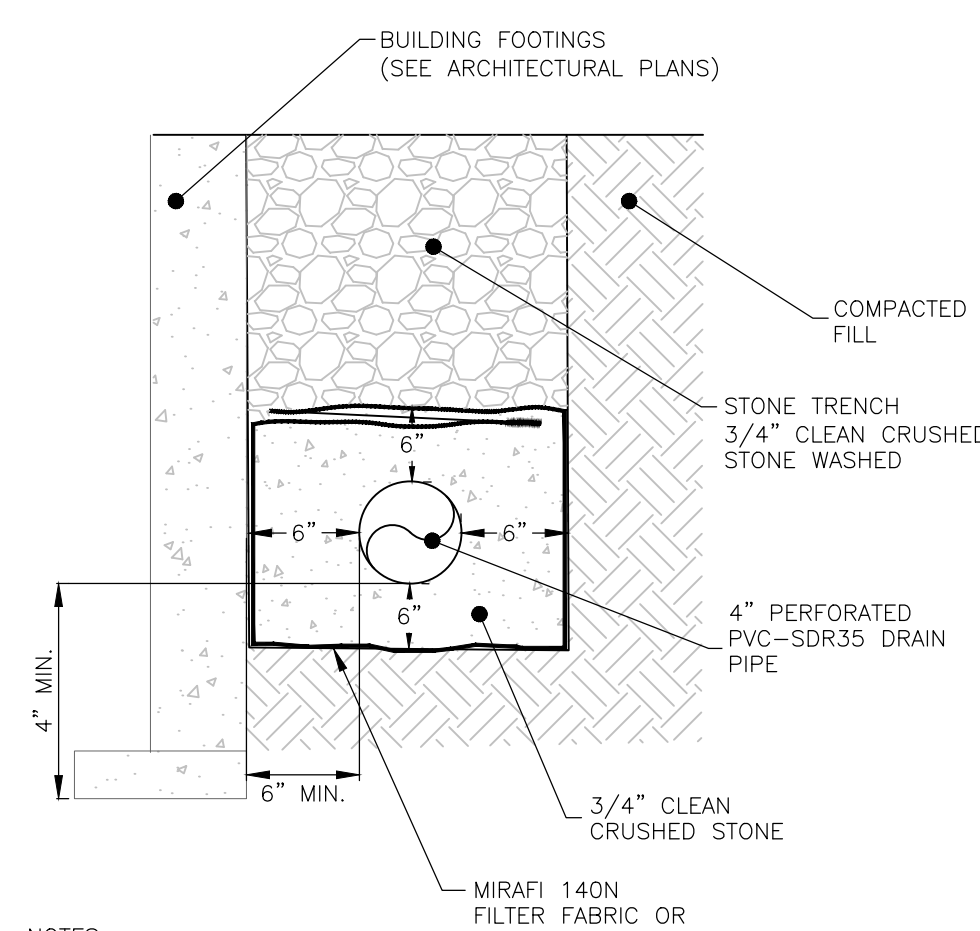
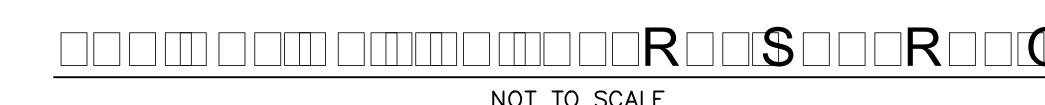
- SPECIFICATIONS**
- 150 PSI WORKING PRESSURE
  - 300 PSI TEST PRESSURE
  - HYDRANT DRAIN SHALL BE PLUGGED
  - DRY TOP DESIGN VALVE SHALL OPEN WHEN OPERATING NUT IS TURNED CLOCKWISE AND BE SO INDICATED ON HYDRANT
  - OPERATING NUT SHALL BE STANDARD AWWA PENTAGON OPERATING NUT WITH 1 1/2" POINT TO FLAT DIMENSION
  - THREADS SHALL BE NATIONAL STANDARD HOSE THREAD NOZZLES
  - HYDRANT TO OPEN RIGHT.



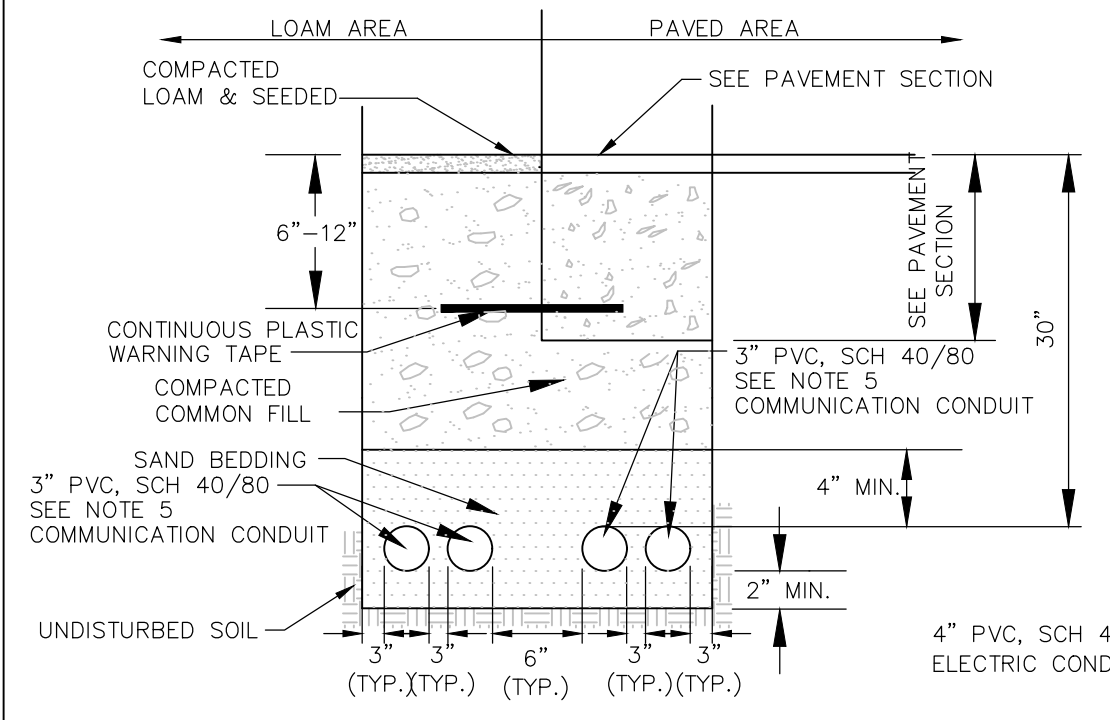
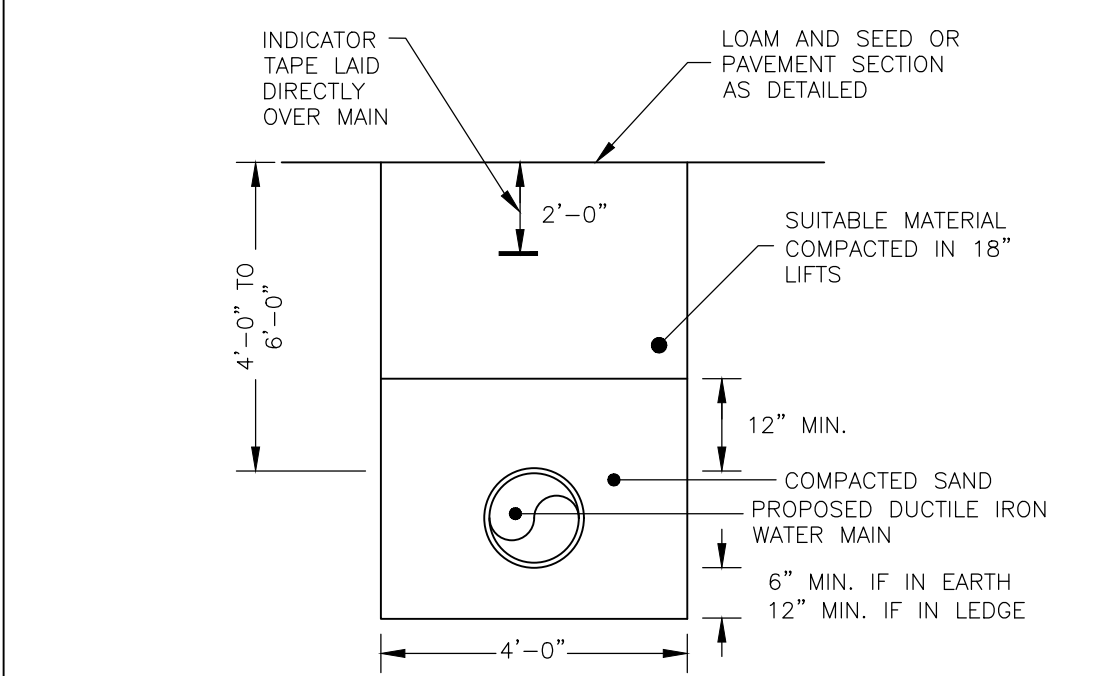
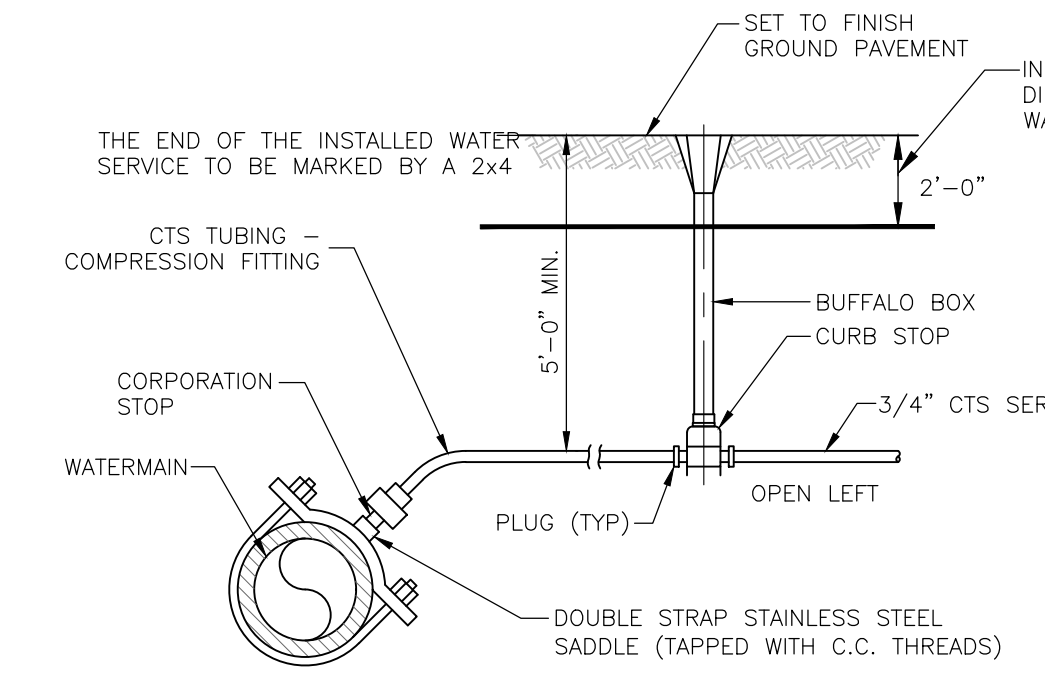
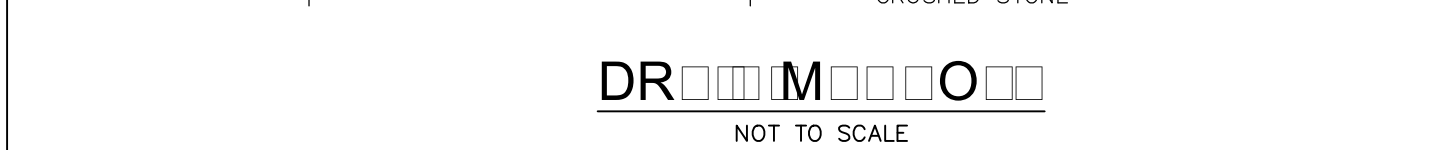
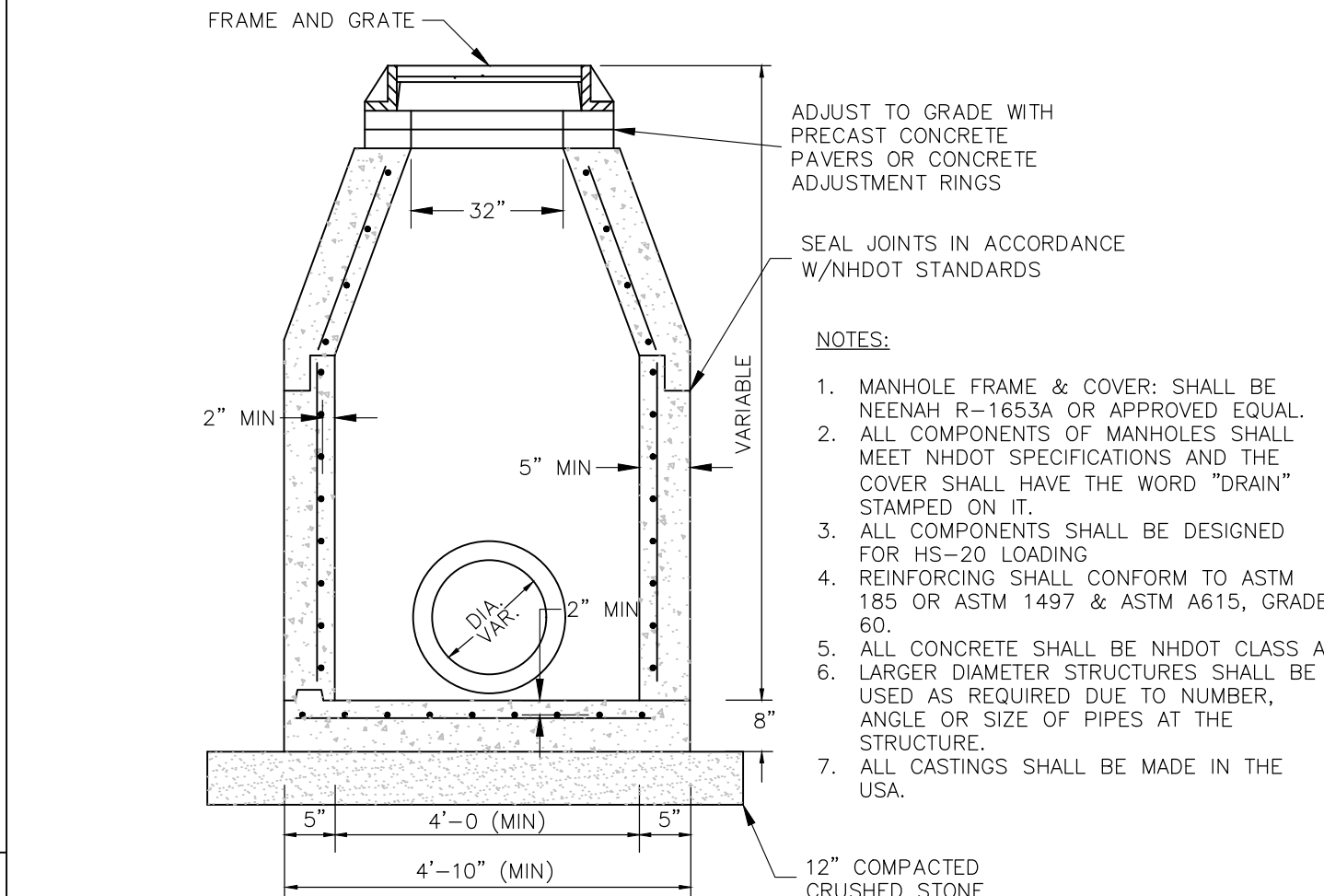
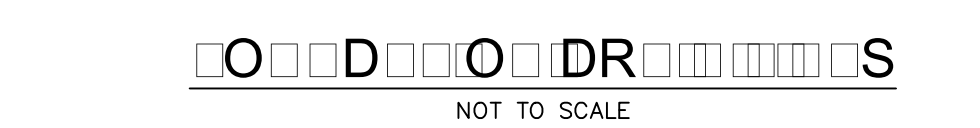
- NOTES**
- BEDDING - BEDDING FOR PIPES SHALL CONSIST OF PREPARING THE BOTTOM OF THE TRENCH TO SUPPORT THE ENTIRE LENGTH OF THE PIPE AT A UNIFORM SLOPE AND ALIGNMENT. CRUSHED STONE SHALL BE USED TO BED THE PIPE TO THE ELEVATION SHOWN ON THE DRAWINGS. NORMAL PIPE BEDDING IS CRUSHED STONE TO THE HAUNCH OF THE PIPE AND SAND BEDDING 6" ABOVE THE CROWN. IF THE TOP OF THE PIPE IS LESS THAN 30" FROM FINISH GRADE, BED PIPE COMPLETELY IN STONE UP TO 6" ABOVE PIPE CROWN. UNDERDRAIN TO HAVE 4" MINIMUM OF STONE OVER PIPE OR AS NECESSARY TO BE IN CONTACT WITH GRAVEL LAYER OF SELECTS ABOVE.
  - COMPACTION - ALL BACKFILL SHALL BE COMPACTED AT OR NEAR OPTIMUM MOISTURE CONTENT BY PNEUMATIC TAMPERS, VIBRATORY COMPACTORS OR OTHER APPROVED MEANS. BACKFILL BENEATH PAVED SURFACES SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T99, METHOD C.
  - SUITABLE MATERIAL - IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ROCKS OVER 6" IN LARGEST DIMENSION; FROZEN EARTH AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.
  - BASE COURSE AND PAVEMENT - SHALL MEET THE REQUIREMENT OF THE NHDOT LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DIVISION 300 AND 400 RESPECTIVELY.



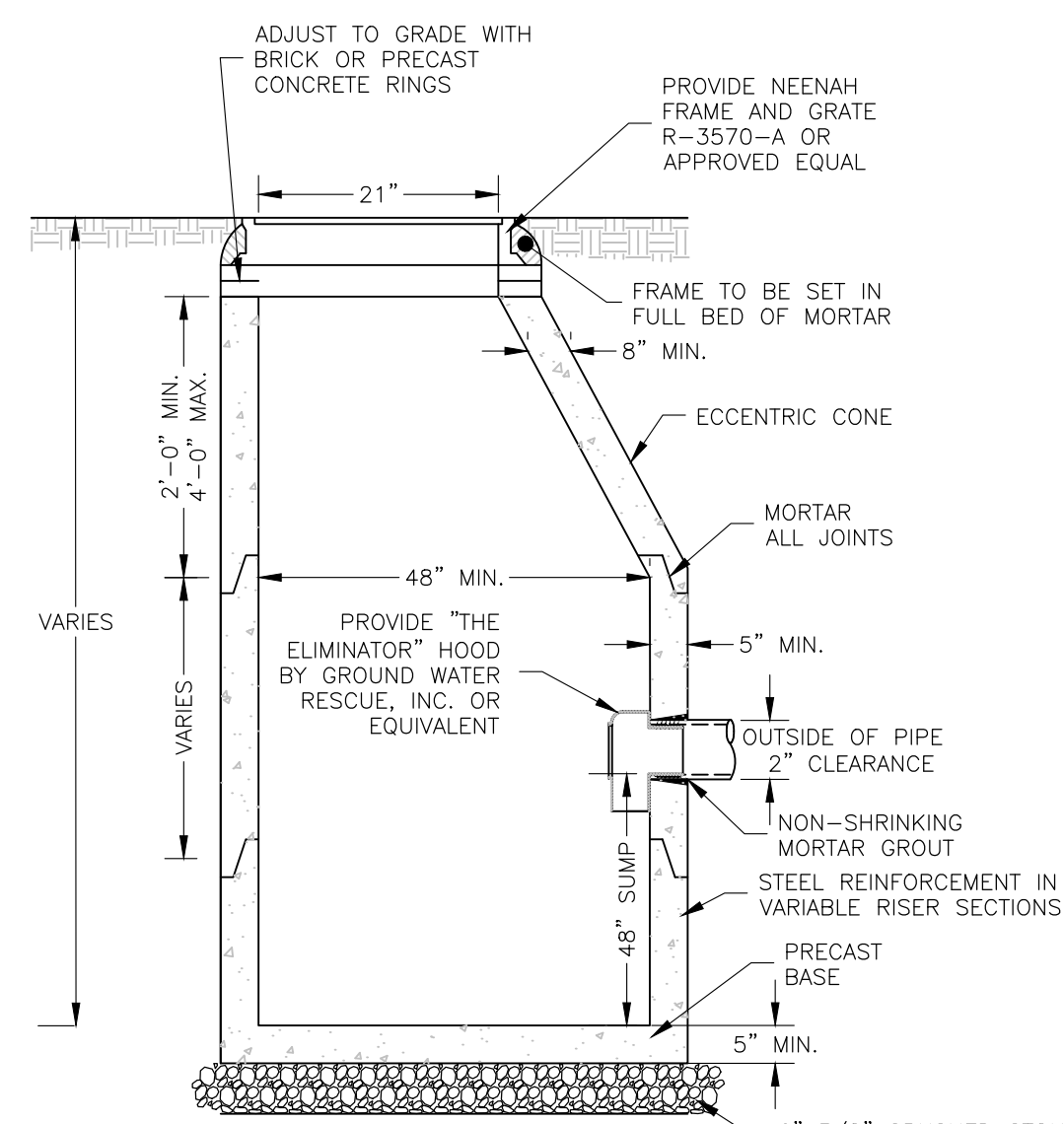
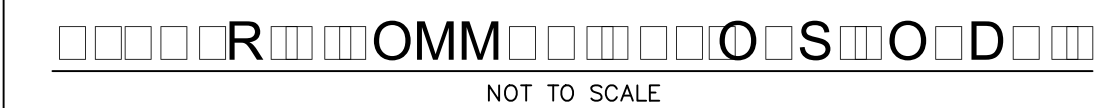
- NOTES**
- ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO EXETER DPW TECHNICAL SPECIFICATIONS.
  - ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
  - GAS MAIN SHALL HAVE A TYPICAL DEPTH OF 3' FROM THE TOP OF PIPE TO FINISH GRADE
  - DETAIL REPRESENTS LATERAL SEPARATION ONLY UNLESS OTHERWISE NOTED. CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY COMPANY FOR DEPTHS FOR GAS, TELEPHONE, AND ELECTRIC.



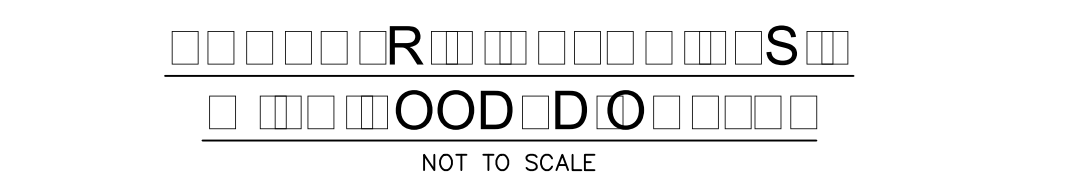
- NOTES**
- FOR MINIMUM DIMENSIONAL REQUIREMENT REFER TO THE GEOTECHNICAL REPORT PREPARED BY JOHN TURNER CONSULTING, INC. ON JULY 3, 2013.



- NOTES**
- ELECTRIC SERVICE INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL CODES.
  - COMMUNICATION SERVICE INSTALLATION SHALL MEET ALL CONSTRUCTION REQUIREMENTS.
  - ACTUAL NUMBER OF CONDUITS TO BE DETERMINED BY RESPECTIVE COMPANIES.
  - VERIFY INSTALLATION REQUIREMENTS WITH RESPECTIVE COMPANIES.
  - SCHEDULE 80 CONDUIT TO BE USED UNDER TRAFFIC SITUATIONS (PRIMARY AND SECONDARY LINES).
  - ALL 90 DEGREE SWEEPS MUST BE STEEL AND THE FIRST 10' STICK OUT OF THE 90 MUST BE STEEL ON ALL PRIMARY CONDUIT RUNS



- NOTES**
- ALL SECTIONS SHALL BE PRECAST CONCRETE NHDOT CLASS AA, 4,000 PSI.
  - ALL COMPONENTS OF CATCH BASINS SHALL MEET NHDOT SPECIFICATIONS.
  - ALL COMPONENTS SHALL BE DESIGNED FOR HS-20 LOADING.
  - LARGER DIAMETER STRUCTURES SHALL BE USED AS REQUIRED DUE TO NUMBER, ANGLE OR SIZE OF PIPES AT THE STRUCTURE.
  - ALL CASTINGS SHALL BE MADE IN THE USA.



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**SITE DEVELOPMENT PLANS**  
TAX MAP 242 LOT 4  
**DETAILS**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**

**SCALE: AS SHOWN** **APRIL 19, 2021**

Seacoast Division  
**TFM**  
Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

170 Commerce Way, Suite 102  
Portsmouth, NH 03801  
Phone (603) 431-2222  
Fax (603) 431-0910  
www.tfmoran.com

REV	DATE	DESCRIPTION	DR	CK
47388.11	DR JSM CK JUM	FB CADFILE	-	47388-11_DETAILS

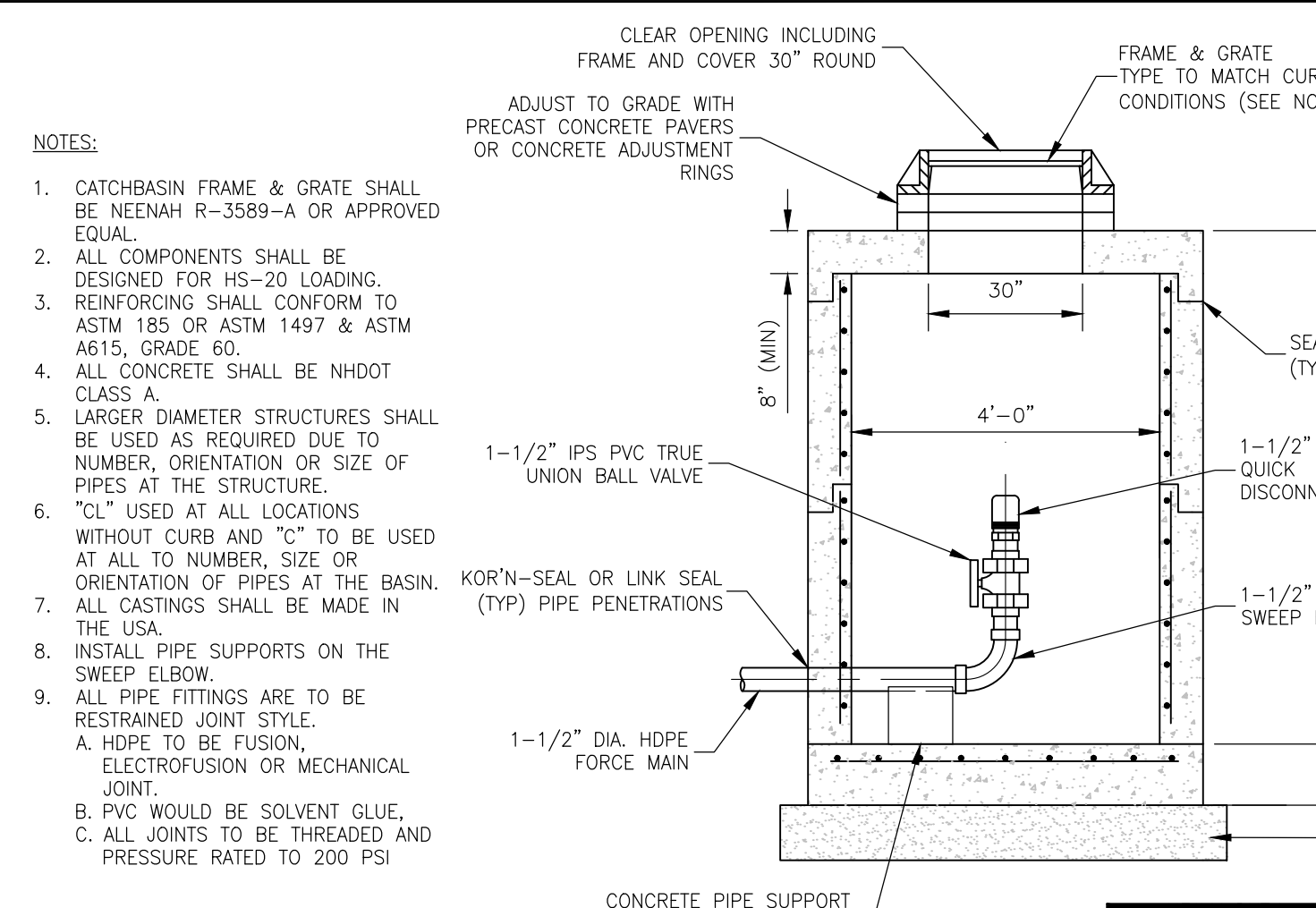
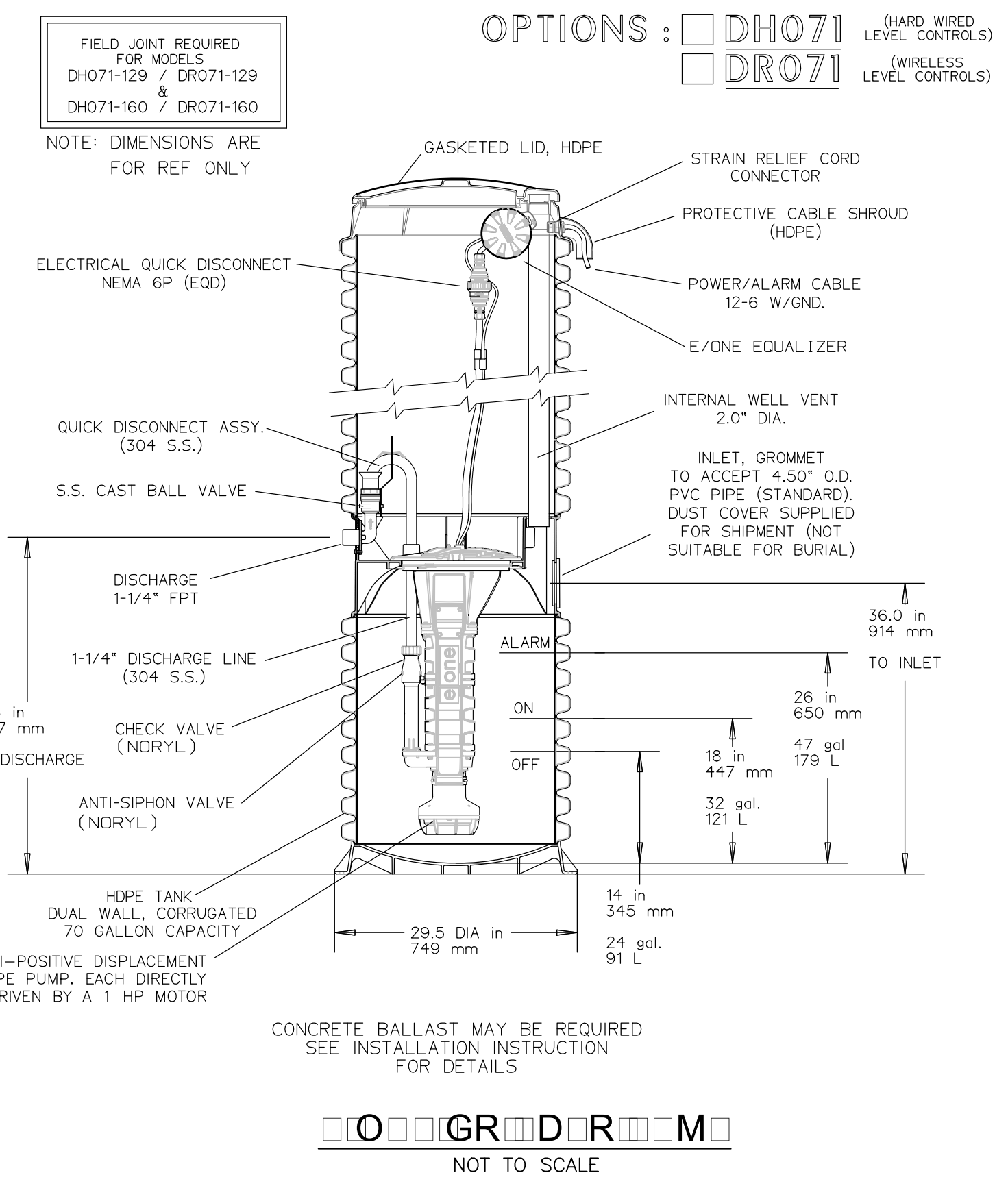
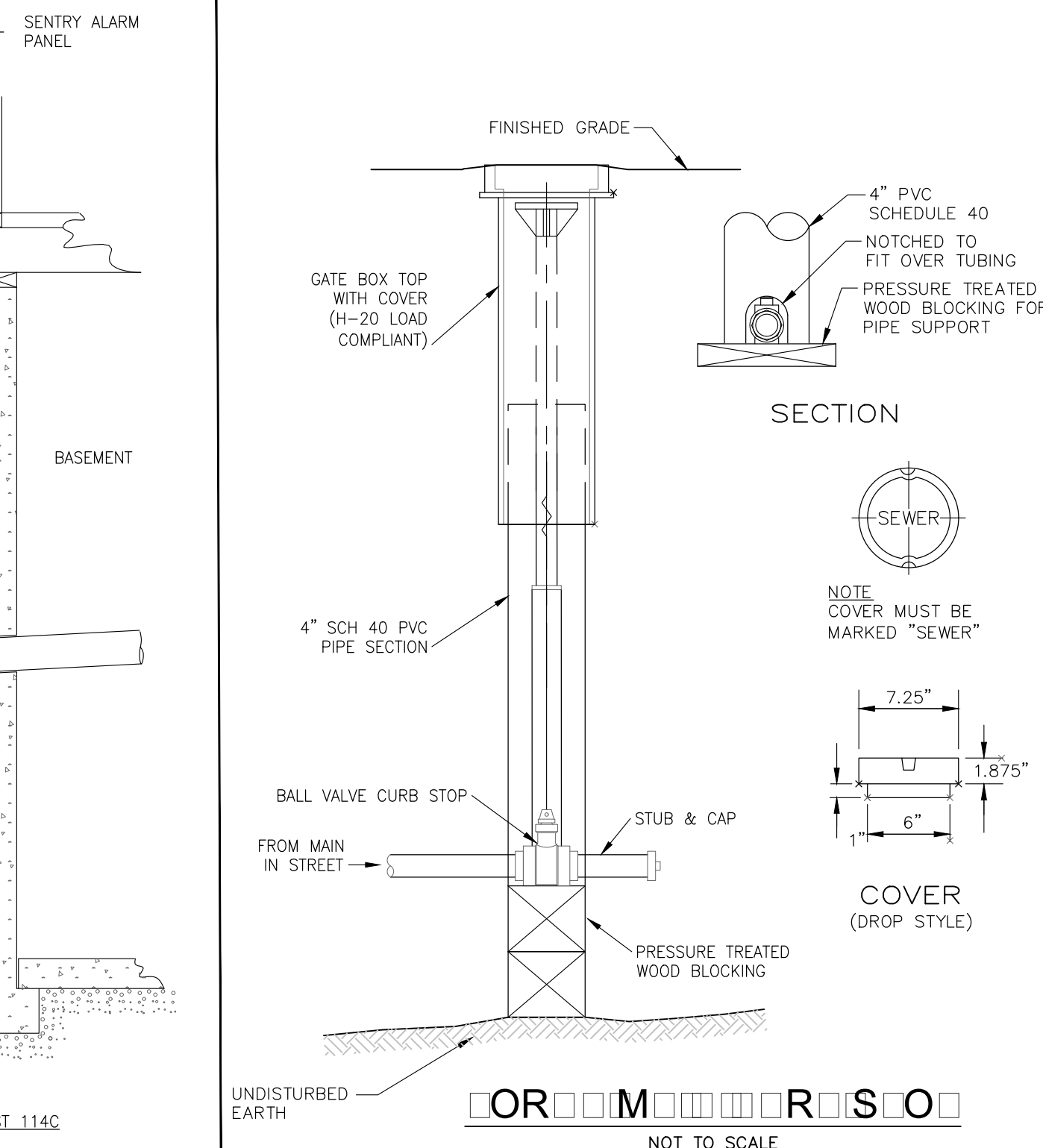
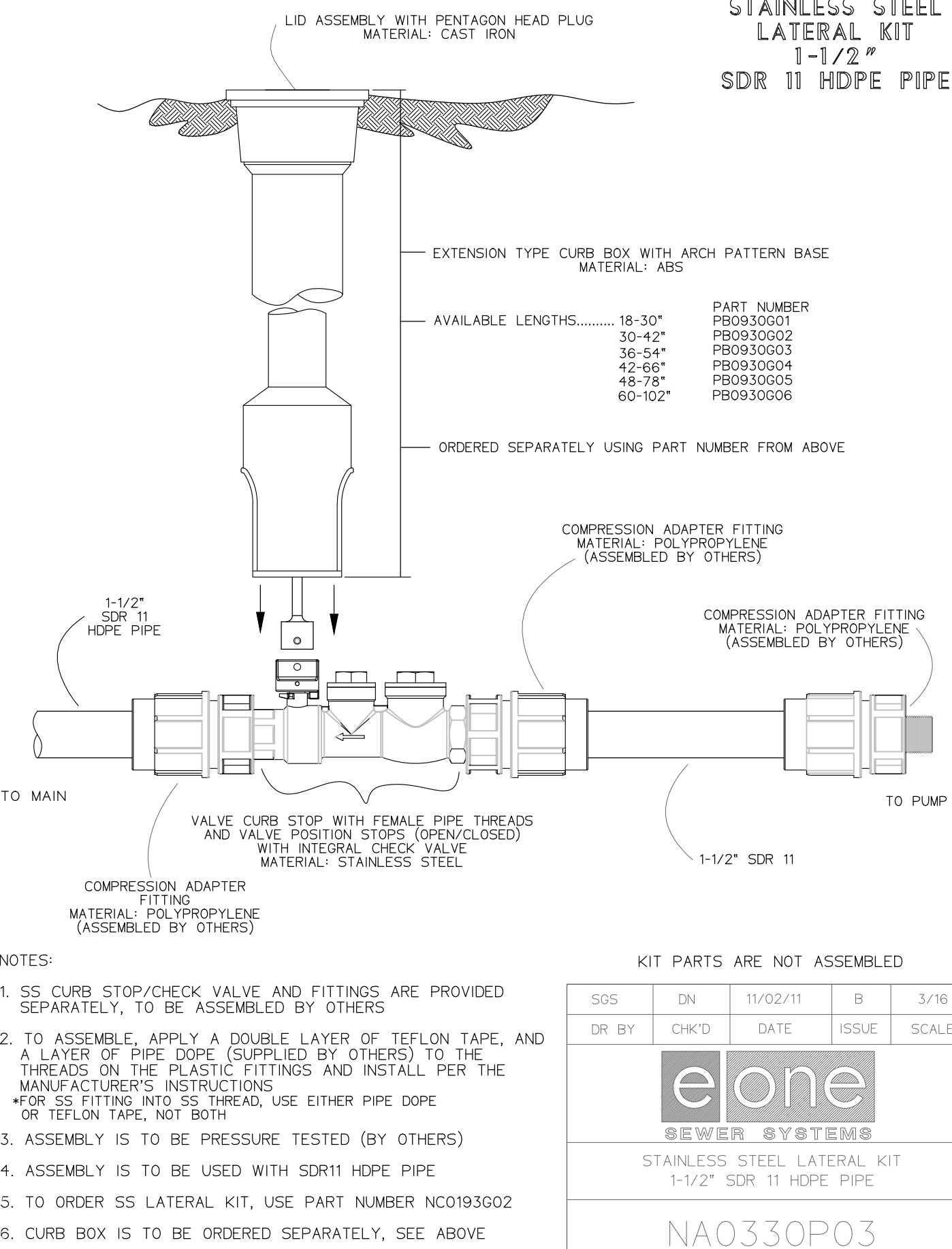
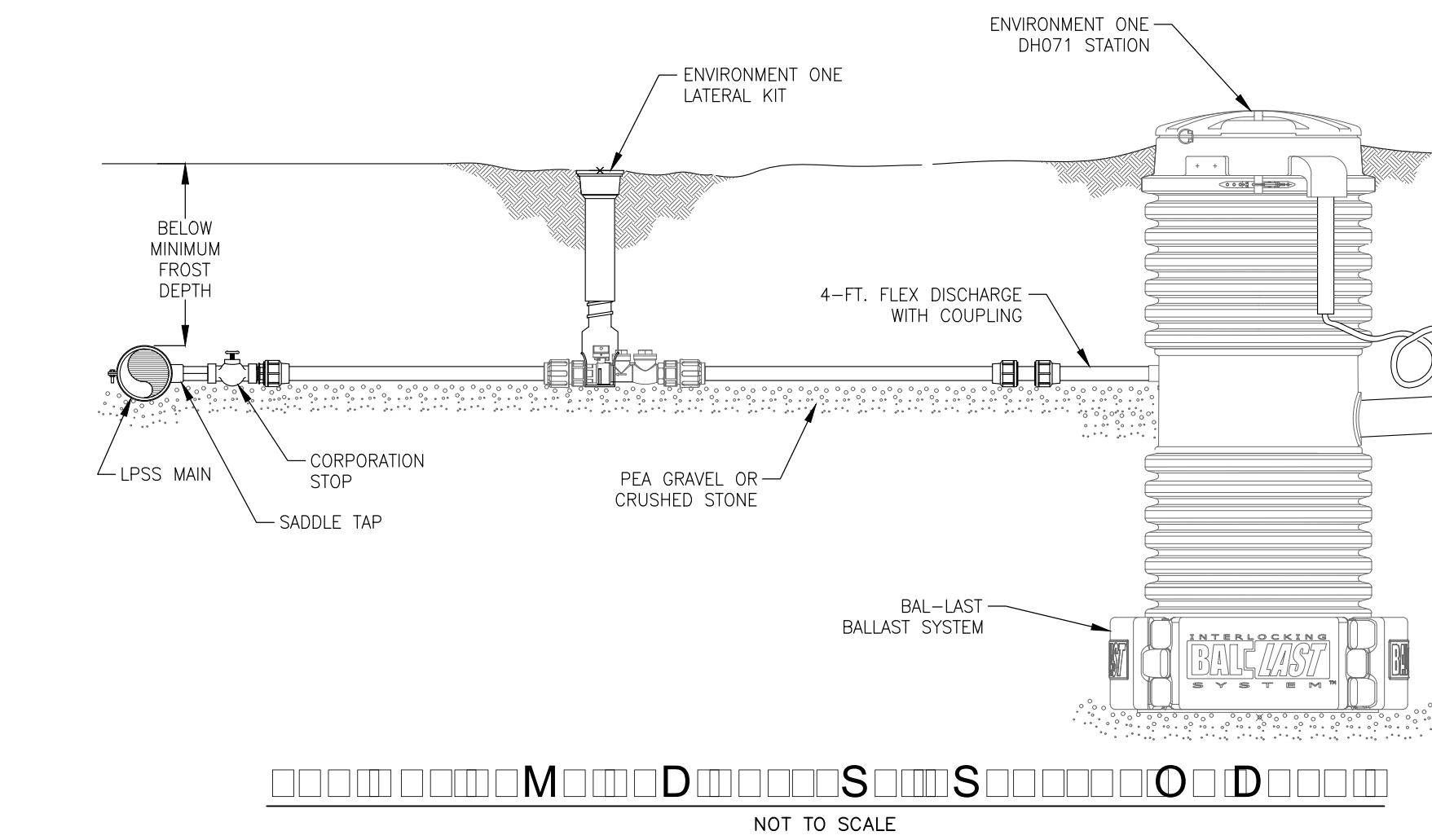
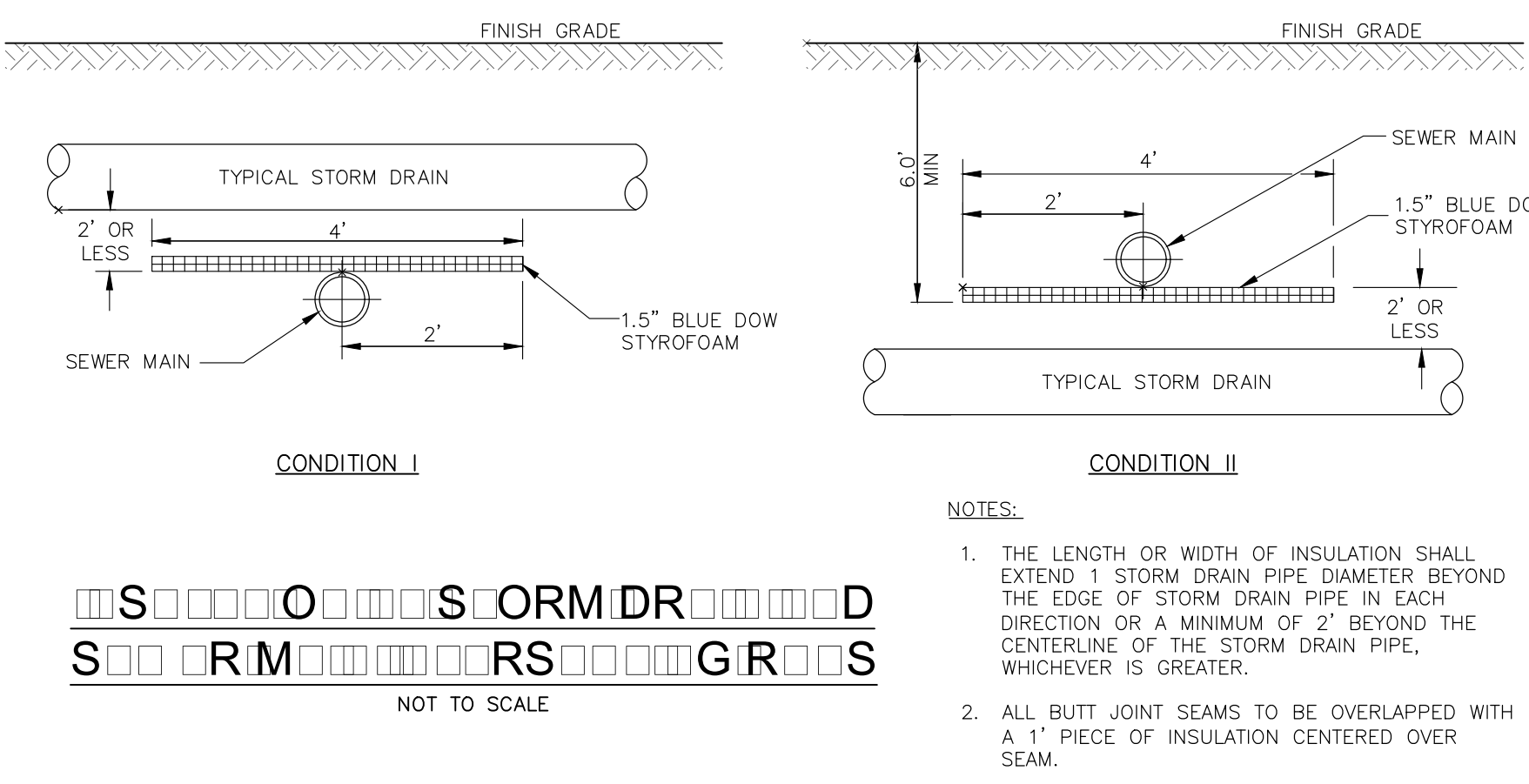
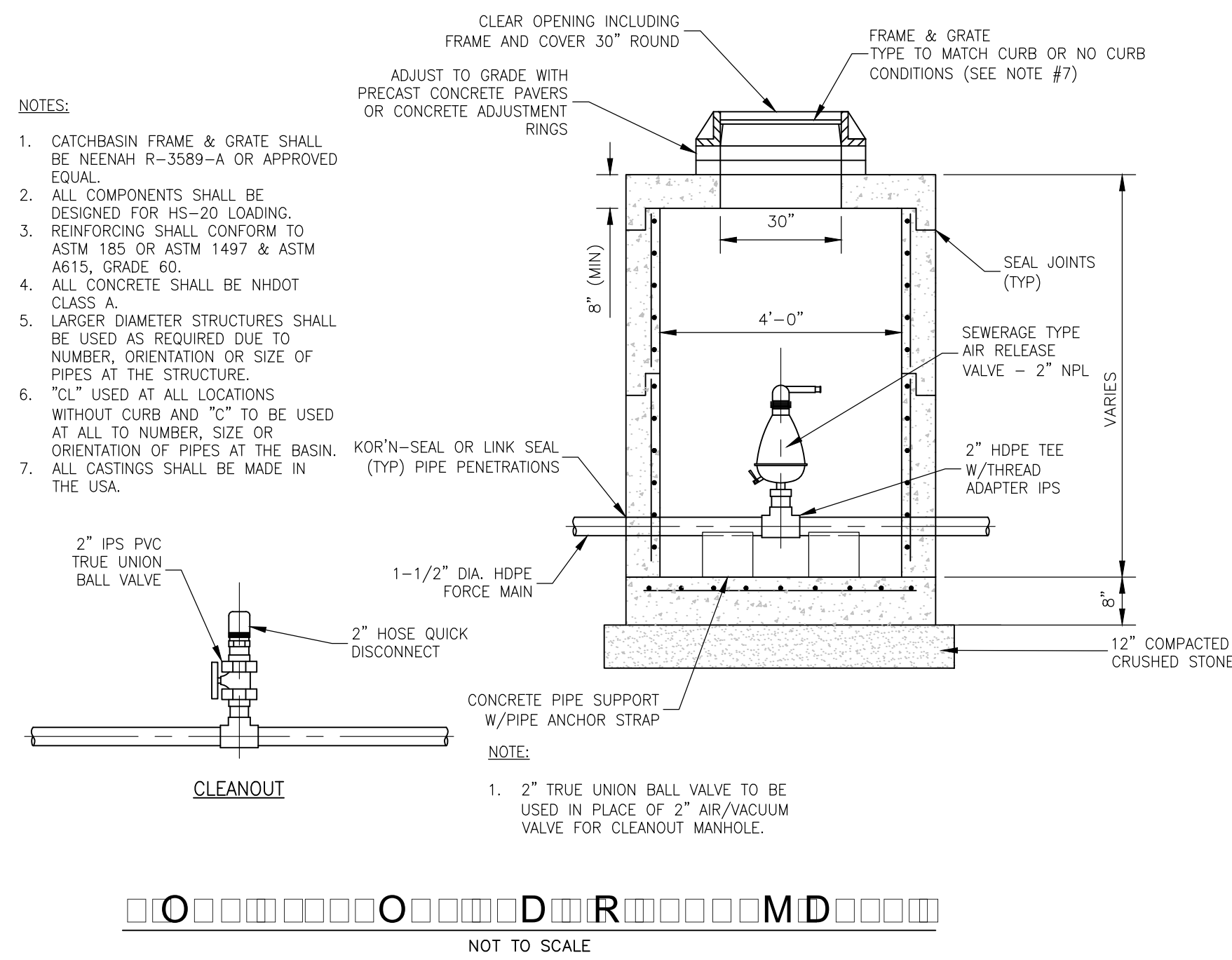
C-80









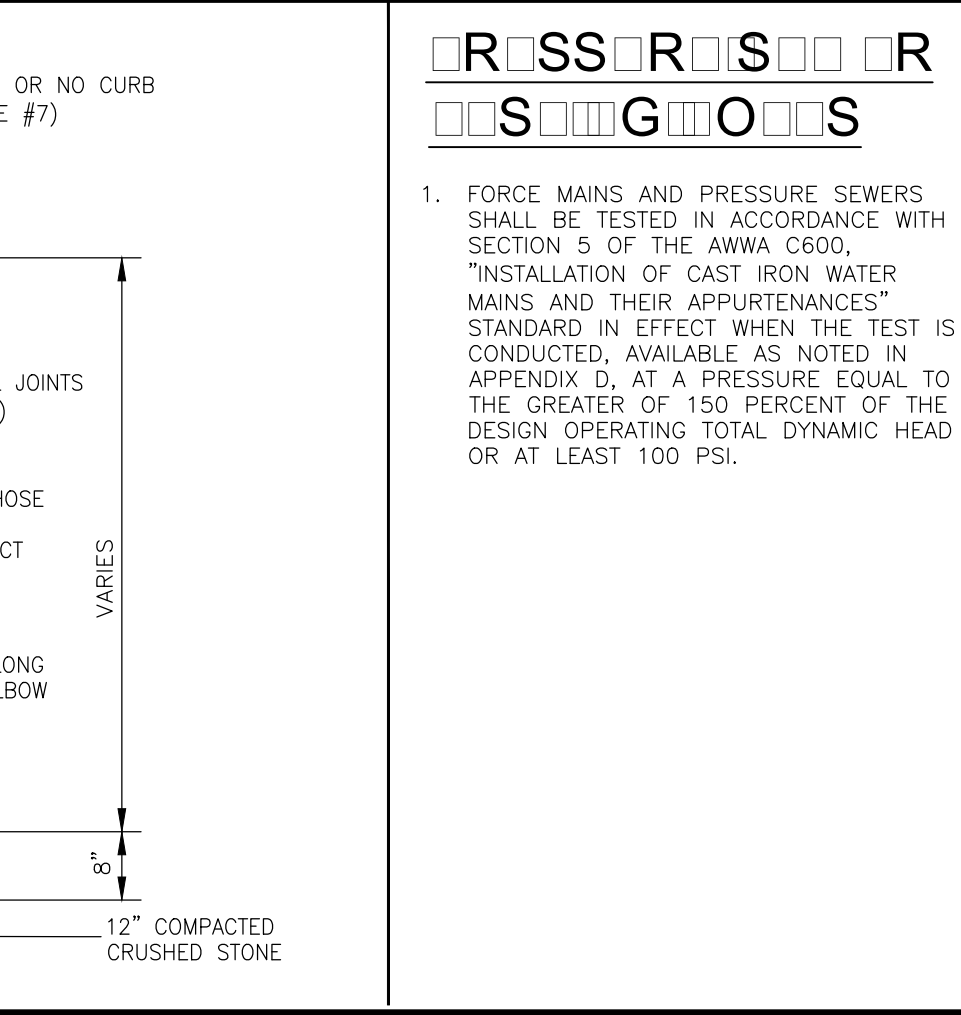


**NOTES:**

- THE PUMP CORE CONTAINS BUILT IN CHECK AND ANTI-SIPHON VALVES. IN ADDITION, THERE IS A REDUNDANT UNILATERAL CHECK AND ISOLATION VALVE AT THE LOT LINE WITH THE STAINLESS STEEL ASSEMBLY.
- THE STATION MONITOR CONTAINS A HIGH LEVEL ALARM. THE HIGH LEVEL ALARM IS RUN OFF A REDUNDANT RUN SWITCH THAT OVERRIDES THE RUN SWITCH IF IT SHOULD SEE A POWER FAILURE.
- THE ALARM PANEL HAS THE OPTION TO CONNECT A PORTABLE GENERATOR WITH A 20 AMP, 240 VOLT SUPPLY. POWER TRANSFERS AUTOMATICALLY IF THE PUMP IS CALLING TO RUN.
- THE PUMP IS RATED TO CONTINUOUS DUTY HEADS OF 185-FEET. THE SYSTEM AS DESIGNED WILL OPERATE AT 14.92 GPM AT 5.64- FEET TDH.
- THE PUMP RATED TO 700 GPD.
- THE TANK HAS A 70-GAL VOLUME AND ALLOWS FOR 43 GALLONS ABOVE THE "ON" LEVEL.
- A BACKUP GENERATOR WILL BE PROVIDED THAT SHALL BE AMPLE ENOUGH TO SUPPLY POWER TO RUN THE GRINDER PUMP AND ALARM SYSTEM. THERE SHALL BE ENOUGH FUEL ON SITE TO RUN THE GENERATOR FOR A MINIMUM OF 6 HRS.
- IN CASE OF A POWER FAILURE, A BATTERY BACKUP REMOTE SENTRY ALARM PANEL SHALL BE USED IN CONJUNCTION WITH THE E-ONE PUMP SYSTEM.

UL	NSF	SP		
AD	CH	10/20/10	D	
DR BY	CHK'D	DATE	ISSUE	SCALE

**eone**  
SEWER SYSTEMS  
MODEL DH071 / DR071  
DETAIL SHEET  
NA0050P02



**SITE DEVELOPMENT PLANS**  
TAX MAP 242 LOT 4  
**DETAILS**  
**PEVERLY HILL ROAD CONDOMINIUMS**  
83 PEVERLY HILL ROAD, PORTSMOUTH, NH  
OWNED BY  
**STOKEL SB & NA TRUST, PHILIP J 25% INT**  
PREPARED FOR  
**GREEN & COMPANY REAL ESTATE**  
1"=40' (11"X17")  
SCALE: 1"=20' (22"X34")  
APRIL 19, 2021

Seacoast Division  
**TFM**  
Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
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REV	DATE	DESCRIPTION	DR	CK
47388.11	DR JSM CK JUM	FB CADFILE	Sewer Details.dwg	C-82

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**DIG SAFE**

CONTRACTOR TO CALL 800-4-A-SAFE 24 HOURS PRIOR TO CONSTRUCTION





**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

April 19, 2021

Juliet T. H. Walker, Planning Director  
City of Portsmouth Municipal Complex  
1 Junkins Avenue  
Portsmouth, New Hampshire 03801

**Re: Site Plan Review  
Margeson Bros. Building  
Assessor's Map 126, Lot 1  
64 Vaughan Mall**

Dear Juliet,

On behalf of the Applicant, Hampshire Development Corp., Altus Engineering, Inc. respectfully submits an application for site plan review for the renovation of the Margeson Bros. building on Vaughan Mall. The Applicant is proposing to completely renovate the building, increase the footprint by 2,475 sf, add a fourth floor to a portion of the structure as well as an underground parking garage. Retail space is planned for the first floor with fourteen residential units proposed for the stories above. Access to the parking garage will be from the site's existing driveway on Hanover Street. The plan also contemplates a new sidewalk along the south face of the building and the reconfiguration of a portion of the parking spaces in the adjacent municipal parking lot. These changes result in no loss of parking and the creation of approximately 654 sf of additional green space connected to Vaughan Mall.

We are requesting one waiver from Site Plan Review Section 7.4.4.1, Stormwater Management and Erosion Control Plan. The site is 100% impervious in its existing condition. With the replacement of some of this pavement with green space, the rate and volume of stormwater will be reduced, making drainage calculations irrelevant as the site cannot generate any more runoff that it does in its current state. It is our opinion that the decrease in stormwater runoff does not warrant analysis and a waiver is reasonable.

Please call me if you have any questions or need any additional information.

Sincerely,  
**ALTUS ENGINEERING, INC.**

A handwritten signature in red ink, appearing to read "Erik Saari", is written over the printed name.

Erik Saari  
Vice President

ebs/5042-APP-PB-CovLtr-041921

Encl.: Application Materials

eCopy: Steve Wilson  
Shayne Forsley  
John Bosen



# 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. 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.

Bendetson-Portsmouth Realty Trust (Owner)

Name of Owner/Applicant: Hampshire Development Corp. (Applicant) Date Submitted: March 22, 2021

Phone Number: (603) 778-9999 E-mail: spwilson56@hotmail.com

Site Address: 64 Vaughan Mall Map: 126 Lot: 1

Zoning District: CD5 Lot area: 14,097 sq. ft.

Application Requirements			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Fully executed and signed Application form. <b>(2.5.2.3)</b>	Viewpoint	N/A
<input checked="" type="checkbox"/>	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF). <b>(2.5.2.8)</b>	Viewpoint	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 checked="" type="checkbox"/>	Statement that lists and describes "green" building components and systems. <b>(2.5.3.1A)</b>	Viewpoint	
<input checked="" type="checkbox"/>	Gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. <b>(2.5.3.1B)</b>	Sheet C-2, Note 4	N/A
<input checked="" type="checkbox"/>	Tax map and lot number, and current zoning of all parcels under Site Plan Review. <b>(2.5.3.1C)</b>	All applicable sheets	N/A
<input checked="" type="checkbox"/>	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. <b>(2.5.3.1D)</b>	All applicable sheets, LOA, Viewpoint	N/A

<b>Site Plan Review Application Required Information</b>			
<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 checked="" 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>(2.5.3.1E)</b>	Sheet 1 of 2	N/A
<input checked="" type="checkbox"/>	Names, addresses and telephone numbers of all professionals involved in the site plan design. <b>(2.5.3.1F)</b>	Cover Sheet	N/A
<input checked="" type="checkbox"/>	List of reference plans. <b>(2.5.3.1G)</b>	Sheet 1 of 2	N/A
<input checked="" type="checkbox"/>	List of names and contact information of all public or private utilities servicing the site. <b>(2.5.3.1H)</b>	Sheet C-1, Notes 11-15	N/A

<b>Site Plan Specifications</b>			
<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 checked="" 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. Submittals shall be a minimum of 11 inches by 17 inches as specified by Planning Dept. staff. <b>(2.5.4.1A)</b>	Required on all plan sheets	N/A
<input checked="" 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 checked="" 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>	Sheet 1 of 2, Note 2	N/A
<input checked="" type="checkbox"/>	Plans shall be drawn to scale. <b>(2.5.4.1D)</b>	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Plans shall be prepared and stamped by a NH licensed civil engineer. <b>(2.5.4.1D)</b>	All applicable 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 (no wetlands)	N/A
<input checked="" type="checkbox"/>	Title (name of development project), north point, scale, legend. <b>(2.5.4.2A)</b>	All applicable sheets	N/A
<input checked="" type="checkbox"/>	Date plans first submitted, date and explanation of revisions. <b>(2.5.4.2B)</b>	All applicable sheets	N/A
<input checked="" 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 checked="" type="checkbox"/>	Source and date of data displayed on the plan. <b>(2.5.4.2D)</b>	Sheet C-2, Note 2	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 checked="" 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>	Sheet C-2, Note 16	N/A
<input checked="" 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 C-2, Note 18  Sheet C-2, Note 17	N/A
<input type="checkbox"/>	Plan sheets showing landscaping and screening shall also include the following additional notes: a. "The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials." b. "All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair." c. "The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director." <b>(2.13.4)</b>	Landscaping Plans pending	N/A

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

<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>
	<b>1. Existing Conditions: (2.5.4.3A)</b>		
<input checked="" type="checkbox"/>	a. Surveyed plan of site showing existing natural and built features;	Sheet 1 of 1	
<input checked="" type="checkbox"/>	b. Zoning boundaries;	Sheet C-2	
<input checked="" type="checkbox"/>	c. Dimensional Regulations;	Sheet C-2, Note 4	
<input type="checkbox"/>	d. Wetland delineation, wetland function and value assessment;	N/A (no wetlands)	
<input type="checkbox"/>	e. SFHA, 100-year flood elevation line and BFE data.	N/A (no floodplain)	
	<b>2. Buildings and Structures: (2.5.4.3B)</b>		
<input checked="" type="checkbox"/>	a. Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation;	Sheet C-2	
<input checked="" type="checkbox"/>	b. Elevations: Height, massing, placement, materials, lighting, façade treatments;	Exterior Elevations	
<input checked="" type="checkbox"/>	c. Total Floor Area;	Sheet C-2, Note 26	
<input checked="" type="checkbox"/>	d. Number of Usable Floors;	Exterior Elevations	
<input checked="" type="checkbox"/>	e. Gross floor area by floor and use.	Sheet C-2, Note 26	
	<b>3. Access and Circulation: (2.5.4.3C)</b>		
<input checked="" type="checkbox"/>	a. Location/width of access ways within site;	Sheet C-2	
<input checked="" type="checkbox"/>	b. Location of curbing, right of ways, edge of pavement and sidewalks;	Sheet C-2	
<input checked="" type="checkbox"/>	c. Location, type, size and design of traffic signing (pavement markings);	Sheet C-2	
<input checked="" type="checkbox"/>	d. Names/layout of existing abutting streets;	Sheet C-2	
<input checked="" type="checkbox"/>	e. Driveway curb cuts for abutting prop. and public roads;	Sheet C-2	
<input type="checkbox"/>	f. If subdivision; Names of all roads, right of way lines and easements noted;	N/A (site plan)	
<input checked="" type="checkbox"/>	g. AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	Viewpoint (WB-40 per TAC)	
	<b>4. Parking and Loading: (2.5.4.3D)</b>		
<input checked="" type="checkbox"/>	a. Location of off street parking/loading areas, landscaped areas/buffers;	Sheet C-2	
<input checked="" type="checkbox"/>	b. Parking Calculations (# required and the # provided).	Sheet C-2, Note 5	
	<b>5. Water Infrastructure: (2.5.4.3E)</b>		
<input checked="" type="checkbox"/>	a. Size, type and location of water mains, shut-offs, hydrants & Engineering data;	Sheet C-4	
<input type="checkbox"/>	b. Location of wells and monitoring wells (include protective radii).	N/A (no wells)	
	<b>6. Sewer Infrastructure: (2.5.4.3F)</b>		
<input checked="" type="checkbox"/>	a. Size, type and location of sanitary sewage facilities & Engineering data.	Sheet C-4	
	<b>7. Utilities: (2.5.4.3G)</b>		
<input checked="" type="checkbox"/>	a. The size, type and location of all above & below ground utilities;	Sheet C-4	
<input checked="" type="checkbox"/>	b. Size type and location of generator pads, transformers and other fixtures.	Sheet C-4	

**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"/>	<b>8. Solid Waste Facilities: (2.5.4.3H)</b>		
<input checked="" type="checkbox"/>	a. The size, type and location of solid waste facilities.	Sheet C-2, Note 20	
<input type="checkbox"/>	<b>9. Storm water Management: (2.5.4.3I)</b>		
<input checked="" type="checkbox"/>	a. The location, elevation and layout of all storm-water drainage.	Sheet C-3	
<input type="checkbox"/>	<b>10. Outdoor Lighting: (2.5.4.3J)</b>		
<input type="checkbox"/>	a. Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and; b. photometric plan.	N/A (no onsite parking)	
<input type="checkbox"/>	<b>11. Indicate where dark sky friendly lighting measures have been implemented. (10.1)</b>	N/A (no onsite parking)	
<input type="checkbox"/>	<b>12. Landscaping: (2.5.4.3K)</b>		
<input type="checkbox"/>	a. Identify all undisturbed area, existing vegetation and that which is to be retained;	N/A (no landscaping on site)	
<input checked="" type="checkbox"/>	b. Location of any irrigation system and water source.	Sheet C-4	
<input type="checkbox"/>	<b>13. Contours and Elevation: (2.5.4.3L)</b>		
<input checked="" type="checkbox"/>	a. Existing/Proposed contours (2 foot minimum) and finished grade elevations.	Sheet C-3	
<input type="checkbox"/>	<b>14. Open Space: (2.5.4.3M)</b>		
<input checked="" type="checkbox"/>	a. Type, extent and location of all existing/proposed open space.	Sheet C-2	
<input checked="" type="checkbox"/>	<b>15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)</b>	Sheet 2 of 2	
<input checked="" type="checkbox"/>	<b>16. Location of snow storage areas and/or off-site snow removal. (2.5.4.3O)</b>	Sheet C-2, Note 25	
<input checked="" type="checkbox"/>	<b>17. Character/Civic District (All following information shall be included): (2.5.4.3Q)</b>		
<input type="checkbox"/>	a. Applicable Building Height (10.5A21.20 & 10.5A43.30);	Exterior Elevations	
<input type="checkbox"/>	b. Applicable Special Requirements (10.5A21.30);	Exterior Elevations	
<input type="checkbox"/>	c. Proposed building form/type (10.5A43);	Exterior Elevations	
<input type="checkbox"/>	d. Proposed community space (10.5A46).	Sheet C-2	



Other 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"/>	Traffic Impact Study or Trip Generation Report, as required. <i>(Four (4) hardcopies of the full study/report and Six (6) summaries to be submitted with the Site Plan Application) (3.2.1-2)</i>	Not requested by TAC	
<input checked="" type="checkbox"/>	Indicate where Low Impact Development Design practices have been incorporated. <b>(7.1)</b>	None (site is 100% impervious)	
<input checked="" 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>	Not in a wellhead area	
<input checked="" type="checkbox"/>	Indicate where measures to minimize impervious surfaces have been implemented. <b>(7.4.3)</b>	Sheet C-2	
<input checked="" type="checkbox"/>	Calculation of the maximum effective impervious surface as a percentage of the site. <b>(7.4.3.2)</b>	Sheet C-2, note 4	
<input type="checkbox"/>	Stormwater Management and Erosion Control Plan. <i>(Four (4) hardcopies of the full plan/report and Six (6) summaries to be submitted with the Site Plan Application) (7.4.4.1)</i>		Waiver

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 checked="" type="checkbox"/>	All local approvals, permits, easements and licenses required, including but not limited to: <ul style="list-style-type: none"> <li>a. Waivers;</li> <li>b. Driveway permits;</li> <li>c. Special exceptions;</li> <li>d. Variances granted;</li> <li>e. Easements;</li> <li>f. Licenses.</li> </ul> <b>(2.5.3.2A)</b>	Variance Pending	
<input checked="" 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>a. Calculations relating to stormwater runoff;</li> <li>b. Information on composition and quantity of water demand and wastewater generated;</li> <li>c. Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls;</li> <li>d. Estimates of traffic generation and counts pre- and post-construction;</li> <li>e. Estimates of noise generation;</li> <li>f. A Stormwater Management and Erosion Control Plan;</li> <li>g. Endangered species and archaeological / historical studies;</li> <li>h. Wetland and water body (coastal and inland) delineations;</li> <li>i. Environmental impact studies.</li> </ul> <b>(2.5.3.2B)</b>	Waiver Sheet C-4  None required at this time  None required at this time None required at this time Waiver  None required at this time None required at this time None required at this time	Waiver         Waiver

**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 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>	Pending	
<input checked="" 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>	N/A (none required)	

Applicant's Signature: EB: Saari Date: March 22, 2021  
 Erik Saari, Agent

**“Green” Statement**  
**Assessor’s Map 126 Lot 1**  
**Margeson Bros. Building**  
**64 Vaughan Mall**  
**Altus Project 5042**

Pursuant to Section 2.5.3.1(a) of the Site Plan Review Regulations, Altus Engineering, Inc. (Altus) respectfully submits the following list of the project’s “green” components for the renovation of the Margeson Bros. building at 64 Vaughan Mall:

- The renovation will meet or exceed all applicable current energy codes.
- New accessibility features will be installed to meet or exceed the ADA.
- The construction of a new sidewalk from Vaughan Mall to the BankProv building will enhance pedestrian connectivity and safety.
- All runoff that is currently directed to the municipal sanitary sewer will be redirected to the stormwater drainage system.
- Large granite blocks removed from the basement of the building will be reused on site to the greatest extent possible.
- The site plan increases green space on the site and in the adjacent Worth parking lot.

ebs/5042-APP-PB-GreenStatment-041921



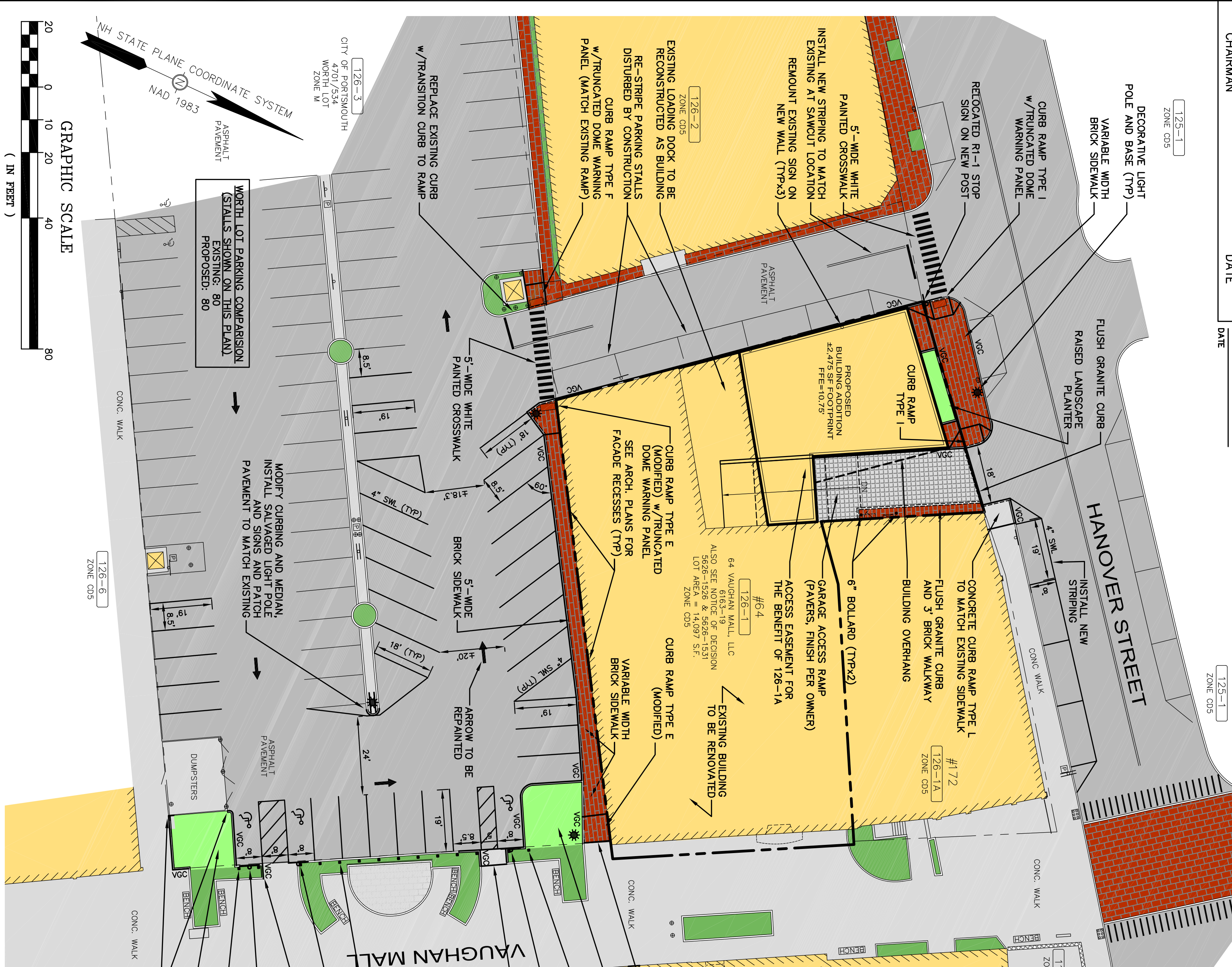


THE SOLE PURPOSE OF THIS PLAN IS TO REPORT THE LOCATION OF EXISTING AND PROPOSED IMPROVEMENTS ON THE SITE. RECORDING OF THIS PLAN WAS A REQUIREMENT OF THE PORTSMOUTH PLANNING BOARD AS PART OF THEIR APPROVAL.

FOR JAMES VERRA & ASSOCIATES, INC.

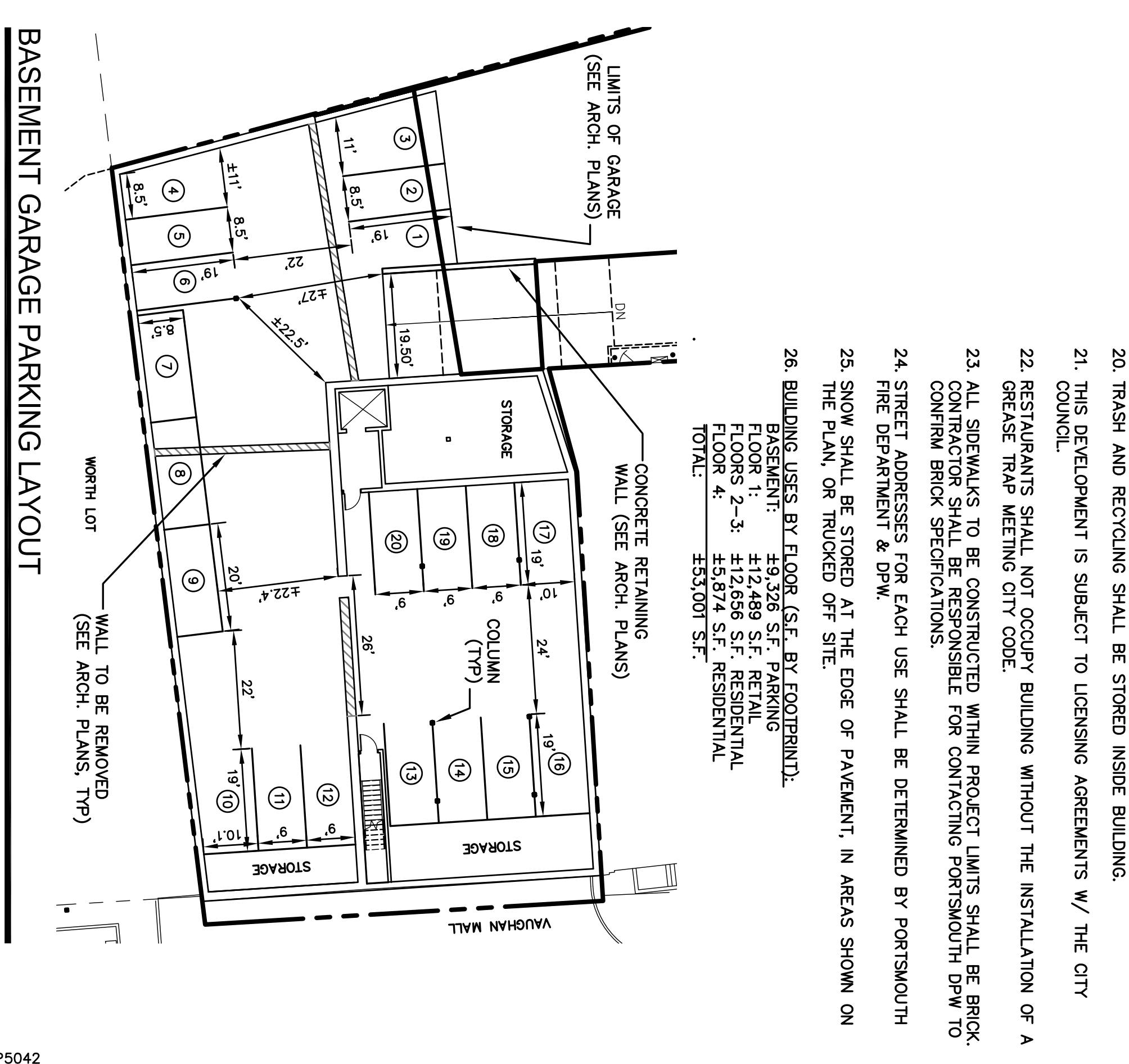
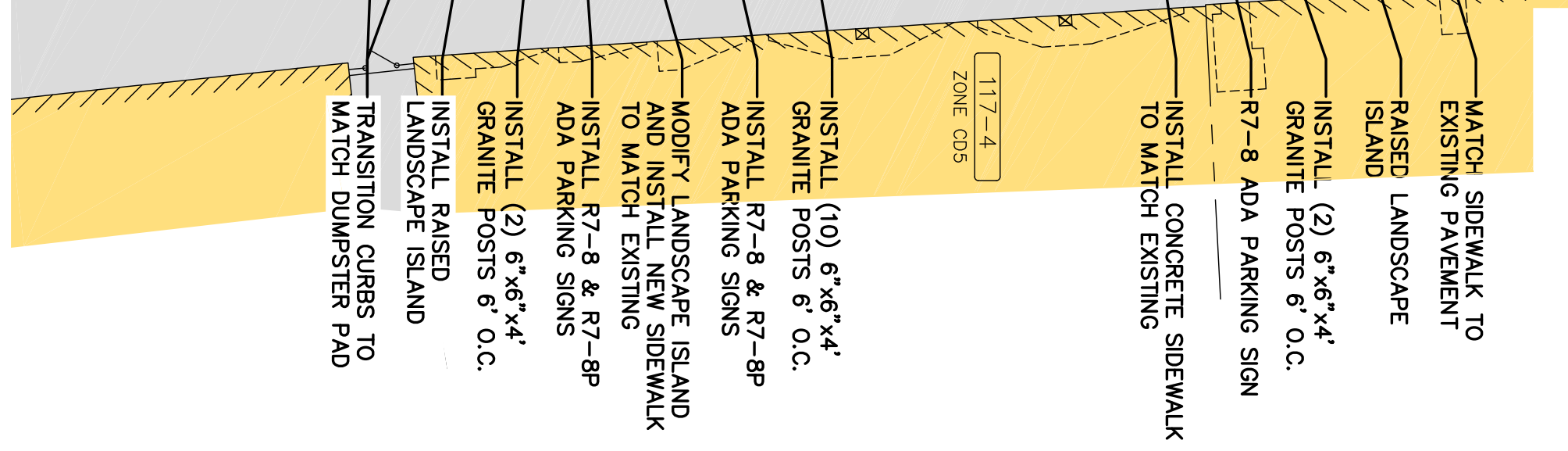
CHAIRMAN DATE

DATE



**NOTES**

- DESIGN INTENT - THIS PLAN IS INTENDED TO DEPICT THE RETROFIT OF THE EXISTING BUILDING TO INCLUDE AN ADDITIONAL UNDERGROUND PARKING GARAGE, RENTAL SPACE AND 14 RESIDENTIAL UNITS ALONG WITH A SIDEWALK, MODIFIED PARKING SPACES AND LANDSCAPE ISLANDS ON THE ADJUTING NORTH LOT.
- THE BASE PLAN USED HERE WAS DEVELOPED FROM EXISTING CONDITIONS PLAN, 64 VAUGHAN MALL, PORTSMOUTH, NH BY JAMES VERRA AND ASSOCIATES, INC., DATED FEBRUARY 3, 2020.
- ZONE: CD5 (CHARACTER 5)  
M (MUNICIPAL) FOR OFFSITE IMPROVEMENTS ON WORTH LOT  
OVERLAY: DOWNTOWN OVERLAY DISTRICT  
FACADE: HISTORIC OVERLAY DISTRICT  
STOREFRONT
- DIMENSIONAL REQUIREMENTS:  
FRONT YARD: 5' MAX.  
SECONDARY FRONT YARD: 5' MAX.  
SIDE YARD: NR  
REAR YARD: 5' MIN.  
FRONT LOT LINE BUILDOUT: 80% WIDTH MIN.  
MAX. BUILDING BLOCK: 225  
MAX. FACADE MODULATION: 100  
MAX. ENTRANCE SPACING: 50  
MAX. BUILDING COVERAGE: 95%  
MAX. BUILDING FOOTPRINT: 20,000 S.F.  
MIN. LOT AREA: NR  
MIN. LOT AREA/DWELLING: NR  
MIN. OPEN SPACE: 5%  
MAX. (LANDSCAPE AREAS) 0 S.F.  
MAX. SUD. FLR. GFA/USE: 15,000 S.F.  
MAX. BUILDING HEIGHT: 3 STORIES OR 40' ±10.014 S.F.  
PENTHOUSE HEIGHT: MAX. HEIGHT +2'  
MAX. GROUND FLOOR FEE: SIDEWALK GRADE +3'
- PARKING REQUIREMENTS:  
DWELLING UNITS: 1.3 SPACES / DWELLING UNIT OVER 750 S.F.  
14 UNITS x 1.3 = 18.2 SPACES REQUIRED  
VISITOR PARKING: 1 SPACE / 5 DWELLING UNITS (FOR LOT W/OVER 4 UNITS)  
14 UNITS / 5 = 2.8 SPACES REQUIRED  
NON-RESIDENTIAL USE: NR  
DOWNTOWN OVERLAY: SUBTRACT 4 SPACES/LOT  
TOTAL PARKING REQUIRED: 17 SPACES  
TOTAL PARKING PROVIDED: 20 SPACES (UNDERGROUND)
- ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
- ALL CONDITIONS OF THIS APPROVAL SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
- ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE CITY OF PORTSMOUTH & NHDOT'S STANDARD SPECIFICATIONS FOR ROAD & BRIDGE, LATEST EDITION. THE MORE STRINGENT SPECIFICATIONS SHALL GOVERN.
- CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
- THE CONTRACTOR SHALL VERIFY ALL BENCHMARKS AND TOPOGRAPHY IN THE FIELD PRIOR TO CONSTRUCTION.
- AREA OF DISTURBANCE IS UNDER 43,560 SF. COVERAGE UNDER EPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT IS NOT REQUIRED.
- PAVEMENT MARKINGS SHALL BE CONSTRUCTED USING WHITE, YELLOW, OR BLUE TRAFFIC PAINT (WHERE SPECIFIED) MEETING THE REQUIREMENTS OF AASHTO M248, TYPE F OR EQUAL. PAINTED ISLANDS AND LOADING ZONES SHALL BE 4'-WIDE DIAGONAL WHITE LINES 3'-0" O.C. BORDERED BY 4'-WIDE WHITE LINES. PARKING STALLS SHALL BE SEPARATED BY 4'-WIDE WHITE LINES. SEE DETAILS FOR HANDICAP SYMBOLS, SIGNS AND SIGN DETAILS. PAVEMENT MARKINGS SHALL BE INSTALLED AT LEAST 14-DAYS AFTER INSTALLATION OF WEARING COURSE PAVEMENT. CONTRACTOR SHALL APPLY TWO (2) COATS OF ALL PAVEMENT MARKINGS.
- PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC DEVICES," STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE AMERICANS WITH DISABILITIES ACT (ADA), LATEST EDITIONS.
- UNLESS OTHERWISE NOTED, ALL NEW CURBING SHALL BE VERTICAL GRANITE WITH A MINIMUM RADIUS OF 4'.
- THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION. ANY AND ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF BOTH THE ARCHITECT AND CIVIL ENGINEER FOR RESOLUTION.
- ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
- 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.
- THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- STEWORK CONTRACTOR SHALL PREPARE A LICENSED LAND SURVEYOR (LTS) STAMPED AS-BUILT SITE PLAN & PROVIDE A DIGITAL (CAD FORMAT) COPY FOR THE CITY'S GIS, DATA BASE.
- TRASH AND RECYCLING SHALL BE STORED INSIDE BUILDING.
- THIS DEVELOPMENT IS SUBJECT TO LICENSING AGREEMENTS W/ THE CITY COUNCIL.
- RESTAURANTS SHALL NOT OCCUPY BUILDING WITHOUT THE INSTALLATION OF A GREASE TRAP MEETING CITY CODE.
- ALL SIDEWALKS TO BE CONSTRUCTED WITHIN PROJECT LIMITS SHALL BE BRICK. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTRACTING PORTSMOUTH DPW TO CONFIRM BRICK SPECIFICATIONS.
- STREET ADDRESSES FOR EACH USE SHALL BE DETERMINED BY PORTSMOUTH FIRE DEPARTMENT & DPW.
- SNOW SHALL BE STORED AT THE EDGE OF PAVEMENT, IN AREAS SHOWN ON THE PLAN, OR TRUCKED OFF SITE.
- BUILDING USES BY FLOOR (S.F. BY FOOTPRINT):  
BASEMENT: 49,326 S.F. PARKING  
FLOOR 1: 412,489 S.F. RETAIL  
FLOOR 2-3: 412,656 S.F. RESIDENTIAL  
FLOOR 4: 45,874 S.F. RESIDENTIAL  
TOTAL: 453,001 S.F.



**ALTUS**  
ENGINEERING, INC.

133 Court Street  
Portsmouth, NH 03801  
(603) 433-2335  
www.altus-eng.com

Professional Engineer  
No. 7634  
4/19/21

NOT FOR CONSTRUCTION

ISSUED FOR: TAC

ISSUE DATE: APRIL 19, 2021

NO. DESCRIPTION	BY	DATE
0 CLIENT REVIEW	EBS	05/21/20
1 TAC WORK SESSION	EBS	07/07/20
2 TAC	EBS	10/19/20
3 PB CONSULTATION	EBS	12/30/20
4 REV. BLDG. HEIGHT	EBS	01/26/21
5 TAC	EBS	03/22/21
6 REV. FOOTPRINT FOR HDC	EBS	04/08/21
7 TAC	EBS	04/19/21

DRAWN BY: EBS

APPROVED BY: EDW

DRAWING FILE: 5042-SITE.dwg

SCALE: 22"x34" 1" = 20'  
11"x17" 1" = 40'

OWNER:  
**64 VAUGHAN MALL, LLC**  
41 INDUSTRIAL DRIVE  
EXETER, NH 03833

APPLICANT:  
**HAMPSHIRE DEVELOPMENT CORP.**  
41 INDUSTRIAL DRIVE  
EXETER, NH 03833

PROJECT:  
**64 VAUGHAN MALL BUILDING RESTORATION**  
TAX MAP 126, LOT 1  
64 VAUGHAN MALL  
PORTSMOUTH, NH 03801

TITLE:  
**SITE PLAN**  
SHEET NUMBER:  
**C-2**



# 64 VAUGHAN MALL BUILDING RESTORATION

64 Vaughan Mall,  
Portsmouth, New Hampshire

Assessor's Parcel 126, Lot 1

Issued for: TAC

Plan Issue Date:

April 19, 2021

**Owner:**

64 Vaughan Mall, LLC

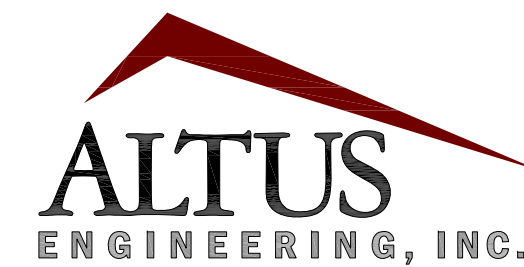
41 Industrial Drive  
Exeter, NH 03833

**Applicant:**

Hampshire  
Development Corp.

41 Industrial Drive  
Exeter, NH 03833  
(603) 778-9999

**Civil Engineer:**



133 Court Street Portsmouth, NH 03801  
(603) 433-2335 www.altus-eng.com

**Architect:**

JSA Design

273 Corporate Drive, Suite 100  
Portsmouth, NH 03801  
(603) 436-2551

**Surveyor:**

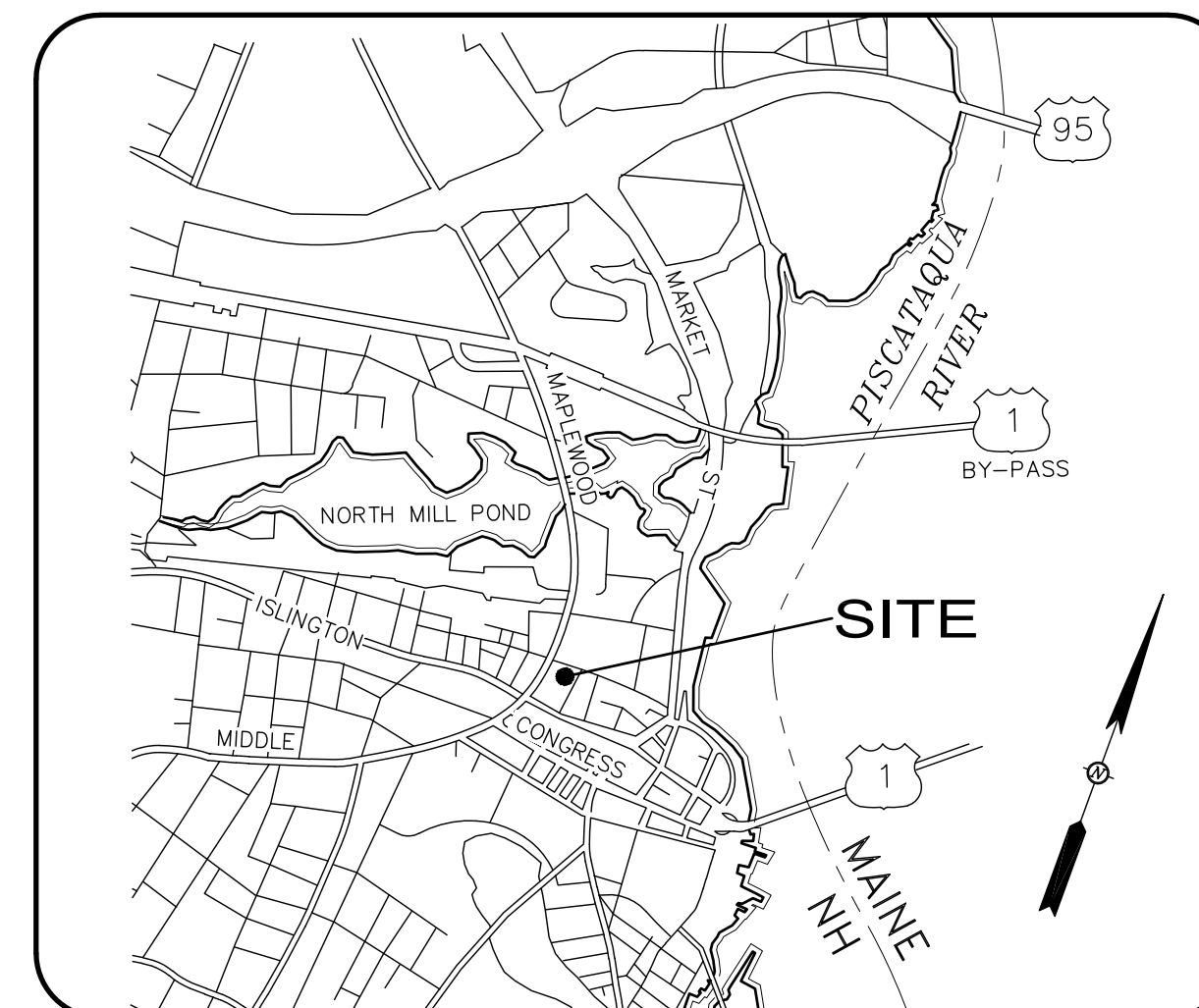
James Verra

& Associates Inc.

LAND SURVEYORS

101 SHATTUCK WAY, SUITE 8  
Newington, New Hampshire  
03801-7876

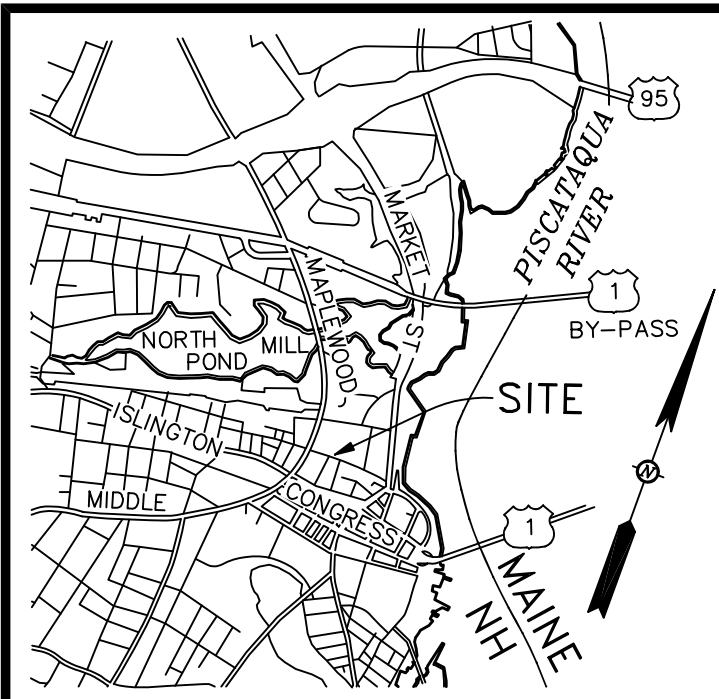
Tel 603-436-3557



LOCUS MAP  
Not to Scale

**Sheet Index  
Title**

	<b>Sheet No.:</b>	<b>Rev.</b>	<b>Date</b>
Existing Conditions Plan	1 of 1	1	04/19/20
Demolition Plan	C-1	5	04/19/21
Site Plan	C-2	7	04/19/21
Grading and Drainage Plan	C-3	5	04/19/21
Utilities Plan	C-4	5	04/19/21
Detail Sheet	D-1	2	03/22/21
Detail Sheet	D-2	2	03/22/21
Detail Sheet	D-3	2	03/22/21
Detail Sheet	D-4	2	03/22/21
Exterior Elevations			04/16/21
Exterior Elevations			04/16/21



**TEMPORARY BENCHMARK TABLE**

TBM#	DESCRIPTION	ELEV.
1	SURVEY NAIL SET IN TOP OF GRANITE CURBING	12.81
2	BOLT W/ "X" OUT - HYDRANT TOP FLANGE	13.58
3	SURVEY NAIL SET IN TOP OF TRANSFORMER PAD	17.71
4	TOP RIGHT OUTSIDE CORNER OF CONCRETE STEP	15.62

**DRAIN TABLE**

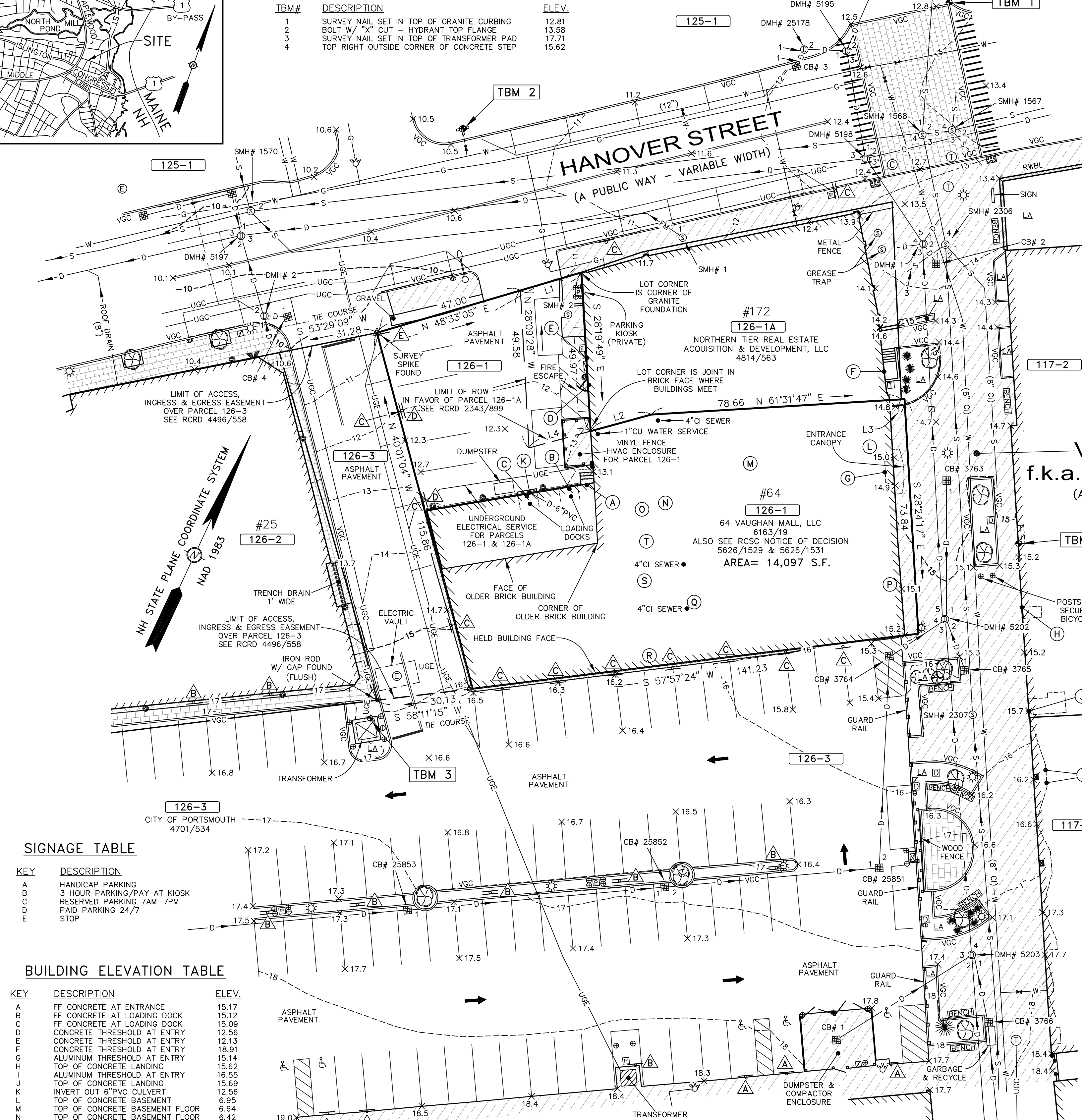
CB# 1	RIM EL= 17.62
CB# 2	RIM EL= 13.77
	(1) INV OUT 12"RCP= 10.12
CB# 3	RIM EL= 11.98
	(1) INV OUT 12"HDPE= 7.74
CB# 4	RIM EL= 9.57
	(1) INV OUT 12"PVC= 7.32±
	W/ TRAP ON OUTLET
CB# 3763	RIM EL= 14.71
	(1) INV OUT 12"RCP= 12.03
CB# 3764	RIM EL= 15.05
	WATER LEVEL= 11.10
CB# 3765	RIM EL= 15.35
	PLUGGED 13.5±
CB# 25851	RIM EL= 16.26
	(1) INV IN 12"HDPE= 12.08
	(2) INV OUT 12"HDPE= 12.01
CB# 25852	RIM EL= 16.81
	(1) INV IN 10"HDPE= 12.29
	(2) INV OUT 12"HDPE= 12.26
CB# 25853	RIM EL= 17.12
	(1) INV OUT 10"HDPE= 12.78

**SEWER TABLE**

SMH# 1	RIM EL= 11.80
	(1) INV OUT 4"PVC FM= 7.47
SMH# 2	RIM EL= 11.53
	(COULD NOT OPEN)
SMH# 1567	RIM EL= 12.96
	(1) PLUGGED
	(2) INV IN 12"RCP= 5.19
	(3) INACTIVE
	(4) INV OUT 12"____= 4.71
SMH# 1568	RIM EL= 12.86
	(1) INV IN 8"PVC= 4.88
	(2) INV IN 12"____= 4.68
	(3) INV IN 24"RCP= 5.05
	(4) INV OUT 12"RCP= 6.83
	(23" CSU PER DPW)
SMH# 1570	RIM EL= 10.16
	(2) INV IN 15"RCP= 3.74
SMH# 2306	RIM EL= 13.84
	(1) INV IN 10"RCP= 6.86
	(2) INV IN 24"RCP= 8.88
	(3) INV IN 6"PVC= 11.24
	(4) INV OUT 24"RCP= 6.83
	(23" CSU PER DPW)

**LEGEND:**

- 110-5 ..... TAX SHEET - LOT NUMBER
- RCRD ..... ROCKINGHAM COUNTY REGISTRY OF DEEDS
- RCSC ..... ROCKINGHAM COUNTY SUPERIOR COURT
- VGC ..... VERTICAL FACED GRANITE CURB
- RWBL ..... MODULAR BLOCK RETAINING WALL
- PK ..... PARK METER KIOSK
- ⊙ ..... BOLLARD
- ⊙ ..... SIGN
- ⊙ ..... HANDICAP SPACE
- ⊙ ..... LIGHT POLE
- ⊙ ..... UTILITY POLE WITH ARM & LIGHT
- ⊙ ..... ELECTRICAL MANHOLE
- ⊙ ..... ELECTRICAL CONDUIT
- ⊙ ..... ELECTRIC METER
- ⊙ ..... GAS SHUT OFF
- ⊙ ..... GAS VALVE
- ⊙ ..... WATER GATE VALVE
- ⊙ ..... WATER SHUT OFF VALVE
- ⊙ ..... HYDRANT
- ⊙ ..... FIRE CONNECTION
- ⊙ ..... CATCH BASIN
- ⊙ ..... DRAIN MANHOLE
- ⊙ ..... ROOF DOWNSPOUT
- ⊙ ..... SEWER MANHOLE
- ⊙ ..... DECIDUOUS TREE
- ⊙ ..... CONIFEROUS SHRUB
- ⊙ ..... DECIDUOUS SHRUB
- w ..... WATER LINE
- s ..... SEWER LINE
- d ..... DRAIN LINE
- g ..... GAS LINE
- uec ..... UNDERGROUND ELECTRIC
- ugc ..... UNDERGROUND COMMUNICATIONS
- ▨ ..... CEMENT CONCRETE
- ▨ ..... BRICK PAVERS
- ▨ ..... RETAINING WALL
- LA ..... LANDSCAPED AREA
- ⊙ ..... SPOT GRADE
- ⊙ ..... SEE SIGNAGE TABLE
- ⊙ ..... SEE BUILDING ELEVATION TABLE
- ⊙ ..... EXISTING TRAFFIC FLOW SYMBOL



**VAUGHAN MALL  
f.k.a. VAUGHAN STREET**  
(A PUBLIC WAY - VARIABLE WIDTH)

**LINE TABLE**

LINE	BEARING	DISTANCE
L1	N 48°33'05" E	20.00
L2	N 49°44'19" E	19.83
L3	N 61°31'47" E	1.00
L4	S 49°44'19" W	20.06

**ABUTTERS LIST**

MAP-LOT	OWNER OF RECORD	DEED REF.
117-2	JAMER REALTY, INC. 80 HANOVER ST, PORTSMOUTH, NH 03801	3093/1283
117-4	SJW LTD C/O GENE FISK & ASSOCIATES, LLC 4 GREENLEAF WOODS DR, SUITE 102 PORTSMOUTH, NH 03801	2574/495
125-1	HANOVER APARTMENTS, LLC (195 HANOVER ST #1) C/O CATHARTES PRIVATE INVESTMENTS 100 SUMMER STREET, SUITE 1600, BOSTON, MA 02110	N/A
125-1	PORTWALK HI, LLC (195 HANOVER ST #2) C/O CATHARTES PRIVATE INVESTMENTS 100 SUMMER STREET, SUITE 1600, BOSTON, MA 02110	N/A
126-1A	NORTHERN TIER REAL ESTATE ACQUISITION & DEVELOPMENT, LLC C/O JOHN J. DUSSI 4 MOODY LN, WEST NEWBURY, MA 01985	4814/563
126-3	CITY OF PORTSMOUTH 1 JUNKINS AVE, PORTSMOUTH, NH 03801	4701/534

**NOTES:**

- OWNER OF RECORD..... 64 VAUGHAN MALL, LLC.  
ADDRESS..... 41 INDUSTRIAL DRIVE, UNIT 20, EXETER, NH 03833  
DEED REFERENCE..... 6163/19  
TAX SHEET / LOT..... 126-1
- THIS PLAN IS BASED ON A FIELD SURVEY BY JAMES VERRA AND ASSOCIATES, INC. 3/2014, 4/2017 & 12/2019. ON SITE CONTROL ESTABLISHED USING SURVEY GRADE GPS UNITS. HORIZONTAL DATUM: NAD 1983 (1986 ADJUSTMENT) PRIMARY BM: NHDOT 379-0150 (PORTSMOUTH TRAFFIC CIRCLE) VERTICAL DATUM: NAVD 1988 PRIMARY BM: CITY CONTROL POINT "ALBA"
- CONTRACTOR TO VERIFY SITE BENCHMARKS BY LEVELING BETWEEN 2 BENCHMARKS PRIOR TO THE SETTING OR ESTABLISHMENT OF ANY GRADES/ELEVATIONS. DISCREPANCIES ARE TO BE REPORTED TO JAMES VERRA AND ASSOC., INC.
- THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (IE CATCH BASINS, MANHOLES, WATER GATES ETC.) AND INFORMATION COMPILED FROM PLANS PROVIDED BY UTILITY COMPANIES AND GOVERNMENTAL AGENCIES. ALL CONTRACTORS SHOULD NOTIFY, IN WRITING, SAID AGENCIES PRIOR TO ANY EXCAVATION WORK AND CALL DIG-SAFE @ 1-888-DIG-SAFE.
- SEE ROCKINGHAM COUNTY SUPERIOR COURT NOTICE OF DECISION DATED 3/18/2015, RCRD BOOK 5626, PAGE 1529. ALSO SEE STIPULATION DATED 1/30/2015, RCRD BOOK 5626, PAGE 1531.
- THE SUBJECT TRACT LIES IN ZONE X (UNSHADED), AS SHOWN ON FLOOD INSURANCE RATE MAP 33015C0259F, EFFECTIVE DATE JANUARY 29, 2021, BY FEMA.

**REFERENCE PLANS:**

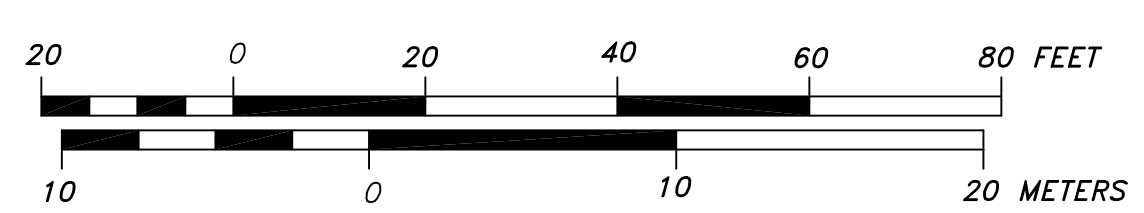
- PLAT OF LAND, 64 VAUGHAN MALL, PORTSMOUTH, N.H., FOR BENDETSON-PORTSMOUTH REALTY TRUST, REVISED TO 9/17/2018, RCRD PLAN D-41080.
- CONDOMINIUM SITE PLAN, THE PROVIDENT CONDOMINIUM, 25 MAPLEWOOD AVENUE, PORTSMOUTH, N.H., FOR 25 MAPLEWOOD AVENUE, LLC., DATED 12/20/2019, RCRD PLAN D-41922.
- EXISTING CONDITIONS PLAN, PROPOSED SITE DEVELOPMENT PLANS, 25 MAPLEWOOD AVENUE, PORTSMOUTH, N.H., BY JAMES VERRA AND ASSOCIATES, INC., DATED 4/18/2017, NOT RECORDED.

**SIGNAGE TABLE**

KEY	DESCRIPTION
A	HANDICAP PARKING
B	3 HOUR PARKING/PAY AT KIOSK
C	RESERVED PARKING 7AM-7PM
D	PAID PARKING 24/7
E	STOP

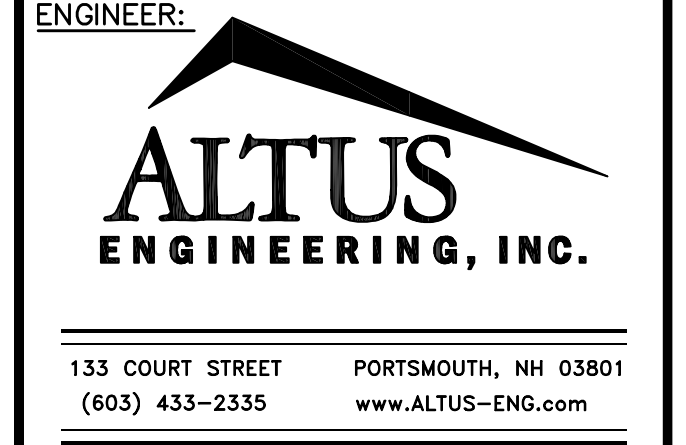
**BUILDING ELEVATION TABLE**

KEY	DESCRIPTION	ELEV.
A	FF CONCRETE AT ENTRANCE	15.17
B	FF CONCRETE AT LOADING DOCK	15.12
C	FF CONCRETE AT LOADING DOCK	15.09
D	CONCRETE THRESHOLD AT ENTRY	12.56
E	CONCRETE THRESHOLD AT ENTRY	12.13
F	CONCRETE THRESHOLD AT ENTRY	18.91
G	ALUMINUM THRESHOLD AT ENTRY	15.14
H	TOP OF CONCRETE LANDING	15.62
I	ALUMINUM THRESHOLD AT ENTRY	16.55
J	TOP OF CONCRETE LANDING	15.69
K	INVERT OUT 6"PVC CULVERT	12.56
L	TOP OF CONCRETE BASEMENT	6.95
M	TOP OF CONCRETE BASEMENT FLOOR	6.64
N	TOP OF CONCRETE BASEMENT FLOOR	6.42
O	TOP OF CONCRETE BASEMENT FLOOR	7.17
P	TOP OF CONCRETE BASEMENT FLOOR	6.92
Q	TOP OF CONCRETE BASEMENT FLOOR	6.67
R	TOP OF CONCRETE BASEMENT FLOOR	7.07
S	TOP OF CONCRETE BASEMENT FLOOR	6.77
T	TOP OF CONCRETE BASEMENT FLOOR	6.26



**SURVEYOR:**  
**James Verra and Associates, Inc.**  
**LAND SURVEYORS**

101 SHATTUCK WAY - SUITE 8  
NEWINGTON, N.H. 03801-7876  
603-436-3557  
JOB NO: 23524-A  
PLAN NO: 23524-A



**ISSUED FOR:**  
**APPROVAL**

**ISSUE DATE:**  
**APRIL 19, 2021**

**REVISIONS**

NO.	DESCRIPTION	BY	DATE
1	APPROVAL	JV	4/19/21

**DRAWN BY:** JCS  
**APPROVED BY:** JV  
**DRAWING FILE:** 23524-A.DWG

**SCALE:**  
22" x 34" - 1" = 20'  
11" x 17" - 1" = 40'

**OWNER:**  
**64 VAUGHAN MALL, LLC**  
**41 INDUSTRIAL DRIVE**  
**UNIT 20**  
**EXETER, NH 03833**  
**ASSESSOR'S PARCEL**  
**126-1**

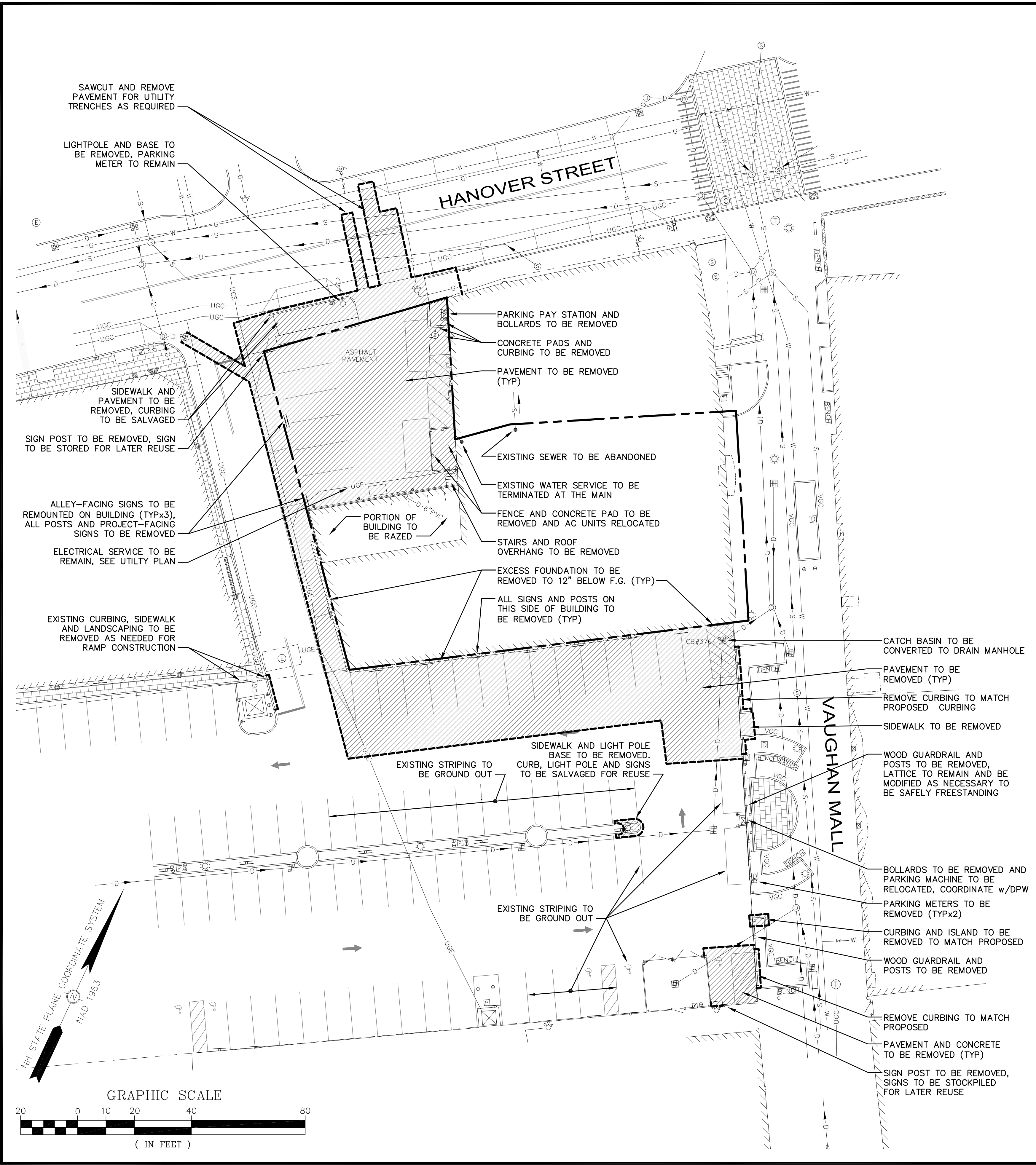
**PROJECT:**  
**PROPOSED SITE DEVELOPMENT PLANS**  
**64 VAUGHAN MALL**  
**PORTSMOUTH, N.H.**  
**ASSESSOR'S PARCEL**  
**126-1**

**TITLE:**  
**EXISTING CONDITIONS PLAN**

**SHEET NUMBER:**  
**1 OF 1**

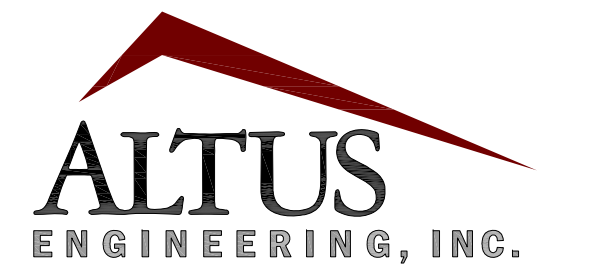
P50-42



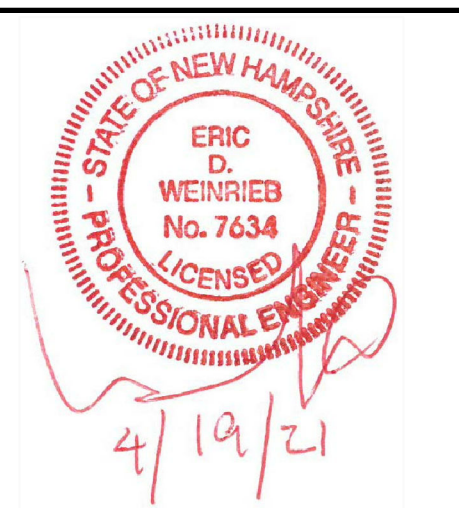


**DEMOLITION NOTES**

1. CITY DEMOLITION PERMIT REQUIRED PRIOR TO ANY DEMOLITION ACTIVITIES. CONTRACTOR IS NOTIFIED THAT THIS PERMIT PROCESS MAY REQUIRE A 30-DAY LEAD TIME.
2. CONTRACTOR SHALL SAFELY SECURE THE SITE AND WORK LIMITS WITH SECURITY FENCING WHICH SHALL BE LOCKED DURING NON-WORK HOURS.
3. CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES SCHEDULED TO REMAIN.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TIMELY NOTIFICATION OF ALL PARTIES, CORPORATIONS, COMPANIES, INDIVIDUALS AND STATE AND LOCAL AUTHORITIES OWNING AND/OR HAVING JURISDICTION OVER ANY UTILITIES RUNNING TO, THROUGH OR ACROSS AREAS TO BE DISTURBED BY DEMOLITION AND/OR CONSTRUCTION ACTIVITIES WHETHER OR NOT SAID UTILITIES ARE SUBJECT TO DEMOLITION, RELOCATION, MODIFICATION AND/OR CONSTRUCTION.
5. ALL UTILITY DISCONNECTIONS/DEMOLITIONS/RELOCATIONS SHALL BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES, PORTSMOUTH DPW AND ABUTTING PROPERTY OWNERS. UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELATED EXCAVATION, TRENCHING AND BACKFILLING.
6. WHERE SPECIFIED TO REMAIN, MANHOLE RIMS, CATCH BASIN GRATES, VALVE COVERS, HANDHOLES, ETC. SHALL BE ADJUSTED TO FINISH GRADE UNLESS OTHERWISE SPECIFIED.
7. CONTRACTOR SHALL OBTAIN AN ENCUMBRANCE PERMIT FROM THE CITY OF PORTSMOUTH TO USE PORTIONS OF THE ALLEYWAY, PUBLIC STREETS AND THE WORTH LOT DURING CONSTRUCTION AS STAGING AND CONSTRUCTION AREAS.
8. SEE EROSION CONTROL PLANS FOR EROSION AND SEDIMENT CONTROL MEASURES THAT SHALL BE IN PLACE PRIOR TO DEMOLITION ACTIVITIES.
9. ALL MATERIALS SCHEDULED FOR DEMOLITION OR REMOVAL ON PRIVATE PROPERTY SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. GRANITE CURBING AND BRICK SCHEDULED TO BE REMOVED FROM PUBLIC PROPERTY SHALL BE SALVAGED TO PORTSMOUTH DPW.
10. ALL MATERIAL SCHEDULED TO BE REMOVED SHALL BE LEGALLY DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS/CODES.
11. WATER: PORTSMOUTH DPW, JIM TOW, (603) 427-1530.
12. TELECOMMUNICATIONS: FAIRPOINT, JOE CONSIDINE, (603) 427-5525.
13. CABLE: COMCAST, MIKE COLLINS, (603) 679-5695, EXT. 1037.
14. ELECTRICAL: EVERSOURCE, MICHAEL BUSBY, (603) 332-4227, EXT. 5555334.
15. GAS: UNITIL, DAVID BEAULIEU, (603) 294-5144.
16. CONTRACTOR TO CONTACT PORTSMOUTH DPW A MINIMUM OF TWO WEEKS PRIOR TO ANY DEMOLITION TO COORDINATE ALL WORK CONCERNING DISCONNECTION/DEMOLITION OF ANY PROPOSED WATER AND SEWER LINE IMPROVEMENTS.
17. ALL WATER MAIN AND SERVICE DISCONNECTIONS SHALL CONFORM TO PORTSMOUTH DPW STANDARDS.
18. NO BURNING SHALL BE PERMITTED PER LOCAL REGULATIONS.
19. HAZARDOUS MATERIALS ENCOUNTERED DURING DEMOLITION AND CONSTRUCTION ACTIVITIES SHALL BE ABATED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS.
20. AT NO TIME SHALL ANY UTILITY SERVICE OR VEHICULAR ACCESS TO ABUTTING PROPERTIES BE COMPLETELY INTERRUPTED UNLESS A FULL SHUTDOWN IS COORDINATED WITH ALL AFFECTED PARTIES AND UTILITY PROVIDER(S).
21. SHOULD GROUNDWATER BE ENCOUNTERED DURING EXCAVATION, APPROPRIATE BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED TO ENSURE SEDIMENT LADEN WATER IS NOT DISCHARGED INTO THE CITY DRAINAGE SYSTEM. A DISCHARGE PERMIT SHALL BE OBTAINED PRIOR TO DISCHARGING GROUNDWATER.
22. THIS PLAN IS INTENDED TO PROVIDE MINIMUM GUIDELINES FOR THE DEMOLITION OF EXISTING SITE FEATURES. UNLESS OTHERWISE NOTED TO REMAIN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL BUILDINGS, PAVEMENT, CONCRETE, CURBING, SIGNS, POLES, UTILITIES, FENCES, VEGETATION AND OTHER EXISTING FEATURES AS NECESSARY TO FULLY CONSTRUCT THE PROJECT.



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ISSUED FOR: TAC

ISSUE DATE: APRIL 19, 2021

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0	TAC WORK SESSION	EBS	05/05/20
1	TAC WORK SESSION	EBS	07/07/20
2	TAC	EBS	10/19/20
3	PB CONSULTATION	EBS	11/02/20
4	TAC	EBS	03/22/21
5	TAC	EBS	04/19/21

DRAWN BY: \_\_\_\_\_ EBS  
APPROVED BY: \_\_\_\_\_ EDW  
DRAWING FILE: 5042-SITE.dwg

SCALE: 22"x34" 1" = 20'  
11"x17" 1" = 40'

OWNER:  
**64 VAUGHAN MALL, LLC**  
41 INDUSTRIAL DRIVE  
EXETER, NH 03833

APPLICANT:  
**HAMPSHIRE DEVELOPMENT CORP.**  
41 INDUSTRIAL DRIVE  
EXETER, NH 03833

PROJECT:  
**64 VAUGHAN MALL BUILDING RESTORATION**  
TAX MAP 126, LOT 1  
64 VAUGHAN MALL  
PORTSMOUTH, NH 03801

TITLE:  
**DEMOLITION PLAN**

SHEET NUMBER:  
**C-1**



APPROVED BY THE PORTSMOUTH PLANNING BOARD

THE SOLE PURPOSE OF THIS PLAN IS TO DEPICT THE LOCATION OF EXISTING AND PROPOSED IMPROVEMENTS ON THE SITE. RECORDING OF THIS PLAN WAS A REQUIREMENT OF THE PORTSMOUTH PLANNING BOARD AS PART OF THEIR APPROVAL.

FOR JAMES VERRA & ASSOCIATES, INC.

CHAIRMAN DATE

DATE

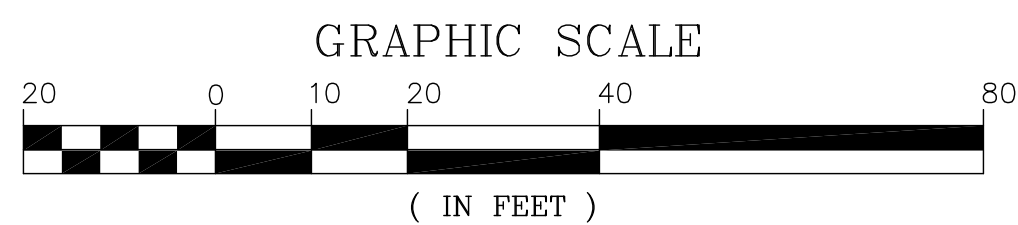
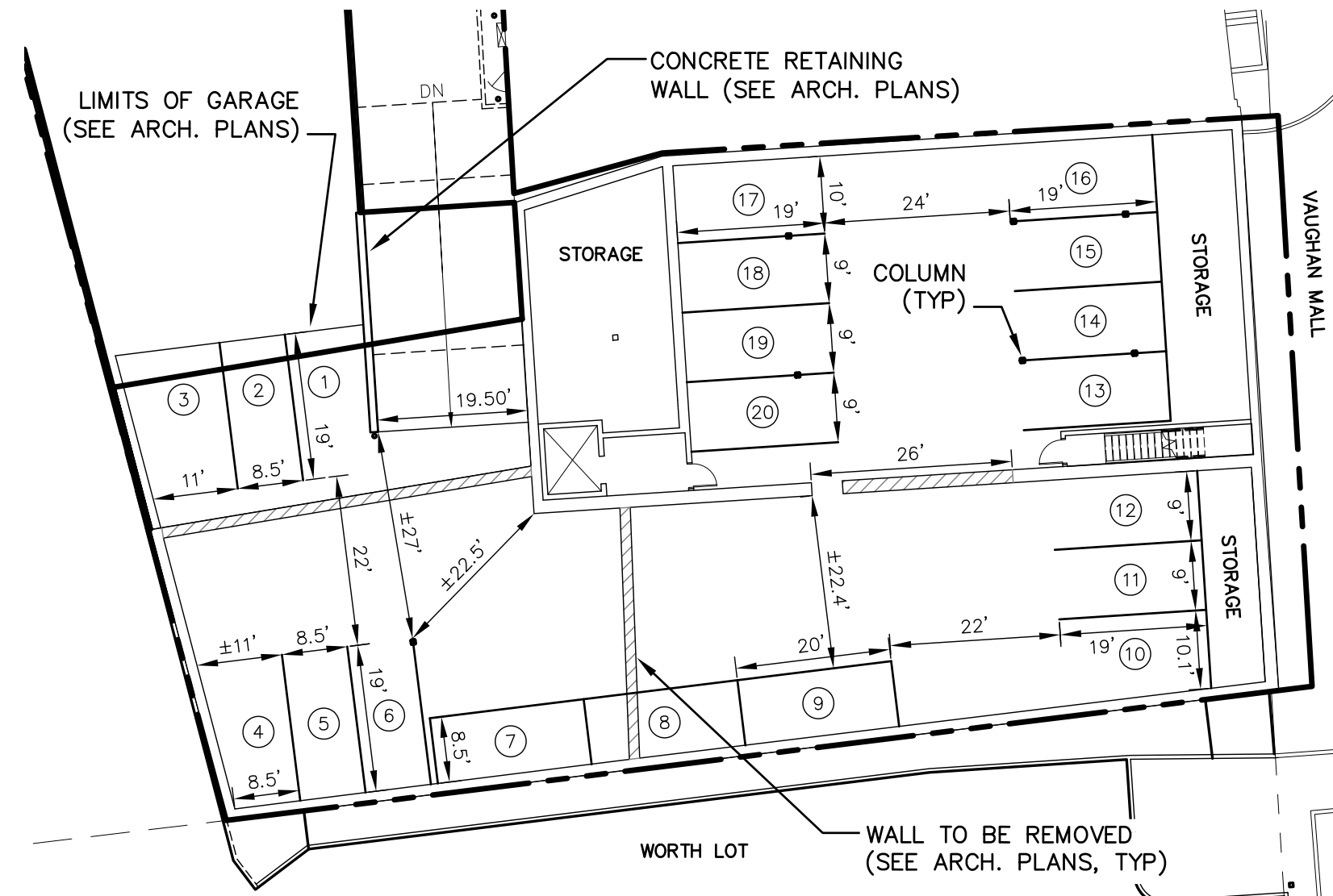
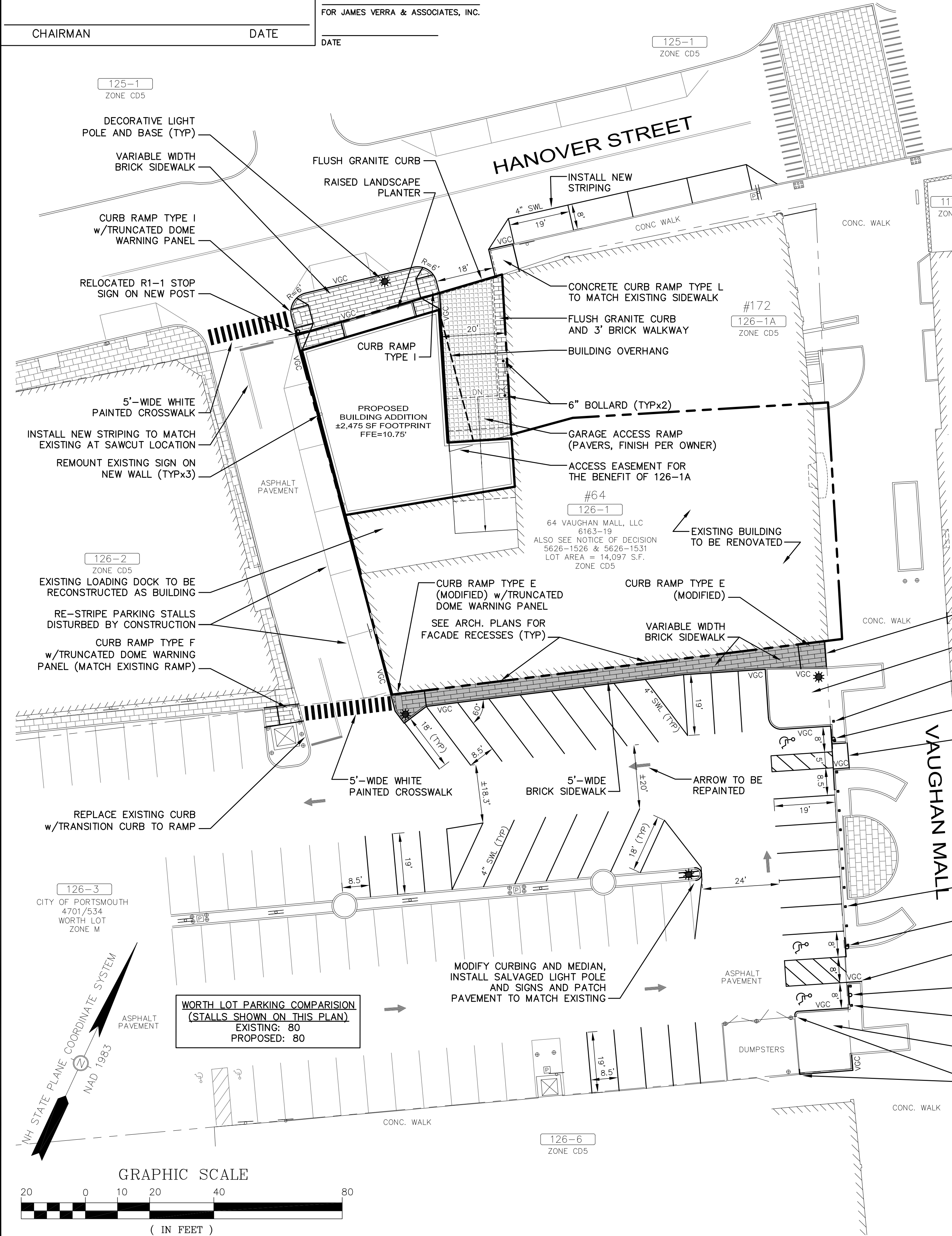
NOTES

- DESIGN INTENT - THIS PLAN IS INTENDED TO DEPICT THE RETROFIT OF THE EXISTING BUILDING TO INCLUDE AN ADDITION, UNDERGROUND PARKING GARAGE, RETAIL SPACE AND 14 RESIDENTIAL UNITS ALONG WITH A SIDEWALK, MODIFIED PARKING SPACES AND LANDSCAPE ISLANDS ON THE ADJUTING WORTH LOT.
- THE BASE PLAN USED HERE WAS DEVELOPED FROM "EXISTING CONDITIONS PLAN, 64 VAUGHAN MALL, PORTSMOUTH, NH" BY JAMES VERRA AND ASSOCIATES, INC., DATED FEBRUARY 3, 2020.
- ZONE: CD5 (CHARACTER 5)  
M (MUNICIPAL) FOR OFFSITE IMPROVEMENTS ON WORTH LOT  
OVERLAY: DOWNTOWN OVERLAY DISTRICT  
HISTORIC OVERLAY DISTRICT  
FACADE: STOREFRONT
- DIMENSIONAL REQUIREMENTS:**

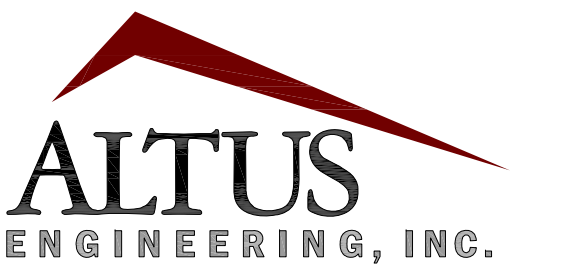
	EXISTING	PROPOSED
FRONT YARD:	5' MAX. 4.3'	SAME
SECONDARY FRONT YARD:	5' MAX. 58.1'	5'
SIDE YARD:	NR	0'
REAR YARD:	5'	0.15'
FRONT LOT LINE BUILDOUT:	80% WIDTH MIN. 100%	SAME
MAX. BUILDING BLOCK:	225'	SAME
MAX. FACADE MODULATION:	100'	SAME
MAX. ENTRANCE SPACING:	50'	70.0%
MAX. BUILDING COVERAGE:	95%	10,008 S.F. 89.8%
MAX. BUILDING FOOTPRINT:	20,000 S.F.	12,656 S.F. 12,656 S.F.
MIN. LOT AREA:	NR	14,097 S.F. SAME
MIN. LOT AREA/DWELLING:	NR	0 S.F. 5%
MIN. OPEN SPACE:	5%	0 S.F. 705 S.F.
(LANDSCAPE AREAS)		±10,014 S.F. 12,489 S.F.
MAX. GND. FLR. GFA/USE:	15,000 S.F.	±40'
MAX. BUILDING HEIGHT:	3 STORIES OR 40'	40'
PENTHOUSE HEIGHT:	MAX. HEIGHT +2'	
MAX. GROUND FLOOR FFE:	SIDEWALK GRADE +3'	
- PARKING REQUIREMENTS:**

DWELLING UNITS: 1.3 SPACES / DWELLING UNIT OVER 750 S.F.  
14 UNITS x 1.3 = 18.2 SPACES REQUIRED  
VISITOR PARKING: 1 SPACE / 5 DWELLING UNITS (FOR LOT w/OVER 4 UNITS)  
14 UNITS / 5 = 2.8 SPACES REQUIRED  
NON-RESIDENTIAL USE: NR  
DOWNTOWN OVERLAY: SUBTRACT 4 SPACES/LOT  
TOTAL PARKING REQUIRED: 17 SPACES  
TOTAL PARKING PROVIDED: 20 SPACES (UNDERGROUND)
- ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
- ALL CONDITIONS OF THIS APPROVAL SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
- ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE CITY OF PORTSMOUTH & NHDOT'S STANDARD SPECIFICATIONS FOR ROAD & BRIDGE, LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
- CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
- THE CONTRACTOR SHALL VERIFY ALL BENCHMARKS AND TOPOGRAPHY IN THE FIELD PRIOR TO CONSTRUCTION.
- AREA OF DISTURBANCE IS UNDER 43,560 SF, COVERAGE UNDER EPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT IS NOT REQUIRED.
- PAVEMENT MARKINGS SHALL BE CONSTRUCTED USING WHITE, YELLOW, OR BLUE TRAFFIC PAINT (WHERE SPECIFIED) MEETING THE REQUIREMENTS OF AASHTO M248, TYPE F OR EQUAL. PAINTED ISLANDS AND LOADING ZONES SHALL BE 4"-WIDE DIAGONAL WHITE LINES 3'-0" O.C. BORDERED BY 4"-WIDE WHITE LINES. PARKING STALLS SHALL BE SEPARATED BY 4"-WIDE WHITE LINES. SEE DETAILS FOR HANDICAP SYMBOLS, SIGNS AND SIGN DETAILS. PAVEMENT MARKINGS SHALL BE INSTALLED AT LEAST 14-DAYS AFTER INSTALLATION OF WEARING COURSE PAVEMENT. CONTRACTOR SHALL APPLY TWO (2) COATS OF ALL PAVEMENT MARKINGS.
- PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC DEVICES," "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE AMERICANS WITH DISABILITIES ACT (ADA), LATEST EDITIONS.
- UNLESS OTHERWISE NOTED, ALL NEW CURBING SHALL BE VERTICAL GRANITE WITH A MINIMUM RADIUS OF 4'.
- THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION. ANY AND ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF BOTH THE ARCHITECT AND CIVIL ENGINEER FOR RESOLUTION.
- ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
- 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
- THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- SITWORK CONTRACTOR SHALL PREPARE A LICENSED LAND SURVEYOR (LLS) STAMPED AS-BUILT SITE PLAN & PROVIDE A DIGITAL (CAD FORMAT) COPY FOR THE CITY'S G.I.S. DATA BASE.
- TRASH AND RECYCLING SHALL BE STORED INSIDE BUILDING.
- THIS DEVELOPMENT IS SUBJECT TO LICENSING AGREEMENTS W/ THE CITY COUNCIL.
- RESTAURANTS SHALL NOT OCCUPY BUILDING WITHOUT THE INSTALLATION OF A GREASE TRAP MEETING CITY CODE.
- ALL SIDEWALKS TO BE CONSTRUCTED WITHIN PROJECT LIMITS SHALL BE BRICK. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING PORTSMOUTH DPW TO CONFIRM BRICK SPECIFICATIONS.
- STREET ADDRESSES FOR EACH USE SHALL BE DETERMINED BY PORTSMOUTH FIRE DEPARTMENT & DPW.
- SNOW SHALL BE STORED AT THE EDGE OF PAVEMENT, IN AREAS SHOWN ON THE PLAN, OR TRUCKED OFF SITE.
- BUILDING USES BY FLOOR (S.F. BY FOOTPRINT):**

BASEMENT:	±9,326 S.F. PARKING
FLOOR 1:	±12,489 S.F. RETAIL
FLOORS 2-3:	±12,656 S.F. RESIDENTIAL
FLOOR 4:	±5,874 S.F. RESIDENTIAL
TOTAL:	±53,001 S.F.



WORTH LOT PARKING COMPARISON  
(STALLS SHOWN ON THIS PLAN)  
EXISTING: 80  
PROPOSED: 80



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REVISIONS

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0	TAC WORK SESSION	EBS	05/05/20
1	TAC WORK SESSION	EBS	07/07/20
2	TAC	EBS	10/19/20
3	PB CONSULTATION	EBS	11/02/20
4	REV. BLDG. HEIGHT	EBS	01/26/21
5	TAC	EBS	03/22/21
6	REV. FOOTPRINT FOR HDC	EBS	04/08/21
7	TAC	EBS	04/19/21

DRAWN BY: EBS

APPROVED BY: EDW

DRAWING FILE: 5042-SITE.dwg

SCALE: 22"x34" 1" = 20'  
11"x17" 1" = 40'

OWNER:

64 VAUGHAN MALL, LLC

41 INDUSTRIAL DRIVE  
EXETER, NH 03833

APPLICANT:

HAMPSHIRE  
DEVELOPMENT CORP.

41 INDUSTRIAL DRIVE  
EXETER, NH 03833

PROJECT:

64 VAUGHAN MALL  
BUILDING RESTORATION

TAX MAP 126, LOT 1

64 VAUGHAN MALL  
PORTSMOUTH, NH 03801

TITLE:

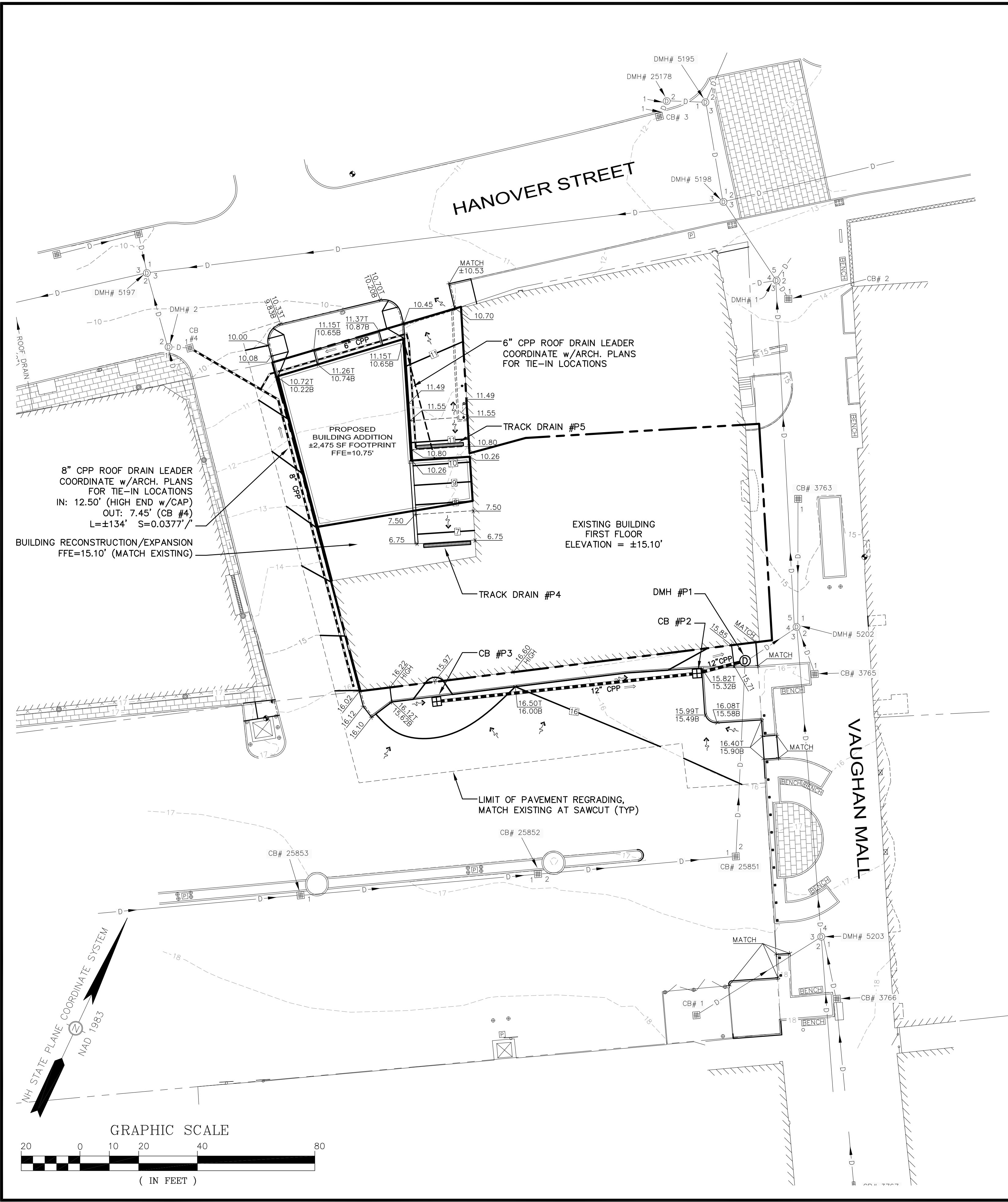
SITE PLAN

SHEET NUMBER:

C-2

P5042





**DRAINAGE SCHEDULE**

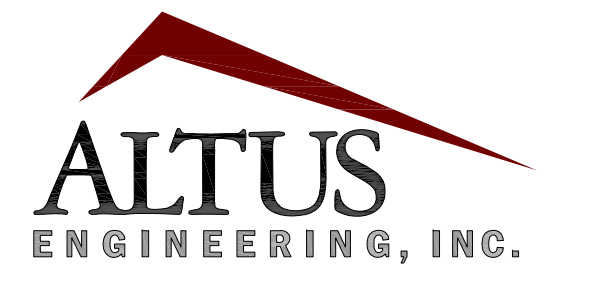
- CB #4 (EXISTING)  
RIM=9.57'  
IN: 7.45' (NEW 8" ROOF LEADER)  
OUT: ±7.32' (EXISTING TO DMH #2)  
12" PVC (EXISTING)
- DMH #1  
(FORMER CB #3764)  
RIM=±15.45'(ADJUST RIM TO MATCH RAMP SLOPE)  
IN: 11.30' (NEW 12" CB #P2)  
OUT: ±11.20' (EXIST. 12" CB #25851)  
12" RCP (EXISTING)
- CB #P2  
RIM=15.30'  
IN: 11.46' (12" CB #P3)  
OUT: 11.36' (TO DMH #P1)  
12" CPP  
L=±12' S=0.005'/'
- CB #P3  
RIM=15.35'  
OUT: 11.89' (TO CB #P2)  
12" CPP  
L=±86' S=0.005'/'
- TRACK DRAIN #P4  
RIM=6.75'  
16" LONG x 1.17" WIDE  
w/EVAPORATOR (COORDINATE w/ARCH. PLANS FOR MODEL, CONDUIT, WIRING AND CIRCUITRY)
- TRACK DRAIN #P5  
RIM=10.82'  
16" LONG x 1.17" WIDE  
OUT: 9.82'  
6" CPP (TO 8" ROOF LEADER)  
L=±94' S=0.0138'/'

**GRADING AND DRAINAGE NOTES**

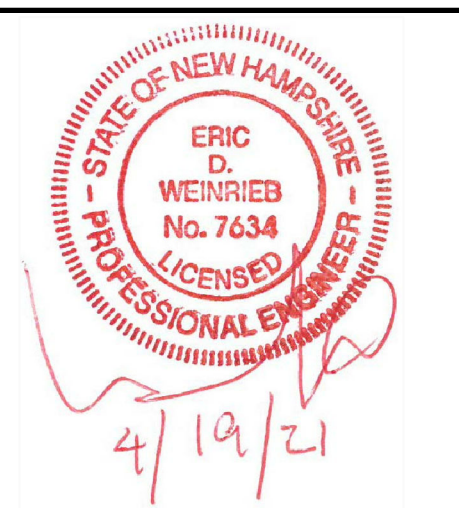
1. DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE AND LOCAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
2. CONTRACTOR SHALL OBTAIN A "DIGSAFE" NUMBER AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
3. ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE CITY OF PORTSMOUTH AND NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
4. ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING CONSTRUCTION.
5. UNLESS OTHERWISE AGREED IN WRITING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS (TBMS) AND PERFORMING ALL CONSTRUCTION SURVEY LAYOUT.
6. PRIOR TO CONSTRUCTION, FIELD VERIFY JUNCTIONS, LOCATIONS AND ELEVATIONS/INVERTS OF ALL EXISTING STORMWATER AND UTILITY LINES. PRESERVE AND PROTECT LINES TO BE RETAINED.
7. TEMPORARY INLET PROTECTION MEASURES SHALL BE INSTALLED IN ALL CATCH BASINS WITHIN 100' OF THE PROJECT SITE WHEN SITE WORK WITHIN CONTRIBUTING AREAS IS ACTIVE OR SAID AREAS HAVE NOT BEEN STABILIZED.
8. PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, PAVEMENT AREAS, UTILITY TRENCHES, AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL. IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER, EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF A FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATIONS. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.
9. IF SUITABLE, EXCAVATED MATERIALS SHALL BE PLACED AS FILL WITHIN UPLAND AREAS ONLY AND SHALL NOT BE PLACED WITHIN WETLANDS. PLACEMENT OF BORROW MATERIALS SHALL BE PERFORMED IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION.
10. ALL CATCH BASIN, MANHOLE AND OTHER DRAINAGE RIMS SHALL BE SET FLUSH WITH OR NO LESS THAN 0.1' BELOW FINISH GRADE. ANY RIM ABOVE SURROUNDING FINISH GRADE SHALL NOT BE ACCEPTED.
11. ALL SPOT GRADES ARE AT FINISH GRADE AND BOTTOM OF CURB WHERE APPLICABLE.
12. IN ORDER TO PROVIDE VISUAL CLARITY ON THE PLANS, DRAINAGE AND OTHER UTILITY STRUCTURES MAY NOT BE DRAWN TO SCALE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZING AND LOCATION OF ALL STRUCTURES AND IS DIRECTED TO RESOLVE ANY POTENTIAL DISCREPANCY WITH THE ENGINEER PRIOR TO CONSTRUCTION.

**LEGEND**

- PROPERTY LINE
- - - EASEMENT LINE
- EXISTING PAVEMENT/CURB
- VGC --- PROPOSED PAVEMENT/VERTICAL GRANITE CURB
- 60--- EXISTING CONTOUR
- 60--- PROPOSED CONTOUR
- x 100.00 x 104.00T / 100.00B --- PROPOSED SPOT GRADE/TOP & BOTTOM OR CURB/WALL
- W --- EXISTING WATER/CURB STOP/VALVE/HYDRANT
- S --- EXISTING SEWER/MANHOLE
- G --- EXISTING GAS/VALVE
- OHW --- EXIST. OVER/UNDERGROUND UTILITIES/POLE
- D --- EXISTING DRAINAGE/CB/DMH
- PW --- PROPOSED THRUST BLOCK/WATER/CURB STOP/VALVE/HYDRANT
- PW --- F --- PROPOSED DOMESTIC WATER SERVICE/FIRE WATER SERVICE
- S --- PROPOSED SEWER/MANHOLE/CLEANOUT
- G --- PROPOSED GAS SERVICE
- OHW --- PROPOSED OVERHEAD UTILITIES/UTILITY POLE
- USE --- PROPOSED UNDERGROUND ELECTRIC/PHONE/TV
- PROPOSED DRAINAGE (HARD PIPE)/CB/DCB/DMH/FES
- CPP FES HDWL --- CORRUGATED PLASTIC PIPE/FLARED END SECTION/HEADWALL
- ← 4% --- PROPOSED GROUND SLOPE/APPROX. GRADE/STONE CHECK DAM
- X --- SILTFENCE/SEDIMENT BARRIER/CONST. FENCE
- STABILIZED CONSTRUCTION EXIT
- PROPOSED SAWCUT LINE



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SCALE: 22"x34" 1" = 20'  
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OWNER: 64 VAUGHAN MALL, LLC

41 INDUSTRIAL DRIVE  
EXETER, NH 03833

APPLICANT: HAMPSHIRE DEVELOPMENT CORP.

41 INDUSTRIAL DRIVE  
EXETER, NH 03833

PROJECT: 64 VAUGHAN MALL BUILDING RESTORATION

TAX MAP 126, LOT 1

64 VAUGHAN MALL  
PORTSMOUTH, NH 03801

TITLE: GRADING AND DRAINAGE PLAN

SHEET NUMBER: C-3

GRAPHIC SCALE ( IN FEET )

20 0 10 20 40 80

PS042







# SEDIMENT AND EROSION CONTROL NOTES

## PROJECT NAME AND LOCATION

64 VAUGHAN MALL  
PORTSMOUTH, NEW HAMPSHIRE  
TAX MAP 126 LOT 1

LATITUDE: 043° 04' 36" N  
LONGITUDE: 070° 45' 40" W

## OWNER:

64 VAUGHAN MALL, LLC  
10 INDUSTRIAL WAY  
AMESBURY, MA 01913

## APPLICANT:

HAMPSHIRE DEVELOPMENT CORP.  
41 INDUSTRIAL PARK DRIVE  
EXETER, NH 03833

## DESCRIPTION

The project consists of the redevelopment of the existing building for commercial and residential purposes along with associated site improvements.

## DISTURBED AREA

The total area to be disturbed for the redevelopment is approximately ±9,500 S.F. (±0.22 acres). USEPA NPDES Phase II compliance not required.

## PROJECT PHASING

The proposed project will be completed in one phase.

## NAME OF RECEIVING WATER

The site drains via an existing municipal closed drainage system to the Piscataqua River.

## SEQUENCE OF MAJOR ACTIVITIES

1. Install temporary erosion control measures including silt fences, stabilized construction entrance and inlet sediment filters as noted on the plan. All temporary erosion control measures shall be maintained in good working condition for the duration of the project.
2. Demolish existing building and utilities as shown on Demolition Plan and reclaim pavement.
3. Rough grade site including placement of borrow materials.
4. Construct buildings and associated improvements.
5. Construct drainage structures, culverts, utilities, swales & pavement base course materials.
6. Install base course paving & curbing.
7. Install top course paving.
8. Install pavement markings and signs.
9. Loom (6" min) and seed all disturbed areas not paved or otherwise stabilized.
10. When all construction activity is complete and site is stabilized, remove all temporary erosion control measures and any sediment that has been trapped by these devices.

## TEMPORARY EROSION & SEDIMENT CONTROL AND STABILIZATION PRACTICES

All work shall be in accordance with state and local permits. Work shall conform to the practices described in the "New Hampshire Stormwater Manual, Volumes 1 - 3", issued December 2008, as amended. As indicated in the sequence of Major Activities, the silt fences shall be installed prior to commencing any clearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Once construction activity ceases permanently in an area, silt fences and any earth/dikes will be removed once permanent measures are established.

During construction, runoff will be diverted around the site with stabilized channels where possible. Sheet runoff from the site shall be filtered through hay bale barriers, stone check dams, and silt fences. All storm drain inlets shall be provided with hay bale filters or stone check dams. Stone rip rap shall be provided at the outlets of drain pipes and culverts where shown on the drawings.

Stabilize all ditches, swales, & level spreaders prior to directing flow to them.

Temporary and permanent vegetation and mulching is an integral component of the erosion and sedimentation control plan. All areas shall be inspected and maintained until vegetative cover is established. These control measures are essential to erosion prevention and also reduce costly rework of graded and shaped areas.

Temporary vegetation shall be maintained in these areas until permanent seeding is applied. Additionally, erosion and sediment control measures shall be maintained until permanent vegetation is established.

## INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

### A. GENERAL

These are general inspection and maintenance practices that shall be used to implement the plan:

1. The smallest practical portion of the site shall be denuded at one time.
2. All control measures shall be inspected at least once each week and following any storm event of 0.5 inches or greater.
3. All measures shall be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours.
4. Built-up sediment shall be removed from silt fence or other barriers when it has reached one-third the height of the fence or bale, or when "bulges" occur.
5. All diversion dikes shall be inspected and any breaches promptly repaired.
6. Temporary seeding and planting shall be inspected for bare spots, washouts, and unhealthy growth.
7. The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the Plans.
8. An area shall be considered stable if one of the following has occurred:
  - a. Base course gravels have been installed in areas to be paved;
  - b. A minimum of 85% vegetated growth as been established;
  - c. A minimum of 3 inches of non-erosive material such as stone or riprap has been installed; - or
  - d. Erosion control blankets have been properly installed.
9. The length of time of exposure of area disturbed during construction shall not exceed 45 days.

### B. MULCHING

Mulch shall be used on highly erodible soils, on critically eroding areas, on areas where conservation of moisture will facilitate plant establishment, and where shown on the plans.

1. Timing - In order for mulch to be effective, it must be in place prior to major storm events. There are two (2) types of standards which shall be used to assure this:
  - a. Apply mulch prior to any storm event. This is applicable when working within 100 feet of wetlands. It will be necessary to closely monitor weather predictions, usually by contacting the National Weather Service in Concord, to have adequate warning of significant storms.
  - b. Required Mulching within a specified time period. The time period can range from 21 to 28 days of inactivity on an area, the length of time varying with site conditions. Professional judgment shall be used to evaluate the interaction of site conditions (soil erodibility, season of year, extent of disturbance, proximity to sensitive resources, etc.) and the potential impact of erosion on adjacent areas to choose an appropriate time restriction.

## INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (CON'T)

### 2. Guidelines for Winter Mulch Application -

Type	Rate per 1,000 s.f.	Use and Comments
Hay or Straw	70 to 90 lbs.	Must be dry and free from mold. May be used with plantings.
Wood Chips or Bark Mulch	460 to 920 lbs.	Used mostly with trees and shrub plantings.
Jute and Fibrous Matting (Erosion Blanket)	As per manufacturer Specifications	Used in slope areas, water courses and other Control areas.
Crushed Stone 1/4" to 1-1/2" dia.	Spread more than 1/2" thick	Effective in controlling wind and water erosion.
Erosion Control Mix	2" thick (min)	<ul style="list-style-type: none"> <li>* The organic matter content is between 80 and 100% dry weight basis.</li> <li>* Particle size by weight is 100% passing a 6" screen and a minimum of 70 % maximum of 85% passing a 0.75" screen.</li> <li>* The organic portion needs to be fibrous and elongated.</li> <li>* Large portions of silts, clays or fine sands are not acceptable in the mix.</li> <li>* Soluble salts content is less than 4.0 mmhos/cm.</li> <li>* The pH should fall between 5.0 and 8.0.</li> </ul>

3. Maintenance - All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied.

### C. FILTERS

1. Silt Fence
  - a. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

Physical Property	Test	Requirements
Filtering Efficiency	VTM-51	75% minimum
Tensile Strength at 20% Maximum Elongation*	VTM-52	Extra Strength 50 lb/lin in (min) Standard Strength 30 lb/lin in (min)
Flow Rate	VTM-51	0.3 gal/sf/min (min)

\* Requirements reduced by 50 percent after six (6) months of installation.

Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizer to provide a minimum of six (6) months of expected usable construction life at a temperature range of 0 degrees F to 120° F.

- b. Posts shall be spaced a maximum of ten (10) feet apart at the barrier location or as recommended by the manufacturer and driven securely into the ground (minimum of 16 inches).
- c. A trench shall be excavated approximately six (6) inches wide and eight (8) inches deep along the line of posts and upslope from the barrier.
- d. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, tie wires or hog rings. The wire shall extend no more than 36 inches above the original ground surfaces.
- e. The "standard strength" filter fabric shall be stapled or wired to the fence, and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.
- f. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of item (g) applying.
- g. The trench shall be backfilled and the soil compacted over the filter fabric.
- h. Silt fences shall be removed when they have served their useful purpose but not before the upslope areas has been permanently stabilized.

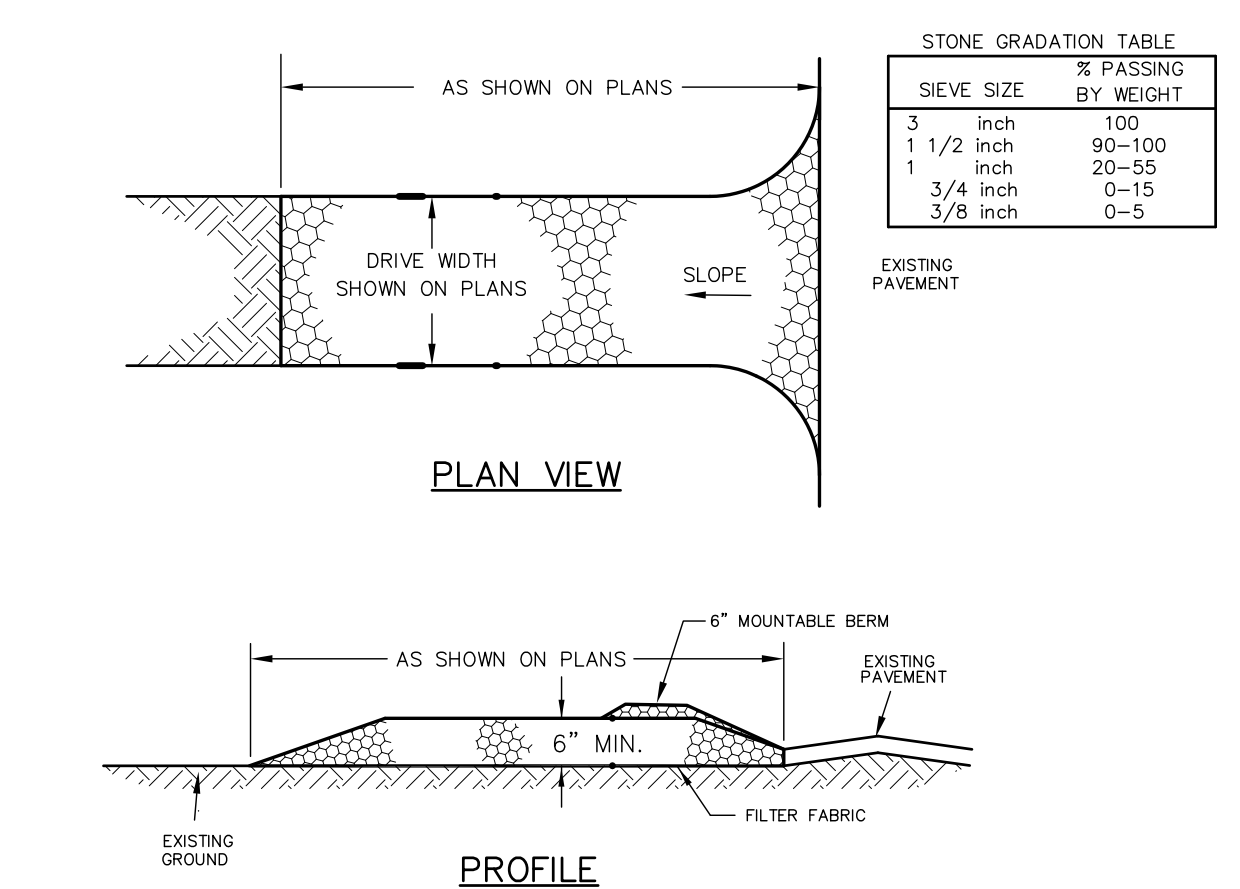
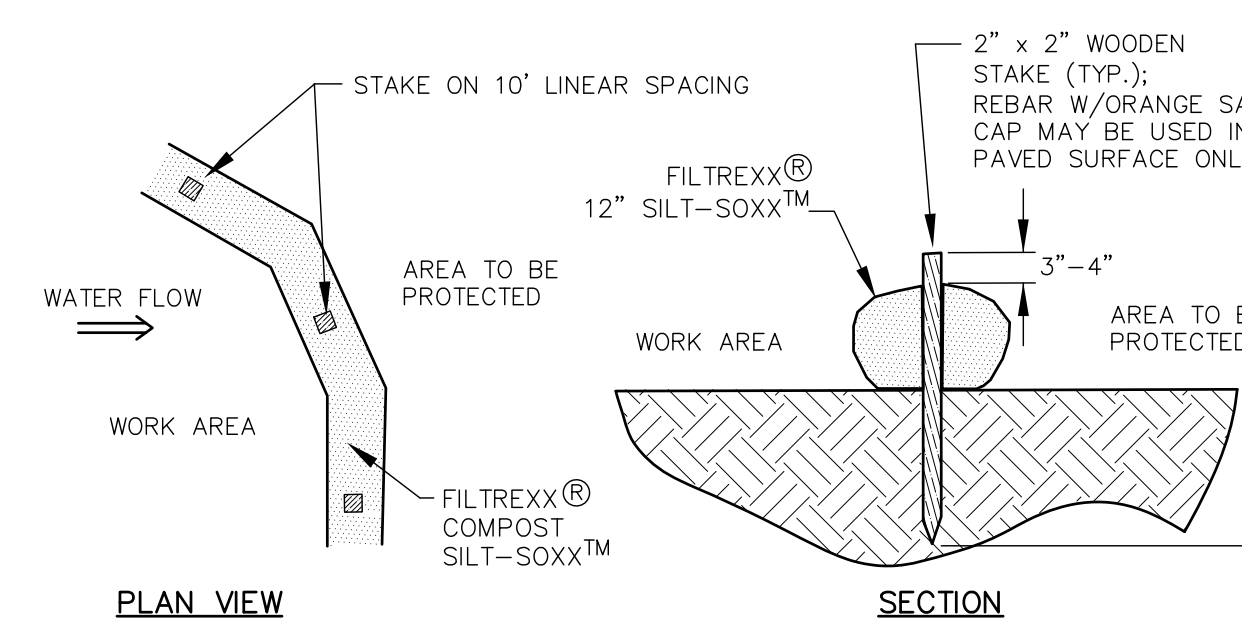
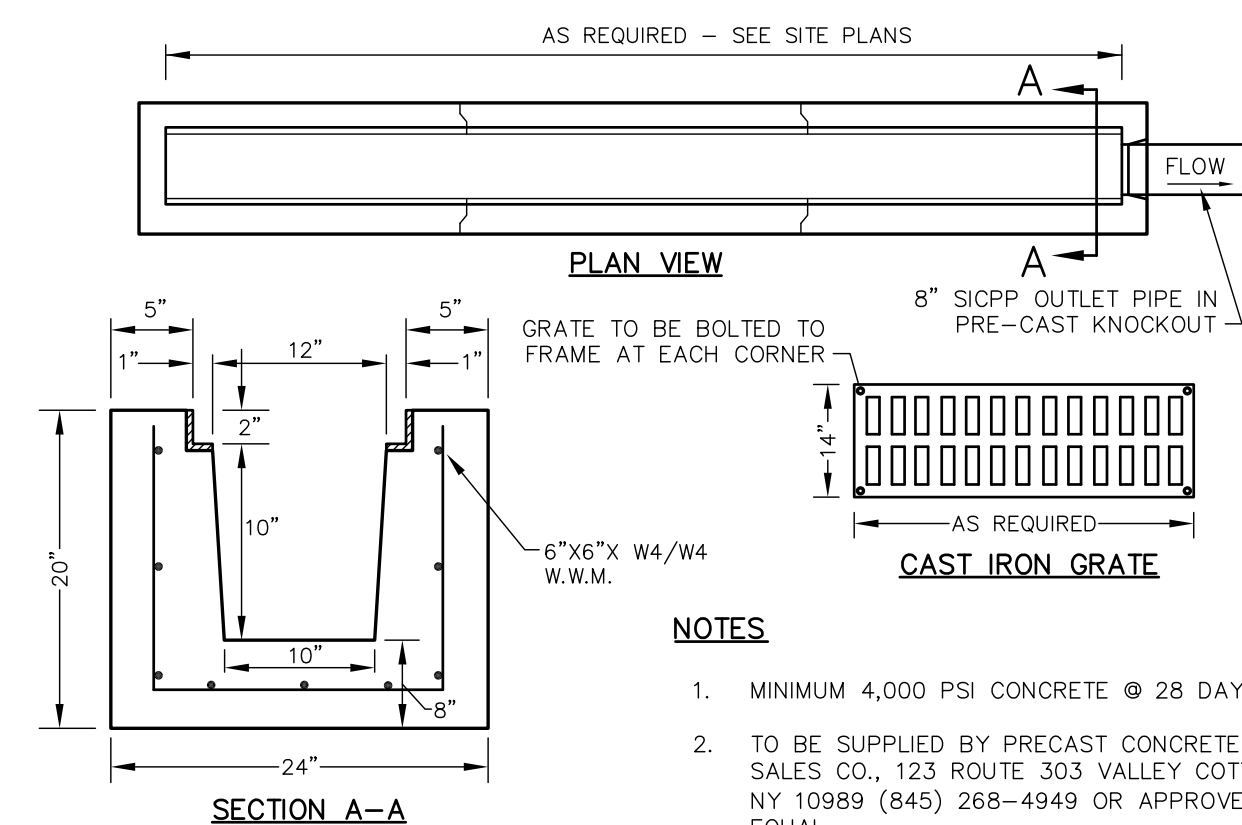
### 2. Sequence of Installation -

Sediment barriers shall be installed prior to any soil disturbance of the contributing upslope drainage area.

3. Maintenance -
  - a. Silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. They shall be repaired if there are any signs of erosion or sedimentation below them. Any required repairs shall be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water, the sediment barriers shall be replaced with a temporary stone check dam.
  - b. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier still is necessary, the fabric shall be replaced promptly.
  - c. Sediment deposits must be removed when deposits reach approximately one-third (1/3) the height of the barrier.
  - d. Any sediment deposits remaining in place after the silt fence or other barrier is no longer required shall be removed. The area shall be prepared and seeded.
  - e. Additional stone may have to be added to the construction entrance, rock barrier and riprap lined swales, etc., periodically to maintain proper function of the erosion control structure.

## WINTER CONSTRUCTION NOTES

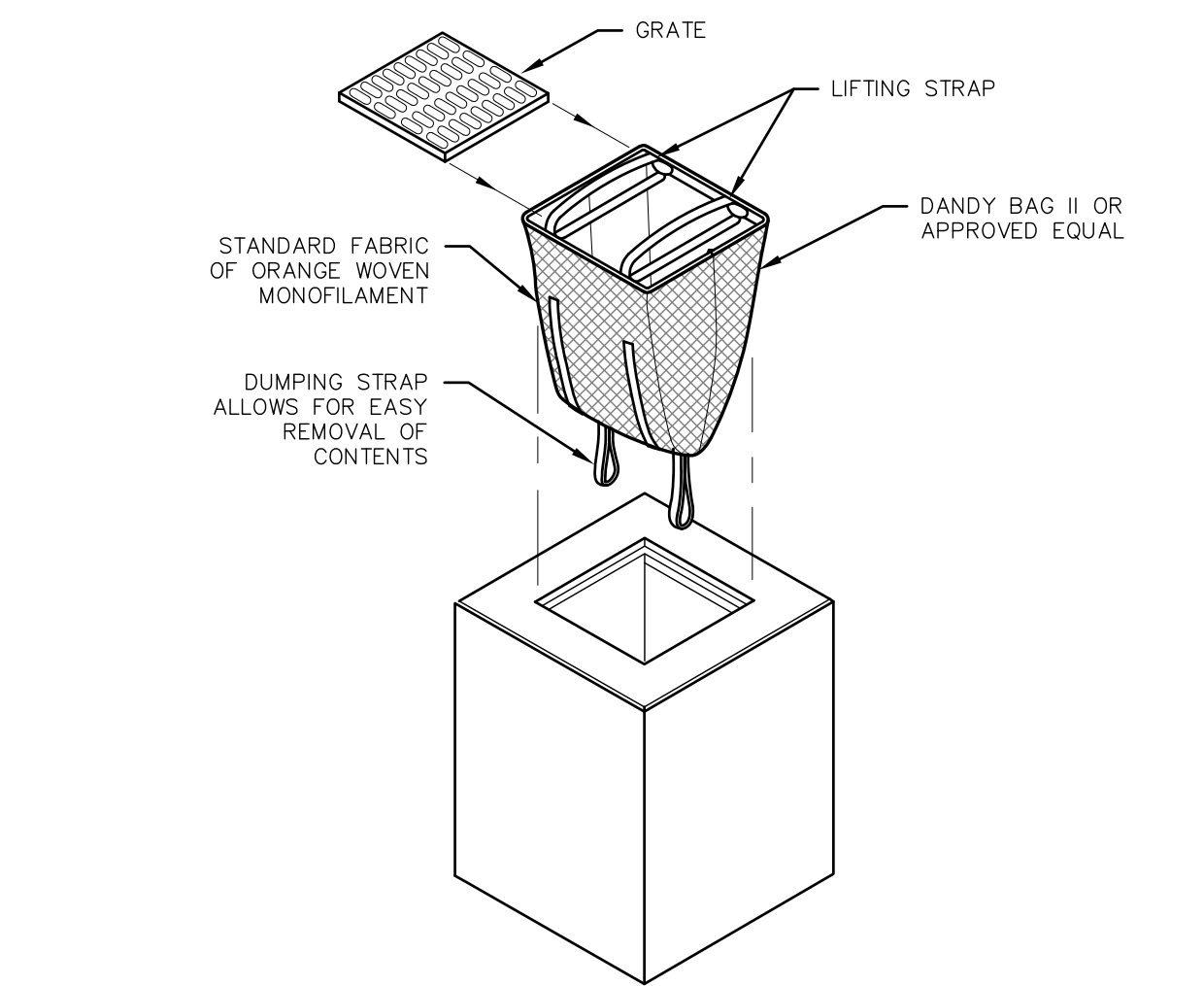
1. All proposed vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and elsewhere seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting. 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;
2. All ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions; and
3. After November 15th, 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.



## CONSTRUCTION SPECIFICATIONS

1. **STONE SIZE** - NHDOT STANDARD STONE SIZE #4 - SECTION 703 OF NHDOT STANDARD.
2. **LENGTH** - DETAILED ON PLANS (50 FOOT MINIMUM).
3. **THICKNESS** - SIX (6) INCHES (MINIMUM).
4. **WIDTH** - FULL DRIVE WIDTH UNLESS OTHERWISE SPECIFIED.
5. **FILTER FABRIC** - MIRAFI 600X OR EQUAL APPROVED BY ENGINEER.
6. **SURFACE WATER CONTROL** - ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. **MAINTENANCE** - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. **WHEELS** SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. **STABILIZED CONSTRUCTION EXITS** SHALL BE INSTALLED AT ALL ENTRANCES TO PUBLIC RIGHTS-OF-WAY, AT LOCATIONS SHOWN ON THE PLANS, AND/OR WHERE AS DIRECTED BY THE ENGINEER.

## STABILIZED CONSTRUCTION EXIT NOT TO SCALE



## INSTALLATION AND MAINTENANCE:

INSTALLATION: REMOVE THE GRATE FROM CATCH BASIN. IF USING OPTIONAL OIL ABSORBENTS: PLACE ABSORBENT PILLOW IN UNIT. STAND GRATE ON END. MOVE THE TOP LIFTING STRAPS OUT OF THE WAY AND PLACE THE GRATE INTO CATCH BASIN INSERT SO THE GRATE IS BELOW THE TOP STRAPS AND ABOVE THE LOWER STRAPS. HOLDING THE LIFTING DEVICES, INSERT THE GRATE INTO THE INLET.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF THE UNIT AFTER EACH STORM EVENT. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE CATCH BASIN INSERT. IF THE CONTAINMENT AREA IS MORE THAN 1/3 FULL OF SEDIMENT, THE UNIT MUST BE EMPTIED. TO EMPTY THE UNIT, LIFT THE UNIT OUT OF THE INLET USING THE LIFTING STRAPS AND REMOVE THE GRATE. IF USING OPTIONAL ABSORBENTS; REPLACE ABSORBENT WHEN NEAR SATURATION.

## UNACCEPTABLE INLET PROTECTION METHOD:

A SIMPLE SHEET OF GEOTEXTILE UNDER THE GRATE IS NOT ACCEPTABLE.

## STORM DRAIN INLET PROTECTION NOT TO SCALE

**ALTUS ENGINEERING, INC.**  
133 Court Street Portsmouth, NH 03801  
(603) 433-2335 www.altus-eng.com

STATE OF NEW HAMPSHIRE  
ERIC D. WEINRIEB  
No. 7634  
LICENSED PROFESSIONAL ENGINEER  
3/22/21

**NOT FOR CONSTRUCTION**  
ISSUED FOR: TAC  
ISSUE DATE: MARCH 22, 2021

NO.	DESCRIPTION	BY	DATE
0	TAC WORK SESSION	EBS	05/05/20
1	TAC	EBS	10/19/20
2	TAC	EBS	03/22/21

DRAWN BY: EBS  
APPROVED BY: EDW  
DRAWING FILE: 5042-SITE.dwg

SCALE: 22"x34" 1" = 20'  
11"x17" 1" = 40'

OWNER:  
**64 VAUGHAN MALL, LLC**  
41 INDUSTRIAL DRIVE  
EXETER, NH 03833

APPLICANT:  
**HAMPSHIRE DEVELOPMENT CORP.**  
41 INDUSTRIAL DRIVE  
EXETER, NH 03833

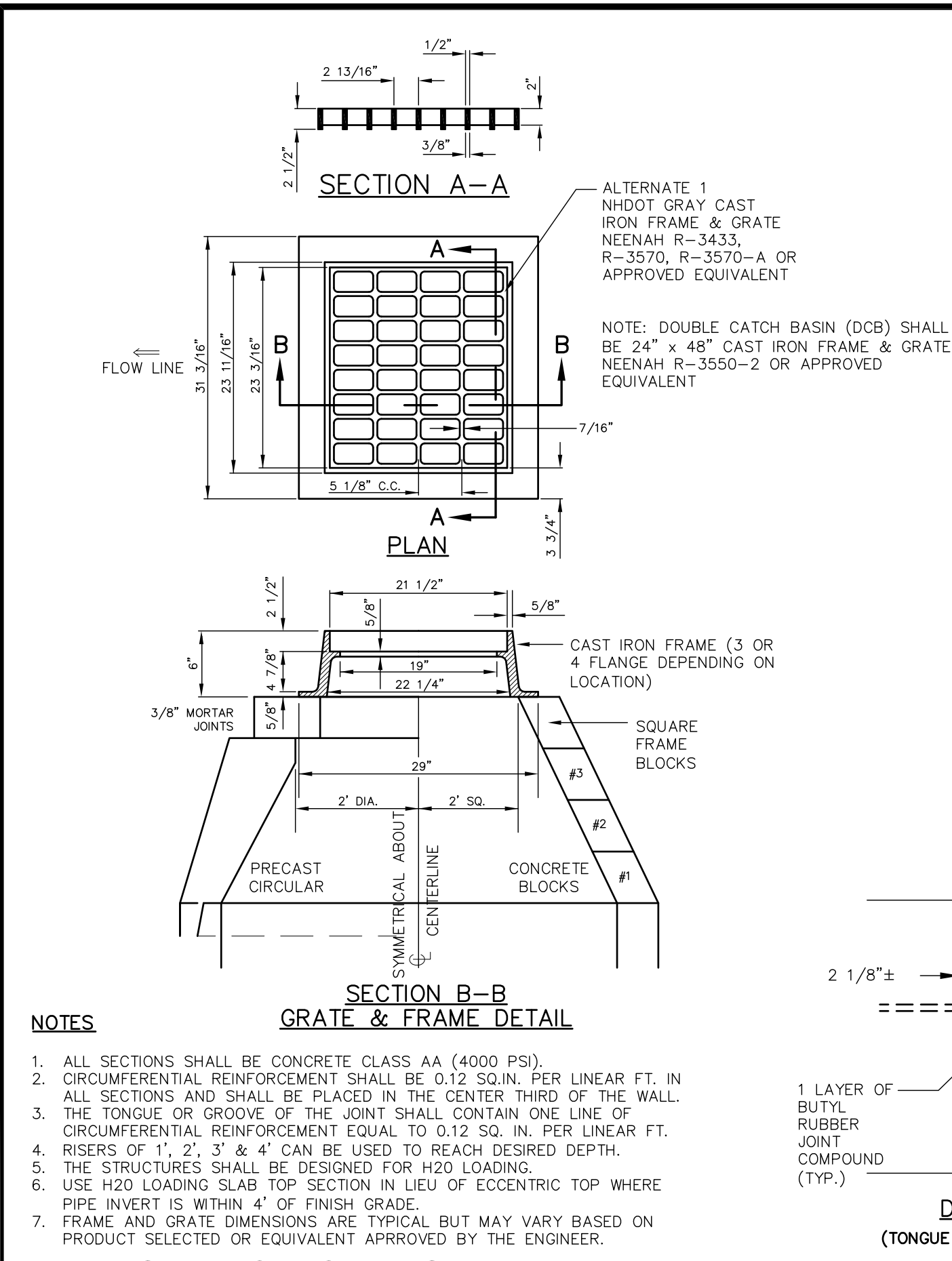
PROJECT:  
**64 VAUGHAN MALL BUILDING RESTORATION**  
TAX MAP 126, LOT 1  
**64 VAUGHAN MALL PORTSMOUTH, NH 03801**

TITLE:  
**DETAIL SHEET**

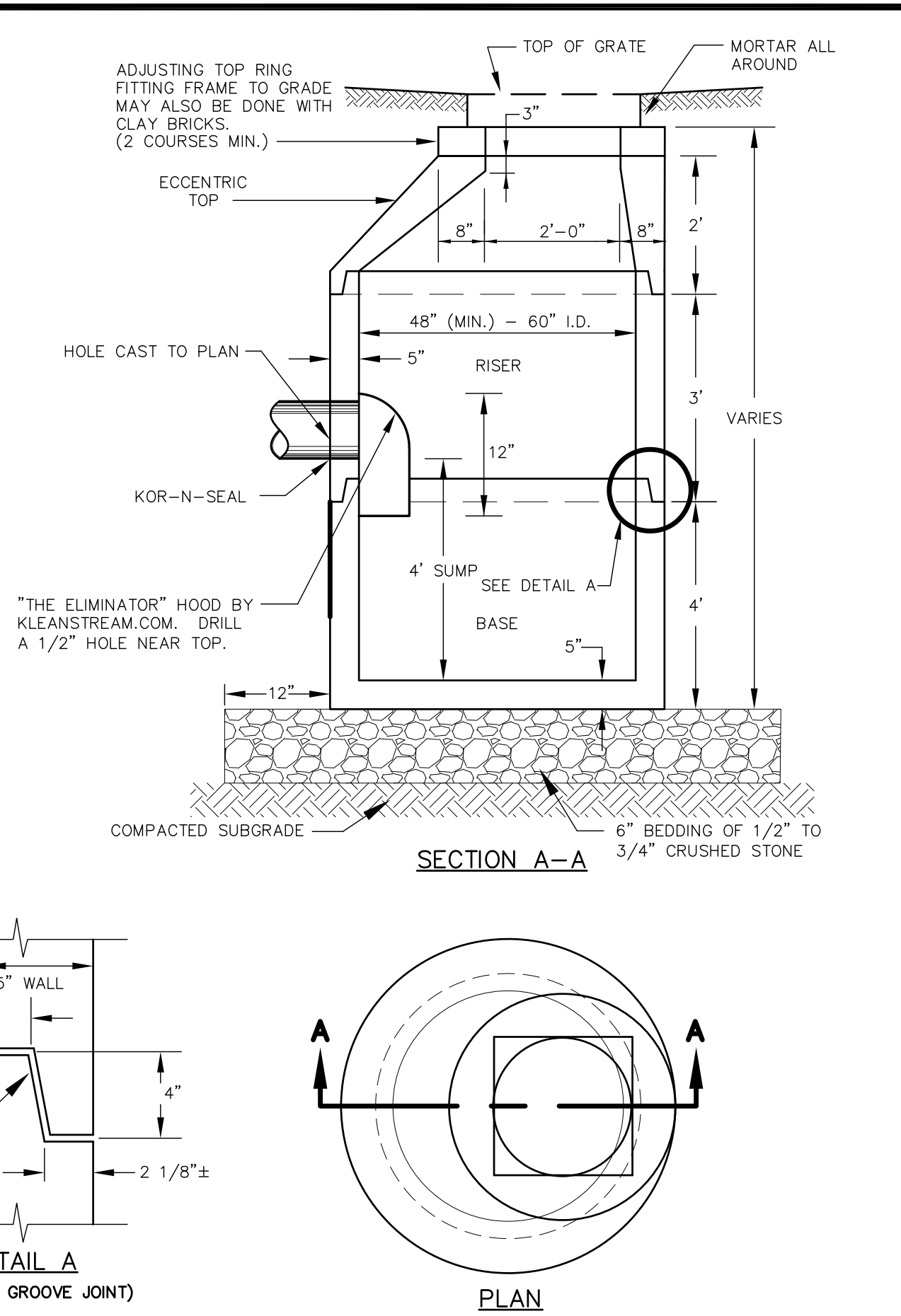
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P-5042

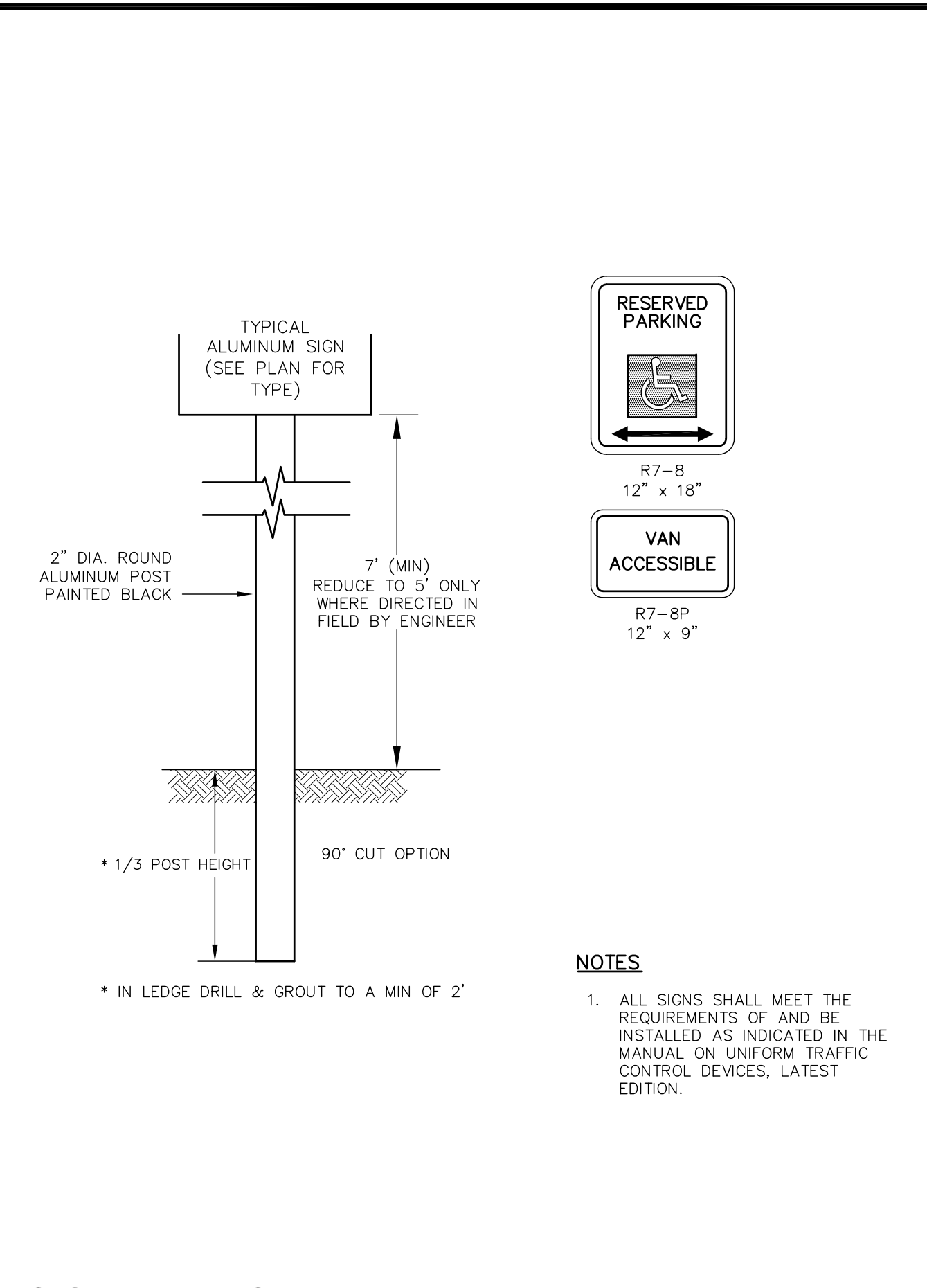




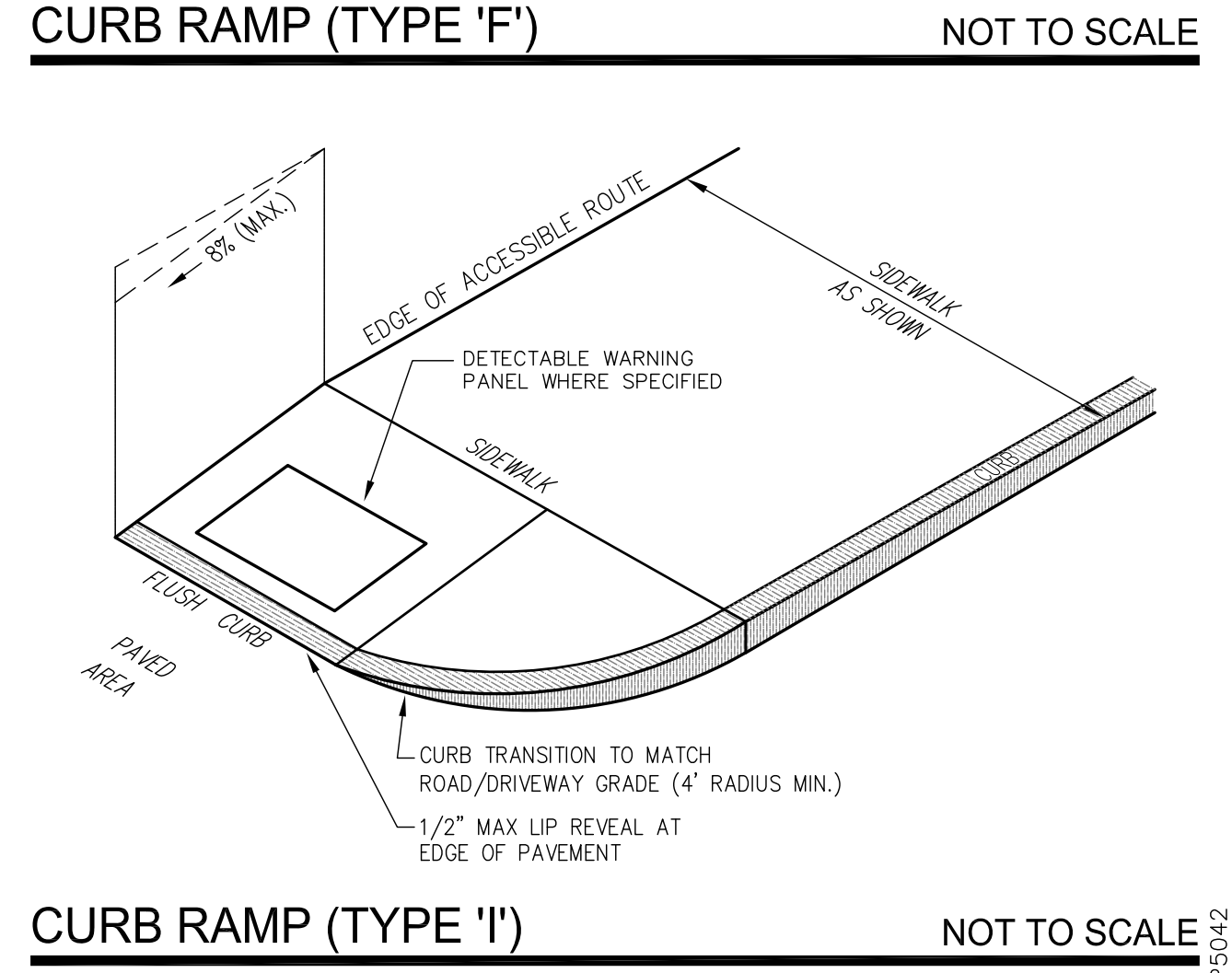
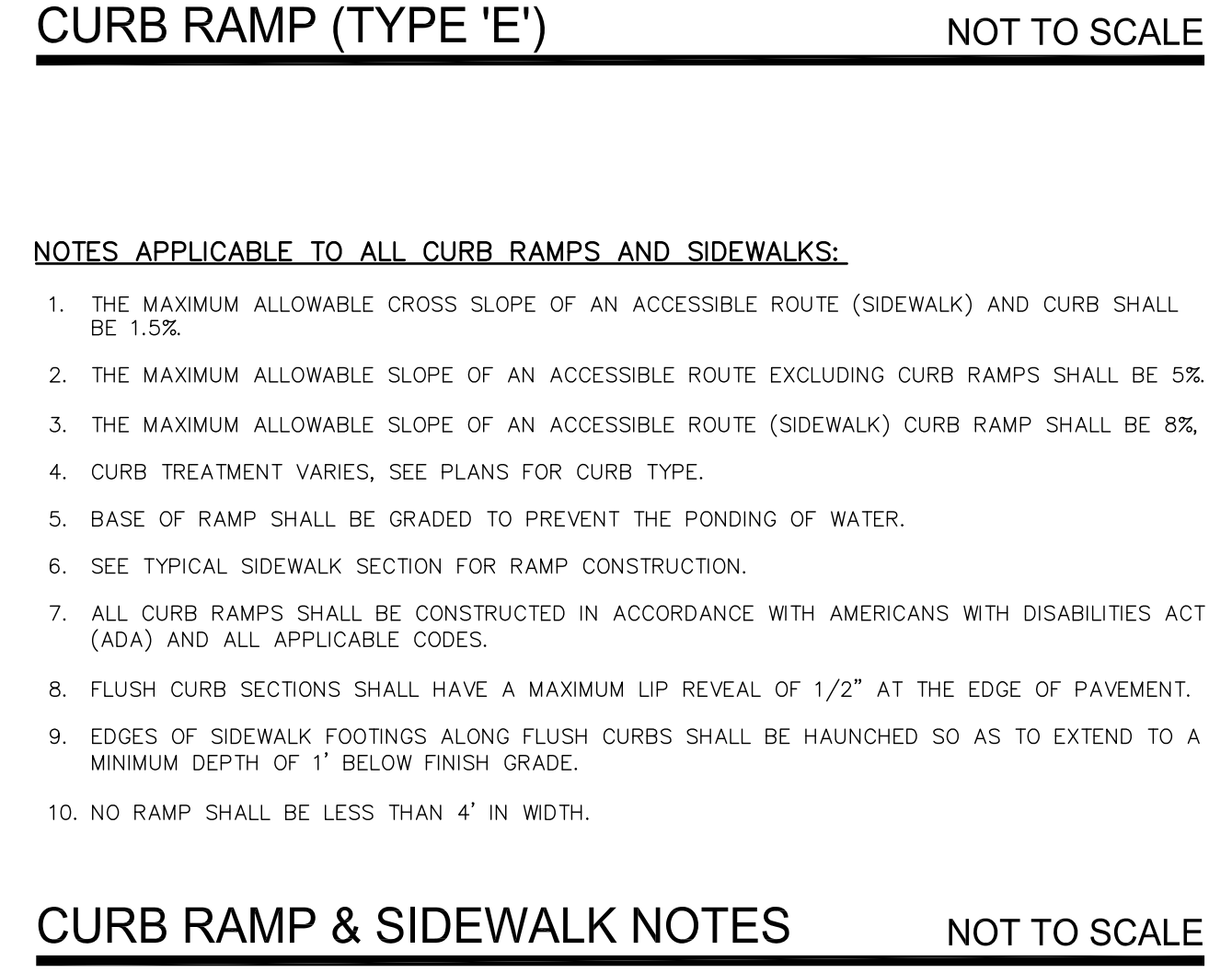
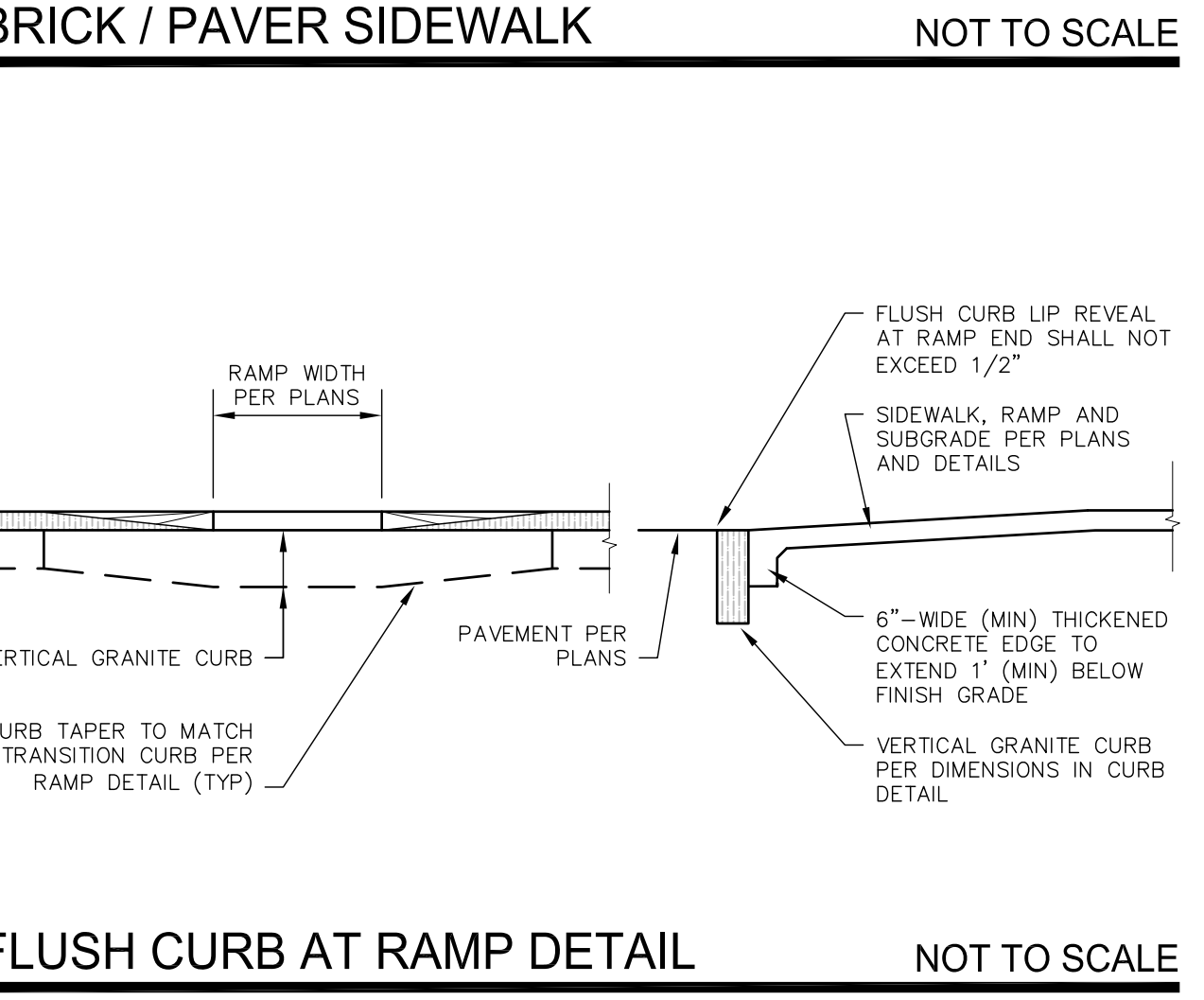
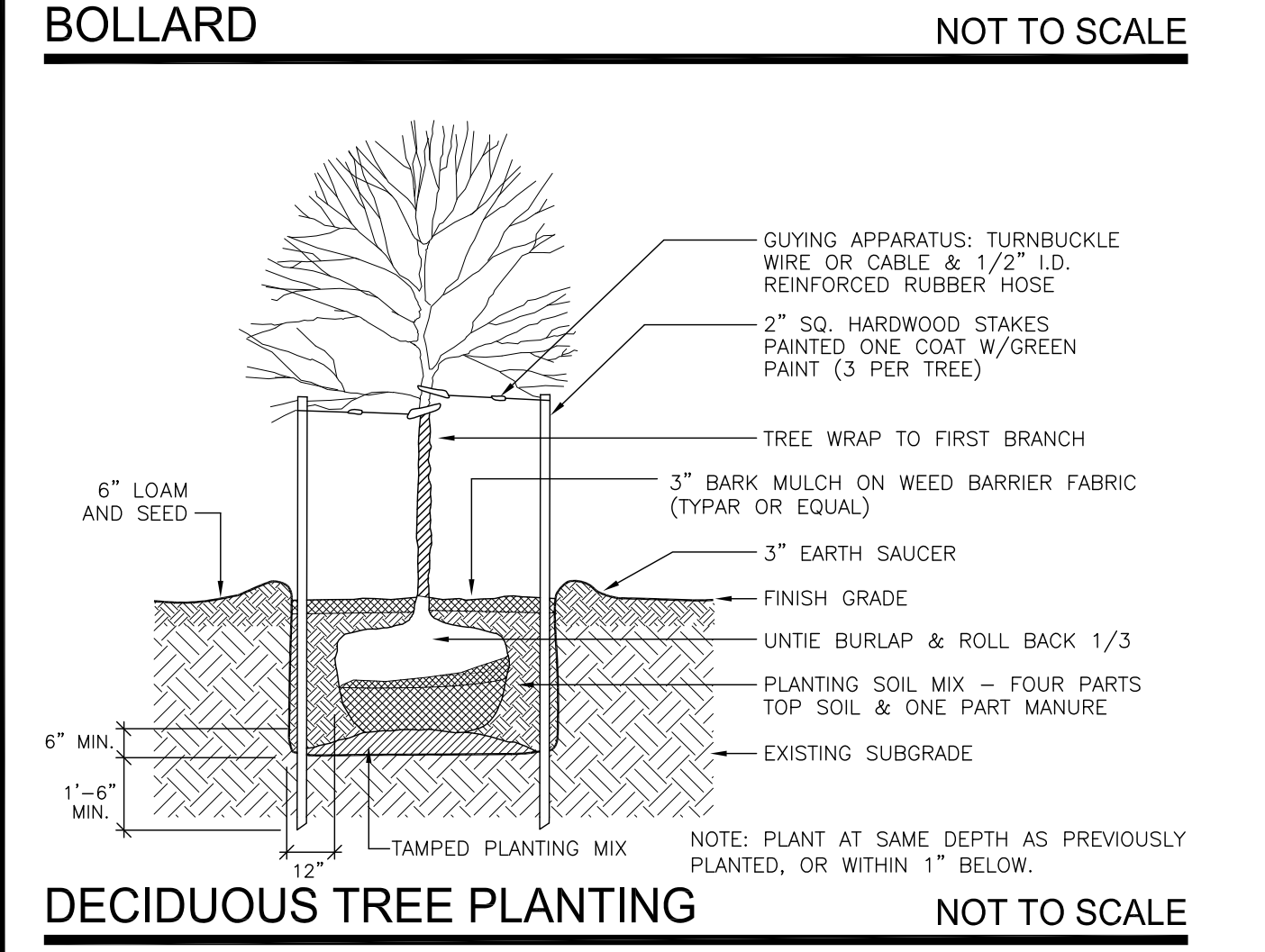
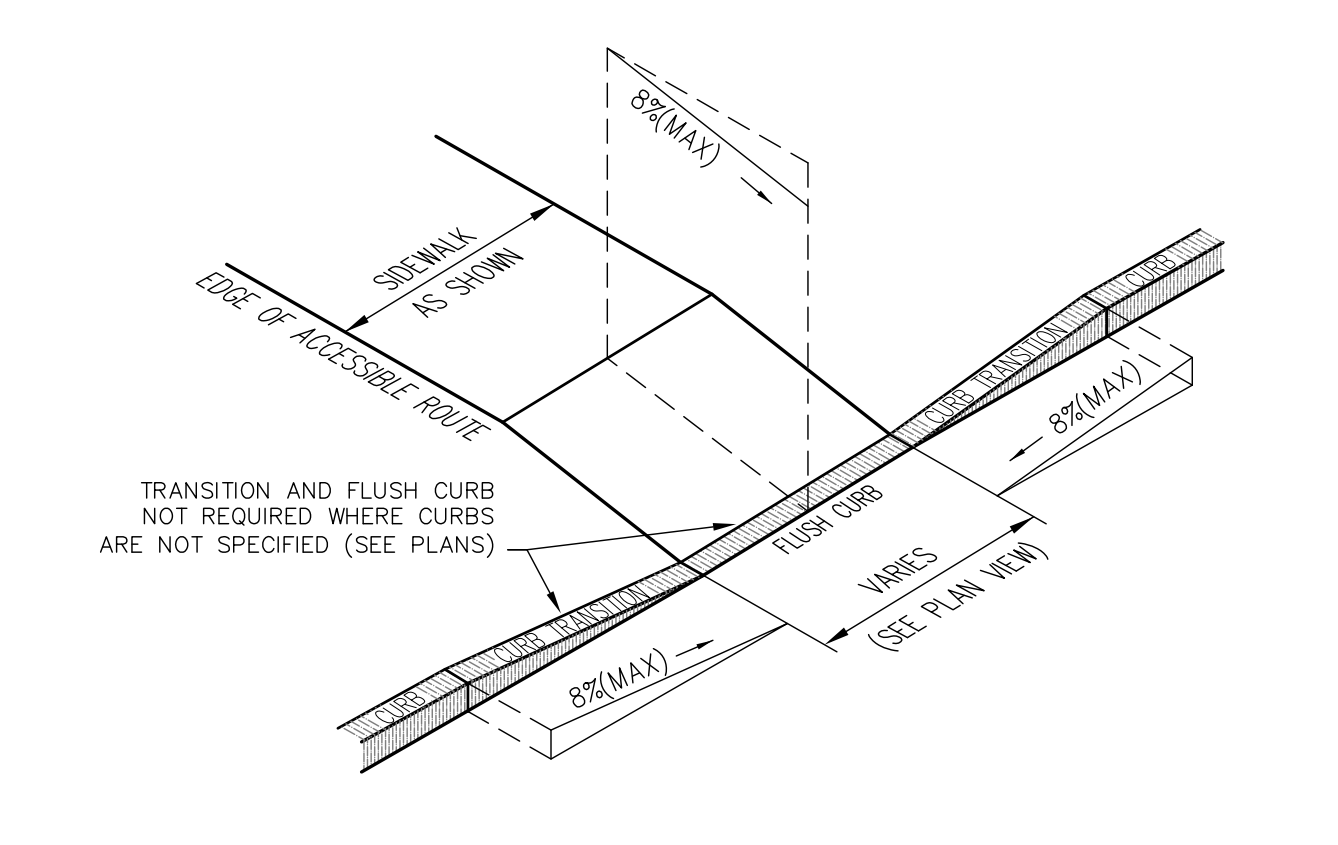
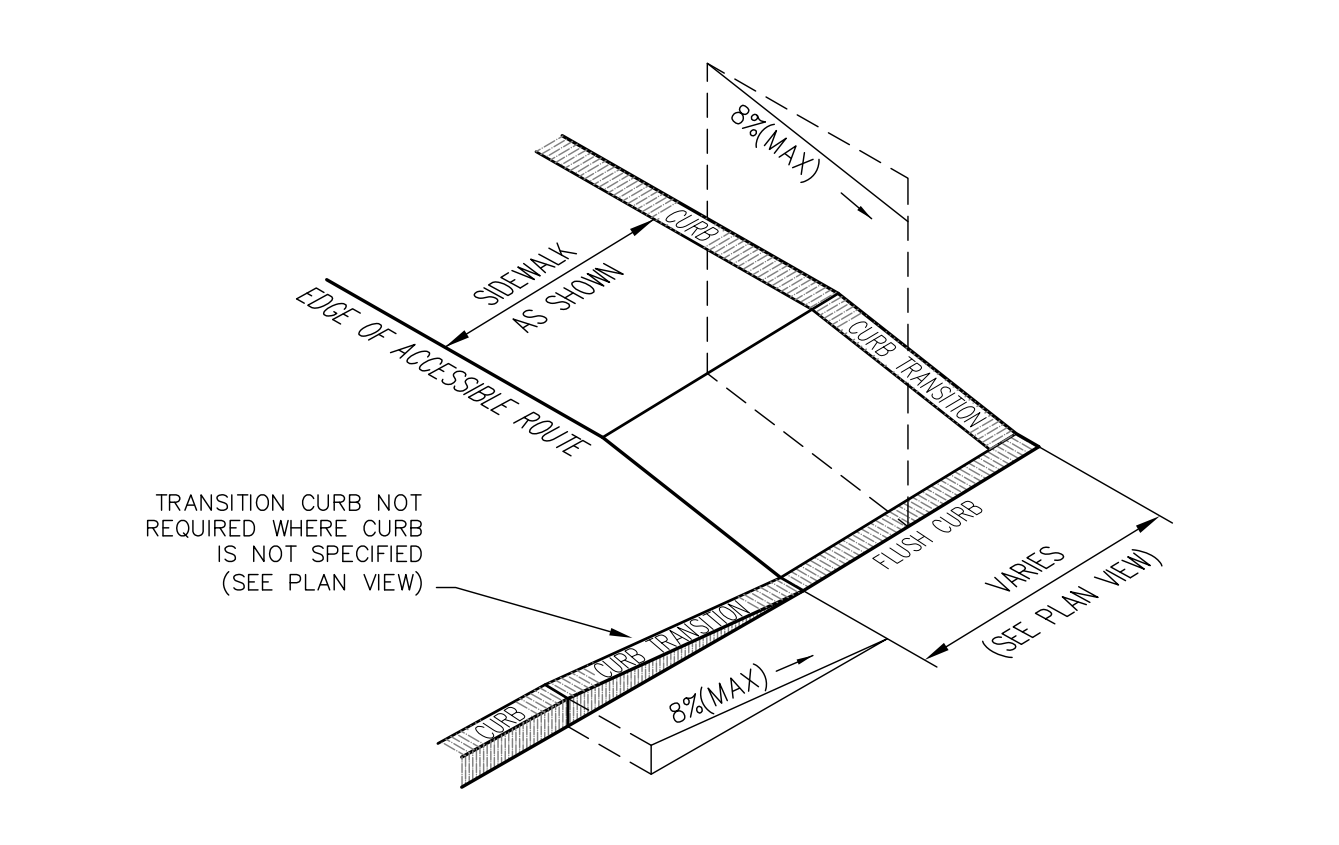
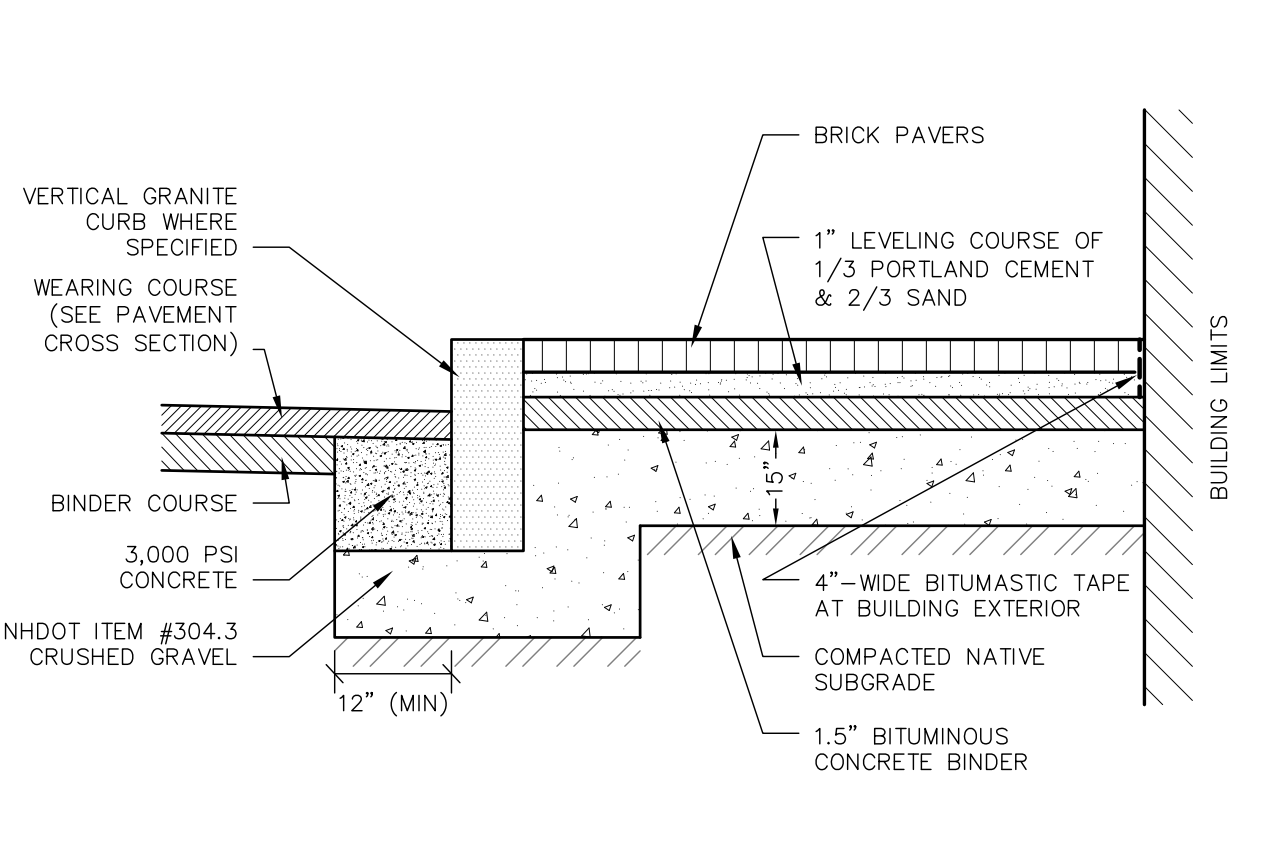
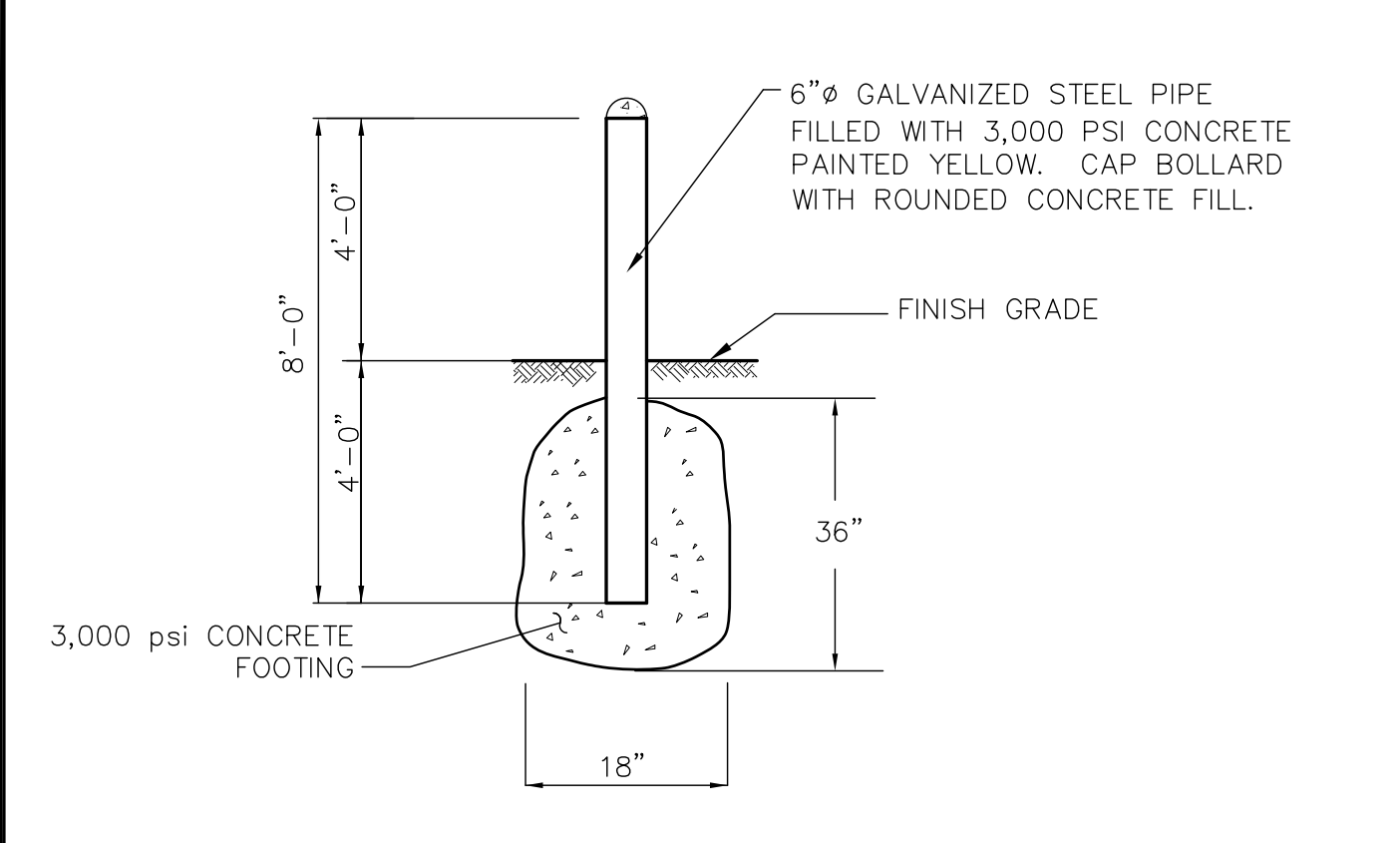
**DEEP SUMP CATCH BASIN** NOT TO SCALE



**SIGN DETAILS** NOT TO SCALE



**PAINTED HANDICAP SYMBOL** NOT TO SCALE



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STATE OF NEW HAMPSHIRE  
ERIC D. WEINRIEB  
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ISSUED FOR: TAC

ISSUE DATE: MARCH 22, 2021

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0	TAC WORK SESSION		EBS	05/05/20
1	TAC		EBS	10/19/20
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DRAWN BY: EBS  
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DRAWING FILE: 5042-SITE.dwg

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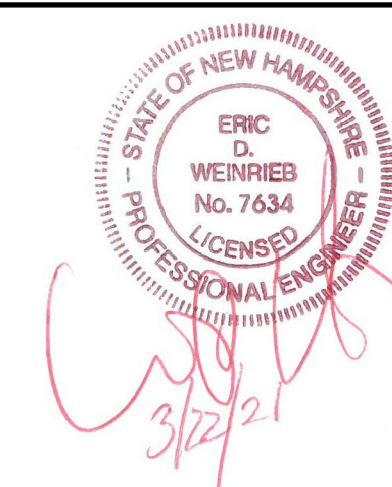
APPLICANT:  
**HAMPSHIRE DEVELOPMENT CORP.**  
41 INDUSTRIAL DRIVE  
EXETER, NH 03833

PROJECT:  
**64 VAUGHAN MALL BUILDING RESTORATION**  
TAX MAP 126, LOT 1  
64 VAUGHAN MALL  
PORTSMOUTH, NH 03801

TITLE:  
**DETAIL SHEET**

SHEET NUMBER:  
**D-2**





**NOT FOR CONSTRUCTION**

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ISSUE DATE: MARCH 22, 2021

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**41 INDUSTRIAL DRIVE  
EXETER, NH 03833**

PROJECT:  
**64 VAUGHAN MALL  
BUILDING RESTORATION**

**TAX MAP 126, LOT 1**

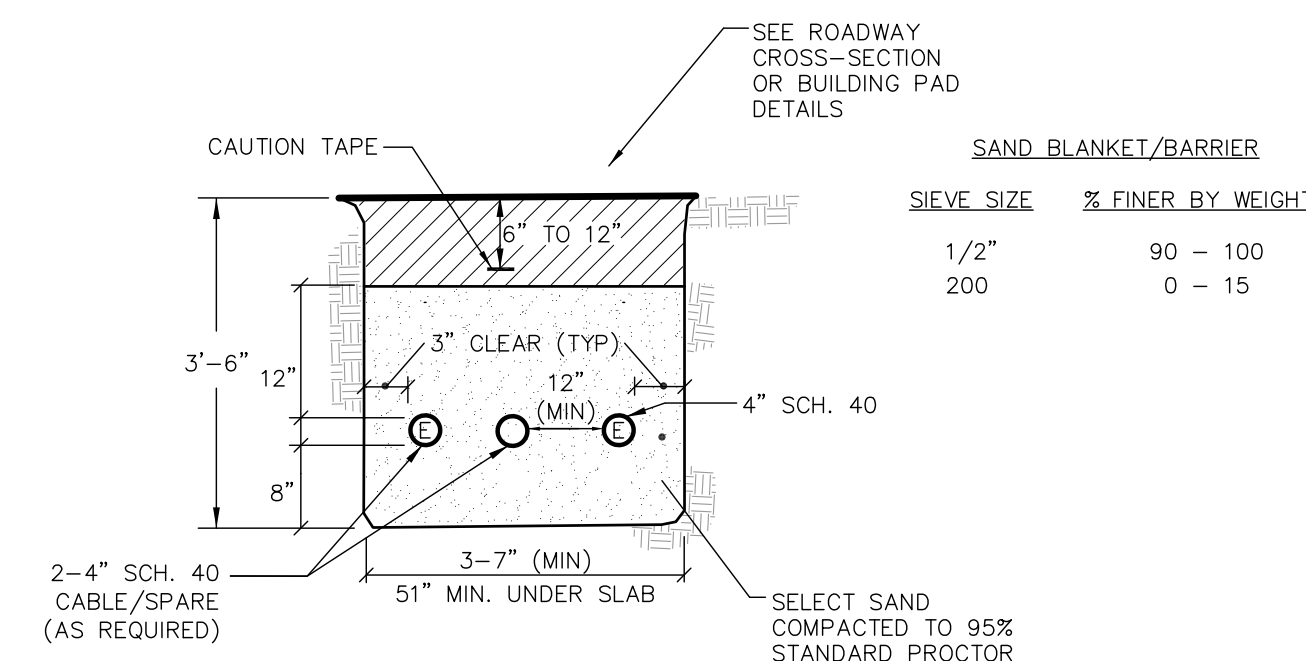
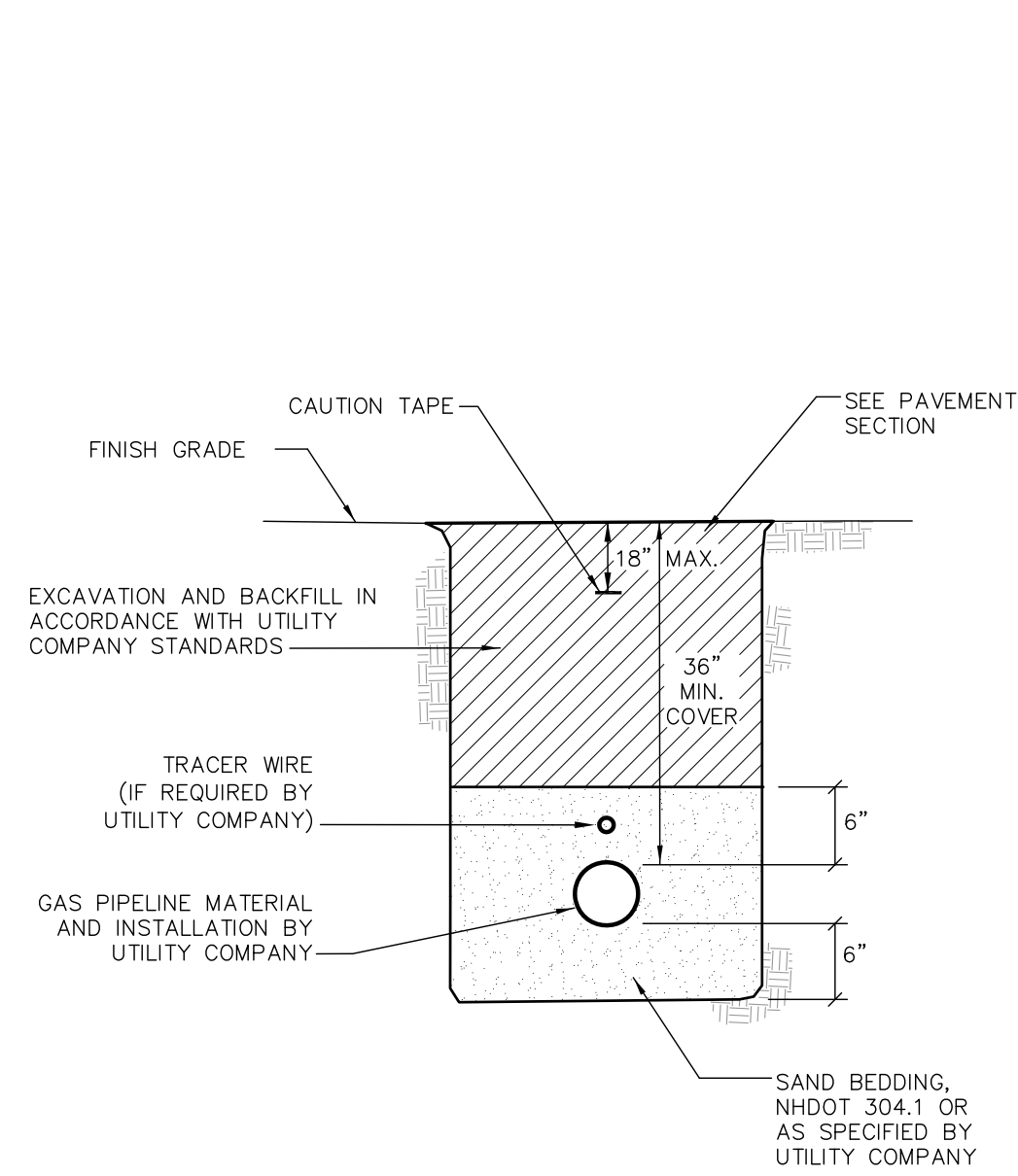
**64 VAUGHAN MALL  
PORTSMOUTH, NH 03801**

TITLE:

**DETAIL SHEET**

SHEET NUMBER:

**D-3**



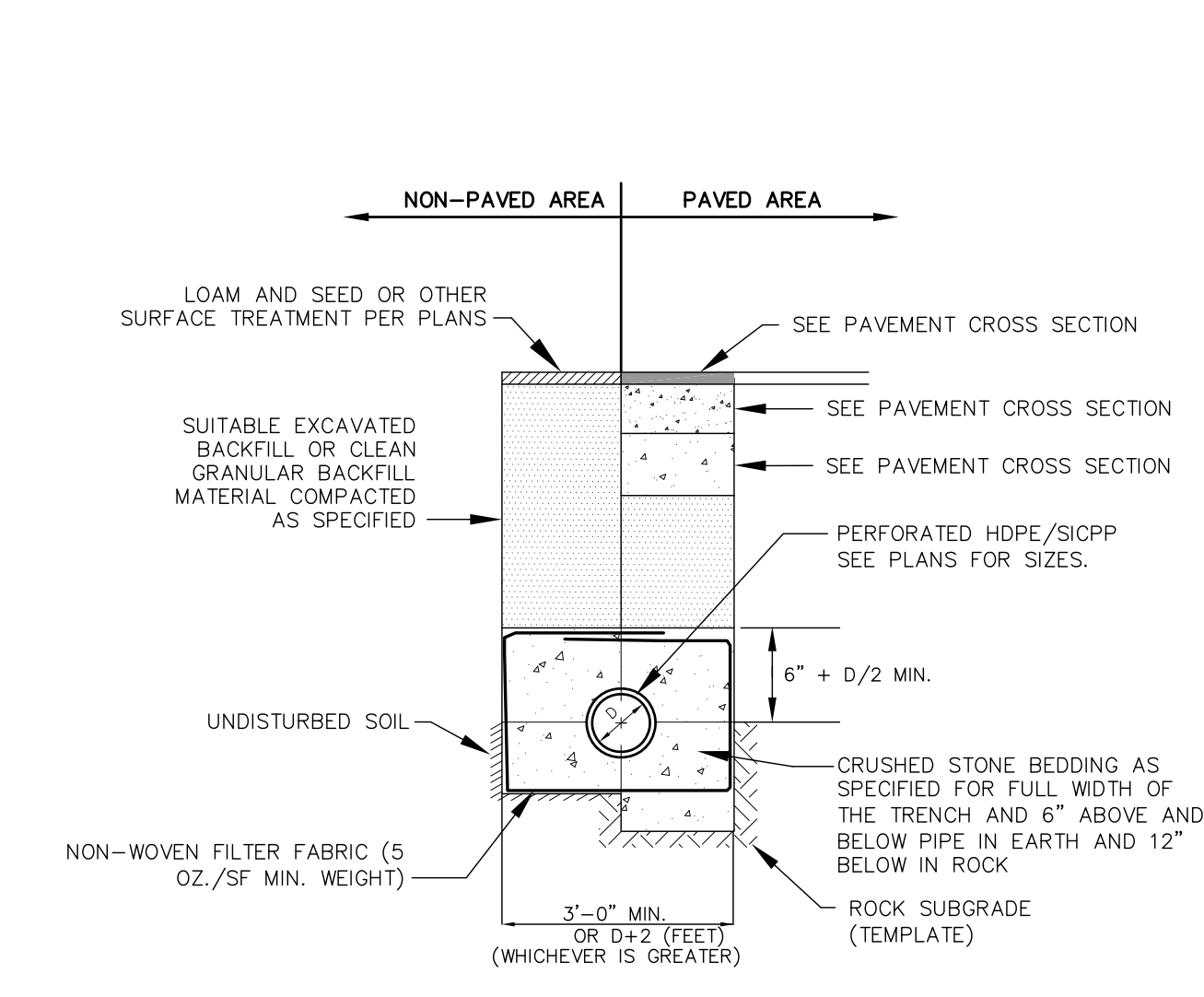
- NOTES**
- ALL CONDUIT IS TO BE SCHEDULE 40 PVC, ELECTRICAL GRADE, GRAY IN COLOR AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. A 10-FOOT HORIZONTAL SECTION OF RIGID GALVANIZED STEEL CONDUIT WILL BE REQUIRED AT EACH SWEEP, UNLESS IN THE OPINION OF THE SERVICE PROVIDER DESIGNER, THE SWEEP-PVC JOINT IS NOT SUBJECT TO FAILURE DURING PULLING OF THE CABLE. ALL JOINTS ARE TO BE WATERTIGHT.
  - ALL 90 DEGREE SWEEPS WILL BE MADE WITH RIGID GALVANIZED STEEL WITH A MINIMUM RADIUS OF 36 INCHES FOR PRIMARY CABLES AND 24 INCHES FOR SECONDARY CABLES.
  - BACKFILL MAY BE MADE WITH EXCAVATED MATERIAL OR COMPARABLE, UNLESS MATERIAL IS DEEMED UNSUITABLE BY SERVICE PROVIDER. BACKFILL SHALL BE FREE OF FROZEN LUMPS, ROCKS, DEBRIS, AND RUBBISH. ORGANIC MATERIAL SHALL NOT BE USED AS BACKFILL. BACKFILL SHALL BE IN 6-INCH LAYERS AND THOROUGHLY COMPACTED.
  - A SUITABLE PULLING STRING, CAPABLE OF 300 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE SERVICE PROVIDER IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT. A MINIMUM OF TWENTY-FOUR (24") INCHES OF ROPE SLACK SHALL REMAIN AT THE END OF EACH DUCT. PULL ROPE SHALL BE INSTALLED IN ALL CONDUIT FOR FUTURE PULLS. PULL ROPE SHALL BE NYLON ROPE HAVING A MINIMUM TENSILE STRENGTH OF THREE HUNDRED (300#) LBS.
  - SERVICE PROVIDER SHALL BE GIVEN THE OPPORTUNITY TO INSPECT ALL CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD SERVICE PROVIDER BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
  - TYPICAL CONDUIT SIZES ARE 3-INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4-INCH FOR THREE PHASE SECONDARY, AND 5-INCH FOR THREE PHASE PRIMARY. HOWEVER, SERVICE PROVIDERS MAY REQUIRE DIFFERENT NUMBERS, TYPES AND SIZES OF CONDUIT THAN THOSE SHOWN HERE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL CONDUIT SIZES, TYPES AND NUMBERS WITH EACH SERVICE PROVIDER PRIOR TO ORDERING THEM.
  - ROUTING OF CONDUIT, LOCATION OF MANHOLES, TRANSFORMERS, CABINETS, HANDHOLES, ETC., SHALL BE DETERMINED BY SERVICE PROVIDER DESIGN PERSONNEL. THE CONTRACTOR SHALL COORDINATE WITH ALL SERVICE PROVIDERS PRIOR TO THE INSTALLATION OF ANY CONDUIT.
  - ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE. WHERE REQUIRED BY UTILITY PROVIDER, CONDUIT SHALL BE SUPPORTED IN PLACE USING PIPE STANCHIONS PLACED EVERY FIVE (5') FEET ALONG THE CONDUIT RUN.
  - UNDER A BUILDING SLAB THE CONDUIT SHALL BE ENCASED IN 8" OF CONCRETE ON ALL SIDES.
  - ALL CONDUIT TERMINATIONS SHALL BE CAPPED TO PREVENT DEBRIS FROM ENTERING CONDUIT.

**NOTES**

- CONTRACTOR TO COORDINATE WITH UTILITY COMPANY AND PROVIDE ALL EXCAVATION, COMPACTION AND BACKFILL FOR PIPE INSTALLATION WITHIN THE PROJECT SITE.
- BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

**GAS TRENCH NOT TO SCALE**

**ELECTRIC / COMMUNICATION TRENCH NOT TO SCALE**

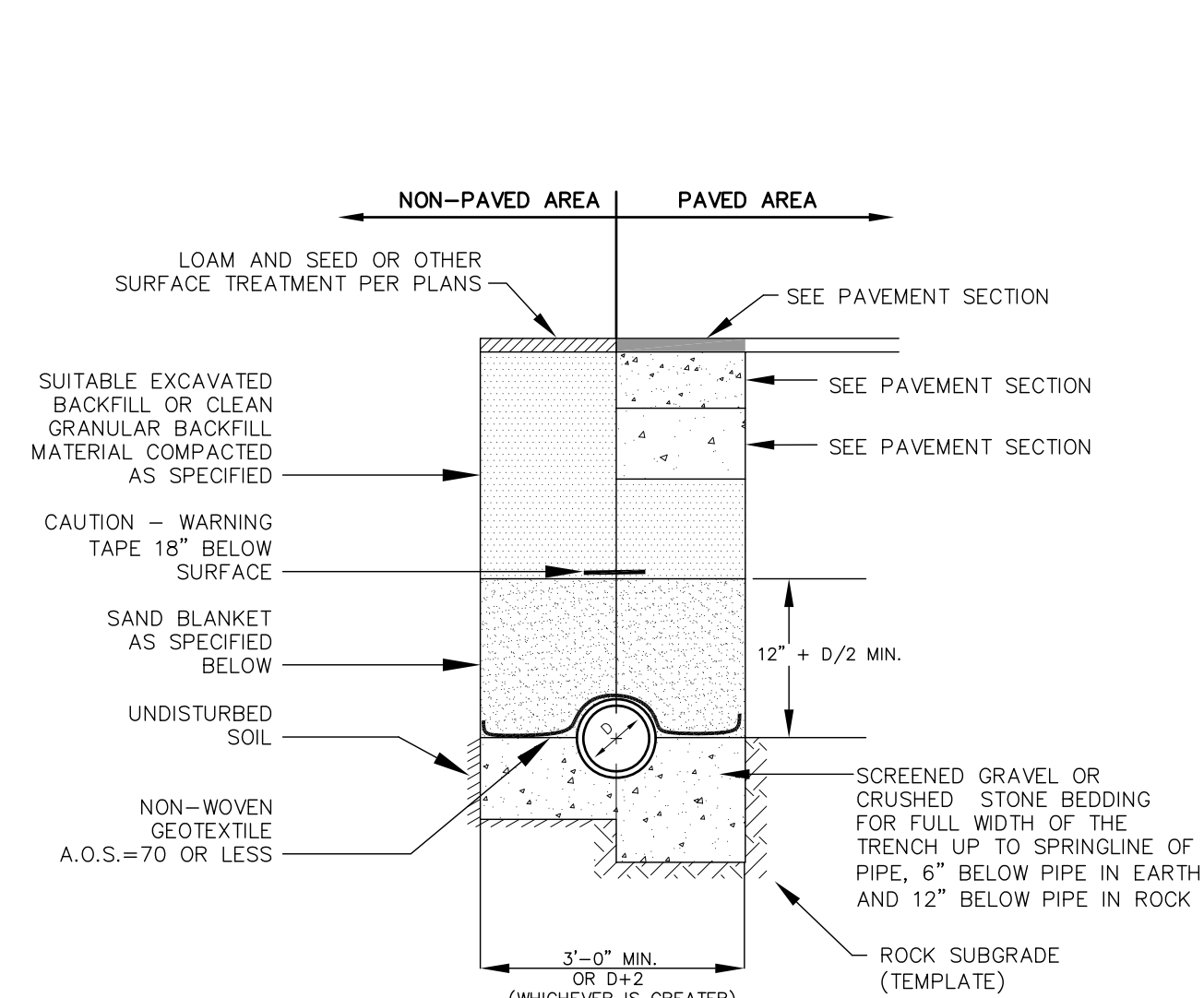


BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

SAND BLANKET/BARRIER		SCREENED GRAVEL OR CRUSHED STONE BEDDING*	
SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2"	90 - 100	1"	100
200	0 - 15	3/4"	90 - 100
		3/8"	20 - 55
		# 4	0 - 10
		# 8	0 - 5

\* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

**UNDERDRAIN TRENCH SECTION NOT TO SCALE**

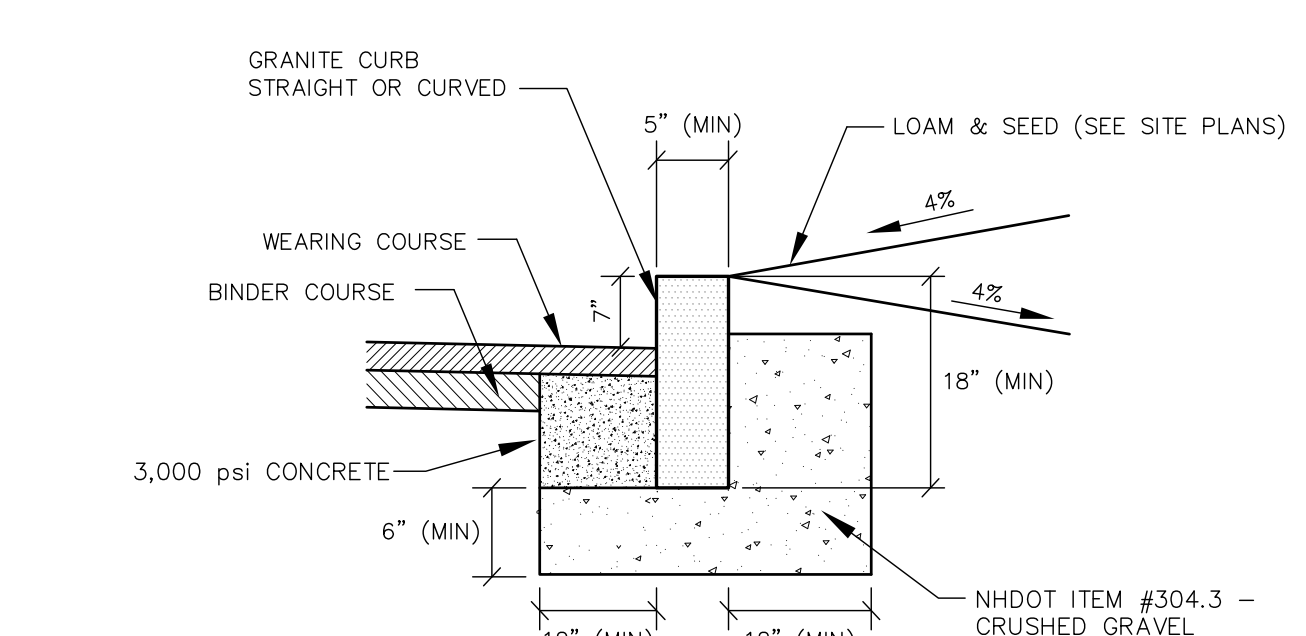


BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

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		3/8"	20 - 55
		# 4	0 - 10
		# 8	0 - 5

\* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

**DRAINAGE TRENCH SECTION NOT TO SCALE**

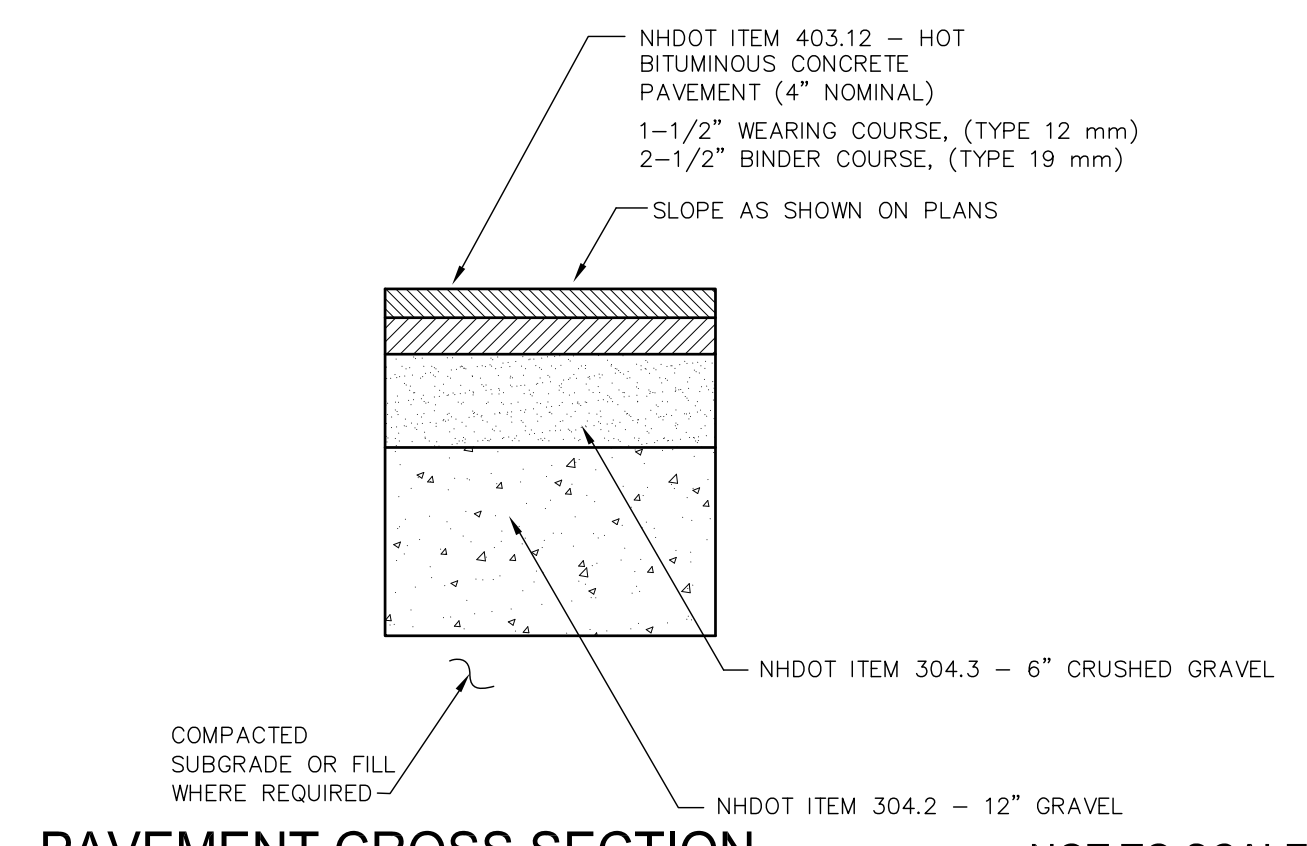


**NOTES**

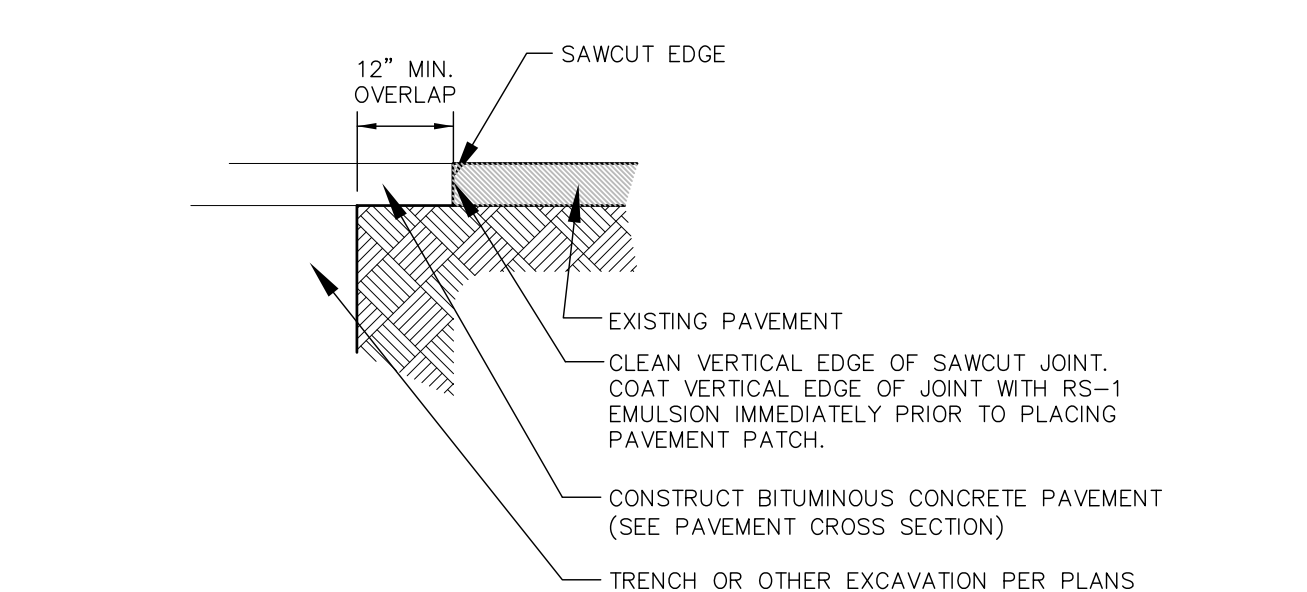
- SEE PLANS FOR CURB LOCATION.
- SEE PLANS FOR PAVEMENT CROSS SECTION.
- ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
- MINIMUM LENGTH OF CURB STONES = 4'.
- MAXIMUM LENGTH OF CURB STONES = 10'.
- MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART.
- CURB ENDS TO ROUNDED AND BATTERED FACES TO BE CUT WHEN CALLED FOR ON THE PLANS.
- CURB SHALL BE INSTALLED PRIOR TO PLACEMENT OF TOP PAVEMENT COURSE.
- JOINTS BETWEEN CURB STONES SHALL BE MORTARED.

RADIUS	MAX. LENGTH
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
OVER 60'	10'

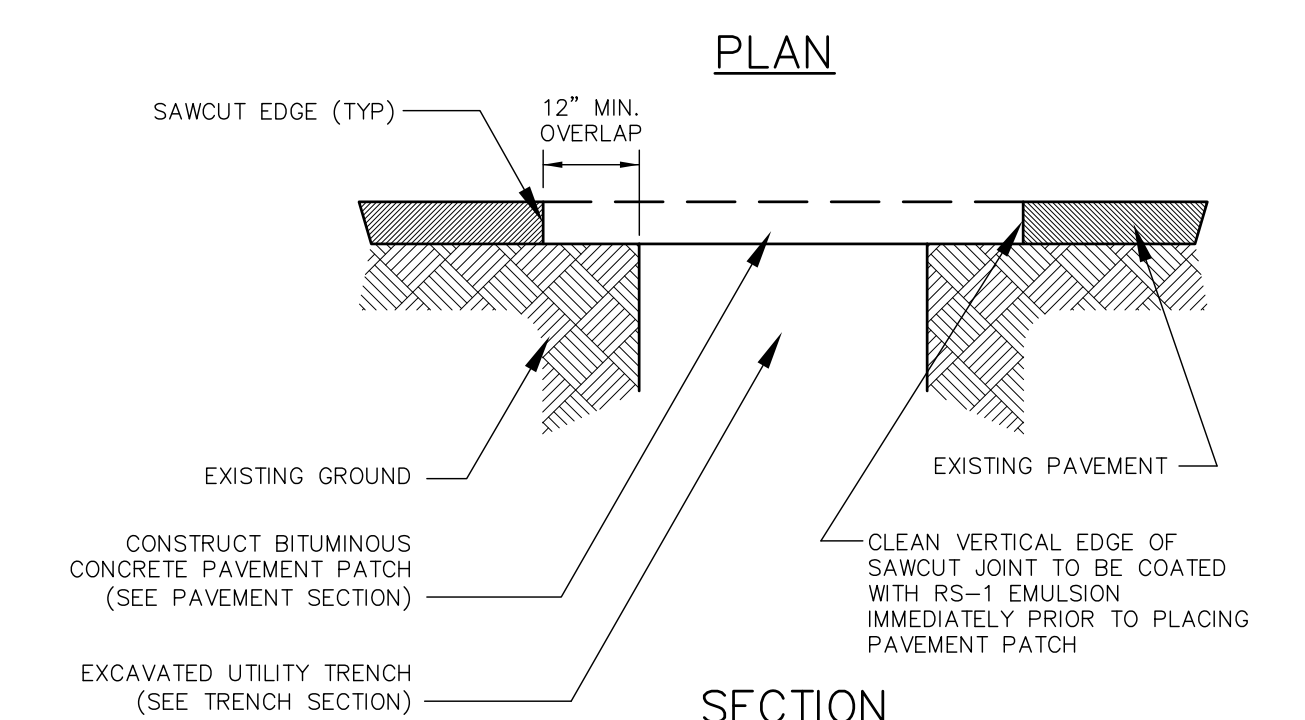
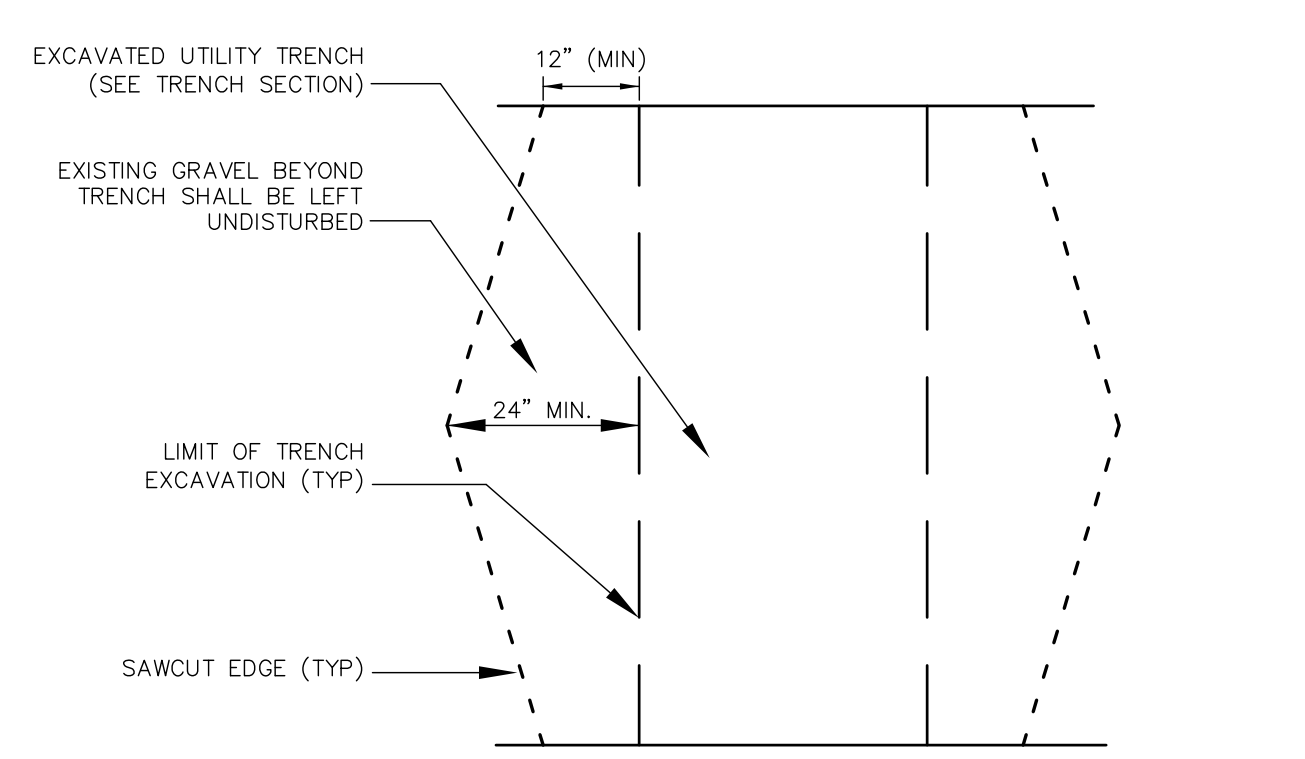
**VERTICAL GRANITE CURB NOT TO SCALE**



**PAVEMENT CROSS SECTION NOT TO SCALE**



**TYPICAL PAVEMENT SAWCUT NOT TO SCALE**



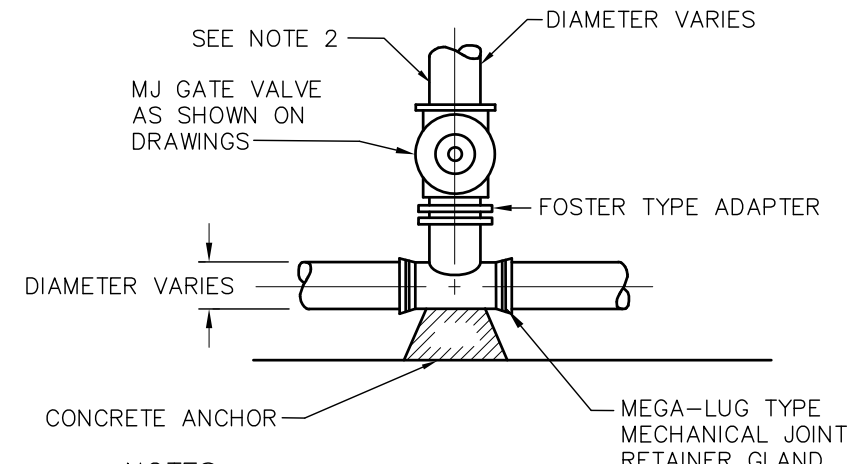
**NOTES**

- MACHINE CUT EXISTING PAVEMENT.
- ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
- DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

**TYPICAL TRENCH PATCH NOT TO SCALE**

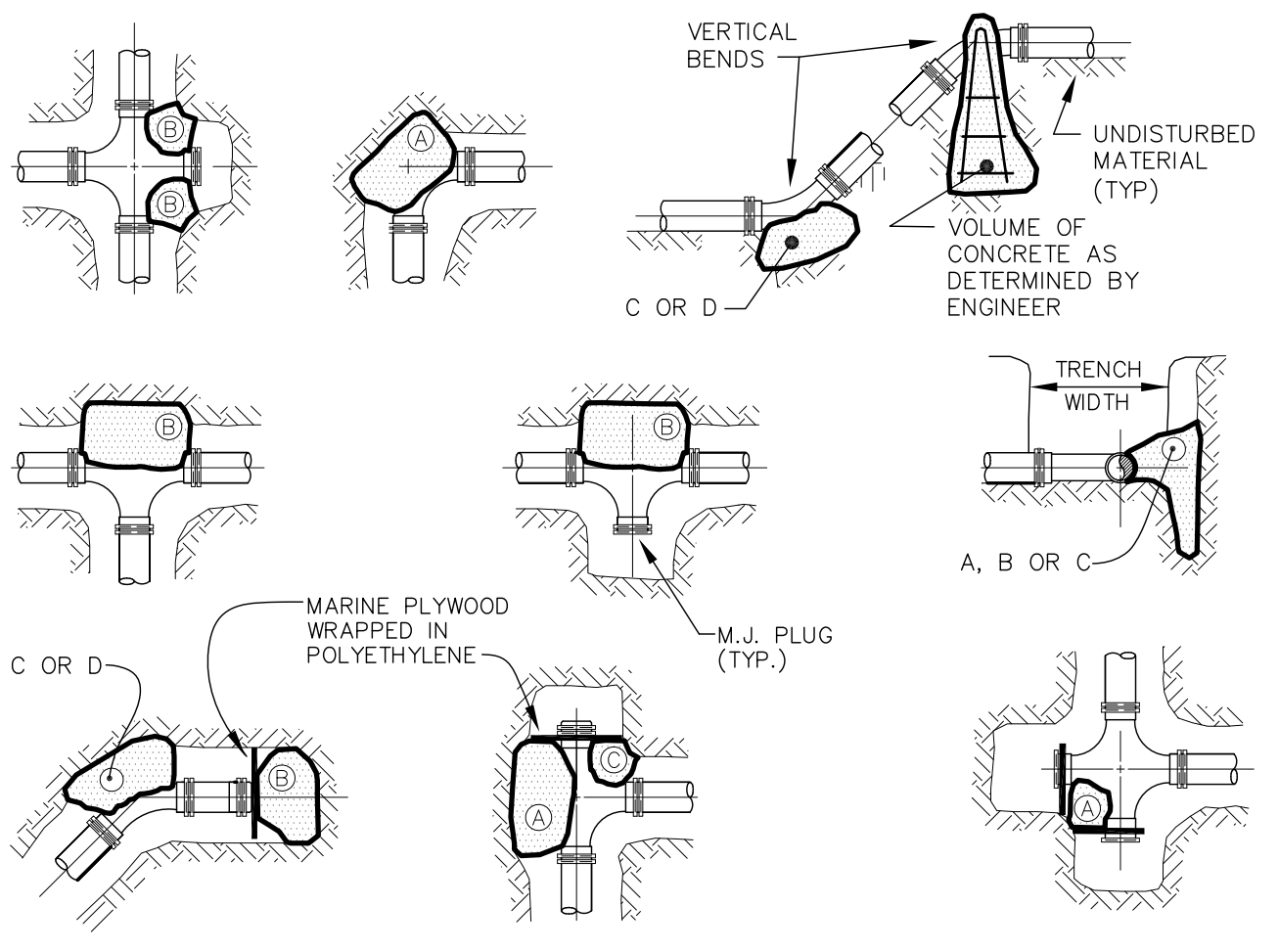
P-5042





- NOTES:**
- GATE VALVES SHALL OPEN RIGHT, PER CITY STANDARDS.
  - BRANCH PIPING SHALL BE MECHANICALLY RESTRAINED AS NOTED UNDER THRUST BLOCK DETAIL REQUIREMENTS.

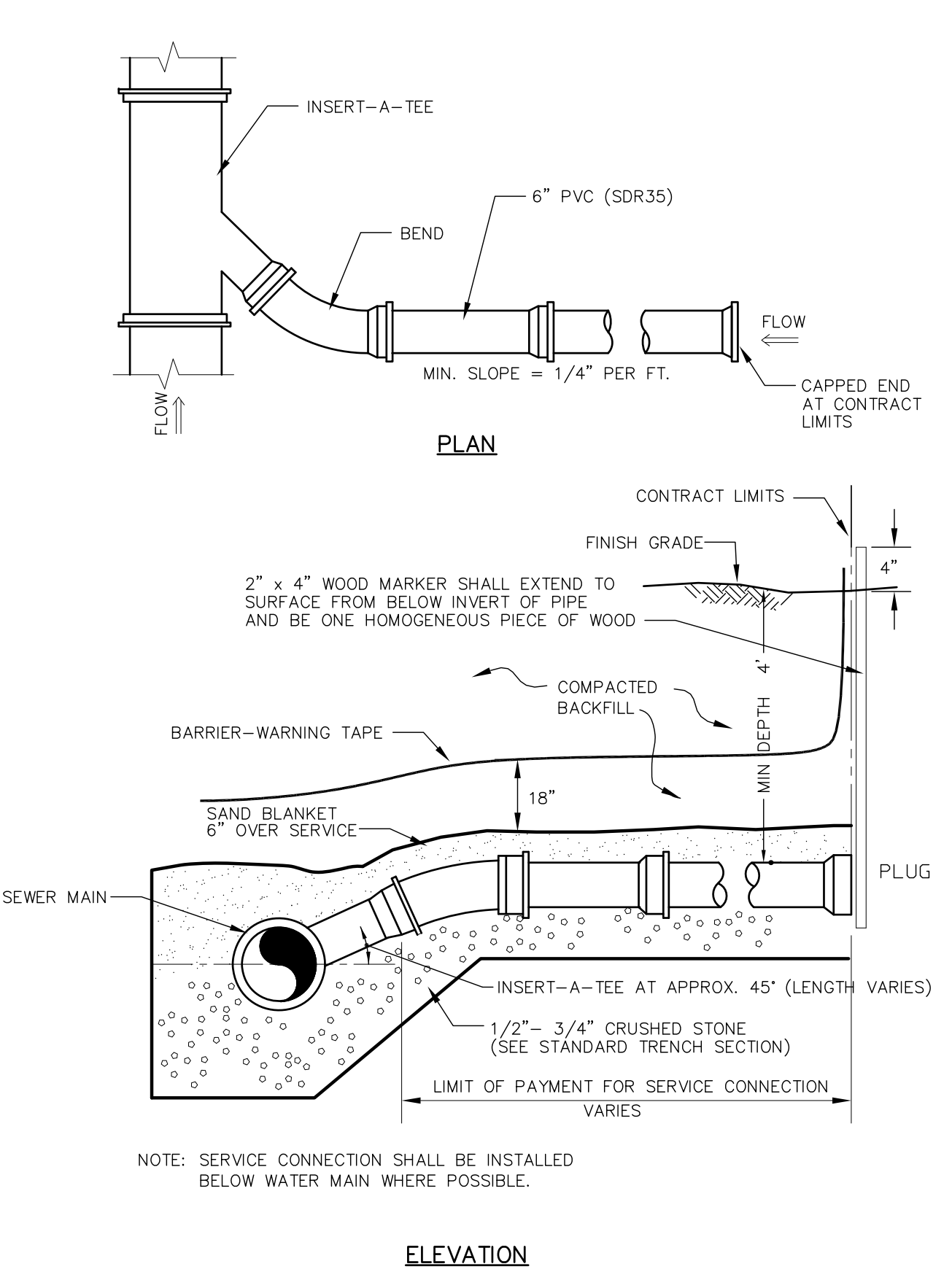
**TEE & GATE VALVE ASSEMBLY DETAIL NOT TO SCALE**



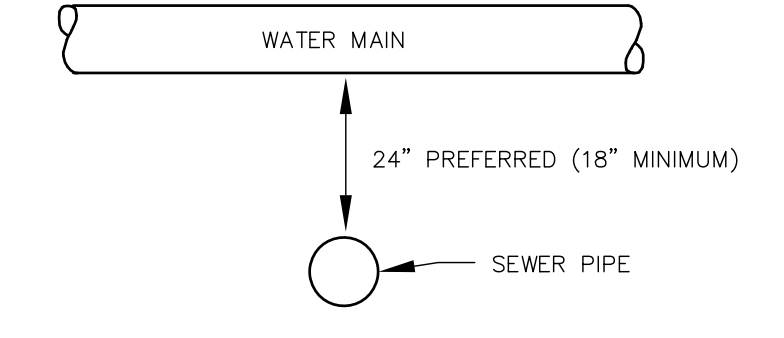
REACTION TYPE	PIPE SIZE				
	4"	6"	8"	10"	12"
A 90°	0.89	2.19	3.82	11.14	17.24
B 180°	0.65	1.55	2.78	8.38	12.00
C 45°	0.48	1.19	2.12	6.02	9.32
D 22-1/2°	0.25	0.60	1.06	3.08	4.74
E 11-1/4°	0.13	0.30	0.54	1.54	2.38

- NOTES:**
- POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL.
  - NO JOINTS SHALL BE COVERED WITH CONCRETE. POLYETHYLENE (6 MIL) SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE PLACEMENT.
  - ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
  - PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
  - X
  - POLYETHYLENE (6 MIL) SHALL BE PLACED AROUND ALL FITTINGS PRIOR TO CONCRETE PLACEMENT.

**THRUST BLOCKING NOT TO SCALE**

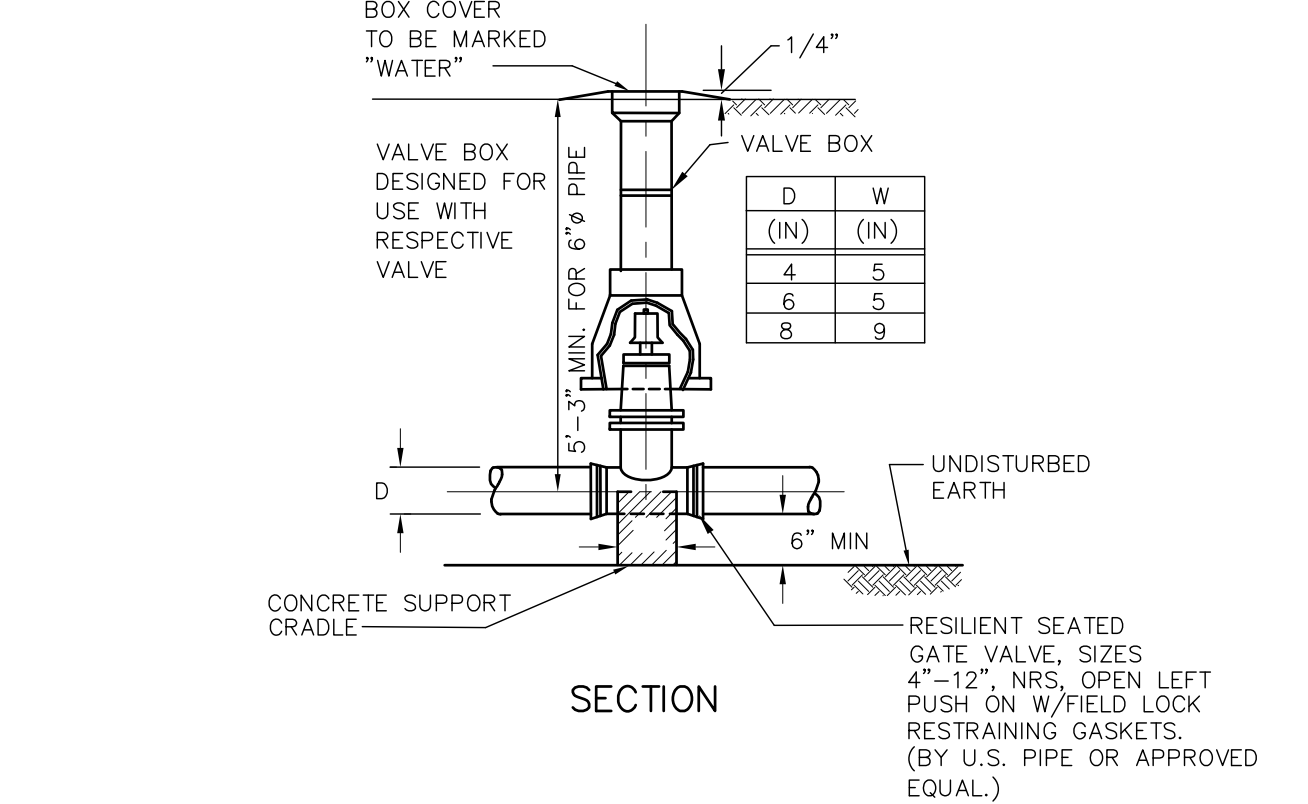


**SEWER SERVICE CONNECTION NOT TO SCALE**

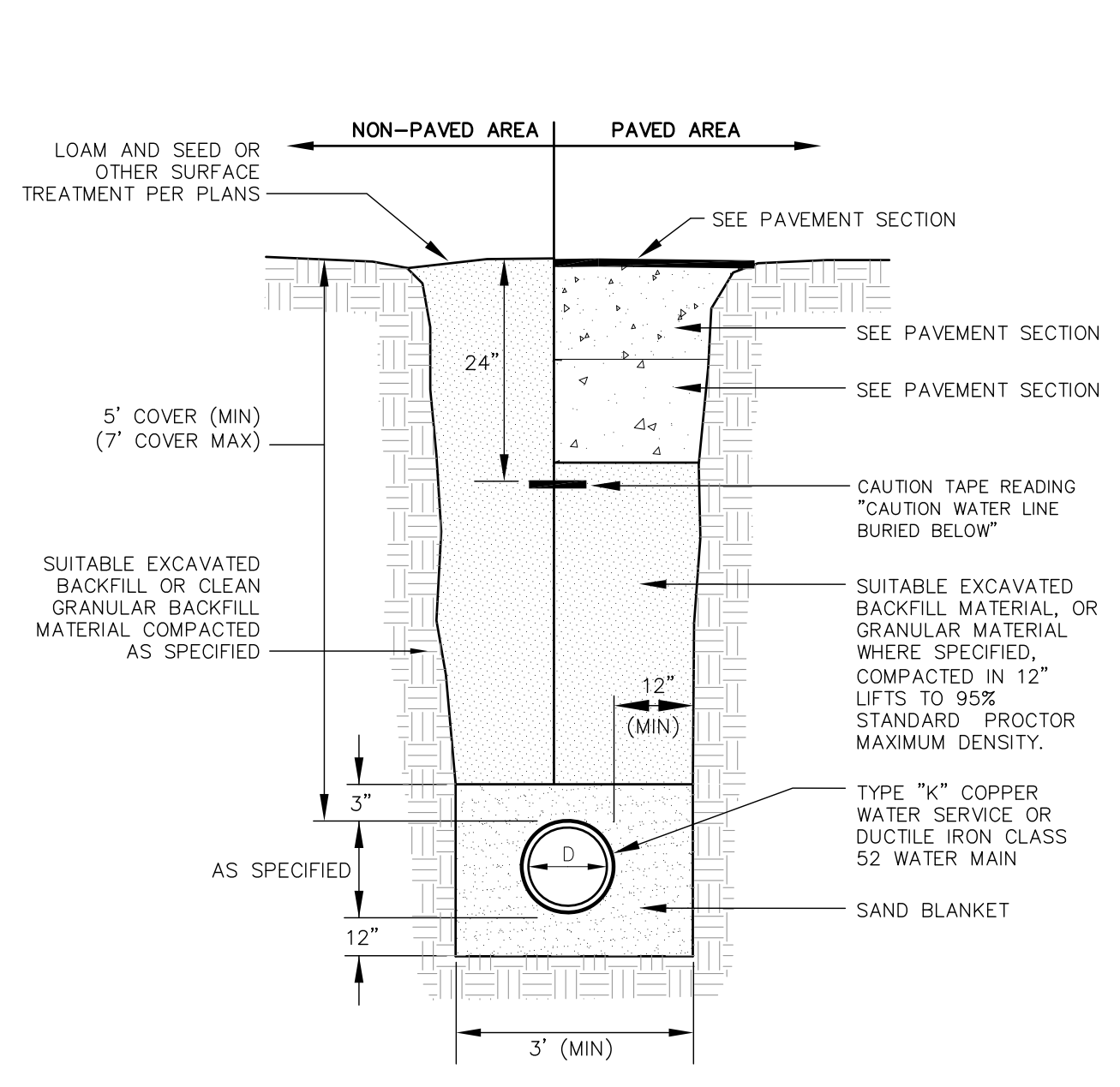


- NOTES:**
- A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN WATER AND SEWER MAINS. A MINIMUM VERTICAL DISTANCE WITH WATER ABOVE SEWER SHALL BE MAINTAINED.
  - SEWER PIPE JOINTS SHALL BE LOCATED A MINIMUM OF 6 FEET HORIZONTALLY FROM WATER MAIN.
  - IF THE REQUIRED CONFIGURATION CANNOT BE MET, THE SEWER MAIN SHALL BE CONSTRUCTED TO MEET THE NHDES REQUIREMENTS FOR FORCE MAIN CONSTRUCTION.

**WATER MAIN / SEWER CROSSING NOT TO SCALE**



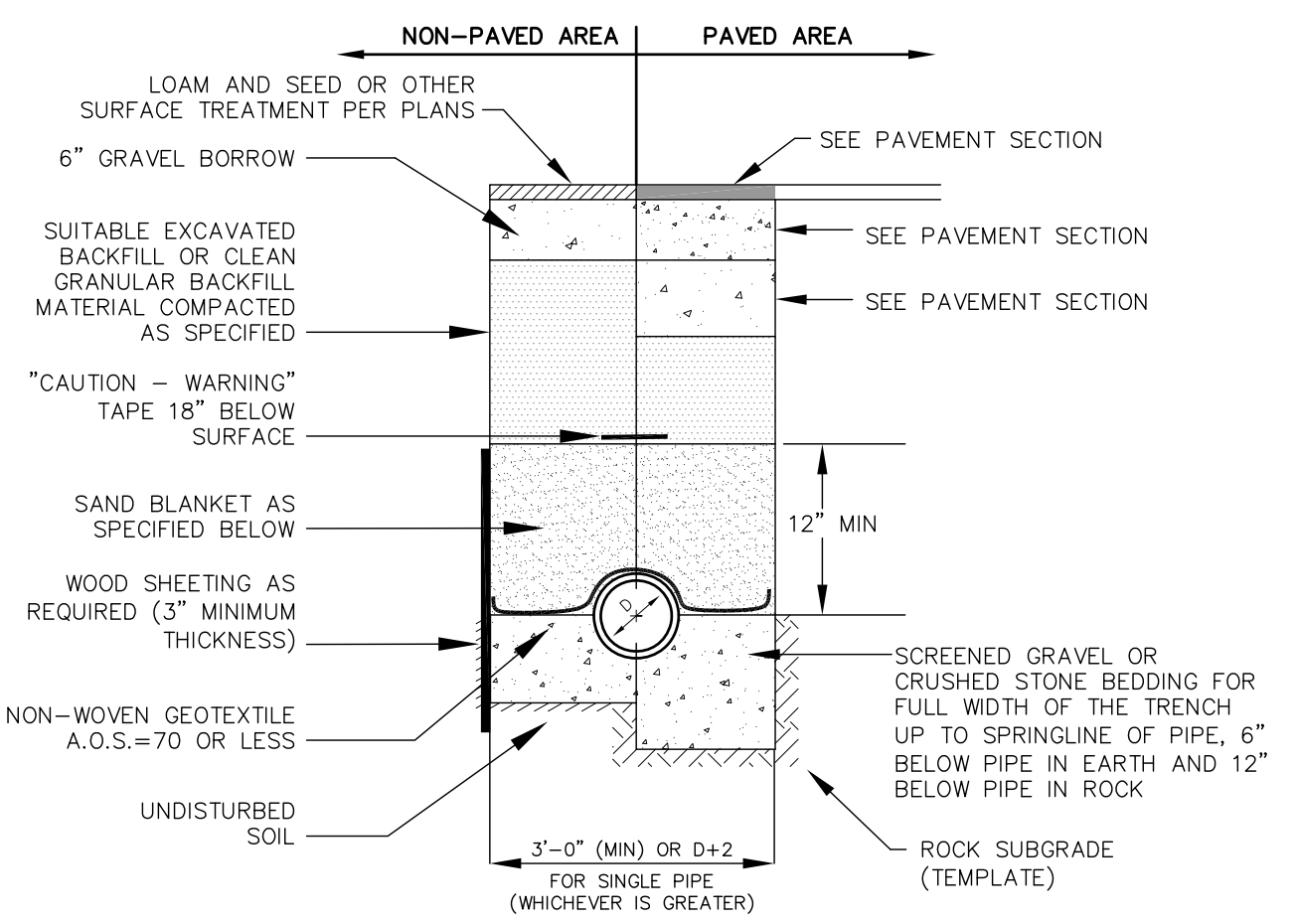
**WATER VALVE DETAIL NOT TO SCALE**



SAND BLANKET/BARRIER	
SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 - 100
200	0 - 15

- NOTES:**
- BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

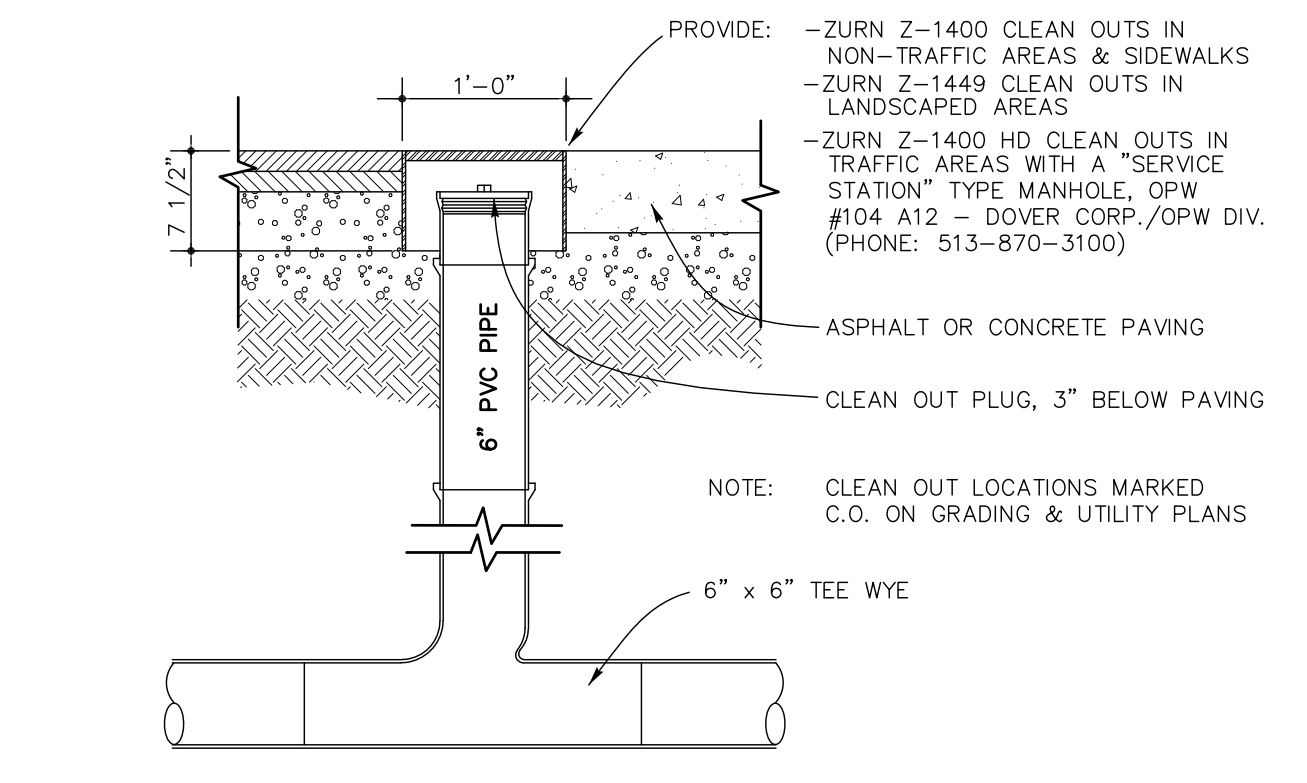
**WATER MAIN TRENCH NOT TO SCALE**



- NOTES:**
- BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
  - INSULATE GRAVITY SEWER AND FORCEMAINS WHERE THERE IS LESS THAN 5'-0" OF COVER WITH 2" THICK CLOSED CELL RIGID BOARD INSULATION, 18" ON EACH SIDE OF PIPE.
  - MAINTAIN 12" MINIMUM HORIZONTAL SEPARATION AND WIDEN TRENCH ACCORDINGLY IF MULTIPLE PIPES ARE IN TRENCH.

SAND BLANKET/BARRIER		SCREENED GRAVEL OR CRUSHED STONE BEDDING*	
SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2"	90 - 100	1"	100
200	0 - 15	3/4"	90 - 100
		3/8"	20 - 55
		# 4	0 - 10
		# 8	0 - 5

**SEWER & FORCEMAIN TRENCH NOT TO SCALE**

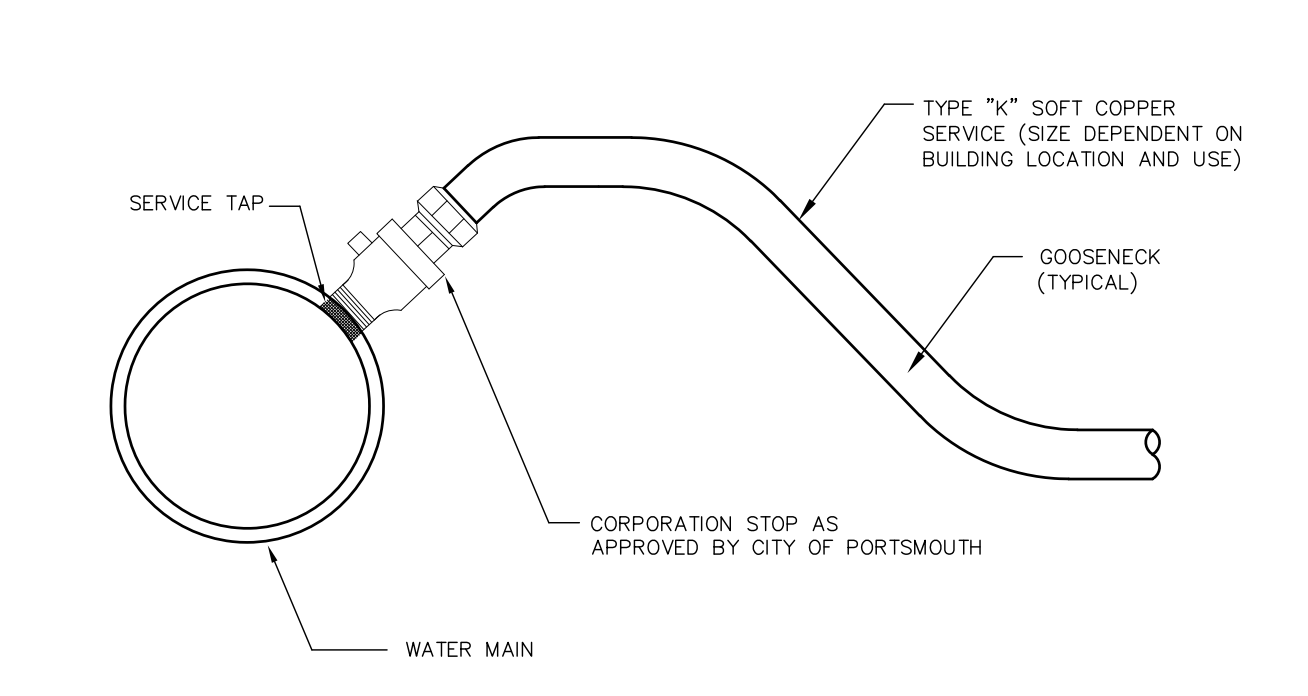
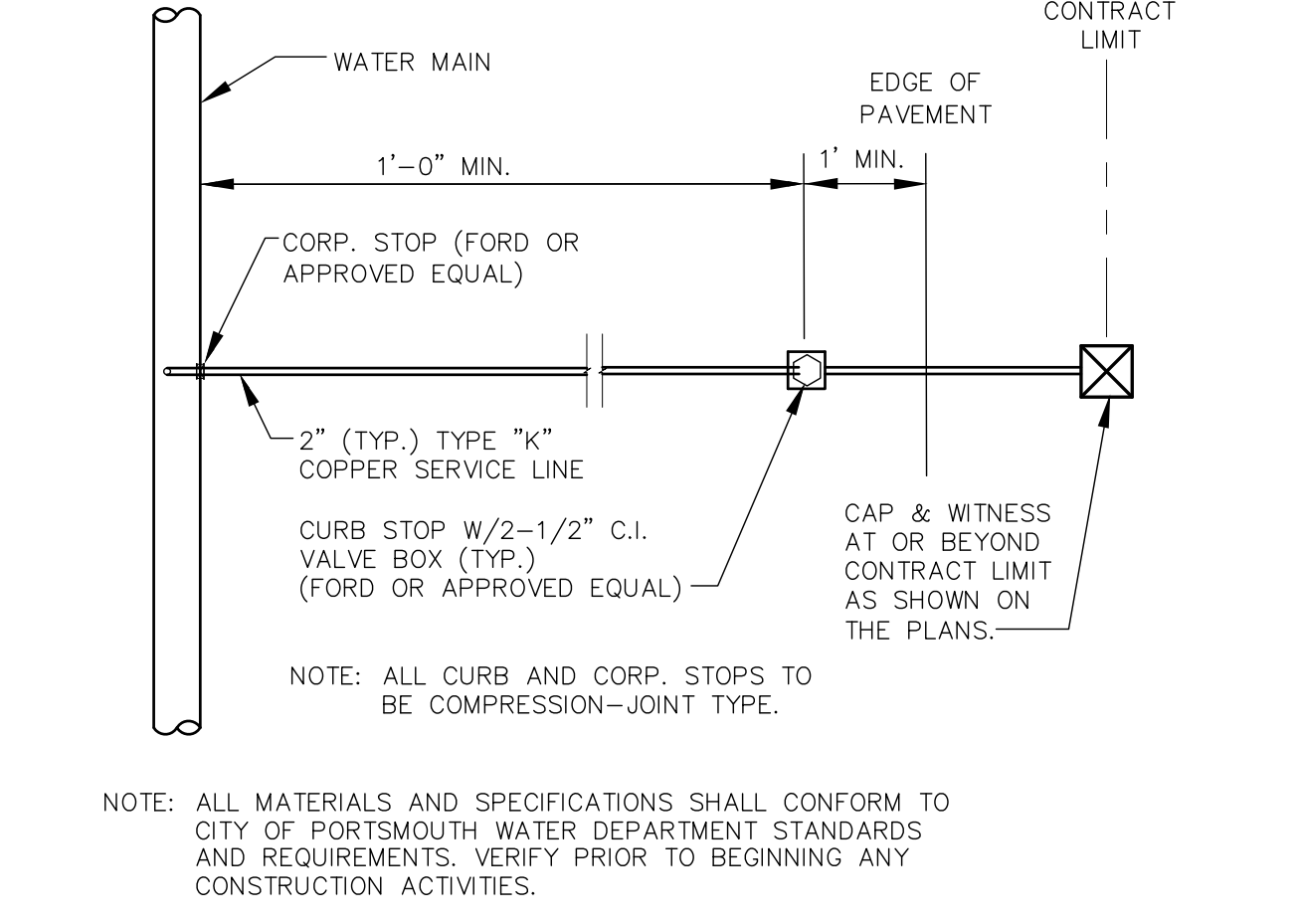


**SEWER CLEANOUT NOT TO SCALE**

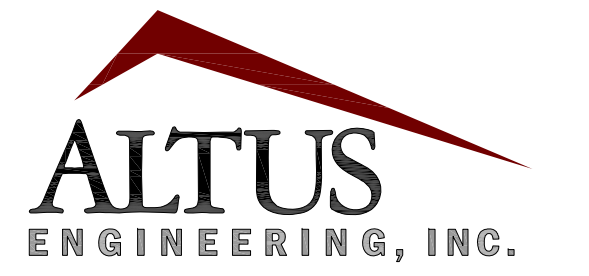
**STANDARD TRENCH NOTES**

- ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWING.
- BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.
- SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. BLANKET MAY BE REPLACED WITH BEDDING MATERIAL FOR CAST-IRON, DUCTILE IRON, AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE AND THE GEOTEXTILE IS RELOCATED ACCORDINGLY.
- SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT, OR CLAY. ALL EXCAVATED LEDGE MATERIAL, ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION, AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. 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 SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLE RECONSTRUCTION WILL BE PRESERVED.
- BASE COURSE AND PAVEMENT SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES - DIVISIONS 300 AND 400 RESPECTIVELY.
- SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
- 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 IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.). ALSO, W SHALL BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
- FOR CROSS COUNTRY CONSTRUCTION, BACKFILL, FILL AND/OR LOAM SHALL BE MOUND TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATION REQUIREMENTS FOR CLASS A (3000#) CONCRETE AS FOLLOWS:  
CEMENT: 6.0 BAGS PER CUBIC YARD  
WATER: 5.75 GALLONS PER BAG  
CEMENT MAXIMUM SIZE OF AGGREGATE: 1 INCH  
CONCRETE ENCASEMENT IS NOT ALLOWED FOR PVC PIPE.
- CONCRETE FULL ENCASEMENT: IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
- NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES DESIGN STANDARDS REQUIRE TEN FEET (10') SEPARATION BETWEEN WATER AND SEWER. REFER TO TOWN'S STANDARD SPECIFICATIONS FOR METHODS OF PROTECTION IN AREAS THAT CANNOT MEET THESE REQUIREMENTS.

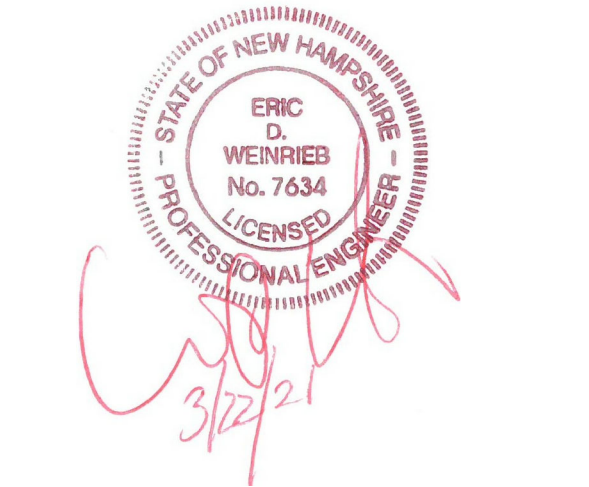
**NOT TO SCALE**



**WATER SERVICE CONNECTION NOT TO SCALE**



133 Court Street Portsmouth, NH 03801  
(603) 433-2335 www.altus-eng.com



**NOT FOR CONSTRUCTION**

ISSUED FOR: TAC

ISSUE DATE: MARCH 22, 2021

NO.	DESCRIPTION	BY	DATE
0	TAC WORK SESSION	EBS	05/05/20
1	TAC	EBS	10/19/20
2	TAC	EBS	03/22/21

DRAWN BY: EBS

APPROVED BY: EDW

DRAWING FILE: 5042-SITE.dwg

SCALE: 22"x34" 1" = 20'  
11"x17" 1" = 40'

OWNER: 64 VAUGHAN MALL, LLC

41 INDUSTRIAL DRIVE  
EXETER, NH 03833

APPLICANT: HAMPSHIRE DEVELOPMENT CORP.

41 INDUSTRIAL DRIVE  
EXETER, NH 03833

PROJECT: 64 VAUGHAN MALL BUILDING RESTORATION

TAX MAP 126, LOT 1  
64 VAUGHAN MALL  
PORTSMOUTH, NH 03801

TITLE:

DETAIL SHEET

SHEET NUMBER:

D-4

P-5042





**1 SOUTH ELEVATION**  
1/16" = 1'-0"



**2 EAST ELEVATION**  
1/16" = 1'-0"

**EXTERIOR ELEVATIONS**

**64 Vaughan Mall**

SCALE: 1/16" = 1'-0"  
04/16/2021



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INTERIORS  
PLANNERS

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3 NORTH ELEVATION  
1/16" = 1'-0"



4 WEST ELEVATION  
1/16" = 1'-0"

**EXTERIOR ELEVATIONS**  
**64 Vaughan Mall**  
SCALE: 1/16" = 1'-0"  
04/16/2021