



# M E M O R A N D U M

P L A N N I N G   D E P A R T M E N T  
T O W N   O F   C U M B E R L A N D ,   M A I N E

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Date: March 15, 2018  
To: Cumberland Planning Board  
From: Carla Nixon, Town Planner  
Subject: OceanView at Cumberland - Major Subdivision Preliminary Plan Review

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At last month's meeting this project was tabled as there were numerous outstanding issues; these have been addressed and so I have prepared Findings of Fact that would allow the Board to consider granting preliminary plan approval at this meeting.

There are a couple of waivers that still need to be considered and granted by the Board. The Applicant's representative will review these at the meeting.

Date March 15, 2018  
To Town of Cumberland Planning Board  
From Carla Nixon, Town Planner  
Subject **Major (Preliminary) Subdivision Review: Oceanview @ Cumberland. 277 Tuttle Road**

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**I. REQUEST/OVERVIEW:**

The applicant is Oceanview at Cumberland, LLC. The applicant is requesting Preliminary Subdivision Review of a proposed major subdivision; there will be 52 single family “cottage” homes and 1 community center. The project access point will be at 277 Tuttle Road, approximately 250’ south of Town Hall. The project will be served by public water and sewer and natural gas. The parcels are shown on Tax Assessor Map R 04, lots 4E, 4B, 4D & 5 in the Rural Residential 1 (RR 1) zoning district. Frederic Licht, P.E. of Licht Environmental Design, LLC is the Applicant’s representative. Jeffrey Read, P.E. of Sevee and Maher Engineers reviewed the plans and has provided comments for the Planning Board’s consideration.

**II. PROJECT HISTORY:**

Sketch Plan Review: 10/17/17

Site Walk: 11/3/17 (did not include the Allen property)

February 20, 2018 Preliminary Subdivision Review. Tabled by Board.

**III. DESCRIPTION:**

Parcel size: 36.83

Net Residential Density: Not required for developments in the SHC Overlay district.

Proposed # of units: 52, plus a community center.

Zoning: Rural Residential 1 with a Senior Housing Community Overlay

Development Type: Clustered Subdivision Design

Min. Lot Size: RR 1 requires a 4 acre minimum lot size; the SHC Overlay requires a 5 acres minimum lot size. The proposed project site is 36.83 acres.

Setbacks: Front: 25’, Rear: 75’, Side: 30’ (combined = 75’)

Parking: 2 spaces per unit required; Check new plans for this.

Buffering: 50’ undisturbed buffer along entire perimeter of site.

Water & Sewer: Portland Water District

Electricity: Central Maine Power

Natural Gas: Summit Gas



Open Space: 20% required, 78% provided.

Wetlands: 12,700' of wetland fill (including stream crossings)

Trails: Shown on plans and reviewed by Lands & Cons. Comm.

Utilities: Underground electric, telephone, cable, gas, water and sewer from Tuttle Road.

Street Lighting: For street intersections and along roadways at "key locations".

Road: 22' wide paved main road (Little Acres Drive) will extend approximately 1500' from Tuttle Rd; with a 5' esplanade and 5' sidewalk on right side.  
Road will be constructed to municipal standards for a Residential Sub-collector Road. 25 mph speed limit posted.

Homeowners Association: Draft homeowners' documents are required for final submission.

Floodplain Map Classification: Zone C – area of minimal flooding; Map # 230005C0536F

Right, Title and Interest: Purchase and Sale Agreement for Doane Property  
Purchase and Sale Agreement for Allen Property

Fire Protection: Public water. 4 hydrant locations. Units to have sprinklers

Waiver Requests: 1. Appendix D item 29: street signs  
2. Capacity to serve letter to be submitted for final approval.  
3. To show trees over 10" in diameter.

Outside Agency Approvals Required:

Agency	Type of Permit	Status
MDEP	Site Location of Dev. Permit (SLODA)	
MDEP	NRPA Tier 1 permit	
US Army Corp of Engineers	(wetlands) permit	
MDOT	Entrance Permit	
Maine Natural Areas Program	Rare Botanical Data	Letter dated 5/25/17
Maine Historic Preservation Commission	Historic Properties	Letter dated 6/27/17
Maine Dept. Inland Fisheries & Wildlife	Habitat Data	Letter dated 6/14/17

#### IV. REVIEW COMMENTS:

##### **DEPARTMENT HEAD REVIEWS:**

**William Longley, CEO:** No comments

**Police Chief Charles Rumsey:** No comments

**Fire Chief Small:** The proposed automatic fire protection sprinkler systems must conform to the code requirements of the State of Maine Fire Marshal's Office. It is recommended, **but not required**, to have monitored fire alarm systems in each residence. It is recommended, **but not required**, to have fire department approved key boxes on each residence.

## **Cumberland Lands & Conservation Commission Review:**

The L&CC finds that the proposed clustered layout of the homes will help to minimize impacts of the proposed development. The larger ravines and the buffers that surround the property should help provide corridors for native wildlife to pass through the development. The LCC advises that care should be taken to minimize impacts on the ravines and wetlands within the subdivision.

The L&CC recommends that, at a minimum, sidewalks extend from Tuttle Road to the end of the development along the main thoroughfare. The current plan includes the recommended sidewalks.

The L&CC finds that, once completed, the planned trails are adequate for the proposed subdivision.

The L&CC finds that the proposed connections between the subdivision trails and neighboring trails are adequate. The L&CC recommends that the Town obtain legal mechanisms from the developers to ensure that all trails (and sidewalks) within the subdivision will remain open for public use, in perpetuity. Also, the connectivity of several trails within the subdivision depends on the completion of a trail extension on the neighboring Town-owned Crossing Brook property. The L&CC recommends that the Town ensure that the extension of the Crossing Brook trail will be built.

The L&CC recommends that the developers again consider the possibility of locating the snowmobile trail on the northwest corner of the subdivision. This location would have less impact on the ravines, streams, and wetlands than the route along the southeast side of the subdivision. In addition, the northwest route would eliminate the need to construct two bridges needed for stream crossings on the southeast-side route.

If the northwest corner route is not possible, the Commission finds the proposed alternative route acceptable, provided that the rerouting of the trail can be accomplished. In addition, given the effort needed to reroute the snowmobile trail, the L&CC recommends that the developers provide the Town with a permanent multi-purpose easement for this trail (including for the use of snowmobiles). The L&CC notes that this trail would also serve to connect the field and forest sections and would benefit those living in the subdivision. Section 5.4-c of the submitted plan says “the applicants have agreed to work with the Town and snowmobile club to provide support for construction of the trail extension.” To help ensure that the extension of the trail through Crossing Brook is completed, the L&CC recommends that the developers, the Town, and the snowmobile club agree on who will absorb the costs for relocating the trail and constructing the needed bridges.

**TOWN PLANNER'S REVIEW:** (Applicant responses in blue font below)

**Planner's Response (3-15-18):** Applicant must submit actual legal agreements proving right, title or interest for Items # 1, 2, 3 and 4.

1. There are no dates on the Allen Purchase and Sale agreement: Legal Counsel will provide. The P&S was indeed executed between the two noted parties and the date omitted by oversight.
2. Explain the purpose of Exhibit F: Irrevocable Standby Letter of Credit for the Allens. Legal Counsel will clarify this under separate cover.
3. Has the closing for the Doane property occurred? If so, need copy of deed. No, the Doane property has not closed. Property is still under a P&S to satisfy RT&I
4. The p & s for the Doane property calls for a closing by Dec. 1, 2017. The purchaser has an option to make monthly payments on the first day of each month to extend. There is no documentation that this is being done, so right, title or interest in the Doane property is in question. There has been an extension and Legal Counsel will provide additional information relative to the monthly payments and closing date.
- ~~5. Letter from IF & W strongly recommends vernal pool survey. Is this planned for this spring? Vernal Pool Survey was conducted by Mark Hampton. Spring 2017—Copy Attached.~~
- ~~6. Where is the wetlands analysis? The report from Mark Hampton is attached.~~
- ~~7. Will there be an entrance sign or just a street sign? Show sign details prior to final approval. We will add a sign location just after the Allen lot at the formal entrance to the project. We will provide location and details for final plan,~~
- ~~8. Obtain approval from Town for all road names as shown on the plan. Loon Lane? Loon Lane was in error, our apologies. The road names will be submitted following this email to you and Bill Shane for approval.~~
- ~~9. Need to request waiver for market study. Thank you. We will formally request to the Board.~~
- ~~10. Need waiver for 1' instead of 2' contour lines. The plans show 2 foot contours on the design plans and 1 and 2 foot contours on the Existing Conditions plan exceeding the requirement for only showing 2 foot contours. Can you clarify what the waiver request is for?~~
- ~~11. Why does plan set cover sheet indicate the SLODA permit is an amendment? Cover to be corrected.~~
- ~~12. Had SLODA application been submitted yet? Copy for Town? SLODA and NRPA Applications submitted 02-13-18. Copies being delivered to the Town today,~~
- ~~13. 100' stream buffer not shown. Buffer to be added to revised plans and included on DEP Plans.~~
- ~~14. Show standard conditions of approval on recording plat. Use exact ordinance language, e.g., S4-4 Note 10 is not as per ordinance. Will add exact language to Recording Plat . recommend as a condition for final approval.~~
- ~~15. Photometric Plan missing. We will provide a photometric plan from Mancini Electric.~~
- ~~16. Note 6 on sheet S-4 states "All internal roadways shall remain private". The specific road names should be listed. Does this include Little Acres Drive? Yes Little Acres Drive is private along with other roads. Names to be submitted in separate letter to staff following this email.~~
- ~~17. Will all driveways fit one car in garage and one car in driveway without blocking sidewalk? Yes.~~
- ~~18. Sheet C14 shows a detail for HC parking. Where is this proposed? We will show one ADA Space at the Community Center parking lot and add to the plans.~~
- ~~19. Where are speed tables proposed? None are proposed. Detail to be removed.~~
- ~~20. Where is the stabilized gravel emergency access road? Not proposed. Detail to be removed from Plans.~~

- ~~21. Where will foundation drains empty? Detail on C19. Foundation drains will connect to storm drains with backflows where grades allow and will discharge by gravity in other cases to low areas around units.~~
  - ~~22. Casco Cable? Is this the cable manufacturer or provider (e.g., Spectrum)? Note to be revised to Spectrum.~~
  - ~~23. Where are boulder retaining walls? Detail states 4' to 11' high. Walls are shown on the Culvert Crossings to minimize fill and around several units (Sheets C3-C5)~~
  - ~~24. Elevation drawings with building color and materials information needed. Unit elevations are attached. Color schemes to be provided.~~
  - ~~25. Will the public be able to use the trails and open space? Yes open space and trails will be open to the public.~~
  - ~~26. When will the community center building be open? Will the building be available for use by small civic groups such as the football boosters or is it strictly private to the Oceanview residents? See responses from Chris Wasileski~~
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#### **TOWN ENGINEER'S REVIEW: Jeff Read, P.E., Sevee and Maher Engineers. March 12, 2018**

As requested, Sevee & Maher Engineers, Inc. (SME) has completed a review of the comment responses submitted for the preliminary application for a Major Subdivision and Site Plan for the proposed OceanView at Cumberland senior living community located off Tuttle Road. This submission is identified by the applicant as Revised Preliminary Subdivision Plan Submittal – Addenda-1A. The application materials received by SME were prepared by LICHT Environmental Design, LLC (LICHT), and consist of the following:

- Cover letter by Frederic Licht, P.E., L.S.E, outlining responses to Planning Board, staff and peer review comments, dated March 2, 2018;
- Exhibits 1 through 4 prepared by LICHT outlining signage, lighting cut sheets, traffic updates, and cottage elevations, dated March 2, 2018;
- Project plan set, Revision 3, dated March 1, 2018;
- An updated stormwater management report prepared by Belanger Engineering, dated March 1, 2018; and
- Updated Pre- and Post-Development Stormwater Management Plans, dated March 1, 2018.

#### **PROJECT DESCRIPTION**

The Applicant proposes to develop a 52-unit senior living facility on a combined 36.83-acre parcel currently owned by Richard Doane and Laurence Allen. The parcel is located off Tuttle Road in Cumberland, across the street from the Town of Cumberland (Town) Municipal Office. The development will be accessed by a proposed private roadway constructed in accordance with Town residential sub-collector roadway standards as outlined in Article VI and Table 2 of Chapter 250, Subdivision of Land, of the Cumberland Code. The subdivision will be served with public utilities, including water, sewer, natural gas, electric, telephone, and cable.

#### **TOWN PLANNER COMMENTS DATED FEBRUARY 8, 2018**

The applicant provided additional clarification to their previous response to comments on February 14, 2018. We anticipate the 26 comments listed have been reviewed with Carla Nixon, the Town Planner, and addressed to her satisfaction.

## **PEER REVIEW COMMENTS DATED FEBRUARY 12, 2018**

The following comments were issued in our peer review letter for the Preliminary Major Subdivision and Site Plan Application, dated February 12, 2018. The project was reviewed as a Major Subdivision as outlined in Chapter 250 - Subdivision of Land of the Town of Cumberland Ordinances, most recently amended and adopted on January 12, 2011, and Chapter 229 - Site Plan Review, most recently amended and adopted on March 26, 2012. The comments and responses below relate to the appropriate Ordinance Sections.

### **Chapter 250: Subdivision of Land**

SME has reviewed the applicable sections of Chapter 250 and has provided comments for those sections not found to be addressed by the Application. The remaining sections have been reviewed and found to comply with Chapter 250 requirements.

#### Section 250-1(C) – Municipal water supply

1. SME understands that the applicant has contacted the Portland Water District regarding their capacity to serve the project. Please provide a verification letter from the District prior to final approval.

*The Applicant intends to address this item in the final plan application.*

#### Section 250-1(E) – Traffic

2. The Updated Traffic Impact Study included with this application prepared by Maine Traffic Resources and dated December 11, 2017 is based on a maximum of 50 residential units. SME recommends the study be updated to reflect the current planned development of 52 residential units.

*This item has been addressed.*

#### Section 250-1(N) – Stormwater

3. The application SME reviewed did not include a Stormwater Management Exhibit. Please provide a stormwater report and stormwater management plan prior to preliminary approval.

*This item has been addressed. Comment responses to our letter dated February 20, 2018 are included in the following section.*

#### Section 250-1(O) – Freshwater Wetlands

4. The cover letter outlines 11,200 sf +/- of proposed wetland impacts. Plan sheet C2 outlined 12,700 sf of proposed wetland impacts. Please clarify.

*This item has been addressed.*

#### Section 250-1(P) – River, stream or brook

5. There are two stream crossings associated with the proposed development. Please submit additional detail regarding the proposed construction, including any State or Federal Permit approvals, for review prior to final approval.

*The Applicant intends to address this item in the final plan application.*

#### Section 250-19 – Review and approval by other agencies

6. SME understands the following permit applications are underway for the project and applications will be filed with appropriate agencies following submittal of the preliminary subdivision and site plan application:
- Maine Department of Environmental Protection (MEDEP) Site Location of Development Act (SLODA) permit,
  - MEDEP Natural Resources Protection Act (NRPA) Tier 1 permit for proposed wetland impacts,
  - United States Army Corps of Engineers (USACOE) permit for proposed stream crossings and culvert replacements,
  - Cumberland County Soil and Water Conservation District (CCS&WCD) stormwater and erosion control review, and
  - Maine Department of Transportation (ME DOT) Driveway/Entrance Permit.

Where review and approval of any subdivision or site plan by any other governmental agency is required, approvals shall be submitted to the Planning Board in writing prior to the submission of the final plan.

*The Applicant intends to address this item in the final plan application.*

#### Section 250-22 – Retention of proposed public sites and open spaces

7. The application package outlines portions of the development, including pedestrian trails and walkways, will be available for public use. SME recommends that areas designated for recreation and/or reserved as public open space be outlined in the project plan set.

*This item has been addressed.*

#### Section 250-27 – Utilities

8. Design details for utility pipes and conduits are not included in the project plan set. SME recommends sizes of all utilities pipes and additional design information be provided with the final plan application.

*This item has been addressed.*

9. SME recommends Water Detail sheets be signed and stamped by a registered Professional Engineer prior to final approval.

*This item has been addressed.*

10. SME understands Summit Natural Gas has been contacted to provide natural gas for the development. SME recommends a capacity to serve letter be provided with the final plan application.

*The Applicant intends to address this item in the final plan application.*

11. SME understands Central Maine Power (CMP) has been contacted to provide electricity for the development. SME recommends the location of underground electric lines, transformers, and electrical easements be added to the plan. Please provide a capacity to serve letter with the final plan application.

*The plans have been updated. The Applicant intends to submit a capacity to serve letter with the final plan application.*

Section 250-28 – Water Supply

12. SME understands that the applicant has contacted the Portland Water District regarding their capacity to serve the project. Please provide a verification letter from the District prior to final approval.

*The Applicant intends to address this item in the final plan application.*

Section 250-29 – Sewage disposal

13. The application includes a capacity to serve letter from the Town of Falmouth regarding their ability to accommodate the anticipated sewage flow from the development. In addition, SME recommends the applicant provide a letter from the Town of Cumberland and the Portland Water District to ensure capacity of the local system to accommodate additional loading.

*The Applicant intends to address this item in the final plan application.*

Section 250-32 – Design and construction standards

14. SME understands proposed streets will be constructed in accordance with Town residential sub-collector roadway standards as outlined in Article VI and Table 2 of Chapter 250, Subdivision of Land, of the Cumberland Code. Plans for Arctic Fox Drive do not include a sidewalk, which is listed in the Ordinance as a required improvement unless waived by the Board. SME recommends the applicant add a sidewalk to the final plans or request a waiver to address this item.

*This item has been addressed.*

Section 250-36 through 250-43 – Storm Drainage Design and Construction Standards

15. SME has not received an updated Stormwater Management Report for the revised plan set. As outlined previously in Comment 3, a stormwater report and stormwater management plan for the proposed development should be provided prior to preliminary approval.

*This item has been addressed. Comment responses to our letter dated February 20, 2018 are included in the following section.*

Section 250-44 – Fire Protection

16. SME understands the public water service will be used to sprinkle individual units in the proposed development. SME recommends the applicant provide documentation to support the Water District's capacity to meet the fire protection needs of the development prior to final approval.

*The Applicant intends to address this item in the final plan application.*

Section 250-49 – Waivers and modifications

17. The applicant has requested a waiver from the requirement to show street signs for preliminary approval only. SME recommends approval of the requested waiver and that signs be included on the final plan application.

*This item has been addressed.*

18. The applicant has requested a waiver from the requirement to provide capacity to serve letters from selected utility providers for preliminary approval only. SME recommends approval of the requested waiver and that capacity to serve letters be provided with the final plan application.

*This item has been addressed.*

19. The applicant has requested a waiver from the requirement to locate 10-inch diameter or more trees on the property. SME recommends approval of this waiver.

*This item has been addressed.*

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**NOTE: Based on discussions with the Town Attorney and Code Enforcement Officer, the requirement for review of this project under the Site Plan Ordinance is not required. The comments below are included for informational purposes only.**

#### **Chapter 229: Site Plan Review**

SME has reviewed the applicable sections of Chapter 229 and has provided comments for those sections not found to be addressed by the Application. The remaining sections have been reviewed and found to comply with Chapter 229 requirements.

##### **Section 229-10(H) – Exterior lighting**

20. SME understands the Applicant is evaluating site lighting options for the project. SME recommends that a final lighting layout and photometrics plan be provided with the final plan application.

*This item has been addressed.*

#### **General Comments**

21. Site Plan Application – Please update the project description to reflect the correct number of units in the proposed development.

*This item has been addressed.*

22. Application Exhibit 6 – Soils. The Soil Narrative Reports included in the exhibit should be signed and dated by Mark Hampton prior to final approval.

*This item has been addressed.*

23. Application Exhibit 10 – Traffic Impact Assessment. As previously outlined in Comment 2, SME recommends the Traffic Impact Study be updated to reflect the current planned development of 52 residential units.

*This item has been addressed.*

24. Plan Sheet C0 – Approvals Required Note 2 references a MEDEP SLODA permit *amendment*. Please update the plan to clarify the current project permitting status.

*This item has been addressed.*



25. Subdivision Plat S1 – The plan outlines overhead electric service from Tuttle Road to Units 51, 52 and 53. The application outlines underground utilities. Please clarify.

*This item has been addressed.*

26. Subdivision Plat S1-3 – Please add supplementary information to the drawings prior to final approval, including sight distances, stream setbacks, stormwater and grading easements, road layout information (alignment and intersection radii), and wetland impact areas, etc.

*This item has been addressed.*

27. Topographic Site Plan by Titcomb Associates (Sheet 1 of 1) is not included in the plan set. Please add an existing conditions plan to the drawing set.

*This item has been addressed.*

28. Overall Plan Sheet C1 references a 50-foot buffer and golf cart trails not shown on the drawing.

*This item has been addressed.*

29. Site Development Plan Sheets C3 through C5 – Please include additional labeling and detail for utilities, easements, stormwater management, and natural features such as streams and wetlands. Please update clearing limits should be updated to reflect modifications to stormwater treatment systems. Please add grading easements to reflect work scheduled outside the property boundary and access easement limits. SME recommends this information be added to the plan to verify compliance with applicable Town standards.

*This item has been addressed.*

30. Plan and Profile Plan Sheets C6 through C10 do not outline utility information for force main, electric or communications wiring. SME recommends this information be added to the plan.

*This item has been addressed.*

31. Roadway design does not conform to minimum K factors for sag vertical curves at Little Acres Drive STA 21+50; Arctic Fox Drive STA 41+99.64 and STA 44+99.90; and Arctic Fox Spur STA 21+61.63. SME recommends the applicant review these areas and adjust to meet Town construction standards.

*This item has been addressed.*

32. Improvements were noted at several locations in the no-cut buffer along the property boundaries for site grading. SME recommends the applicant amend the plans to minimize disturbance in the 50 foot no-cut buffer.

*This item has been addressed.*

33. Roadway Sections and Details Sheet C13 –There are several references to Brunswick, Topsham, and SAD 75 in the notes on this plan sheet. SME recommends the notes be updated to reflect the current project.

*This item has been addressed.*

34. Civil details C15 – The Town of Cumberland does not usually include ladder rungs in catch basin structures. SME recommends the applicant amend the plans to reflect Town construction standards.

*This item has been addressed.*

35. Erosion Control Notes C16 – SME Recommends Note 1 be updated to reflect the current Maine Erosion and Sediment Control Best Management Practices edition (October 2016).

*This item has been addressed.*

36. Erosion Control Notes C16 – SME recommends the applicant update the Construction Plan Notes to reflect the current project.

*This item has been addressed.*

37. Misc. Details C19 – SME recommends the applicant update the Trench Repair Detail to reflect current Town pavement sections.

*SME recommends the base and subbase gravel materials be adjusted to reflect Town standards*

38. Arch 1 Culvert Details – Profile does not include a sidewalk. SME recommends the applicant update the plan to reflect proposed construction.

*The Applicant intends to address this item in the final plan application.*

39. Arch 2 Culvert Details C21 - Profile does not include a sidewalk. SME recommends the applicant update the plan to reflect proposed construction.

*The Applicant intends to address this item in the final plan application.*

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## **V. SUBDIVISION REVIEW:**

### **PROPOSED FINDINGS OF FACT - Chapter 250 - Subdivision of Land**

The purpose of these standards shall be to assure the comfort, convenience, safety, health and welfare of the people, to protect the environment and to promote the development of an economically sound and stable community. To this end, in approving subdivisions within the Town of Cumberland, Maine, the Board shall consider the following criteria and before granting approval shall determine that the proposed subdivision:

1. Pollution. The proposed subdivision will not result in undue water or air pollution. In making this determination, it shall at least consider:
  - A. The elevation of the land above sea level and its relation to the flood plains;
  - B. The nature of soils and subsoil and their ability to adequately support waste disposal;
  - C. The slope of the land and its effect on effluents;
  - D. The availability of streams for disposal of effluents; and
  - E. The applicable state and local health and water resource rules and regulations;

***The parcel is above sea level and not within a floodplain. The project will use public water. A groundwater impact assessment was provided by the applicant and reviewed and approved by the Town Engineer.***

***Based on the information provided, the standards of this section have been met.***

2. Sufficient Water. The proposed subdivision has sufficient water available for the reasonable foreseeable needs of the subdivision;

***The subdivision will be served by public water. A letter dated from the Portland Water District stating ability to serve will be submitted for final plan review.***

***Based on the information provided, the standards of this section have been met for preliminary plan approval.***

3. Municipal Water Supply. The proposed subdivision will not cause an unreasonable burden on an existing water supply, if one is to be used;

***The subdivision will utilize a municipal water source. A letter dated from the Portland Water District stating ability to serve will be submitted for final plan review.***

***Based on the information provided, the standards of this section have been met for preliminary plan approval.***

4. Erosion. The proposed subdivision will not cause unreasonable soil erosion or a reduction in the land's capacity to hold water so that a dangerous or unhealthy condition results;

***The applicant has submitted an erosion and sedimentation control plan that is consistent with the current Maine Erosion and Sediment Control Best Management Practices. This plan has been reviewed and approved by the Town Engineer.***

***Based on the information provided, the standards of this section have been met.***

5. Traffic. The proposed subdivision will not cause unreasonable highway or public road congestion or unsafe conditions with respect to the use of the highways or public roads existing or proposed;

***A traffic study was performed by Maine Traffic Resources and reviewed and approved by the Town Engineer. An MDOT Entrance permit is required for final plan submission.***

***Based on the information provided, the standards of this section have been met for preliminary plan approval.***

6. Sewage disposal. The proposed subdivision will provide for adequate sewage waste disposal and will not cause an unreasonable burden on municipal services, if they are utilized;

***The project will utilize public sewer. A letter indicating there is sufficient capacity is on file from both the Portland Water District and the Town of Falmouth. The Town Manager will provide evidence of the availability of the required number of sewer user permits for final review.***

***Based on the information provided, the standards of this section have been met for preliminary plan approval.***

7. Municipal solid waste disposal. The proposed subdivision will not cause an unreasonable burden on the municipality's ability to dispose of solid waste, if municipal services are to be utilized;

***Cumberland provides curbside trash collection and recycling through a contracted waste hauler. The addition of 52 new homes will not cause a burden on the municipality's ability to dispose of solid waste.***

***Based on the information provided, the standards of this section have been met.***

8. Aesthetic, cultural and natural values. The proposed subdivision will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, significant wildlife habitat identified by the Department of inland Fisheries and Wildlife or the municipality, or rare and irreplaceable natural areas or any public rights for physical or visual access to the shoreline;

***Letters are on file from the relevant state agencies stating that the subdivision will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, significant wildlife habitat or rare and irreplaceable natural areas.***

***Based on the information provided, the standards of this section have been met.***

9. Conformity with local ordinances and plans. The proposed subdivision conforms to a duly adopted subdivision regulation or ordinance, comprehensive plan, development plan or land use plan, if any. In making this determination, the municipal reviewing authority may interpret these ordinances and plans;

***The plans have been reviewed by the town planner, the town engineer and town department heads and are in sufficient conformity with all local ordinances and plans for preliminary plan approval. All outstanding issues will be addressed for final review.***

***Based on the information provided, the standards of this section have been met for preliminary plan approval.***

10. Financial and technical capacity. The subdivider has adequate financial and technical capacity to meet the standards of this section;

***Technical capacity is evidenced by the use of the following experts: a professional engineer, a licensed land surveyor, a traffic engineer and a licensed soils scientist.***

***Evidence of financial capacity will be provided for final plan review.***

***Based on the information provided, the standards of this section have been met for preliminary plan approval.***

11. Surface waters; outstanding river segments. Whenever situated entirely or partially within the watershed of any pond or lake or within 250 feet of any wetland, great pond or river as defined in Title 38 chapter 3, subchapter I, article 2-B, the proposed subdivision will not adversely affect the quality of that body of water or unreasonably affect the shoreline of the body of water;

***The proposed subdivision will not adversely affect the quality of the mapped wetlands or unreasonably affect the shoreline of the stream on the parcel. Plans include a MEDEP 75' stream setback to protect the resource.***

***Based on the information provided, the standards of this section have been met.***

12. Ground water. The proposed subdivision will not alone, or in conjunction with, existing activities, adversely affect the quality or quantity of ground water;

***The plans have been reviewed and approved by the the town engineer.***

***Based on the information provided, the standards of this section have been met.***

13. Flood areas. Based on the Federal Emergency Management Agency's Flood Boundary and Floodway Maps and Flood Insurance Rate Maps, and information presented by the applicant whether the subdivision is in a flood-prone area. If the subdivision, or any part of it, is in such an area, the subdivider shall determine the 100-year flood elevation and flood hazard boundaries within the subdivision. The proposed subdivision plan must include a condition of plan approval requiring that principal structures in the subdivision will be constructed with their lowest floor, including the basement, at least one foot above the 100-year flood elevation;

***The parcel is shown on FEMA floodplain maps as being in Zone C (area of minimal flooding).***

***Based on the information provided, the standards of this section have been met.***

14. Storm water. The proposed subdivision will provide for adequate storm water management;

***A stormwater management plan was submitted as part of the application packet and has been reviewed and approved by the Town Engineer.***

***Based on the information provided, the standards of this section have been met.***

15. Freshwater wetlands. All potential freshwater wetlands, as defined in 30-A M.R.S.A. §4401 (2-A), within the proposed subdivision have been identified on any maps submitted as part of the application, regardless of the size of these wetlands. Any mapping of freshwater wetlands may be done with the help of the local soil and water conservation district.

***All wetlands within the proposed subdivision are outlined in the project plan set.***

***Based on the information provided, the standards of this section have been met.***

16. River, stream or brook... Any river, stream, or brook within or abutting the proposed subdivision has been identified on any map submitted as a part of the application. For purposes of this section, "river, stream or brook" has the same meaning as in Title 38, Section 480-B, Subsection 9. [Amended; Effective. 11/27/89]

***There is a stream on the property which is depicted on the plans.***

***Based on the information provided, the standards of this section have been met.***

## **X. STANDARD CONDITIONS OF APPROVAL:**

This approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted by the applicant. Any variation from the plans, proposals and supporting documents, except

deminimus changes as so determined by the Town Planner which do not affect approval standards, is subject to review and approval of the Planning Board prior to implementation.

**XI. LIMITATION OF APPROVAL:**

Construction of the improvements covered by any site plan approval must be substantially commenced within twelve (12) months of the date upon which the approval was granted. If construction has not been substantially commenced and substantially completed within the specified period, the approval shall be null and void. The applicant may request an extension of the approval deadline prior to expiration of the period. Such request must be in writing and must be made to the Planning Board. The Planning Board may grant up to two (2) 1 year extensions to the periods if the approved plan conforms to the ordinances in effect at the time the extension is granted and any and all federal and state approvals and permits are current.



March 02, 2018

(Via Delivery & Email)

J16.084

Carla Nixon, Town Planner  
Town of Cumberland  
290 Tuttle Road  
Cumberland, Maine 04021

**OceanView at Cumberland, Tuttle Road, Cumberland  
Revised Preliminary Subdivision Plan Submittal –*ADDENDA-1A*  
(Map R04 Parcels 4B, 4D, 4E and 5)**

Dear Carla:

On behalf of OceanView at Cumberland LLC, we are pleased to present for staff and Planning Board review, ***revised Preliminary Subdivision Plans dated March 02, 2018*** for the development of Phase 1 of the “OceanView at Cumberland” active senior community located at 277 Tuttle Road across from the Town Hall and Town Forest property. The project was reviewed with the Planning Board at the February 20<sup>th</sup> Planning Board meeting and a public hearing held.

This submission shall serve as an ***Addenda-1A*** to the previous submittal of January 30, 2018 and provides responses to the following comments received:

- February 08, 2018 Email comments from Carla Nixon, Planner
- February 12, 2018 Review letter from Sevee & Maher Engineers
- February 20, 2018 Stormwater Review letter from Sevee & Maher Engineers
- February 20, 2018 Planning Board meeting comments
- Trail revisions from comments provided through the Lands and Conservation Commission - Trails Subcommittee and Cumberland-North Yarmouth Moonlite Snow Skimmers snowmobile club

Enclosed are 6 hard copies and an electronic PDF copy of the following materials:

Cover letter –*Addenda-1* Revised Submission and Response to Comments  
Responses to Sevee & Maher Subdivision/Site Plan Comments dated February 12, 2018.  
Responses to Sevee & Maher Stormwater Comments dated February 20, 2018.  
Exhibit 1 – Signage  
Exhibit 2 - Additional Lighting Cuts – Driveways and Building Lights  
Exhibit 3 – Updated Traffic Memo, Maine Traffic Resources, Dated 02-20-18  
Exhibit 4 - Cottage Model A and B Elevations and color scheme photos

**1. Responses to February 08 email, Carla Nixon, Planner:**

Responses to the Planner’s comments have been provided previously via email on February 14<sup>th</sup>. The following serves to provide additional clarification of several of the Planner’s comments identified by the corresponding comment number of the February 8<sup>th</sup> email.

Items 1-4 – Right, Title and Interest: Purchase and Sale information and clarification have been provided to comments 1-4 previously, substantiating legal right, title and interest in the Doane and Allen properties.

Items 5/6 –Vernal Pool and Wetland reports – have been provided to the Planning Department.

Item 7 – Sign Locations are suggested at the entrance of Little Acres Drive (modest project identification sign) and Way finding Signage located further into the site near Station 15+50 in the open space prior to Cottage 52. *Exhibit 1* provides a photo and shop drawing of a “typical” sign design from the OceanView Falmouth campus as a sign template. We would anticipate providing final signage details at final plan submittal

Item 8 – Road names have been submitted for Town E911 review and have been added to the plans.

Item 9 – The Planning Board determined that a Market Study is not required.

Item 10 –Contour Line Waiver - This waiver is not required as the plans exceed the requirements for providing 2 foot contours by providing both 1 and 2 foot contour intervals on various plan sheets.

Item 11 – The reference to the SLODA “amendment” has been deleted and reference to the additional NRPA and MDOT Entrance Permit permits also added to the cover sheet.

Item 12 – DEP Applications have been submitted and copies delivered to the Town Hall.

Item 13- The 100-foot Stream Buffer has been added to the plans.

Item 14 – Standard Conditions of Approval and Sheet S4 Note 10: The applicant understands that any required Town standard conditions of approval and plan notes can be added at the final plan submittal. Note 10 on Plan Sheet S4 has had the specific language added regarding the 90-day period from approval as per Chapter 250-6.D.(2).

Item 15 –Photometric Plan –Has been added to the plan set. Refer to *Exhibit 2* for driveway and garage building lighting cuts. The Standard street light fixture (Beacon Model, LED) was submitted with the prior application.

Item 16 – All roads are to be private. Refer to item 8 for road name requests.

Item 17 – Driveways/parking - Each unit will provide either a one or two car garage and parking for a minimum of 1 car in the driveway satisfying the requirement for 2 spaces per unit. Note 8 on Plan S4 has been modified to further reflect this requirement.

Item 18 – HC Parking – 1 ADA space has been shown at the Community Center.

Items 19/20 - The speed table and grass emergency access details have been removed from the plans.

Item 21 – Foundation drains to connect to the stormdrain system where possible with backflow devices or to natural drainage ways where grading allows.



Item 22 – CTV reference has been revised to Spectrum Communications.

Item 23 – Boulder walls are shown at the culvert crossings and several site locations on the plans.

Item 24 – Building Elevations and Colors – *Exhibit 4* provides reduced copies of elevations for the cottage models A and B. We have included photos from the OceanView Falmouth campus reflecting the typical natural color tones. The applicant reserves the right to modify color selections base on final marketing and will provide at the time of building permits.

Items 25/26 – All trails and open space will be available to the public. The applicant has indicated that the Community Center may be used for meetings or events via scheduling through OceanView at Cumberland management. The Community Center will be constructed in Phase 6 of the project. (Refer to Plan C1 for phasing. )

## **2. Responses to Sevee and Maher February 12<sup>th</sup> Subdivision/Site Plan Review letter and February 20<sup>th</sup> Stormwater letter.**

Copies of the Sevee & Maher letters with responses provided are attached.

## **3. Planning Board and Additional Comments:**

- a. Trails – The applicant’s team was directed by the Planning Board to work with stakeholders to finalize the re-routed snowmobile trail location and form of legal rights or license to be granted by OceanView at Cumberland, LLC for use of the property. The project team met with members of the Lands and Conservation Trails Subcommittee, Town Manager and Shawn Mcbrearity of the Moonlite Snow Skimmers Snowmobile Club again on February 27<sup>th</sup> to work out the trail logistics. The applicant has agreed to make a minor modification in the proposed “southern boundary” snowmobile/multipurpose trail where it connects and crosses the main wetland and stream corridor. That revision is shown on the revised Plan C12. Additionally Plan C12 has corrected the trail label for the proposed re-routed snowmobile trail and updated the plan graphically. The following actions were also agreed to:
  - i. The applicant will work with the Town Manager on an easement and license agreement for the use of the proposed trail along the southern project property line.
  - ii. The applicant has agreed, as noted earlier and in the public hearing, to participate in the construction and financing of the relocated snowmobile/multipurpose trail.
  - iii. Staff suggested that an amendment of the Crossing Brook Open Space deed and subdivision approval may be required. The Town Manager has indicated that the extension of the trail onto the Town Open Space property is consistent with the permitted use of the property deed and that a subdivision amendment is not required.
- b. Traffic Memo Update – An updated memo dated February 20, 2018 is attached as *Exhibit3* updating the traffic trip generation from 50 to 52 units. No changes in the total peak hour morning or evening trips results from this update.



In summary – we believe all Staff, Planning Board and Peer Review comments have been addressed and that the project should be considered for completeness and Preliminary Plan approval at the March Planning Board meeting. However should you find any items to be missing or require additional information please do not hesitate to contact me and we will respond quickly.

We look forward to meeting again with the Planning Board at the March 20<sup>th</sup> Planning Board meeting and would respectfully request that the project be considered for Preliminary Subdivision Approval.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rick Licht', written in a cursive style.

Frederic (Rick) Licht, PE, LSE  
Principal

Encl: As Noted

Cc: Matt Teare; OceanView at Cumberland LLC  
Chris Wasileski; OceanView at Cumberland LLC  
Christian Haynes; OceanView at Cumberland LLC  
David Haynes; SeaCoast Management Company  
Chris Belanger; Belanger Engineering  
Rex Croteau; Titcomb Associates  
Mark Hampton; Mark Hampton Associates, Inc.

**RESPONSES TO FEB. 12<sup>TH</sup> SEVEE & MAHER REVIEW MEMO PROVIDED BELOW  
IN RED. REFER TO REVISED PRELIMINARY PLANS DATED 03-02-18.**

**03-02-18**

**LED & BELANGER ENGINEERING RESPONSES**

February 12, 2018

Ms. Carla Nixon, Town Planner  
Town of Cumberland  
290 Tuttle Road  
Cumberland, Maine 04021

Subject: Peer Review of OceanView At Cumberland  
Major Subdivision and Site Plan Application – Preliminary Review  
Tuttle Road, Cumberland, Maine

Dear Ms. Nixon:

As requested, Sevee & Maher Engineers, Inc. (SME) has conducted a peer review of the preliminary application for a Major Subdivision and Site Plan for the proposed OceanView at Cumberland senior living community located off Tuttle Road. The application materials received by SME were prepared by LICHT Environmental Design, LLC (LICHT), and consist of the following:

- Cover letter by Frederic Licht, P.E., L.S.E, outlining the project and waiver requests, dated January 30, 2018;
- Application package prepared by LICHT, dated January 30, 2018;
- Project plan set dated January 31, 2018;
- Comment Response Letter from Frederic Licht, P.E., L.S.E, dated January 30, 2018; and
- Planner's Comments from Carla Nixon dated February 8, 2018.

Note: A Stormwater Management Report was not included in the application package transmitted to SME for review as of February 11, 2018.

**PROJECT DESCRIPTION**

The Applicant proposes to develop a 52-unit senior living facility on a combined 36.83-acre parcel currently owned by Richard Doane and Laurence Allen. The parcel is located off Tuttle Road in Cumberland, across the street from the Town of Cumberland (Town) Municipal Office. The development will be accessed by a proposed private roadway constructed in accordance with Town residential sub-collector roadway standards as outlined in Article VI and Table 2 of Chapter 250, Subdivision of Land, of the Cumberland Code. The subdivision will be served with public utilities, including water, sewer, natural gas, electric, telephone, and cable.

This project is being reviewed as a Major Subdivision as outlined in Chapter 250 - Subdivision of Land of the Town of Cumberland Ordinances, most recently amended and adopted on January 12, 2011, and Chapter 229 - Site Plan Review, most recently amended and adopted on March 26, 2012. The comments below relate to the appropriate Ordinance Sections.

**Chapter 250: Subdivision of Land**

SME has reviewed the applicable sections of Chapter 250 and has provided comments for those sections not found to be addressed by the Application. The remaining sections have been reviewed and found to comply with Chapter 250 requirements.

Section 250-1(C) – Municipal water supply

1. SME understands that the applicant has contacted the Portland Water District regarding their capacity to serve the project. Please provide a verification letter from the District prior to final approval. *Applicant to provide with final plan application.*

Section 250-1(E) – Traffic

2. The Updated Traffic Impact Study included with this application prepared by Maine Traffic Resources and dated December 11, 2017 is based on a maximum of 50 residential units. SME recommends the study be updated to reflect the current planned development of 52 residential units. *An updated 52 unit traffic memo has been prepared by Maine Traffic Resources, dated February, 20, 2018 and submitted to Staff, showing no change in trip generation from 50-52 units. A copy is attached for review.*

Section 250-1(N) – Stormwater

3. The application SME reviewed did not include a Stormwater Management Exhibit. Please provide a stormwater report and stormwater management plan prior to preliminary approval. *A final Stormwater Management report has been provided and reviewed. Refer to SME comment letter dated February 20, 2018. Additional updates to the stormwater report are provided with the revised Preliminary plans dated 03-02-18 addressing comments.*

Section 250-1(O) – Freshwater Wetlands

4. The cover letter outlines 11,200 sf +/- of proposed wetland impacts. Plan sheet C2 outlined 12,700 sf of proposed wetland impacts. Please clarify. *The revised submission has been updated to reflect 12,700 sf of wetland impacts, consistent with the DEP-NRPA Tier-1 application.*

Section 250-1(P) – River, stream or brook

5. There are two stream crossings associated with the proposed development. Please submit additional detail regarding the proposed construction, including any State or Federal Permit approvals, for review prior to final approval. *The applicant will provide any final culvert crossing details with the final plans commensurate with approvals from the DEP and Corps of Engineers final reviews.*

Section 250-19 – Review and approval by other agencies

6. SME understands the following permit applications are underway for the project and applications will be filed with appropriate agencies following submittal of the preliminary subdivision and site plan application:
- Maine Department of Environmental Protection (MEDEP) Site Location of Development Act (SLODA) permit,
  - MEDEP Natural Resources Protection Act (NRPA) Tier 1 permit for proposed wetland impacts,
  - United States Army Corps of Engineers (USACOE) permit for proposed stream crossings and culvert replacements,
  - Cumberland County Soil and Water Conservation District (CCS&WCD) stormwater and erosion control review, and *(SSCWCD review not required per review by SME.)*
  - Maine Department of Transportation (ME DOT) Driveway/Entrance Permit.

Where review and approval of any subdivision or site plan by any other governmental agency is required, approvals shall be submitted to the Planning Board in writing prior to the submission of the final plan. *Applicant shall submit copies of permits with or prior to the final plan application.*

Section 250-22 – Retention of proposed public sites and open spaces

7. The application package outlines portions of the development, including pedestrian trails and walkways, will be available for public use. SME recommends that areas designated for recreation and/or reserved as public open space be outlined in the project plan set. *OceanView at Cumberland will operate under a returnable entrance fee model, used throughout the senior living industry, where the land and property is owned and maintained by OceanView at Cumberland, LLC. There are no separate open space “parcels” as with a condominium form of ownership. The applicant has reviewed this with SME engineers. The applicant is also working closely with the Town of Cumberland and local snowmobile club to create trails which would be open to the public at large as well as the senior residents.*

#### Section 250-27 – Utilities

8. Design details for utility pipes and conduits are not included in the project plan set. SME recommends sizes of all utilities pipes and additional design information be provided with the final plan application. Final pipe and structure tables have been added to Plan Sheet C13A. *Utilities have been added to the profile views on Plan Sheets C6-C10.*
9. SME recommends Water Detail sheets be signed and stamped by a registered Professional Engineer prior to final approval. *Portland Water District standard details have been incorporated into the standard title block sheets and stamped.*
10. SME understands Summit Natural Gas has been contacted to provide natural gas for the development. SME recommends a capacity to serve letter be provided with the final plan application. *The applicant will provide a serviceability letter from Summit NG with the final plan application. The applicant continues to work with Summit NG to coordinate the natural gas distribution system and service agreements.*
11. SME understands Central Maine Power (CMP) has been contacted to provide electricity for the development. SME recommends the location of underground electric lines, transformers, and electrical easements be added to the plan. Please provide a capacity to serve letter with the final plan application. *The applicant is working with CMP, Fairpoint Communications and Spectrum Communications on electric and utility services and will provide a serviceability letter from CMP along with a final “CMP 905 Plan-showing transformer locations” with the final plan submittal. Utility easements are shown on the Subdivision Plans Sheets S1-S3.*

#### Section 250-28 – Water Supply

12. SME understands that the applicant has contacted the Portland Water District regarding their capacity to serve the project. Please provide a verification letter from the District prior to final approval. *The applicant will provide a final letter from PWD with the final plan approval.*

Section 250-29 – Sewage disposal

13. The application includes a capacity to serve letter from the Town of Falmouth regarding their ability to accommodate the anticipated sewage flow from the development. In addition, SME recommends the applicant provide a letter from the Town of Cumberland and the Portland Water District to ensure capacity of the local system to accommodate additional loading. *The applicant has requested a serviceability letter from Bill Shane, Town Manager and from the Portland Water District. The letters of serviceability will be provided to the Planning Staff when received.*

Section 250-32 – Design and construction standards

14. SME understands proposed streets will be constructed in accordance with Town residential sub-collector roadway standards as outlined in Article VI and Table 2 of Chapter 250, Subdivision of Land, of the Cumberland Code. Plans for Arctic Fox Drive do not include a sidewalk, which is listed in the Ordinance as a required improvement unless waived by the Board. *SME recommends the applicant add a sidewalk to the final plans or request a waiver to address this item. The applicant's engineers have review the sidewalk requirements with SME engineers and per the SHC Overlay Ordinance Section 315-28.4 .I Road Standards Table a sidewalk is not required for Arctic Fox Drive.*

Section 250-36 through 250-43 – Storm Drainage Design and Construction Standards

15. SME has not received an updated Stormwater Management Report for the revised plan set. As outlined previously in Comment 3, a stormwater report and stormwater management plan for the proposed development should be provided prior to preliminary approval. *(Refer to Comment #3 response.)*

Section 250-44 – Fire Protection

16. SME understands the public water service will be used to sprinkle individual units in the proposed development. SME recommends the applicant provide documentation to support the Water District's capacity to meet the fire protection needs of the development prior to final approval. *The applicant has been working with the Portland Water District MEANS Department who are familiar with the sprinkler systems for years with the OceanView Falmouth cottage development providing sprinkler designs to each cottage unit and will provide a serviceability letter from the Portland Water District for final approval.*

Section 250-49 – Waivers and modifications

17. The applicant has requested a waiver from the requirement to show street signs for preliminary approval only. SME recommends approval of the requested waiver and that signs be included on the final plan application. *At the February*

*20<sup>th</sup> meeting, the Planning Board deferred the waiver request to a final condition of approval for the Preliminary Plans.*

18. The applicant has requested a waiver from the requirement to provide capacity to serve letters from selected utility providers for preliminary approval only. SME recommends approval of the requested waiver and that capacity to serve letters be provided with the final plan application. *At the February 20<sup>th</sup> meeting, the Planning Board deferred the waiver request to a final condition of approval for the Preliminary Plans.*
19. The applicant has requested a waiver from the requirement to locate 10-inch diameter or more trees on the property. SME recommends approval of this waiver. *This waiver was granted at the February 20<sup>th</sup> Planning Board meeting. The waiver will be documented on the Final Subdivision Plat as required by statute.*



## **Chapter 229: Site Plan Review**

SME has reviewed the applicable sections of Chapter 229 and has provided comments for those sections not found to be addressed by the Application. The remaining sections have been reviewed and found to comply with Chapter 229 requirements.

### Section 229-10(H) – Exterior lighting

20. SME understands the Applicant is evaluating site lighting options for the project. SME recommends that a final lighting layout and photometrics plan be provided with the final plan application. *A photometric plan and nine (9) light fixture locations have been added to the Subdivision Plans.*

## **General Comments**

21. Site Plan Application – Please update the project description to reflect the correct number of units in the proposed development. *The application has been updated to 52 units and provided to the Town Planner.*
22. Application Exhibit 6 – Soils. The Soil Narrative Reports included in the exhibit should be signed and dated by Mark Hampton prior to final approval. *Stamped soils reports have been provided to staff and SME.*
23. Application Exhibit 10 – Traffic Impact Assessment. As previously outlined in Comment 2, SME recommends the Traffic Impact Study be updated to reflect the current planned development of 52 residential units. *The Traffic Impact Assessment has been updated. Refer to Feb 20<sup>th</sup> memo from Diane Morabito, Maine Traffic Resources.*
24. Plan Sheet C0 – Approvals Required Note 2 references a MEDEP SLODA permit *amendment*. Please update the plan to clarify the current project permitting status. *Cover sheet has been updated and NRPA and MDOT permits added.*
25. Subdivision Plat S1 – The plan outlines overhead electric service from Tuttle Road to Units 51, 52 and 53. The application outlines underground utilities. Please clarify. *The overhead line are existing (to the Allen Residence) and have been removed from the subdivision plat.*
26. Subdivision Plat S1-3 – Please add supplementary information to the drawings prior to final approval, including sight distances, stream setbacks, stormwater and grading easements, road layout information (alignment and intersection radii), and wetland impact areas, etc. *Sight distances, MDIFW 100 ft. Stream Buffers (recommended), and wetland impact areas are noted on the revised Plans S1 –S4. There are no need for stormwater easements as the stormwater system and roads are maintained by OceanView at Cumberland, LLC and do not cross onto adjacent properties. The road geometry has been added as a Table to the Engineering plans (Sheet 13A),*

27. Topographic Site Plan by Titcomb Associates (Sheet 1 of 1) is not included in the plan set. Please add an existing conditions plan to the drawing set. *The Existing Conditions plan has been included in the revised plan set.*
28. Overall Plan Sheet C1 references a 50-foot buffer and golf cart trails not shown on the drawing. *Plan C1 has been revised and is intended as an overall phasing and development plan. Refer to other plans in the drawing set for additional site information.*
29. Site Development Plan Sheets C3 through C5 – Please include additional labeling and detail for utilities, easements, stormwater management, and natural features such as streams and wetlands. Please update clearing limits should be updated to reflect modifications to stormwater treatment systems. Please add grading easements to reflect work scheduled outside the property boundary and access easement limits. SME recommends this information be added to the plan to verify compliance with applicable Town standards. *We believe the revised plans have added additional detail and labeling of site information.*
30. Plan and Profile Plan Sheets C6 through C10 do not outline utility information for force main, electric or communications wiring. SME recommends this information be added to the plan. *Utility information has been added to the Plan and Profile Sheets C6-C10.*
31. Roadway design does not conform to minimum K factors for sag vertical curves at Little Acres Drive STA 21+50; Arctic Fox Drive STA 41+99.64 and STA 44+99.90; and Arctic Fox Spur STA 21+61.63. SME recommends the applicant review these areas and adjust to meet Town construction standards. *The applicant's engineers have met and reviewed the K factors and revised the plans. The SHC Overlay Ordinance Section 315-28.4. I allows a min, K factor of 15 for crest and 20 for sag vertical curves. The profiles have been modified to meet these requirements.*
32. Improvements were noted at several locations in the no-cut buffer along the property boundaries for site grading. SME recommends the applicant amend the plans to minimize disturbance in the 50 foot no-cut buffer. *The several minor encroachments on the 50 foot SHC buffer have been adjusted on the plans.*
33. Roadway Sections and Details Sheet C13 –There are several references to Brunswick, Topsham, and SAD 75 in the notes on this plan sheet. SME recommends the notes be updated to reflect the current project. *Sheet C13 details references have been revised.*
34. Civil details C15 – The Town of Cumberland does not usually include ladder rungs in catch basin structures. SME recommends the applicant amend the plans to reflect Town construction standards. *The catch basin detail has been revised.*

35. Erosion Control Notes C16 – SME Recommends Note 1 be updated to reflect the current Maine Erosion and Sediment Control Best Management Practices edition (October 2016). *Sheet C16 reference has been updated to reflect the 2016 Manual.*
36. Erosion Control Notes C16 – SME recommends the applicant update the Construction Plan Notes to reflect the current project. *The construction notes on Plan C16 have been updated.*
37. Misc. Details C19 – SME recommends the applicant update the Trench Repair Detail to reflect current Town pavement sections. *Plan C19 trench detail has been updated.*
38. Arch 1 Culvert Details – Profile does not include a sidewalk. SME recommends the applicant update the plan to reflect proposed construction. *The culvert details and sizing have been revised (100 year storm design). It should be noted that final construction details will be provided for final plan submittal pending agency reviews.*
39. Arch 2 Culvert Details C21 - Profile does not include a sidewalk. SME recommends the applicant update the plan to reflect proposed construction. *The culvert details and sizing have been revised (100 year storm design). It should be noted that final construction details will be provided for final plan submittal pending agency reviews.*
- 40.

Please call me with any questions, or if you would like, I could meet with you to discuss our comments.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.

Jeffrey T. Read, P.E.  
Project Engineer

**03-02-18 RESPONSES TO COMMENTS BY LED AND BELANGER  
ENGINEERING IN RED. REFER ALSO TO REVISIONS TO  
STORMWATER MANAGEMENT REPORT AND REVISED SUBDIVISION  
PLANS DATED 03-01-18.**

February 20, 2018

Ms. Carla Nixon, Town Planner  
Town of Cumberland  
290 Tuttle Road  
Cumberland, Maine 04021

Subject: Peer Review of OceanView At Cumberland  
Preliminary Stormwater Review for Major Subdivision and Site Plan Application  
Tuttle Road, Cumberland, Maine

Dear Ms. Nixon:

As requested, Sevee & Maher Engineers, Inc. (SME) has conducted a peer review of the stormwater submission supporting the preliminary application for a Major Subdivision and Site Plan for the proposed OceanView at Cumberland senior living community located off Tuttle Road. The materials received by SME on February 13, 2018 were prepared by Belanger Engineering (BELANGER), and consist of the following:

- A stormwater management report prepared by Belanger Engineering dated February 7, 2018; and
- An updated project plan set dated February 7, 2018.

**PROJECT DESCRIPTION**

The Applicant proposes to develop a 52-unit senior living facility on a combined 36.83-acre parcel currently owned by Richard Doane and Laurence Allen. The parcel is located off Tuttle Road in Cumberland, across the street from the Town of Cumberland (Town) Municipal Office. The development will be accessed by a proposed private roadway constructed in accordance with Town residential sub-collector roadway standards as outlined in Article VI and Table 2 of Chapter 250, Subdivision of Land, of the Cumberland Code. The subdivision will be served with public utilities, including water, sewer, natural gas, electric, telephone, and cable. This project is located within the designated NPDES Phase II Stormwater Program MS4 Area for Cumberland as outlined in the Draft Stormwater Management Plan, revised in April 2014.

This project is being reviewed as a Major Subdivision as outlined in Chapter 250 - Subdivision of Land of the Town of Cumberland Ordinances, most recently amended and adopted on January 12, 2011, and Chapter 229 - Site Plan Review, most recently amended and adopted on March 26, 2012. The comments below relate to the appropriate Ordinance Sections.

#### **Chapter 242: Stormwater Management**

SME has reviewed the applicable sections of Chapter 242 and has provided comments for those sections not found to be addressed by the Application. The remaining sections have been reviewed and found to comply with Chapter 242 requirements.

##### **Section 242-24(C)**

1. SME understands the applicant intends to retain ownership of the stormwater management facilities shown in its post-construction stormwater management plan. Prior to final approval, SME recommends the applicant submit documentation that the applicant, its successors, heirs and assigns shall have the legal obligation and the resources available to operate, repair, maintain and replace the stormwater management facilities, as well as a maintenance agreement with the Town in conformance with this section of the Ordinance.  
*The applicant, OceaView at Cumberland, LLC will own and maintain the stormwater system as with their other facilities. The stormwater management report contains a maintenance and inspection log. The applicant suggests that any final maintenance agreement with the Town be submitted for final plan review.*

##### **Section 242-1(D)**

2. Stormwater management facilities not located in a public right-of-way and not offered to the Town for acceptance as public facilities may require access easements to the Town. SME recommends the Applicant clarify this item with the Town and add required easements, if necessary, prior to final approval.  
*The stormwater management system will be private and not require easements. The applicant shall review any need for any third party easements with the Town should the Town require access in case of non performance of maintenance.*

#### **General Comments**

3. Stormwater Management Report, Page 1, Surface Water on or Abutting the Site – SME recommends the Applicant coordinate with the Town Engineer regarding runoff from the site and proposed improvements scheduled for Tuttle Road in the Summer of 2018. Agreed. *The applicant's engineers will consult with the Town Engineer. No increase in the peak flooding rate is proposed from development of the project.*

4. Stormwater Management Report, Page 2, Proposed Conditions – SME recommends the section be updated to reflect the 52 residential units. *Section has been updated.*
5. Stormwater Management Report, Page 3, Impervious Area Summary – The table references road sections not outlined in the plan detail sheets. SME recommends the Applicant update the plan set to include all applicable road section details. *The impervious tables have been updated and reflect the proposed Allen lot acquisition.*
6. Stormwater Management Report, Page 4, Focal Point Proprietary System – This section references 500 feet of gutter line flow. Section 250-40, B(4) outlines 300 feet as the maximum length for stormwater in a street gutter prior to intake at a catch basin. SME recommends the Applicant adjust the length of flow or request a waiver prior to final approval. *The engineers are reviewing the gutter flow requirements with Focal Point/ACF Environmental and will provide updated calculations.*
7. Stormwater Management Report, Page 4, Forested Buffer – Please verify that wetland buffers outlined on the plan qualify as stormwater treatment based on length, grade and soil type. If approved for treatment by MEDEP, SME recommends adding required sign details and boundary information to the plan set. *Agreed. Upon approval from DEP, we will add a note to the final plans to include field markers for all DEP Buffers. Buffers will be recorded in the CCRD as a deed restriction on the property.*
8. Stormwater Management Report, Page 5, Arctic Fox Wet Pond Design Criteria – Please verify above pool and below pool treatment volume calculations. *Calculations to be submitted verifying the PPV.*
9. Stormwater Management Report, Page 5, Groundwater Impacts – Please show boring/test pit locations on the plan set. *Test pits performed by Mark Hampton, CSS are being added to the SW Plans.*
10. Stormwater Management Report, Page 6, Mallard Way Wet Pond Design Criteria – Please verify above pool and below pool treatment volume and provided storage calculations. *Calculations to be submitted verifying the PPV.*
11. Stormwater Management Report, Page 6, Groundwater Impacts – Please show boring/test pit locations on the plan set. *Test pits performed by Mark Hampton, CSS are being added to the SW Plans.*
12. Stormwater Management Report, Page 7, Post Area Summary and General Standard Calculation – Please verify total area calculations. The sum of component areas does not appear to match the total area. *The table has been updated and revised.*
13. Stormwater Management Report, Page 7, Flooding Standard – Please verify the top of the watershed area. A significant contributing drainage area exists above the middle school entrance. *The drainage area has been reviewed and adjusted. The applicant's engineer suggests that SME confirm their*

*understanding of the extent of the watershed so that the applicant's watershed areas are consistent.*

14. Stormwater Management Report, Page 7, Flooding Standard – SME understands the site access was relocated from the former railroad bed to the Allen property. Please update the site entrance description. *The report has been updated reflecting the new "Allen" lot access point.*
15. Property Maintenance Part 3, page 17 – Please update references to Loon Lane. *Report has been updated.*
16. Permitting Authorization Letter – Please update authorizations to include OceanView at Cumberland. *Letter has been updated to include OceanView at Cumberland, LLC.*
17. Exhibit 3 – Please update site footprint to reflect inclusion of the Allen Property. *Exhibit has been revised.*
18. Pre Development Drainage Plan – SME recommends the plan be updated to include the full drainage area and subcatchment boundaries, soil boundaries, and topography outside the project area. Labels for 18R and 55R are missing from the plan sheet. *The Pre Development Plans have been updated.*
19. Post Development Drainage Plan – SME recommends the plan be updated to include the full drainage area and subcatchment boundaries, soil boundaries, and topography outside the project area. Labels for 15S, 51S, and 51P are missing from the plan sheet. *The Post Development Plans have been updated.*

Please call me with any questions, or if you would like, I could meet with you to discuss our comments.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.

Jeffrey T. Read, P.E.  
Project Engineer



**Exhibit 1**  
**Signage**

- REFERENCE : OCEANVIEW AT FALMOUTH SIGNAGE SAMPLE



TYPICAL SIGNAGE STYLE (OCEANVIEW AT FALMOUTH)



▪ PREPARED FOR:  
**OCEANVIEW AT  
CUMBERLAND  
SENIOR COMMUNITY**

▪ SCALE: FILL IN  
▪ DATE: 03-02-18

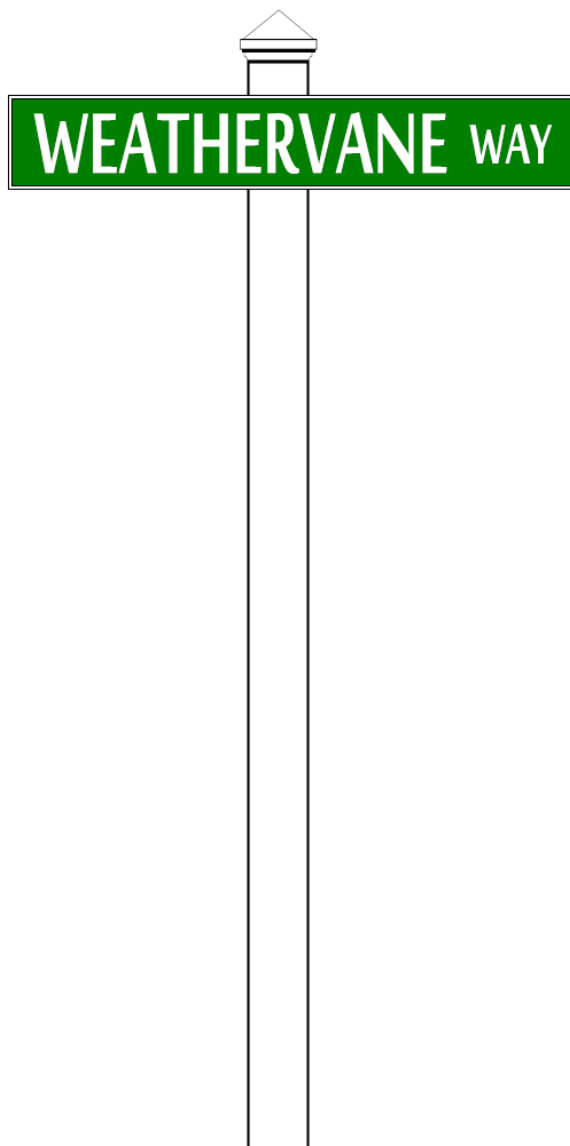
▪ TITLE:  
**TYPICAL SIGNAGE**

▪ JOB NO:  
16.084

**EX. 1**

- REFERENCE : STREET SIGN SAMPLE

**6"x36" Reflective letters  
(2) 1 sided signs**



▪ PREPARED FOR:  
OCEANVIEW AT  
CUMBERLAND  
SENIOR COMMUNITY

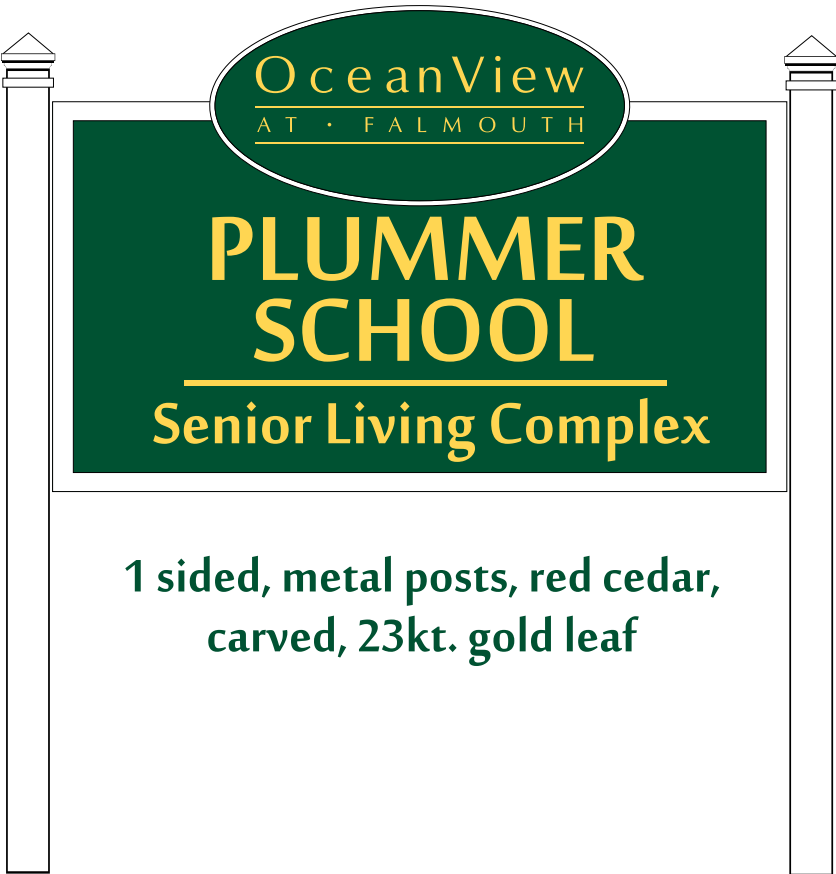
▪ TITLE:  
**TYPICAL SIGNAGE**

▪ SCALE: FILL IN  
▪ DATE: 03-02-18

▪ JOB NO:  
16.084

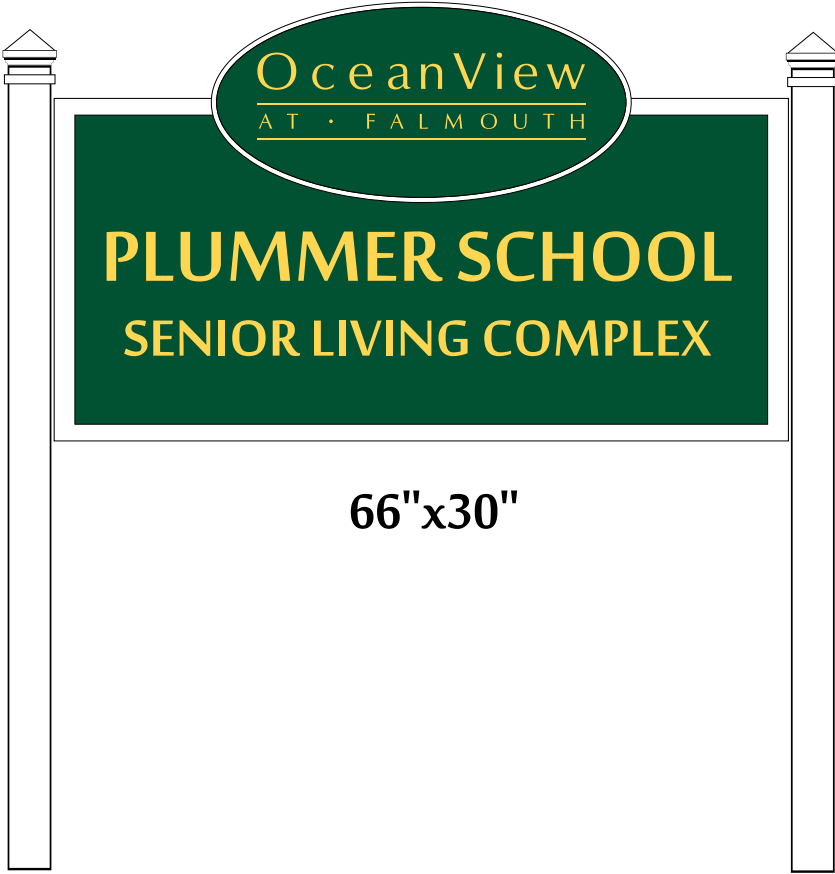
**EX. 1.1**

2-37.75"x18"

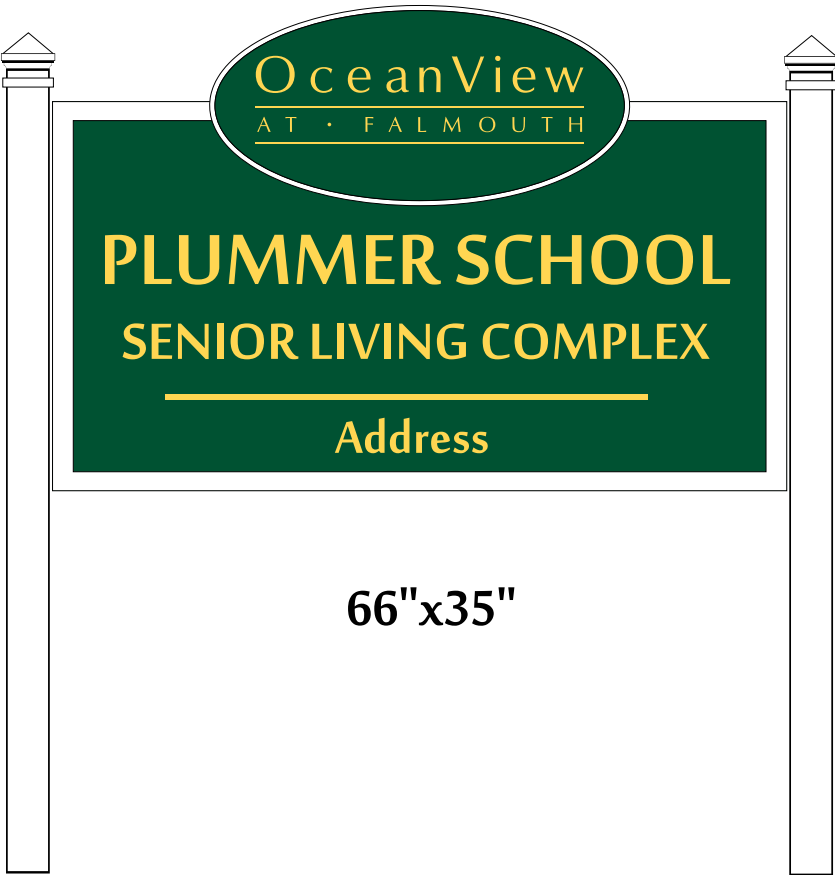


1 sided, metal posts, red cedar,  
carved, 23kt. gold leaf

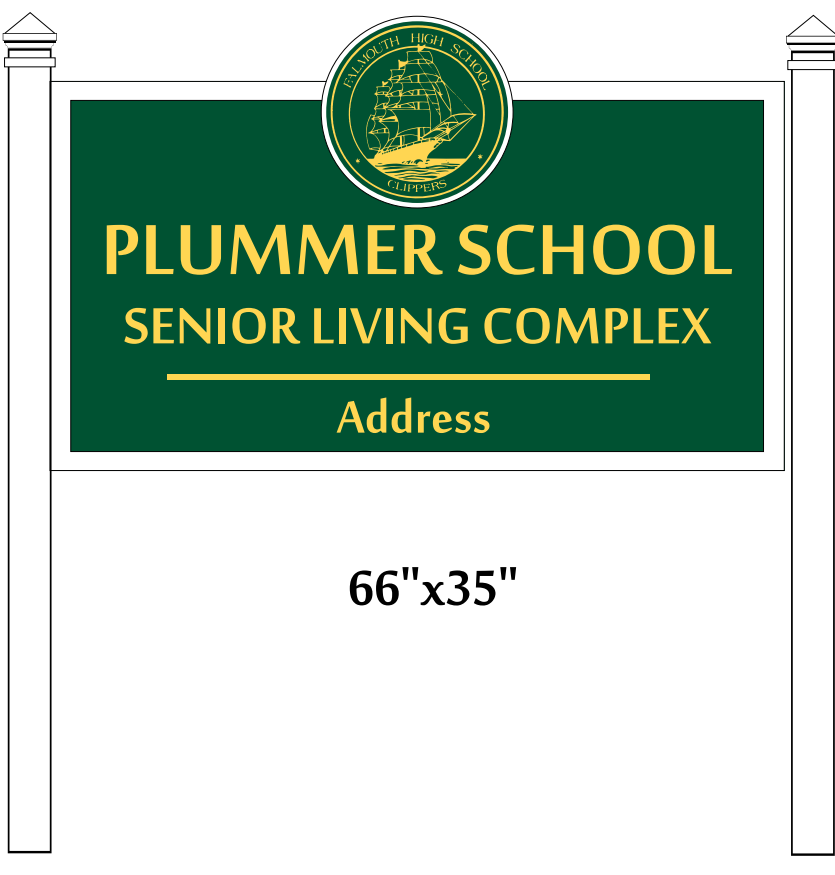
66"x35"



66"x30"



66"x35"



66"x35"

**Exhibit 2**  
**Additional  
Lighting Cuts**

# Norwell Lighting

Cottage Building & Post lights

Product Name

**Cottage Onion**

Model Number

**1323 1324 1321**

Project Name

**OceanView at Cumberland**

Fixture Type

Quantity



Cottage Onion Small - 1323  
Bronze (BR) Clear Glass (CL)

**Cottage Onion Small - 1323**

Bronze (BR) Seedy Glass (SE)



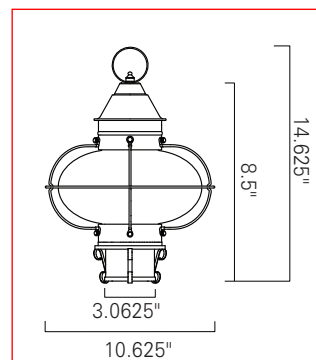
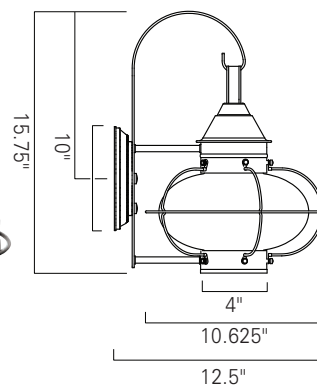
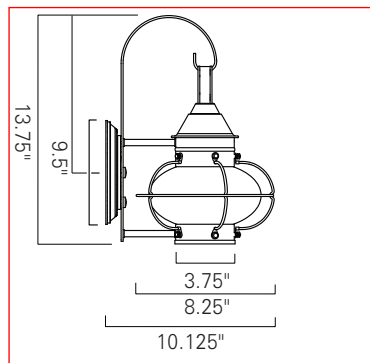
Cottage Onion Medium - 1324  
Black (BL) Clear Glass (CL)



Cottage Post - 1321  
Black (BL) Seedy Glass (SE)



**Cottage Post - 1321**  
Black (BL) Clear Glass (CL)



INC

Product Name / Model / Dimensions					Finish Options	Glass	Lamping Options
<b>Cottage Onion Small - 1323</b>					<b>Standard</b> <b>Black (BL)</b> Bronze (BR)	<b>Standard</b> <b>Clear (CL)</b> Seedy (SE)	<b>Standard</b> Incandescent (1) 100 Watt Edison
Cottage Onion Medium - 1324							
<b>Cottage Onion Post - 1321</b>							
	Height	Width	Projection	TTO			
1323	13.75"	8.25"	10.125"	9.5"			
1324	15.75"	10.625"	12.5"	10"			
1321	14.625"	10.625"					
Backplate Sconce 6.25" Diameter							

1\_2018

Norwell

[norwellinc.com](http://norwellinc.com) | 800 822 2831 | 508 823 1751 | f: 508 823 9431

I L E X  
[ilexlight.com](http://ilexlight.com)  
 HOSPITALITY  
 COMMERCIAL

## **Exhibit 3**

### **Traffic Memo Update**

## SUMMARY MEMORANDUM

**TO:** Mr. Rick Licht, P.E.  
Licht Environmental Design, LLC.  
35 Fran Circle  
Gray, ME 04039

**DATE:** February 20, 2018

**RE:** Revised Trip Generation Analysis for OceanView at Cumberland

---

The purpose of this memorandum is to summarize revised trip generation analysis for the proposed OceanView at Cumberland residential development on Tuttle Road in Cumberland, Maine. Maine Traffic Resources previously prepared “Updated Traffic Impact Study, Proposed Senior Residential Development, Cumberland, Maine”, dated December 11, 2017. That study was performed for 50 senior residential dwelling units.

It is understood that the OceanView at Cumberland has been revised to include 52 dwelling units since some adjacent land is being acquired. In addition, there will be a small community center. The Town’s Peer Reviewer, Sevee and Maher Engineers, have requested that the trip generation analysis be updated to reflect the currently proposed development level.

### **Trip Generation Analysis**

Trip generation for the previously studied 50 units and currently proposed 52 dwelling units was estimated using the Institute of Transportation Engineers (ITE) “Trip Generation, 9<sup>th</sup> Edition” report. Land use codes (LUC) 251 – Senior Adult Housing – Detached and 252 – Senior Adult Housing – Attached were used on the basis of 50 and 52 dwelling units. Both of these land use codes include amenities such as the proposed community center. Hence, the community center trips are expected to be reflected in the following trip generation analysis. To be conservative, the higher of the two rates was used for each time period. The results are summarized below:

<u>Time Period</u>	<b>ITE Trip Generation (One-Way Trip-Ends)</b>		
	<u>50 Units</u>	<u>52 Units</u>	<u>Increase</u>
Weekday	184	192	8
AM Peak Hour – Adjacent Street	11	11	0
Entering	4	4	0
Exiting	7	7	0



<u>Time Period</u>	<u>50 Units</u>	<u>52 Units</u>	<u>Increase</u>
AM Peak Hour – Generator	20	20	0
Entering	9	9	0
Exiting	11	11	0
PM Peak Hour – Adjacent Street	14	14	0
Entering	9	9	0
Exiting	5	5	0
PM Peak Hour – Generator	18	18	0
Entering	10	10	0
Exiting	8	8	0

As can be seen in the above table, the increase from 50 units to 52 units is not expected to increase trips during any peak hour over those already studied. On a daily basis, the trips will increase by four (4) round-trips per day due to the two (2) additional dwelling units. With no change in peak hour trip generation the original analysis is unchanged and fully valid. Hence, the change to 52 units will have no impact on the results or findings of the original December 2017 study.

As always, please do not hesitate to contact me if you or the Town of Cumberland have any questions or concerns regarding this updated trip generation analysis for OceanView at Cumberland.



Sincerely,

A handwritten signature in black ink that reads "Diane W. Morabito" followed by a stylized flourish.

Diane W. Morabito, P.E. PTOE  
President

## **Exhibit 4**

### **Cottage Elevation Plans**

- REFERENCE : OCEANVIEW AT FALMOUTH SCHOOLHOUSE COTTAGES



▪ PREPARED FOR:  
OCEANVIEW AT  
CUMBERLAND  
SENIOR COMMUNITY

▪ TITLE:  
**TYPICAL COTTAGE  
COLORS AND PHOTOS**

▪ SCALE: FILL IN  
▪ DATE: 03-02-18

▪ JOB NO:  
16.084

**EX. 4**



7/12/2016 12:01:45 PM ABP

# SCHOOLHOUSE COTTAGES - A



OCEANVIEW

FALMOUTH, MAINE

## ABBREVIATIONS

## SYMBOLS

## GENERAL NOTES

## MATERIALS

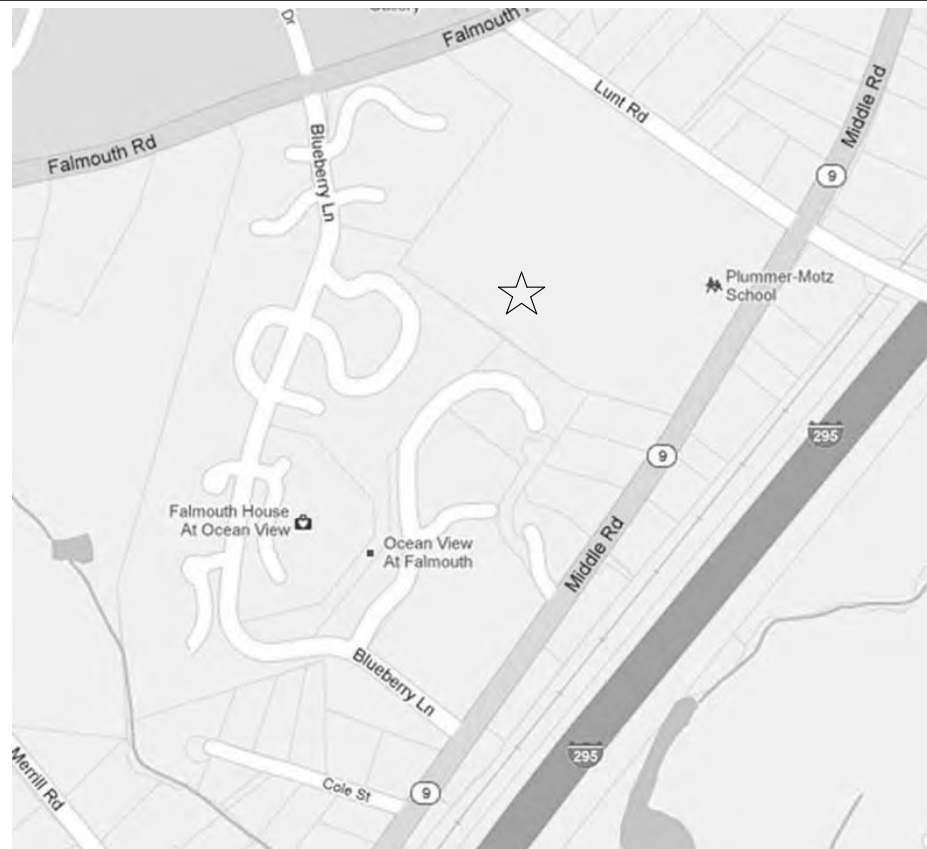
## SQUARE FOOTAGE

ALUM OR AL	ALUMINUM	FR	FIRE RATING	PL	PLATE
AWP	ACOUSTICAL WALL PANEL	FRMG	FRAMING	PLY WD	PLYWOOD
ACT	ACOUSTICAL CEILING TILE	FT	FEET (FOOT)	PNL	PANEL
BIT	BITUMINOUS	FV	FIELD VERIFY	P.A.	PRESSURE TREATED
BM	BENCH MARK	FWC	FABRIC WALL COVERING	PT & D	PAPER TOWEL AND WASTE DISP.
BOT	BOTTOM	G	GRANITE	PTN	PARTITION
BRG	BEARING	GA	GAUGE	RD	ROOF DRAIN
BRK	BRICK	GALV	GALVANIZED	RE	REFER
CAB	CARPET	GB	GRAB BARS	REF	REFRIGERATOR
CB	CABINET	GC	GENERAL CONTRACTOR	REINF	REINFORCED
CB	CHALK BOARD	GWB	GYPSUM WALL BOARD	REQD	REQUIRED
CC	CENTER TO CENTER	HC	HANDICAP	RM	ROOM
CH	CONCRETE HARDENER	HD WD	HARDWOOD	RO	ROUGH OPENING
CJ	CONTROL JOINT	HDR	HEADER	S	SOUTH
CL	CENTER LINE	HDR	HARDWARE	SC	SHOWER CURTAIN
CLG	CEILING	HM	HOLLOW METAL	SD	SOAP DISPENSER
CMU	CONCRETE MASONRY UNITS	HORZ	HORIZONTAL	SCHED	SCHEDULE
CONC	CONCRETE	HT	HEIGHT	SECT	SECTION
CONT	CONTINUOUS	ID	INSIDE DIAMETER	SHT	SHEET
CONST	CONSTRUCTION	IF	INSIDE FACE	SIM	SIMILAR
CONTR	CONTRACTOR	IN	INCHES	SND	SANITARY NAPKIN DISPOSAL
CT	CERAMIC TILE	INSUL	INSULATION	SQ	SQUARE
DBL	DOUBLE	INT	INTERIOR	SSS	SYNTHETIC SPORTS SURFACE
DF	DRINKING FOUNTAIN	INT	INTERIOR	STD	STANDARD
DIA	DIAMETER	LOC	LOCATION	STL	STEEL
DIM	DIMENSION	M	MARBLE	STRUCT	STRUCTURAL
DNA	DOES NOT APPLY	MAS	MASONRY	SV	SHEET VINYL
DTL	DETAIL	MAX	MAXIMUM	T	TEMPERED (GLASS)
DWG	DRAWING	MB	MARKER BOARD	TB	TACK BOARD
E	EAST	MECH	MECHANICAL	THK	THICKNESS
EA	EACH	MFGR	MANUFACTURER	TO	TOP OF
EF	EACH FACE	MIN	MINIMUM	TOB	TOP OF BEAM
EJ	EXPANSION JOINT	MISC	MISCELLANEOUS	TOM	TOP OF MASONRY
EL	ELEVATION	MO	MASONRY OPENING	TOW	TOP OF WALL
ELEC	ELECTRICAL	MR	MOP RECEPTOR	TP	TOILET PAPER DISPENSER
ELEV	ELEVATOR	MRGB	MOISTURE REST. GYP. BRD.	TYP	TYPICAL
EMHO	ELECTROMAGNETIC HOLD OPEN	MTL	METAL	UNO	UNLESS NOTED OTHERWISE
EQ	EQUAL	N	NORTH	VB	VAPOR BARRIER
EW	EACH WAY	NA	NOT APPLICABLE	VCT	VINYL COMPOSITION TILE
EW	ELECTRIC WATER COOLER	NIC	NOT IN CONTACT	VERT	VERTICAL
EXIT OR (E)	EXISTING	NO	NUMBER	VWC	VINYL WALL COVERING
EXP	EXPANSION	NOM	NOMINAL	W	WEST
EXT	EXTERIOR	NTS	NOT TO SCALE	W	WITH
FD	FLOOR DRAIN	OA	OVERALL	WC	WATER CLOSET
FDN	FOUNDATION	OC	ON CENTER	WD	WOOD
FE	FIRE EXTINGUISHER	OD	OUTSIDE DIAMETER		
FFE	FINISH FLOOR ELEVATION	OPNG	OPENING		
FIN	FINISH	OPP	OPPOSITE		
FIN FL OR FF	FINISH FLOOR	OF	OUTSIDE FACE		
FIN GR	FINISH GRADE	P	PAINT		
FL	FLOOR	PTD	PAINTED		

Room name 100 SF	ROOM LABEL
(101)	DOOR TAG
(101)	WINDOW TYPE
(101)	WALL TYPE
(101)	CEILING LABEL
(101)	DEMO LABEL
(101)	INTERIOR LABEL
(101)	COLUMN LINE HEAD LABEL
(101) SIM	BUILDING ELEVATION
(101) SIM	BUILDING SECTION
(101) SIM	WALL SECTION
(101) SIM	DETAIL SECTION
(101) Ref	INTERIOR ELEVATION
(101) Ref	VERTICAL ELEVATION

1. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS, AND REPORT ANY DISCREPANCIES TO THE ARCHITECT. CONTRACTOR SHALL PROCEED WITH THE WORK ONLY AFTER DISCREPANCY HAS BEEN RESOLVED WITH THE ARCHITECT.
2. THE BUILDING SHALL BE CONSTRUCTED TO CONFORM WITH ALL APPLICABLE CODES INCLUDING, BUT NOT LIMITED TO, THE LATEST EDITIONS OF IBC, BOCA, NFPA 101, ADA & ANSI.
3. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PRESSURE PRESERVATIVE TREATED & ALL FASTENERS TO BE STAINLESS STEEL OR HOT DIPPED GALVANIZED.
4. CONTRACTOR SHALL WORK FROM GIVEN DIMENSIONS AND LARGE SCALE DETAILS ONLY. DO NOT SCALE THE DRAWINGS.
5. ALL FLOORS SHALL BE LEVELED TO A TOLERANCE OF 1/8" IN 10'-0" WHEN CHECKED AT ANY AREA WITH A 10'-0" STRAIGHT EDGE.
6. INSTALL BLOCKING BEHIND ALL SURFACE APPLIED FIXTURES, TRIM, CABINETS, COUNTER TOPS, AND GRAB BARS WHEN MOUNTED ON STUD WALLS, INCLUDING FUTURE WORK.
7. ALL GRAB BARS SHALL BE ABLE TO SUPPORT A DEAD WEIGHT OF 250 LBS AT ANY POINT.
8. INSTALL MOISTURE RESISTANT GYPSUM BOARD IN LAVATORIES, JANITOR CLOSETS AND ALL OTHER HIGH HUMIDITY AREAS.
9. ALL SEALANT AROUND WINDOWS SHALL BE NON-HARDENING TYPE SEALANT.
10. EXTEND WATERPROOF UNDERLAYMENT FROM EAVE UP ROOF TO MINIMUM 6'-0", 3'-0" MINIMUM AT ALL RAKES, HIPs, VALLEYS AND WALL/ROOF TRANSITIONS.
11. ANY DOORS NOT LOCATED DIMENSIONALLY ARE TO BE 6" MIN. OFF ADJACENT WALL AT HINGE SIDE OF DOOR.
12. THE GENERAL CONTRACTOR SHALL COORDINATE ALL UTILITIES.
13. COTTAGE FRAMING MATERIAL SUBSTITUTIONS SHALL BE APPROVED BY THE ARCHITECT.
14. AT THE CRAWL SPACE PROVIDE 1/4" LUAN AT ALL CERAMIC TILE & SHEET VINYL AREAS OVER FLOOR JOISTS AND SUBFLOOR.
15. REFER TO OWNER SELECTED FINISHES.

## SITE LOCATION MAP



## PROJECT DIRECTORY

**OWNER:**  
OCEANVIEW AT FALMOUTH  
20 BLUEBERRY LANE  
FALMOUTH, MAINE 04105  
207-781-4460

**ARCHITECT:**  
GAWRON TURGEON ARCHITECTS  
29 BLACK POINT ROAD  
SCARBOROUGH, MAINE 04074  
207-883-6307

## DRAWING INDEX

G101	COVER SHEET
A101	FIRST FLOOR PLAN / WALL TYPES
A201	ROOF PLAN AND DETAILS
A401	BUILDING ELEVATIONS
A402	BUILDING ELEVATIONS
A501	BUILDING SECTIONS & WALL SECTION
A502	BUILDING SECTION - CRAWL SPACE, FOUNDATION DETAILS & SCHEDULES

S001	GENERAL NOTES, LEGEND AND BASIS OF DESIGN
S100A	FOUNDATION PLAN - CRAWL SPACE OPTION
S100B	FOUNDATION PLAN - CRAWL SPACE OPTION W/ SECOND FLOOR OPTION
S100C	FOUNDATION PLAN - BASEMENT
S100D	FOUNDATION PLAN - BASEMENT W/ SECOND FLOOR OPTION
S200A	FIRST FLOOR FRAMING PLAN
S200B	FIRST FLOOR FRAMING PLAN W/ SECOND FLOOR OPTION
S200C	FIRST FLOOR FRAMING PLAN W/ BASEMENT
S200D	FIRST FLOOR FRAMING PLAN W/ BASMENT AND SECOND FLOOR OPTION
S201B/D	SECOND FLOOR FRAMING PLAN
S300A/C	ROOF FRAMING PLAN
S300B/D	ROOF FRAMING PLAN W/ SECOND FLOOR OPTION
S400A/B	FOUNDATION SECTIONS AND DETAILS
S400C/D	FOUNDATION SECTIONS AND DETAILS- BASEMENT OPTION
S500A/C	FRAMING SECTIONS AND DETAILS
S500B/D	FRAMING SECTIONS AND DETAILS - SECOND FLOOR OPTION

1ST FLOOR: 1,532 SF +/-

GARAGE/MECH: 419 SF +/-

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SCARBOROUGH, MAINE 04074  
207-883-6307  
WWW.GAWRONTURGEON.COM

GAWRON  
TURGEON  
ARCHITECTS

SCHOOLHOUSE  
COTTAGES - A  
FALMOUTH, MAINE

## REVISIONS

#	DATE	DESCRIPTION
1	07.11.16	PRICING SET- PHASE FOUR

DATE:	07.11.16
PROJECT #	050712
DRAWN BY:	ABP
CHECKED BY:	RLD
DRAWING SCALE	As indicated

## SHEET TITLE

COVER SHEET

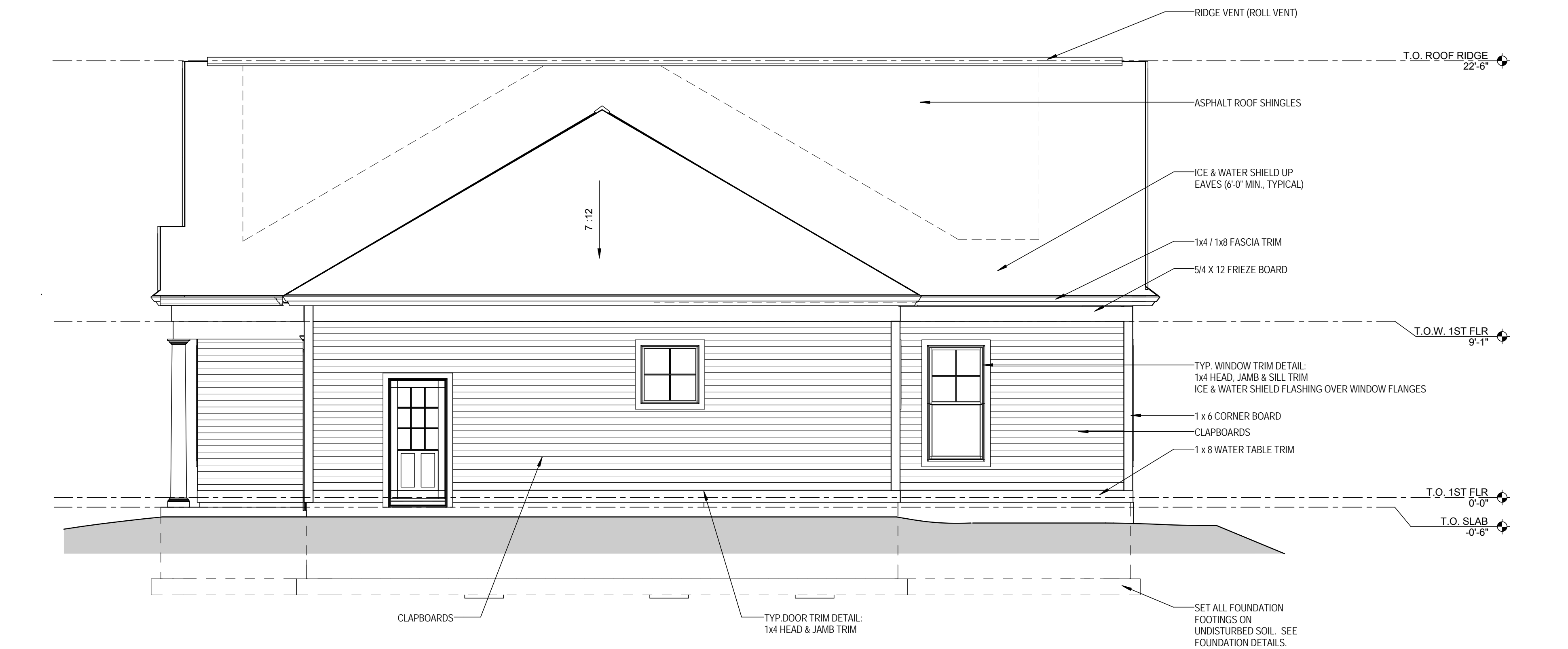
G101  
CRAWL SPACE

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## UNIT PRICES

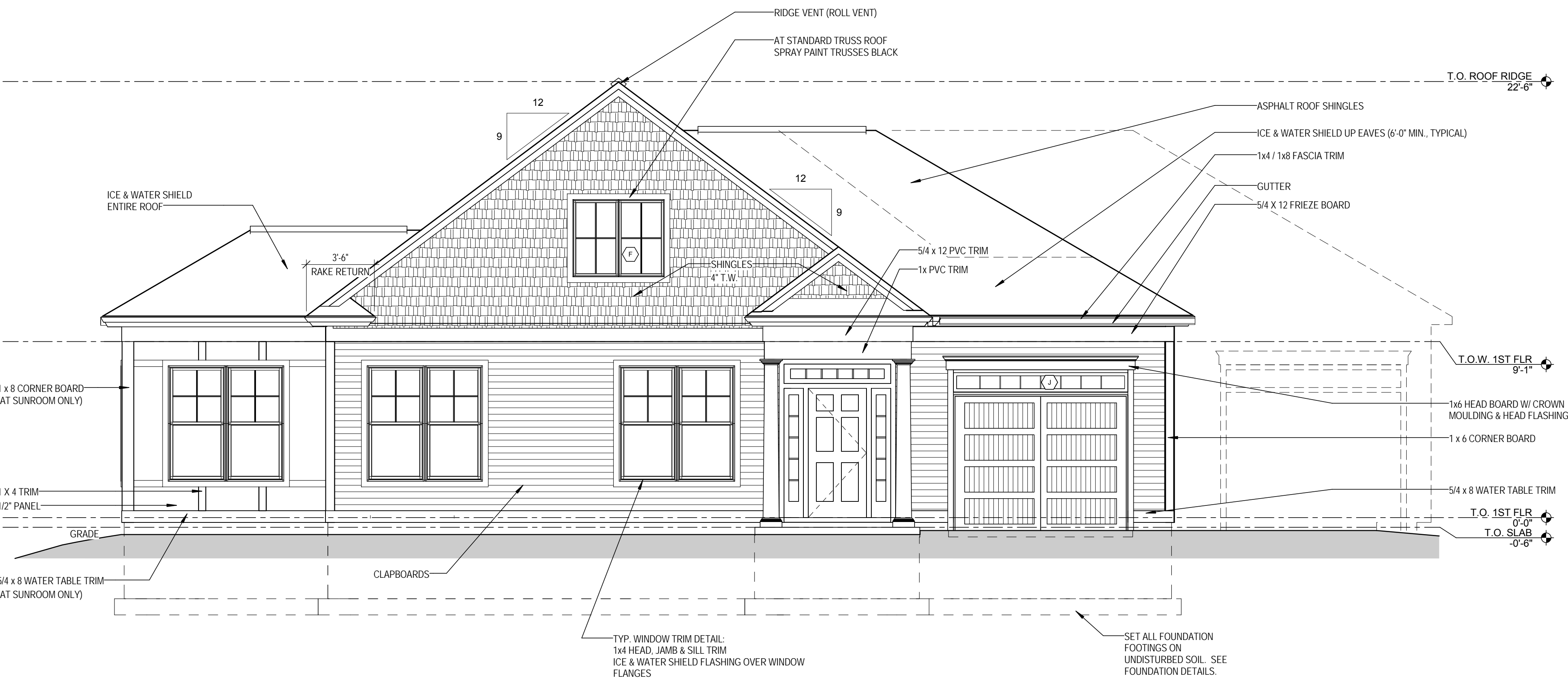
1. UNIT PRICE NO. 1: CONSTRUCTION OF A ONE STORY COTTAGE WITH CRAWL SPACE
2. UNIT PRICE NO. 2: CONSTRUCTION OF A SECOND FLOOR- SEE BASEMENT DRAWINGS FOR SECOND FLOOR OPTION
3. UNIT PRICE NO. 3: CONSTRUCTION OF A TWO-CAR GARAGE.

7/12/2016 12:01:34 PM ABP



J1 RIGHT ELEVATION

1/4" = 1'-0"



A1 FRONT ELEVATION

1/4" = 1'-0"

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SCHOOLHOUSE  
COTTAGES - A  
FALMOUTH, MAINE

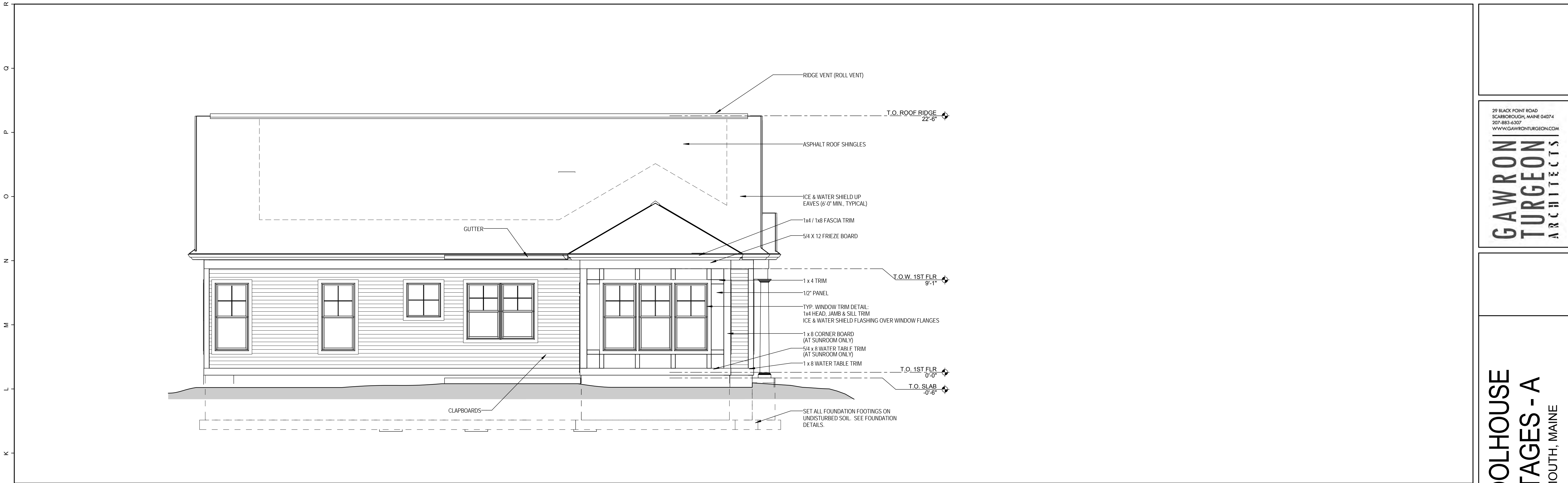
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DATE:	07.11.16
PROJECT #	050712
DRAWN BY:	ABP
CHECKED BY:	RLD
DRAWING SCALE	1/4" = 1'-0"

SHEET TITLE  
BUILDING  
ELEVATIONS

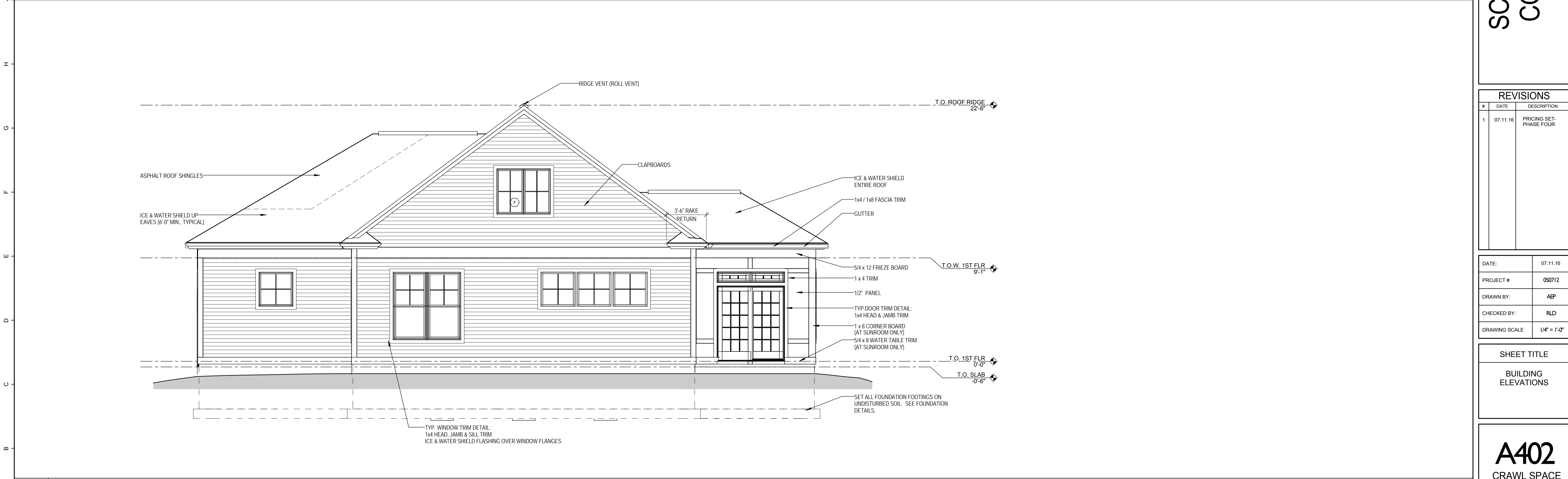
A401  
CRAWL SPACE

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J1 LEFT ELEVATION

1/4" = 1'-0"



A1 REAR ELEVATION

1/4" = 1'-0"



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# SCHOOLHOUSE COTTAGES - A

FALMOUTH, MAINE

REVISIONS		
#	DATE	DESCRIPTION
1	07.11.16	PRICING SET- PHASE FOUR

DATE:	07.11.16
PROJECT #	050712
DRAWN BY:	AP
CHECKED BY:	RLD
DRAWING SCALE	1/4" = 1'-0"

SHEET TITLE

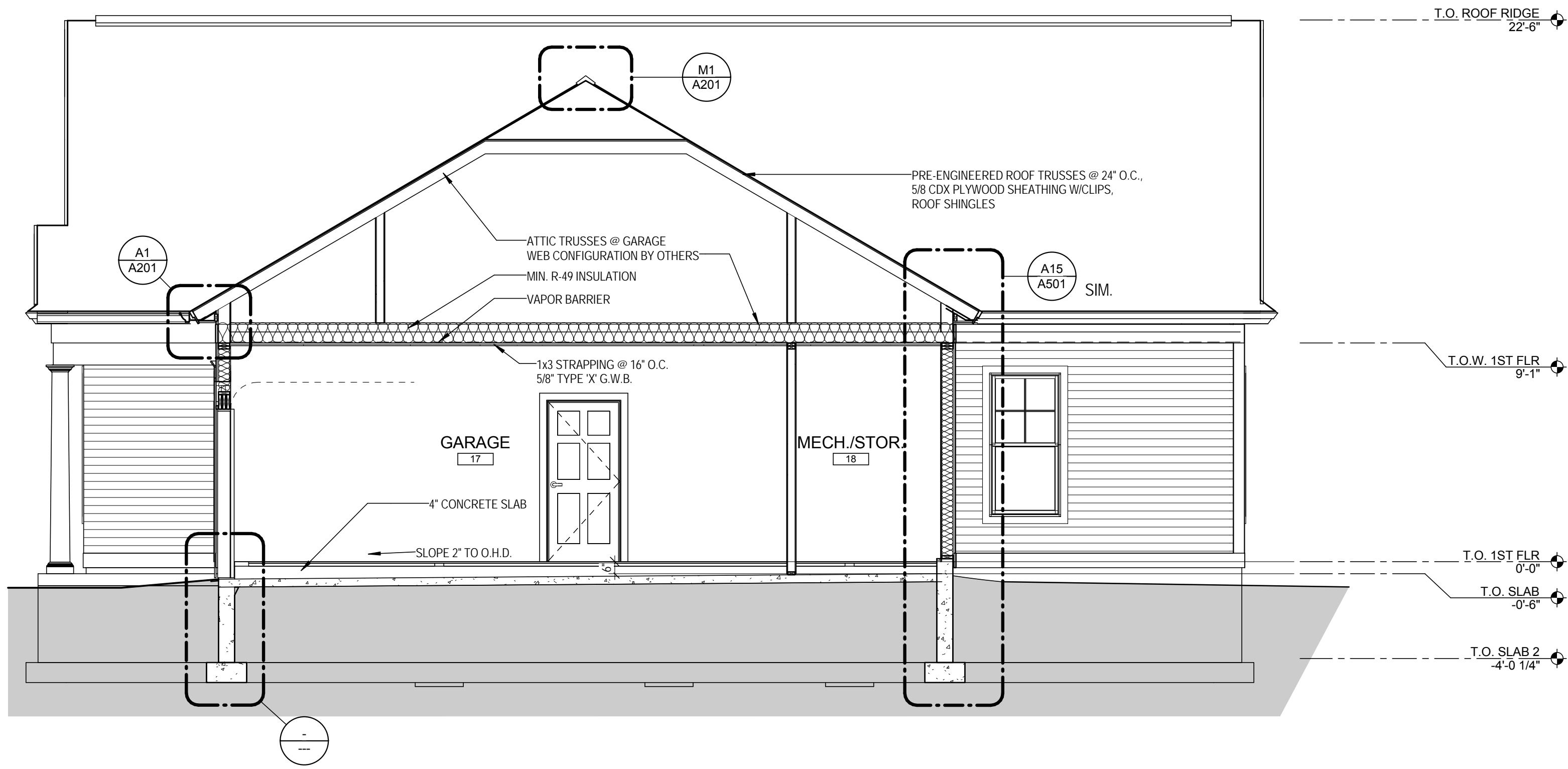
BUILDING  
ELEVATIONS

A402  
CRAWL SPACE

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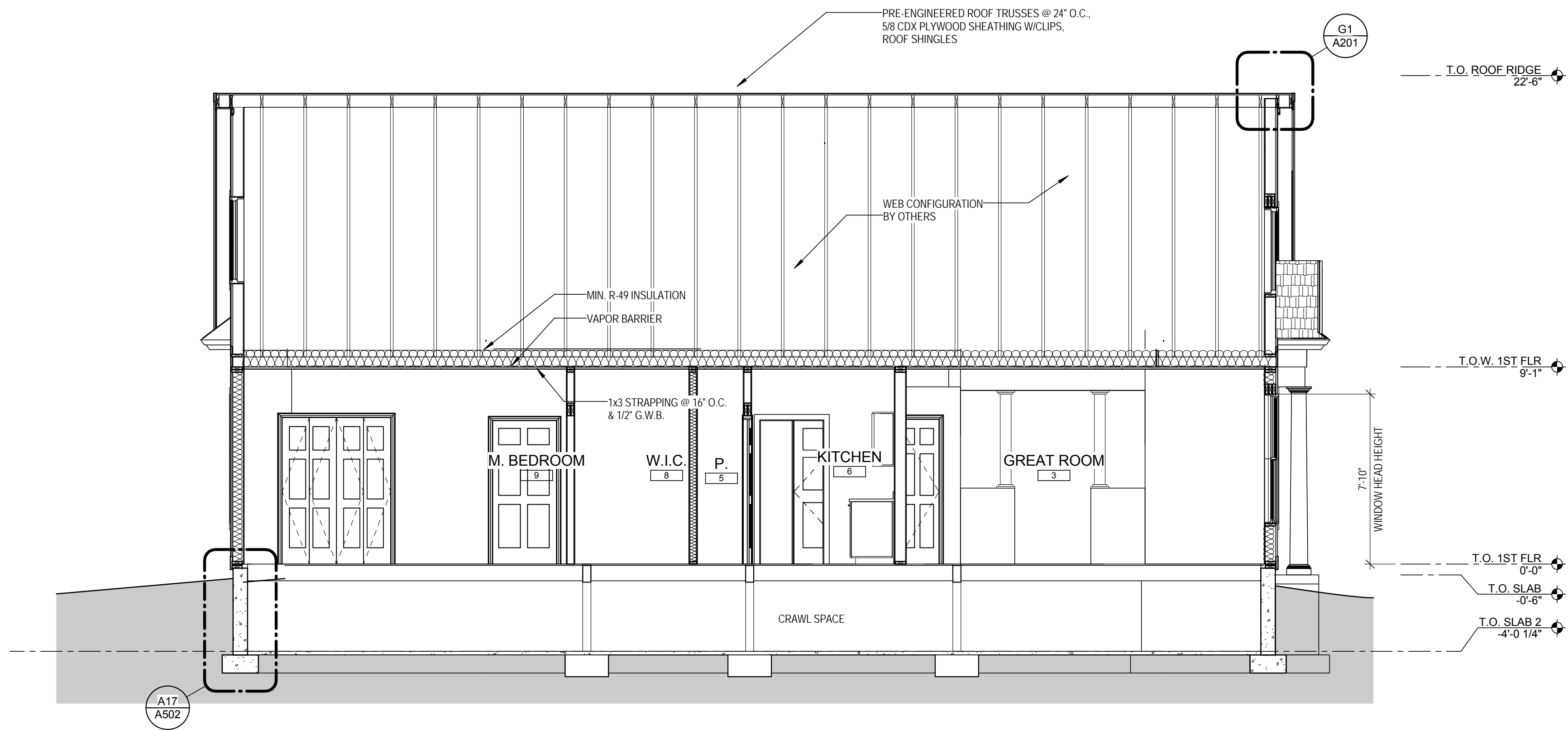


7/12/2016 12:51:50 PM AP



J1 BUILDING SECTION

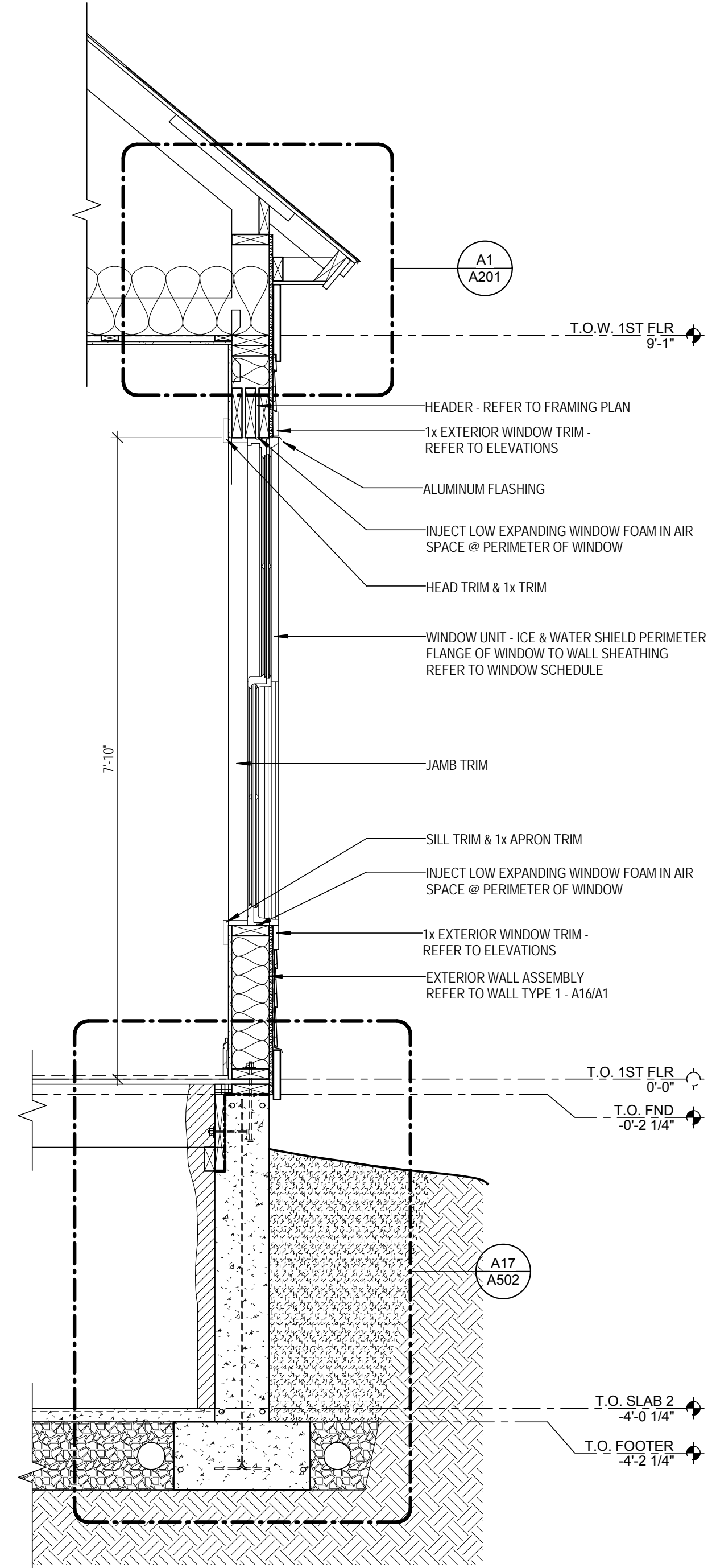
1/4" = 1'-0"



A1 BUILDING SECTION

1/4" = 1'-0"

NOTE: FOUNDATION DETAILS VARY DEPENDING ON OPTIONS



A15 TYPICAL WALL SECTION AT CRAWL SPACE

3/4" = 1'-0"

29 BLACK POINT ROAD  
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207-883-4307  
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GAWRON  
TURGEON  
ARCHITECTS

SCHOOLHOUSE  
COTTAGES - A  
FALMOUTH, MAINE

REVISIONS

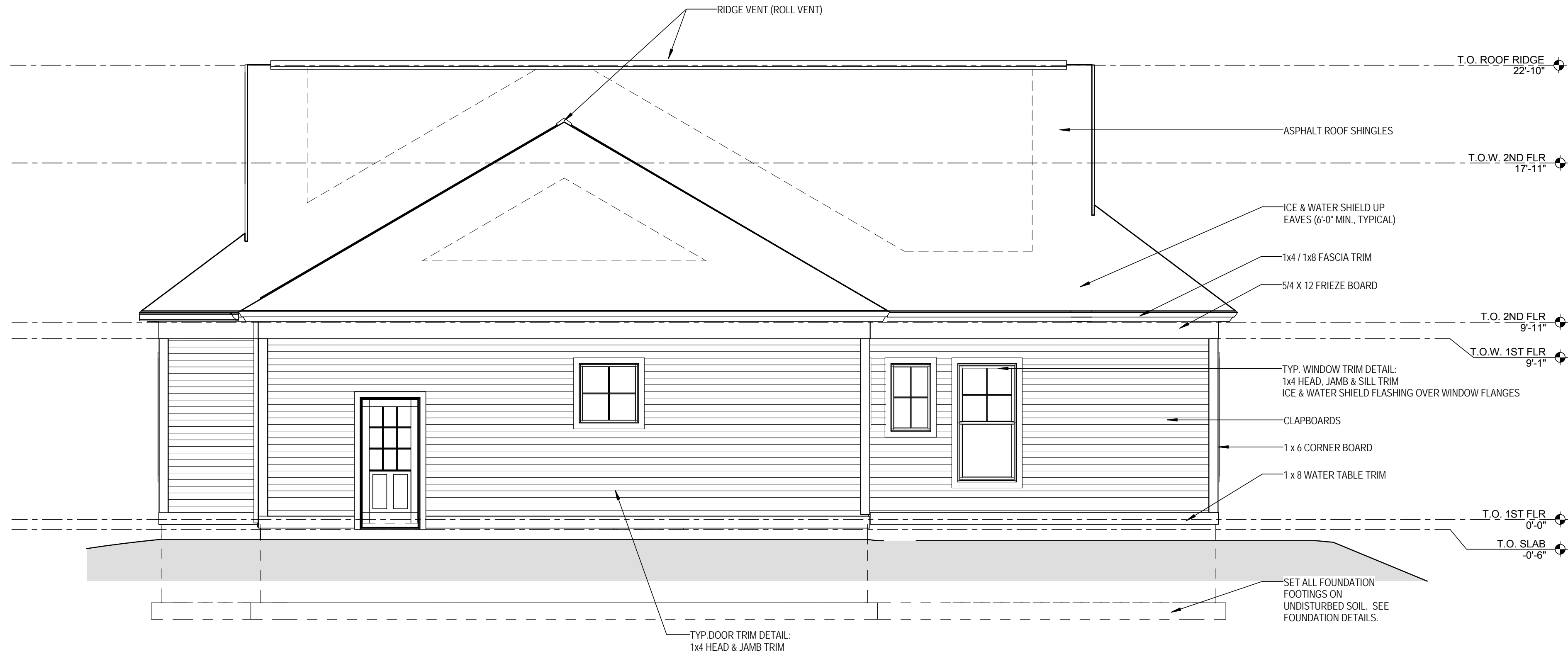
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1	07.11.16	PRICING SET- PHASE FOUR

DATE:	07.11.16
PROJECT #	050712
DRAWN BY:	AP
CHECKED BY:	RLD
DRAWING SCALE	As indicated

SHEET TITLE  
BUILDING SECTIONS  
& WALL SECTION

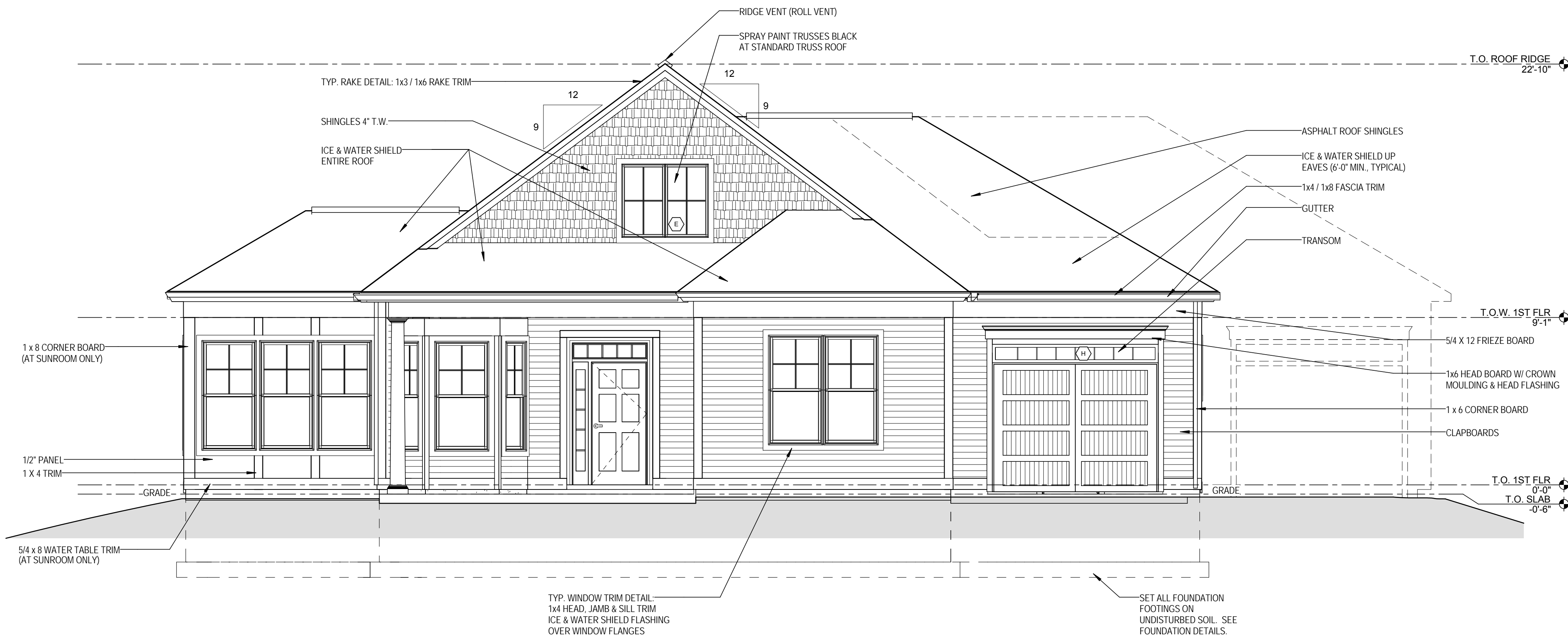
A501  
CRAWL SPACE

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J1 RIGHT ELEVATION

1/4" = 1'-0"



A1 FRONT ELEVATION

1/4" = 1'-0"

29 BLACK POINT ROAD  
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207-883-4307  
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GAWRON  
TURGEON  
ARCHITECTS

SCHOOLHOUSE  
COTTAGES -B  
FALMOUTH, MAINE

REVISIONS

#	DATE	DESCRIPTION
1	07.11.16	PRICING SET- PHASE FOUR

DATE:	07.11.16
PROJECT #	050712
DRAWN BY:	JWW
CHECKED BY:	RLD
DRAWING SCALE	1/4" = 1'-0"

SHEET TITLE

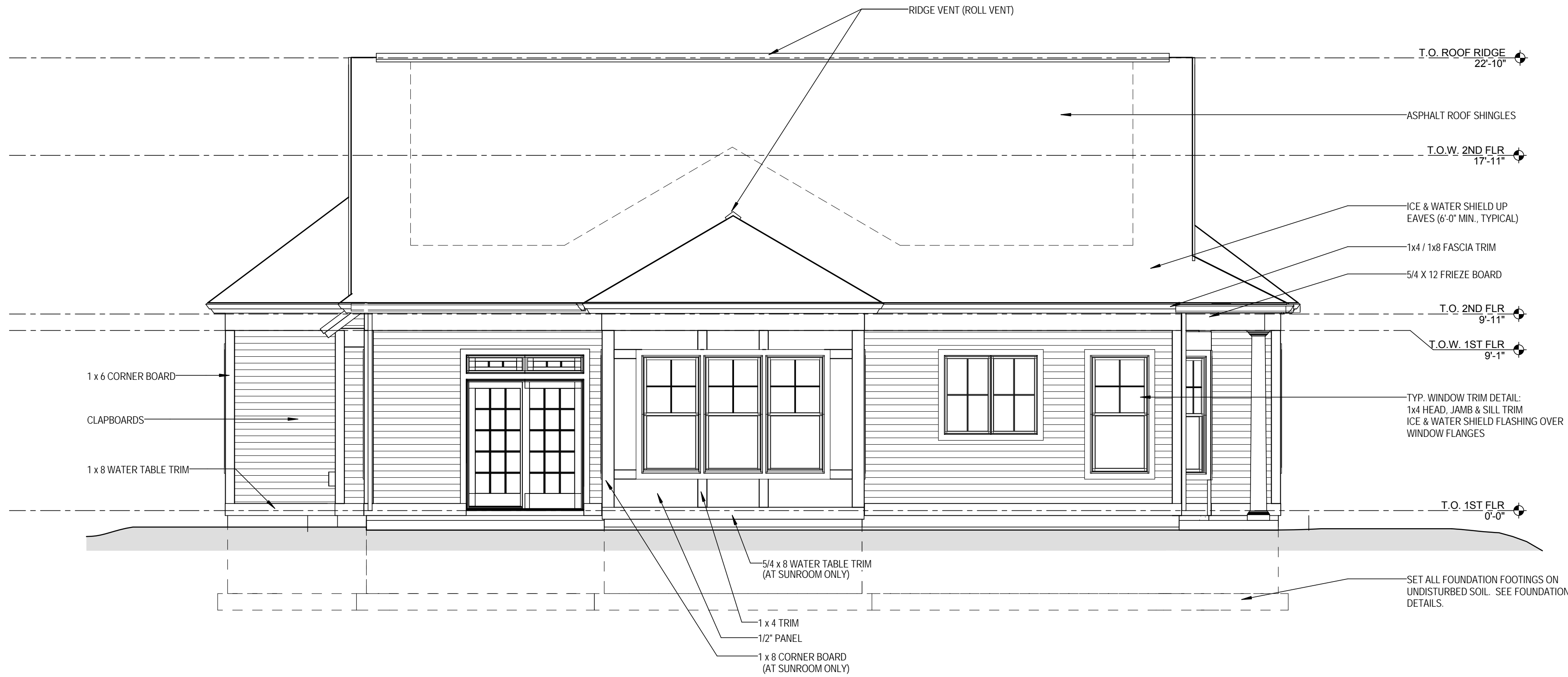
BUILDING  
ELEVATIONS

A401  
CRAWL SPACE

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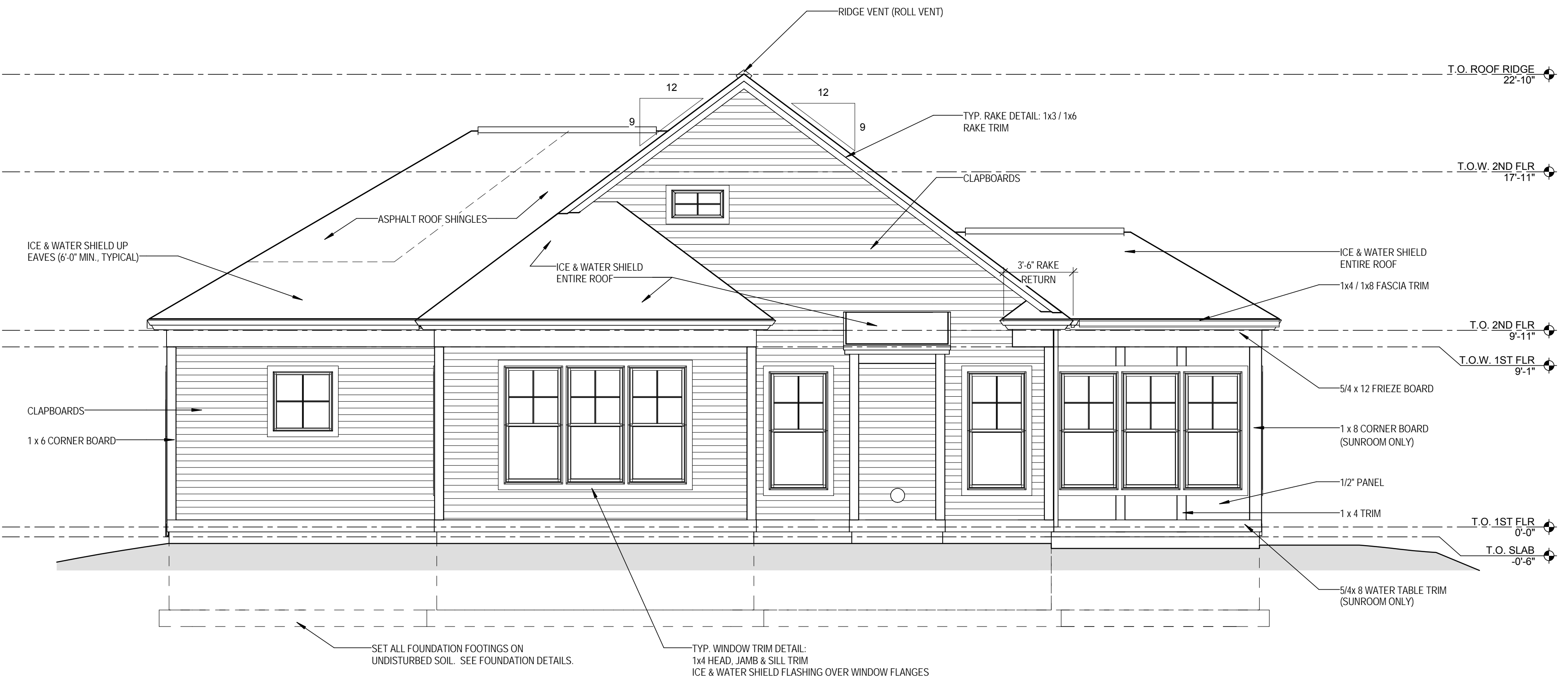


7/12/2016 12:33:11 PM JWW



J1 LEFT ELEVATION

1/4" = 1'-0"



A1 REAR ELEVATION

1/4" = 1'-0"

29 BLACK POINT ROAD  
SCARBOROUGH, MAINE 04074  
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**GAWRON  
TURGEON**  
ARCHITECTS

**SCHOOLHOUSE  
COTTAGES -B**  
FALMOUTH, MAINE

REVISIONS

#	DATE	DESCRIPTION
1	07.11.16	PRICING SET- PHASE FOUR

DATE:	07.11.16
PROJECT #	050712
DRAWN BY:	JWW
CHECKED BY:	RLD
DRAWING SCALE	1/4" = 1'-0"

SHEET TITLE

BUILDING  
ELEVATIONS

**A402**  
CRAWL SPACE

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# OCEANVIEW @ CUMBERLAND

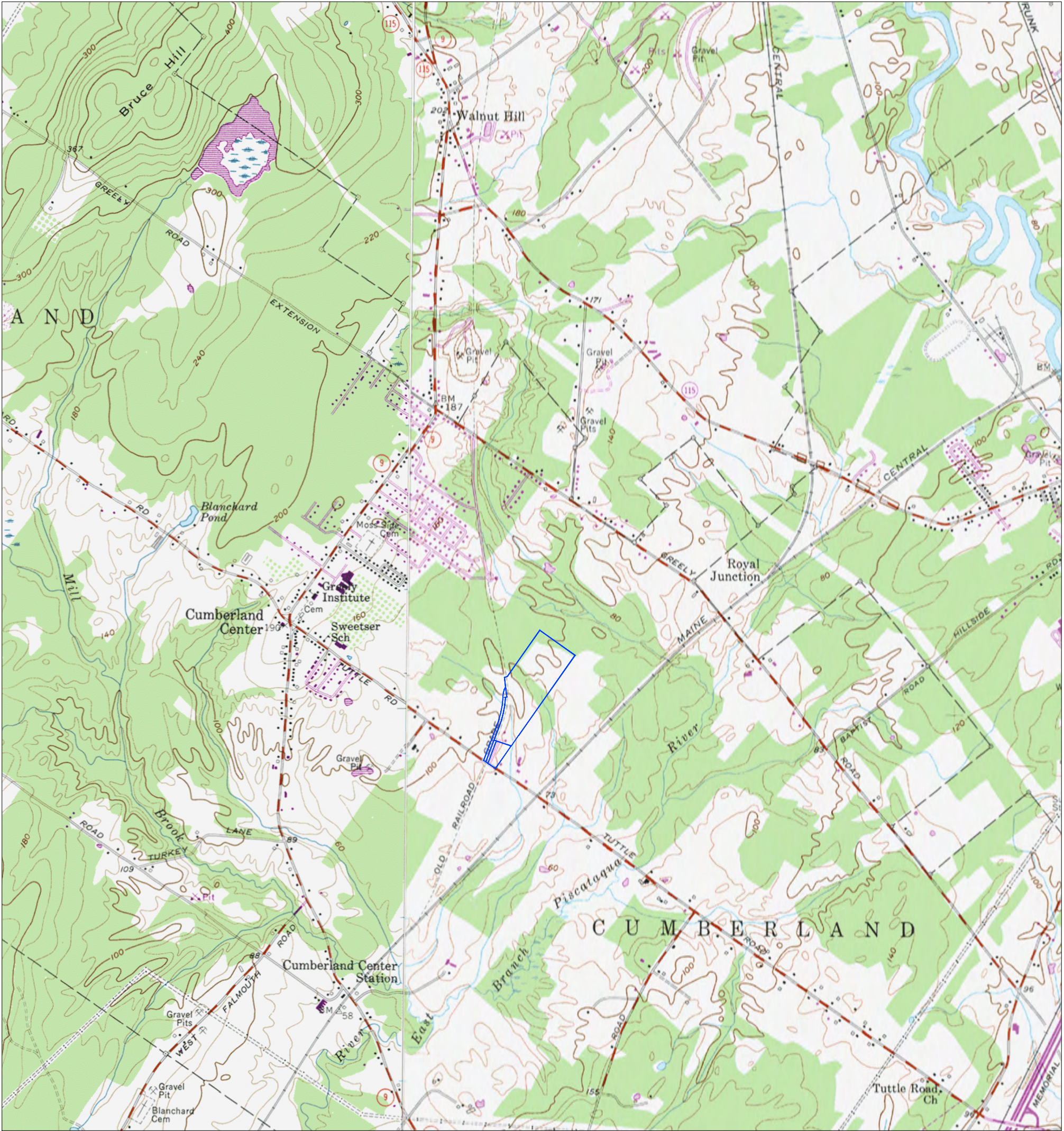
## Tuttle Road, Cumberland, Maine

March 1, 2018

### Town Re-submittal Submission Set

#### SHEET INDEX:

C0	COVER SHEET
4 sheets	SUBDIVISION PLAT BY TITCOMB ASSOCIATES
1 OF 1	TOPOGRAPHIC SITE PLAN BY TITCOMB ASSOCIATES
T1	EXISTING CONDITIONS AND REMOVALS PLAN 1"=100'
C1.	OVERALL PHASING PLAN 1"=100'
C2.	OVERALL SITE DEVELOPMENT PLAN SCALE: 1" = 60'
C3.	OVERALL SITE DEVELOPMENT PLAN SCALE: 1" = 40'
C4.	OVERALL SITE DEVELOPMENT PLAN SCALE: 1" = 40'
C5	OVERALL SITE DEVELOPMENT PLAN SCALE: 1" = 40'
C6-C10.	PLAN & PROFILES SCALE: 1" = 40'
C11A-C11B.	LANDSCAPE PLANS 1"=60'
C12.	TRAIL AND WALKWAY MASTER PLAN 1" = 100'
C13.	ROADWAY SECTIONS, EROSION DETAILS, AND GENERAL NOTES
C13A	STRUCTURE NOTES AND TABLES
C14-C15.	SITE DEVELOPMENT DETAILS
C16-C17	EROSION CONTROL NOTES AND DETAILS
C18	LOW PRESSURE SEWER MAIN DETAILS
C19	ROOF DRIPLINE BMP, BOULDER WALL, AND MISC. DETAILS
C20-C21	ARCH CULVERT DETAILS
C22-C25	WET POND DETAILS
C26	FORESTED BUFFER BEHIND UNITS 50-52
C27	FOCALPOINT 20 SCALE PLAN VIEW
C29-C30	FOCALPOINT DETAILS
C32	CLASS B HIGH INTENSITY SOIL SURVEY BY MARK HAMPTON
C33	SH 1 PORTLAND WATER DISTRICT STANDARD DETAILS
C34	SH 2 PORTLAND WATER DISTRICT STANDARD DETAILS
ES1	MANCINI ELECTRICAL PHOTOMETRIC PLAN
PRE	PRE DEVELOPMENT DRAINAGE PLAN - SUBMITTED SEPARATELY
POST	POST DEVELOPMENT DRAINAGE PLAN - SUBMITTED SEPARATELY



LOCATION MAP  
1"=2000'

#### GENERAL NOTES:

- TOPOGRAPHIC DATA IS BASED ON COMPILATIONS OF INFORMATION INCLUDING AERIAL INFORMATION, ON THE GROUND SURVEY, APPROVED DESIGN PLANS, AND FIELD OBSERVATIONS. ON THE GROUND SURVEYS HAVE BEEN COMPLETED BY TITCOMB ASSOCIATES IN 2017
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION HAS NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES AND IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-800-DIG-SAFE) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND ALL DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS ETC.
- LAYOUT DIMENSIONS ARE FROM FACE OF BUILDING, RETAINING WALLS, CURBS OR BERMS.
- RIM ELEVATIONS OF PROPOSED DRAINAGE AND SANITARY SEWER MANHOLES AND ASSOCIATED STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES AND OTHER UTILITIES TO FINISH GRADE WITHIN LIMITS OF WORK.
- THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC AND FIRE ALARM). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH OWNER AND ARCHITECT.
- THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, SIZE, INVERTS AND TYPES OF EXISTING PIPES AT ALL PROPOSED POINTS OF CONNECTION PRIOR TO ORDERING MATERIALS. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATIONS, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT.
- ALL AREAS OUTSIDE THE LIMIT OF WORK THAT ARE DISTURBED SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. ALL AREAS DISTURBED DURING CONSTRUCTION NOT COVERED WITH BUILDINGS, STRUCTURES, OR PAVEMENT SHALL RECEIVE 6 INCHES OF LOAM AND SEED.
- CONTRACTOR SHALL MAKE ALL ARRANGEMENTS AND SHALL BE RESPONSIBLE FOR PAYING ANY FEES FOR ANY POLE RELOCATION AND FOR THE ALTERATION OR ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
- UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY PERMITS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS.
- ALL PROPERTY MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE RESET TO THEIR ORIGINAL LOCATION BY A MAINE REGISTERED PROFESSIONAL LAND SURVEYOR (PLS) AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL PREPARE/PROVIDE AN AS-BUILT SURVEY SHOWING LOCATIONS OF ALL CONSTRUCTED SURFACE FEATURES AND SUBSURFACE UTILITY SYSTEMS INCLUDING THE GPS POINT LOCATION, TYPE, SIZE AND INVERTS. THE CONTRACTOR SHALL PROVIDE SURVEY POINTS AND DATA TO THE ENGINEER.
- CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES PRIOR TO EARTHWORK OPERATION AND MAINTAIN ALL EROSION CONTROL MEASURES AND SEEDED EMBANKMENTS DURING CONSTRUCTION. EROSION CONTROL SHALL BE REMOVED ONLY UPON THE ESTABLISHMENT OF ALL LANDSCAPED AREAS. AL WORK SHALL BE IN COMPLIANCE WITH THE ENVIRONMENTAL QUALITY HANDBOOK FOR EROSION AND SEDIMENT CONTROL, LATEST EDITION, AS ADOPTED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. ALL CONSTRUCTION ACTIVITY SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
- ALL MATERIALS AND CONSTRUCTION METHODS USED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO ALL LOCAL MUNICIPAL STANDARDS AND MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
- ALL HANDICAP ACCESSIBLE PARKING SPACES, RAMPS AND SIDEWALKS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
- ALL SITE SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

#### LAYOUT NOTES:

- ALL DIMENSIONING, UNLESS NOTED OTHERWISE, IS TO THE FACE OF CURB OR BUILDING.
- OFFSETS TO CATCH BASINS AND MANHOLES ARE TO THE CENTER OF THE FRAME.
- PIPE LENGTH EQUALS THE CENTER TO CENTER DISTANCES BETWEEN CATCH BASINS AND/OR MANHOLES MINUS ONE HALF THE DIAMETER OF EACH CATCH BASIN OR MANHOLE.
- BOUNDARY INFORMATION ON LAYOUT PLAN IS FOR REFERENCE ONLY, REFER TO ALTA SURVEY FOR ACTUAL SURVEY AND BOUNDARY SURVEY REFERENCES.

#### GRADING AND DRAINAGE NOTES:

- UNLESS OTHERWISE NOTED, ALL STORM DRAIN PIPE SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATIONS SECTION 603. PIPE CULVERTS AND STORM DRAINS, LATEST REVISION WITH THE EXCEPTION THAT THE ONLY ACCEPTABLE TYPES OF PIPE ARE AS FOLLOWS:  
REINFORCED CONCRETE PIPE  
POLYVINYL CHLORIDE PIPE (PVC)  
SMOOTH BORE HDPE POLYETHYLENE PIPE
- TOPSOIL STRIPPED IN AREAS OF CONSTRUCTION THAT IS SUITABLE FOR REUSE AS LOAM SHALL BE STOCKPILED ON SITE AT A LOCATION TO BE DESIGNATED BY OWNER. UNSUITABLE SOIL SHALL BE SEPARATED, REMOVED AND DISPOSED OF AT AN APPROVED DISPOSAL LOCATION OFF SITE.
- THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING.

#### EROSION CONTROL NOTES:

- LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE SITE. SEE EROSION CONTROL PLAN FOR EROSION CONTROL SEQUENCING.
- ALL EROSION CONTROL METHODS IMPLEMENTED SHALL CONFORM TO THE "MAINE EROSION AND SEDIMENT CONTROL EST MANAGEMENT PRACTICES (BMP's) MANUAL" DATED OCTOBER 2016 BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION. [http://www.maine.gov/dep/land/erosion/escbmps/esc\\_bmp\\_engineers.pdf](http://www.maine.gov/dep/land/erosion/escbmps/esc_bmp_engineers.pdf)
- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL PLACE THE EROSION CONTROL BMPs INCLUDING SILT FENCE, BERMS, EROSION CONTROL MIX, ETC.. THE CONTRACTOR SHALL INSPECT THE BARRIER AND OTHER PREVENTATIVE MEASURES BI-WEEKLY, BEFORE ANY PREDICTED RAIN EVENT, AND AFTER ANY RAIN EVENT, THE CONTRACTOR SHALL REMOVE ANY ACCUMULATED SILT AND/OR MAKE REPAIRS AS NECESSARY.
- THE CONTRACTOR IS CAUTIONED THAT FAILURE TO COMPLY WITH THE SEQUENCE OF CONSTRUCTION, EROSION/SEDIMENT CONTROL PLAN, AND OTHER PERMIT REQUIREMENTS MAY RESULT IN MONETARY PENALTIES. THE CONTRACTOR SHALL BE ASSESSED ALL SUCH PENALTIES AT NO COST TO THE OWNER OR PERMITTEE.

#### APPROVALS REQUIRED:

- TOWN OF CUMBERLAND PLANNING BOARD.
- MAINE DEP SITE LOCATION OF DEVELOPMENT PERMIT.
- MAINE DEP NRPA TIER 1 PERMIT.
- MAINE DOT ENTRANCE PERMIT.

#### UTILITY INFO & CONTACTS:

SUMMIT NATURAL GAS: 12 INCH MAIN, W. SIDE TUTTLE RD.  
CONTACT: MICHAEL STINCHFIELD, PROJECT MANAGER 207.620.8000

WATER: PORTLAND WATER DISTRICT: 12 C.I.INCH MAIN, E. SIDE TUTTLE RD.  
CONTACT: ROBERT BARTELS, MEANS DEPT. 207.774.5961 X3199

SANITARY SEWER: PORTLAND WATER DISTRICT - 8 INCH GRAVITY SS, W. SIDE TUTTLE RD.  
CONTACT: ROBERT BARTELS, MEANS DEPT. 207.774.5961 X3199

ELECTRIC CENTRAL MAINE POWER: 3 PHASE OVERHEAD, W. SIDE TUTTLE RD.  
CONTACT: HERB STEVENS, 800.750.4000

COMMUNICATIONS/CTV: SPECTRUM COMMUNICATIONS, OVERHEAD, W. SIDE TUTTLE ROAD  
CONTACT: PETER DETESO, 207.318.6542

TELE: FAIRPOINT & CONSOLIDATED, OVERHEAD, W. SIDE TUTTLE ROAD  
CONTACT: MATT FREE (CONSOLIDATED), 207.626.2007

STREET OPENING: TOWN OF CUMBERLAND URBAN COMPACT8 (MDOT)  
CONTACT: MDOT SCARBOROUGH, REGION 1, 207.885.7000  
CONTACT: CUMBERLAND DPW: CHRIS BOLDUC, 207.829.2220

#### DESIGN CONSULTANTS:

**BELANGER ENGINEERING**  
63 SECOND AVENUE  
AUGUSTA, ME 04330  
(207) 622-0543

**ANTHONY MANCINI, INC.**  
179 SHERIDAN STREET  
PORTLAND, MAINE 04101  
(207) 774-5829

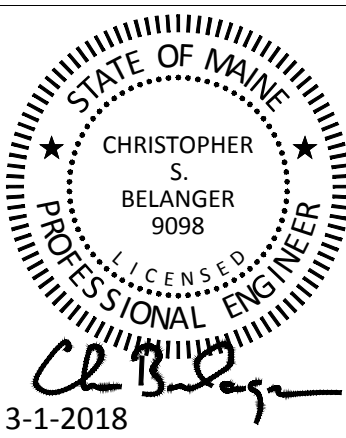
**LICHT ENVIRONMENTAL DESIGN**  
35 FRAN CIRCLE  
GRAY, ME 04330  
(207) 749-4924


**GAWRON / TURGEON ARCHITECTS**  
29 BLACK PT. ROAD  
SCARBOROUGH, MAINE 04074  
207-883-6307

**DAVE HAYNES**  
MAINE REGISTERED  
LANDSCAPE ARCHITECT  
OCEAN VIEW RETIREMENT  
COMMUNITY  
207-653-9427

**TITCOMB ASSOCIATES**  
39 COURT STREET  
BATH, ME 04530  
(207) 443-9199

Prepared in association with:










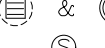



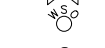


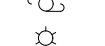

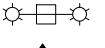










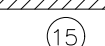







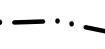
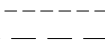

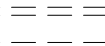
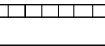
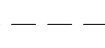
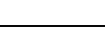


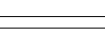
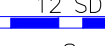
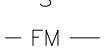

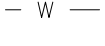
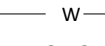

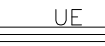


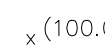
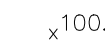

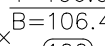










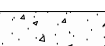
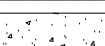

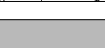











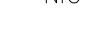






































**BELANGER ENGINEERING**  
CONSULTING ENGINEERS  
63 Second Avenue, Augusta, Maine 04330  
Ph 207-622-1462, Cell 207-242-5713

- COMMERCIAL PROJECTS
- RESIDENTIAL SUBDIVISIONS
- TOWN AND STATE APPROVALS
- SITE PLANNING & DESIGN
- STORMWATER MANAGEMENT
- ROAD AND UTILITY DESIGN
- EROSION CONTROL PLANS

Email: [cbelanger@roadrunner.com](mailto:cbelanger@roadrunner.com)

FIELD WK:	SCALE:	SHEET:  <b>C0</b>
DRN BY:	JOB #: 109	
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	

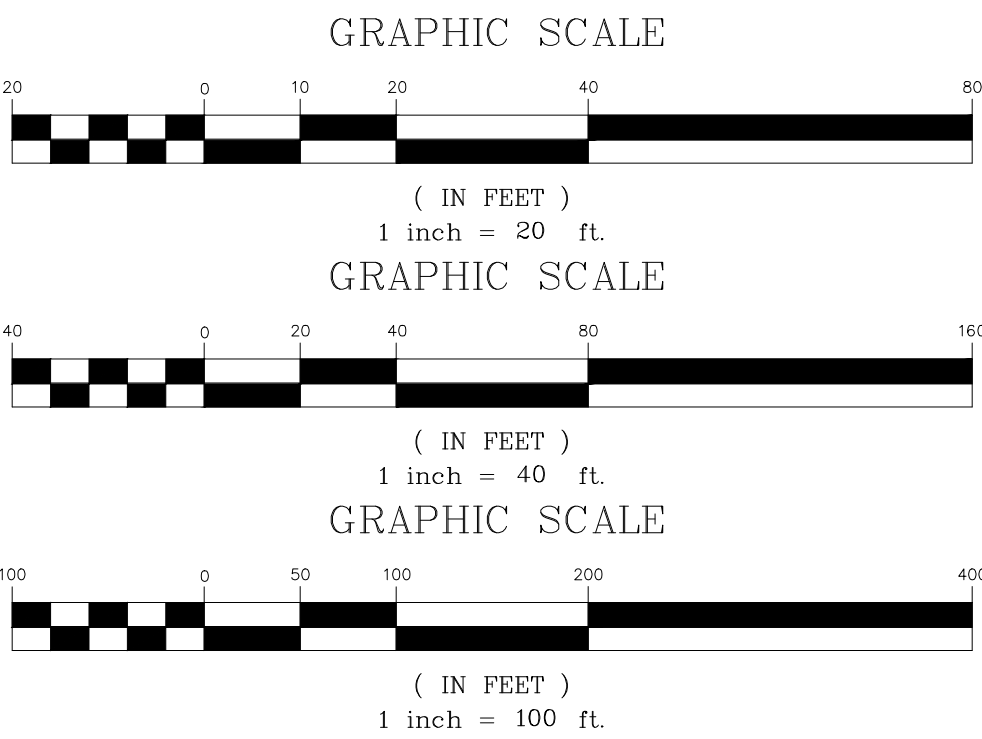
EXISTING	LEGEND:	PROPOSED
	IRON PIPE OR MONUMENT	
	BENCH MARK (SEE NOTES)	
	TRAVERSE STATION	
	TEST PIT	
	CATCH BASIN	
	SEWER MANHOLE	
	FIRE HYDRANT	
	WATER GATE VALVE	
	WATER SHUT-OFF	
	BLOW-OFF/CLEAN-OUT	
	WELL	
	UTILITY POLE	
	POLE W/SINGLE LIGHT	
	POLE W/DOUBLE LIGHT	
	SPOT LIGHT & WALL LIGHT	
	BOLLARD LIGHT	
	SIGN	
	RESIDENTIAL SEWER PUMP STATION	
	GAS VALVE	
	HANDICAP SYMBOL	
	PAVEMENT PAINT MARKINGS	
	PARKING SPACE COUNT	
	PROPERTY LINE	
	EASEMENTS	
	SETBACK/BUFFER	
	SOILS BOUNDARY	
	WETLAND BOUNDARY	
	STREAM	
	CULVERT	
	CONCRETE SLUPFORM	
	GRANITE CURB	
	VERTICAL CONCRETE CURB	
	EDGE OF PAVEMENT	
	ROAD CENTERLINE	
	BUILDING	
	STORM DRAIN(SEE PLAN FOR SIZE)	
	SEWER LINE(SEE PLAN FOR SIZE)	
	SEWER FORCE MAIN(SEE PLAN FOR SIZE)	
	WATER LINE(SEE PLAN FOR SIZE)	
	NATURAL GAS LINE(SEE PLAN FOR SIZE)	
	UNDERGROUND POWER,PHONE,CABLE CONDUIT	
	UNDERGROUND SECONDARY POWER LINES	
	CHILLER LINES	
	SPOT ELEVATION	
	SPOT: CURB TOP & BOTTOM	
	CONTOURS	
	CATCH BASIN HAY BALE BARRIER	
	CLEARING LIMIT	
	TREE LINE	
	SILT FENCE	
	CHAIN LINK FENCE	
	WOOD GUARD RAIL	
	RIPRAP	
	CONSTRUCTION ENTRANCE	
	CONCRETE	
	PAVEMENT	
	PAVEMENT OVERLAY	
	BUILDING	
	EXISTING BUILDING	
	NOT IN CONTRACT	

#### PROGRESS PLAN

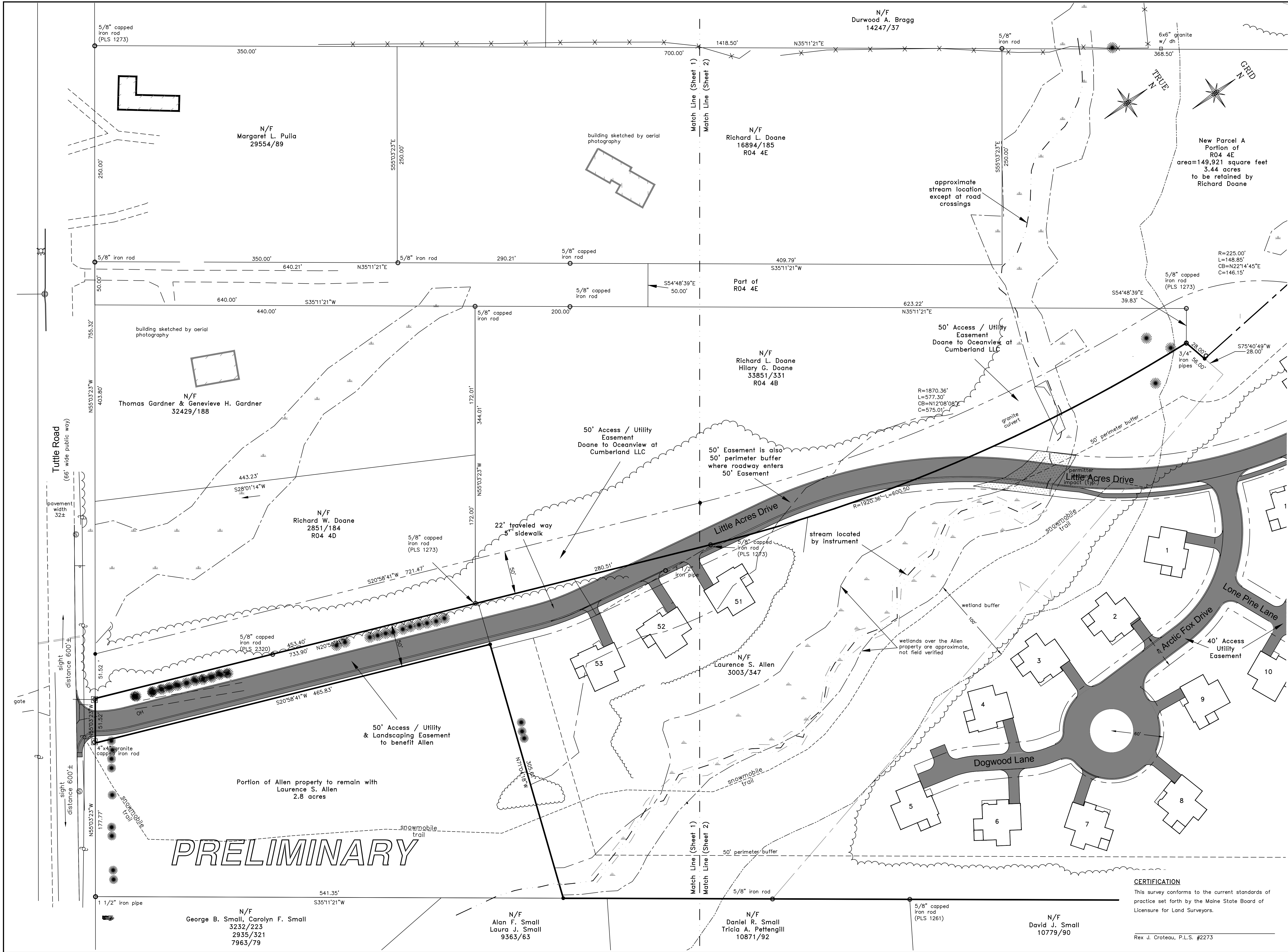
#### NOT FOR CONSTRUCTION

THIS DOCUMENT IS ISSUED FOR INFORMATIONAL PURPOSES ONLY. THE DATA SHOWN HEREON IS SUBJECT TO REVISION.

#### PROJECT SCALES







**LEGEND**

- Monument – found
- Iron marker – found
- Monument – set (#5 rebar)
- Property line (locus)
- Property line (abutter)
- Easement line
- Wire fence
- Overhead utility line
- Edge of pavement
- Edge of gravel (existing)
- Catch basin
- Utility pole
- Sewer manhole
- Now or formerly of
- Deed reference (Book/Page)
- Tree line
- Wetlands
- Sign
- Edge of wetland
- Coniferous tree
- Existing building
- Wetland impact area

State of Maine, Cumberland ss  
Registry of Deeds  
Received \_\_\_\_\_ 20\_\_\_\_  
at \_\_\_\_\_ h \_\_\_\_\_ m \_\_\_\_\_ and recorded in  
Plan Book \_\_\_\_\_ Page \_\_\_\_\_  
Attest: \_\_\_\_\_  
Register

Approved by the Town of  
Cumberland Planning Board

dated \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

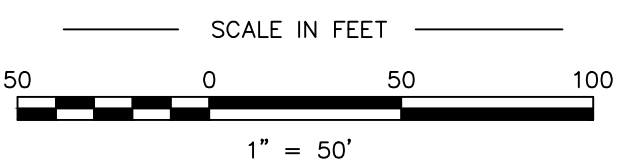
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
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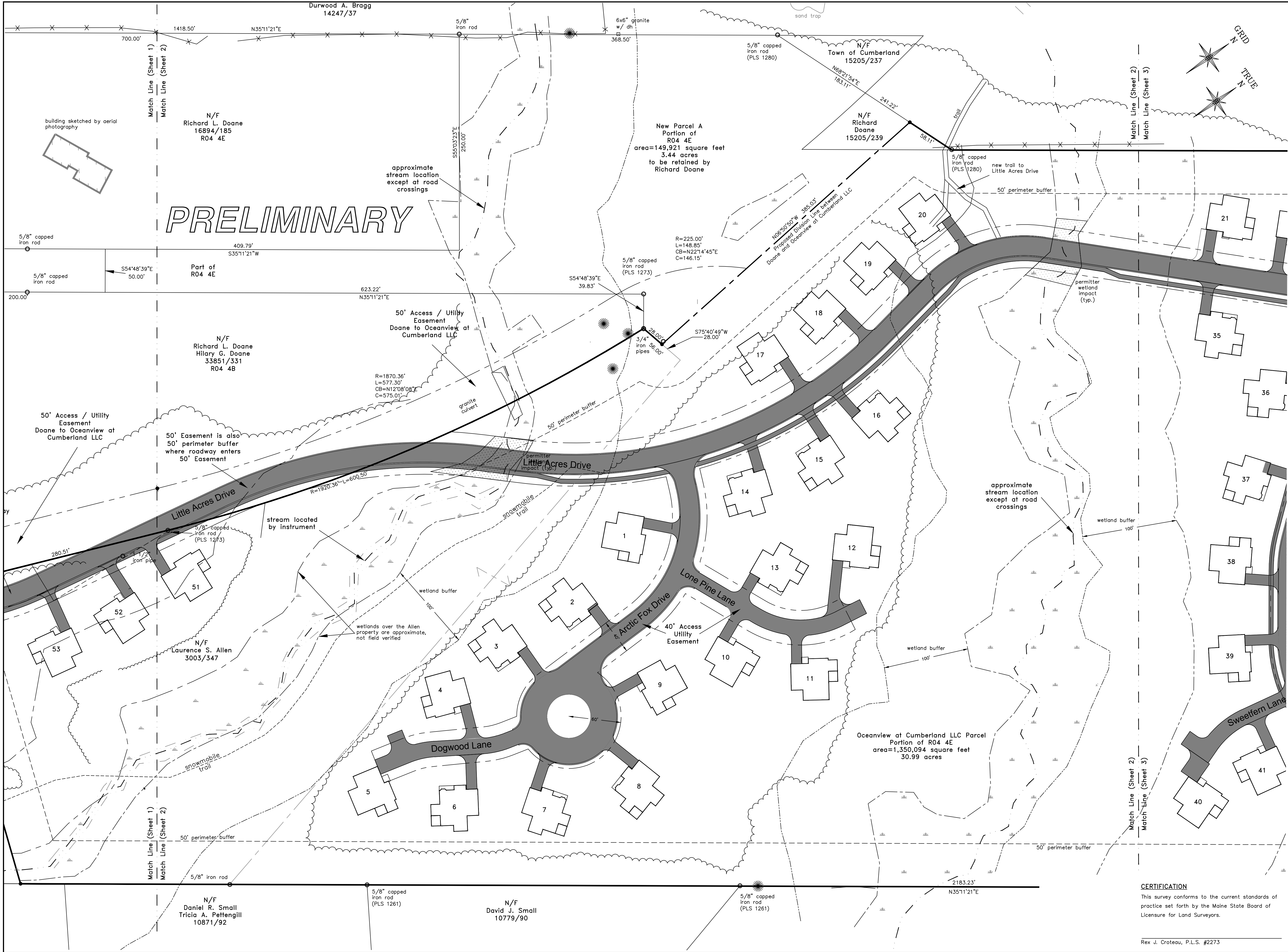
**S-1 Sheet 1 of 4**

See Sheet 4 for notes and charts

Rev. 3	03/02/18	miscellaneous staff comment revisions	RJC
Rev. 2	02/21/18	additional feature locations	JS
Rev. 1	01/30/18	Allen lot, design revisions	RJC
SUBDIVISION PLAN			
Oceanview at Cumberland			
Tuttle Road		Cumberland, Maine	
MADE FOR			
Oceanview at Cumberland LLC			
20 Blueberry Lane		Falmouth, Maine	
JOB #89076	DATE: December 26, 2017	SCALE: 1" = 50'	
BOOK #898	 <b>Titcomb Associates</b> 133 Gray Road, Falmouth, Maine 04105 (207)797-9199 www.titcombsurvey.com		
89076_2016.dwg			

**CERTIFICATION**  
This survey conforms to the current standards of practice set forth by the Maine State Board of Licensure for Land Surveyors.

Rex J. Croteau, P.L.S. #2273



**LEGEND**

- Monument — found
- Iron marker — found
- Iron marker — set (#5 rebar)
- Monument — set
- Property line (locus)
- Property line (abutter)
- Easement line
- Wire fence
- Overhead utility line
- Edge of pavement (existing)
- Edge of gravel
- Catch basin
- Utility pole
- Sewer manhole
- Now or formerly of
- Deed reference (Book/Page)
- Tree line
- Wetlands
- Sign
- Edge of wetland
- Coniferous tree
- Existing building
- Wetland impact area

State of Maine, Cumberland ss  
Registry of Deeds  
Received \_\_\_\_\_ 20\_\_\_\_  
at \_\_\_\_h \_\_\_\_m \_\_\_\_M and recorded in  
Plan Book \_\_\_\_\_ Page \_\_\_\_\_  
Attest: \_\_\_\_\_  
Register

Approved by the Town of  
Cumberland Planning Board

dated \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

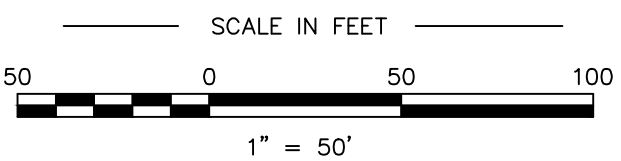
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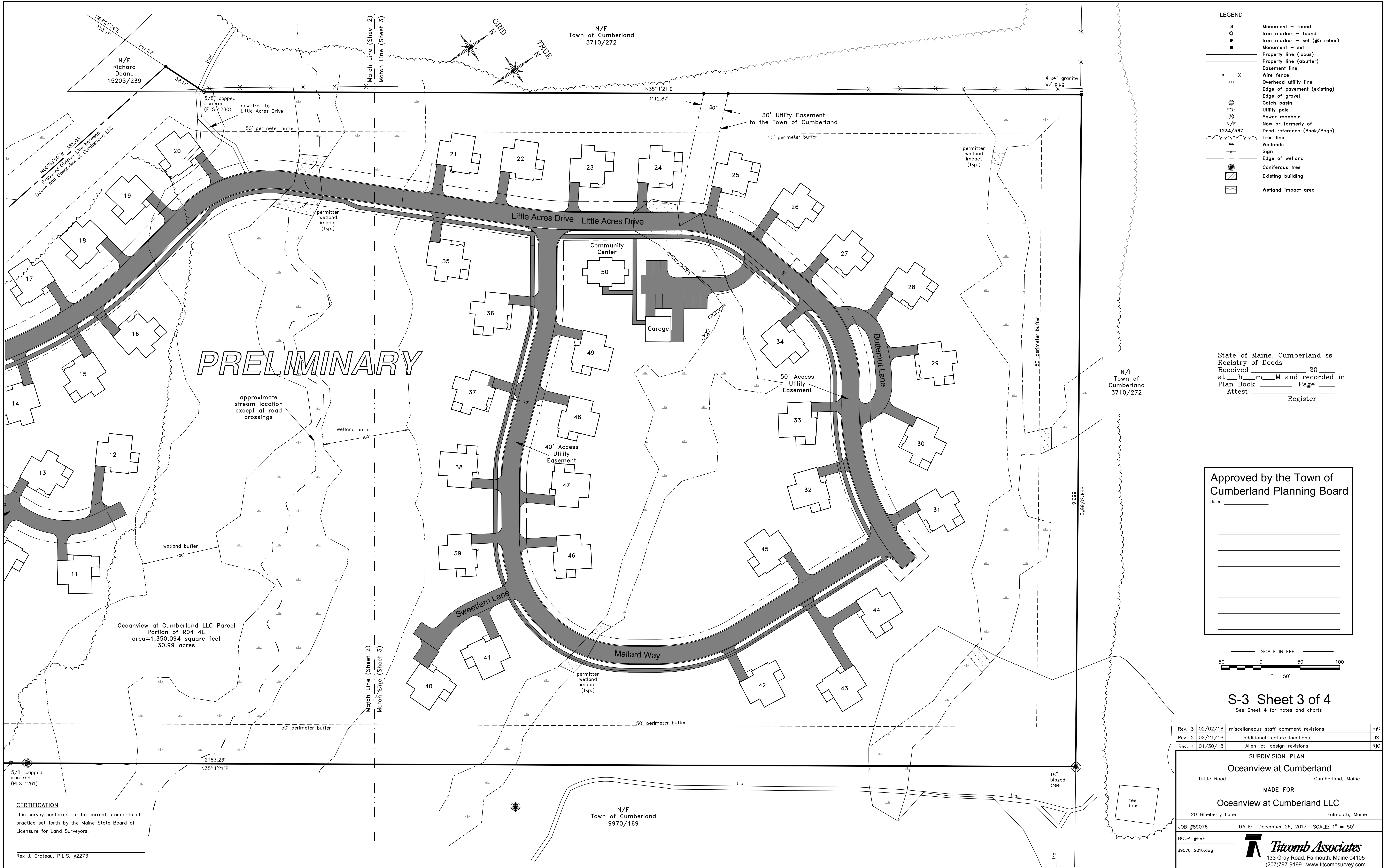
**S-2 Sheet 2 of 4**  
See Sheet 4 for notes and charts

Rev. 3	03/02/18	miscellaneous staff comment revisions	RJC
Rev. 2	02/21/18	additional feature locations	JS
Rev. 1	01/30/18	Allen lot, design revisions	RJC
SUBDIVISION PLAN			
Oceanview at Cumberland			
Tuttle Road		Cumberland, Maine	
MADE FOR			
Oceanview at Cumberland LLC			
20 Blueberry Lane		Falmouth, Maine	
JOB #89076	DATE: December 26, 2017	SCALE: 1" = 50'	
BOOK #898	 <b>Titcomb Associates</b> 133 Gray Road, Falmouth, Maine 04105 (207)797-9199 www.titcombsurvey.com		
89076_2016.dwg			

**CERTIFICATION**  
This survey conforms to the current standards of  
practice set forth by the Maine State Board of  
Licensure for Land Surveyors.

Rex J. Croteau, P.L.S. #2273





- LEGEND
- Monument – found
  - Iron marker – found
  - Monument – set
  - Property line (locus)
  - Property line (abutter)
  - Easement line
  - Wire fence
  - Overhead utility line
  - Edge of gravel
  - Edge of pavement (existing)
  - Catch basin
  - Utility pole
  - Sewer manhole
  - Now or formerly of
  - Deed reference (Book/Page)
  - Tree line
  - Wetlands
  - Sign
  - Edge of wetland
  - Coniferous tree
  - Existing building
  - Wetland impact area

State of Maine, Cumberland ss  
Registry of Deeds  
Received \_\_\_\_\_ 20\_\_\_\_  
at \_\_\_\_h\_\_\_\_m\_\_\_\_M and recorded in  
Plan Book \_\_\_\_\_ Page \_\_\_\_\_  
Attest: \_\_\_\_\_  
Register

Approved by the Town of  
Cumberland Planning Board

dated \_\_\_\_\_

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
SCALE IN FEET

50 0 50 100

1" = 50'

S-3 Sheet 3 of 4

See Sheet 4 for notes and charts

Rev. 3	02/02/18	miscellaneous staff comment revisions	RJC
Rev. 2	02/21/18	additional feature locations	JS
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Oceanview at Cumberland			
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Rex J. Croteau, P.L.S. #2273

OV AT CUMBERLAND SUBDIV PLAN NOTES

- 1) THIS PROJECT IS BEING PROPOSED AS A SENIOR HOUSING COMMUNITY PERMITTED UNDER THE TOWN OF CUMBERLAND LAND USE ORDINANCE SECTION 315-28.4. THE PROJECT INCLUDES 52 COTTAGE UNITS, A COMMUNITY CENTER AND ASSOCIATED INFRASTRUCTURE.
- 2) PROJECT LIES WITHIN THE RR1 ZONING DISTRICT AND SENIOR HOUSING COMMUNITY (SHC) OVERLAY DISTRICT
- 3) WETLANDS MAPPING BY HAMPTON ASSOCIATES, FALL 2016 AND LOCATED BY GPS SURVEY (HAMPTON ASSOC. AND TITCOMB ASSOC, SURVEYORS.)
- 4) SITE TOPOGRAPHY AND EXISTING CONDITIONS FROM A FIELD SURVEY BY TITCOMB ASSOCIATES, SURVEYORS WITH INFORMATION SUPPLEMENTED FROM THE STATE OF MAINE GIS DIGITAL ORTHO AND LIDAR MAPPING AS NOTED.
- 5) PROJECT TO BE SERVICED BY PUBLIC WATER, PRIVATE ON-SITE LOW PRESSURE SEWER SYSTEM DISCHARGING TO THE PORTLAND WATER DISTRICT PUBLIC SEWERAGE SYSTEM IN TUTTLE ROAD, NATURAL GAS AND UNDERGROUND CABLE UTILITIES.
- 6) ARCTIC FOX DRIVE, BUTTERNUT LANE, DOGWOOD LANE, LITTLE ACRES DRIVE, LONE PINE LANE, MALLARD WAY AND SWEETERN LANE SHALL REMAIN PRIVATE.
- 7) COTTAGE UNITS AND FOOTPRINT STYLES AND DRIVEWAY LOCATIONS ARE SHOWN IN THE GENERAL LOCATIONS INTENDED TO BE CONSTRUCTED. HOWEVER APPROVAL. FINAL LOCATIONS AND BUILDING TYPES MAY VARY SLIGHTLY TO FIT FIELD CONDITIONS.
- 8) THERE SHALL BE NO LESS THAN TWO PARKING SPACE PER UNIT PER ORDINANCE SECTION 315-28.4.F. GARAGES AND ONE SPACE IN THE DRIVEWAY MAY BE USED TO MEET THIS REQUIREMENT.
- 9) REFER TO SITE DATA TABLE FOR SETBACKS AND DIMENSIONAL REQUIREMENTS.
- 10) THIS PLAT SHALL BE RECORDED WITHIN 90 DAYS OF FINAL SUBDIVISION APPROVAL AND SIGNING OF THE PLAT BY THE TOWN OF CUMBERLAND PLANNING BOARD, SUBJECT TO THE ESTABLISHMENT OF ANY PERFORMANCE GUARANTEE. APPROVAL OF ANY SUBDIVISION PLAN NOT RECORDED WITHIN 90 DAYS AFTER FINAL PLAN APPROVAL SHALL BECOME NULL AND VOID.

SURVEY NOTES

- 1) BOOK AND PAGE REFERENCES ARE TO THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
- 2) BEARINGS ARE REFERENCED TO GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, NAD83, WEST ZONE.
- 4) UTILITY INFORMATION ON THIS PLAN IS APPROXIMATE, BASED ON LOCATION OF VISIBLE FEATURES. DIGSAFE AND/OR THE APPROPRIATE UTILITIES SHOULD BE CONTACTED PRIOR TO ANY CONSTRUCTION.
- 5) PROPERTY LIES WITHIN ZONE C BASED ON FIRM COMMUNITY #230162 PANEL #0015 B, DATED MAY 19, 1981. IT DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA.

OWNERS OF RECORD

Richard W. Doane  
Book 2851, Page 184  
Book 15205, Page 239

Laurence S. Allen  
Book 3003, Page 347

PROJECT AREA

36.83 acres

PLAN REFERENCES

- 1) RIGHT-OF-WAY AND TRACK MAP, MAINE CENTRAL R.R., STATION 307+80 TO STATION 360+60, JUNE 30, 1916. MCRR FILE NO. V2/S1 AND V2/S2.
- 2) STANDARD BOUNDARY SURVEY PREPARED FOR MARION B. SMALL BY GARY E. JOHNSON, RLS. 1261, DATED AUG. 1987. UNRECORDED.
- 3) PLAN OF WYMAN FARM, CUMBERLAND CENTER, MAINE, BY EARL RAND, DATED MAY 2, 1931. UNRECORDED.
- 4) PLAN OF TUTTLE ROAD IN CUMBERLAND FROM CUMBERLAND CENTER TO FEDERAL ROAD, SURVEYED OCT. 11, 1926 BY WM. E. WINSLOW. RECORDED IN THE CUMBERLAND COUNTY COMMISSIONERS PLAN BOOK 5, PAGE 2.
- 5) ORIGINAL LOTTING PLAN OF NORTH YARMOUTH, RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS, PLAN BOOK 24,PAGE 14. CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 203, PAGE 82.
- 6) AMENDED PLAN OF PRIVATE WAY MADE FOR RICHARD DOANE BY TITCOMB ASSOCIATES DATED MAY 7, 1990 AND REVISED THROUGH NOV. 11. 2009 AND RECORDED IN PLAN BOOK 204, PAGE 895
- 7) RECORDING PLAT OF SMALL'S BROOK CROSSING SUBDIVISION MADE BY LAND USE CONSULTANTS, DATED OCTOBER 14, 1991 AND REVISED THROUGH OCTOBER 7, 1992 AND RECORDED IN PLAN BOOK 192, PAGE 312-314.

ZONING	RR1 AND SENIOR HOUSING COMMUNITY (SHC) OVERLAY DISTRICT	
STANDARD	REQUIRED	PROVIDED
	SHC	
MIN. LOT AREA (AC)	5 AC	36.83 (1)
MIN. FRONTAGE (FT)	0	50
SETBACKS:		
A. EDGE PAVED ROAD	25	25+
B. BETWEEN STRUCTURES	20	20+
C. DEVELOPMENT PROPERTY LINE	30	50+
MAXIMUM DENSITY (LAND AREA/UNIT) (B.)	10,000	30,852
MAX. ALLOWABLE UNITS (2)	160	52
OPEN SPACE	20% (7.4 AC.)	78% (28.8 AC.)
MAX. STRUCTURE HEIGHT (FT.)	40	40 (4.)
PERIMETER BUFFER (FT.)	50	50
NOTES:		
1. ACCESS EASEMENT IS 1.67 AC. -TOTAL "PROJECT" = 38.50 ACRES		
PROJECT EXCLUDES 2.8 ACRE ALLEN OUT-LOT		
2. NOT INCLUDING PROPOSED COMMUNITY CENTER		
3. DENSITY BASED ON LOT AREA OF 36.83 AC. NOT INCLUDING ACCESS ESMT.		
4. TYPICAL COTTAGE HEIGHTS ARE 23 FEET+/- NO BUILDING SHALL EXCEED 40 FT.		

State of Maine, Cumberland ss  
Registry of Deeds  
Received \_\_\_\_\_ 20\_\_\_\_  
at \_\_\_\_h\_\_\_\_m\_\_\_\_M and recorded in  
Plan Book \_\_\_\_\_ Page \_\_\_\_  
Attest: \_\_\_\_\_  
Register

Approved by the Town of  
Cumberland Planning Board

dated \_\_\_\_\_

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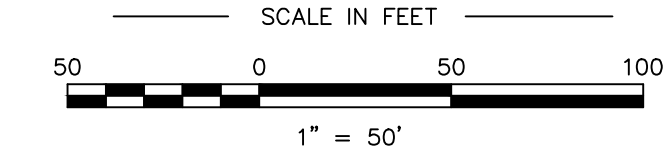
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S-4 Sheet 4 of 4

CERTIFICATION

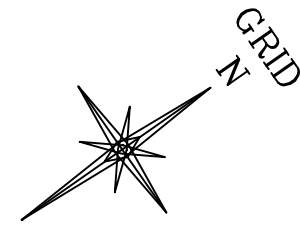
This survey conforms to the current standards of practice set forth by the Maine State Board of Licensure for Land Surveyors.

Rex J. Croteau, P.L.S. #2273

Rev. 3	03/02/18	miscellaneous staff comment revisions	RJC
Rev. 2	02/21/18	additional feature locations	JS
Rev. 1	01/30/18	Allen lot, design revisions	RJC
SUBDIVISION PLAN			
Oceanview at Cumberland			
Tuttle Road		Cumberland, Maine	
MADE FOR			
Oceanview at Cumberland LLC			
20 Blueberry Lane		Falmouth, Maine	
JOB #89076	DATE: December 26, 2017	SCALE: 1" = 50'	
BOOK #898	 <b>Titcomb Associates</b> 133 Gray Road, Falmouth, Maine 04105 (207)797-9199 www.titcombsurvey.com		
89076_2016.dwg			

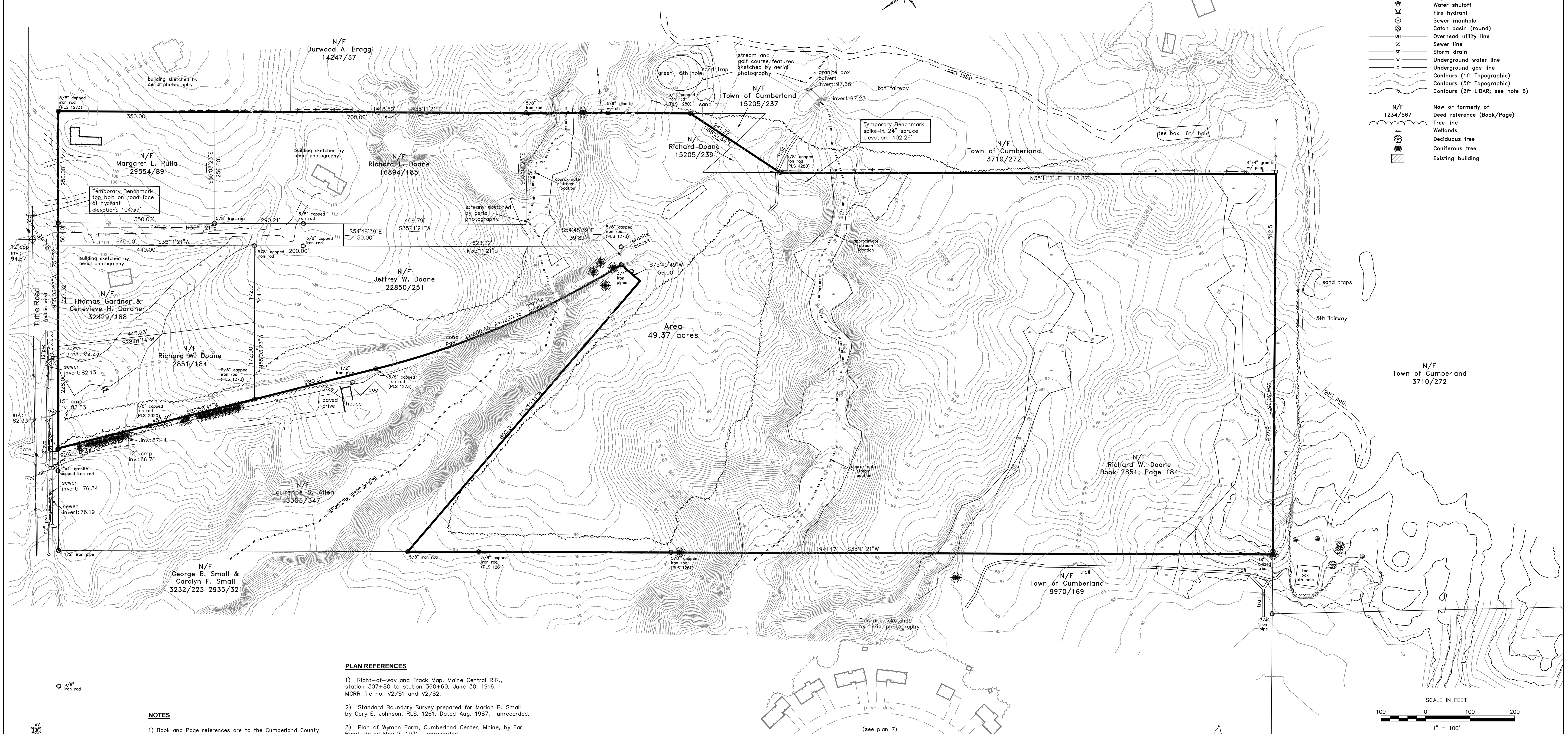


# PRELIMINARY



## LEGEND

	Monument - found
	Iron marker - found
	Property line (locus)
	Property line (abutter)
	Fence
	Edge of pavement
	Edge of gravel
	Curb
	Sign
	Utility pole
	Guy wire
	Water shutoff
	Fire hydrant
	Sewer manhole
	Catch basin (round)
	Overhead utility line
	Sewer line
	Storm drain
	Underground water line
	Underground gas line
	Contours (1ft Topographic)
	Contours (5ft Topographic)
	Contours (2ft LIDAR; see note 6)
	Now or formerly of Deed reference (Book/Page)
	Tree line
	Wetlands
	Deciduous tree
	Coniferous tree
	Existing building



## PLAN REFERENCES

- Right-of-way and Track Map, Maine Central R.R., station 307+80 to station 360+60, June 30, 1916. MCRF file no. V2/S1 and V2/S2.
- Standard Boundary Survey prepared for Marion B. Small by Gary E. Johnson, RLS. 1261, Dated Aug. 1987. unrecorded.
- Plan of Wyman Farm, Cumberland Center, Maine, by Earl Rand, dated May 2, 1931. unrecorded.
- Plan of Tuttle Road in Cumberland from Cumberland Center to Federal Road, surveyed Oct. 11, 1926 by WM. E. Winslow. recorded in the Cumberland County commissioners Plan Book 5, Page 2.
- Original Lotting Plan of North Yarmouth, recorded in the Cumberland County Registry of Deeds, Plan Book 24, Page 14. Cumberland County Registry of Deeds in Plan Book 203, Page 82.
- Amended Plan of Private Way made for Richard Doane by Titcomb Associates dated May 7, 1990 and revised through Nov. 11, 2009 and recorded in Plan Book 204, Page 895.
- Recording Plat of Small's Brook Crossing Subdivision made by Land Use Consultants, dated October 14, 1991 and revised through October 7, 1992 and recorded in Plan Book 192, Page 312-314.

## EASEMENTS / ENCUMBRANCES

- Subject to an access easement over Catalpa Lane granted to Richard L. Doane, further described in Book 16894, Page 185.
- Subject to an access easement over Catalpa Lane granted to Jeffrey W. Doane, further described in Book 22850, Page 251.
- Subject to an access easement over the first 100 feet of Catalpa Lane granted to Genevieve Hatcher Gardner and Thomas Gardner, further described in Book 32429, Page 188.
- Subject to a Private Way Maintenance Agreement over Catalpa Lane further described in Book 32429, Page 191.
- Subject to a utility easement for poles, wires and other accessories granted to Central Maine Power Company and Verizon New England further described in Book 19954, Page 199.

## OWNER OF RECORD

Richard W. Doane  
Book 2851, Page 184  
Book 15205, Page 239

## CERTIFICATION

This survey conforms to the current standards of practice set forth by the Maine State Board of Licensure for Land Surveyors.

Rex J. Croteau, P.L.S. #2273

EC-1

## PLAN OF Existing Conditions Survey

Tuttle Road Cumberland, Maine

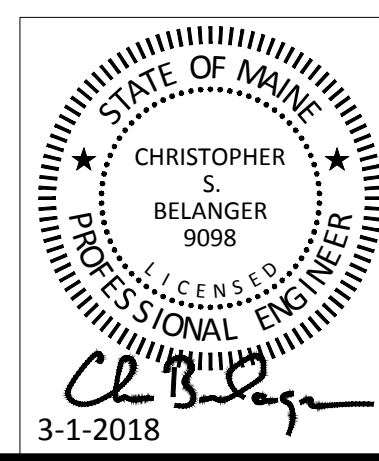
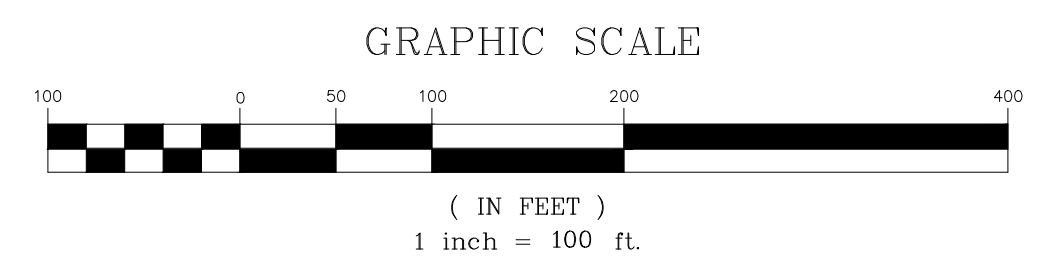
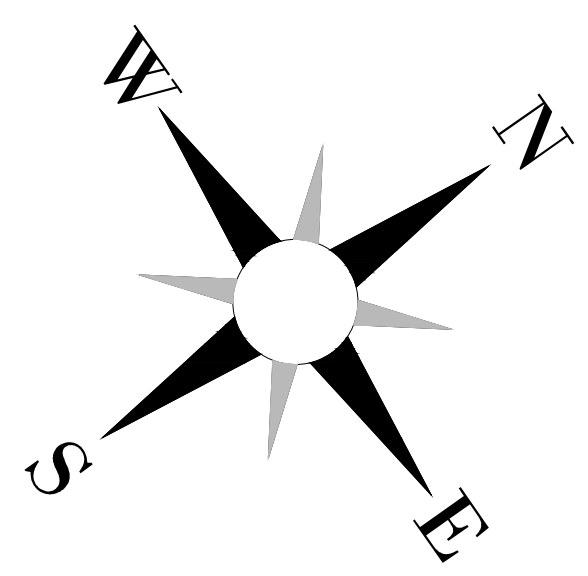
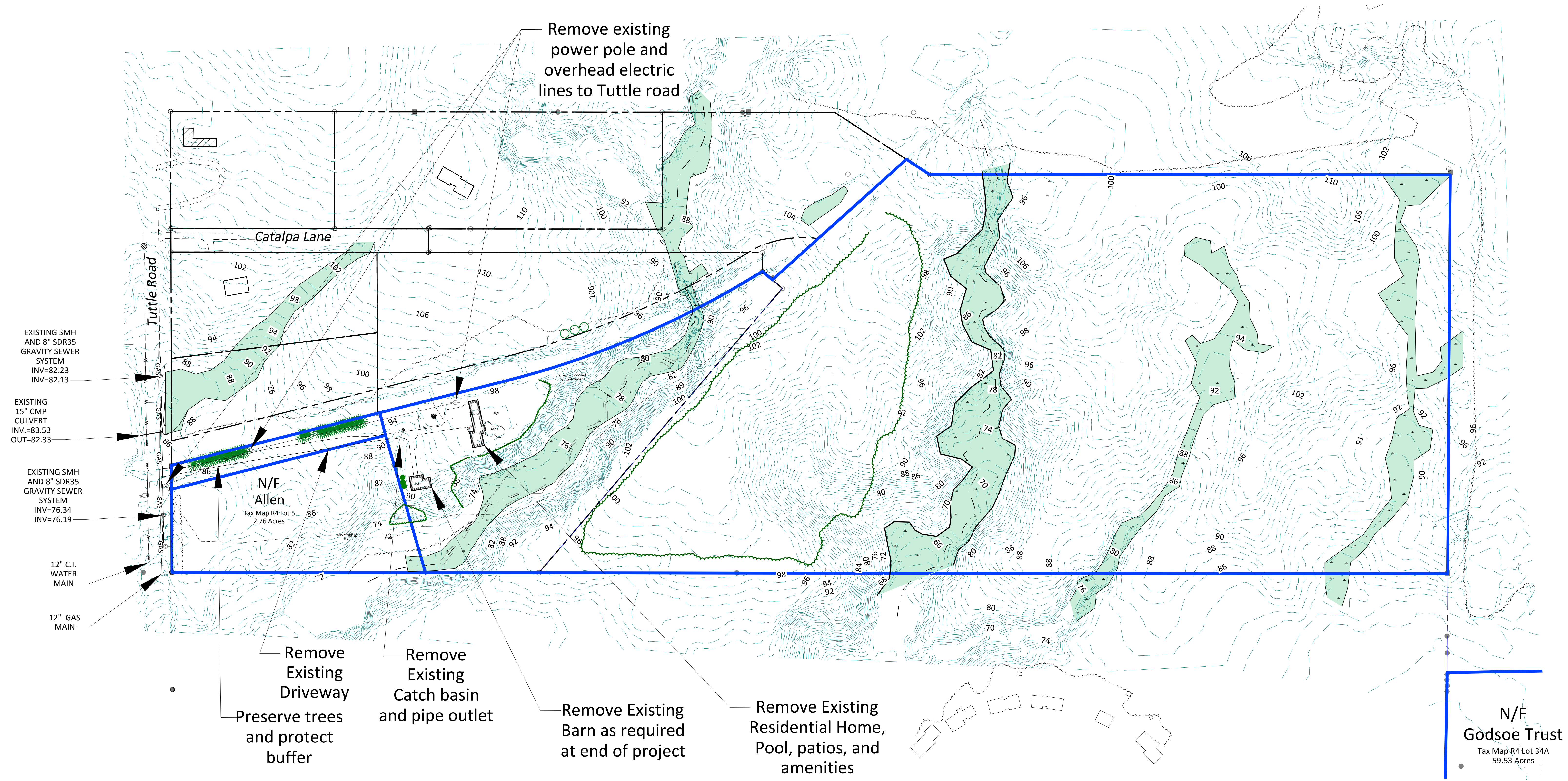
## MADE FOR Oceanview at Cumberland

Tuttle Road Cumberland, Maine

JOB #89076	DATE: December 26, 2017	SCALE: 1" = 100'
BOOK #898		
89076_2016.dwg		

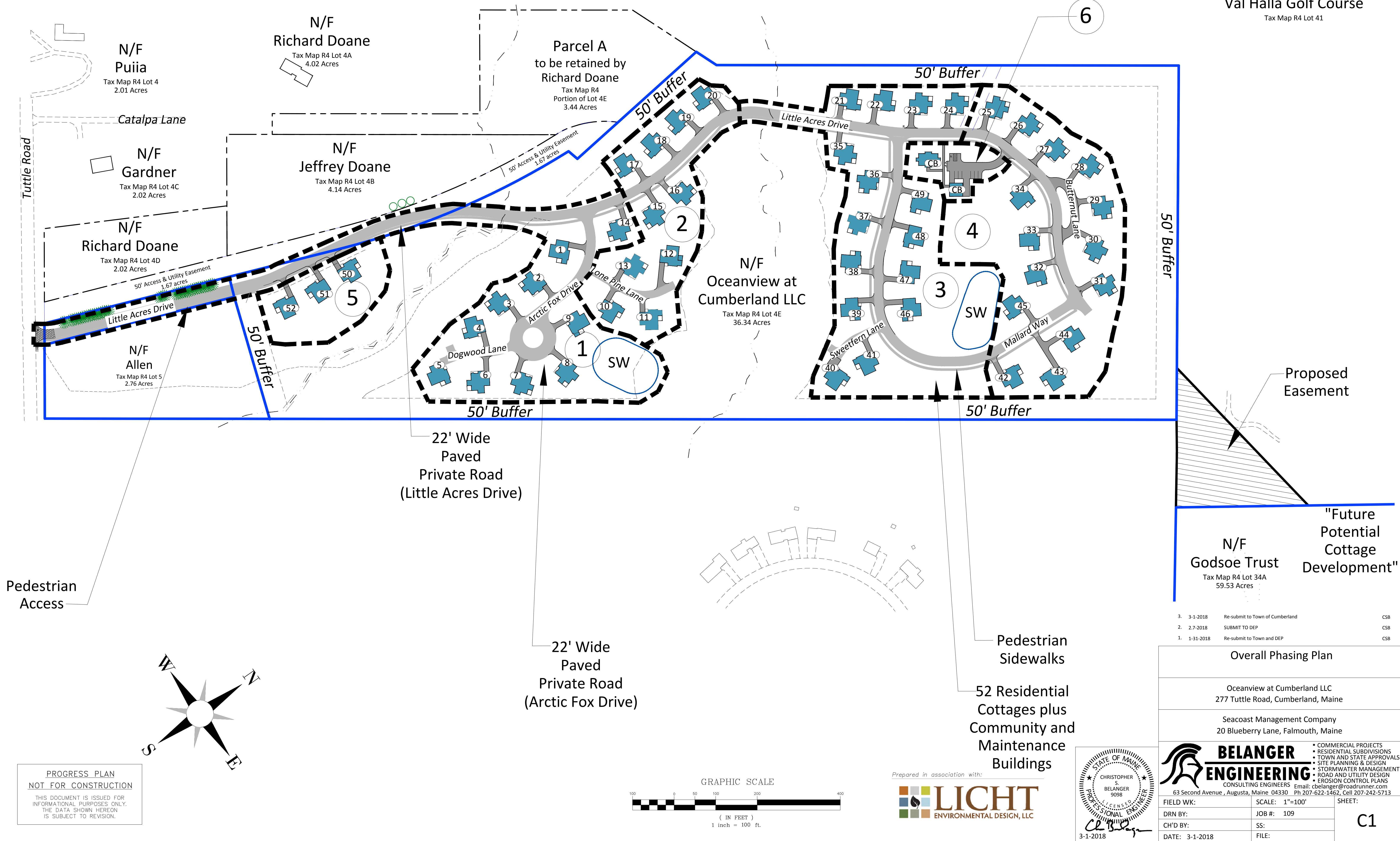
**Titcomb Associates**  
133 Gray Road, Falmouth, Maine 04105  
(207)797-9199 www.titcombsurvey.com





3. 3-1-2018 Re-submit to Town of Cumberland CSB		
2. 2-7-2018 SUBMIT TO DEP CSB		
1. 1-31-2018 Re-submit to Town and DEP CSB		
<b>Existing Conditions and Removals Plan</b>		
Oceanview at Cumberland LLC 277 Tuttle Road, Cumberland, Maine		
Seacoast Management Company 20 Blueberry Lane, Falmouth, Maine		
<b>BELANGER ENGINEERING</b> CONSULTING ENGINEERS 63 Second Avenue, Augusta, Maine 04330 Email: cbelanger@roadrunner.com Ph 207-622-1462, Cell 207-242-5713		
FIELD WK:	SCALE: 1"=100'	SHEET: <b>T1</b>
DRN BY:	JOB #: 109	
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	





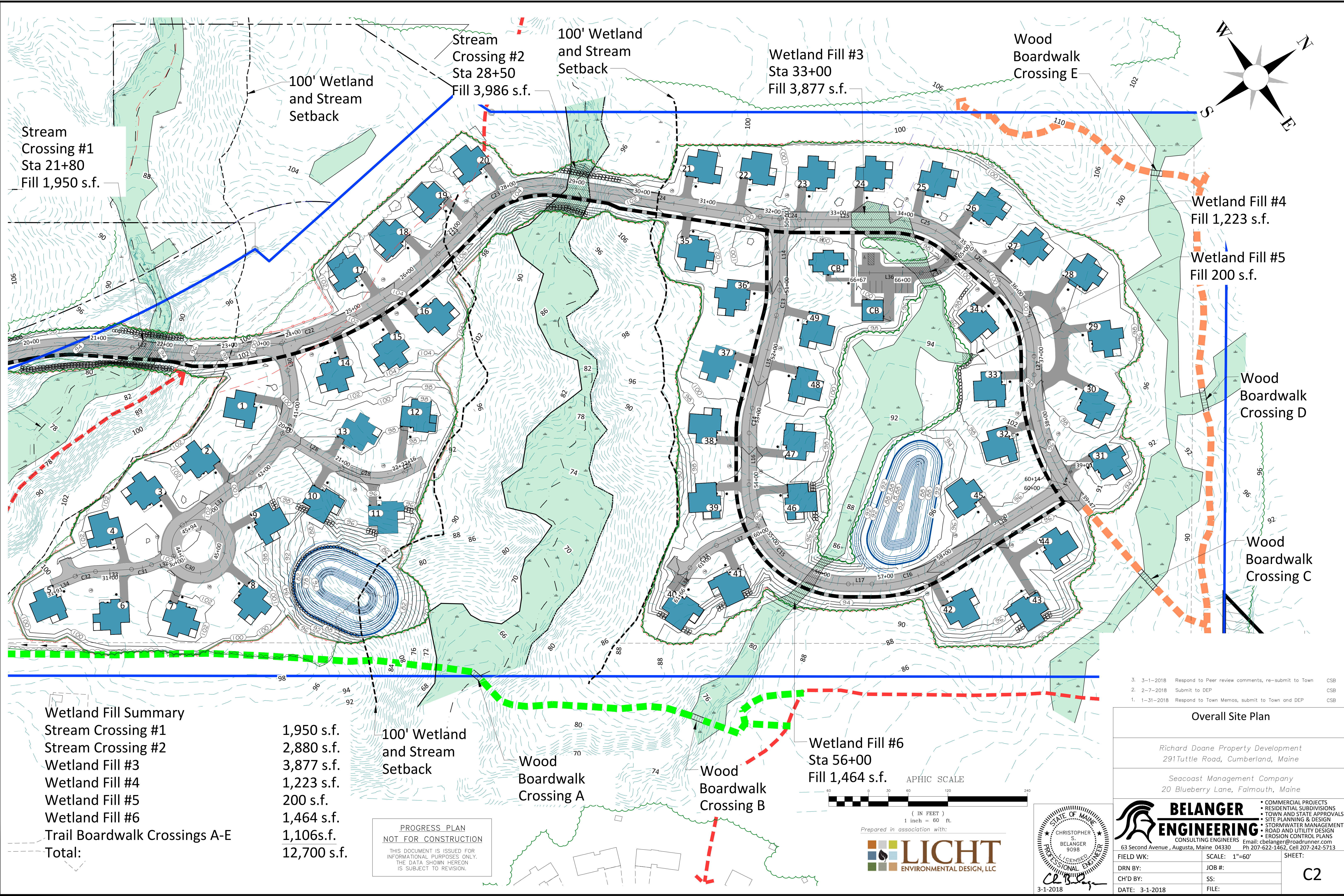
3.	3-1-2018	Re-submit to Town of Cumberland	CSB
2.	2-7-2018	SUBMIT TO DEP	CSB
1.	1-31-2018	Re-submit to Town and DEP	CSB

Overall Phasing Plan		
Oceanview at Cumberland LLC 277 Tuttle Road, Cumberland, Maine		
Seacoast Management Company 20 Blueberry Lane, Falmouth, Maine		
<b>BELANGER ENGINEERING</b> CONSULTING ENGINEERS 63 Second Avenue, Augusta, Maine 04330 Ph 207-622-1462, Cell 207-242-5713		
FIELD WK:	SCALE: 1"=100'	SHEET: <b>C1</b>
DRN BY:	JOB #: 109	
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	

Prepared in association with:  
**LICHT**  
ENVIRONMENTAL DESIGN, LLC

3-1-2018





Stream Crossing #1  
Sta 21+80  
Fill 1,950 s.f.

100' Wetland and Stream Setback

Stream Crossing #2  
Sta 28+50  
Fill 3,986 s.f.

100' Wetland and Stream Setback

Wetland Fill #3  
Sta 33+00  
Fill 3,877 s.f.

Wood Boardwalk Crossing E

Wetland Fill #4  
Fill 1,223 s.f.

Wetland Fill #5  
Fill 200 s.f.

Wood Boardwalk Crossing D

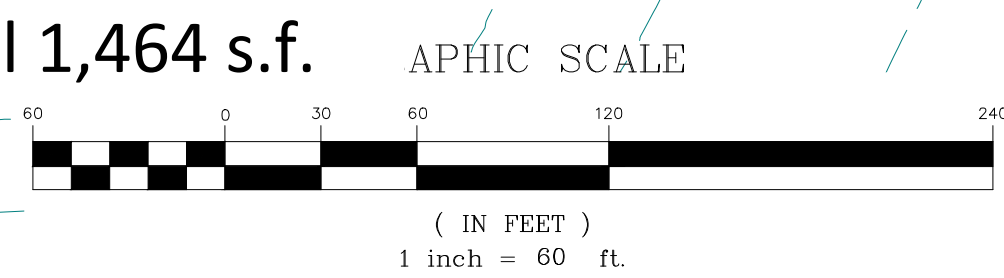
Wood Boardwalk Crossing C

Wetland Fill Summary

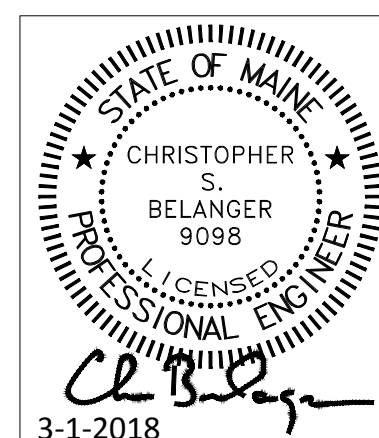
Stream Crossing #1	1,950 s.f.
Stream Crossing #2	2,880 s.f.
Wetland Fill #3	3,877 s.f.
Wetland Fill #4	1,223 s.f.
Wetland Fill #5	200 s.f.
Wetland Fill #6	1,464 s.f.
Trail Boardwalk Crossings A-E	1,106s.f.
Total:	12,700 s.f.

PROGRESS PLAN  
NOT FOR CONSTRUCTION  
THIS DOCUMENT IS ISSUED FOR INFORMATIONAL PURPOSES ONLY.  
THE DATA SHOWN HEREON IS SUBJECT TO REVISION.

Wetland Fill #6  
Sta 56+00  
Fill 1,464 s.f.



Prepared in association with:



3. 3-1-2018 Respond to Peer review comments, re-submit to Town CSB  
2. 2-7-2018 Submit to DEP CSB  
1. 1-31-2018 Respond to Town Memos, submit to Town and DEP CSB

Overall Site Plan

Richard Doane Property Development  
291 Tuttle Road, Cumberland, Maine

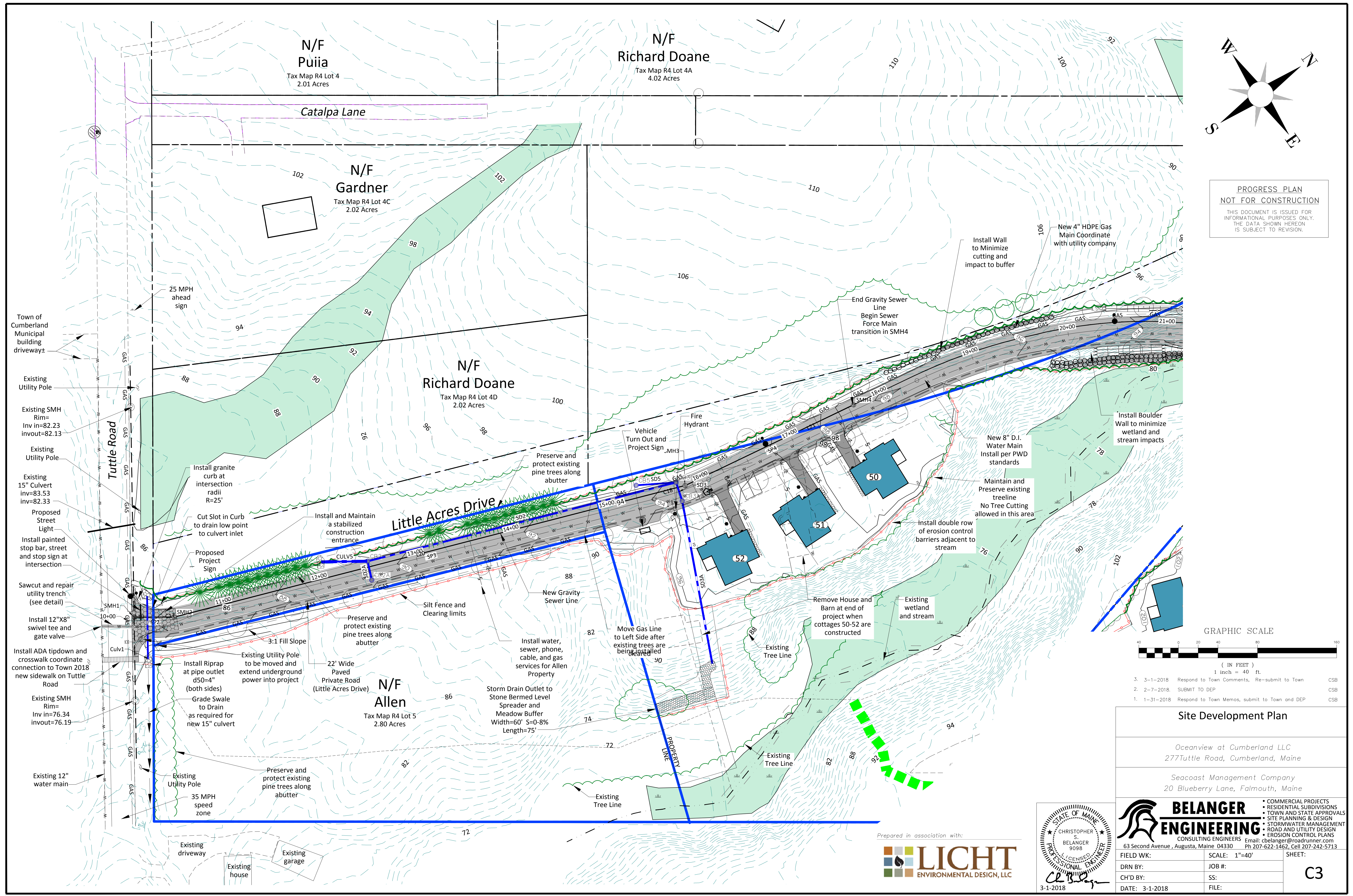
Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine

**BELANGER ENGINEERING**  
CONSULTING ENGINEERS  
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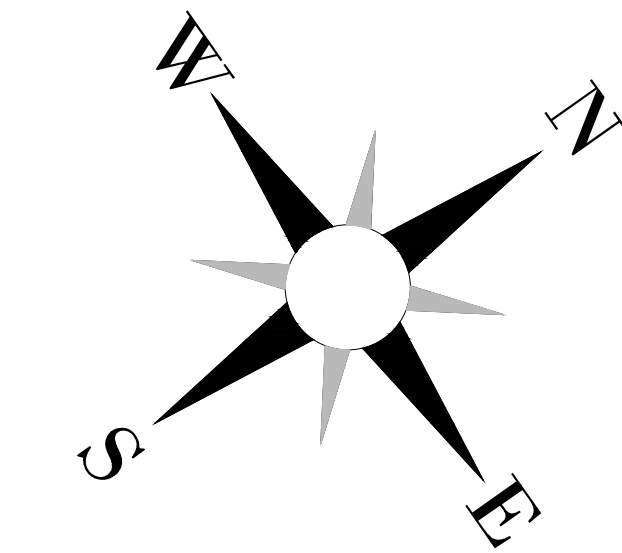
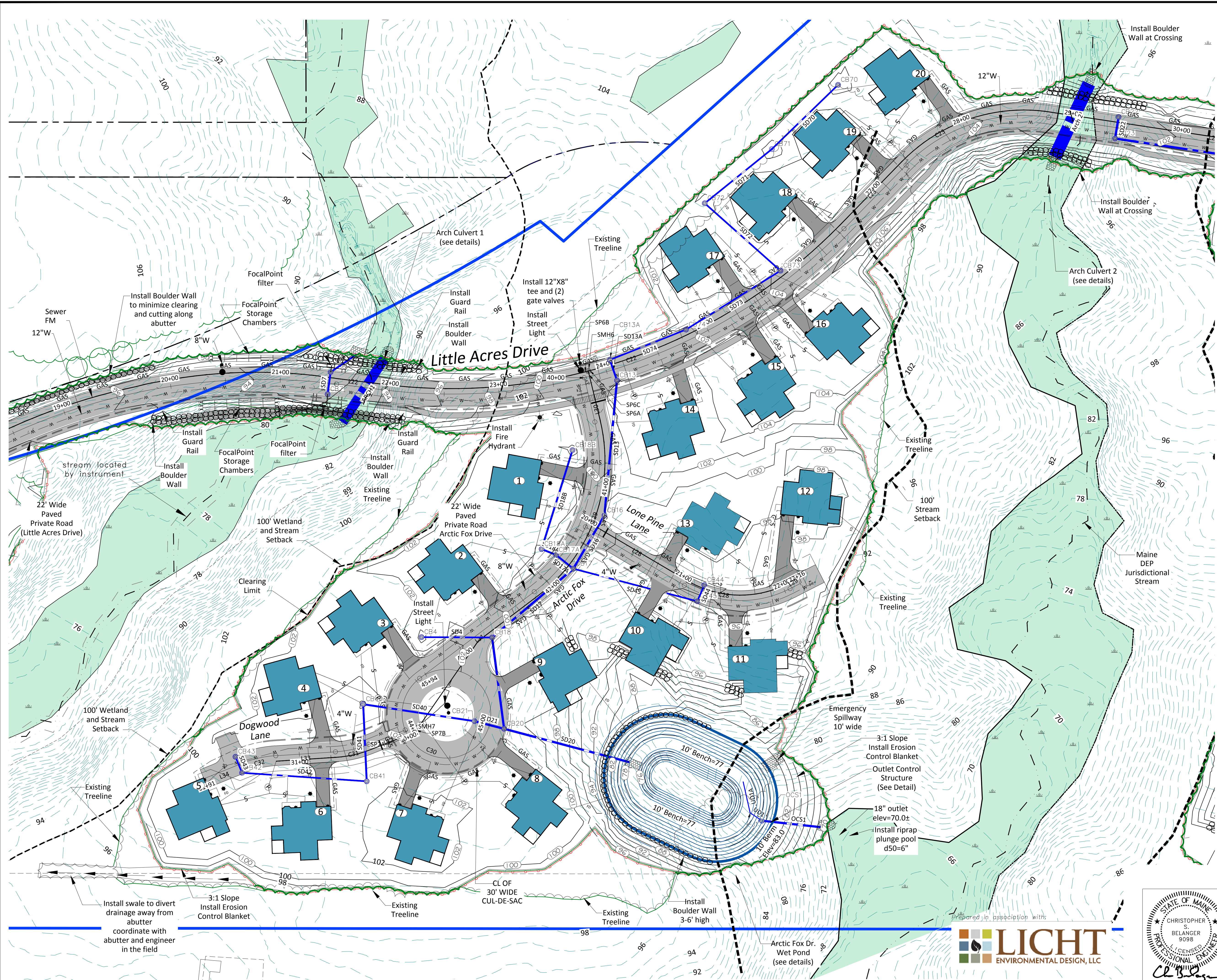
- COMMERCIAL PROJECTS
- RESIDENTIAL SUBDIVISIONS
- TOWN AND STATE APPROVALS
- SITE PLANNING & DESIGN
- STORMWATER MANAGEMENT
- ROAD AND UTILITY DESIGN
- EROSION CONTROL PLANS

FIELD WK:	SCALE: 1"=60'	SHEET:
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CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	

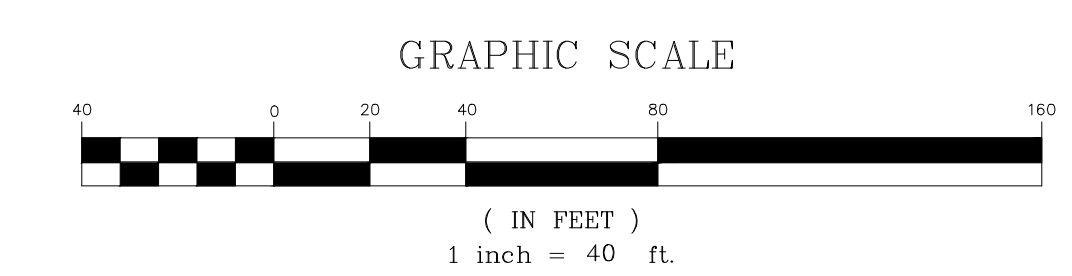








PROGRESS PLAN  
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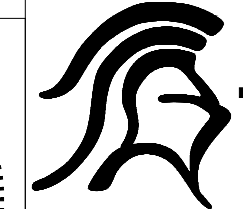


- |    |           |   |     |
|----|-----------|---|-----|
| 3. | 3-1-2018  | Respond to Town Comments                      | CSB |
| 2. | 2-7-2018  | SUBMIT TO DEP                                 | CSB |
| 1. | 1-31-2018 | Respond to Town Memos, submit to Town and DEP | CSB |

Site Development Plan

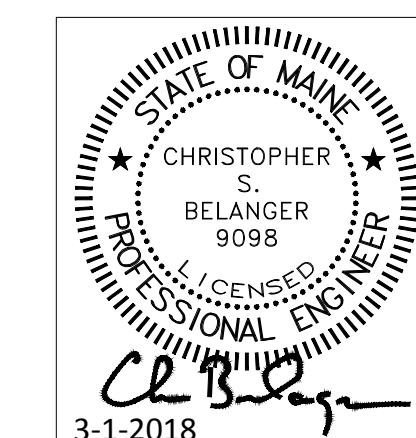
Oceanview at Cumberland LLC  
277 Tuttle Road, Cumberland, Maine

Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine



**BELANGER  
ENGINEERING**  
CONSULTING ENGINEERS  
63 Second Avenue, Augusta, Maine 04330  
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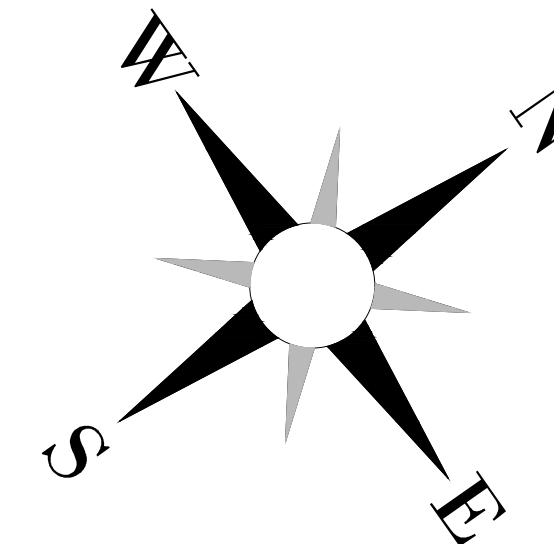
- COMMERCIAL PROJECTS
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- STORMWATER MANAGEMENT
- ROAD AND UTILITY DESIGN
- EROSION CONTROL PLANS



FIELD WK:	SCALE: 1"=40'	SHEET:
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CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	



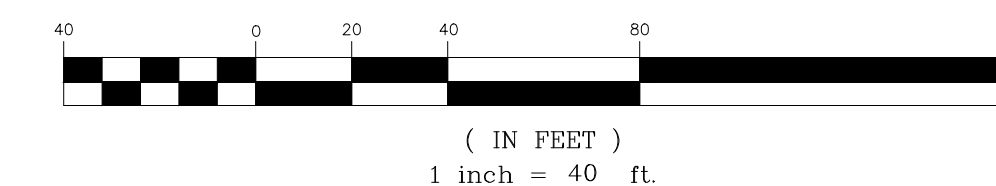
Install Sewer FM  
Service for  
Town Services  
on Golf Course



PROGRESS PLAN  
NOT FOR CONSTRUCTION

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THE DATA SHOWN HEREON  
IS SUBJECT TO REVISION.

GRAPHIC SCALE

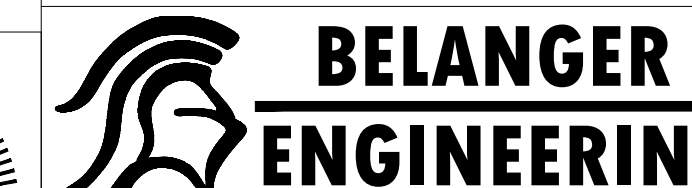


- 3-1-2018 Respond to Town Comments, re-submit to Town CSB
- 2-7-2018 SUBMIT TO DEP CSB
- 1-31-2018 Respond to Town Memos, submit to Town and DEP CSB

Site Development Plan

Oceanview at Cumberland LLC  
277 Tuttle Road, Cumberland, Maine

Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine

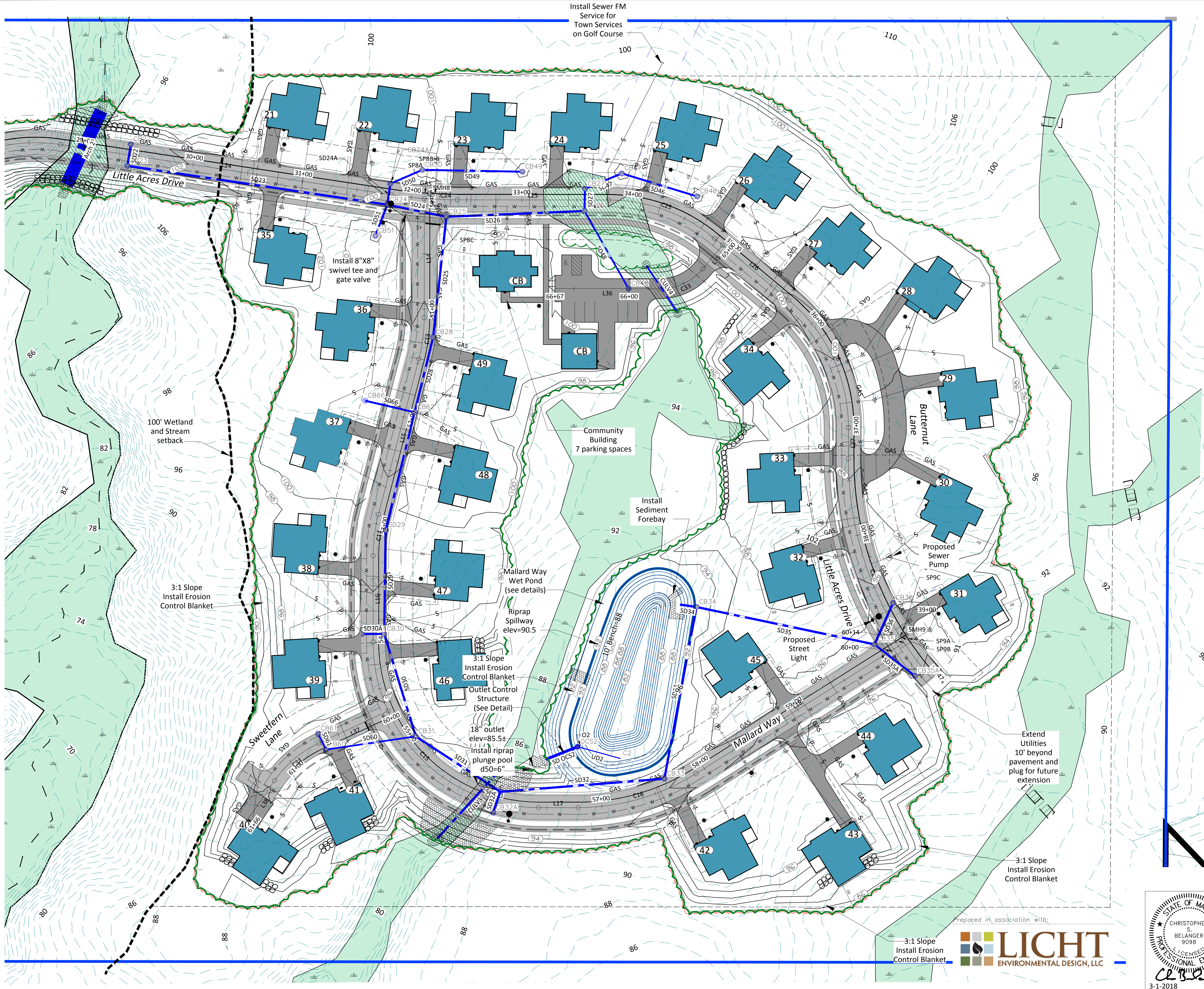
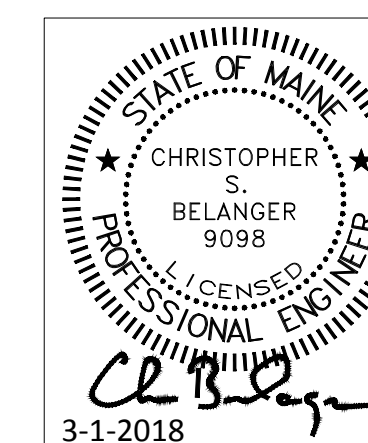


63 Second Avenue, Augusta, Maine 04330 Ph 207-622-1462, Cell 207-242-5713

FIELD WK:	SCALE: 1"=40'	SHEET:
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CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	

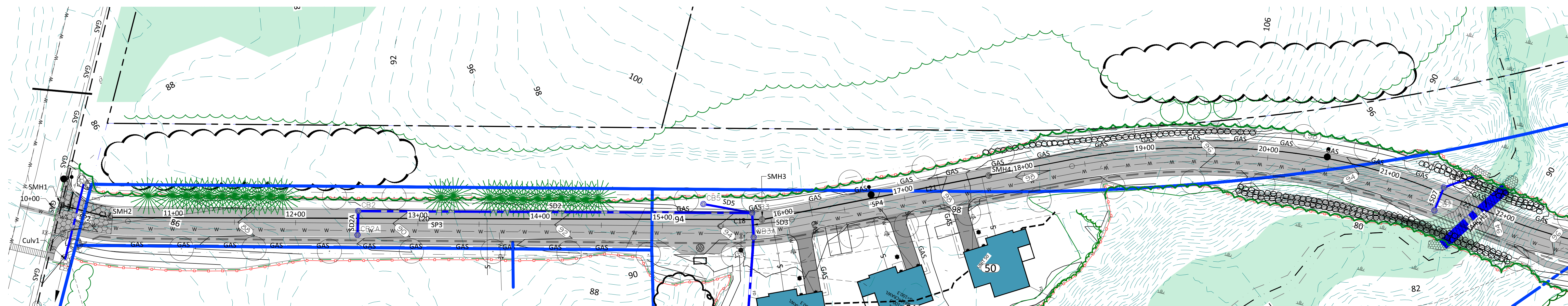
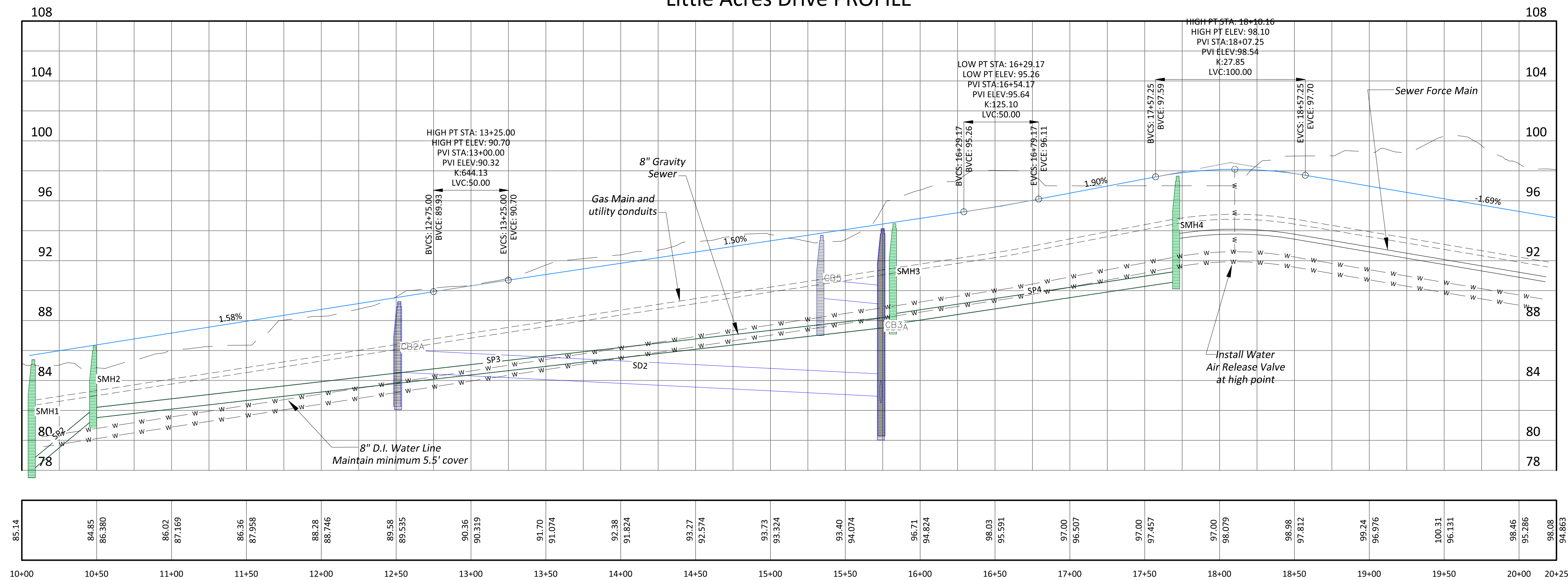
C5

Prepared in association with:  
**LICHT**  
ENVIRONMENTAL DESIGN, LLC





Little Acres Drive PROFILE

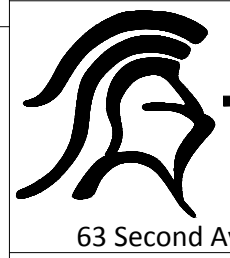


3.	3-1-2018	Respond to Town Comments. Re-submit to Town	CSB
2.	2-7-2018	SUBMIT TO DEP	CSB
1.	1-31-2018	Respond to Town Memos, submit to Town and DEP	CSB

Plan and Profile

Oceanview at Cumberland LLC  
277 Tuttle Road, Cumberland, Maine

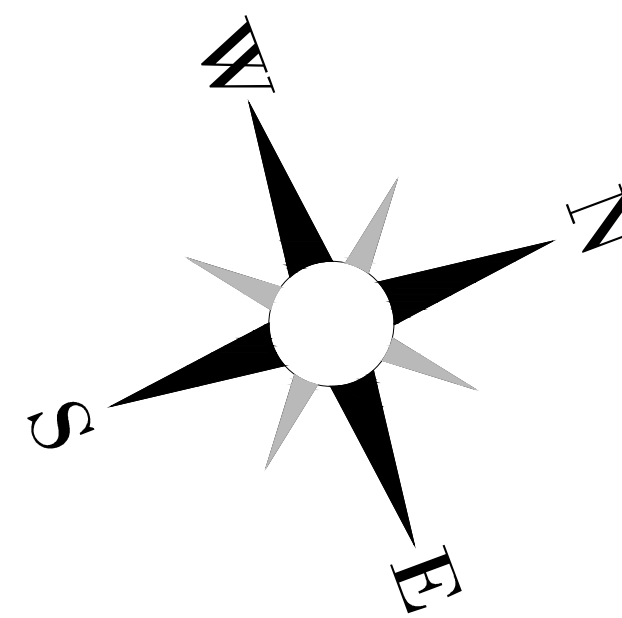
Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine



**BELANGER  
ENGINEERING**  
CONSULTING ENGINEERS  
63 Second Avenue, Augusta, Maine 04330 Ph 207-622-1462, Cell 207-242-5713

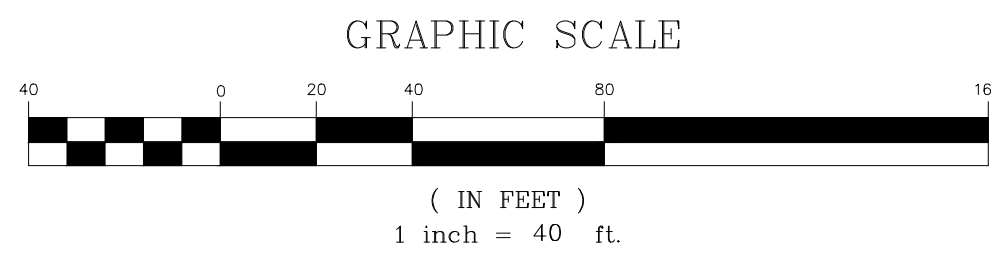
- COMMERCIAL PROJECTS
- RESIDENTIAL SUBDIVISIONS
- TOWN AND STATE APPROVALS
- SITE PLANNING & DESIGN
- STORMWATER MANAGEMENT
- ROAD AND UTILITY DESIGN
- EROSION CONTROL PLANS

FIELD WK:	SCALE: 1"=40'	SHEET:
DRN BY:	JOB #: 109	C6
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	

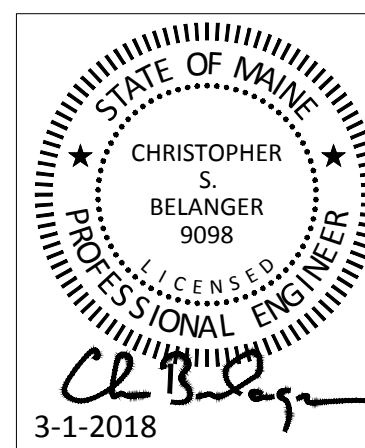


PROGRESS PLAN  
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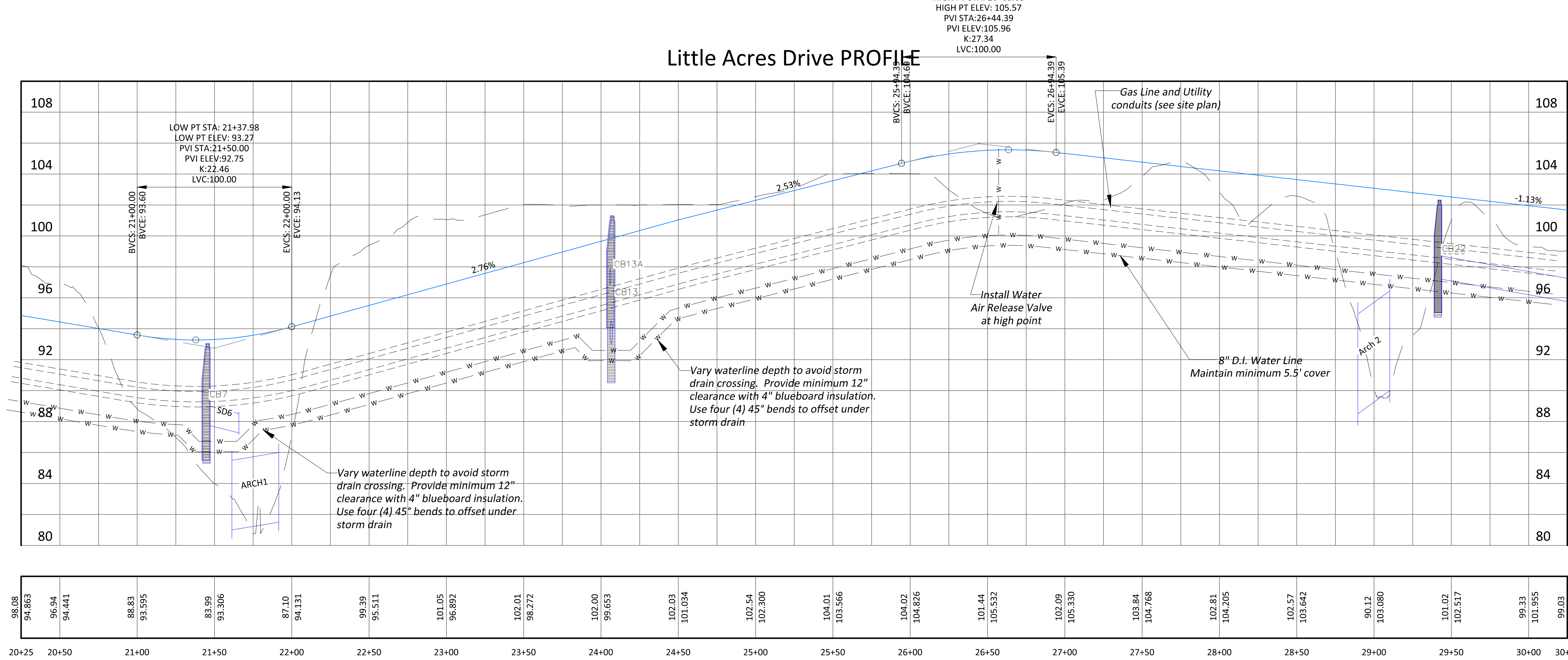


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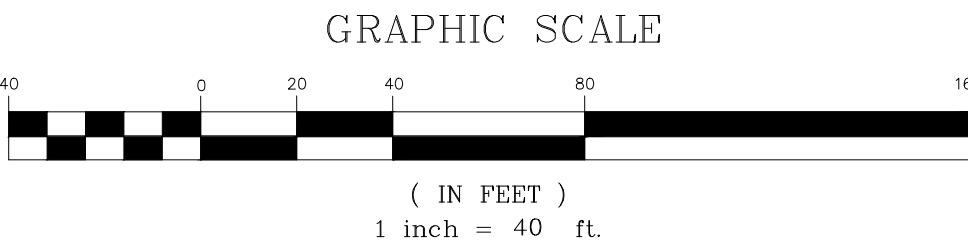
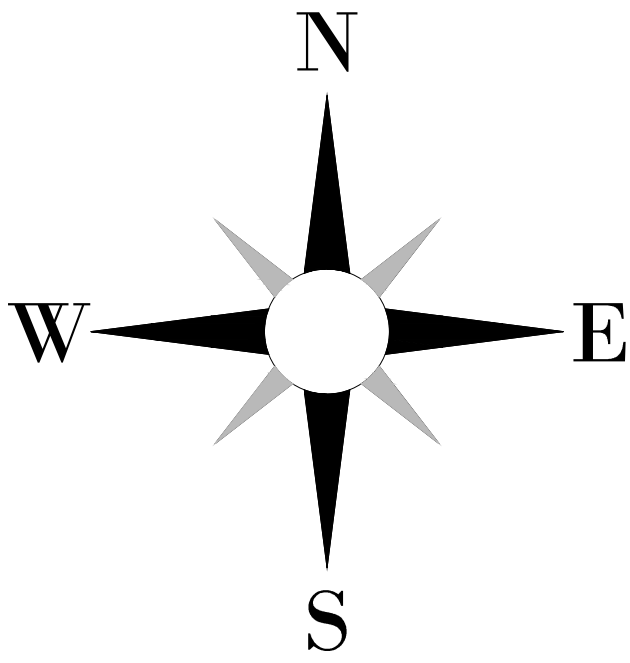
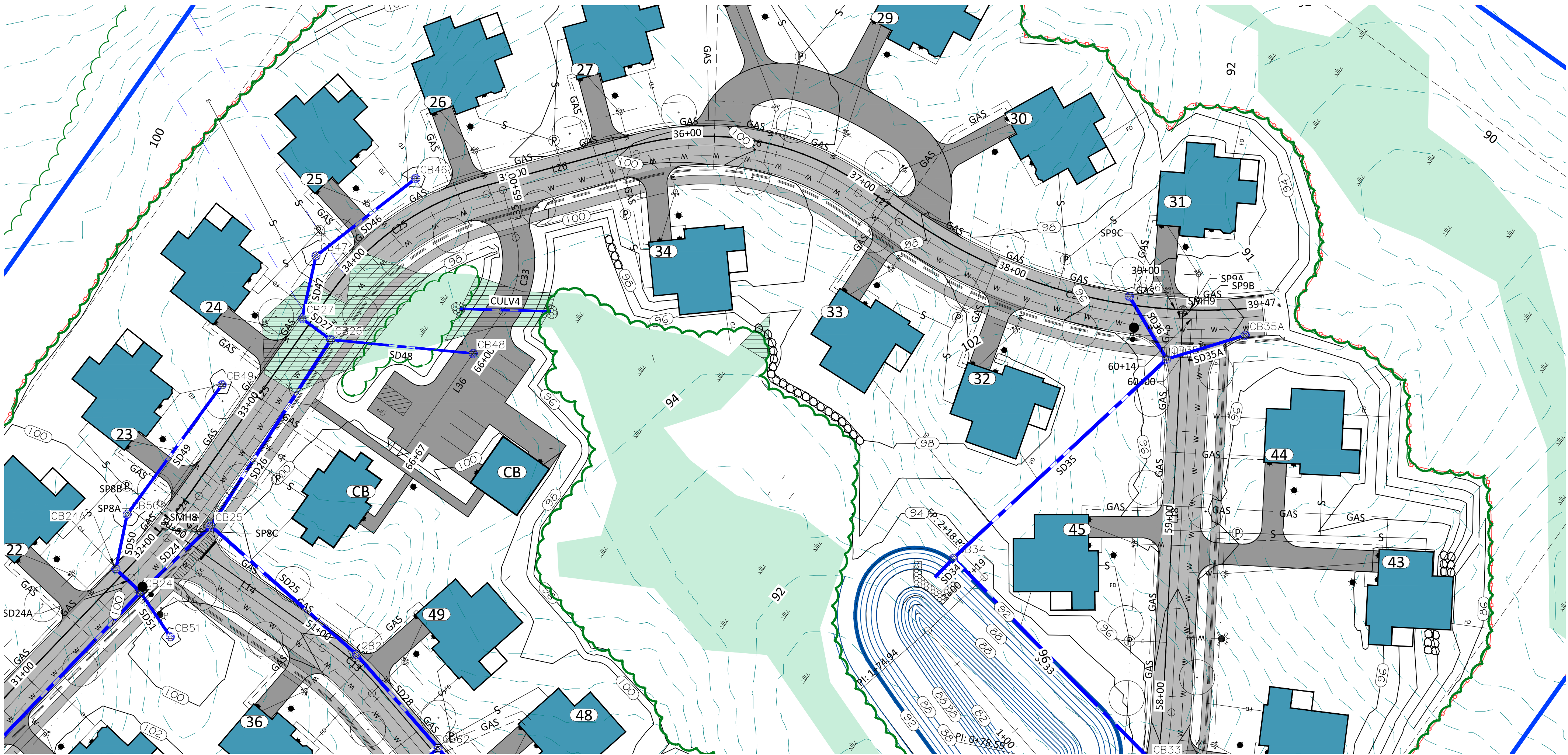
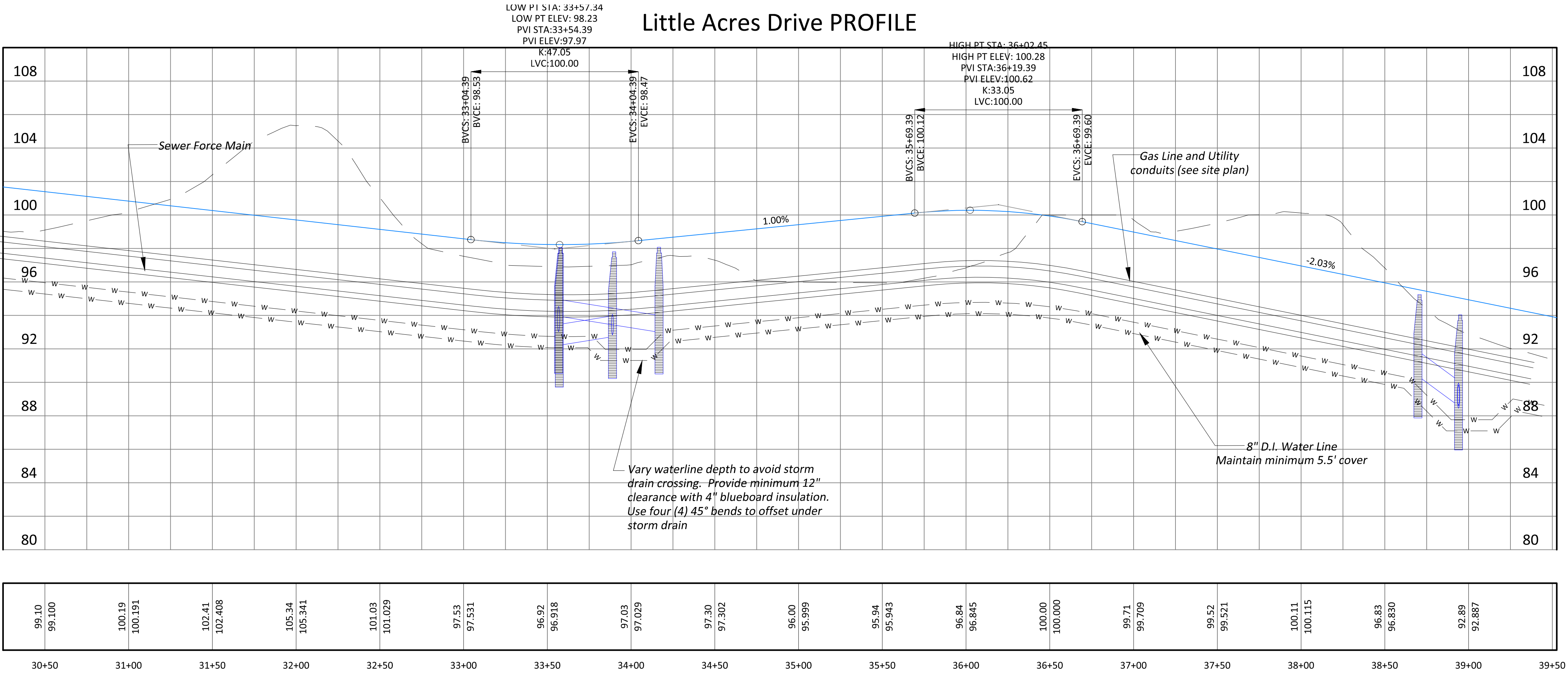


Little Acres Drive PROFILE





Little Acres Drive PROFILE



PROGRESS PLAN  
NOT FOR CONSTRUCTION

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- |    |           |   |     |
|----|-----------|---|-----|
| 3. | 3-1-2018  | Respond to Town Comments, Re-submit to Town   | CSB |
| 2. | 2-7-2018  | SUBMIT TO DEP                                 | CSB |
| 1. | 1-31-2018 | Respond to Town Memos, submit to Town and DEP | CSB |

Plan and Profile

Oceanview at Cumberland LLC  
277 Tuttle Road, Cumberland, Maine

Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine



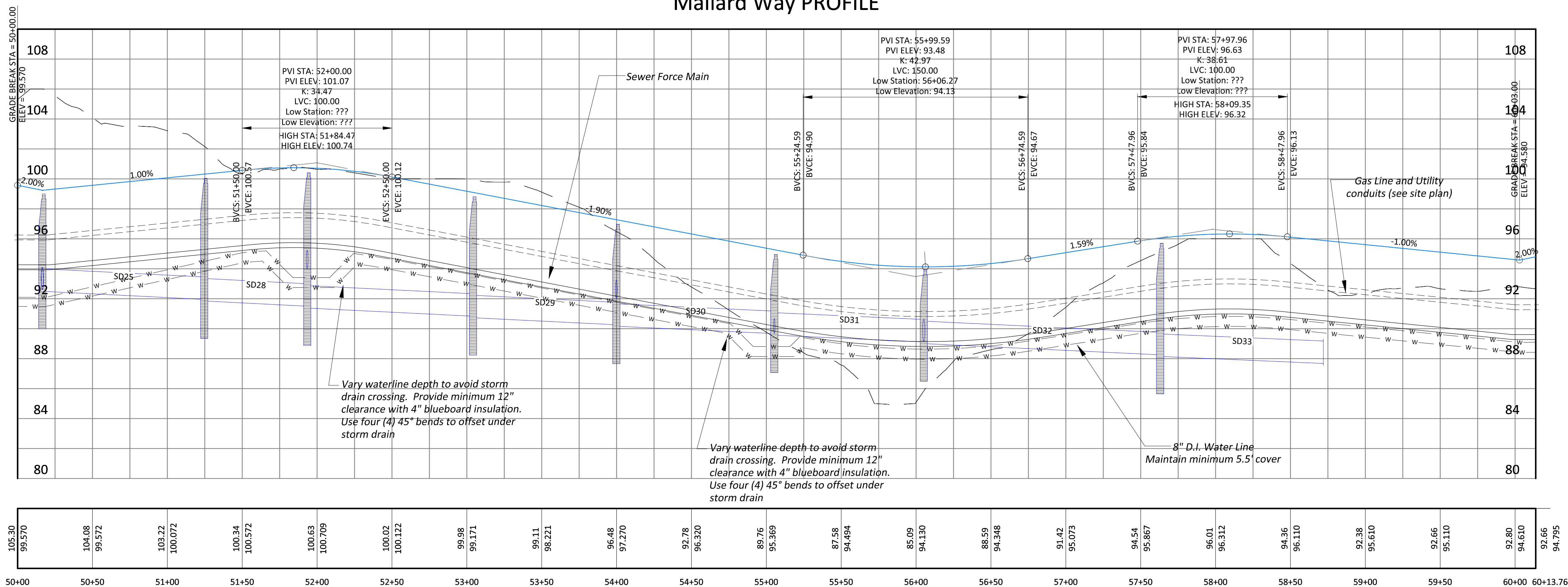
**BELANGER ENGINEERING**  
CONSULTING ENGINEERS  
63 Second Avenue, Augusta, Maine 04330 Ph 207-622-1462, Cell 207-242-5713  
Email: cbelanger@roadrunner.com

- COMMERCIAL PROJECTS
- RESIDENTIAL SUBDIVISIONS
- TOWN AND STATE APPROVALS
- SITE PLANNING & DESIGN
- STORMWATER MANAGEMENT
- ROAD AND UTILITY DESIGN
- EROSION CONTROL PLANS

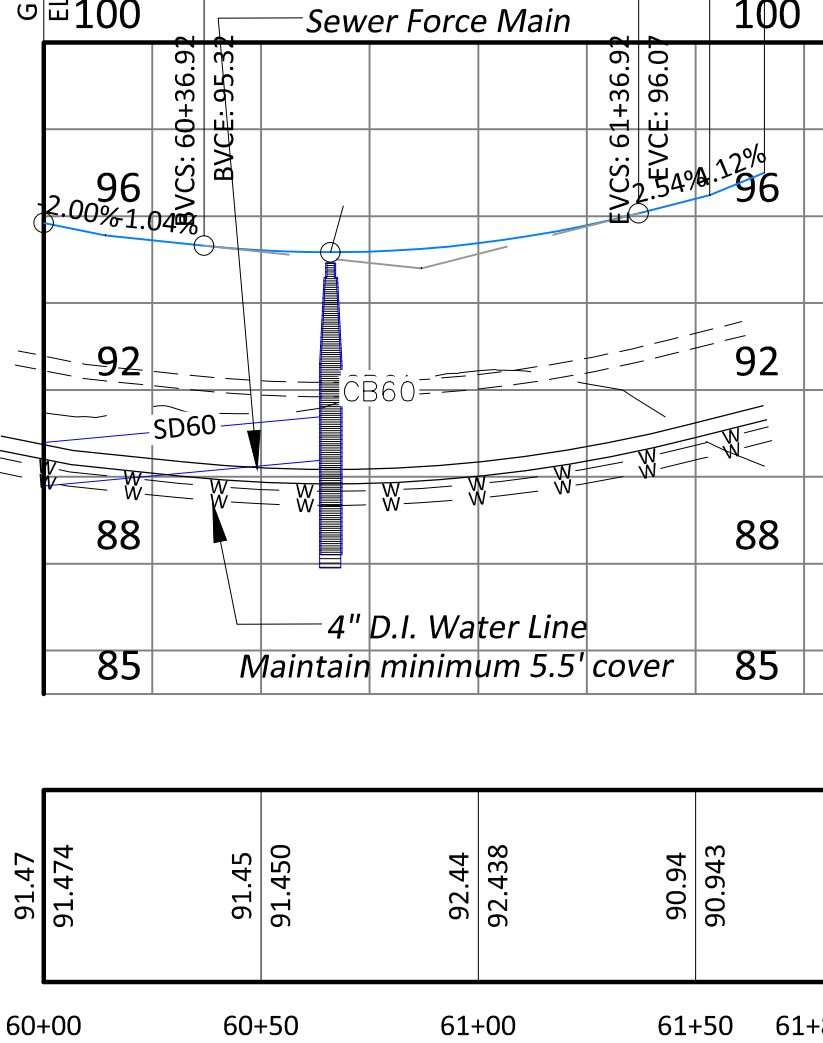
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CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	



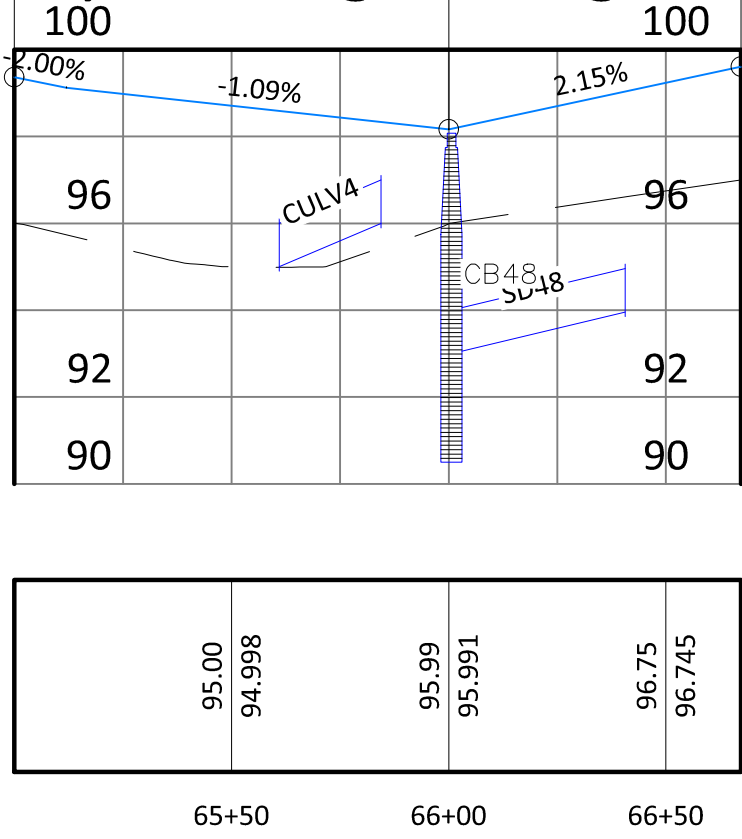
Mallard Way PROFILE



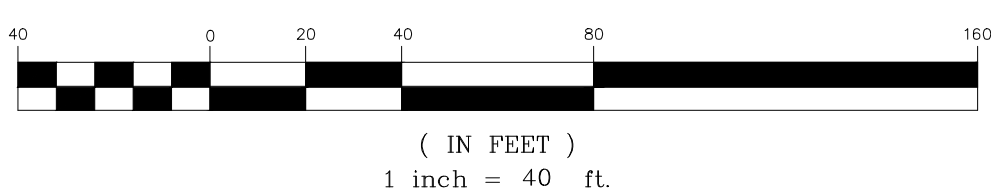
Sweet Fern Lane PROFILE



Community Building Parking Lot PROFILE



GRAPHIC SCALE



- |    |           |   |     |
|----|-----------|---|-----|
| 3. | 3-1-2018  | Respond to Town comments, re-submit to Town   | CSB |
| 2. | 2-7-2018  | SUBMIT TO MAINE DEP                           | CSB |
| 1. | 1-31-2018 | Respond to Town Memos, submit to Town and DEP | CSB |

Plan and Profile

Oceanview at Cumberland LLC  
277 Tuttle Road, Cumberland, Maine

Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine

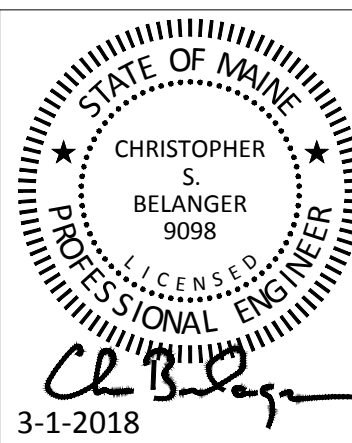
**BELANGER ENGINEERING**  
CONSULTING ENGINEERS  
63 Second Avenue, Augusta, Maine 04330 Ph 207-622-1462, Cell 207-242-5713  
Email: cbelanger@roadrunner.com

- COMMERCIAL PROJECTS
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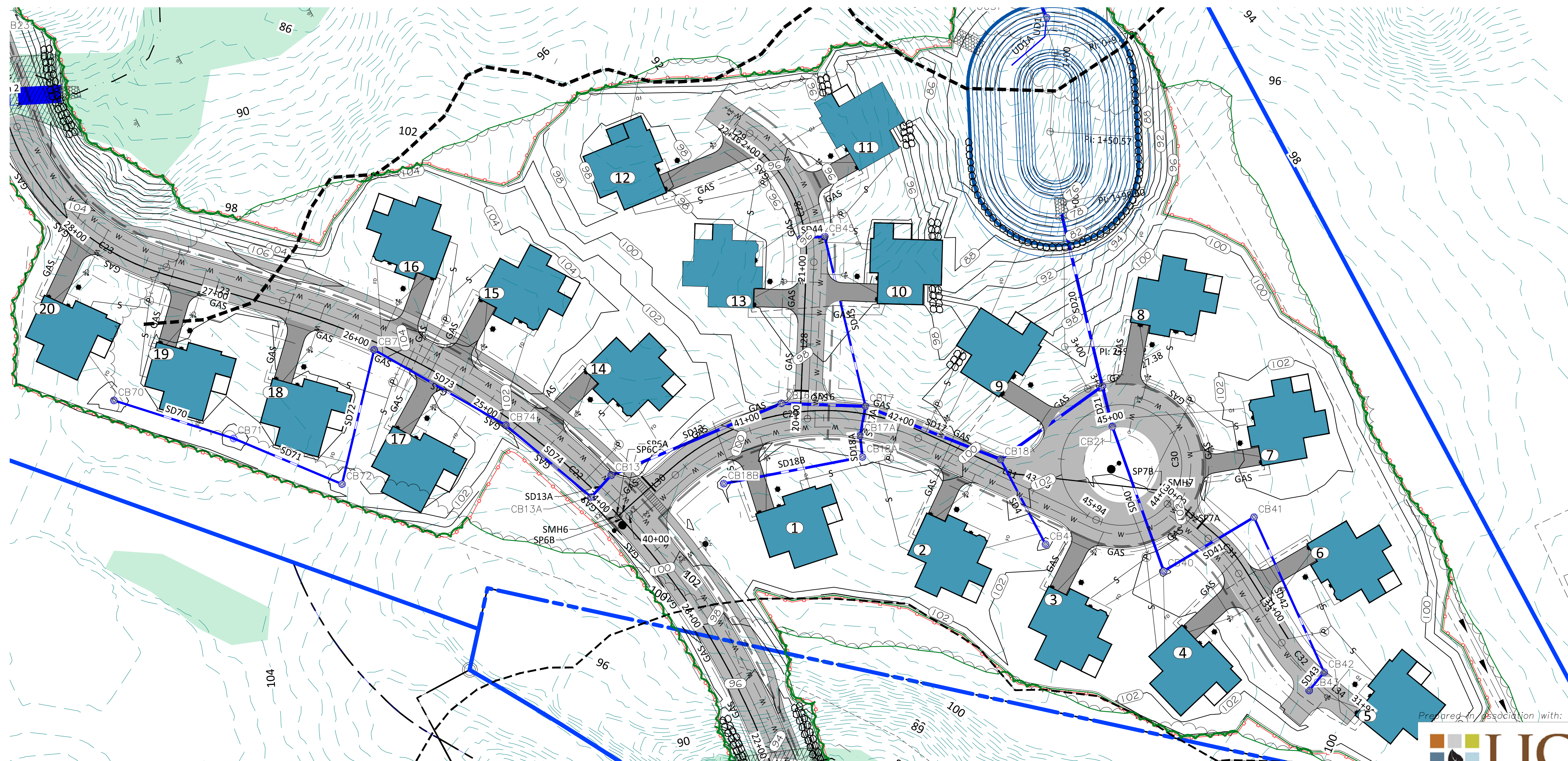
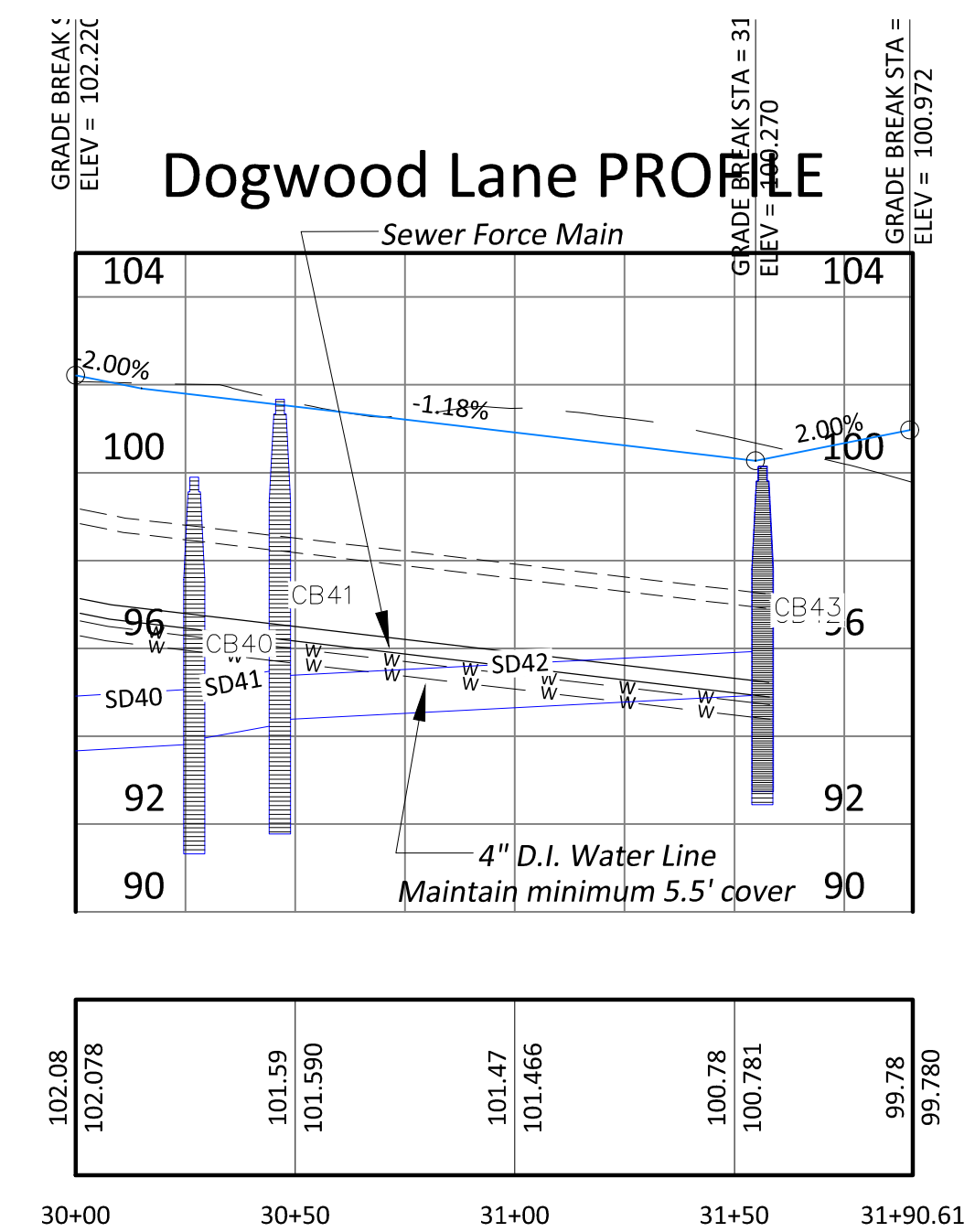
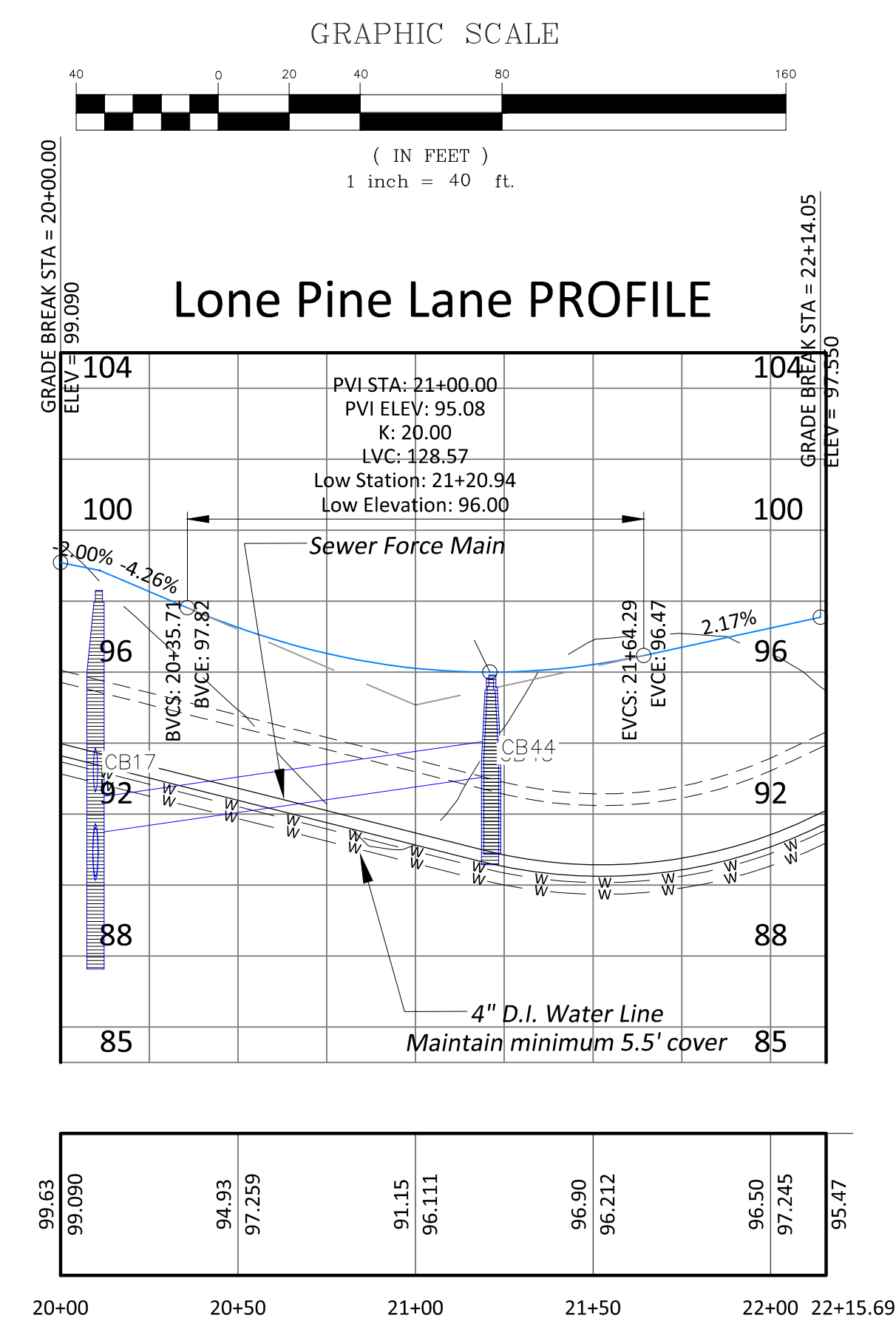
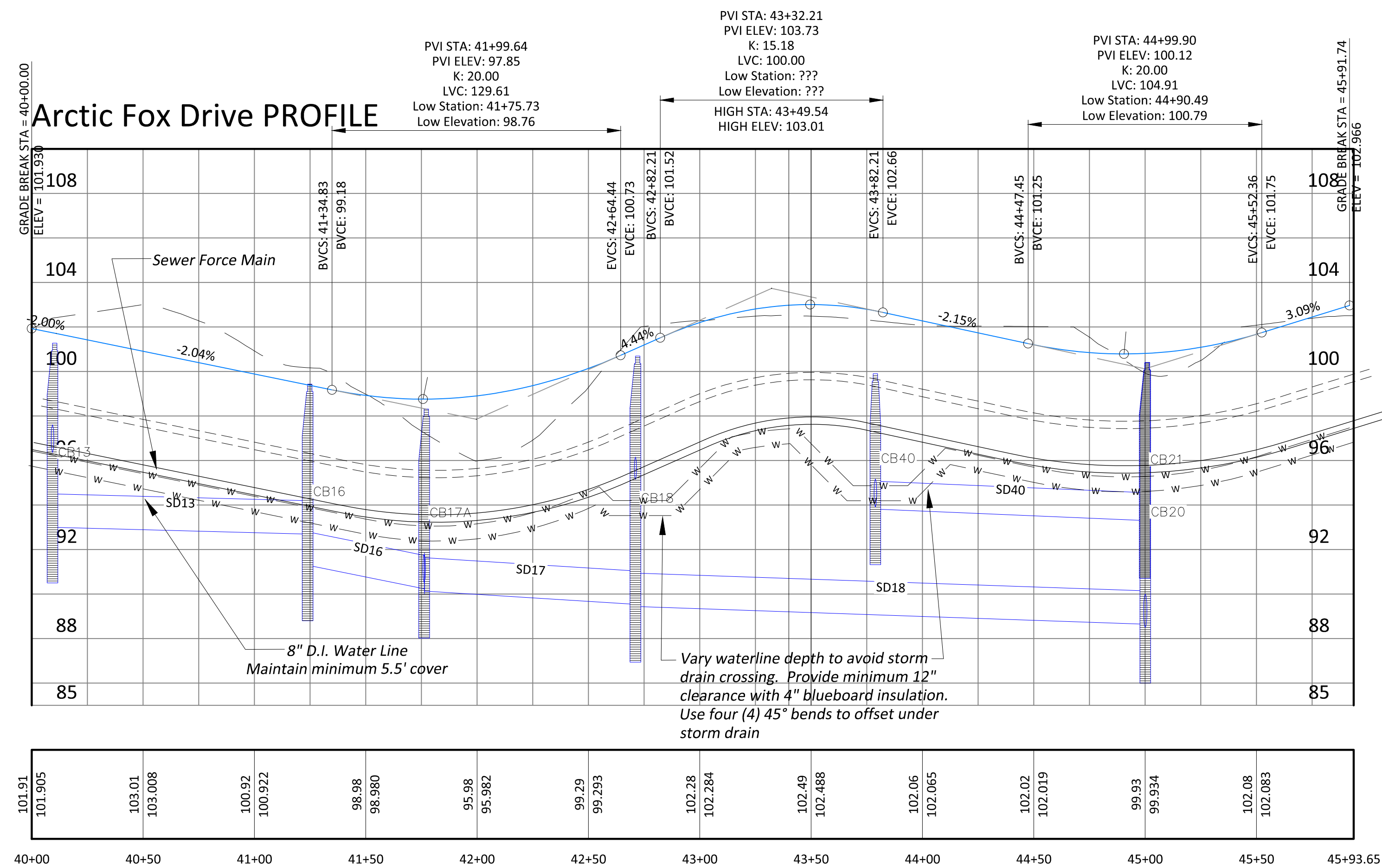
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DRN BY:	JOB #: 109	
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	

C9

PROGRESS PLAN  
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Buffer Tree and Shrub Specifications

[ quantity as indicated following individual plant listings below (x) ]

Trees:

Abies balsamea phanerolepis	6-7 ft.	
Canaan Balsam Fir		
Acer pensylvanicum	#7 cont.	
Striped Maple		
Acer rubrum	2-2.5 in.	
Red/Swamp Maple		
Amelanchier x grandiflora	6-7 ft.	clump
Betula nigra "Heritage"	10-12 ft.	clump
Heritage River Birch		
Carpinus caroliniana	1.5-1.75 in.	
American Hornbeam		
Crataegus crus-galli inermis	1.5 in. cal.	
Cockspur Thornless Hawthorn		

Picea glauca	6-7 ft.	
White Spruce		
Picea abies	6-7 ft.	
Norway Spruce		
Pinus strobus	7-8 ft.	
White Pine		
Quercus alba	2.5-3 in.	
White Oak		
Quercus bicolor	2 in.	
Swamp White Oak		
Quercus rubrum	2.5-3 in.	
Red Oak		
Tsuga canadensis	6-7 ft.	
Canadian Hemlock		

Shrubs:

Aronia arbutifolia "Brilliantissima"	#3 cont.	
Red Chokeberry		
Azalea viscosum	#2 cont.	
Swamp Azalea		
Cephalanthus occidentalis	#3 cont.	
Buttonbush		
Clethra alnifolia	#3 cont.	
Sweet Pepperbush		
Cornus alternifolia	#5 cont.	
Pagoda Dogwood		
Cornus sericea "Baileyi"	#3 cont.	
Red Twig Dogwood		
Hamamelis intermedia "Pallida"	#3 cont.	
Pallida Witchhazel		
Ilex verticillata "Jim Dandy/Red Sprite"	#3 cont.	m/f
Winterberry (var.)		
Itea virginica "Little Henry"	#3cont.	
"Little Henry" Sweetspire		
Lindera benzoin	#3 cont.	
Spicebush		

Vaccinium corymbosum	#3 cont.	var.
Highbush Blueberry		
Viburnum cassinoides	#5 cont.	
Withrod Viburnum		
Viburnum dentatum "Christom"	#5 cont.	
Blue Muffin Arrowwood Viburnum		
Viburnum lentago	#5 cont.	
Nannyberry Viburnum		
Viburnum nudum "Brandywine"	#5 cont.	
Brandywine Viburnum		

Street Tree Plant Schedule

Key	Quan.	Botanical and Common Name	Ht.
A	37	Acer rubrum "Red Sunset"	2-2.5" cal.
		Red Sunset Maple	
W	15	Quercus alba	2-2.5" cal.
		White Oak	
S	17	Quercus bicolor	2-2.5" cal.
		Swamp White Oak	
R	24	Quercus rubra	2-2.5" cal.
		Red Oak	
B	9	Tilia americana	2-2.5" cal.
		Basswood	
Z	16	Zelkova serrata "Green Vase"	2-2.5" cal.
		Green Vase Zelkova	
V	13	Ulmus "Valley Forge"	2-2.5" cal.
		Valley Forge Elm	

Native Vegetative Buffers

Trees and understory buffers around property perimeter and disturbed common areas such as around storm water management basins to be supplemented in various locations with indigenous plant materials as selected from, but not limited to, the following list. Placement of trees and shrubs to be field adjusted for "best fit" to supplement existing vegetation.

Acer pensylvanicum - Striped Maple
Acer rubrum - Red/Swamp Maple
Pinus strobus - White Pine
Betula nigra - River Birch
Abies balsamea - Balsam Fir
Picea glauca - White Spruce
Quercus rubrum - Northern Red Oak
Quercus bicolor - Swamp White Oak
Amelanchier Canadensis - Shadblow
Cornus alternifolia - Pagoda Dogwood
Cornus sericea - Shrub Dogwood
Hamamelis vernalis - Witchhazel
Ilex verticillata - Winterberry
Aronia (var.) - Chokeberry
Clethra alnifolia - Summersweet
Azalea viscosum - Swamp Azalea
Vaccinium corymbosum - Highbush Blueberry
Cephalanthus occidentalis - Buttonbush
Viburnum (var.) - Viburnum

Entrance Buffer:

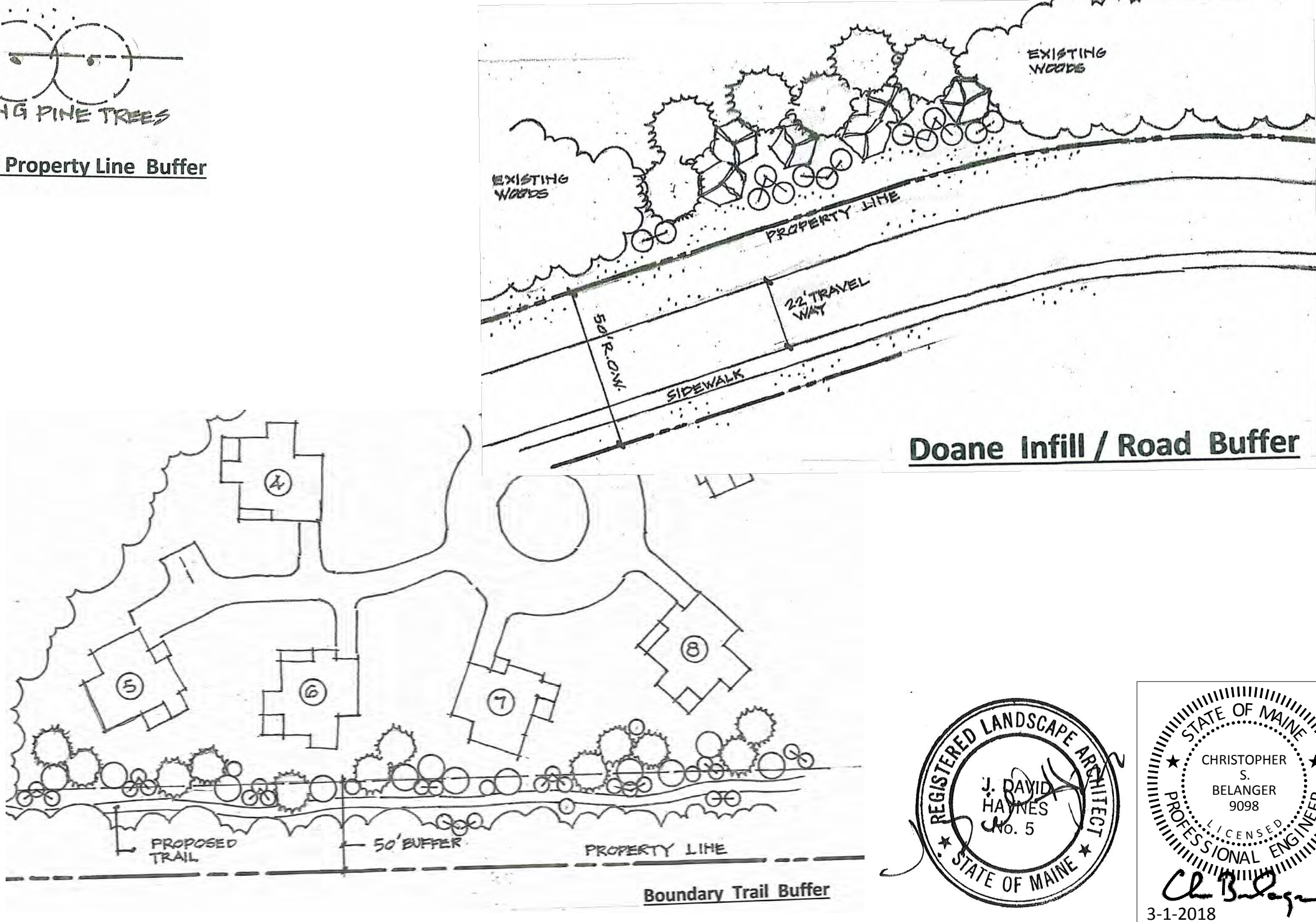
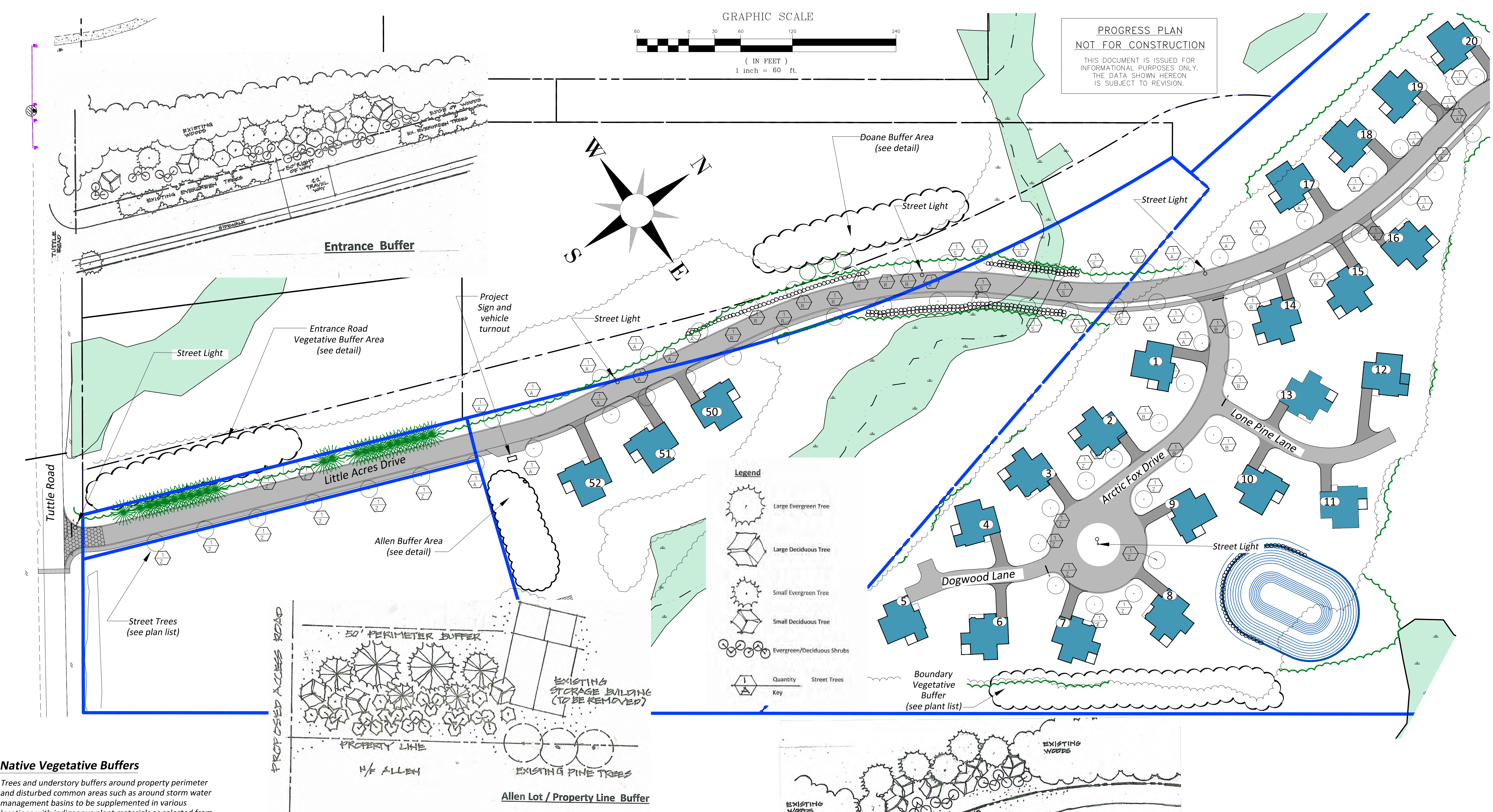
Red Maple (2)
Red Oak (2)
White Pine (3)
Norway Spruce (2)
Hemlock (1)
Serviceberry (2)
Hornbeam (2)
White Oak (2)
Winterberry (3)
Red Twig Dogwood (6)
Sweet Pepperbush (3)
Spicebush (3)
Chokeberry (3)
Witchhazel (2)
Nannyberry Viburnum (2)
Withrod Viburnum (3)
Brandywine Viburnum (3)
Arrowwood Viburnum (3)

Boundary Trail Buffer:

White Pine (5)
White Spruce (1)
Norway Spruce (2)
Balsam Fir (2)
Hemlock (2)
Red Oak (3)
Red Maple (3)
Hawthorn (2)
River Birch (2)
Serviceberry (2)
Red Twig Dogwood (6)
Sweet Pepperbush (3)
Witchhazel (2)
Winterberry (3)
Blueberry (6)
Spicebush (2)
Withrod Viburnum (2)
Brandywine Viburnum (2)
Sweetspire (3)
Chokeberry (3)

Doane Infill / Road Buffer:

White Pine (2)
White Spruce (2)
Balsam Fir (2)
Hawthorn (2)
River Birch (2)
Serviceberry (2)
Withrod Viburnum (1)
Brandywine Viburnum (2)
Arrowwood Viburnum (2)
Chokeberry (1)
Red Twig Dogwood (3)
Sweet Pepperbush (3)
Witchhazel (2)



3.	3-1-2018	Re-submit to Town	CSB
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Landscape Plan

Oceanview at Cumberland  
291 Tuttle Road, Cumberland, Maine

Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine



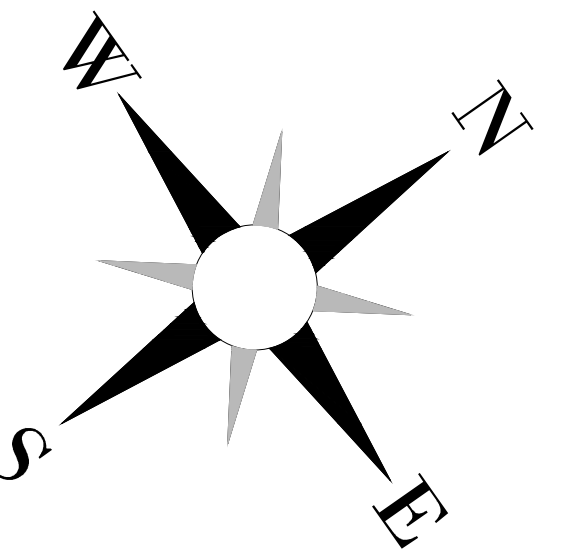
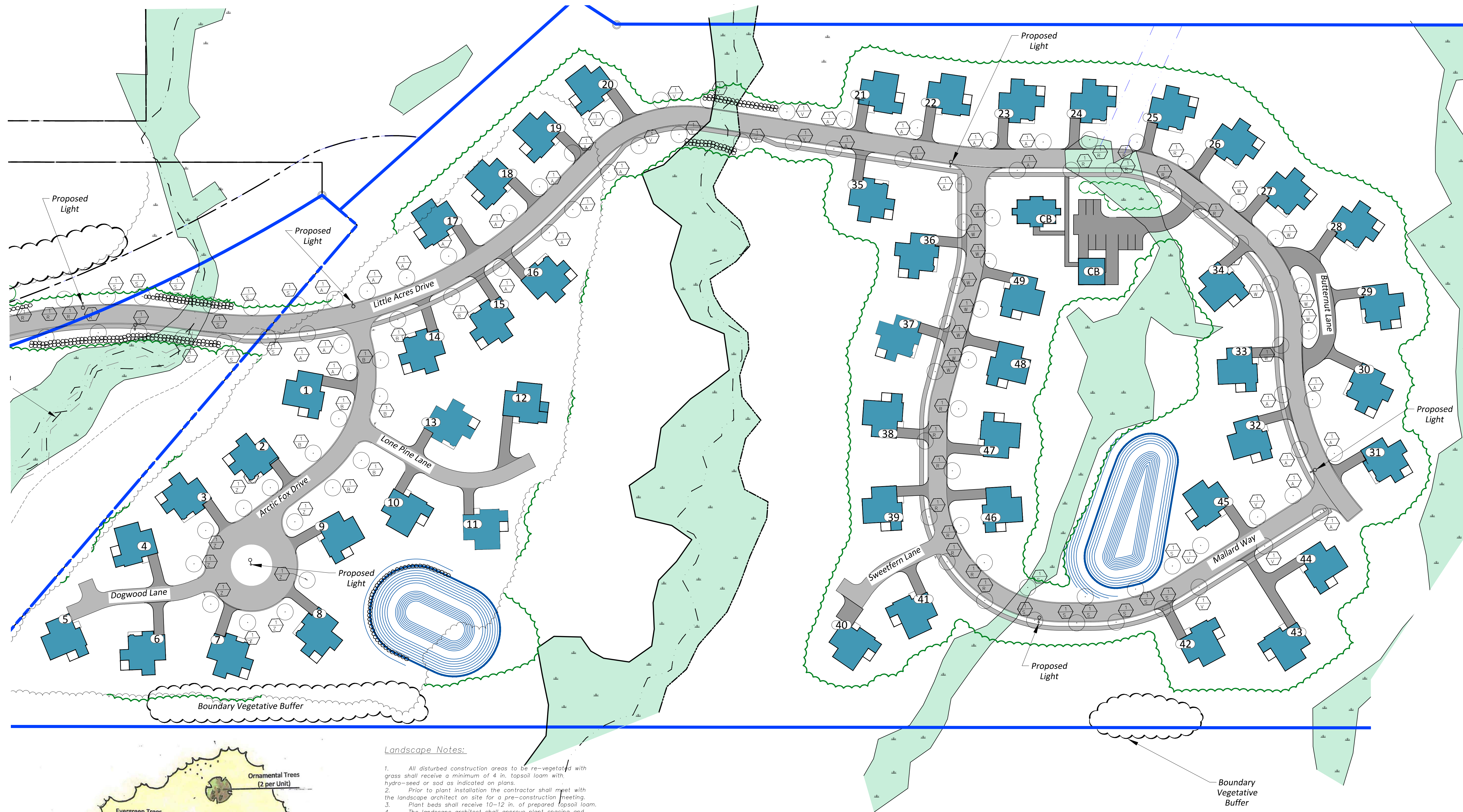
**BELANGER**  
**ENGINEERING**  
CONSULTING ENGINEERS

63 Second Avenue, Augusta, Maine 04330 Ph 207-622-1462, Cell 207-242-5713

FIELD WK:	SCALE: 1"=60'	SHEET:
DRN BY:	JOB #: 109	
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	

C11A



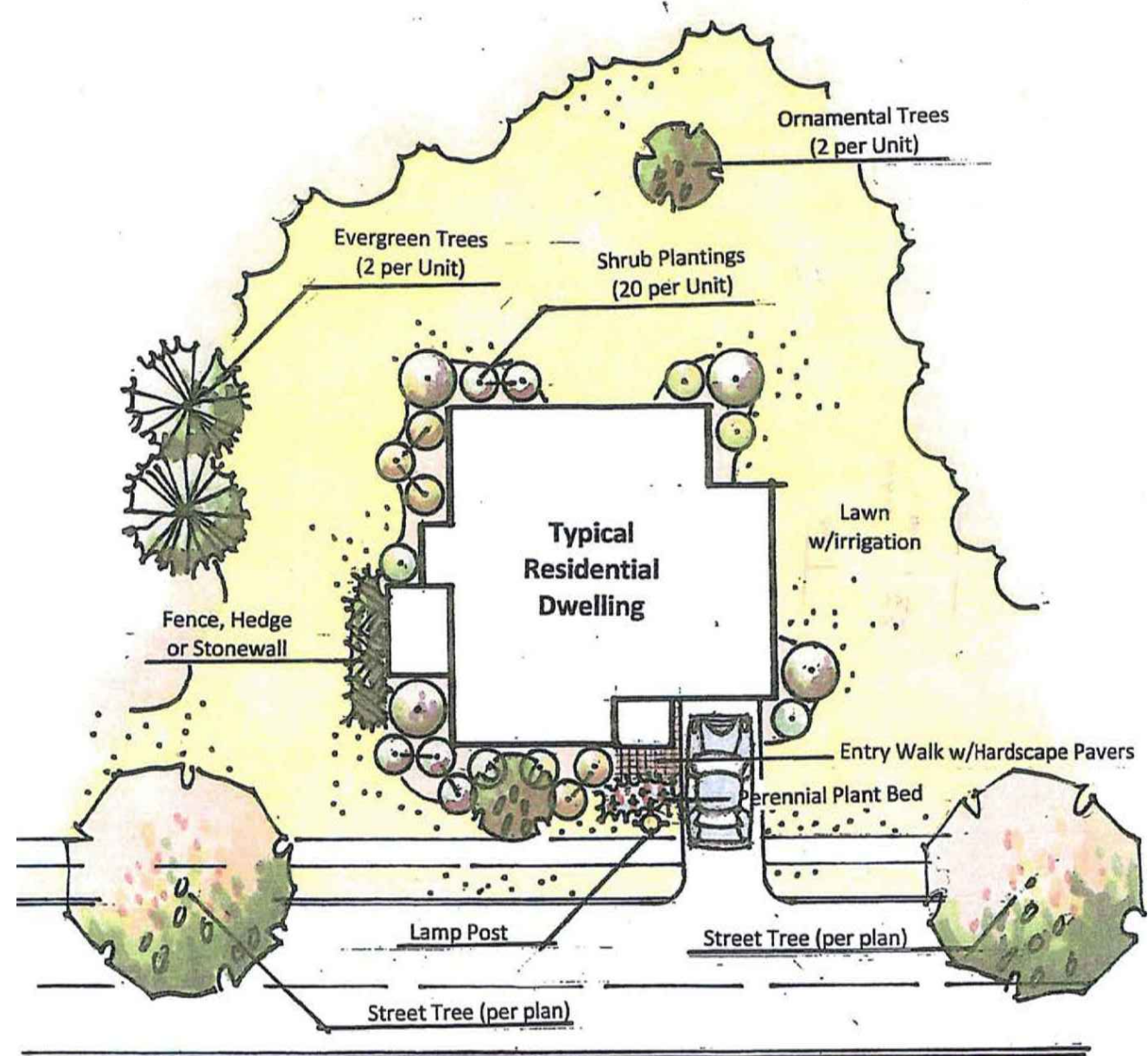


**Landscape Legend**

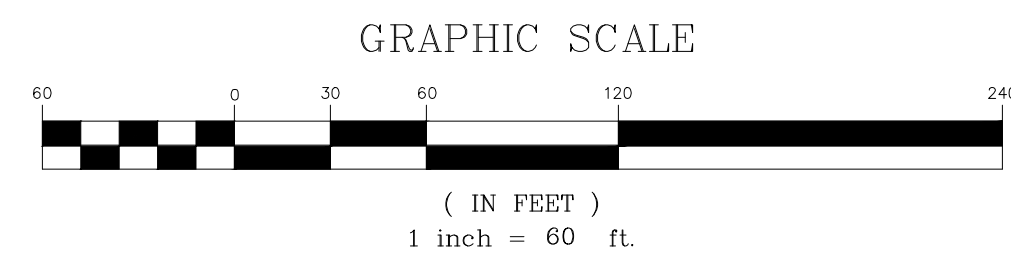
- Small/Medium Shrub
- Large Shrub
- Ornamental & Evergreen Trees
- Street Tree
- Quantity Plant Key
- Ground Cover & Perennial Flower Beds

**Landscape Notes:**

- All disturbed construction areas to be re-vegetated with grass shall receive a minimum of 4 in. topsoil loam with hydro-seed or sod as indicated on plans.
- Prior to plant installation the contractor shall meet with the landscape architect on site for a pre-construction meeting.
- Plant beds shall receive 10-12 in. of prepared topsoil loam.
- The landscape architect shall approve plant spacing and layout prior to planting.
- Contractor shall verify plant schedule with planting plans. If conflicts exist, the contractor shall provide higher number of plants.
- Installation of plant materials; materials and plantings shall meet requirements as specified by "American standard for nursery stock, may 2004 and as shown on construction detail drawings.
- Landscape contractor shall construct curvilinear plant beds around and under all shrub plantings to outside limit of branching. plant beds shall be mulched with 3 in. deep dark decomposed mulch.
- All tags, labels or other foreign material shall be removed from plant material limbs and stems.
- All plant material substitutions shall be applied for in writing for approval by the landscape architect. Approval of plant variety substitutions shall be based on similar characteristics of the specified plant - mature size, color, bloom times, branching habit, shape, solar and soil preferences.
- Final spacing of street trees to be field determined based upon driveway curb cuts, utility service stops, view sheds and landscape buffers to be preserved.
- Precise locations of buffer plant materials to be field selected based on view sheds, existing plant materials and general field conditions. Placement of trees and shrubs to be field adjusted for "best fit" to supplement existing vegetation.

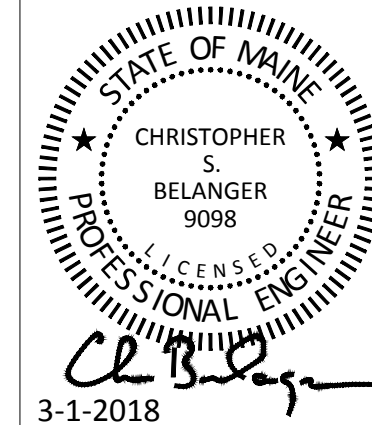
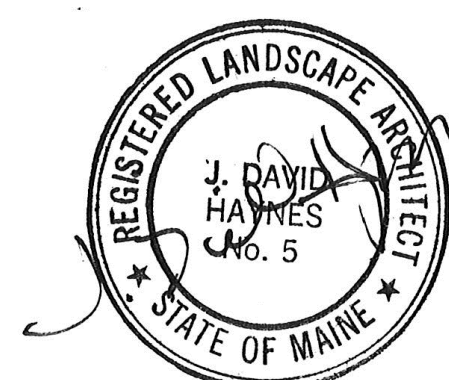


**Typical Residential Landscape Plan**



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Prepared in association with:  
**LICHT**  
ENVIRONMENTAL DESIGN, LLC



3.	3-1-2018	Re-submit to Town	CSB
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1.	1-31-2018	Respond to Town Memos, submit to Town and DEP	CSB

**Landscape Plan**

Oceanview at Cumberland  
291 Tuttle Road, Cumberland, Maine

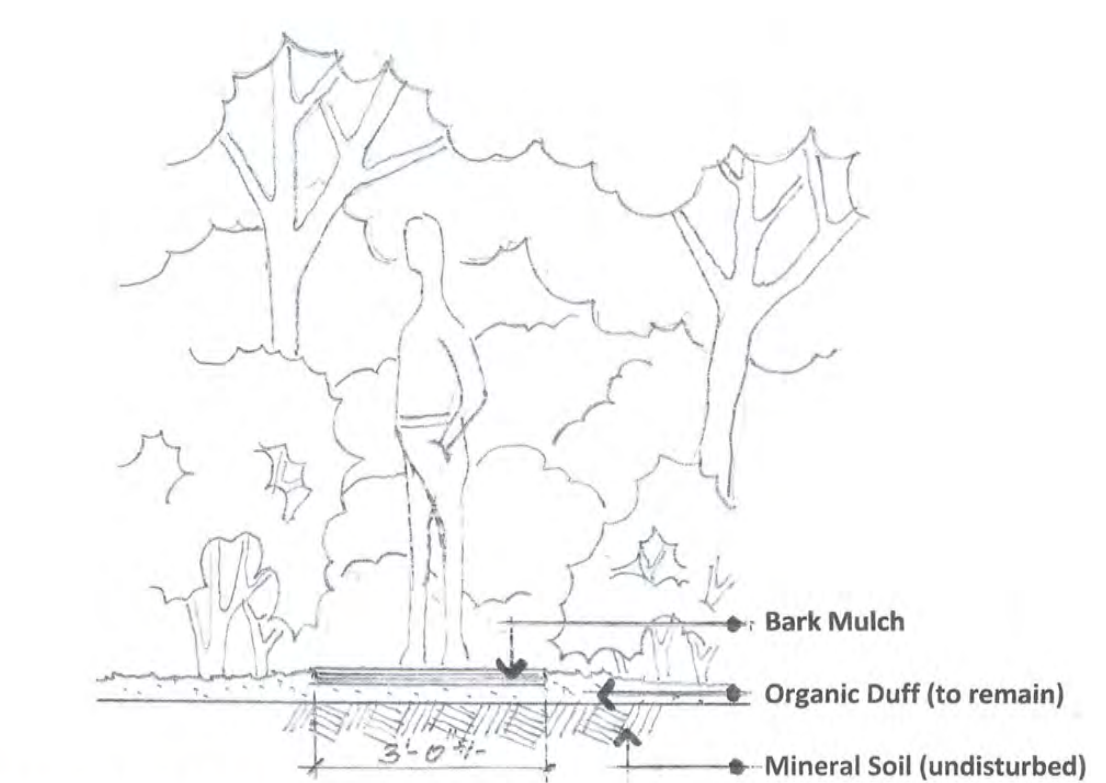
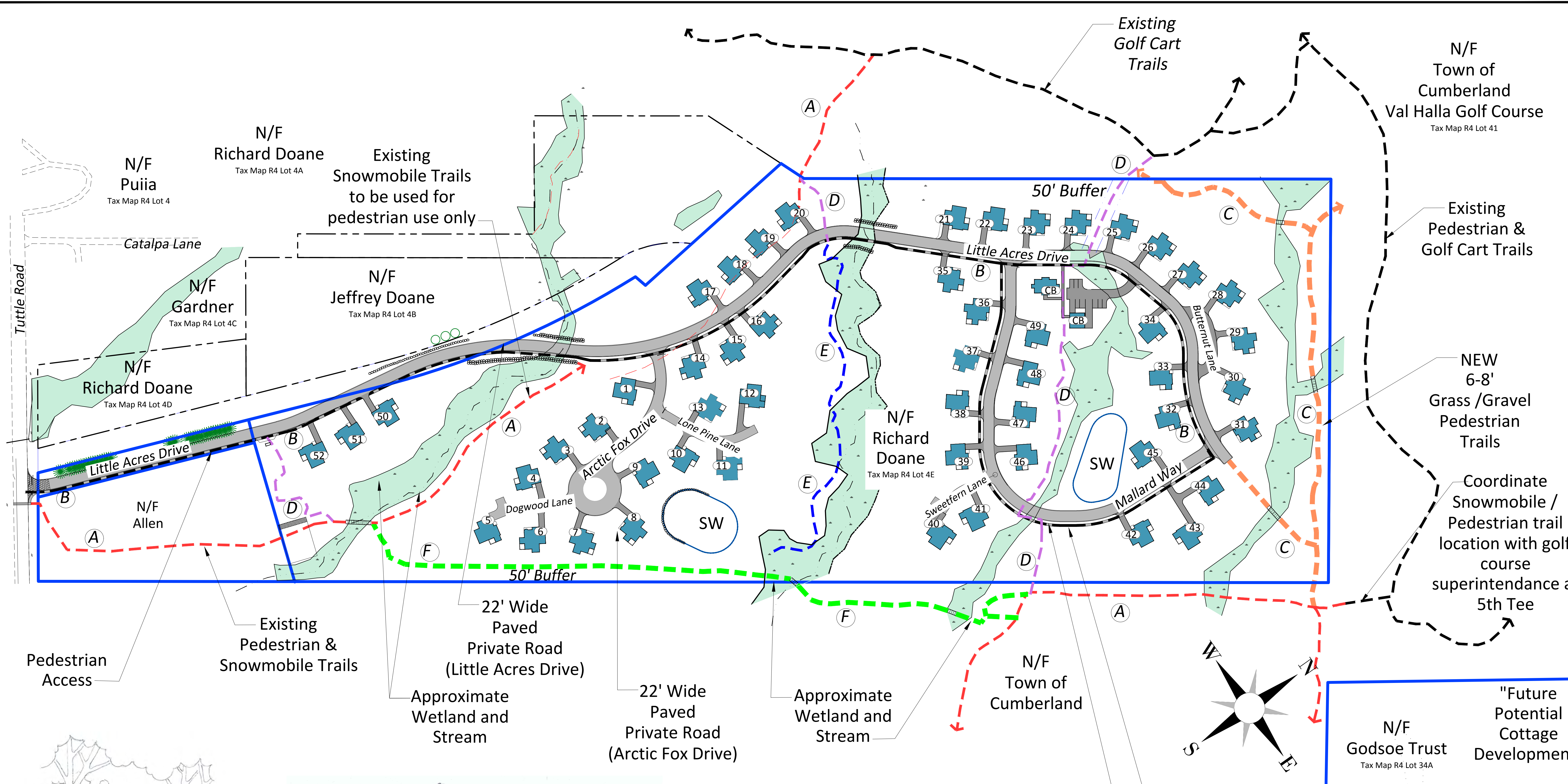
Seacoast Management Company  
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Ph 207-622-1462, Cell 207-242-5713

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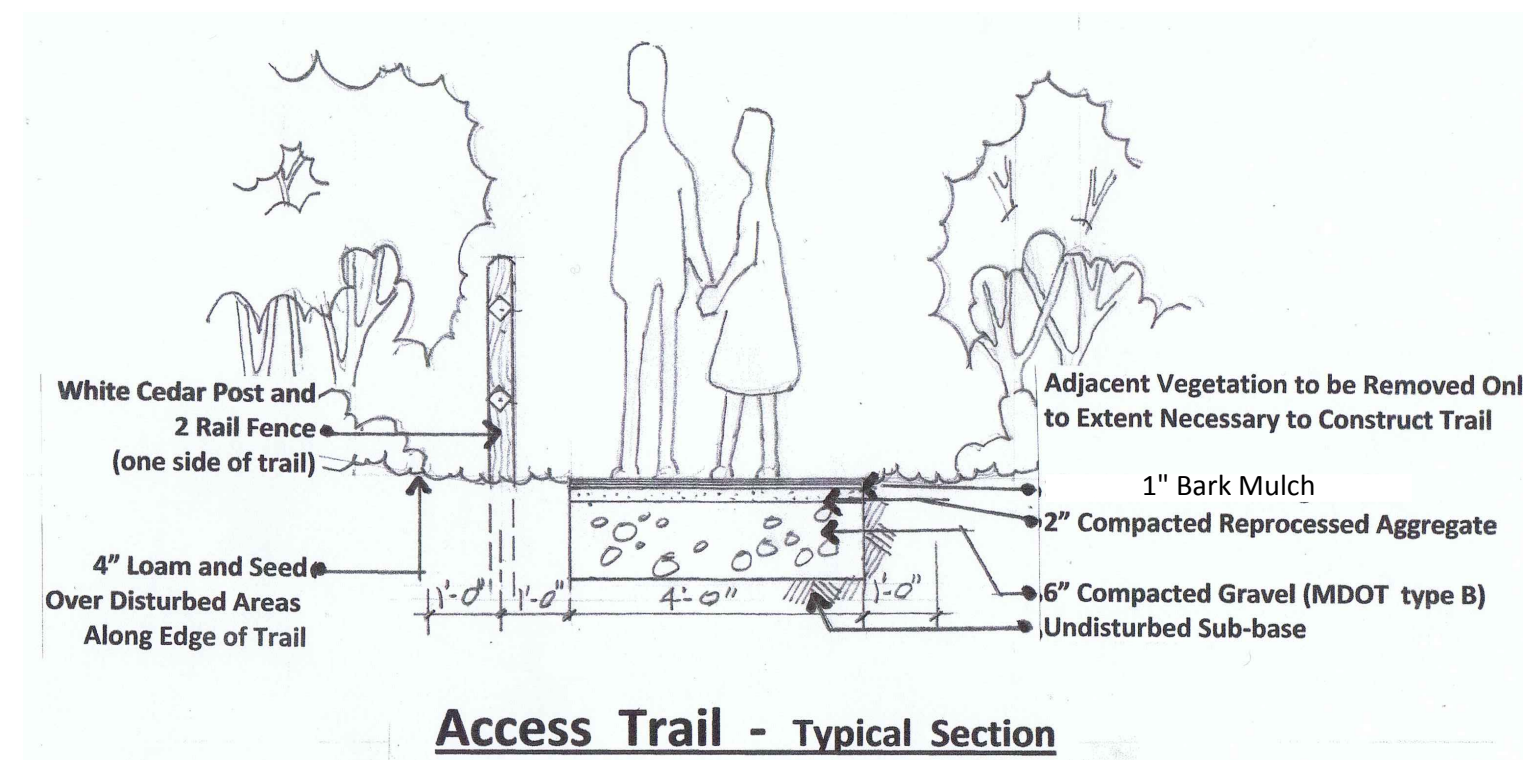
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CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	





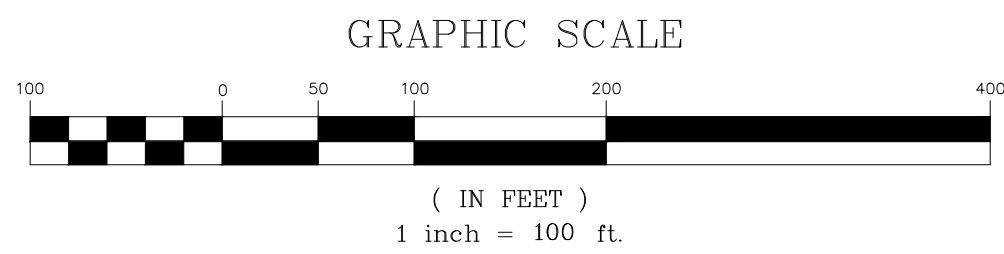
- Construction Notes:**
1. Alignment of trail to meander through woods along "path of least resistance".
  2. Trail to be 3 ft. +/- wide.
  3. Path of trail to be cleared of small trees and brush and grubbed to remove small stumps and roots.
  4. Meandering trail surfacing to be 2-3 in. depth of wood chips and/or well rotted bark mulch.

**Woodland Buffer Trail**  
Typical Section



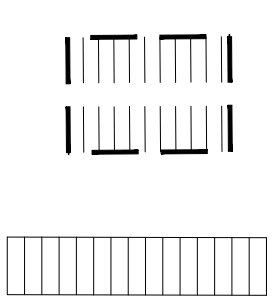
**Access Trail - Typical Section**

**PROGRESS PLAN**  
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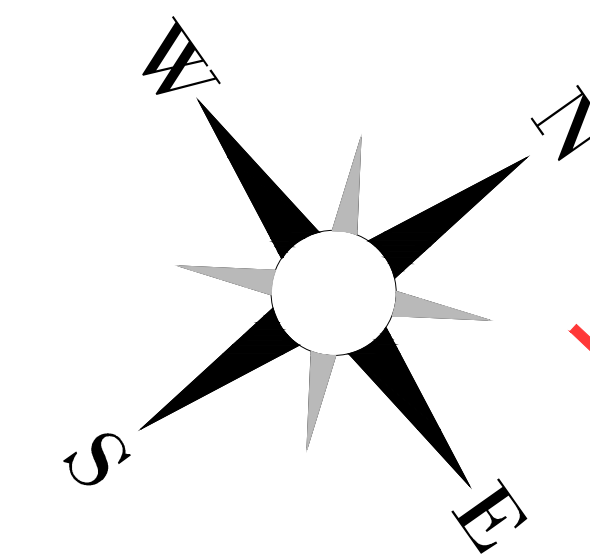


**Trail & Pedestrian Ways Key**

- A** --- Existing Snowmobile and Pedestrian Trails
  - B** --- Proposed Sidewalk and Pedestrian Access
  - C** --- 6-8' Wide Grass/Gravel Trail
  - D** --- 4' Bark Mulch / Access Trail
  - E** --- 3' Hand Cut/Woodland Buffer Trail
  - F** --- Proposed 6' Snowmobile Trail
- Proposed Boardwalk or Culvert




**Crosswalk**

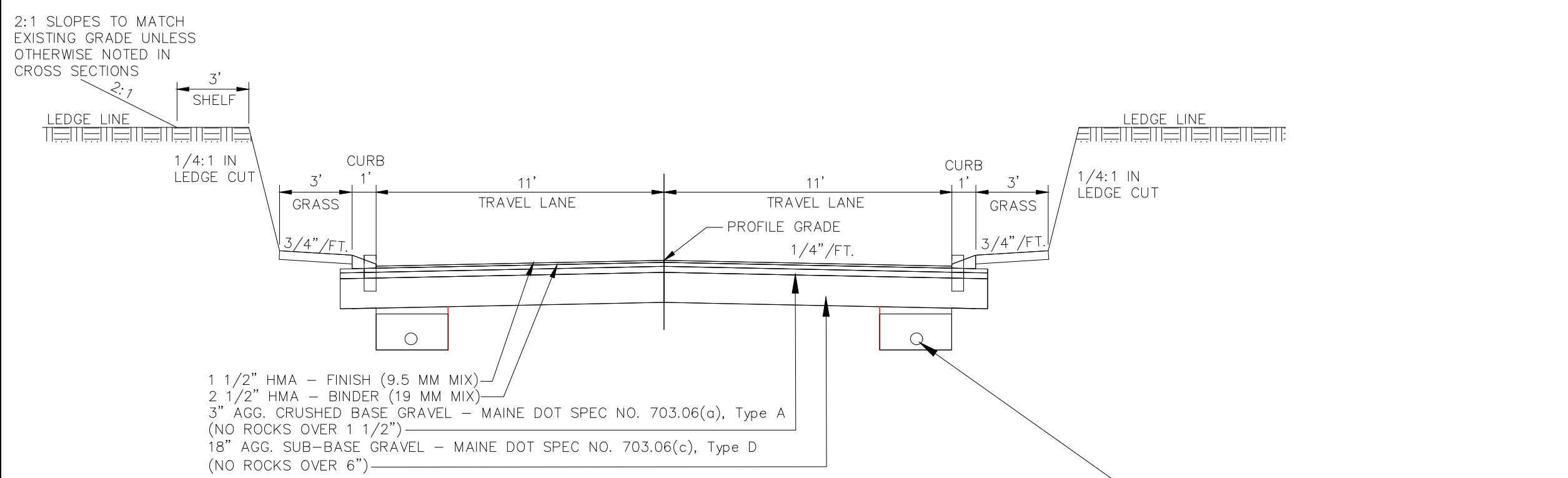


Pedestrian Sidewalks  
52 Residential Cottages plus Community Buildings

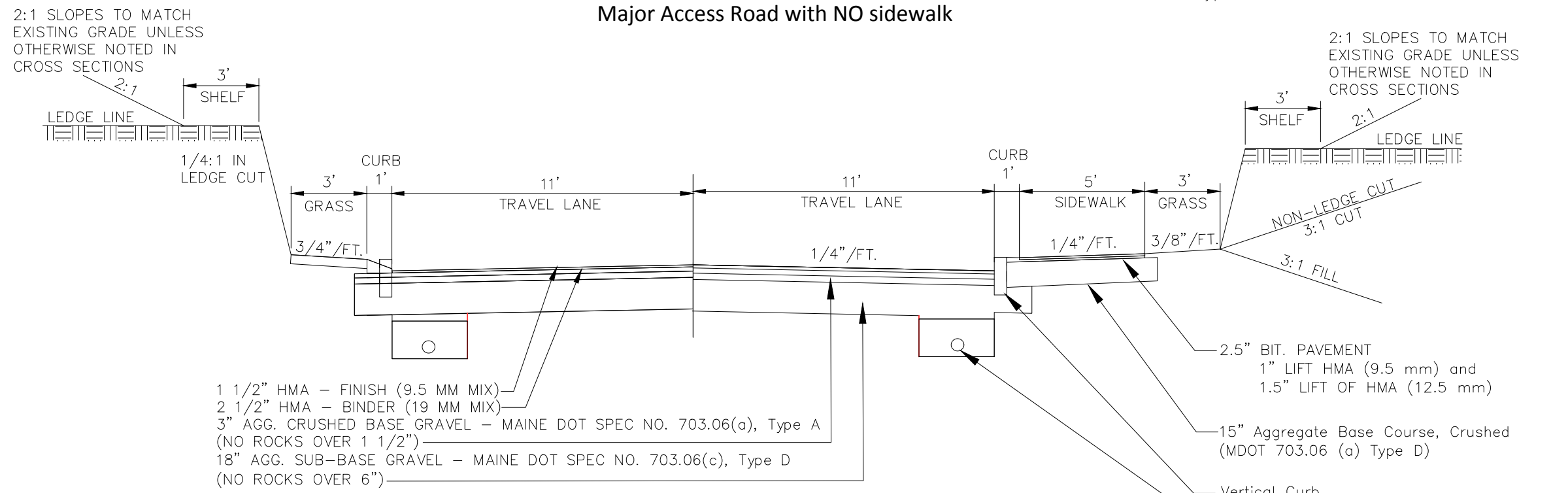
**"Future Potential Cottage Development"**  
N/F Godsoe Trust  
Tax Map R4 Lot 34A

3-1-2018 Respond to Town comments, re-submit to Town CSB		
2-7-2018 SUBMIT TO DEP CSB		
1-31-2018 Respond to Town Memos, submit to Town and DEP CSB		
Trail and Walkway Master Plan		
Oceanview at Cumberland 291 Tuttle Road, Cumberland, Maine		
Seacoast Management Company 20 Blueberry Lane, Falmouth, Maine		
 <b>BELANGER ENGINEERING</b> CONSULTING ENGINEERS 63 Second Avenue, Augusta, Maine 04330 Ph 207-622-1462, Cell 207-242-5713		
FIELD WK:	SCALE: 1"=100'	SHEET: <b>C12</b>
DRN BY:	JOB #: 109	
CH'D BY:	SS:	
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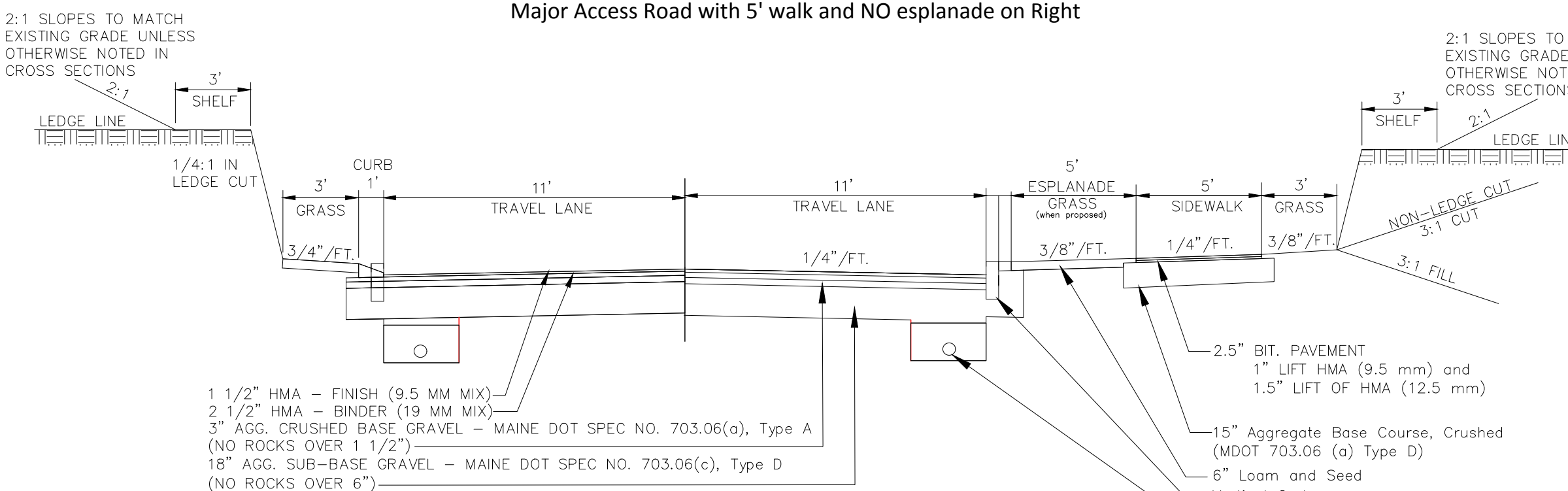




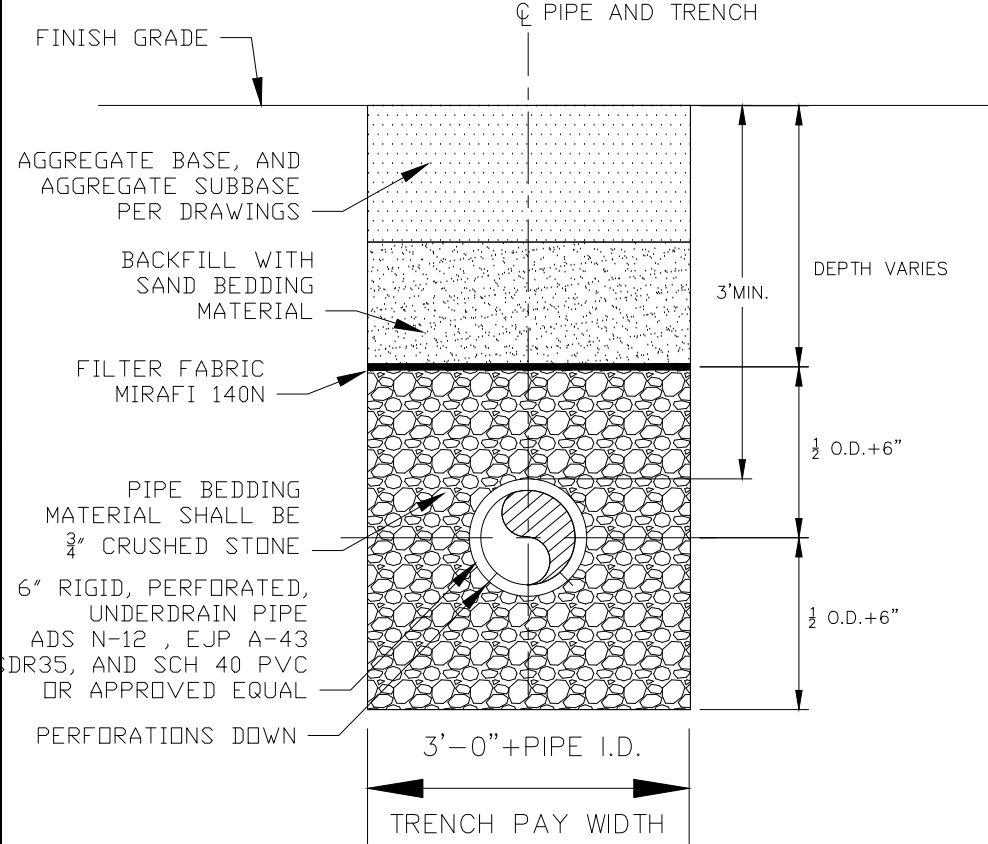
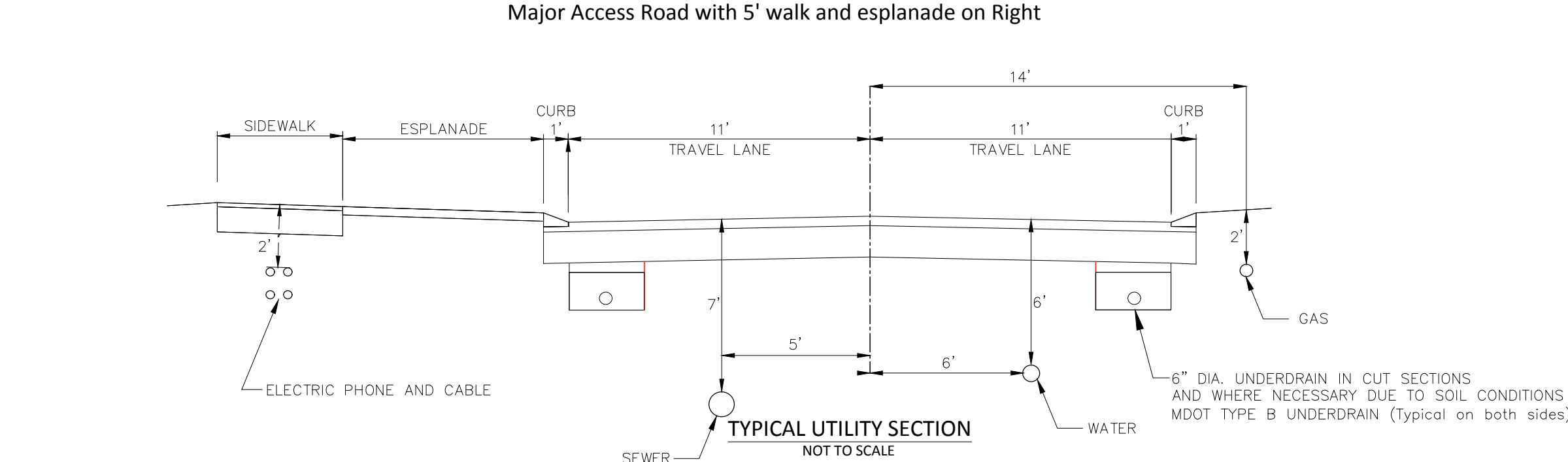
Town of Cumberland - Major Access Cross Section  
NOT TO SCALE  
Major Access Road with NO sidewalk



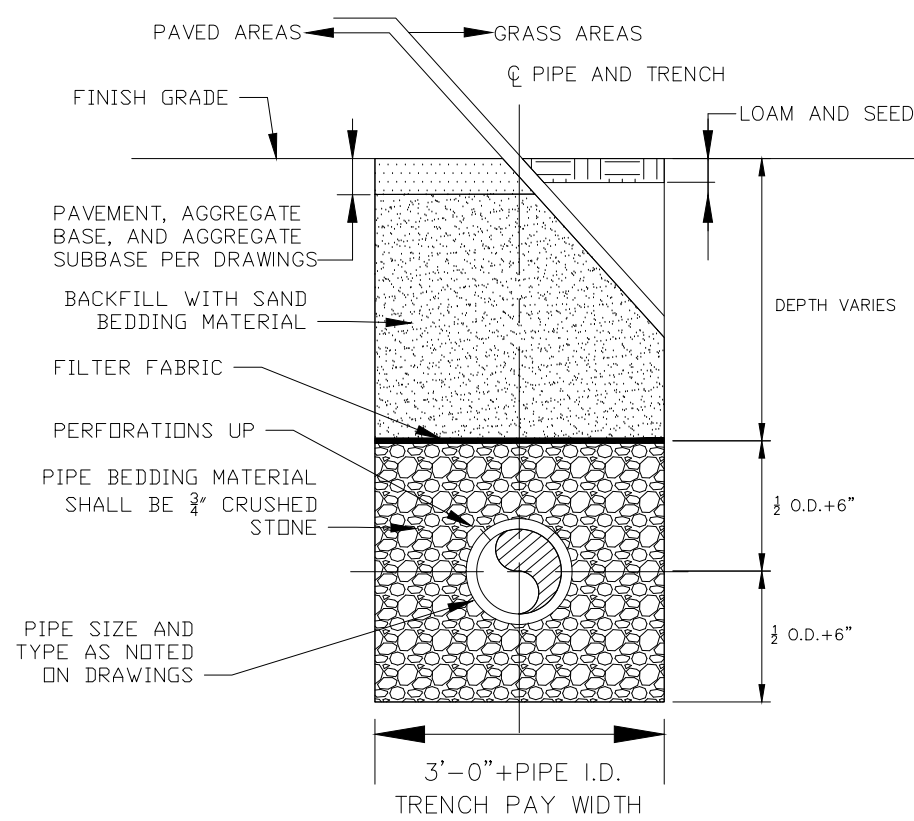
Town of Cumberland - Major Access Cross Section  
NOT TO SCALE  
Major Access Road with 5' walk and NO esplanade on Right



Town of Cumberland - Major Access Cross Section  
NOT TO SCALE  
Major Access Road with 5' walk and esplanade on Right



MDOT TYPE "B" UNDERDRAIN TRENCH DETAIL  
NOT TO SCALE



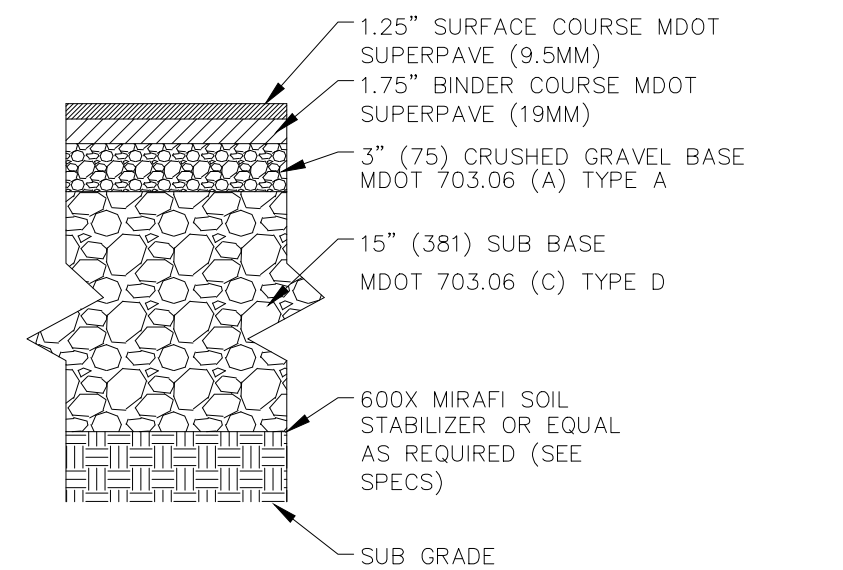
MDOT TYPE "C" UNDERDRAIN TRENCH DETAIL  
NOT TO SCALE

#### ROAD CONSTRUCTION NOTES:

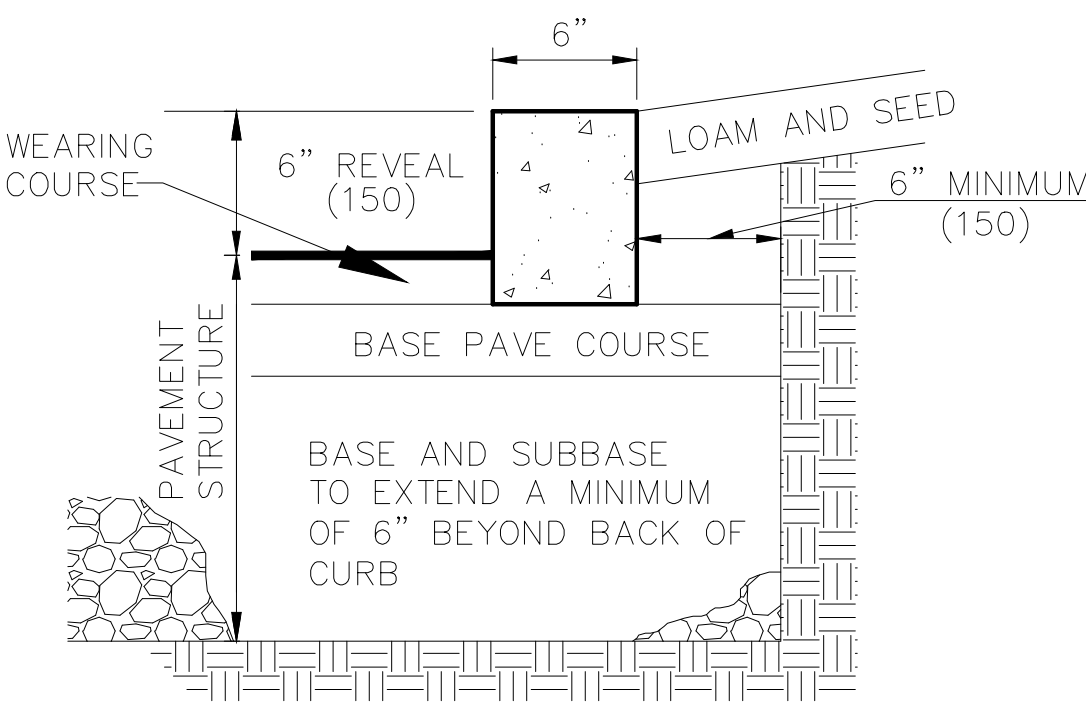
1. IN FILL AREAS 3:1 SLOPES ARE TO BE USED UNLESS OTHERWISE USEABLE WASTE MATERIAL HAS BEEN STOCKPILED TO USE 4:1 FILL SLOPES.
2. IN FILL AREAS THE GRANULAR MATERIAL TO BE USED SHALL CONFORM TO SECTION 703.19 OF THE STATE OF MAINE STANDARDS SPECIFICATIONS FOR GRANULAR BORROW.
3. UNDERDRAIN SHALL BE INSTALLED IN ALL AREAS WHERE LEDGE IS ENCOUNTERED. CONTRACTOR SHALL ASSUME UNDERDRAIN IS REQUIRED IN CUT AND LEDGE CONDITIONS AND SHALL BE PART OF THE BASE BID.
4. INSTALL FABRIC UNDER ROAD BASE WHEN CLAY IS ENCOUNTERED.
5. CONTRACTOR MAY PERFORATE STORM DRAIN IF AVAILABLE TO SUBSTITUTE UNDERDRAIN ON THAT SIDE OF ROAD. UNDERDRAIN IS STILL REQUIRED ON OTHER SIDE OF ROAD TO MEET TOWN SPECIFICATION. INSTALL TYPE B UNDERDRAIN WITH PERFORATED STORM DRAIN (HOLES UP). INSTALL TYPE B UNDERDRAIN FOR 6" UNDERDRAIN IS USED (HOLES DOWN). THE UNDERDRAIN INTO CATCH BASINS AS AVAILABLE OR OUTLET TO DITCH OR SWALE.

#### EROSION CONTROL NOTES:

1. ALL EROSION CONTROL METHODS SHALL CONFORM TO THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION BEST MANAGEMENT PRACTICES BY THE CUMBERLAND COUNTY SOIL WATER CONSERVATION DISTRICT, AND THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
2. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL PLACE THE SILT FENCE. THE CONTRACTOR SHALL INSPECT THE BARRIER AND OTHER PREVENTATIVE MEASURES BI-WEEKLY, BEFORE ANY PREDICTED RAIN EVENT, AND AFTER ANY RAIN EVENT. THE CONTRACTOR SHALL REMOVE ANY ACCUMULATED SILT AND/OR MAKE REPAIRS AS NECESSARY.
3. ALL TOPSOIL SHALL BE SAVED TO LOAM LANDSCAPED AREAS TO A DEPTH OF 4". LOAM SHALL BE STOCKPILED ON SITE IN A LOCATION CONVENIENT TO THE CONTRACTOR. THE STOCKPILE WILL BE TEMPORARILY SEED WITH RYE GRASS AND MULCHED AT 75-80 LBS/1000SF. ALL SOIL STOCKPILES ARE TO BE ENCLOSED WITH SILT FENCE. STOCKPILES SHALL NOT BE LOCATED IN WETLAND STEEP SLOPES, OR AREAS OF CONCENTRATING FLOW.
4. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE PERMANENTLY SEED. SEEDING SHALL BE PERFORMED IN ACCORDANCE WITH MDOT SPECIFICATION: LIME AT 3 TONS/ACRE: FERTILIZER 10-10-10 AT 13 LBBS/1000 SF. SEED MDOT PARK MIX AT 3 LBBS/1000 SF. SEEDING SHALL BE PERFORMED BETWEEN APRIL 15 - JUNE 15 OR AUGUST 15 - SEPTEMBER 15. WINTER RYE SHALL BE USED AS TEMPORARY SEED BETWEEN SEPTEMBER 15 - OCTOBER 15. ALL FINISHED SLOPES EXCEEDING 15% SHALL ALSO HAVE MULCH NETTING INSTALLED AND PINNED DOWN. AFTER SEPTEMBER 15, THE SAME APPLIES TO ALL SLOPES EXCEEDING 8%.
5. ALL AREAS TO BE SEED SHALL BE MULCHED. MULCH SHALL BE LONG FIBERED HAY OR STRAW AND SPREAD UNIFORMLY. 1.5 TO 2.0 TONS PER ACRE. TO BE MAINTAINED MOIST TO MINIMIZE BLOWING AS NECESSARY. IN WINTER CONDITIONS, NO MULCH IS TO BE APPLIED OVER SNOW. THE SNOW MUST FIRST BE REMOVED AND THEN MULCH APPLIED ACCORDING TO SPECIFICATIONS STATED PRIOR. IN ALL CASES MULCH SHALL BE APPLIED SUCH THAT THE SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH. DURING NOVEMBER 1 THROUGH APRIL 1 MULCHING SHALL BE COMPLETED DAILY BY THE END OF THE WORK DAY.
6. PLACE SILT SACKS IN CATCH BASIN INLET DURING CONSTRUCTION. CONTACT AH HARRIS IN PORTLAND (207) 775-5764 OR AUGUSTA (207) 622-0821 SILT SACKS SHALL BE REMOVED AFTER FINAL PAVEMENT OVERLAY.
7. ALL SEDIMENT CONTROL FENCING AND SILT SACKS BARRIERS WILL REMAIN IN PLACE UNTIL SEEDLINGS HAVE BEEN ESTABLISHED.
8. ALL EARTH CHANGES WILL BE CONSTRUCTED AND COMPLETED IN SUCH A MANNER SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND WILL BE LIMITED TO THE SHORTEST PERIOD OF TIME POSSIBLE. THE CONTRACTOR SHALL COMPLETE FINAL GRADING, SEEDING, AND MULCHING IN CONJUNCTION WITH THE COMPLETION OF THE CORRESPONDING BUILDINGS WHENEVER POSSIBLE. IF FINAL GRADING CANNOT BE COMPLETED THEN THE CONTRACTOR IS TO MULCH ANY DISTURBED LAND AND WORK ON TOP OF THE MULCH. AREAS OF DISTURBED SOIL WILL BE TEMPORARILY MULCHED OR SEED WITHIN 30 DAYS OF INITIAL DISTURBANCE.
9. SEDIMENT CAUSED BY ACCELERATED SOIL EROSION WILL BE REMOVED FROM RUNOFF WATER BEFORE IT LEAVES THE DEVELOPMENT SITE.
10. ALL TEMPORARY OR PERMANENT FACILITY CONSTRUCTED FOR THE CONVEYANCE OF WATER AROUND, THROUGH, OR FROM THE DEVELOPMENT SITE WILL BE CONSTRUCTED TO LIMIT THE WATER FLOW TO A NON-EROSIVE VELOCITY.
11. PERMANENT SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA WILL BE COMPLETED WITHIN 15 DAYS AFTER FINAL GRADING HAS BEEN COMPLETED.
12. IN THE EVENT THAT TEMPORARY OR PERMANENT SEEDLINGS HAVE NOT BEEN ESTABLISHED (90% SURFACE COVERAGE) BY SEPTEMBER 15, TEMPORARY MULCHING SHALL BE APPLIED FOR PROTECTION OVER WINTER (PAST THE GROWING SEASON) IN ACCORDANCE WITH THE TEMPORARY MULCHING BMP OF THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK.

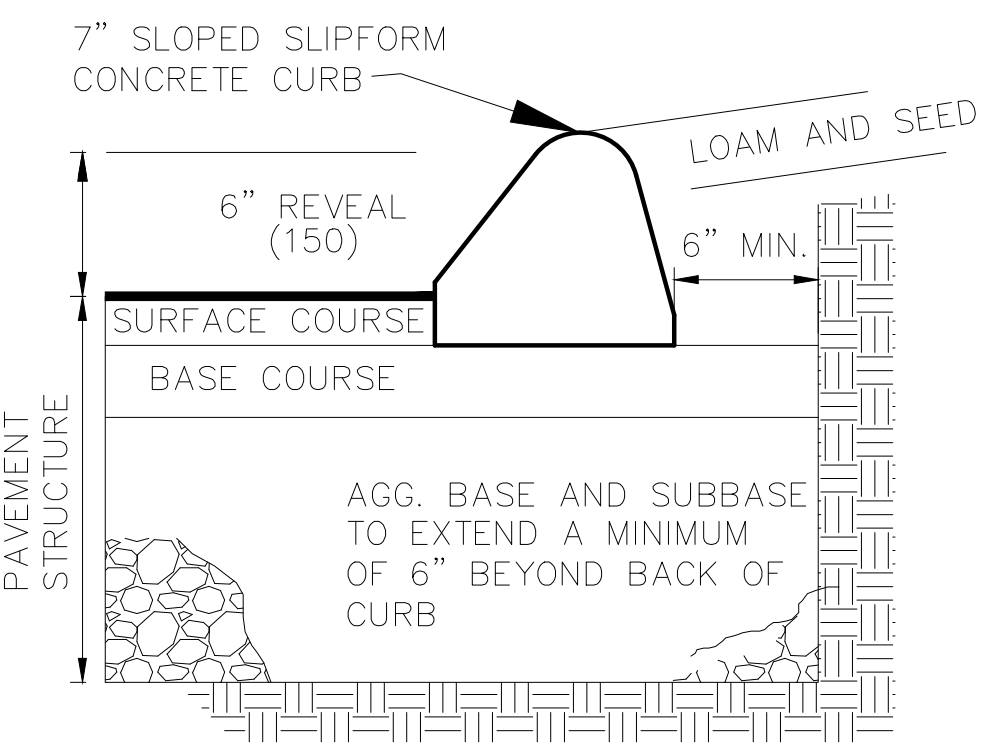


BIUMINOUS CONCRETE DRIVE  
NOT TO SCALE



#### VERTICAL SLIPFORM CONCRETE CURB

NOT TO SCALE - SIDEWALK SIDE PER TOWN STANDARDS



#### 7" SLOPED SLIPFORM CONCRETE CURB

NOT TO SCALE - NON-SIDEWALK AREAS

#### PAVING, GRADING & DRAINAGE NOTES:

1. VERTICAL DATUM IS NATIONAL GEODETIC DATUM 1929 DEFINITION. BENCHMARK LOCATIONS ARE SPECIFIED ON TITCOMB SURVEY.
2. CLEARING LIMITS WILL BE FLAGGED BY THE ENGINEER AND THE OWNER. THE CONTRACTOR SHALL NOT CUT BEYOND THE LIMITS OR REMOVE A TREE DESIGNATED TO BE SAVED WITHOUT THE OWNER'S AND ENGINEER'S CONSENT.
3. ALL CURBS AND WALKS SHALL BE STAKED OUT BY THE CONTRACTOR AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. SIDEWALKS TO BE 4' WIDE FROM DRIVEWAY TO THE FRONT DOOR AND SET BACK 4' FROM THE HOUSE.
4. DRIVEWAYS WILL BE 24' WIDE AT THE GARAGE DOOR AND MAY TRANSITION TO 20' WIDTH AS APPROPRIATE TO MEET SITE CONDITIONS.

#### TRAIL SYSTEM NOTES:

1. A TRAIL SYSTEM SHALL BE INSTALLED THROUGH OCEANVIEW AT CUMBERLAND PROPERTY TO PROVIDE PEDESTRIAN ACCESS. THE TRAIL SYSTEM WILL FORM LINKS TO ABUTTING PARCELS AND CONNECTION TO TOWN TRAIL SYSTEMS. THE TRAIL SYSTEM WILL BE AVAILABLE FOR PUBLIC & PRIVATE USE. THE DETAILED DESIGN WILL BE COORDINATED WITH THE TOWN PLANNER, PLANNING BOARD, AND THE OWNER.

#### VERIZON NOTES:

1. ALL CONSTRUCTION TO BE IN COMPLIANCE WITH VERIZON CONSTRUCTION STANDARDS.
2. ALL TRENCHING, CONDUIT AND BACK FILLING IS THE CONTRACTOR'S RESPONSIBILITY.
3. ALL CABLES SHALL BE IN CONDUIT UNDER ALL PAVED ROADS, DRIVEWAYS AND WALKWAYS. 4" FOR THE MAIN CABLE AND 2" FOR SERVICE WIRES.
4. CONDUITS FOR SERVICE WIRES SHOULD BE INSTALLED AT ALL LOCATIONS WHERE REQUIRED DURING THE INITIAL INSTALLATION OF THE MAIN CABLE.
5. THE TRENCH MUST BE FILLED WITH "SUITABLE" BACK FILL, I.E., SAND BACK FILL WITH NO STONE LARGER THAN 1/4" IN DIAMETER.
6. VERIZON WILL SUPPLY THE CABLE AND LABOR TO INSTALL SAME.
7. A SEPARATION OF 12" HORIZONTAL OR VERTICAL MUST BE MAINTAINED BETWEEN VERIZON AND ALL OTHER UTILITIES SUCH AS ELECTRIC, CABLE TV, OR OTHERS.

#### VERTICAL GRANITE CURB

NOT TO SCALE AT ALL ROAD ENTRANCE RADI AT INTERSECTIONS

#### UTILITIES GENERAL NOTES:

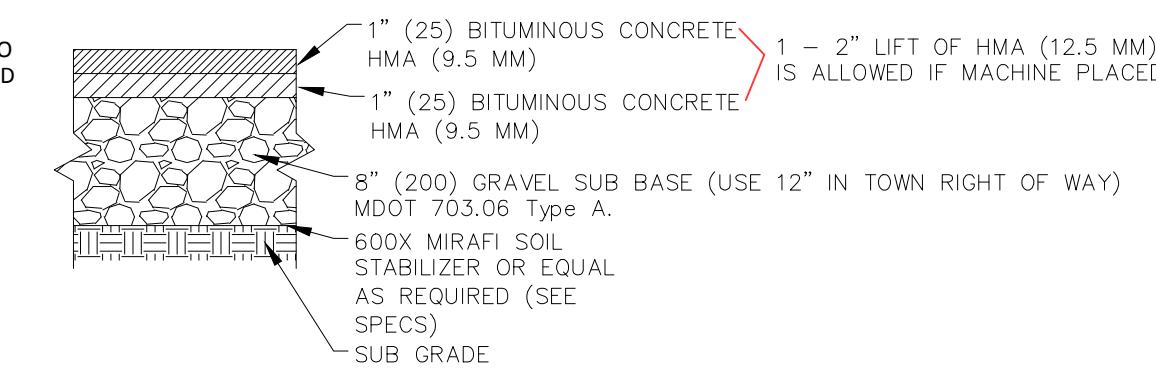
1. ALL UTILITIES TO BE LOCATED UNDERGROUND.
2. THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS NOT GUARANTEED. THE CONTRACTOR SHALL VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES WITH THE RESPECTIVE OWNERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF UTILITY AN STRUCTURE OWNERS REGARDING NOTIFICATION OF WORK AND PROTECTION OF EXISTING FACILITIES.
3. CONTRACTOR SHALL VERIFY ALL CRITICAL DIMENSIONS AND GRADES TO HIS SATISFACTION BEFORE WORK BEGINS. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
4. ALL UTILITIES ARE TO BE CONSTRUCTED TO THE STANDARDS SET BY THE RESPECTIVE UTILITY. PRE- CONSTRUCTION CONFERENCE MUST BE HELD WITH ALL UTILITY REPRESENTATIVES.
5. A MINIMUM OF 12" HORIZONTAL SPACING IS NECESSARY BETWEEN CABLES.
6. 4" CABLE & TELEPHONE SERVICE WILL BE CONSTRUCTED IN THE SAME TRENCH AS ELECTRIC.
7. THE ROAD CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ELECTRIC, TELEPHONE, & CABLE UP TO AND INCLUDING THE INSTALLATION OF JUNCTION BOXES AND TRANSFORMER PADS. THE ROAD CONTRACTOR SHALL INSTALL ANY ADDITIONAL CONDUIT NEEDED WHERE INDIVIDUAL UNIT SERVICES CROSS THE ROADWAY. THE SITE CONTRACTOR SHALL BE RESPONSIBLE TO EXTEND INDIVIDUAL SERVICE FROM THE TRANSFORMER PAD TO THE BUILDING. THE SITE CONTRACTOR IS REQUIRED TO INSTALL CONDUIT AT ALL PAVEMENT CROSSINGS OTHER THAN THE ROADWAY.
8. THE ROADWAY CONTRACTOR SHALL SET UP A SCOPING MEETING WITH THE SITE CONTRACTOR TO CONFIRM LIMITS OF WORK, SCHEDULING, AND CONSTRUCTION SEQUENCE BEFORE CONSTRUCTION.

#### CMP NOTES:

1. THE PROPOSED DISTRIBUTION SYSTEM PLAN SHALL BE COORDINATED WITH CENTRAL MAINE POWER COMPANY.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CMP'S CONSTRUCTION STANDARDS AND THE LATEST REVISION OF THE NATIONAL ELECTRICAL SAFETY CODE.
3. ALL TRENCHING, CONDUIT AND BACK FILLING IS THE CONTRACTOR'S RESPONSIBILITY.
4. CONDUITS SHALL BE A MINIMUM OF SCHEDULE 40 PVC OR EQUIVALENT.
5. ALL CABLES SHALL BE IN CONDUIT UNDER ALL PAVED AREAS, ROADWAYS, AND DRIVEWAYS. PRIMARY CABLES ARE TO BE INSTALLED IN CONDUIT IF DRIVEWAYS ARE NOT ROUGH GRADED.
6. CONDUITS FOR SECONDARY CABLES SHOULD BE INSTALLED AT ALL LOCATIONS WHERE REQUIRED DURING THE INITIAL INSTALLATION OF THE PRIMARY CABLE.
7. PRIMARY CABLE TO BE #2 AL 15 KV.
8. SEE CMP'S CONTRACTOR HANDBOOK, SECTION IX, PARAGRAPHS 910, 911, AND 912 FOR SPECIFICATIONS ON BACK-FILL MATERIALS AND DEPTHS, ETC.
9. ALL TRANSFORMER PADS MUST BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. PAD DESIGNS MUST CONFORM TO CMP SPECIFICATIONS. SEE ILLUSTRATIONS NO. 19, NO. 20, NO. 21 IN SECTION XII OF THE CONTRACTOR'S HANDBOOK.
10. ALL JUNCTION BOXES WILL BE PURCHASED AND INSTALLED BY THE CONTRACTOR. CMP WILL PROVIDE THE JUNCTION BOX, HOWEVER, THE EXCESS COST WILL BE BILLED TO THE OWNER. FIBERGLASS OR CONCRETE PADS REQUIRED FOR STEEL CABINETS AND JUNCTION BOXES.
11. CMP WILL SUPPLY THE CABLE, TRANSFORMERS AND LABOR TO INSTALL SAME.
12. ALL METERING ENCLOSURES WILL BE PUNCHED AND INSTALLED BY THE CONTRACTOR.
13. A SEPARATION OF 12" MUST BE MAINTAINED BETWEEN CMP AND ALL OTHER UTILITIES AND/OR TELEPHONE, CABLE ETC.

#### CABLE TV NOTES:

1. ALL TRENCHING, CONDUIT & BACK FILLING IS THE CONTRACTORS RESPONSIBILITY.
2. CONDUITS SHALL BE SCHEDULE 40 PVC AND WILL BE ROPED WITH 1/4" ROPE.
3. ALL CABLES SHALL BE IN CONDUIT UNDER ALL PAVED ROADS, DRIVEWAYS AND WALKWAYS AS NOTED OR SHOWN ON THE PLAN; 4" FOR THE MAIN CABLE AND 2" FOR THE SERVICE WIRES.
4. CONDUITS FOR SERVICE WIRES SHOULD BE INSTALLED AT ALL LOCATIONS WHERE REQUIRED DURING THE INSTALLATION OF THE MAIN CABLE.
5. THE CABLE COMPANY WILL SUPPLY THE MAIN CABLE AND PEDESTALS AND THE LABOR TO INSTALL SAME.
6. THE CABLE COMPANY WILL SUPPLY THE SERVICE WIRES.
7. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE CABLE COMPANY FOR INTERNAL WIRING SPECIFICATIONS AND SERVICE WIRE INSTALLATIONS.
8. ALL SERVICE WIRE INSTALLATIONS AND INTERIOR WIRING SHALL CONFORM TO THE CABLE COMPANY SPECIFICATIONS.
9. A SEPARATION OF 12" HORIZONTAL OR VERTICAL MUST BE MAINTAINED BETWEEN THE CABLE COMPANY AND ALL OTHER UTILITIES SUCH AS ELECTRIC, TELEPHONE OR OTHERS.
10. CONTRACTOR SHALL EXPOSE GROUND ROD AT ALL PAD LOCATIONS TO INSURE PROPER GROUNDING FOR THE CABLE COMPANY.



#### BIUMINOUS CONCRETE WALK

#### SEWER CONSTRUCTION NOTES:

1. SEWER LINE CONSTRUCTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN OF CUMBERLAND STANDARD SPECIFICATIONS.
2. MINIMUM DIAMETER FOR MAINLINE SEWER IS EIGHT INCH (8") WITH A MINIMUM SLOPE OF 0.005.
3. SANITARY SEWER SERVICE STUBS TO BE SIX INCH (6") DIAMETER MINIMUM AND TO BE INSTALLED BEYOND THE EDGE OF PAVEMENT, AND UTILITY TRENCH AS SHOWN ON PLAN.
4. SANITARY SEWER SERVICE STUBS TO BE CONNECTED TO THE MAIN LINE BY USE OF 8X8X6 WYES. TEE STUBS WILL NOT BE ALLOWED.
5. SANITARY SEWER MANHOLES TO BE PER ASTM SPECIFICATIONS, WITH TWO (2) COATS OF BITUMINOUS COATING, WITH SMOOTH CHanneled INVERTS, AND PROPERLY SIZED AND ORIENTED PRECAST PIPE OPENINGS WITH FLEXIBLE PIPE BOOTS. STEPS TO BE INSTALLED PARALLEL TO INVERT CHANNEL. SERVICE CONNECTIONS TO BE INCORPORATED IN INVERT CHANNEL.
6. MANHOLE FRAMES AND COVERS TO BE SUITABLE FOR HIGHWAY LOADING AND TO BE TO DISTRICT STANDARDS.
7. DESIGN AND CONSTRUCTION OF PROJECT SANITARY SEWER UTILITY WILL BE CARRIED OUT TO SPECIFICALLY EXCLUDE THE INTRODUCTION OF NON-SANITARY GROUND AND / OR SURFACE WATER INTO THE SANITARY SEWER SYSTEM.
8. ALL GRAVITY SEWER TO BE LOW PRESSURE AIR AND DEFLECTION TESTED AFTER BACK FILLING AND COMPACTION AND PRIOR TO CONNECTION OF BUILDING SEWER.
9. PRIOR TO THE START OF CONSTRUCTION, DEVELOPER TO PROVIDE TO DISTRICT TWO (2) COPIES OF UTILITY PLAN.
10. MINIMUM HORIZONTAL CLEARANCES TO BE MAINTAINED BETWEEN UTILITIES, TO PERMIT FUTURE MAINTENANCE OPERATIONS WITHOUT DISTURBING ADJACENT UTILITIES.

#### WATER CONSTRUCTION NOTES:

1. TEST PITS SHALL BE EXCAVATED AT CROSSINGS OF UTILITIES TO DETERMINE LOCATION AND DEPTH SUFFICIENTLY IN ADVANCE OF WATER MAIN CONSTRUCTION TO PERMIT ADJUSTMENT OF WATER MAIN LOCATION BY DEFLECTION OF THE PIPE.
2. MINIMUM DEPTH OF COVER FOR ALL WATER LINES SHALL BE 5.5' FROM FINISHED GRADE UNLESS OTHERWISE DIRECTED.
3. PROPOSED PIPELINE, VALVE, AND HYDRANT LOCATIONS ARE APPROXIMATE. FINAL LOCATION MAY BE ADJUSTED AS REQUIRED TO AVOID CONFLICTS WITH OTHER UTILITIES AND STRUCTURES. NO ADDITIONAL PAYMENT WILL BE MADE FOR EXCAVATION AND BACK FILL BEYOND THE TRENCH LIMITS SHOWN.
4. ANY EXISTING PIPELINE, UTILITY OR STRUCTURE, INCLUDING EXISTING WATER MAINS, DAMAGED BY CONTRACTOR'S OPERATIONS SHALL BE IMMEDIATELY REPAIRED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
5. ALL PROPERTY REMOVED, DAMAGED OR ALTERED IN THE COURSE OF THE WORK SHALL BE REPLACED OR RESTORED TO EQUAL OR BETTER CONDITION TO THAT WHICH EXISTED BEFORE THE WORK COMMENCED.
6. ALL FITTINGS, VALVES, AND HYDRANTS SHALL HAVE MECHANICAL JOINTS RESTRAINED WITH GRIP-RING RETAINER GLANDS.
7. CONSTRUCTION SHALL FOLLOW PORTLAND WATER DISTRICT STANDARDS. ALL MATERIALS FOR THE PROJECT INCLUDING PIPE, COUPLINGS, VALVES, FITTINGS, HYDRANTS, TAPPING SLEEVES AND VALVES, VALVE BOXES, CORPORATION STOPS, CURB STOPS, SERVICE PIPING, CURB BOXES, RETAINER GLANDS, AND ACCESSORIES SUCH AS GASKETS, BOLTS, NUTS, AND GLANDS AS REQUIRED TO MAKE THE PIPING SYSTEMS COMPLETE SHALL MEET PWD SPECIFICATIONS. ALL CONCRETE AND EARTH MATERIALS INCLUDING CRUSHED STONE, GRAVEL, SAND, AND BORROW SHALL BE FURNISHED BY THE CONTRACTOR.
8. A SEPARATION OF 12" VERTICAL CLEARANCE MUST BE MAINTAINED BETWEEN THE WATER MAIN AND ALL OTHER UTILITIES.
9. ALL WATER MAIN SIZES ARE AS INDICATED ON THE PLAN/PROFILES. EACH UNIT SHALL BE SERVICED BY A 1 1/2" LINE OFF THE MAIN, SPLIT AT THE UNIT TO PROVIDE A 1" CTS DOMESTIC SUPPLY AND A 1 1/2" SPRINKLER SUPPLY INSTALLED IN ACCORDANCE WITH THE STANDARDS OF THE PORTLAND WATER DISTRICT. SIZES SHALL BE CONFIRMED BY THE SPRINKLER INSTALLER PRIOR TO CONSTRUCTION.
10. THE COMPLETE PIPING SYSTEM SHALL BE FLUSHED, CHLORINATED, AND PRESSURE TESTED BY THE CONTRACTOR PRIOR TO ACCEPTANCE BY THE OWNER. SERVICES SHALL BE INSTALLED UNDER LINE PRESSURE AFTER THE MAIN HAS BEEN SUCCESSFULLY PRESSURE TESTED.

3.	3-1-2018	Respond to Town Memos, Re-submit to Town	CSB
2.	2-7-2018	SUBMIT TO DEP	CSB
1.	1-31-2018	Re-Submit to Town and Maine DEP	CSB

#### Roadway Sections and Details

Oceanview at Cumberland  
291 Tuttle Road, Cumberland, Maine

Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine

**BELANGER ENGINEERING**  
CONSULTING ENGINEERS  
63 Second Avenue, Augusta, Maine 04330  
Ph 207-622-1462, Cell 207-242-5713

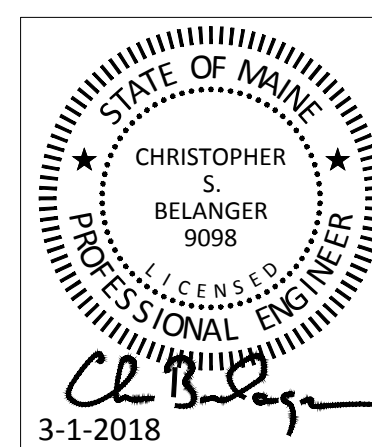
- COMMERCIAL PROJECTS
- RESIDENTIAL SUBDIVISIONS
- TOWN AND STATE APPROVALS
- SITE PLANNING & DESIGN
- STORMWATER MANAGEMENT
- ROAD AND UTILITY DESIGN
- EROSION CONTROL PLANS

FIELD WK: SCALE: SHEET: C13

DRN BY: JOB #: 109

CH'D BY: SS:

DATE: 3-1-2018 FILE:





STRUCTURE TABLE				
STRUCTURE NAME:	RIM ELEVATION	INV. IN:	INV. OUT	STA / OFFSET
C2	RIM = 87.57		INV OUT =87.00	Sta 38+36.10, Offset 274.81, R
CB2	RIM = 89.26	INV IN =84.80 INV IN =84.56	INV OUT =84.55	Sta 12+51.28, Offset -9.94, L
CB2A	RIM = 89.25		INV OUT =84.76	Sta 12+50.68, Offset 9.57, R
CB3	RIM = 94.14	INV IN =82.93 INV IN =89.09	INV OUT =82.80	Sta 15+59.36, Offset 44.00, R
CB3A	RIM = 94.13	INV IN =82.70	INV OUT =82.50	Sta 15+73.78, Offset 10.06, R
CB4	RIM = 99.40		INV OUT =95.80	Sta 43+22.15, Offset 28.98, R
CB5	RIM = 93.69		INV OUT =89.50	Sta 15+33.30, Offset -17.98, L
CB6	RIM = 93.05	INV IN =87.90	INV OUT =87.80	Sta 21+44.88, Offset -10.17, L
CB7	RIM = 93.05		INV OUT =88.00	Sta 21+44.34, Offset 10.09, R
CB13	RIM = 101.27	INV IN =96.36	INV OUT =93.00	Sta 24+06.66, Offset 10.34, R
CB13A	RIM = 101.30	INV IN =96.85	INV OUT =96.56	Sta 24+05.98, Offset -9.45, L
CB16	RIM = 99.41	INV IN =92.69	INV OUT =91.30	Sta 43+85.19, Offset 36.32, R
CB17	RIM = 98.31	INV IN =90.24 INV IN =92.62 INV IN =91.47	INV OUT =90.14	Sta 44+34.93, Offset 10.13, R
CB17A	RIM = 98.32	INV IN =90.52	INV OUT =92.82	Sta 44+41.65, Offset 29.06, R
CB18	RIM = 100.70	INV IN =89.54 INV IN =95.15	INV OUT =89.44	Sta 42+71.08, Offset -10.11, L
CB18A	RIM = 99.90	INV IN =91.96	INV OUT =91.80	Sta 44+50.00, Offset 40.60, R
CB18B	RIM = 99.90		INV OUT =93.00	Sta 22+68.58, Offset 219.16, R
CB20	RIM = 100.41	INV IN =88.65 INV IN =93.07	INV OUT =88.50	Sta ???, Offset ???, ???
CB21	RIM = 100.40	INV IN =93.31	INV OUT =93.21	Sta 46+79.11, Offset -41.43, L
CB22	RIM = 102.32		INV OUT =97.54	Sta 28+99.93, Offset -9.87, L
CB23	RIM = 102.32	INV IN =97.35	INV OUT =97.25	Sta 28+99.71, Offset 9.96, R
CB24	RIM = 99.65	INV IN =93.00 INV IN =93.00 INV IN =93.00	INV OUT =92.87	Sta 31+79.30, Offset 9.43, R
CB24A	RIM = 99.74	INV IN =93.20	INV OUT =93.10	Sta 31+79.17, Offset -9.82, L
CB25	RIM = 98.99	INV IN =92.60 INV IN =92.60	INV OUT =92.50	Sta 31+90.51, Offset 15.48, R
CB26	RIM = 98.05	INV IN =93.59 INV IN =93.95	INV OUT =93.04	Sta 33+15.17, Offset 10.00, R
CB27	RIM = 98.05	INV IN =92.21	INV OUT =93.79	Sta 33+57.13, Offset -10.18, L
CB28	RIM = 100.04	INV IN =91.95	INV OUT =91.85	Sta 51+24.60, Offset -9.12, L
CB30	RIM = 96.97	INV IN =90.26 INV IN =92.00	INV OUT =90.16	Sta 31+66.96, Offset 396.00, R
CB30A	RIM = 96.97		INV OUT =92.35	Sta 31+56.84, Offset 397.97, R
CB31	RIM = 94.95	INV IN =89.67 INV IN =89.67	INV OUT =89.57	Sta 55+05.31, Offset -9.64, L
CB32	RIM = 93.92	INV IN =89.11 INV IN =89.14	INV OUT =89.00	Sta 56+05.12, Offset -9.95, L
CB32A	RIM = 93.92		INV OUT =89.34	Sta 38+31.41, Offset 399.48, R
CB33	RIM = 95.70	INV IN =88.25	INV OUT =88.15	Sta 57+62.97, Offset -9.57, L
CB34	RIM = 92.25	INV IN =87.68 INV IN =87.66	INV OUT =87.58	Sta 37+77.85, Offset 157.72, R
CB35	RIM = 94.04	INV IN =88.60 INV IN =88.60	INV OUT =88.46	Sta 38+94.02, Offset 23.37, R
CB35A	RIM = 93.70		INV OUT =89.65	Sta 39+36.12, Offset 9.99, R
CB36	RIM = 95.25		INV OUT =90.38	Sta 38+28.26, Offset -9.62, L
CB40	RIM = 99.90	INV IN =93.92	INV OUT =93.82	Sta 30+26.99, Offset 35.97, R
CB41	RIM = 101.67	INV IN =94.37	INV OUT =94.27	Sta 30+46.50, Offset -31.32, L
CB42	RIM = 100.14	INV IN =95.04	INV OUT =94.94	Sta 20+31.07, Offset 357.62, R
CB43	RIM = 100.15		INV OUT =95.24	Sta 31+56.47, Offset 7.82, R
CB44	RIM = 95.91		INV OUT =93.37	Sta ???, Offset ???, ???
CB45	RIM = 95.78	INV IN =93.17	INV OUT =93.07	Sta 21+21.00, Offset 7.90, R
CB46	RIM = 97.80		INV OUT =93.54	Sta 34+50.93, Offset -22.99, L
CB47	RIM = 97.80	INV IN =92.83	INV OUT =92.73	Sta 33+88.87, Offset -24.50, L
CB48	RIM = 98.07		INV OUT =93.00	Sta 66+00.63, Offset 0.01, R
CB49	RIM = 97.90		INV OUT =93.91	Sta 33+00.54, Offset -25.50, L
CB50	RIM = 99.90	INV IN =93.46	INV OUT =93.36	Sta 32+07.60, Offset -25.78, L
CB51	RIM = 97.90		INV OUT =93.54	Sta 31+72.78, Offset 38.89, R
CB60	RIM = 94.93	INV IN =90.50	INV OUT =90.40	Sta 60+65.91, Offset -8.03, L

Pipe Table						
NAME	SIZE	LENGTH	SLOPE	Inv. in	Inv. out	MATERIAL
Arch 2	122"	73.61'	2.04%	Inv. in=90.00	Inv. out=88.50	122 x 77 inch Concrete Horizontal Elliptical Arch Pipe
ARCH1	88"	68.93'	0.73%	Inv. in=81.50	Inv. out=81.00	
Culv1	15"	63.38'	0.63%	Inv. in=83.50	Inv. out=83.10	15 inch Corrugated HDPE Pipe
CULV3	18"	90.56'	0.55%	Inv. in=82.50	Inv. out=82.00	18 inch Corrugated HDPE Pipe
CULV4	12"	51.30'	1.95%	Inv. in=96.00	Inv. out=95.00	12" N-12 ADS
CULV5	12"	46.36'	3.66%	Inv. in=86.50	Inv. out=84.80	12 inch Corrugated HDPE Pipe
CULV5 (1)	12"	46.36'	3.66%	Inv. in=86.50	Inv. out=84.80	12 inch Corrugated HDPE Pipe
CULV5 (2)	12"	46.36'	3.66%	Inv. in=86.50	Inv. out=84.80	12 inch Corrugated HDPE Pipe
O1	6"	3.04'	0.99%	Inv. in=74.78	Inv. out=74.75	6" ORIFICE CORED INTO STRUCTURE
O2	6"	2.73'	0.00%	Inv. in=89.50	Inv. out=89.50	Cut 6"X6" Notch into top Outlet Control Structure
SD OCS1	18"	58.06'	6.89%	Inv. in=74.00	Inv. out=70.00	18 inch Corrugated HDPE Pipe
SD OCS2	24"	31.08'	1.61%	Inv. in=86.50	Inv. out=86.00	24" N-12 ADS HDPE Pipe
SD2	18"	321.93'	0.50%	Inv. in=84.55	Inv. out=82.93	18 inch Corrugated HDPE Pipe
SD2A	18"	19.52'	1.03%	Inv. in=84.76	Inv. out=84.56	18 inch Corrugated HDPE Pipe
SD3	18"	19.90'	0.50%	Inv. in=82.80	Inv. out=82.70	
SD3A	18"	167.07'	0.63%	Inv. in=82.50	Inv. out=81.45	18 inch Corrugated HDPE Pipe
SD4	12"	64.31'	1.00%	Inv. in=95.80	Inv. out=95.15	
SD5	15"	40.52'	1.00%	Inv. in=89.50	Inv. out=89.09	
SD6	15"	28.15'	1.89%	Inv. in=87.80	Inv. out=87.27	
SD7	15"	20.26'	0.50%	Inv. in=88.00	Inv. out=87.90	15" N-12 ADS
SD13	18"	123.57'	0.25%	Inv. in=93.00	Inv. out=92.69	18 inch Corrugated HDPE Pipe
SD13A	15"	19.81'	1.01%	Inv. in=96.56	Inv. out=96.36	
SD16	18"	56.22'	1.89%	Inv. in=91.30	Inv. out=90.24	18 inch Corrugated HDPE Pipe
SD17	18"	97.00'	0.61%	Inv. in=90.14	Inv. out=89.54	18 inch Corrugated HDPE Pipe
SD17A	15"	20.09'	0.98%	Inv. in=92.82	Inv. out=92.62	
SD18	18"	83.89'	0.95%	Inv. in=89.44	Inv. out=88.65	18 inch Corrugated HDPE Pipe
SD18A	15"	14.24'	8.96%	Inv. in=91.80	Inv. out=90.52	15 inch Corrugated HDPE Pipe
SD18B	15"	94.43'	1.10%	Inv. in=93.00	Inv. out=91.96	15 inch Corrugated HDPE Pipe
SD20	18"	118.03'	4.66%	Inv. in=88.50	Inv. out=83.00	18 inch Corrugated HDPE Pipe
SD21	18"	27.90'	0.50%	Inv. in=93.21	Inv. out=93.07	18 inch Corrugated HDPE Pipe
SD22	18"	19.83'	1.00%	Inv. in=97.54	Inv. out=97.35	18 inch Corrugated HDPE Pipe
SD23	18"	238.06'	1.78%	Inv. in=97.25	Inv. out=93.00	18 inch Corrugated HDPE Pipe
SD24	18"	54.62'	0.50%	Inv. in=92.87	Inv. out=92.60	18 inch Corrugated HDPE Pipe
SD24A	18"	19.24'	0.50%	Inv. in=93.10	Inv. out=93.00	
SD25	18"	109.74'	0.50%	Inv. in=92.50	Inv. out=91.95	18 inch Corrugated HDPE Pipe
SD26	18"	125.13'	0.35%	Inv. in=93.04	Inv. out=92.60	18 inch Corrugated HDPE Pipe
SD27	15"	20.18'	1.00%	Inv. in=93.79	Inv. out=93.59	15" N-12 ADS
SD28	18"	70.01'	0.50%	Inv. in=91.85	Inv. out=91.50	18 inch Corrugated HDPE Pipe
SD28 (1)	18"	109.90'	0.50%	Inv. in=91.38	Inv. out=90.83	18 inch Corrugated HDPE Pipe
SD29	18"	94.09'	0.50%	Inv. in=90.73	Inv. out=90.26	18 inch Corrugated HDPE Pipe
SD30	18"	97.03'	0.50%	Inv. in=90.16	Inv. out=89.67	18 inch Corrugated HDPE Pipe
SD30A	15"	20.25'	1.73%	Inv. in=92.35	Inv. out=92.00	
SD31	18"	91.58'	0.50%	Inv. in=89.57	Inv. out=89.11	18 inch Corrugated HDPE Pipe
SD32	18"	149.07'	0.50%	Inv. in=89.00	Inv. out=88.25	18 inch Corrugated HDPE Pipe
SD32A	18"	20.01'	1.00%	Inv. in=89.34	Inv. out=89.14	18 inch Corrugated HDPE Pipe
SD33	18"	158.21'	0.30%	Inv. in=88.15	Inv. out=87.68	18 inch Corrugated HDPE Pipe
SD34	18"	14.96'	0.50%	Inv. in=87.58	Inv. out=87.51	18 inch Corrugated HDPE Pipe
SD35	18"	164.82'	0.49%	Inv. in=88.46	Inv. out=87.66	18 inch Corrugated HDPE Pipe
SD35A	15"	46.37'	2.27%	Inv. in=89.65	Inv. out=88.60	
SD36	18"	41.24'	4.31%	Inv. in=90.38	Inv. out=88.60	18 inch Corrugated HDPE Pipe

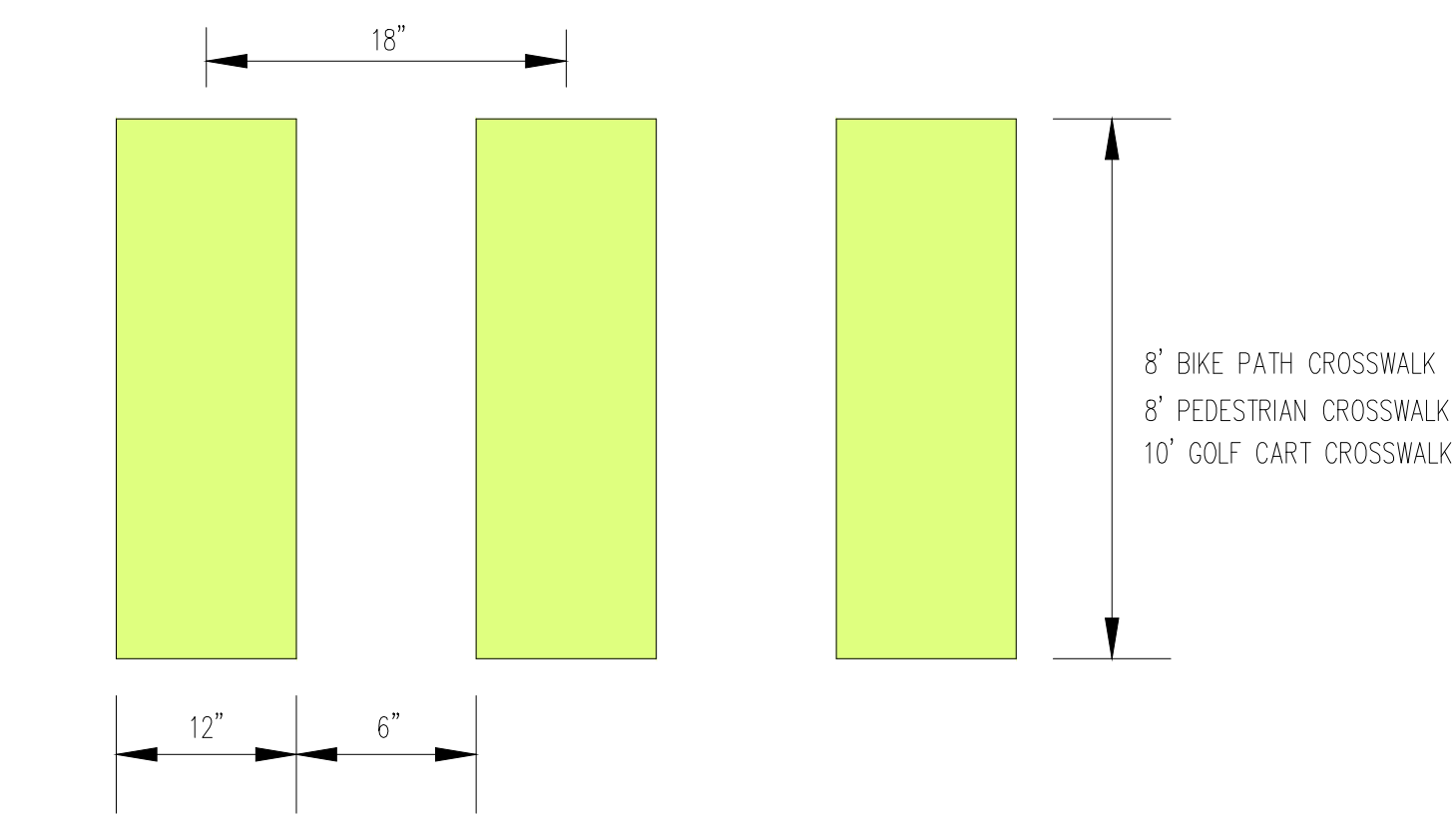
STRUCTURE TABLE				
STRUCTURE NAME:	RIM ELEVATION	INV. IN:	INV. OUT	STA / OFFSET
CB61	RIM = 94.92		INV OUT =90.70	Sta 60+66.20, Offset 8.17, R
CB62	RIM = 100.42	INV IN =91.50 INV IN =94.00	INV OUT =91.38	Sta 32+15.63, Offset 193.70, R
CB66	RIM = 101.26		INV OUT =96.00	Sta 51+94.51, Offset 37.51, R
CB70	RIM = 103.50		INV OUT =99.40	Sta 27+41.77, Offset -95.62, L
CB71	RIM = 103.50	INV IN =98.98	INV OUT =98.88	Sta 26+61.30, Offset -97.73, L
CB72	RIM = 103.50	INV IN =98.49	INV OUT =98.39	Sta 25+64.59, Offset -100.46, L
CB73	RIM = 104.27	INV IN =97.93	INV OUT =97.83	Sta 25+85.84, Offset -9.99, L
CB74	RIM = 101.65	INV IN =97.32	INV OUT =97.22	Sta 24+82.15, Offset -9.71, L
J1	RIM = 75.18	INV IN =74.64	INV OUT =74.64	Sta 47+54.66, Offset 219.28, R
OCS1	RIM = 78.82	INV IN =74.75 INV IN =74.50	INV OUT =74.00	Sta 0+73.53, Offset -1.63, L
OCS2	RIM = 90.50	INV IN =89.50 INV IN =86.50	INV OUT =86.50	Sta 38+22.42, Offset 304.39, R
SD29	RIM = 98.81	INV IN =90.83	INV OUT =90.73	Sta 31+63.17, Offset 302.18, R

Pipe Table						
NAME	SIZE	LENGTH	SLOPE	Inv. in	Inv. out	MATERIAL
SD40	15"	102.52'	0.50%	Inv. in=93.82	Inv. out=93.31	15" N-12 ADS
SD41	15"	70.34'	0.50%	Inv. in=94.27	Inv. out=93.92	
SD42	12"	113.86'	0.50%	Inv. in=94.94	Inv. out=94.37	12" N-12 ADS
SD43	12"	15.83'	1.27%	Inv. in=95.24	Inv. out=95.04	12" N-12 ADS
SD44	12"	16.05'	1.23%	Inv. in=93.37	Inv. out=93.17	
SD45	12"	116.83'	1.37%	Inv. in=93.07	Inv. out=91.47	12" N-12 ADS
SD46	15"	71.38'	1.00%	Inv. in=93.54	Inv. out=92.83	12" N-12 ADS
SD47	15"	36.19'	1.42%	Inv. in=92.73	Inv. out=92.21	15" N-12 ADS
SD48	12"	80.84'	-1.18%	Inv. in=93.00	Inv. out=93.95	12 inch Corrugated HDPE Pipe
SD49	15"	90.73'	0.50%	Inv. in=93.91	Inv. out=93.46	15 inch Corrugated HDPE Pipe
SD50	15"	31.56'	0.50%	Inv. in=93.36	Inv. out=93.20	15 inch Corrugated HDPE Pipe
SD51	15"	30.18'	1.79%	Inv. in=93.54	Inv. out=93.00	15 inch Corrugated HDPE Pipe
SD60	12"	82.29'	0.89%	Inv. in=90.40	Inv. out=89.67	
SD61	12"	16.21'	1.24%	Inv. in=90.70	Inv. out=90.50	
SD66	15"	45.94'	4.35%	Inv. in=96.00	Inv. out=94.00	
SD70	12"	84.00'	0.50%	Inv. in=99.40	Inv. out=98.98	12" N-12 ADS
SD71	12"	78.64'	0.50%	Inv. in=98.88	Inv. out=98.49	12" N-12 ADS
SD72	12"	92.40'	0.50%	Inv. in=98.39	Inv. out=97.93	12" N-12 ADS
SD73	12"	101.47'	0.50%	Inv. in=97.83	Inv. out=97.32	12" N-12 ADS
SD74	12"	74.64'	0.50%	Inv. in=97.22	Inv. out=96.85	12" N-12 ADS
UD1	6"	12.96'	1.07%	Inv. in=74.64	Inv. out=74.50	6.0 inch PERF. PVC Pipe
UD1A	6"	28.98'	0.81%	Inv. in=74.87	Inv. out=74.64	6.0 inch PERF PVC Pipe
UD2	6"	39.96'	1.25%	Inv. in=87.00	Inv. out=86.50	6" SDR35 PERFORATED Pipe

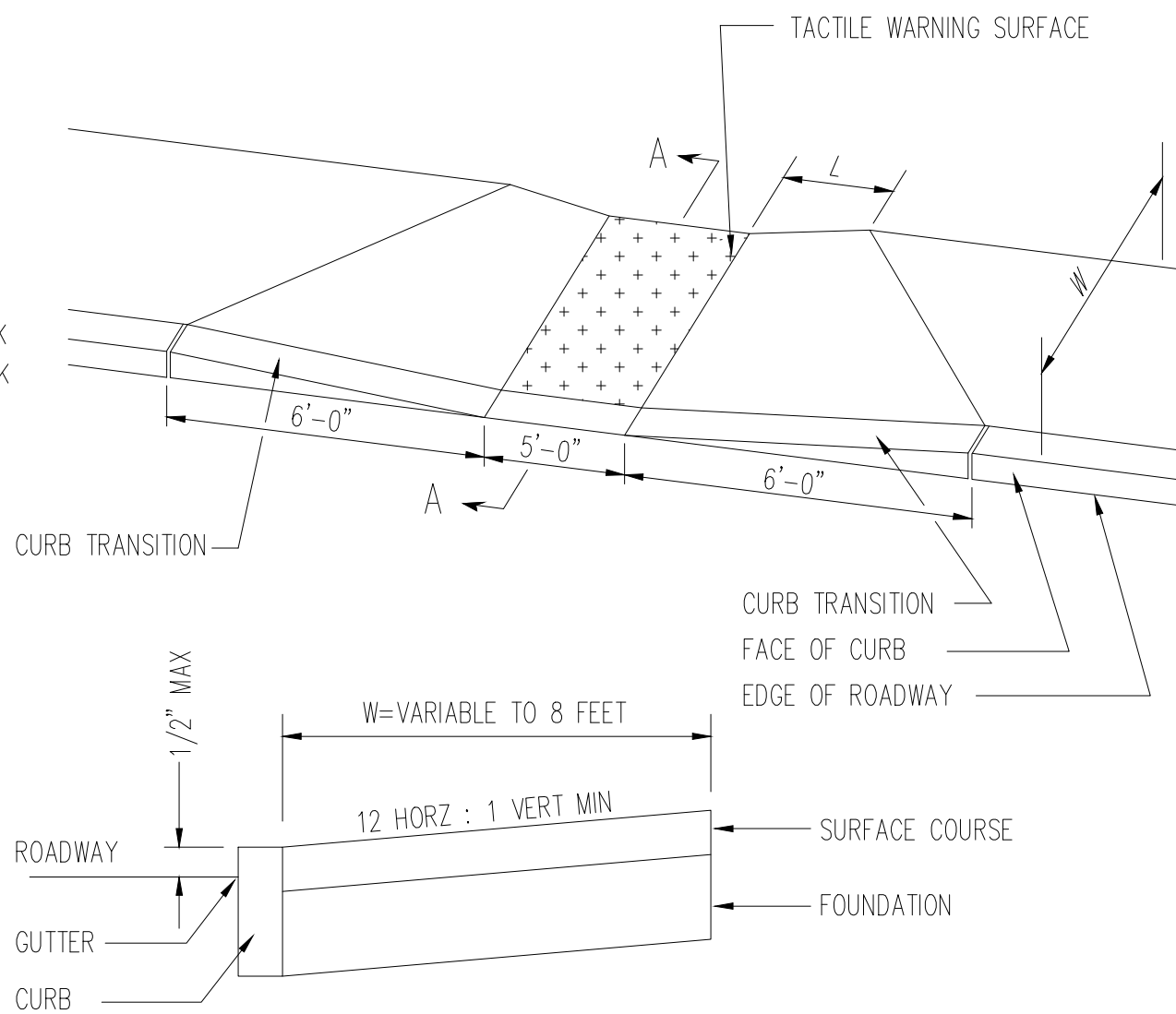
Little Acres Drive			
Number	Radius	Length	Line/Chord Direction
L19		24.33	N35° 42' 05.55"E
C17	150.00	38.55	N28° 20' 23.11"E
L20		484.37	N20° 58' 40.67"E
C18	300.00	59.02	N15° 20' 30.44"E
L21		233.12	N9° 42' 20.21"E
L22		43.09	N42° 13' 35.21"E
C22	500.00	460.63	N15° 50' 03.23"E
L23		80.99	N10° 33' 28.75"W
C23	150.00	142.20	N16° 36' 00.12"E
L24		303.30	N43° 45' 28.98"E
C24	400.00	59.82	N39° 28' 24.96"E
L25		137.03	N35° 11' 20.94"E
C25	150.00	104.10	N55° 04' 11.47"E
L26		87.70	N74° 57' 02.00"E
C26	150.00	131.52	S79° 55' 48.53"E
L27		27.92	S54° 48' 39.06"E
C27	300.00	217.18	S75° 32' 59.23"E

Mallard Way				
Number	Radius	Length	Line/Chord Direction	A Value
L14		107.82	S54° 48' 39.06"E	
C13	150.00	37.97	S47° 33' 30.29"E	
L15		145.26	S40° 18' 21.52"E	
C14	150.00	37.97	S47° 33' 30.29"E	
L16		77.97	S54° 48' 39.06"E	
C15	150.00	235.62	N80° 11' 20.94"E	
L17		35.81	N35° 11' 20.94"E	
C16	200.00	112.67	N19° 03' 03.11"E	
L18		222.67	N2° 54' 45.29"E	





CROSSWALK  
NOT TO SCALE RD-MARKS-CROSSWALK/10-02



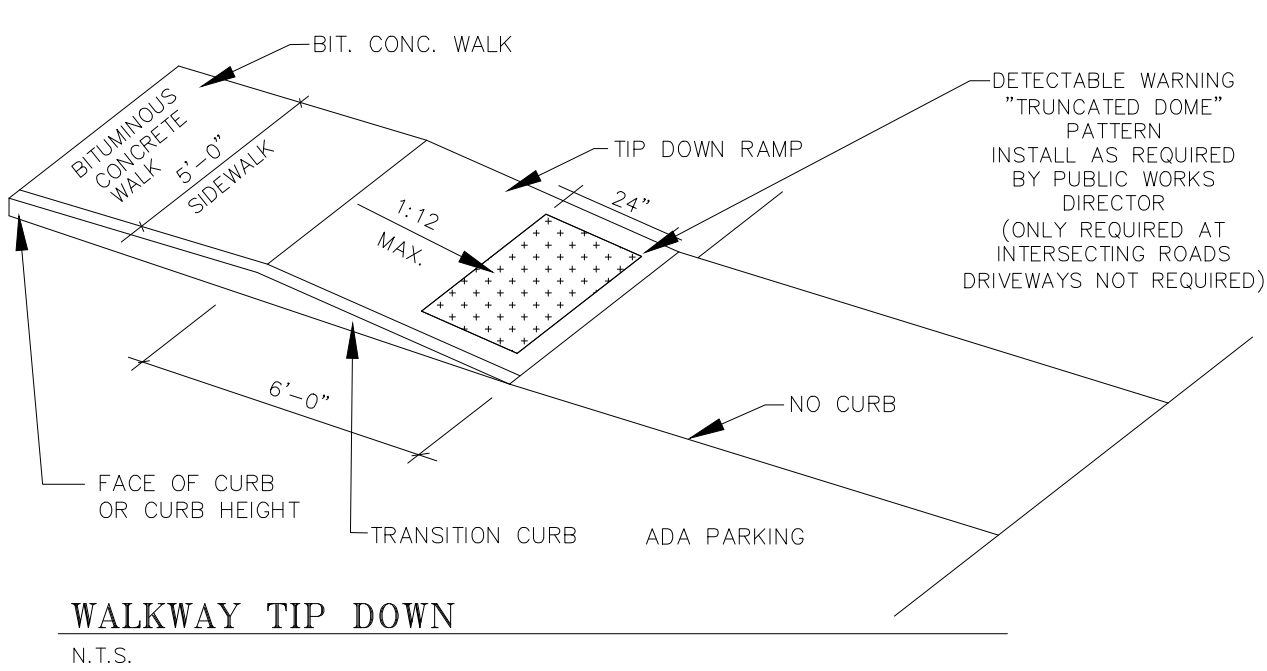
NOTES:

1. THE DIMENSIONS SHOWN AT ROADWAY EDGE ARE FIXED DISTANCES.
2. RAMP CROSS SECTION TO BE SAME AS ADJACENT SIDEWALK; I.E. DEPTH OF SURFACE AND FOUNDATION.
3. IN NO CASE ARE THE RAMPS TO BE PLACED BEHIND THE STOP LINE.

W	L
4'-0"	3'-6"±
5'-0"	2'-9"±
6'-0"	2'-0"±
7'-0"	1'-3"±
8'-0"	0'-0"

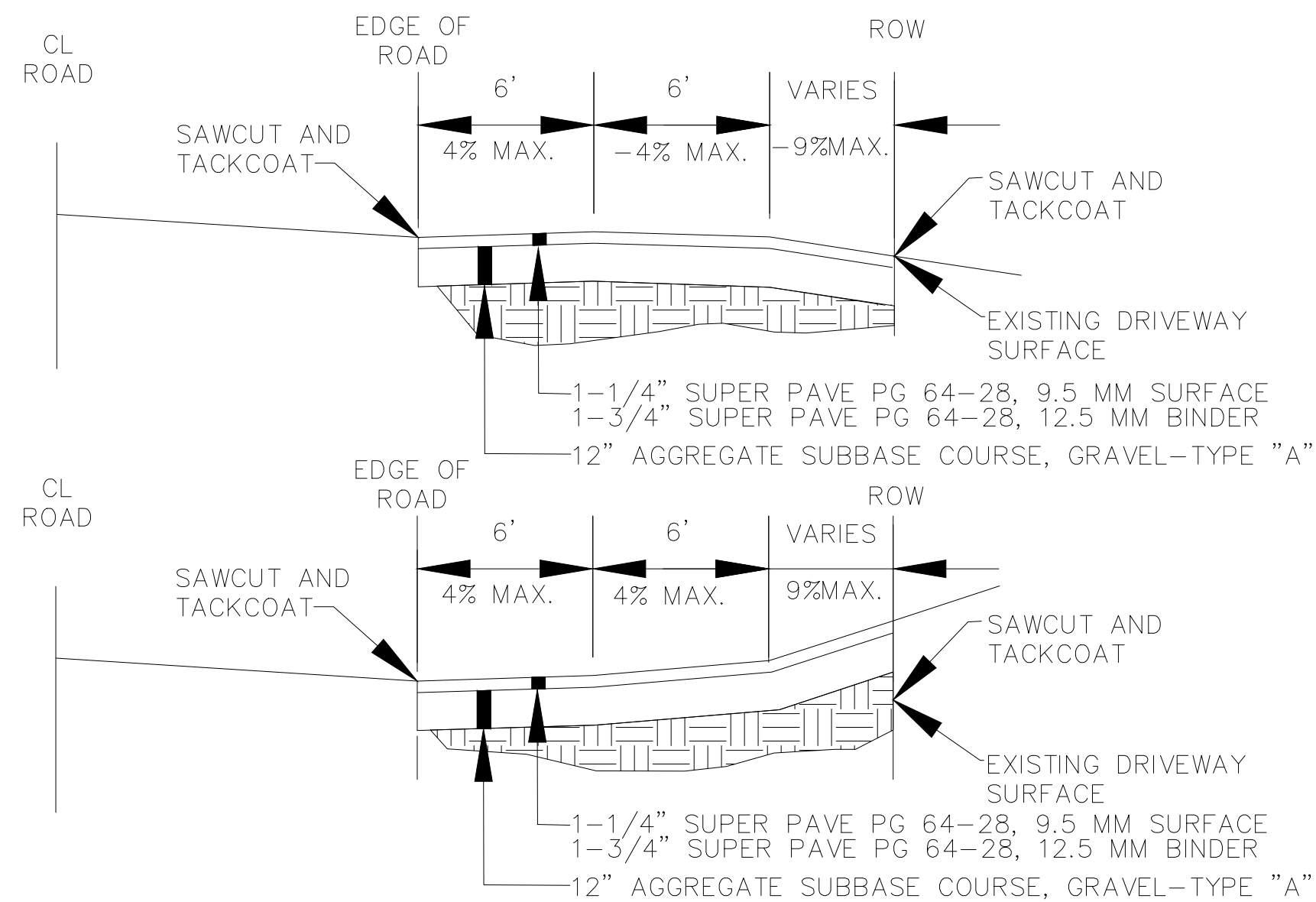
WHEEL CHAIR RAMP

NOT TO SCALE HC-RAMP-CONC-GCURB/S-95



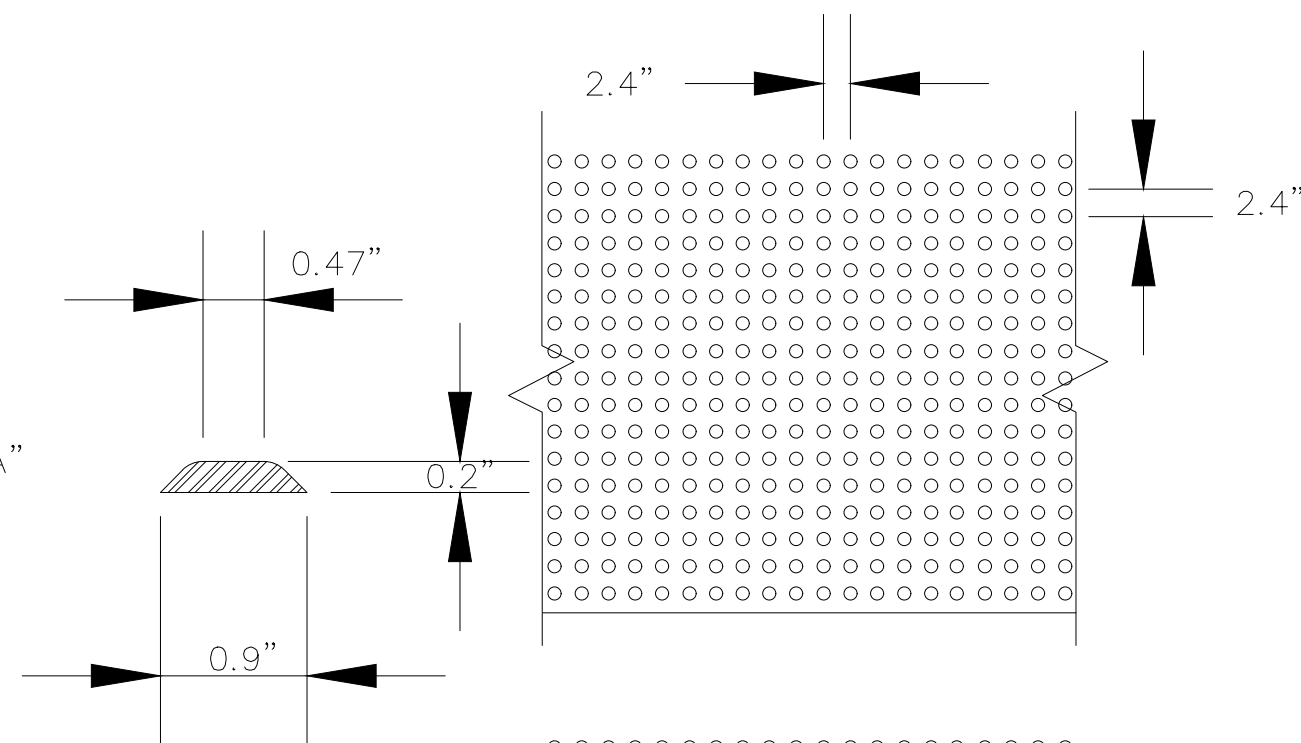
WALKWAY TIP DOWN

N.T.S.



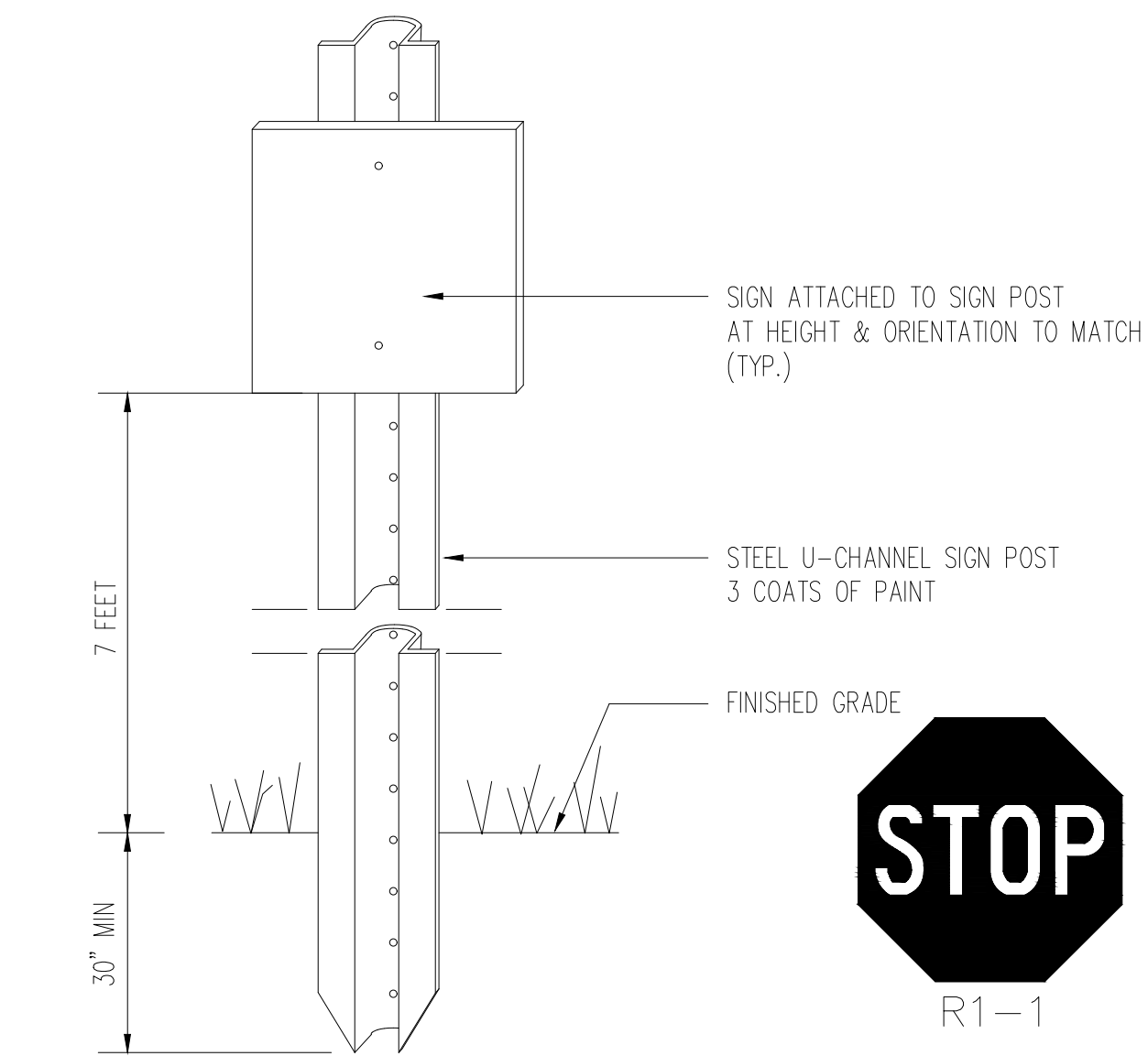
DRIVEWAY APRON DETAIL

NOT TO SCALE



TRUNCATED DOME DETAIL

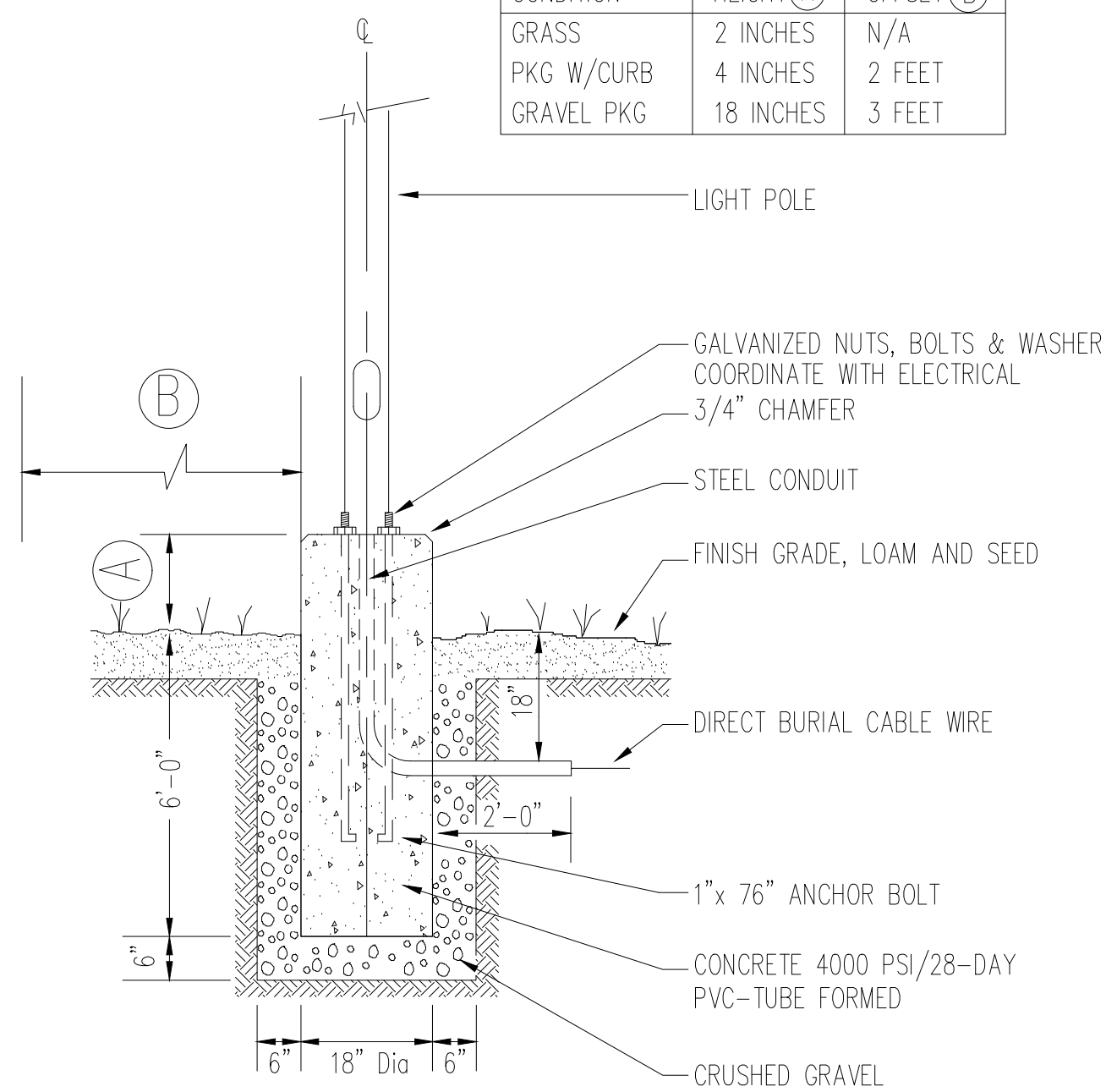
NOT TO SCALE



SIGN & POST

NOT TO SCALE

BASE LOCATION		
CONDITION	HEIGHT (A)	OFFSET (B)
GRASS	2 INCHES	N/A
PKG W/CURB	4 INCHES	2 FEET
GRAVEL PKG	18 INCHES	3 FEET

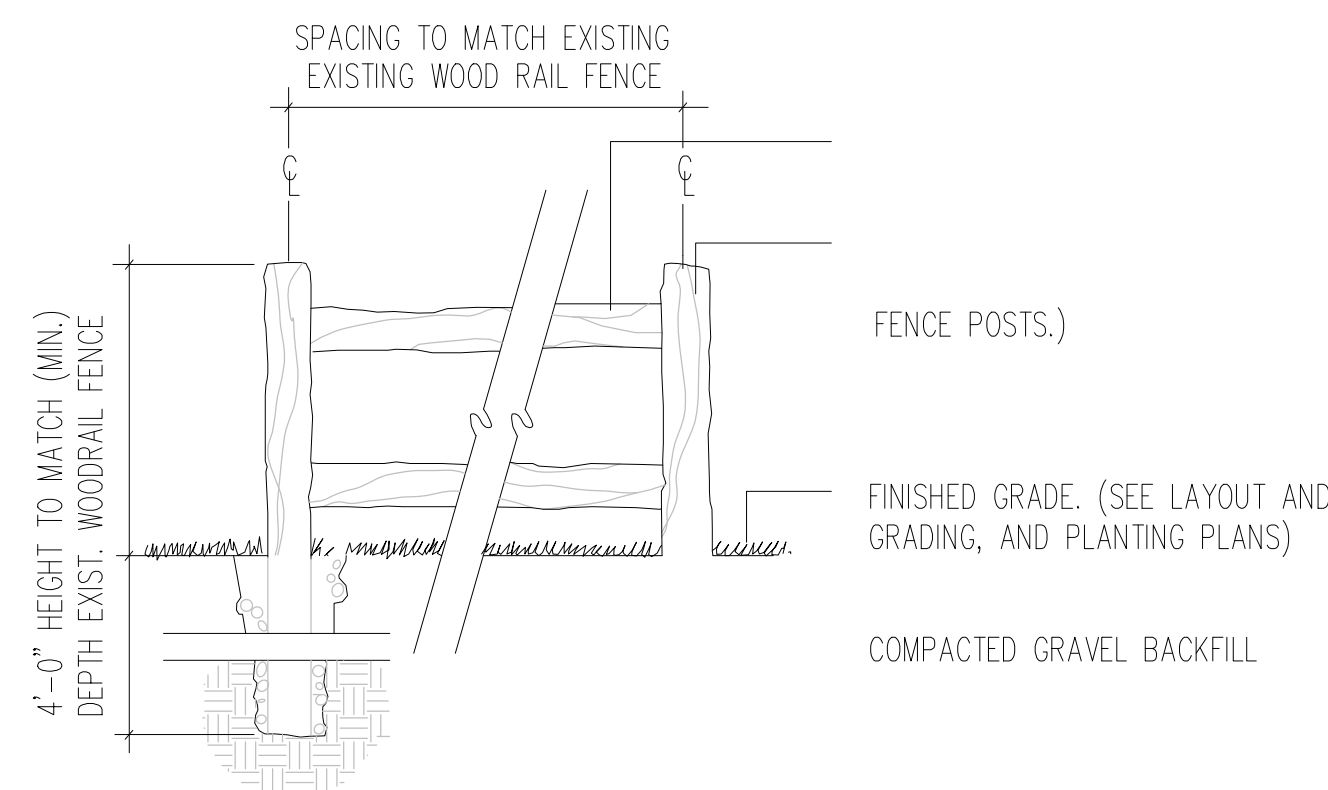


NOTES:

1. SUBMIT SHOP DRAWING FOR APPROVAL PRIOR TO INSTALLATION.
2. COORDINATE WITH ELECTRICAL SPECIFICATIONS.
3. COLD-GALVANIZE ALL CUTS.
4. FORM WITH FIBERGLASS OR PVC SMOOTH-FACED FORMS.
5. SEE ELECTRICAL PLANS FOR SIZES

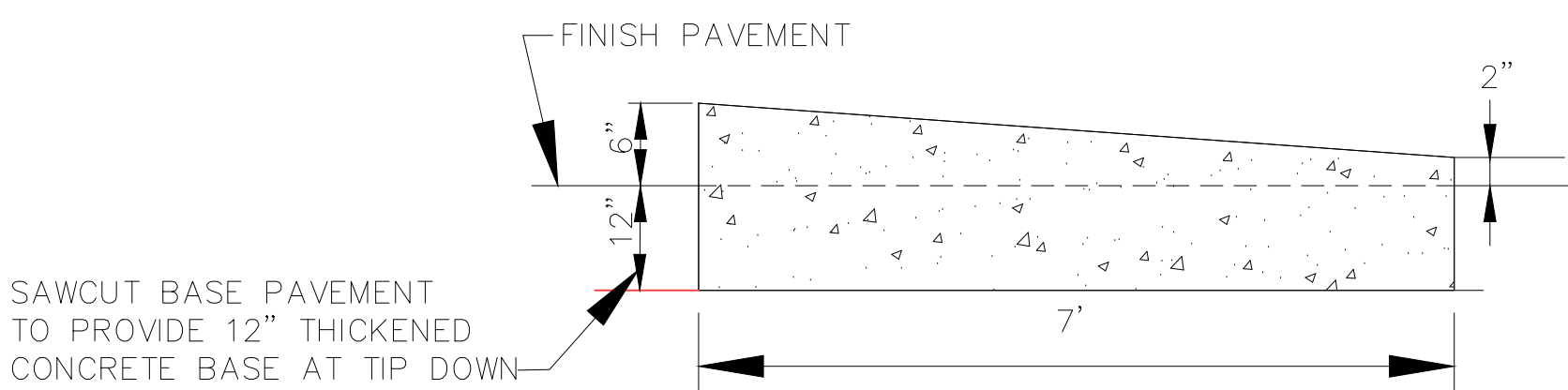
CONCRETE LIGHT POLE BASE

NOT TO SCALE



NEW & REINSTALLED WOOD RAIL FENCE

NOT TO SCALE



TYPICAL TIPDOWN CURB INSTALLATION

NOT TO SCALE

3.	3-1-2018	Respond to Town Memos, Re-submit to Town	CSB
2.	2-7-2018	SUBMIT TO DEP	CSB
1.	1-31-2018	Re-Submit to Town and Maine DEP	CSB

Civil Details

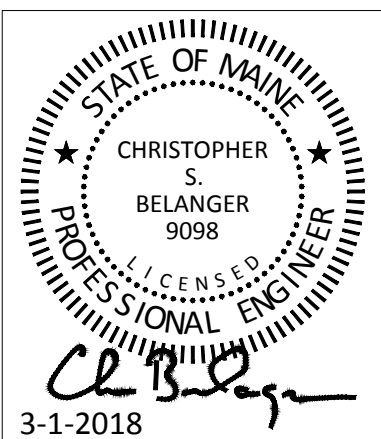
Oceanview at Cumberland  
291 Tuttle Road, Cumberland, Maine

Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine

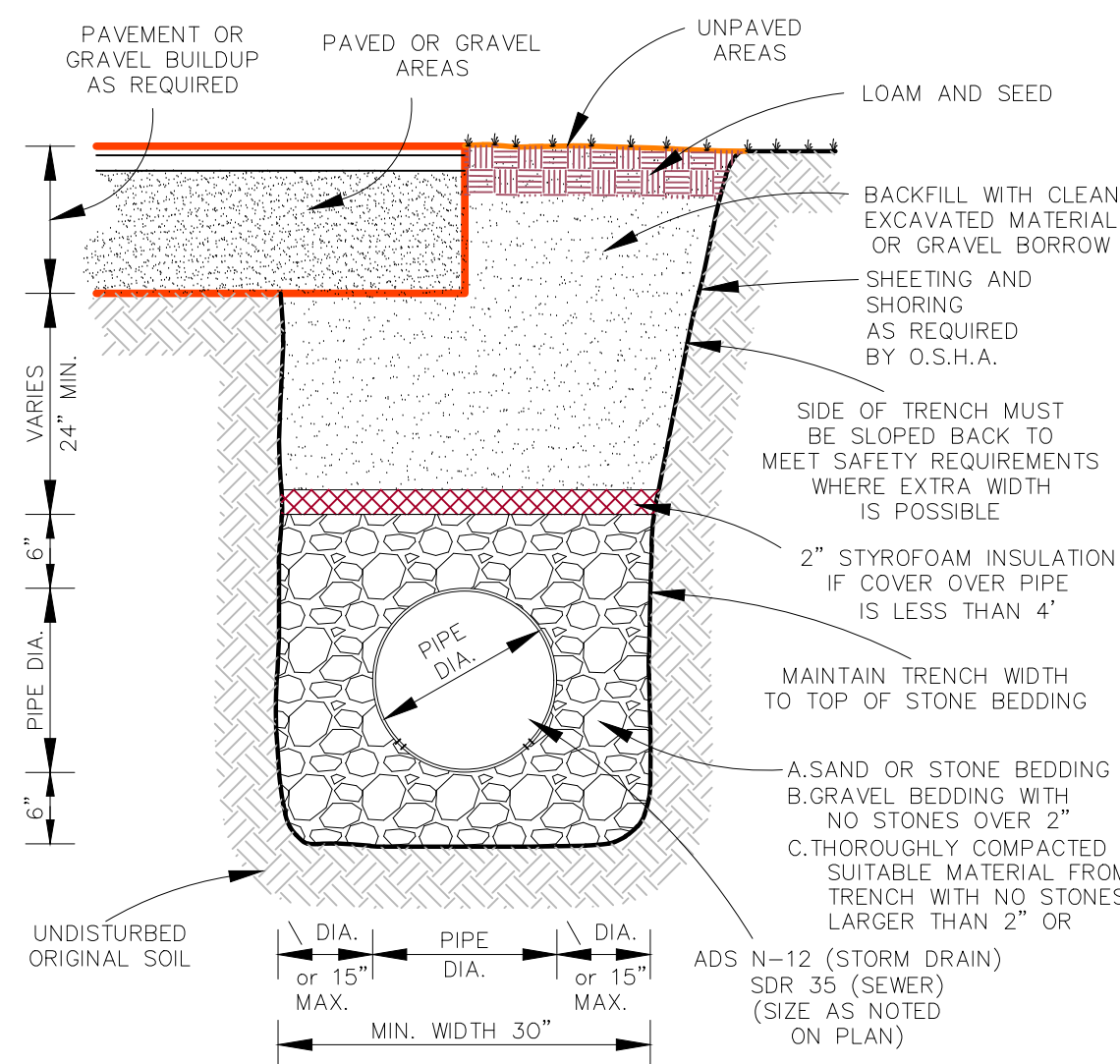
**BELANGER**  
**ENGINEERING**  
CONSULTING ENGINEERS  
63 Second Avenue, Augusta, Maine 04330  
Ph 207-622-1462, Cell 207-242-5713

- COMMERCIAL PROJECTS
- RESIDENTIAL SUBDIVISIONS
- TOWN AND STATE APPROVALS
- SITE PLANNING & DESIGN
- STORMWATER MANAGEMENT
- ROAD AND UTILITY DESIGN
- EROSION CONTROL PLANS

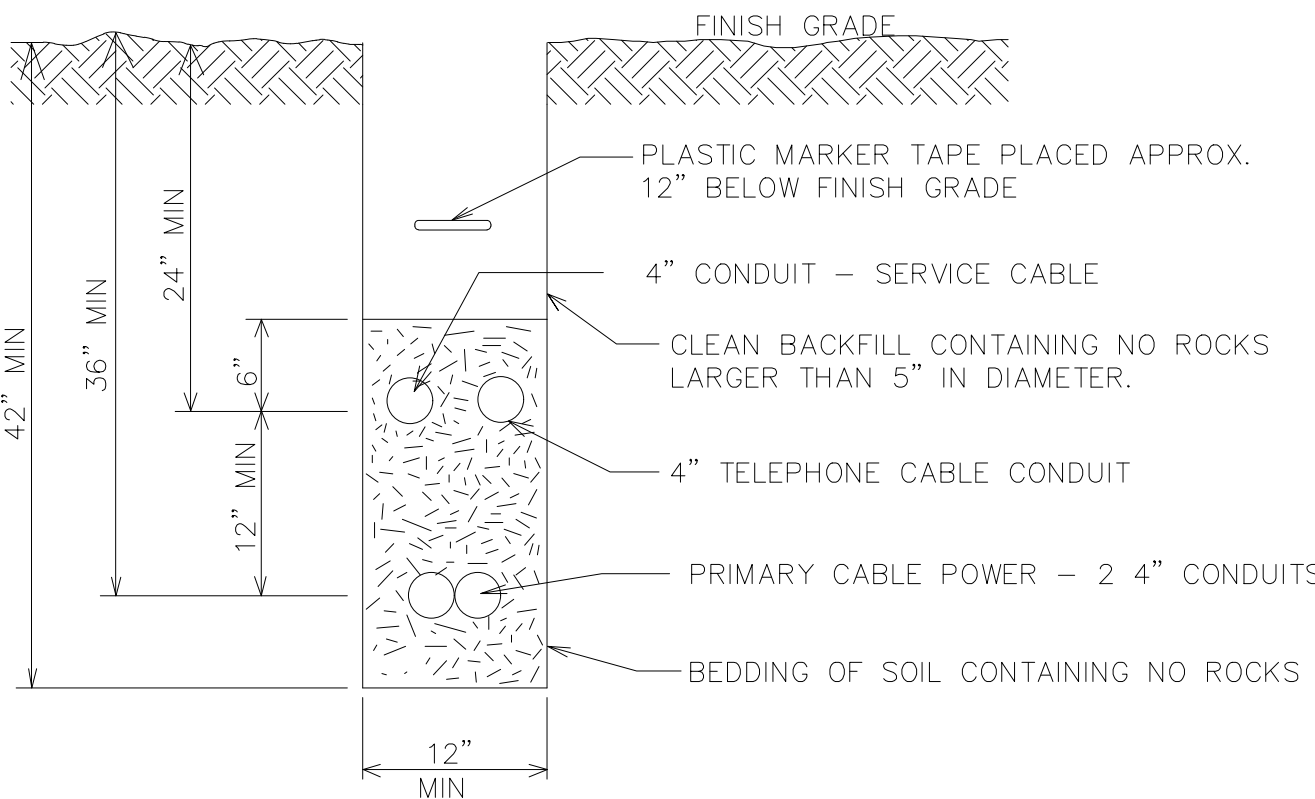
FIELD WK:	SCALE:	SHEET:
DRN BY:	JOB #: 109	C14
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	





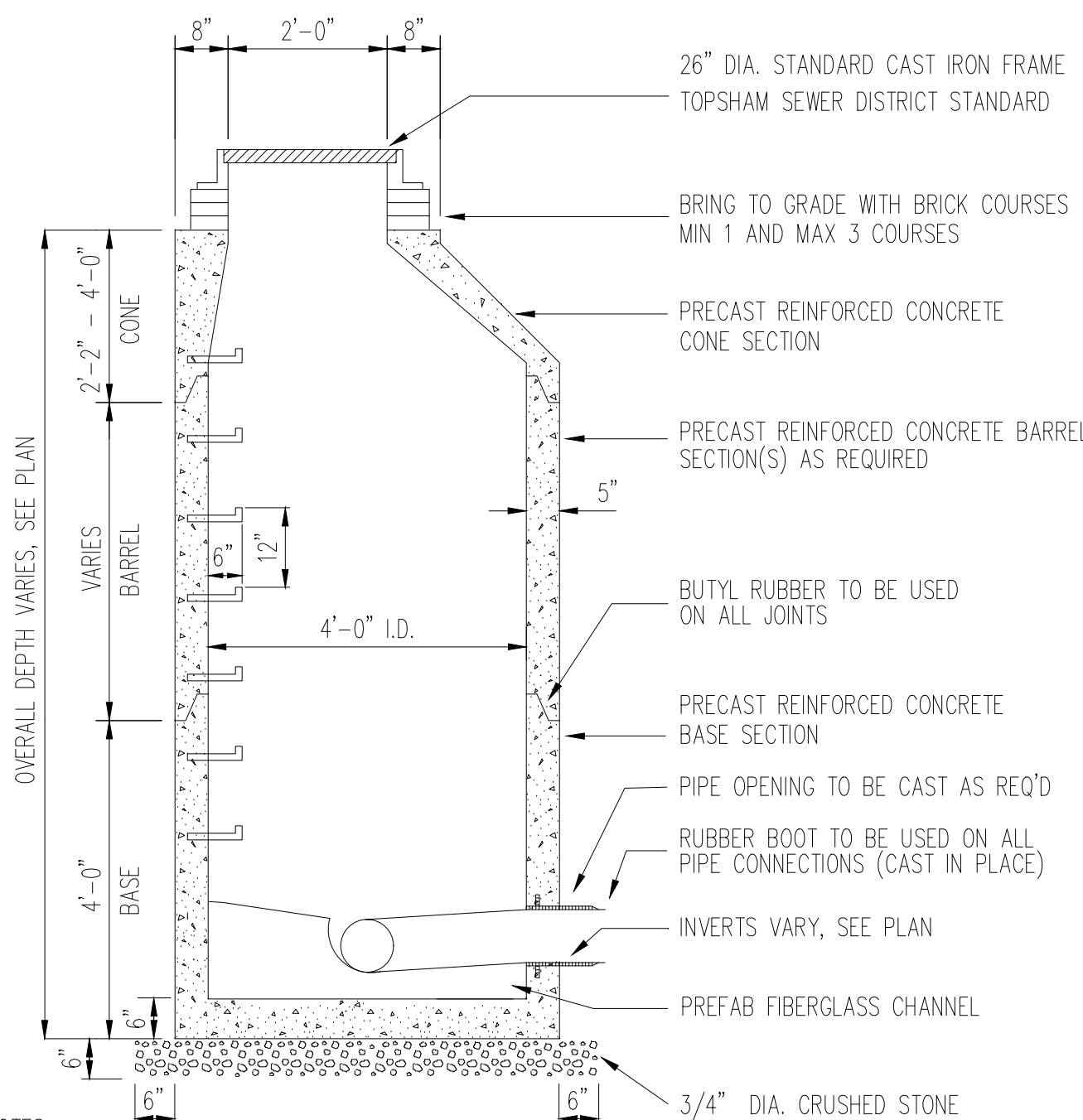


STORM DRAIN / SEWER TRENCH DETAIL  
NOT TO SCALE



- NOTES:
- SECONDARY OR SERVICE CABLES AND COMMUNICATION CABLES MAY BE PLACED IN THE SAME TRENCH AT THE SAME DEPTH WITHOUT A REQUIRED CLEARANCE OR SEPARATION BETWEEN THE CABLES.
  - INSTALLATION SHOULD NOT ALLOW THE INTER-TWING OF CABLES.
  - BEDDING AND BACKFILL SHALL BE FREE OF ROCKS, STUMPS AND OTHER DEBRIS.

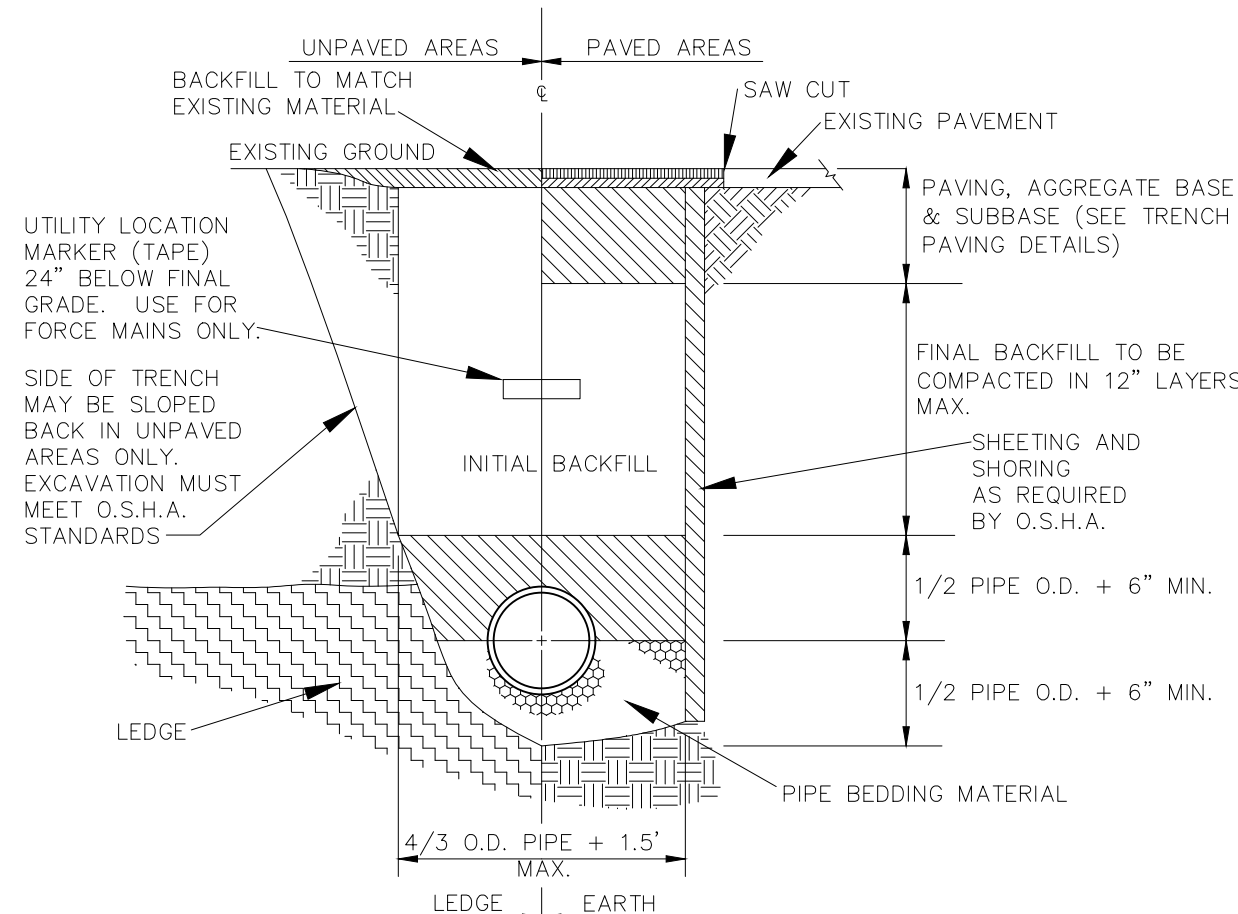
TYPICAL ELECTRICAL TRENCH  
NOT TO SCALE



- NOTES:
- CONCRETE 4000 PSI AFTER 28 DAYS.
  - REINFORCING H-20 LOADING 4x4 / 4x4 WWM. SLAB TOP - NO. 5 BARS.
  - EACH CASTING TO HAVE LIFTING HOLES TO BE FILLED WITH NON-SHRINK MORTAR.
  - MANHOLE STEPS TO BE ALUMINUM OR HIGH IMPACT PLASTIC.
  - APPLY TWO COATS OF BITUMASTIC PAINT ON ALL EXTERIOR SECTIONS.

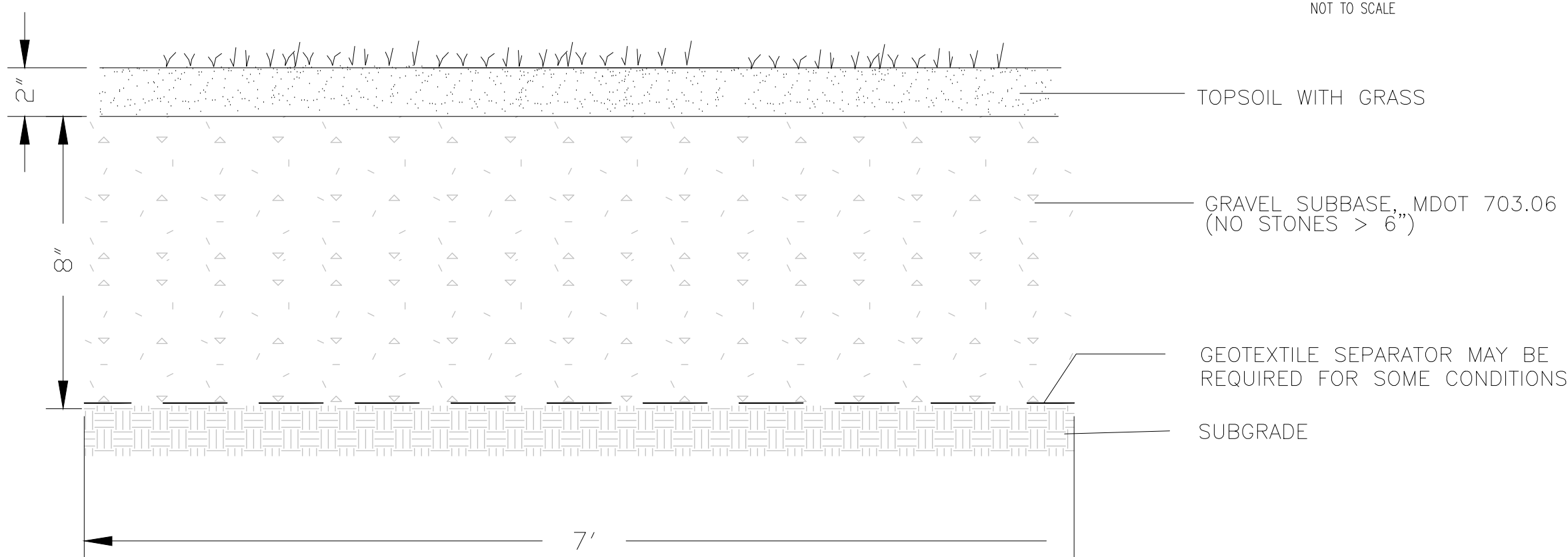
## SANITARY SEWER MANHOLE

NOT TO SCALE

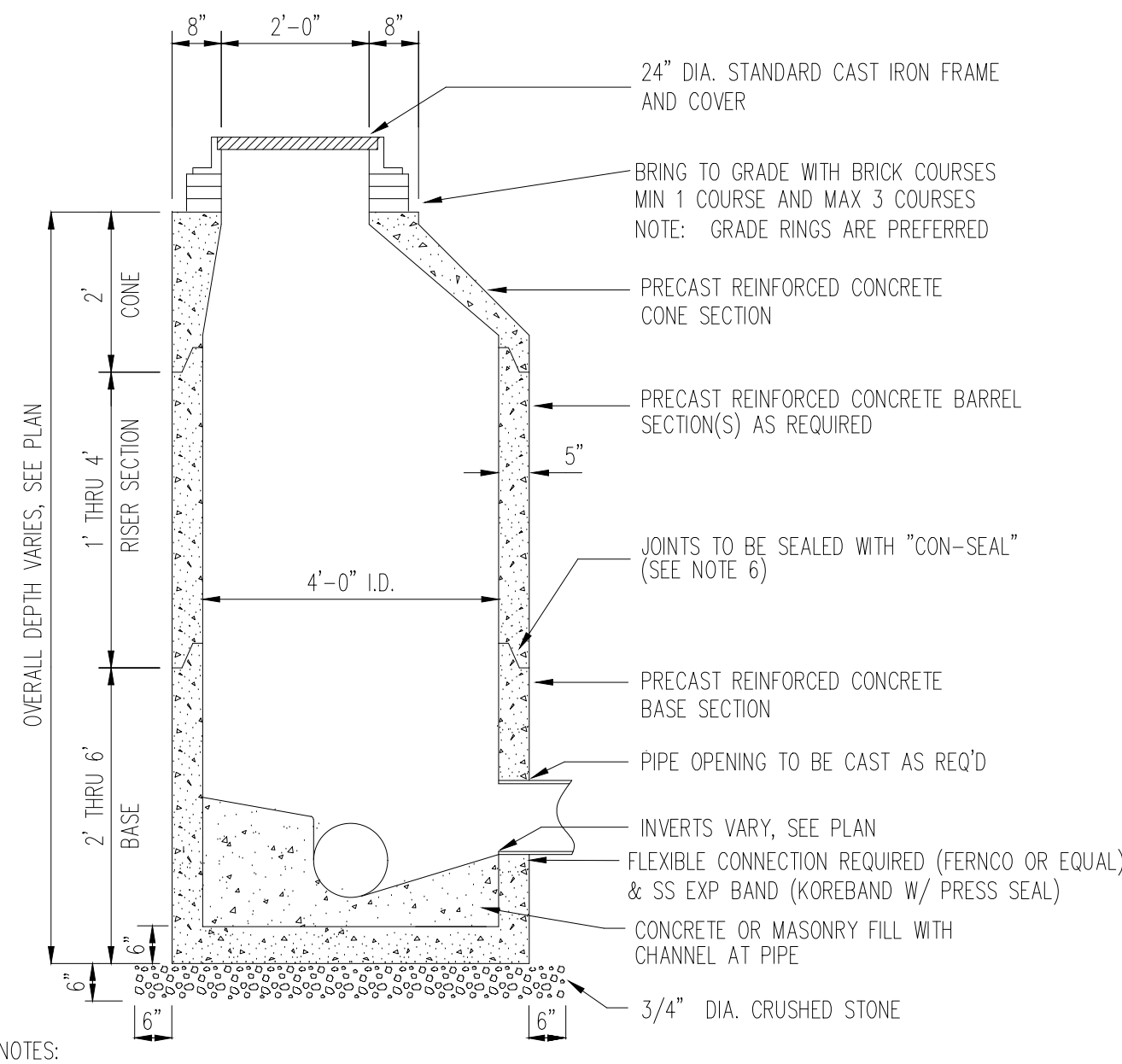


- NOTES:
- INSTALL 3 FOOT LONG IMPERVIOUS DAMS IN BEDDING/INITIAL BACKFILL MATERIAL EVERY 100 FEET TO PREVENT TRENCH GROUNDWATER FROM BEING CHanneled ALONG BEDDING/INITIAL BACKFILL.
  - REFER TO LATEST MDOT SPECIFICATIONS FOR BEDDING AND BACKFILL REQUIREMENTS.
  - INITIAL BACKFILL TO BE 12 INCHES OVER TOP OF PVC PIPE ONLY.

TYPICAL TRENCH DETAIL  
NOT TO SCALE



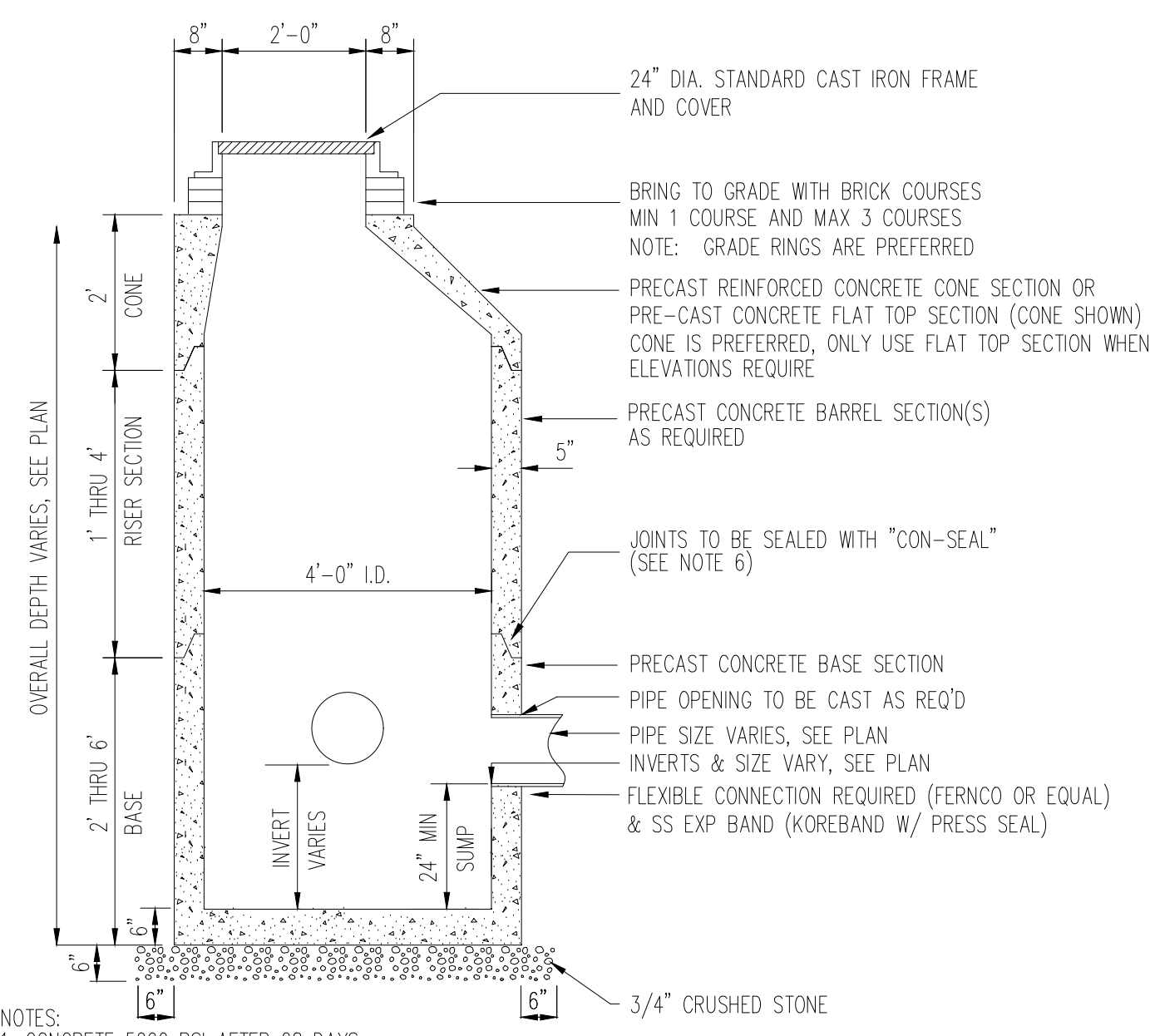
TYPICAL SECTION THRU STABILIZED TRAIL / CART PATH  
NOT TO SCALE



- NOTES:
- CONCRETE 5000 PSI AFTER 28 DAYS.
  - REINFORCING H-20 LOADING 4x4 / 4x4 WWM. SLAB TOP - NO. 5 BARS.
  - EACH CASTING TO HAVE LIFTING HOLES TO BE FILLED WITH NON-SHRINK MORTAR.
  - ONE POUR MONOLITHIC BASE SECTION.
  - CEMENT: TYPE III PER ASTM C150-81.
  - JOINTS TO BE SEALED WITH "CON-SEAL". (CONFORMS TO ASTM C443 SPEC. AND FEDERAL SPEC. SS-S-210A).
  - ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-20 LOADING.

## PRECAST CONCRETE DRAIN MANHOLE

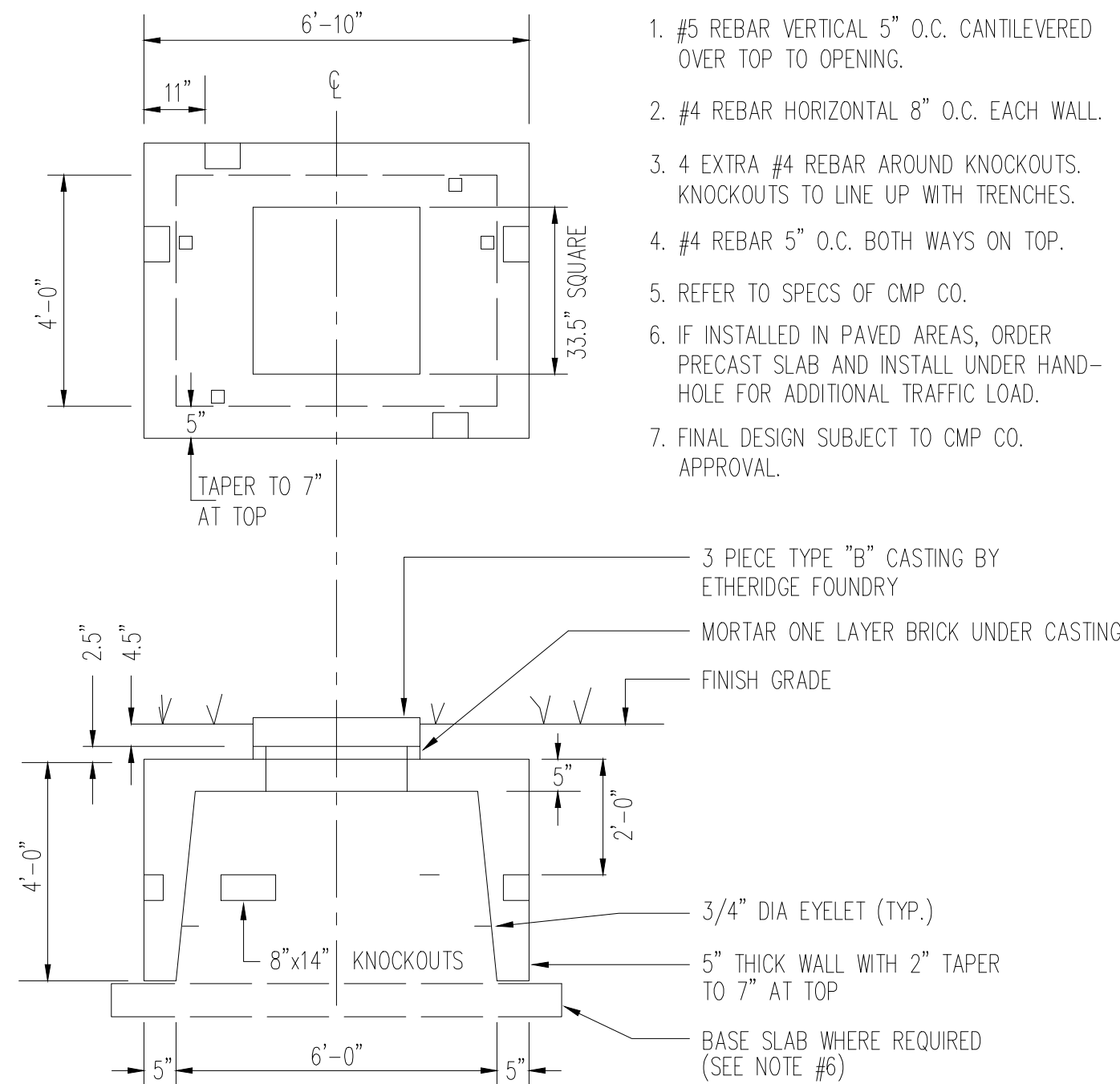
NOT TO SCALE



- NOTES:
- CONCRETE 5000 PSI AFTER 28 DAYS.
  - REINFORCING H-20 LOADING 4x4 / 4x4 WWM. SLAB TOP - NO. 5 BARS.
  - EACH CASTING TO HAVE LIFTING HOLES TO BE FILLED WITH NON-SHRINK MORTAR.
  - ONE POUR MONOLITHIC BASE SECTION.
  - CEMENT: TYPE III PER ASTM C150-81.
  - JOINTS TO BE SEALED WITH "CON-SEAL". (CONFORMS TO ASTM C443 SPEC. AND FEDERAL SPEC. SS-S-210A).
  - ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-20 LOADING.

## TYPICAL PRECAST CONCRETE CATCH BASIN

NOT TO SCALE

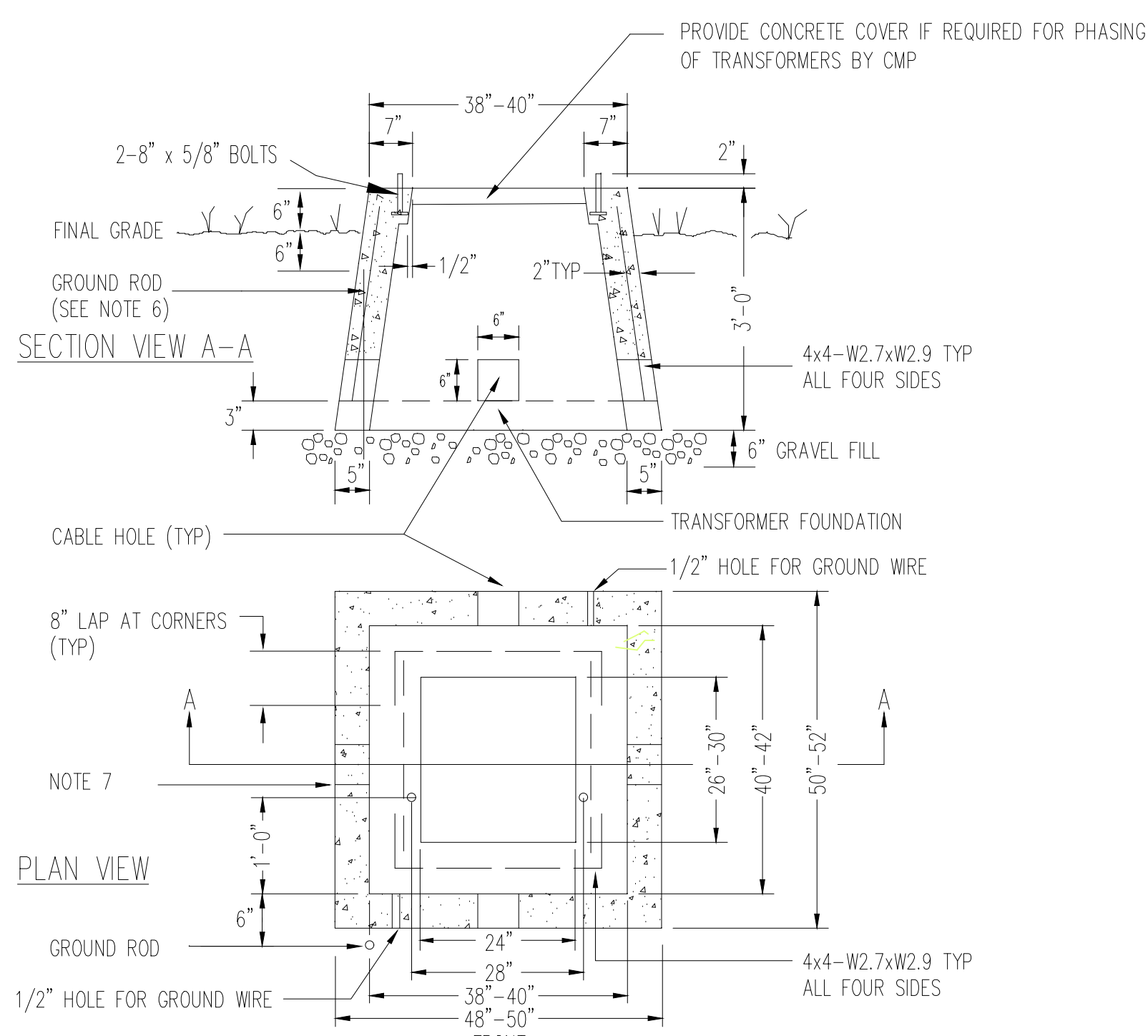


## ELECTRIC PULLBOX DETAIL

NOT TO SCALE

### NOTES:

- #5 REBAR VERTICAL 5" O.C. CANTILEVERED OVER TOP TO OPENING.
- #4 REBAR HORIZONTAL 8" O.C. EACH WALL.
- 4 EXTRA #4 REBAR AROUND KNOCKOUTS. KNOCKOUTS TO LINE UP WITH TRENCHES.
- #4 REBAR 5" O.C. BOTH WAYS ON TOP.
- REFER TO SPECS OF CMP CO.
- IF INSTALLED IN PAVED AREAS, ORDER PRECAST SLAB AND INSTALL UNDER HAND-HOLE FOR ADDITIONAL TRAFFIC LOAD.
- FINAL DESIGN SUBJECT TO CMP CO. APPROVAL.



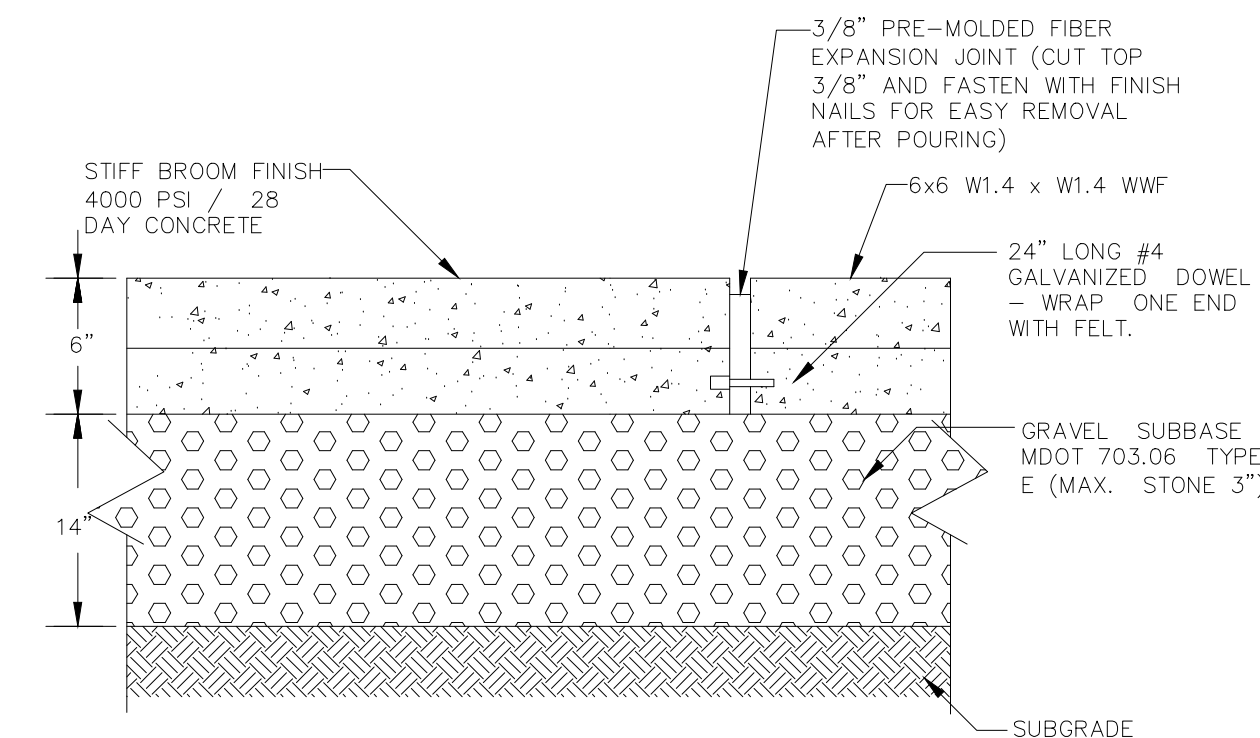
- NOTES:
- CONCRETE FOUNDATION IS SUITABLE FOR BOTH 7200/12470 VOLT & 20/34.5 KV SINGLE-PHASE TRANSFORMER & PRIMARY JUNCTION BOX INSTALLATIONS.
  - SET FOUNDATION ON SUITABLE GRAVEL FILL AND PROVIDE ADEQUATE DRAINAGE. LOCATION TO BE ACCESSIBLE BY TRUCK & SUITABLY PROTECTED FROM FLOW AND TRAFFIC DAMAGE.
  - FRONT DENOTES THE SIDE ON WHICH THE ACCESS DOORS ARE LOCATED. THE FOUNDATION MUST BE INSTALLED SO THE "FRONT" IS READILY ACCESSIBLE.
  - OTHER CMP-APPROVED PADMOUNT TRANSFORMER FOUNDATIONS MAY BE USED.
  - PROVIDE 6" SQUARE CABLE HOLES (BOND OUT) 3" UP THE WALL FROM THE BASE. ONE PER WALL, LINE UP W/TRENCHES.
  - CMP CO. TO FURNISH A 3/4"x8" GALVANIZED ROD TO BE INSTALLED 6" IN FRONT OF THE LEFT FRONT CORNER OF TRANSFORMER FOUNDATION. THE TOP OF THE GROUND ROD IS TO BE 6" BELOW FINAL GRADE.
  - PULLING EYE INSERT, FOR USE WITH 3/4" NATIONAL COURSE THREAD EYE-BOLT (RICHMOND LCB-1 OR EQ.), LOCATED OPPOSITE EACH CABLE HOLE & APPROX. 16" FROM THE BOTTOM.
  - CAN BE USED AS A FOUNDATION FOR 3 PHASE JUNCTION CABINET CU DCUTS (S/C 62-1490) WITH CU DCUTS (S/C 67-3921) SKIRT.

## TRANSFORMER PAD DETAIL 25 TO 167 KVA 1 φ

NOT TO SCALE

PROGRESS PLAN  
NOT FOR CONSTRUCTION

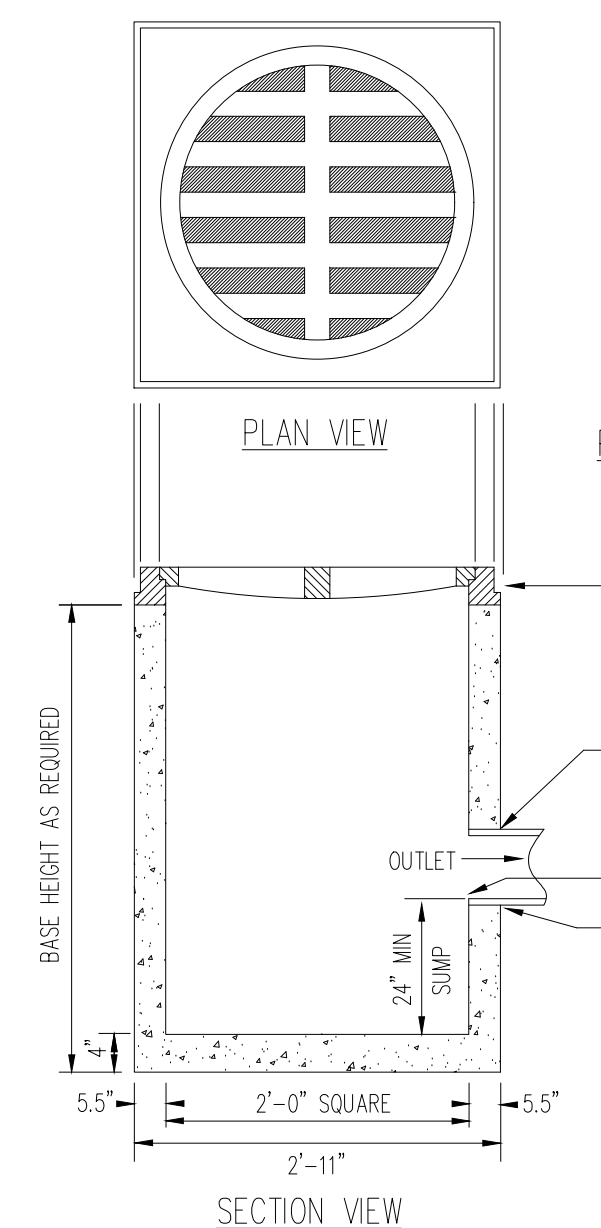
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- NOTES:
- DO NOT PLACE CONCRETE DURING COLD OR RAINY WEATHER CONDITIONS (SEE SPECS.) -SEE PLAN DRAWINGS FOR EXPANSION JOINT LOCATIONS.

## CONCRETE PAD - SECTION

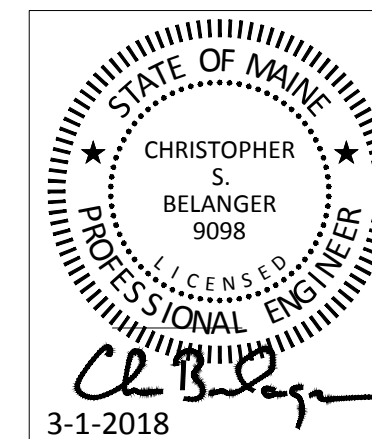
NOT TO SCALE



- NOTES:
- CONCRETE 5000 PSI AFTER 28 DAYS.
  - REINFORCING: 1 LAYER 4x4 / 4x4 WWM.
  - FIELD INLET IS USED FOR SHALLOW, OFF-DRIVE, DEAD END DRAINAGE AREAS.

## FIELD INLET

NOT TO SCALE



3.	3-1-2018	Respond to Town Memos, Re-submit to Town	CSB
2.	2-7-2018	SUBMIT TO DEP	CSB
1.	1-31-2018	Re-Submit to Town and Maine DEP	CSB

### Civil Details

Oceanview at Cumberland LLC  
277 Tuttle Road, Cumberland, Maine

Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine

**BELANGER ENGINEERING**  
CONSULTING ENGINEERS  
63 Second Avenue, Augusta, Maine 04330 Ph 207-622-1462, Cell 207-242-5713

- COMMERCIAL PROJECTS
- RESIDENTIAL SUBDIVISIONS
- TOWN AND STATE APPROVALS
- SITE PLANNING & DESIGN
- STORMWATER MANAGEMENT
- ROAD AND UTILITY DESIGN
- EROSION CONTROL PLANS

Email: cbelanger@roadrunner.com

FIELD WK:	SCALE:	SHEET:
DRN BY:	JOB #: 109	C15
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	



#### EROSION AND SEDIMENTATION NOTES:

1. The Site Contractor shall follow the (Maine Erosion and Sediment Control BMPs) published by the Maine DEP in 2003 and the "Maine Erosion and Sediment Control Practices Field Guide for Contractors published in 2016 or most current update". The manuals can be found on the Maine DEP web site. A Link to the field guide is shown below:

<http://www.maine.gov/dep/land/erosion/escbmps/index.html>

THE CONTRACTOR SHALL ALSO FOLLOW THE GUIDELINES LISTED IN APPENDICES A, B, C IN MAINE DEP CHAPTER 500 RULES (2015 NOTES PROVIDED ON THIS SHEET).

#### GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES:

##### EROSION/SEDIMENT CONTROL DEVICES:

THE FOLLOWING EROSION SEDIMENTATION CONTROL DEVICES ARE PROPOSED FOR CONSTRUCTION ON THIS PROJECT. INSTALL THESE DEVICES AS INDICATED ON THE PLANS.

1. SILT FENCE: SILT FENCE WILL BE INSTALLED ALONG THE DOWN GRADING EDGES OF DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE IS STABILIZED. IN AREAS WHERE STORMWATER DISCHARGES THE SILT FENCE WILL BE REINFORCED WITH HAY BALES TO HELP MAINTAIN THE INTEGRITY OF THE SILT FENCE AND TO PROVIDE ADDITIONAL TREATMENT.

2. HAY BALES: HAY BALES TO BE PLACED IN LOW FLOW DRAINAGE SWALES AND PATHS TO TRAP SEDIMENTS AND REDUCE RUNOFF VELOCITIES. DO NOT PLACE HAY BALES IN FLOWING WATER OR STREAMS.

3. RIPRAP: PROVIDE RIPRAP IN AREAS WHERE CULVERTS DISCHARGE OR AS SHOWN ON THE PLANS.

4. LOAM, SEED, & MULCH: ALL DISTURBED AREAS, WHICH ARE NOT OTHERWISE TREATED, SHALL RECEIVE PERMANENT SEEDING AND MULCH TO STABILIZE THE DISTURBED AREAS. THE DISTURBED AREAS WILL BE REVEGETATED WITHIN 5 DAYS OF FINAL GRADING. SEEDING REQUIREMENTS ARE PROVIDED AT THE END OF THIS SPECIFICATION.

5. STRAW AND HAY MULCH: USED TO COVER DENUDED AREAS UNTIL PERMANENT SEED OR EROSION CONTROL MEASURES ARE IN PLACE. MULCH BY ITSELF CAN BE USED ON SLOPES LESS THAN 15% IN SUMMER AND 8% IN WINTER. JUTE MESH IS TO BE USED OVER MULCH ONLY. CURLEX II AND EXCELOR MAY BE USED IN PLACE OF JUTE MESH OVER MULCH.

6. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%.

##### TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES:

PROVIDE THE FOLLOWING TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION OF THE DEVELOPMENT:

1. SITUATION FENCE ALONG THE DOWNGRADIENT SIDE OF THE PARKING AREAS AND OF ALL FILL SECTIONS. THE SITUATION FENCE WILL REMAIN IN PLACE UNTIL THE SITE IS 90% REVEGETATED. REMOVE SITUATION FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENT AND STABILIZE.

2. HAY BALES PLACED AT KEY LOCATIONS TO SUPPLEMENT THE SILT FENCE.

3. PROTECT TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION AS FOLLOWS:

- SOIL STOCKPILE SIDE SLOPES SHALL NOT EXCEED 2:1.
- AVOID PLACING TEMPORARY STOCKPILES IN AREAS WITH SLOPES OVER 10 PERCENT, OR NEAR DRAINAGE SWALES. SEE ITEM 3 IN CONSTRUCTION PHASE NOTES BELOW.
- STABILIZE STOCKPILES WITHIN 15 DAYS BY TEMPORARILY SEEDING WITH A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCKPILE WITH MULCH.
- SURROUND STOCKPILE SOIL WITH SITUATION FENCE AT BASE OF PILE.

4. ALL DENUDED AREAS WHICH HAVE BEEN ROUGH GRADED AND ARE NOT LOCATED WITHIN THE BUILDING PAD, OR PARKING AND DRIVEWAY SUBBASE AREA THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS SHALL RECEIVE MULCH OR NON-ERODABLE COVER. STABILIZE AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OR THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST. IN THE EVENT THE CONTRACTOR COMPLETES FINAL GRADING AND INSTALLATION OF LOAM AND SOD WITHIN THE TIME PERIODS PRESENTED ABOVE, INSTALLATION OF MULCH AND NETTING, WHERE APPLICABLE, IS NOT REQUIRED.

5. IF WORK IS CONDUCTED BETWEEN OCTOBER 15 AND APRIL 15, ALL DENUDED AREAS ARE TO BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE, AND ANCHORED WITH FABRIC NETTING. THE PERIOD BETWEEN FINAL GRADING AND MULCHING SHALL BE REDUCED TO A 15 DAY MAXIMUM.

6. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE HAS BEEN STABILIZED OR IN AREAS WHERE PERMANENT EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

##### PERMANENT EROSION CONTROL MEASURES:

THE FOLLOWING PERMANENT CONTROL MEASURES ARE REQUIRED BY THIS EROSION/SEDIMENTATION CONTROL PLAN:

1. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.) WILL BE LOAMED, LIMED, FERTILIZED AND SEEDED. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.

2. IF AN AREAS WILL NOT BE WORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, THEN PERMANENTLY STABILIZE THE AREA WITHIN 7 DAYS BY PLANTING VEGETATION, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH, OR RIPRAP, OR ROAD SUB-BASE. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, SOIL, AND MOISTURE CONDITIONS; AMEND AREAS OF DISTURBED SUBSOILS WITH TOPSOIL, COMPOST, OR FERTILIZERS; PROTECT SEEDED AREAS WITH MULCH OR, IF NECESSARY, EROSION CONTROL BLANKETS, AND SCHEDULE SODDING, PLANTING, AND SEEDING TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS. NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL ESTABLISHED. IF NECESSARY, AREAS MUST BE SEEDED AND MULCHED AGAIN IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT. ONE OR MORE OF THE FOLLOWING MAY APPLY TO A PARTICULAR SITE.

(a) Seeded areas. For seeded areas, permanent stabilization means a 90% cover of healthy plants with no evidence of washing or rilling of the topsoil.

(b) Soddied areas. For soddied areas, permanent stabilization means the complete binding of the sod roots into the underlying soil with no slumping of the sod or die-off.

(c) Permanent Mulch. For mulched areas, permanent mulching means total coverage of the exposed area with an approved mulch material. Erosion control mix may be used as mulch for permanent stabilization according to the approved application rates and limitations.

(d) Riprap. For areas stabilized with riprap, permanent stabilization means that slopes stabilized with riprap have an appropriate backing of a well-graded gravel or approved geotextile to prevent soil movement from behind the riprap. Stone must be sized appropriately. It is recommended that angular stone be used.

(e) Agricultural use. For construction projects on land used for agricultural purposes (e.g., pipelines across crop land), permanent stabilization may be accomplished by returning the disturbed land to agricultural use.

(f) Paved areas. For paved areas, permanent stabilization means the placement of the compacted gravel subbase is completed.

(g) Ditches, channels, and swales. For open channels, permanent stabilization means the channel is stabilized with a 90% cover of healthy vegetation, with a well-graded riprap lining, or with another non-erosive lining such as concrete or asphalt pavement. There must be no evidence of slumping of the channel lining, undercutting of the channel banks, or down-cutting of the channel.

3. SLOPES GREATER THAN 2:1 WILL RECEIVE RIPRAP.

#### Construction Plan

CONSTRUCTION OF THE PROJECT IS EXPECTED TO COMMENCE IN LATE SUMMER 2017 FOLLOWING ISSUE OF TOWN AND DEP PERMITS AND ONCE UNITS ARE PRE-SOLD. THE CONSTRUCTION OF THE ROAD AND UTILITY INFRASTRUCTURE IS EXPECTED TO CONTINUE INTO THE SPRING OF 2018. CONSTRUCTION OF UNITS WILL DEPEND ON MARKET CONDITIONS BUT BASED ON THE RECENT SCENARIOS WE WOULD EXPECT THE UNITS TO BE CONSTRUCTED WITHIN 2-3 YEARS. CONSTRUCTION SEQUENCING WILL INCLUDE THE FOLLOWING:

- TREE CLEARING AND STUMP REMOVAL.
- REMOVAL OF THE THREE HOUSES AND ASSOCIATED DRIVES AND INFRASTRUCTURE.
- ROUGH GRADING, SITE BLASTING FOR ROADWAYS AND UNITS AND INSTALLATION OF UTILITIES AND STORMWATER SYSTEMS.
- FINISH GRAVELS AND SURFACES & PAVING
- LOAM, SEED AND STABILIZATION.

#### CONSTRUCTION PHASE:

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION DURING CONSTRUCTION OF THIS PROJECT.

1. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. IF FINAL GRADING, LOAMING AND SEEDING WILL NOT OCCUR WITHIN 7 DAYS, SEE ITEM NO. 4.

2. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SILT FENCING AND/OR HAY BALES WILL BE INSTALLED AT THE TOE OF SLOPE AND IN AREAS AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION. IMMEDIATELY FOLLOWING CONSTRUCTION OF CULVERTS AND SWALES, RIP RAP APRONS SHALL BE INSTALLED, AS SHOWN ON THE PLANS.

3. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM THE EXISTING DRAINAGE COURSE. NO STOCKPILE SHALL BE CLOSER THAN 60' OF A RESOURCE INCLUDING, BUT NOT LIMITED TO, WETLANDS, STREAMS, AND OPEN WATER BODIES. ALL STOCKPILES SHALL HAVE A SITUATION FENCE BELOW THEM REGARDLESS OF TIME OF PRESENCE. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 15 DAYS SHALL BE:

- TREATED WITH ANCHORED MULCH (WITHIN 5 DAYS OF THE LAST DEPOSIT OF STOCKPILED SOIL).
- SEEDED WITH CONSERVATION MIX AND MULCHED IMMEDIATELY.
- INSTALL SILT FENCE AROUND STOCKPILE AT BASE OF PILE. STOCKPILES TO HAVE SILT FENCE INSTALLED AT TIME OF ESTABLISHMENT AT BASE OF PILE.

4. ALL DISTURBED AREAS THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS SHALL BE EITHER:

- TREATED WITH ANCHORED MULCH IMMEDIATELY, OR
- INSTALL SILT FENCE AROUND STOCKPILE AT BASE OF PILE. STOCKPILES TO HAVE SILT FENCE INSTALLED IMMEDIATELY.

5. ALL GRADING WILL BE HELD TO A MAXIMUM 2:1 SLOPE WHERE PRACTICAL. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING, OR WITH STONE, WITHIN 7 DAYS AFTER FINAL GRADING IS COMPLETE. (SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION.)

6. ALL CULVERTS WILL BE PROTECTED WITH STONE RIPRAP (50" - 6" UNLESS OTHERWISE SPECIFIED) AT INLETS AND OUTLETS.

Maine DEP Chapter 500, APPENDIX C. Housekeeping

These performance standards apply to all projects except for stormwater PBR projects.

3.1. Spill prevention. Controls must be used to prevent pollutants from construction and waste materials stored on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

NOTE: Any spill or release of toxic or hazardous substances must be reported to the Department. For oil spills, call 1-800-482-0777 which is available 24 hours a day. For spills of toxic or hazardous material, call 1-800-452-4664 which is available 24 hours a day. For more information, visit the Department's website at: <http://www.maine.gov/dep/spills/emergplanning/>

3.2. Groundwater protection. During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

See Appendix D for license by rule standards for infiltration of stormwater.

NOTE: Lack of appropriate pollutant removal best management practices (BMPs) may result in violations of the groundwater quality standard established by 38 M.R.S.A. §465-C(1).

3.3. Fugitive sediment and dust. Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately and no less than once a week and prior to significant storm events. Operating heavy dry months, that experience fugitive dust problems, should wet down impaired access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

NOTE: Dewatering a stream without a permit from the Department may violate state water quality standards and the Natural Resources Protection Act.

4. Debris and other materials. Minimize the exposure of construction debris, building and landscaping materials, trash, herbicides, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.

NOTE: To prevent these materials from becoming a source of pollutants, construction and post-construction activities related to a project may be required to comply with applicable provisions of rules related to solid, universal, and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste management rules; Maine hazardous waste management rules; Maine oil conveyance and storage rules; and Maine pesticide requirements.

5. Excavation de-watering. Excavation de-watering is the removal of water from trenches, foundations, cleft dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Department.

NOTE: Dewatering controls are discussed in the "Maine Erosion and Sediment Control BMPs, Maine Department of Environmental Protection."

6. Authorized Non-stormwater discharges. Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

- Discharges from firefighting activity;
- Fire hydrant flushings;
- Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
- Dust control runoff in accordance with permit conditions and Appendix C(13);
- Routine external building washdown, not including surface paint removal, that does not involve detergents;
- (Pavement washwater where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;
- Uncontaminated air conditioning or compressor condensate;
- Uncontaminated groundwater or spring water;
- Foundation or footer drain-water where flows are not contaminated;
- Uncontaminated excavation dewatering (see requirements in Appendix C(15));
- Potable water sources including wastewater line flushings; and
- Landscape irrigation.

7. Unauthorized non-stormwater discharges. The Department's approval under this Chapter does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Appendix C (6). Specifically, the Department's approval does not authorize discharges of the following:

- Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;
  - Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
  - Soaps, solvents, or detergents used in vehicle and equipment washing; and
  - Toxic or hazardous substances from a spill or other release.
- (8) Additional requirements. Additional requirements may be applied on a site-specific basis.

Maine DEP Chapter 500, APPENDIX A. Erosion and sedimentation control (2015 Update)

This appendix applies to all projects.

A person who conducts, or causes to be conducted, an activity that involves filling, displacing or exposing soil or other earthen materials shall take measures to prevent unreasonable erosion of soil or sediment beyond the project site or into a protected natural resource as defined in 38 M.R.S. §480-B. Erosion control measures must be in place before the activity begins. Measures must remain in place and functional until the site is permanently stabilized. Adequate and timely temporary and permanent stabilization measures must be taken.

NOTE: Other requirements may apply, including, but not limited to the Natural Resources Protection Act 38 M.R.S. §480-B. NOTE: The Department has prepared protocols for the control of erosion and sedimentation. See "Maine Erosion and Sediment Control BMPs Maine Department of Environmental Protection."

1. Pollution prevention. Minimize disturbed areas and protect natural downstream buffer areas to the extent practicable. Control stormwater volume and velocity within the site to minimize soil erosion. Minimize the disturbance of steep slopes. Control stormwater discharges, including both peak flow rates and volume, to minimize erosion at outlets. The discharge may not result in erosion of any open drainage channels, swales, stream channels or stream banks, upland, or coastal or freshwater wetlands off the project site.

Whenever practicable, no disturbance activities should take place within 50 feet of any protected natural resource. If disturbance activities take place between 30 feet and 50 feet of any protected natural resource, and stormwater discharges through the disturbed areas toward the protected natural resource, perimeter erosion controls must be doubled. If disturbance activities take place less than 30 feet from any protected natural resource, and stormwater discharges through the disturbed areas toward the protected natural resource, perimeter erosion controls must be doubled and disturbed areas must be temporarily or permanently stabilized within 7 days.

NOTE: Buffers improve water quality by helping to filter pollutants in run-off both during and after construction. Minimizing disturbed areas through phasing limits the amount of exposed soil on the site through retention of natural cover and by retiring areas that are permanently stabilized. Less exposed soil results in fewer erosion controls to install and maintain. If work within an area is not anticipated to begin within two weeks' time, consider leaving the area in its naturally existing cover.

NOTE: Many construction activities within 75 feet of a protected natural resource require a permit under the Natural Resources Protection Act prior to initiation. For more information regarding the applicability of the NPRA to your project, you can visit the Department's website at: <http://www.maine.gov/dep/land/rnpa/index.html> or contact staff of the Division of Land Resource Regulation at the nearest regional office.

2. Sediment barriers. Prior to construction, properly install sediment barriers at the downgradient edge of any area to be disturbed and adjacent to any drainage channels within the disturbed area. Sediment barriers should be installed downgradient of soil or sediment stockpiles and stormwater prevented from running onto the stockpile. Maintain the sediment barriers by removing accumulation, or removing and replacing the barrier, until the disturbed area is permanently stabilized. Where a discharge to a storm drain inlet occurs, if the storm drain carries water directly to a surface water and you have authority to access the storm drain inlet, you must install and maintain protection measures that remove sediment from the discharge.

3. Stabilized construction entrance. Prior to construction, properly install a stabilized construction entrance (SCE) at all points of egress from the site. The SCE is a stabilized pad of aggregate, underlain by a geotextile filter fabric, used to prevent traffic from tracking material away from the site onto public ROWs. Maintain the SCE until all disturbed areas are stabilized.

4. Temporary stabilization. Within 7 days of the cessation of construction activities in an area that will not be worked for more than 7 days, stabilize any exposed soil with mulch, or other non-erodible cover. Stabilize areas within 75 feet of a wetland or waterbody within 48 hours of the initial disturbance of the soil or prior to any storm event, whichever comes first.

5. Removal of temporary measures. Remove any temporary control measures, such as silt fence, within 30 days after permanent stabilization is attained. Remove any accumulated sediments and stabilize.

NOTE: It is recommended that all fences be removed by cutting the fence materials at ground level to avoid additional soil disturbance.

6. Permanent stabilization. If the area will not be worked for more than one year or has been brought to final grade, then permanently stabilize the area within 7 days by planting vegetation, seeding, sod, or through the use of permanent mulch, or riprap or road sub-base. If using vegetation for stabilization, select the proper vegetation for the light, moisture, and soil conditions; amend areas of disturbed subsoils with topsoil, compost, or fertilizers; protect seeded areas with mulch or, if necessary, erosion control blankets; and schedule sodding, planting, and seeding so to avoid die-off from summer drought and fall frosts. Newly seeded or soddied areas must be protected from vehicle traffic, excessive pedestrian traffic, and concentrated runoff until the vegetation is well-established with 90% cover by healthy vegetation. If necessary, areas must be reworked and restabilized if germination is sparse, plant coverage is spotty, or topsoil erosion is evident. One or more of the following may apply to a particular site.

(a) Seeded areas. For seeded areas, permanent stabilization means a 90% cover of the disturbed area with mature, healthy plants with no evidence of washing or rilling of the topsoil.

(b) Soddied areas. For soddied areas, permanent stabilization means the complete binding of the sod roots into the underlying soil with no slumping of the sod or die-off.

(c) Permanent Mulch. For mulched areas, permanent mulching means total coverage of the exposed area with an approved mulch material. Erosion control Mix may be used as mulch for permanent stabilization according to the approved application rates and limitations.

(d) Riprap. For areas stabilized with riprap, permanent stabilization means that slopes stabilized with riprap have an appropriate backing of a well-graded gravel or approved geotextile to prevent soil movement from behind the riprap. Stone must be sized appropriately. It is recommended that angular stone be used.

(e) Agricultural use. For construction projects on land used for agricultural purposes (e.g., pipelines across crop land), permanent stabilization may be accomplished by returning the disturbed land to agricultural use.

(f) Paved areas. For paved areas, permanent stabilization means the placement of the compacted gravel subbase is completed, provided it is free of fine materials that may runoff with a rain event.

(g) Ditches, channels, and swales. For open channels, permanent stabilization means the channel is stabilized with a 90% cover of healthy vegetation, with a well-graded riprap lining, turf reinforcement mat, or with another non-erosive lining such as concrete or asphalt pavement. There must be no evidence of slumping of the channel lining, undercutting of the channel banks, or down-cutting of the channel.

7. Winter construction. "Winter construction" is construction activity performed during the period from November 1 through April 15. If disturbed areas are not stabilized with permanent measures by November 1 or new soil disturbance occurs after November 1, but before April 15, then these areas must be protected and runoff from them must be controlled by additional measures and restrictions.

(a) Site Stabilization. For winter stabilization, hay mulch is applied at twice the standard temporary stabilization rate. At the end of each construction day, areas that have been brought to final grade must be stabilized. Mulch may not be spread on top of snow.

(b) Sediment Barriers. All areas within 75 feet of a protected natural resource must be protected with a double row of sediment barriers.

(c) Ditch. All vegetated ditch lines that have not been stabilized by November 1, or will be worked during the winter construction period, must be stabilized with an appropriate stone lining backed by an appropriate gravel bed or geotextile unless specifically released from this standard by the Department.

(d) Slopes. Mulch netting must be used to anchor mulch on all slopes greater than 8% unless erosion control blankets or erosion control mix is being used on these slopes.

NOTE: The Department has prepared protocols for the control of erosion and sedimentation during the winter months. See "Maine Erosion and Sediment Control BMPs Maine Department of Environmental Protection."

8. Stormwater channels. Ditches, swales, and other open stormwater channels must be designed, constructed, and stabilized using measures that achieve long-term erosion control. Ditches, swales and other open stormwater channels must be sized to handle, at a minimum, the expected volume run-off. Each channel should be constructed in sections so that the section's grading, shaping, and installation of the permanent lining can be completed the same day. If a channel's final grading or lining installation must be delayed, then diversion berms must be used to divert stormwater away from the channel. Properly spaced check dams must be installed in the channel to slow the water velocity, and a temporary lining installed along the channel to prevent scouring. Permanent stabilization for channels is addressed under Appendix A(5)(g) above.

(a) The channel should receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side slopes.

(b) When the watershed draining to a ditch or swale is less than 1 acre of total drainage and less than 1/2 acre of impervious area, diversion of runoff to adjacent wooded or otherwise vegetated buffer areas is encouraged where the opportunity exists.

9. Sediment basins. Sediment basins must be designed to provide storage for either the calculated runoff from a 2-year, 24-hour storm or provide for 3,600 cubic feet of capacity per acre draining to the basin. Outlet structures must discharge water from the surface of the basin whenever possible. Erosion controls and velocity dissipation devices must be used if the discharging waters are likely to create erosion. Accumulated sediment must be removed as needed from the basin to maintain at least 1/2 of the design capacity of the basin.

The use of cationic treatment chemicals, such as polymers, flocculants, or other chemicals that contain an overall positive charge designed to reduce turbidity in stormwater must receive prior approval from the Department. When requesting approval to use cationic treatment chemicals, you must describe appropriate controls and implementation procedures to ensure the use will not lead to a violation of water quality standards. In addition, you must specify the type(s) of soil likely to be treated on the site, chemicals to be used and how they are to be applied and in what quantity, any manufacturer's recommendations, and any training had by personnel who will handle and apply the chemicals.

10. Roads. Gravel and paved roads must be designed and constructed with crowns or other measures, such as water bars, to ensure that stormwater is delivered immediately to adjacent stable ditches, vegetated buffer areas, catch basin inlets, or street gutters.

NOTE: (1) Gravel and paved roads should be maintained so that they continue to conform to this standard in order to prevent erosion problems. (2) The Department recommends that impervious surfaces, including roads, be designed and constructed so that stormwater is distributed in sheet flow to natural vegetated buffer areas wherever such areas are available. Road ditches should be designed so that stormwater is frequently (at least every 100 to 200 feet) discharged via ditch turnouts in sheet flow to adjacent natural buffer areas wherever possible.

11. Culverts. Culverts must be sized to avoid unintended flooding of upstream areas or frequent overtopping of roadways. Culvert inlets must be protected with appropriate materials for the expected entrance velocity, and protection must extend at least as high as the expected maximum elevation of storage behind the culvert. Culvert outlet design must incorporate measures, such as aprons, to prevent scour of the stream channel. Outlet protection measures must be designed to stay within the channel limits. The design must take account of tailwater depth.

12. Parking areas. Parking areas must be constructed to ensure runoff is delivered to adjacent swales, catch basins, curb gutters, or buffer areas without eroding areas adjacent. The parking area's subbase compaction and grading must be done to ensure runoff is evenly distributed to adjacent buffers or side slopes. Catch basins must be located and set to provide enough storage depth at the inlet to allow inflow of peak runoff rates without by-pass of runoff to other areas.

13. Additional requirements. Additional requirements may be applied on a site-specific basis.

Maine DEP Chapter 500, APPENDIX B. Inspection and maintenance (2015 Update)

This appendix applies to all projects, except that a project that is eligible for stormwater PBR need only meet the standards in Section 1.

See Appendix D(5) for additional maintenance requirements related to infiltration of stormwater.

1. During construction. The following standards must be met during construction.

(a) Inspection and corrective action. Inspect disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. Inspect these areas at least once a week as well as before and within 24 hours after a storm event (rainfall) and prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized.

(b) Maintenance. If best management practices (BMPs) need to be repaired, the repair work should be initiated upon discovery of the problem but no later than the end of the next workday. If additional BMPs or significant repair of BMPs are necessary, implementation must be completed within 7 calendar days and prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized.

(c) Documentation. Keep a log (report) summarizing the inspections and any corrective action taken. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken.

The log must be made accessible to Department staff and a copy must be provided upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

2. Post-construction. The following standards must be met after construction.

(a) Plan. Carry out an approved inspection and maintenance plan that is consistent with the minimum requirements of this section. The plan must address inspection and maintenance of the project's permanent erosion control measures and stormwater management system. This plan may be combined with the plan listed in Section 2(a) of this appendix. See Section 7(C)(2) for submission requirements.

(b) Inspection and maintenance. All measures must be maintained in effective operating condition. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections. The following areas, facilities, and measures must be inspected and identified deficiencies must be corrected. Areas, facilities, and measures other than those listed below may also require inspection on a specific site. Inspection or maintenance tasks other than those discussed below must be included in the maintenance plan developed for a specific site.

NOTE: Expanded and more-detailed descriptions for specific maintenance tasks may be found in the Maine DEP's "Stormwater Management Manual, Best Management Practices."

(i) Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where soil erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows. See permanent stabilization standards in Appendix A(5).

(ii) Inspect ditches, swales and other open stormwater channels in the spring, in late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris, to control vegetated growth that could obstruct flow, and to repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or geotextile is showing through the stone or where stones have dislodged. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side slopes.

(iii) Inspect culverts in the spring, in late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the culvert's inlet and outlet.

(iv) Inspect and clean out catch basins. Clean-out must include the removal and legal disposal of any accumulated sediments and debris at the bottom of the basin, at any open channel leading to the basin, and at any pipes between basins. If the basin outlet is designed to trap floatable materials, then remove the floating debris and any floating oils (using oil-absorptive pads).

(v) Inspect reservoir and treatment buffers once a year for evidence of erosion, concentrating flow, and encroachment by development. If flows are concentrating within a buffer, site grading, level spreaders, or ditch turn-outs must be used to ensure a more even distribution of flow into a buffer. Check down slope of all spreaders and turn-outs for erosion. If erosion is present, adjust or modify the spreader's or turnout's lip to ensure a better distribution of flow into a buffer. Clean-out any accumulation of sediment within the spreader bars or turn-out points.

(vi) Inspect at least once per year, each stormwater management pond or basin, including the pond's embankments, outlet structure, and emergency spillway. Remove and dispose of accumulated sediments in the pond. Control woody vegetation on the pond's embankments.

(vii) Inspect at least once per year, each underdrained filter, including the filter embankments, vegetation, underdrain piping, and overflow spillway. Remove and dispose of accumulated sediments in the filter. If needed, rehabilitate any clogged surface inlets, and flush underdrain piping.

(viii) Inspect each manufactured system installed on the site, including the system's inlet, treatment chamber(s), and outlet at least once per year, or in accordance with the maintenance guidelines recommended by the manufacturer based on the estimated runoff and pollutant load expected to the system from the project. Remove and dispose of accumulated sediments, debris, and contaminated waters from the system and, if applicable, remove and replace any clogged or spent filter media.

(c) Regular maintenance

(i) Clear accumulations of winter sand in parking lots and along roadways at least once

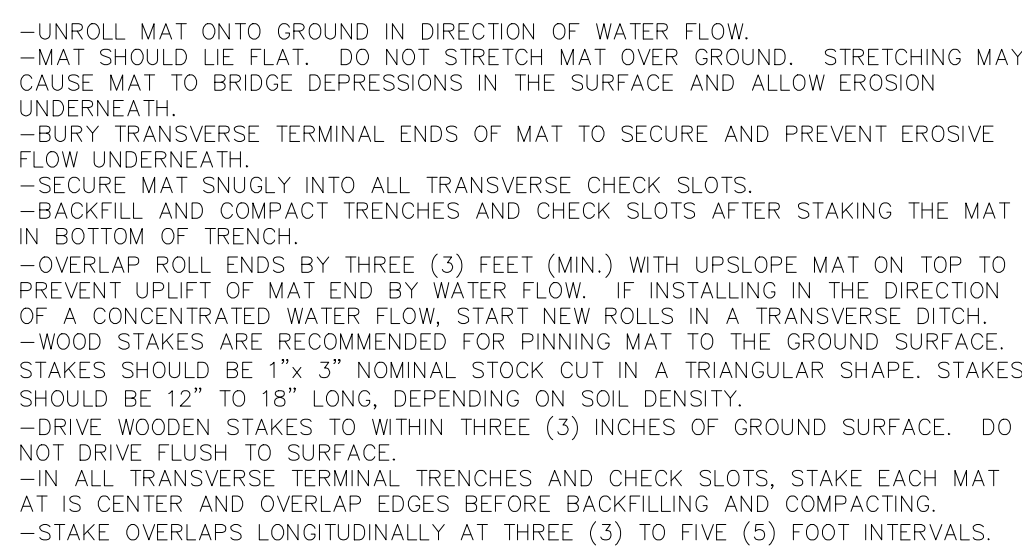




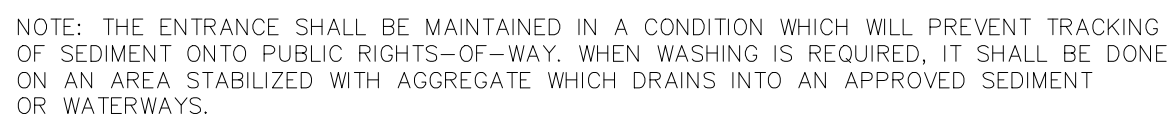
### EDITING NOTES.



- TEMPORARY INLET PROTECTION  
NOT TO SCALE



NOT TO SCALE



N.T.S.




- ## Erosion Control Details

FIELD WK:	SCALE:	SHEET:  <b>C17</b>
DRN BY:	JOB #: 109	
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	





<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: left;">  <p><b>BUNKER ACTIVITY</b></p> </div> <div style="text-align: right;"> <h1 style="margin: 0;">EcoTRAN™ System</h1> <p style="margin: 0;">Simplex</p> </div> </div>	
EcoTRAN™ System	
<p>1. Depth</p> <p>52"-74" (1.3m-1.8m) Verted 78"-114" (1.8m-2.9m) Verted</p> <p>52"-74" (1.3m-1.8m) Flood Plain 78"-114" (1.8m-2.9m) Flood Plain</p>	<div style="border: 1px solid black; height: 100px; width: 100%;"></div>
<p>2. Pump Type (240V / 1 Phase)</p> <p>2 HP OGP2022CE (STD.) 2 HP OGVF2322CE</p>	<div style="border: 1px solid black; height: 100px; width: 100%;"></div>
<p>3. Direct Burial Cable Length</p> <p>30 Feet (STD.) 50 Feet 100 Feet</p>	<div style="border: 1px solid black; height: 100px; width: 100%;"></div>
<p>4. Rock Cover Options (Select One)</p> <p>Sandstone Flood Plain, Sandstone</p>	<div style="border: 1px solid black; height: 100px; width: 100%;"></div>
<p>5. Alarm Box Options</p> <p>Model 1500 w/Alarm Light, Horn, Silence Button &amp; Circuit Breaker Model 1500, includes 1500 features, Plus Generator Receptacle and Automatic Transfer Switch</p>	<div style="border: 1px solid black; height: 100px; width: 100%;"></div>
<p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>Unit shipped boxed complete including Basin Package, Pump, Level Control and Alarm Box (Riser shipped separately).</li> <li>Riser depth can be shortened in the field during installation.</li> <li>All moving parts and seals serviceable from ground level without entry into the basin.</li> </ol>	

PROPERTY LINE

SEWER

CURB BOX AND COVER STAMPED "SEWER" W/5.5" ROD AND 5.5" PIN. ADJUST FOR MIN. 6" TRAVEL

NOTES

1. THE CONTRACTOR SHALL USE SCHEDULE 80 PVC FITTINGS.
2. PVC PRIMER/CLEANER SHALL BE USED BEFORE PVC CEMENT IS APPLIED.
3. BED ALL FITTINGS AND VALVE BOX IN 3/4" CRUSHED STONE.

2" MALE ADAPTOR THREADED BY WELDED. DO NOT USE FEMALE ADAPTOR DUE TO POTENTIAL SPLITTING OF THE ADAPTOR.

2" CTS x FIP ADAPTOR

STAINLESS STEEL INSERT STIFFENERS REQUIRED WITH HDPE PIPE

2" LOW PRESSURE HDPE FORCE MAIN

2" HDPE WYE

PROPERTY LINE

FINISHED GRADE

PIPES BURIED LESS THAN 4' BELOW GRADE REQUIRE 2" RIGID INSULATION OVER PIPES

2" SCH. 80 PVC MALE ADAPTOR

2" SCH. 80 PVC

2" SCH. 80 PVC MALE ADAPTOR. REDUCE FROM HERE IF NECESSARY

2" LOW PRESSURE MAIN

2" BRASS BALL VALVE

FLOW


3" GALVANIZED ANGLE IRON TO BE USED AS BRACE FOR AIR RELEASE VALVE (2 TOTAL)

DIRECTION OF FLOW

AIR RELEASE VALVE

LIMIT OF CRUSHED STONE MAT. MIN. 2'-0"

PLAN VIEW



**PERFORMANCE PIPE**  
A Division of CHEVRON PHILLIPS CHEMICAL COMPANY LP

## ULTRALINE® HDPE WATER SERVICE PIPE & TUBING

**ASTM D2239 Inside Diameter Controlled HDPE Pipe (IPS / SDR)**

SIZE	SDR	NOMINAL OD / ID	COIL LENGTH / PALLET QTY	COIL LENGTH / PALLET QTY	WEIGHT LB/100FT	PRESSURE CLASS
3 / 4"	7	1.074 / .824	100' / 1800'	400' / 4000'	16	250 psi
1"	7	1.367 / 1.049	100' / 1800'	300' / 2400'	25	250 psi
1-1 / 4"	7	1.798 / 1.380	100' / 1500'	300' / 2100'	43	250 psi
1-1 / 2"	7	2.098 / 1.610	100' / 1400'	300' / 1800'	59	250 psi
2"	7	2.692 / 2.067	100' / 1000'	300' / 2100'	97	250 psi

**ASTM D2373 Outside Diameter Controlled HDPE Tubing (CTS)**

SIZE	SDR	NOMINAL OD / ID	COIL LENGTH / PALLET QTY	COIL LENGTH / PALLET QTY	WEIGHT LB/100FT	PRESSURE CLASS
3 / 4"	9	0.875 / 0.669	100' / 1800'	500' / 7500'	10	250 psi
1"	9	1.125 / 0.860	100' / 1600'	300' / 4200'	17	250 psi
1-1 / 4"	9	1.375 / 1.051	100' / 1400'	300' / 4200'	26	250 psi
1-1 / 2"	9	1.625 / 1.241	100' / 1300'	300' / 2400'	36	250 psi
2"	9	2.125 / 1.625	100' / 1300'	300' / 2700'	61	250 psi

**ASTM D3035 Outside Diameter Controlled HDPE Pipe (IPS/SDR)**

SIZE	SDR	NOMINAL OD / ID	COIL LENGTH / PALLET QTY	COIL LENGTH / PALLET QTY	WEIGHT LB/100FT	PRESSURE CLASS
3 / 4"	11	1.050" / 0.849"	150' / 1800'	500' / 3500'	13	200 psi
1"	11	1.315" / 1.061"	150' / 1800'	500' / 3000'	20	200 psi
1-1/4"	11	1.660" / 1.358"	150' / 1500'	500' / 6000'	31	200 psi
1-1/2"	11	1.900" / 1.554"	250' / 2500'	1000' / 4000'	41	200 psi
2"	13.5	2.375" / 2.002"	150' / 1800'	500' / 3500'	53	160 psi
2 1/2"	11	2.375" / 1.917"	150' / 1800'	500' / 3500'	64	200 psi
3"	17	3.500" / 3.063"	250' / 1750'	1000' / 2000'	94	125 psi
3 1/2"	13.5	3.500" / 2.951"	250' / 1750'	1000' / 2000'	116	160 psi
3"	11	3.500" / 2.826"	250' / 1750'	1000' / 2000'	140	200 psi

Contact your Performance Pipe representative for additional sizes and information.

Performance Pipe Ultraline® Water Service Pipe and Tubing is intended for applications to 80°F, contact Performance Pipe for guidance on operating at higher temperatures.

See the PPI "FIELD SERVICE MANUAL FOR MUNICIPAL WATER" for installation guidance. Available as a free download at [www.PerformancePipe.com](http://www.PerformancePipe.com) in the Water/Wastewater section.

RollUp Bulletin #430 RL

PerformancePipe.com

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Performance Pipe, a division of Chevron Phillips Chemical Company LP | 5085 W. Park Blvd | Suite 500 | Plano, TX 75093 | Phone: 800-527-0662 | Fax: 972-599-7348

24" DIA. COVER

CEMENT MORTAR

AIR RELEASE VALVE (VAL-MATIC MODEL VM-48AS OR APPROVED EQUAL)

GATE VALVE

GALVANIZED STEEL RISER

FLANGE CONNECTION

FORCE MAIN

24" DIA. COVER

ADJUST TO GRADE W/ PRE-CAST CONCRETE DOUGHNUTS (2" MIN.)

PRECAST TRUNCATED M.H. CONE

M.H. STEPS, 12" O.C. 1" SQ. POLYPROPYLENE COATED STEPS

FLEXIBLE JOINT SEALANT TO FILL AT LEAST 75% OF JOINT CAVITY

GALVANIZED STEEL STABILIZER ROD ANCHORED TO WALL

PRECAST CONC. BARREL SECTION 4'-0" I.D.

DIRECTION OF FLOW

DUCTILE IRON TEE FACTORY COATED WITH TWO COATS OF EPOXY

SOLID CONCRETE 8"x8"x16" BLOCKS TO SUPPORT AIR RELEASE

4" Ø DRAIN HOLE

CRUSHED STONE


2'-0" MIN.

SECTION A-A

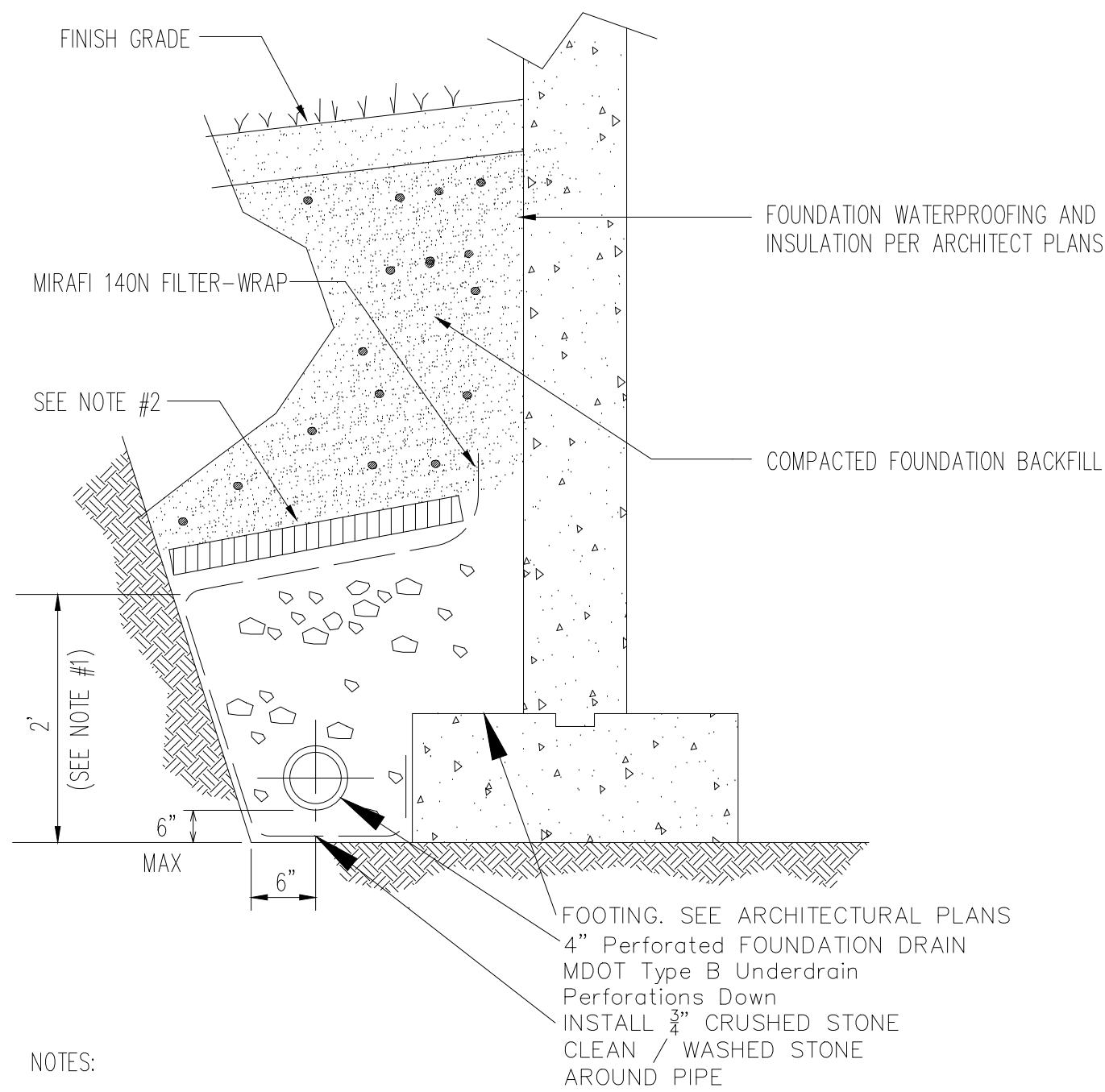
AIR RELEASE MANHOLE

NOT TO SCALE

3.	3-1-2018	Respond to Town Memos, Re-submit to Town	CSB
2.	2-7-2018	SUBMIT TO MAINE DEP	CSB
1.	1-31-2018	Re-Submit to Town and Maine DEP	CSB

<h2 style="margin: 0;">Low Pressure Sewer Pump Details</h2>									
<p>Oceanview at Cumberland 291 Tuttle Road, Cumberland, Maine</p>									
<p>Seacoast Management Company 20 Blueberry Lane, Falmouth, Maine</p>									
 <div style="text-align: center; padding-top: 10px;"> <h1 style="margin: 0;">BELANGER</h1> <hr style="border: 2px solid black; width: 100%;"/> <h1 style="margin: 0;">ENGINEERING</h1> <p style="margin: 0;">CONSULTING ENGINEERS</p> <p style="margin: 0;">63 Second Avenue , Augusta, Maine 04330</p> </div>	<ul style="list-style-type: none"> <li>• COMMERCIAL PROJECTS</li> <li>• RESIDENTIAL SUBDIVISIONS</li> <li>• TOWN AND STATE APPROVAL</li> <li>• SITE PLANNING &amp; DESIGN</li> <li>• STORMWATER MANAGEMENT</li> <li>• ROAD AND UTILITY DESIGN</li> <li>• EROSION CONTROL PLANS</li> </ul> <p style="margin-top: 10px;">Email: cbelanger@roadrunner.com Ph 207-622-1462, Cell 207-242-5713</p>								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">FIELD WK:</td> <td style="width: 50%; padding: 5px;">SCALE:</td> </tr> <tr> <td style="padding: 5px;">DRN BY:</td> <td style="padding: 5px;">JOB #: 109</td> </tr> <tr> <td style="padding: 5px;">CH'D BY:</td> <td style="padding: 5px;">SS:</td> </tr> <tr> <td style="padding: 5px;">DATE: 3-1-2018</td> <td style="padding: 5px;">FILE:</td> </tr> </table>	FIELD WK:	SCALE:	DRN BY:	JOB #: 109	CH'D BY:	SS:	DATE: 3-1-2018	FILE:	<p style="text-align: center; margin-top: 0;">SHEET:</p> <div style="text-align: center; font-size: 2em; font-weight: bold; margin-top: 20px;">C18</div>
FIELD WK:	SCALE:								
DRN BY:	JOB #: 109								
CH'D BY:	SS:								
DATE: 3-1-2018	FILE:								



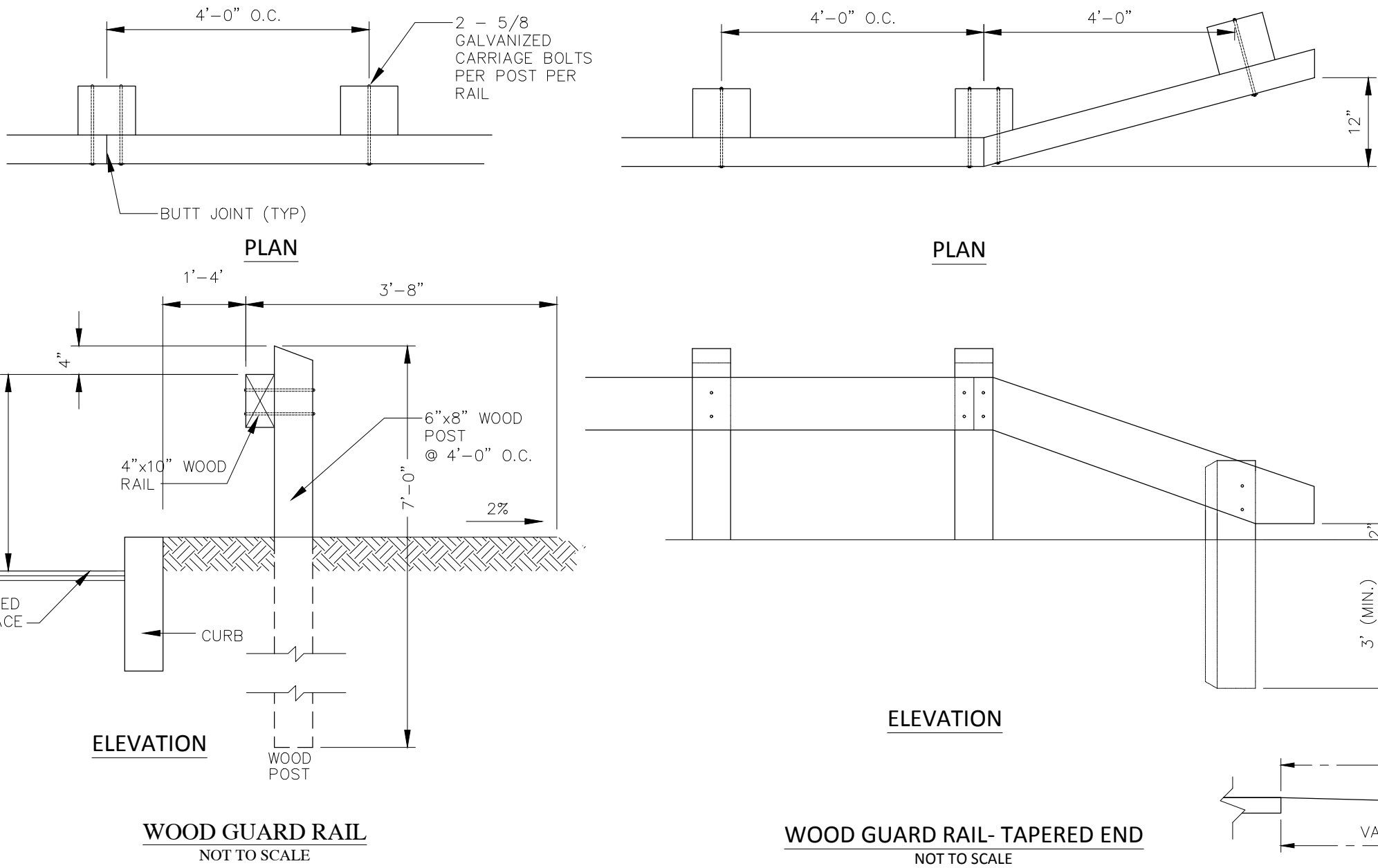
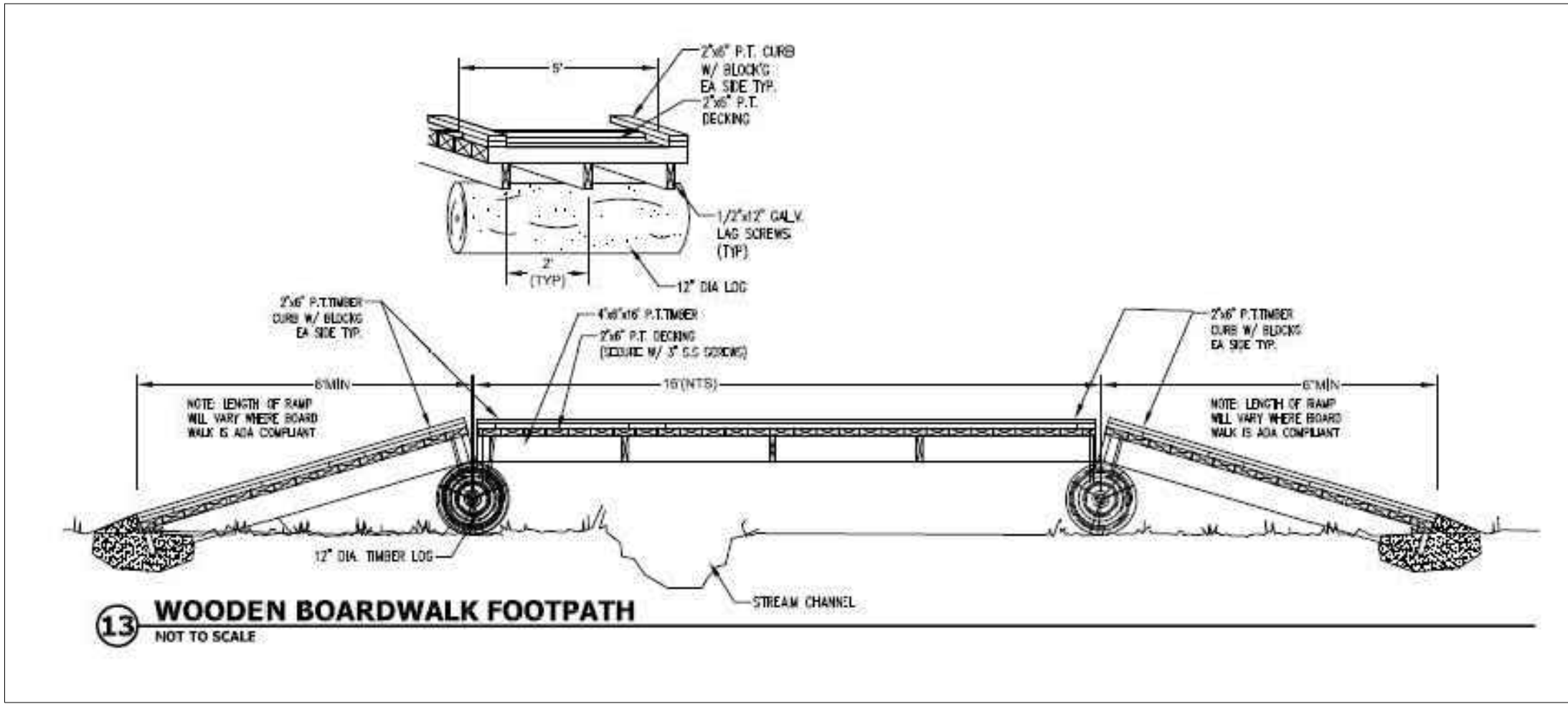


- NOTES:
1. IN LEDGE THIS DEPTH MAY BE REDUCED IF FINISH GRADE IS LESS THAN 2 FT ABOVE FOOTING.
  2. PROVIDE POLYSTYRENE INSULATION BOARD OVER PIPE WHERE COVER IS LESS THAN 4 FT AND/OR AS NOTED ON PLANS.
  3. SEE PLANS FOR LOCATIONS OF DRAINBOARD AND PERIMETER DRAINS.

## PERIMETER OR FOUNDATION DRAIN DETAIL

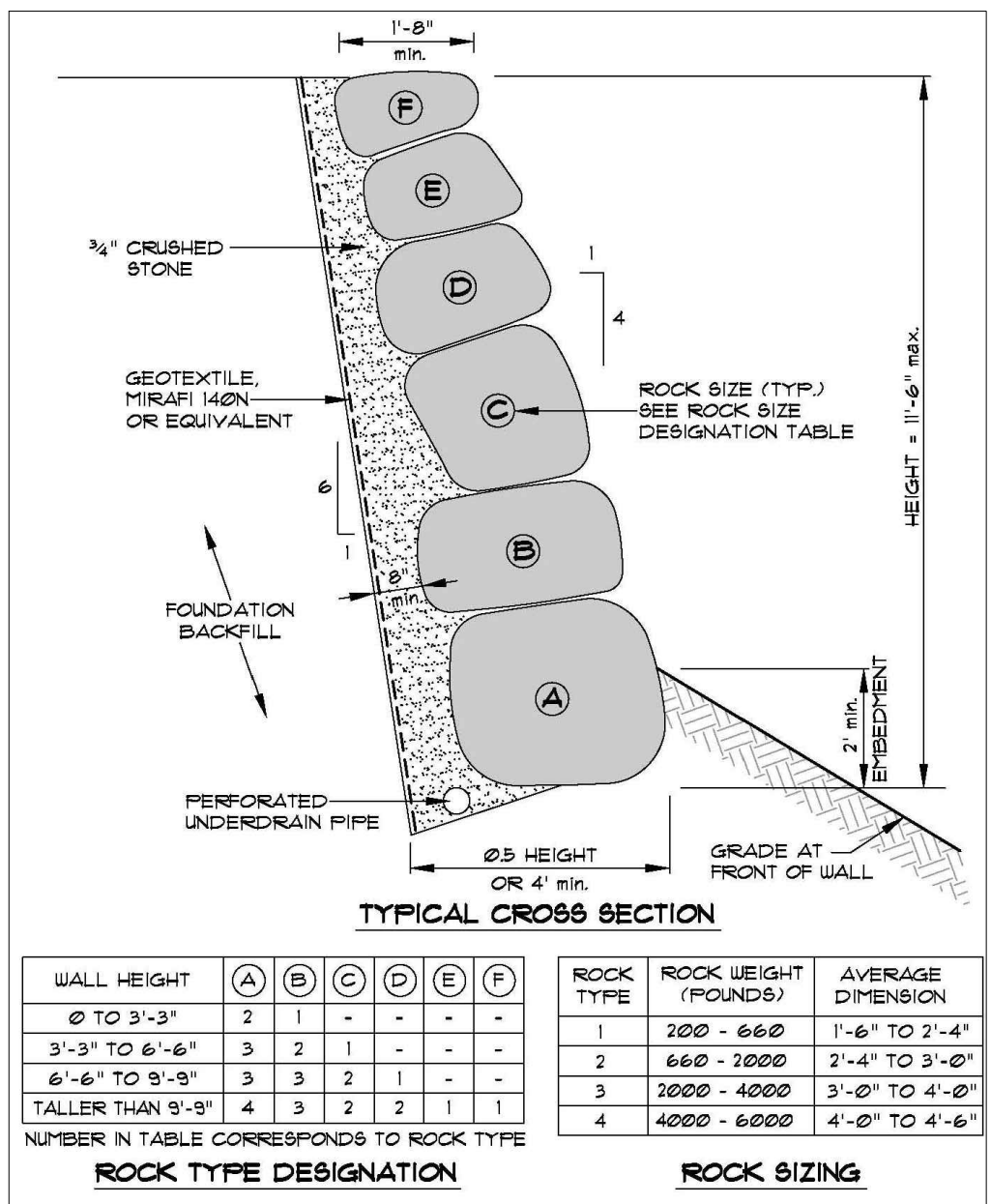
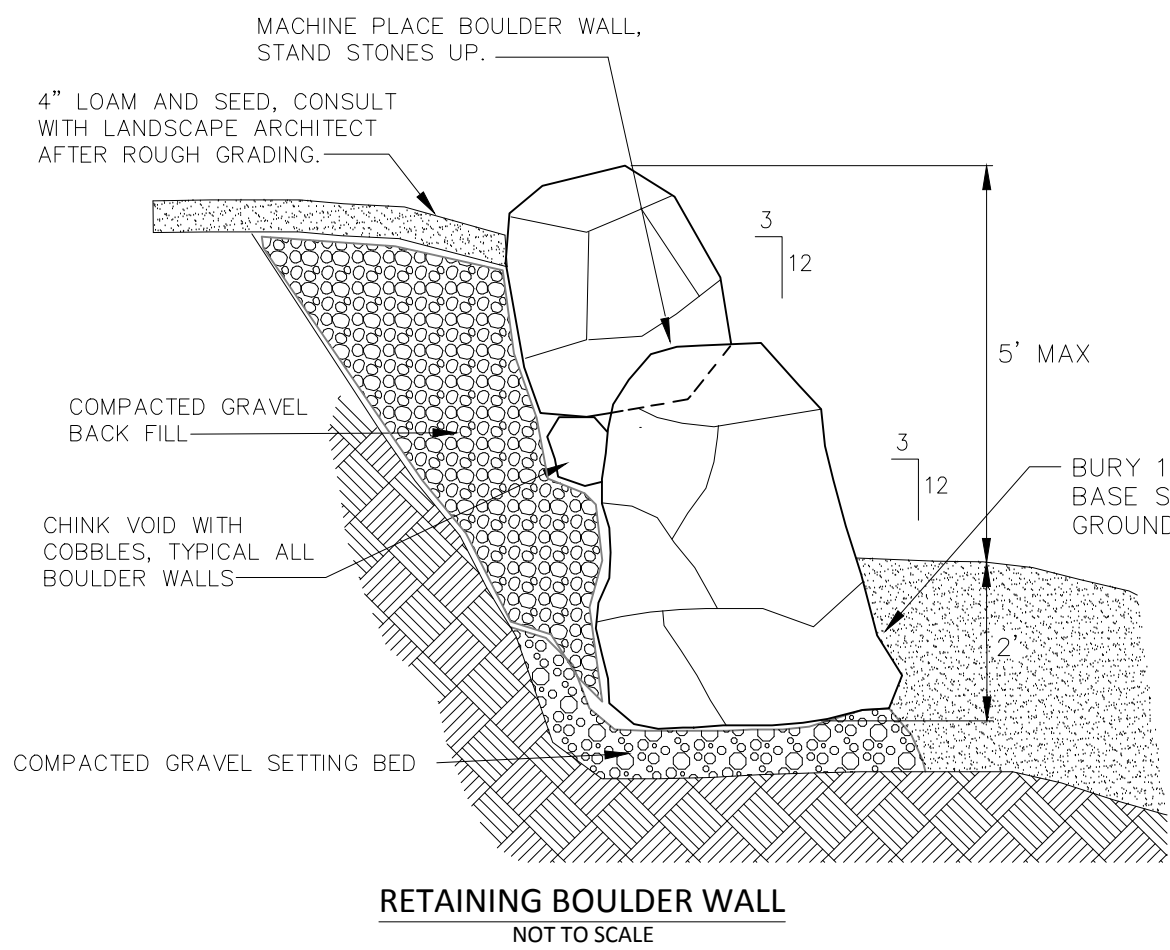
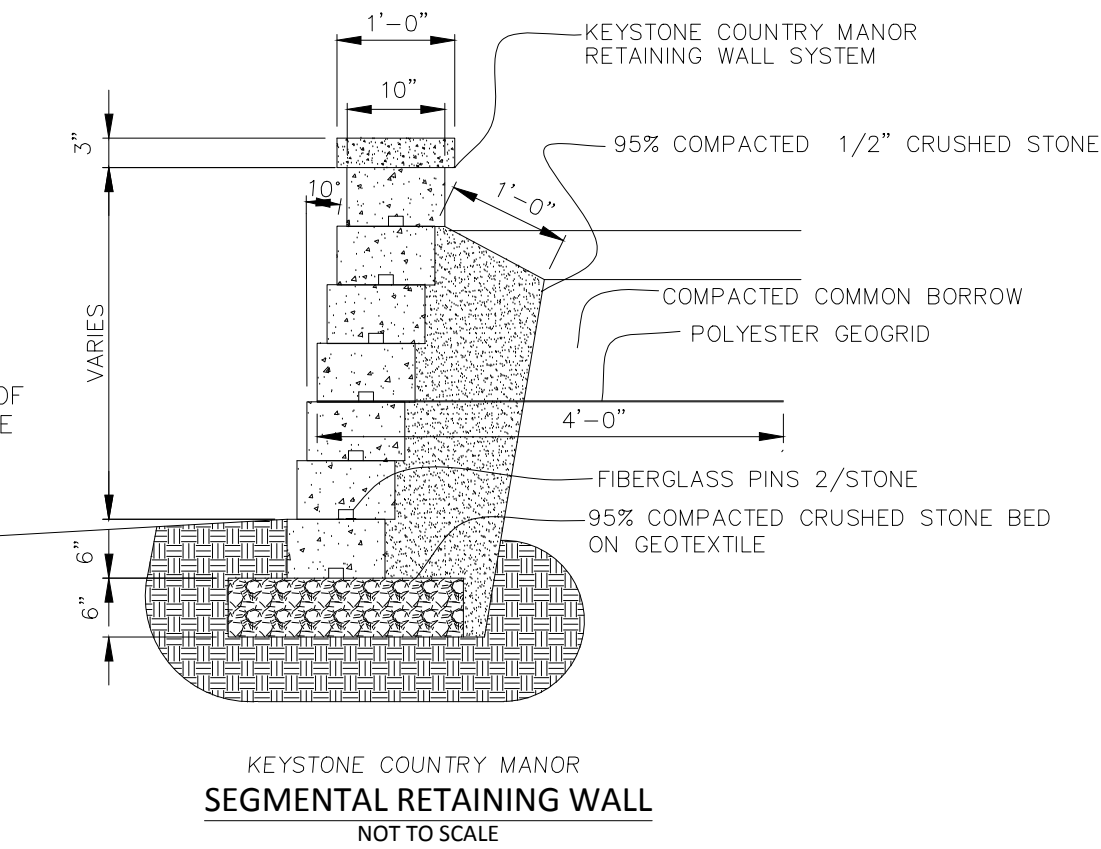
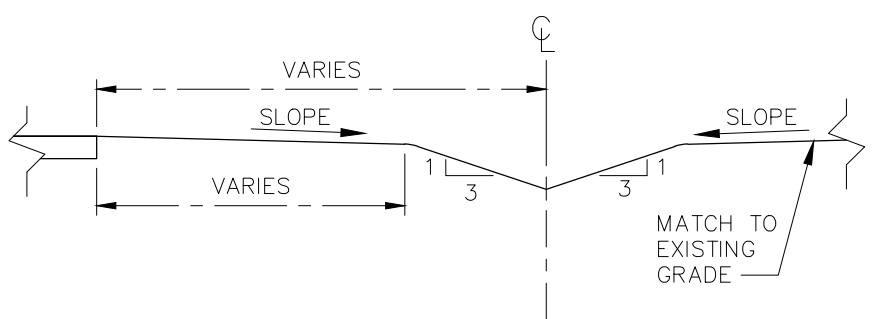
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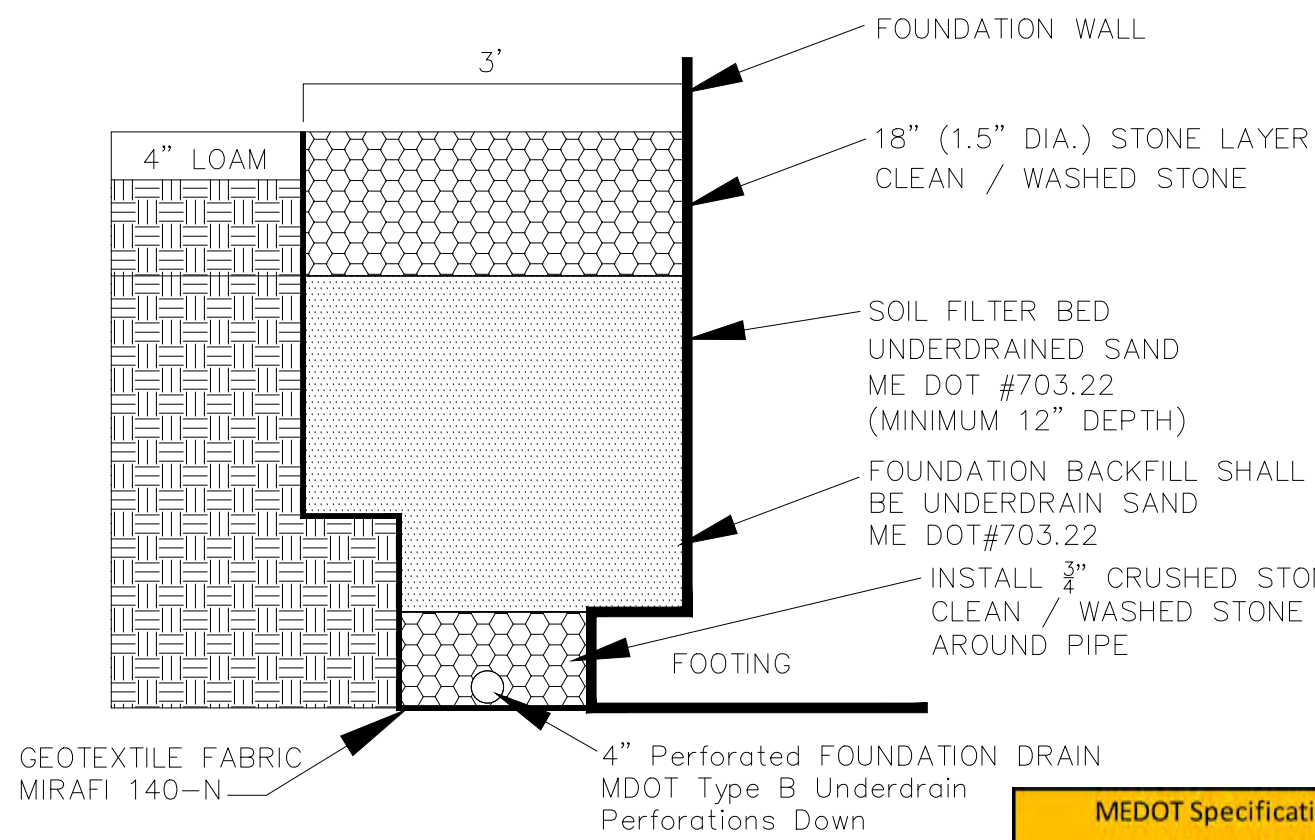
## TYPICAL DRAINAGE SWALE

N.T.S.



## BOULDER RETAINING WALL 4-11' HIGH

NOT TO SCALE



## ROOF DRIPLINE BMP DETAIL

NOT TO SCALE OV @ CUMBERLAND SENIOR HOUSING

MEDOT Specifications for Underdrains (ME DOT #703.22)	
Sieve Size	% Passing by Weight
<b>Underdrain Type B</b>	
1"	90-100
1/2"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5
<b>Underdrain Type C</b>	
1"	100
3/4"	90-100
3/8"	0-75
#4	0-25
#10	0-5

## CONSTRUCTION OVERSIGHT ROOF DRIPLINE INSTALLATION

The Contractor will retain the services of a professional engineer of the clients choosing to inspect the construction and stabilization of all stormwater management structures to be built as part of the project. If necessary, the inspecting engineer will interpret the construction plans for the contractor. Once all stormwater management structures are constructed and stabilized, the inspecting engineer will notify the department in writing within 30 days to state that the structures have been completed. Accompanying the engineer's notification must be a copy of the test results for any soil fill, aggregate, or multi materials used in the construction of the stormwater management structures and a log of the engineer's inspections giving the date of each inspection, the time of each inspection, and the items inspected on each visit.

## Roof Dripline Filtration

Construction inspections: At a minimum, the professional engineer's inspection will occur after foundation soil preparation but prior to placement of the geotextile lining, after the foundation drain pipe is installed but not yet backfilled, after the pipe bedding gravel is placed but prior to the placement of the gravel filter media, after the gravel filter media has been placed but prior to installing the crushed stone surface layer, and after the surface crushed stone surface layer is installed.

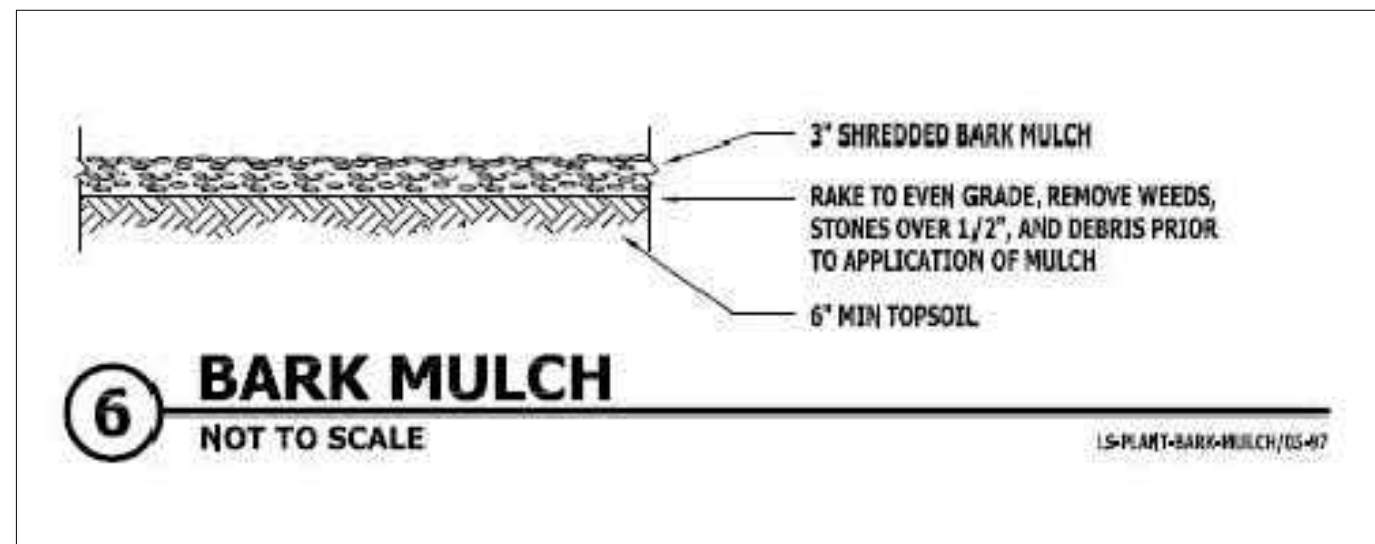
Testing and submittals: The gravel filter media and pipe bedding media used in the roof dripline filtration BMP must be confirmed as suitable by testing. The contractor shall identify the source of these gravels and obtain samples for testing. All testing must be done by a certified laboratory. All results of field and laboratory testing shall be submitted to the project engineer for confirmation. It shall be the contractor's responsibility to ensure completion of the following sampling and testing before the gravel is placed as part of the dripline filter's construction.

- Obtain a sample of the gravel filter media. The sample must be a composite of three different locations (grabs) from the gravel stockpile. The sample size required will be determined by the testing laboratory. Perform a sieve analysis conforming to ASTM C136 (Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates 1996A) of the sand filter media showing it meets the following gradation:

Sieve Size	% Passing by Weight
3"	100
#200	4-7

- If the underdrain pipes will be bedded in gravel, obtain a sample of the gravel fill to be used for the pipe bedding. The sample must be a composite of three different locations (grabs) from the stockpile or pit face. The sample size required will be determined by the testing laboratory. Perform a sieve analysis conforming to ASTM C136 (Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates 1996A) of the gravel to be used for the underdrain pipe bedding. The gravel fill must conform to MEDOT specification 703.22 Underdrain Type B.

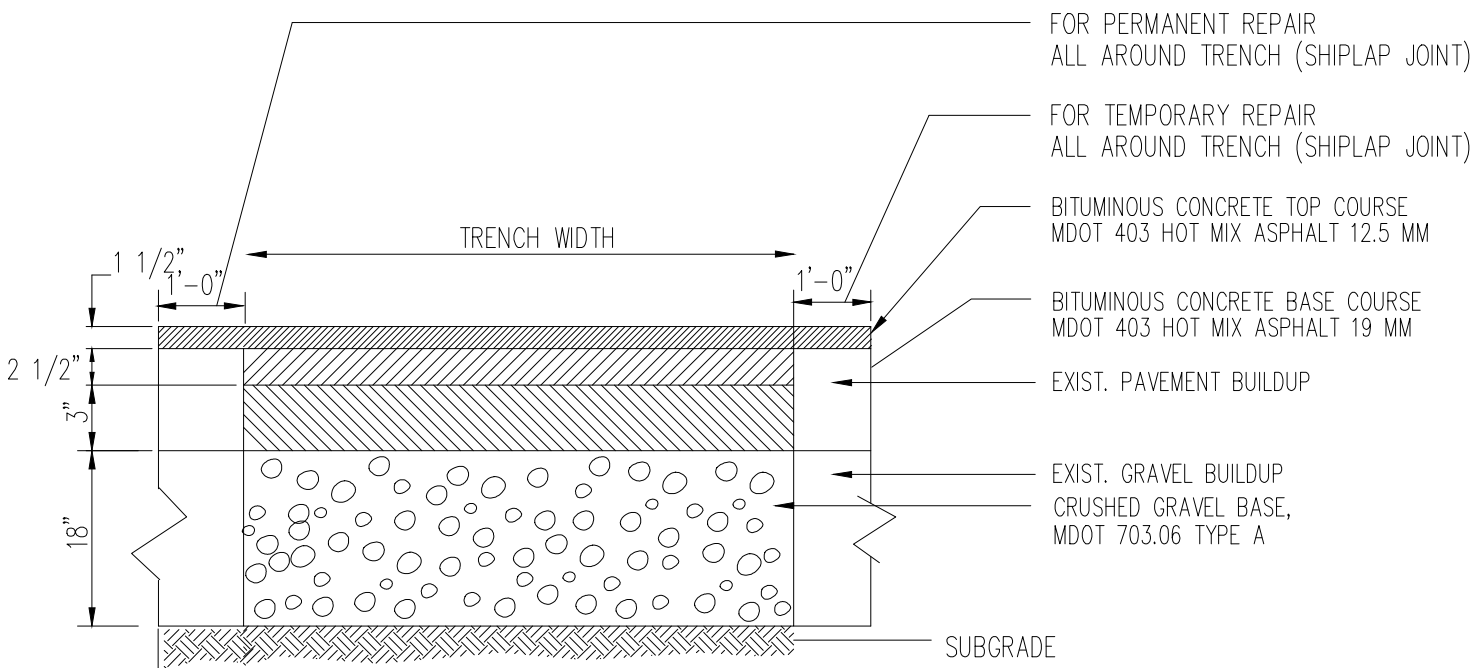
If the underdrain pipes will be bedded in crushed stone, obtain a sample of the crushed stone to be used for the pipe bedding. The sample must be a composite of three different locations (grabs) from the stockpile. The sample size required will be determined by the testing laboratory. Perform a sieve analysis conforming to ASTM C136 (Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates 1996A) of the crushed stone to be used for the underdrain pipe bedding. The crushed stone fill must conform to MEDOT specification 703.22 Underdrain Type C.



NOTE:  
TRENCH REPAIR TO MEET TOWN OF CUMBERLAND DPW REQUIREMENTS

## TRENCH REPAIR BITUMINOUS CONCRETE

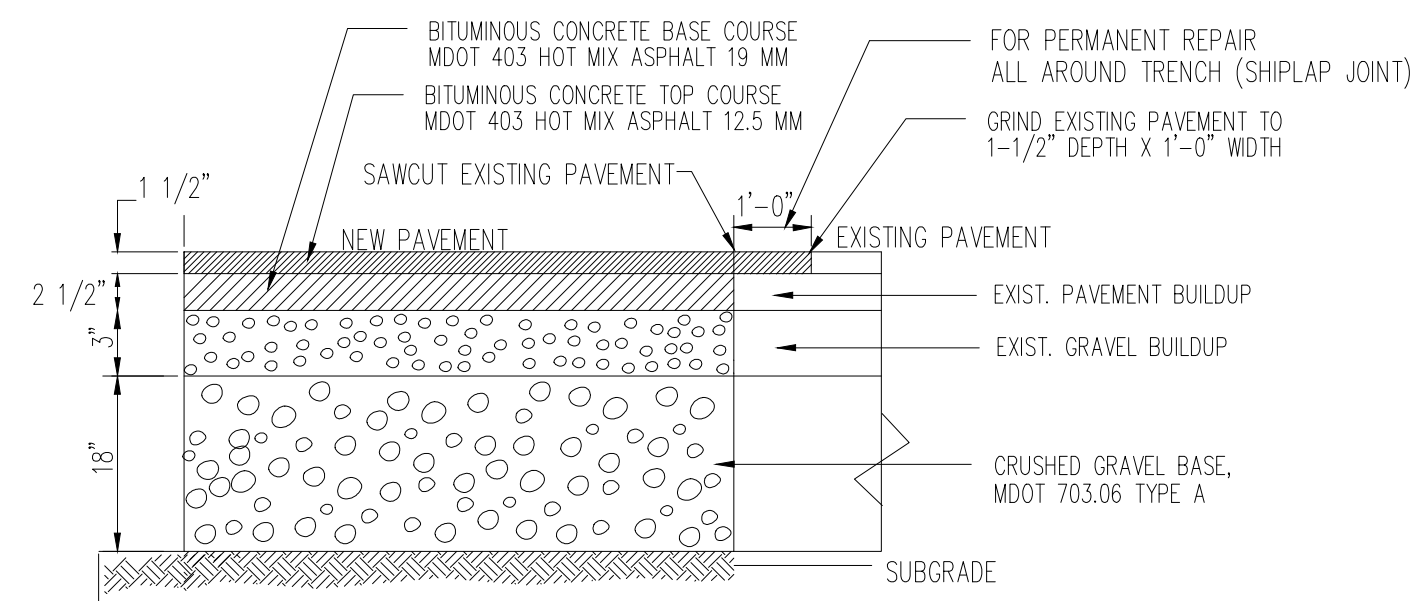
NOT TO SCALE



NOTE:  
TRENCH REPAIR TO MEET TOWN OF CUMBERLAND DPW REQUIREMENTS

## PAVEMENT BUTT JOINT DETAIL BITUMINOUS CONCRETE

NOT TO SCALE



- |    |           |  |     |
|----|-----------|--|-----|
| 3. | 3-1-2018  | Respond to Town Memos, Re-submit to Town | CSB |
| 2. | 2-7-2018  | SUBMIT TO DEP                            | CSB |
| 1. | 1-31-2018 | Re-Submit to Town and Maine DEP          | CSB |

## Roof Dripline BMP and Misc. Details

Oceanview at Cumberland  
277 Tuttle Road, Cumberland, Maine

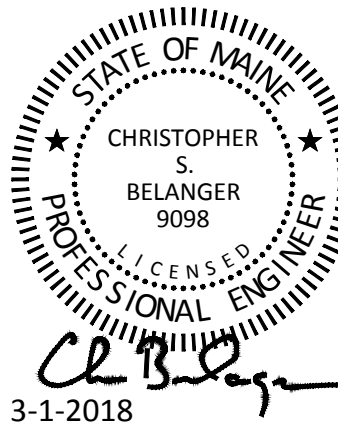
Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine

**BELANGER ENGINEERING**  
CONSULTING ENGINEERS  
63 Second Avenue, Augusta, Maine 04330 Ph 207-622-1462, Cell 207-242-5713

- COMMERCIAL PROJECTS
- RESIDENTIAL SUBDIVISIONS
- TOWN AND STATE APPROVALS
- SITE PLANNING & DESIGN
- STORMWATER MANAGEMENT
- ROAD AND UTILITY DESIGN
- EROSION CONTROL PLANS

Email: cbelanger@roadrunner.com

FIELD WK:	SCALE:	SHEET:
DRN BY:	JOB #: 109	<b>C19</b>
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	





MEETS THE ABOVE SPECIFIED REQUIREMENTS.

BLOCK WALL (SEE SITE PLAN)

CONCRETE ARCH CULVERT 54'X86"

RIPRAP INLET APRON

Inlet 12' long X 12' wide  
riprap size d50=6"  
Riprap Thickness = 18"

ROADWAY

ROADWAY BUILDUP. REFER TO ROAD SECTION DETAIL.

Profile (n.t.s.)

EXISTING STREAM BED

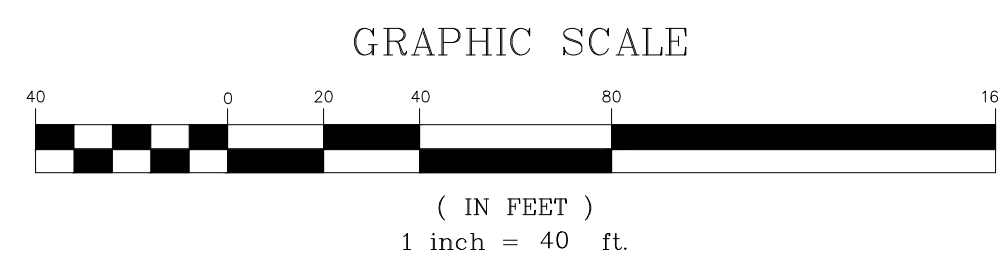
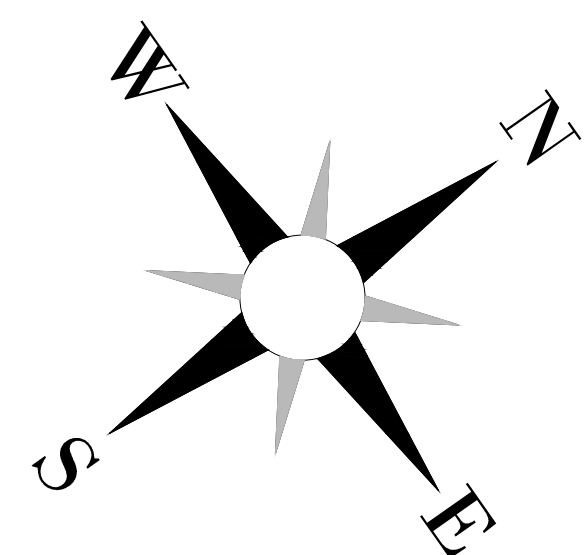
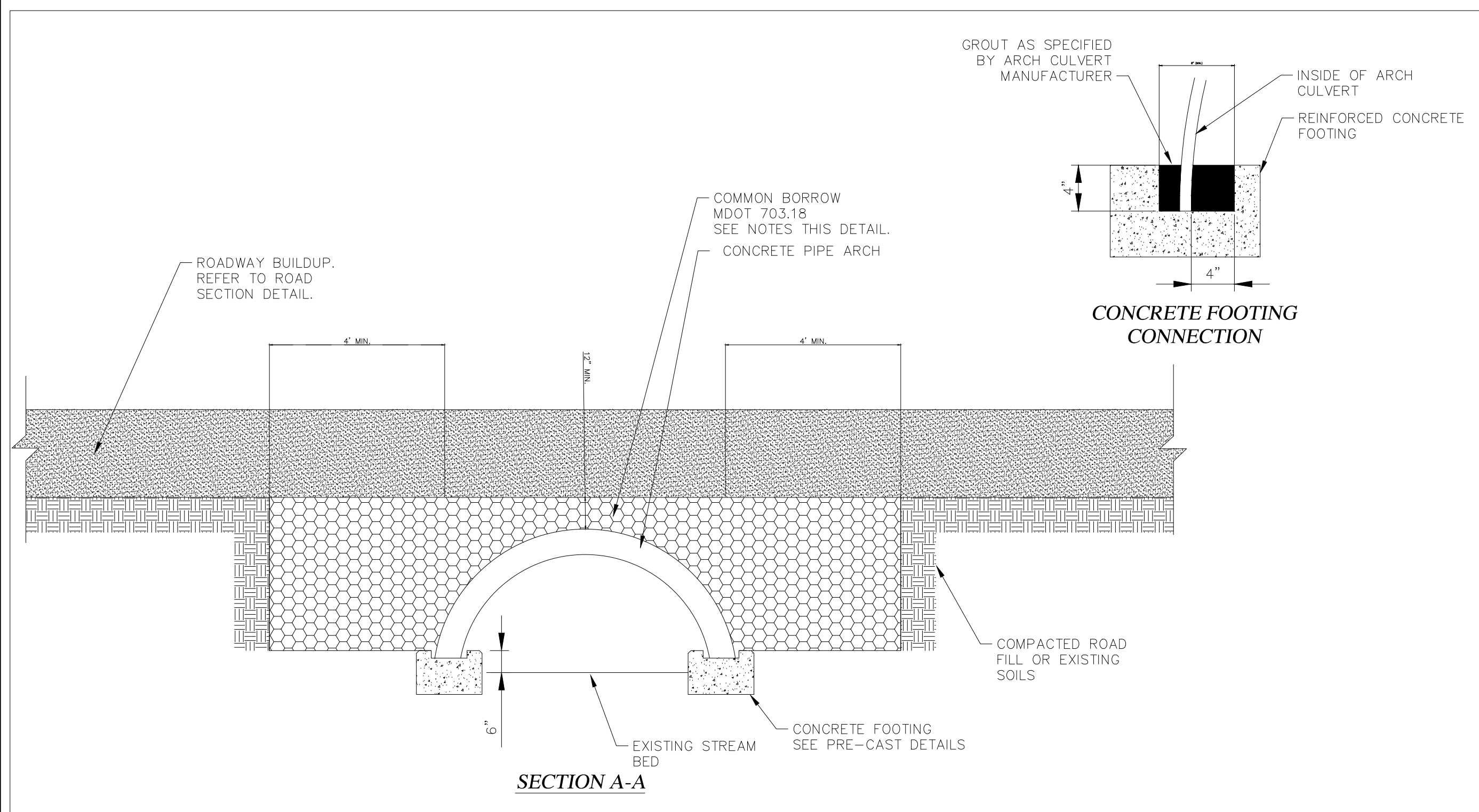
CONCRETE FOOTING (BOTH SIDES)

RIPRAP OUTLET APRON

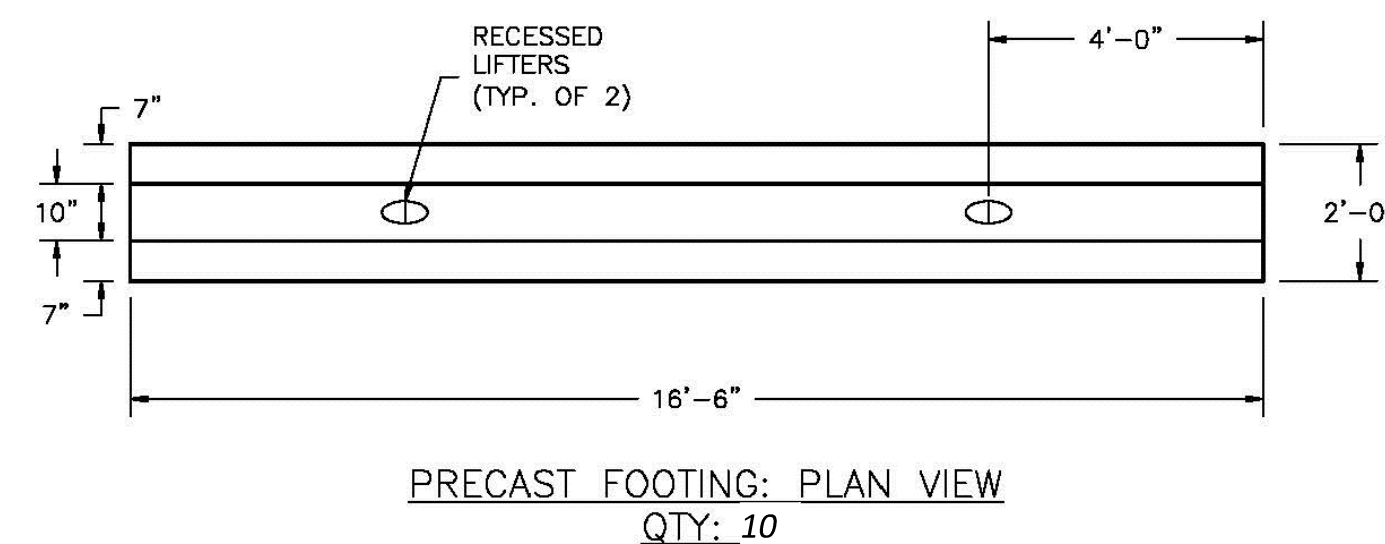
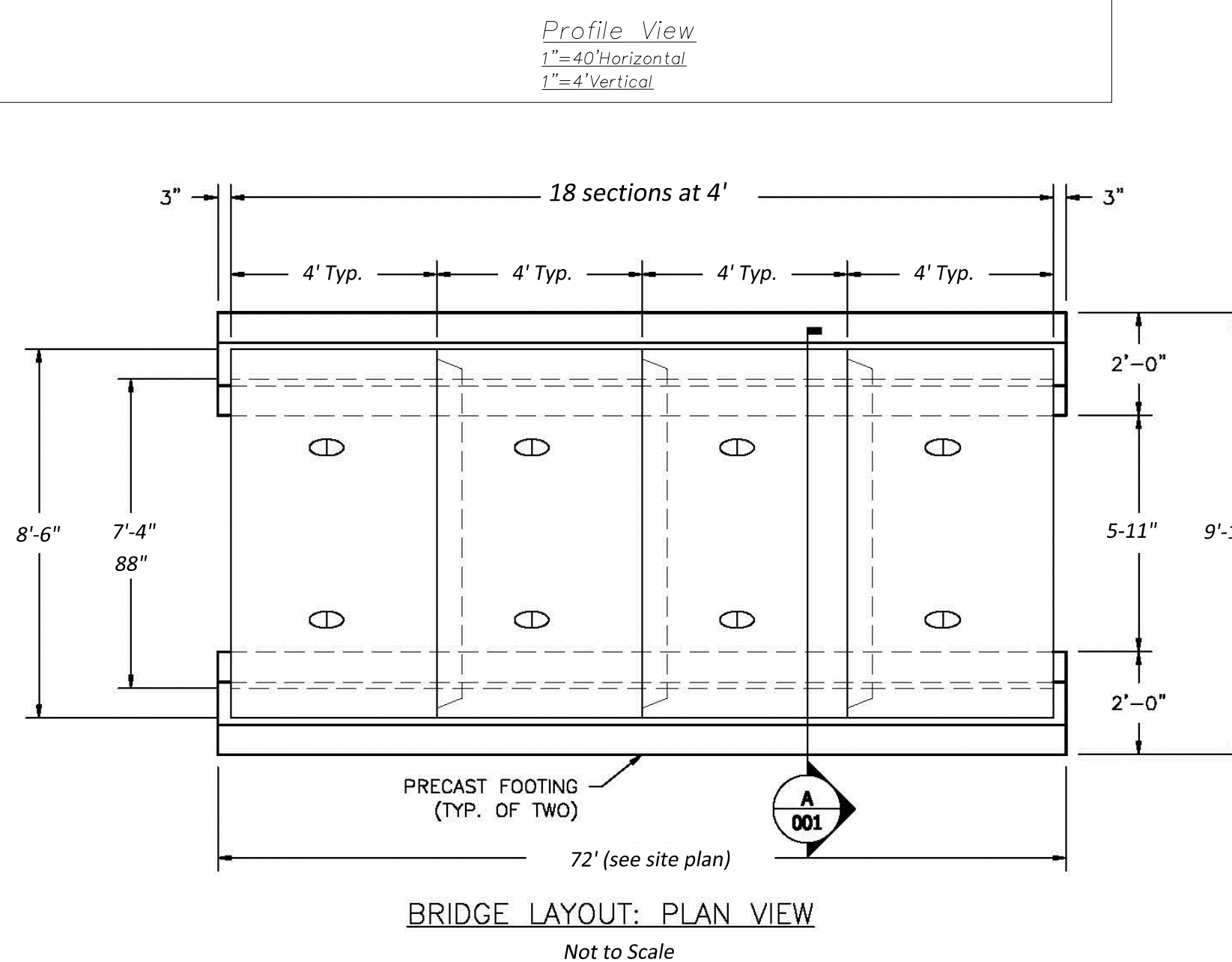
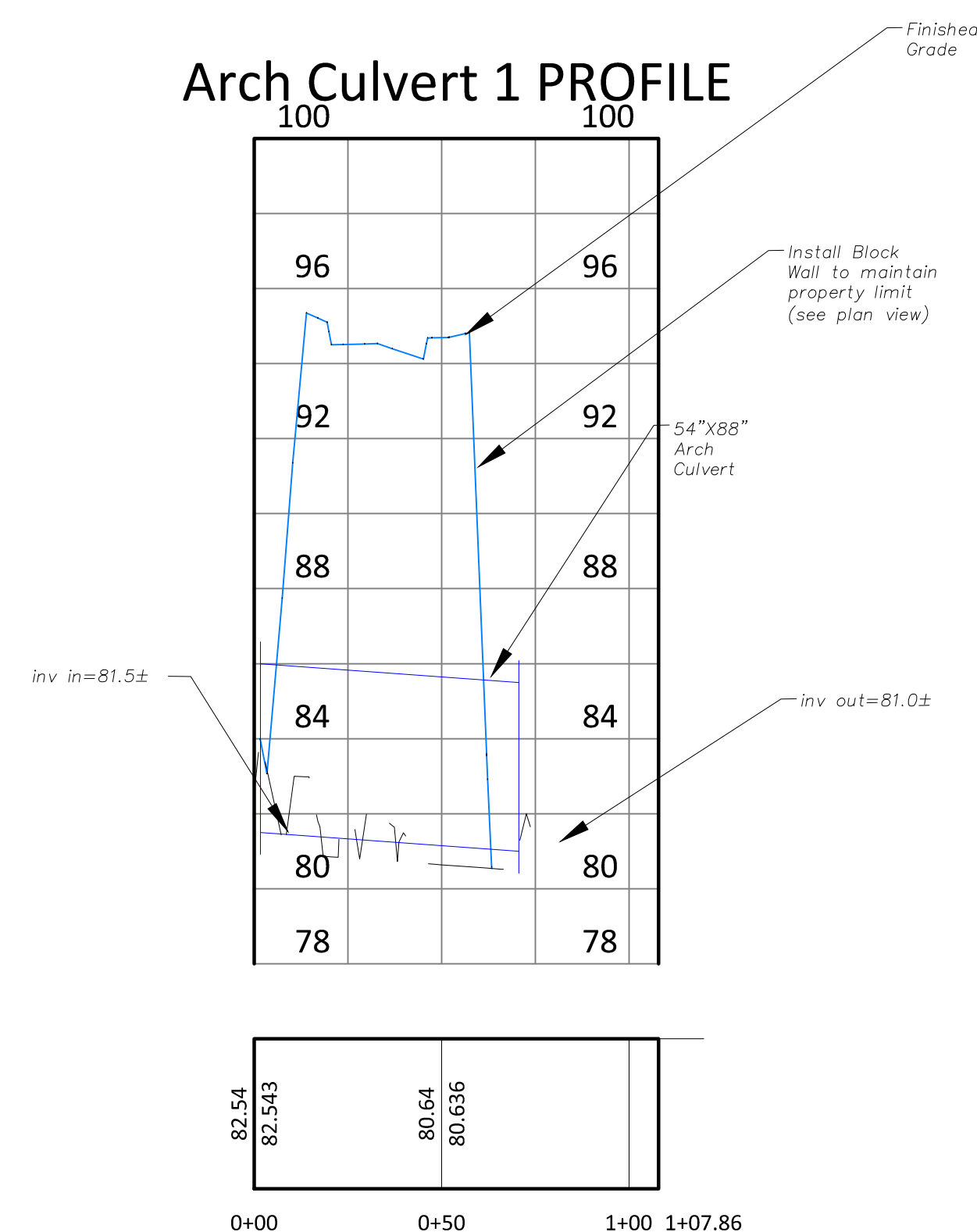
Outlet Plunge Pool  
Depth=3'  
Width=12'  
Length=12'

(See Typical Culvert inlet and outlet detail)

BLOCK WALL (SEE SITE PLAN)



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IS SUBJECT TO REVISION.

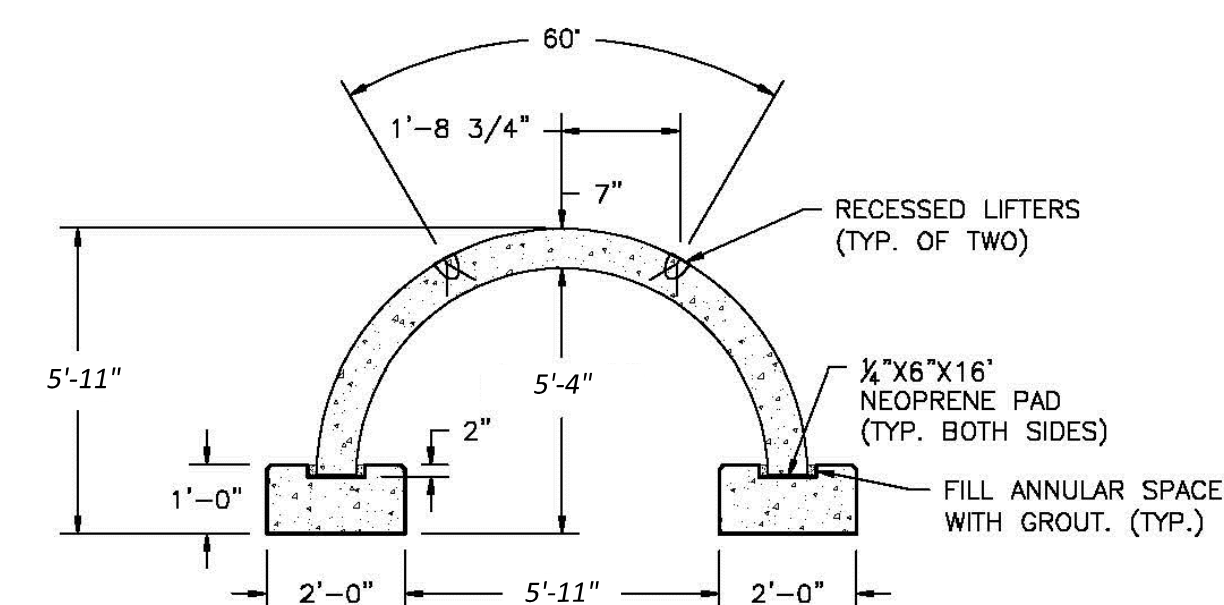
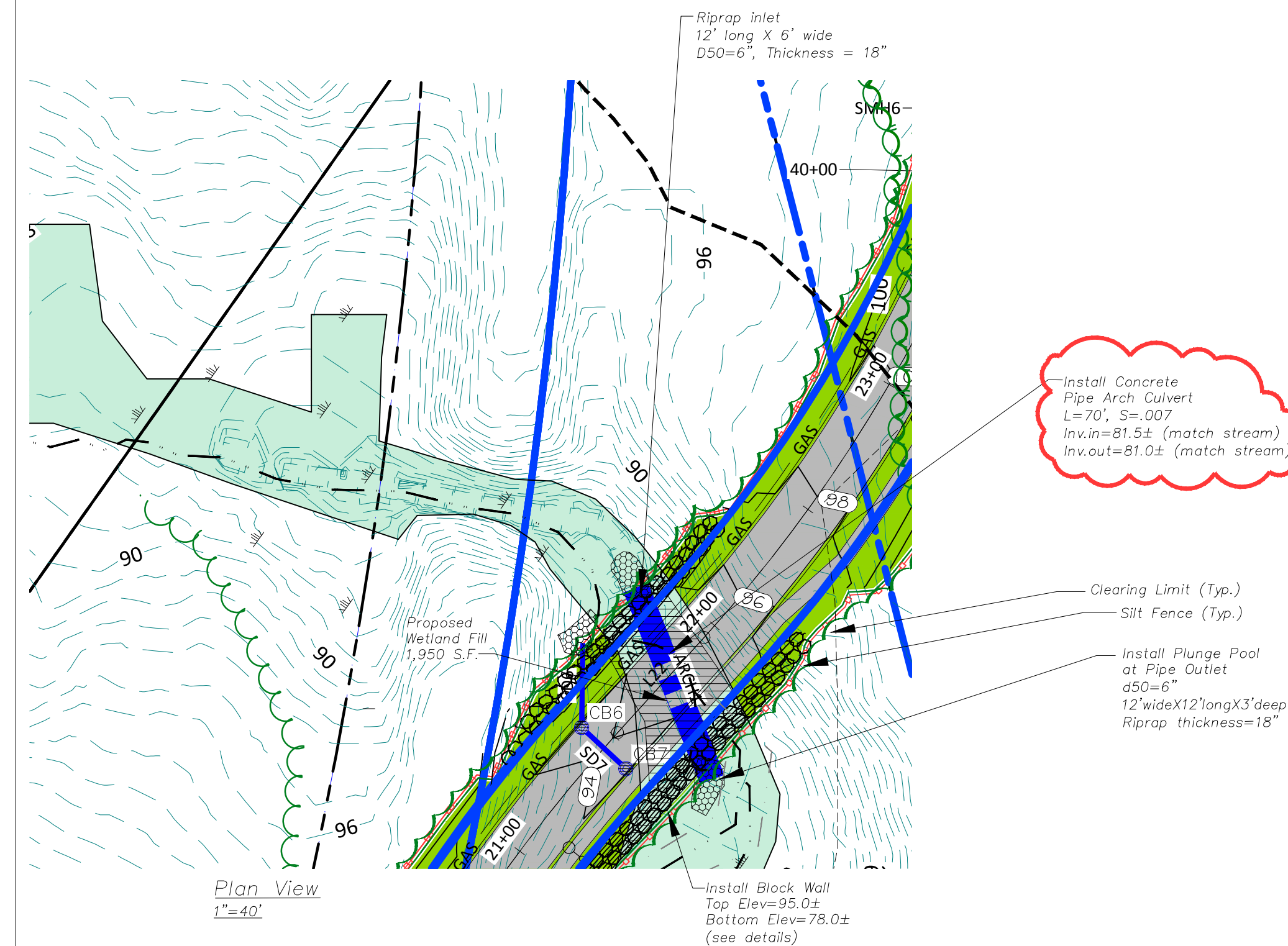


DESIGN NOTES:

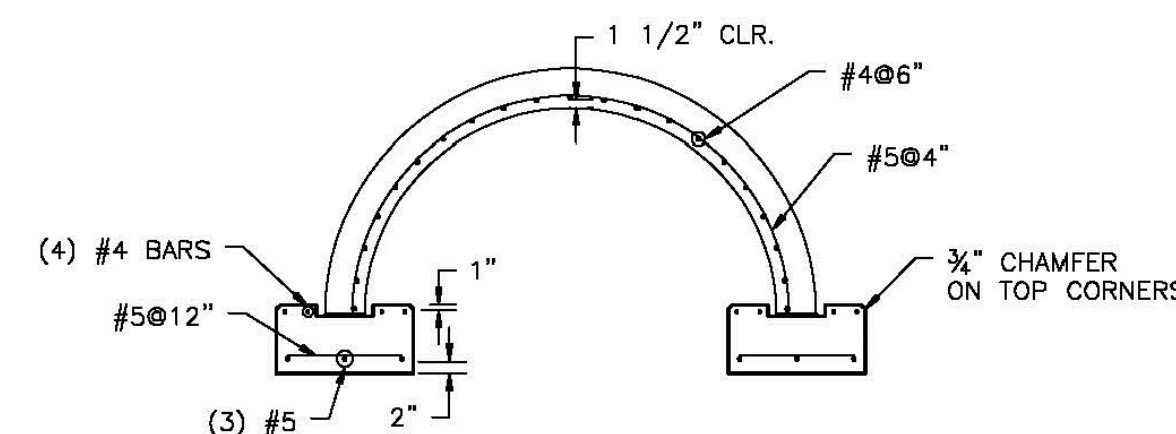
1. CONCRETE TO BE 5,000PSI @ 28 DAYS.
2. DESIGNED FOR HS-20 LOADING.
3. JOINTS SEALED WITH BUTYL RUBBER JOINT SEALANT, AASHTO M-19.
4. EXTERIOR OF JOINT TO BE SEALED WITH 12" EZ-WRAP.

— 5. CONTRACTOR SHALL PROVIDE SHOP DRAWING TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

APPROX. WEIGHTS:  
FOOTER: 4,560LBS (1.14CY)  
ARCH SECTION: 3,600LBS (.90CY)



SECTION VIEW: A

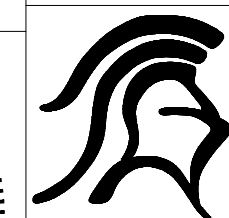


REINFORCING DETAIL  
(TYP. ALL PIECES)

- |    |           |  |     |
|----|-----------|--|-----|
| 3. | 3-1-2018  | Respond to Town Memos, Re-submit to Town | CSB |
| 2. | 2-7-2018  | SUBMIT TO DEP                            | CSB |
| 1. | 1-31-2018 | Respond to Town Memos, submit to Town    | CSB |

Oceanview at Cumberland  
291 Tuttle Road, Cumberland, Maine

Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine



# **BELANGER**

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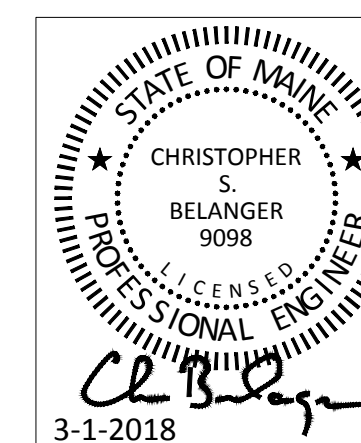
# **ENGINEERING**

63 Second Avenue, Augusta, Maine 04330 Ph 207-622-1462, Cell 207-242-5713

FIELD WK:	SCALE:
DRN BY:	JOB #: 109
CH'D BY:	SS:
DATE: 3-1-2018	FILE:

C20

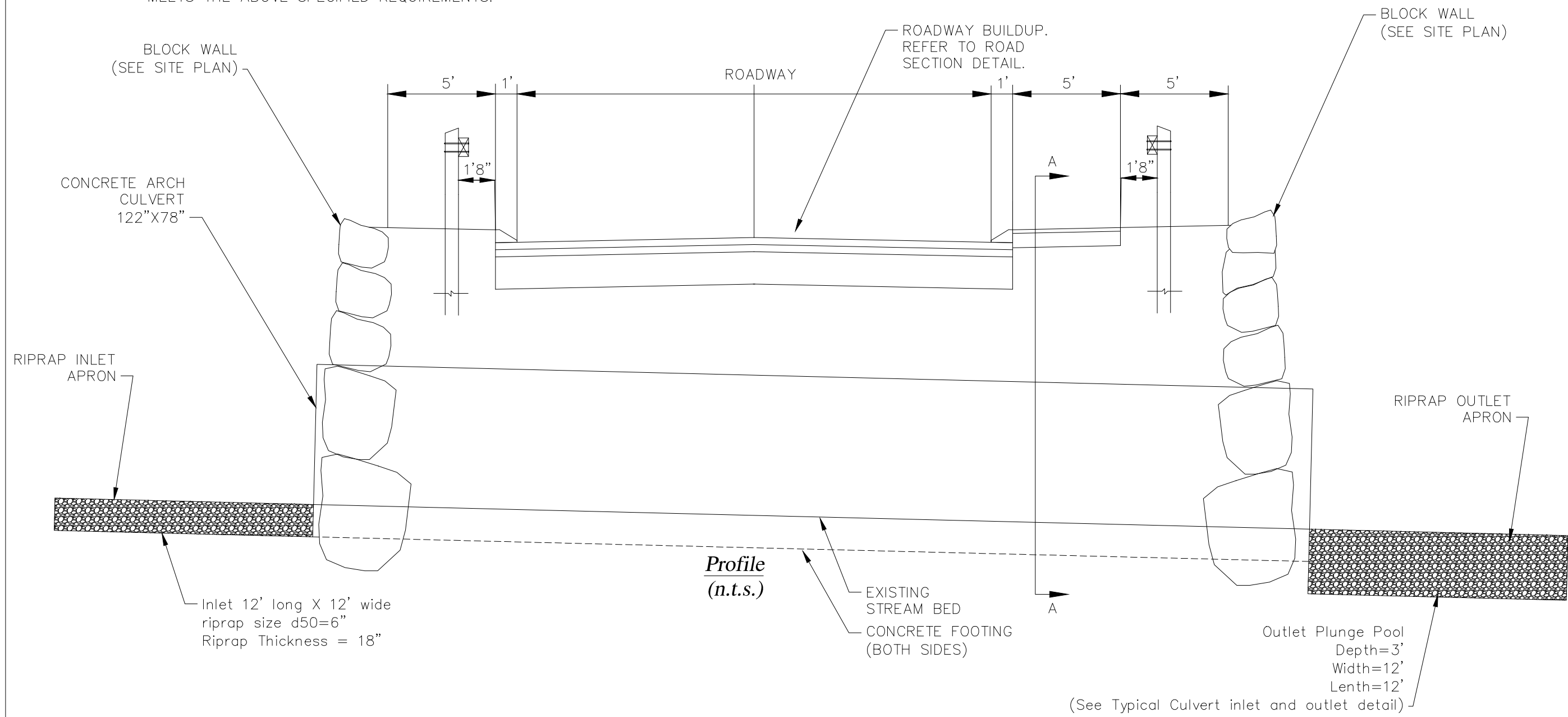
Prepared in association with:



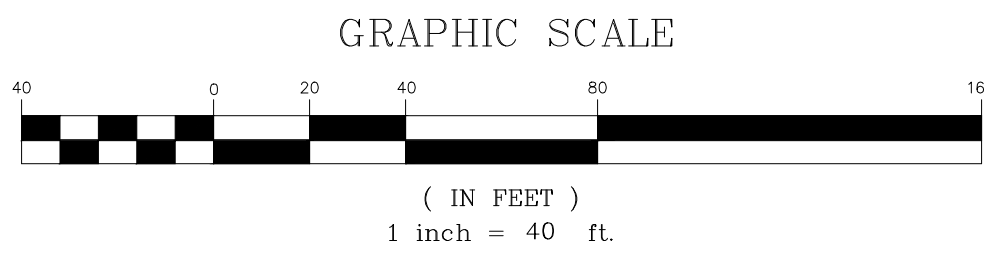
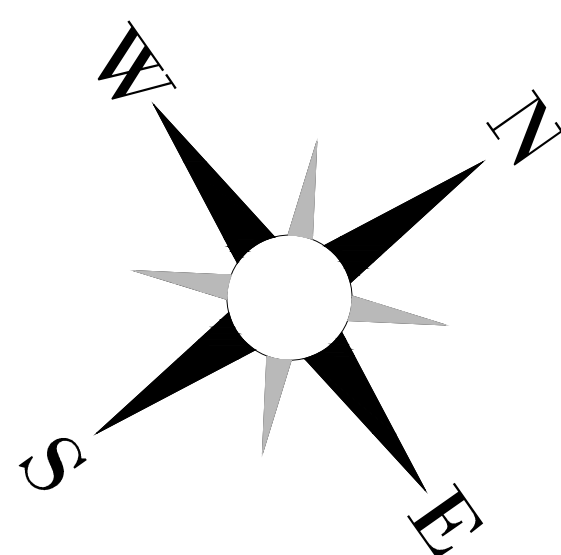
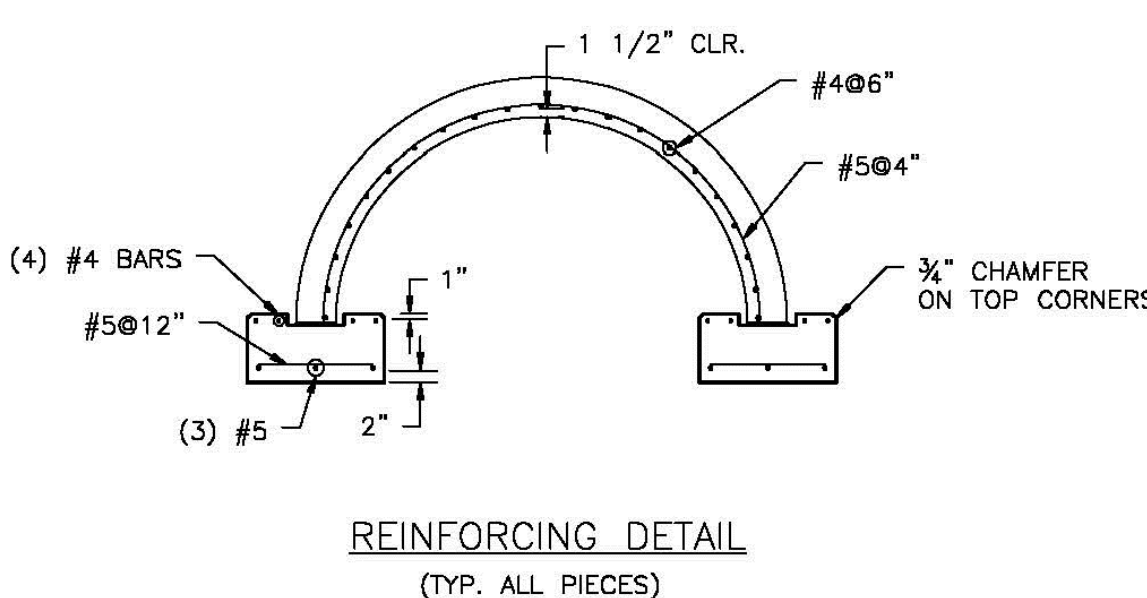
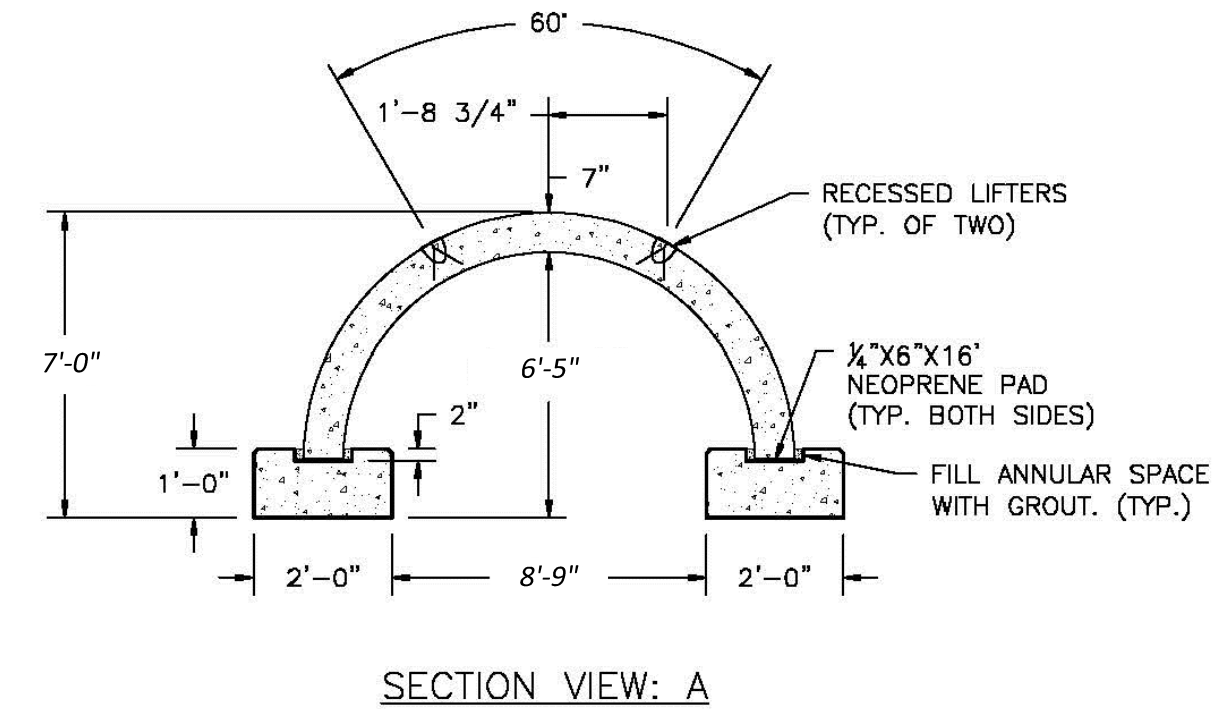
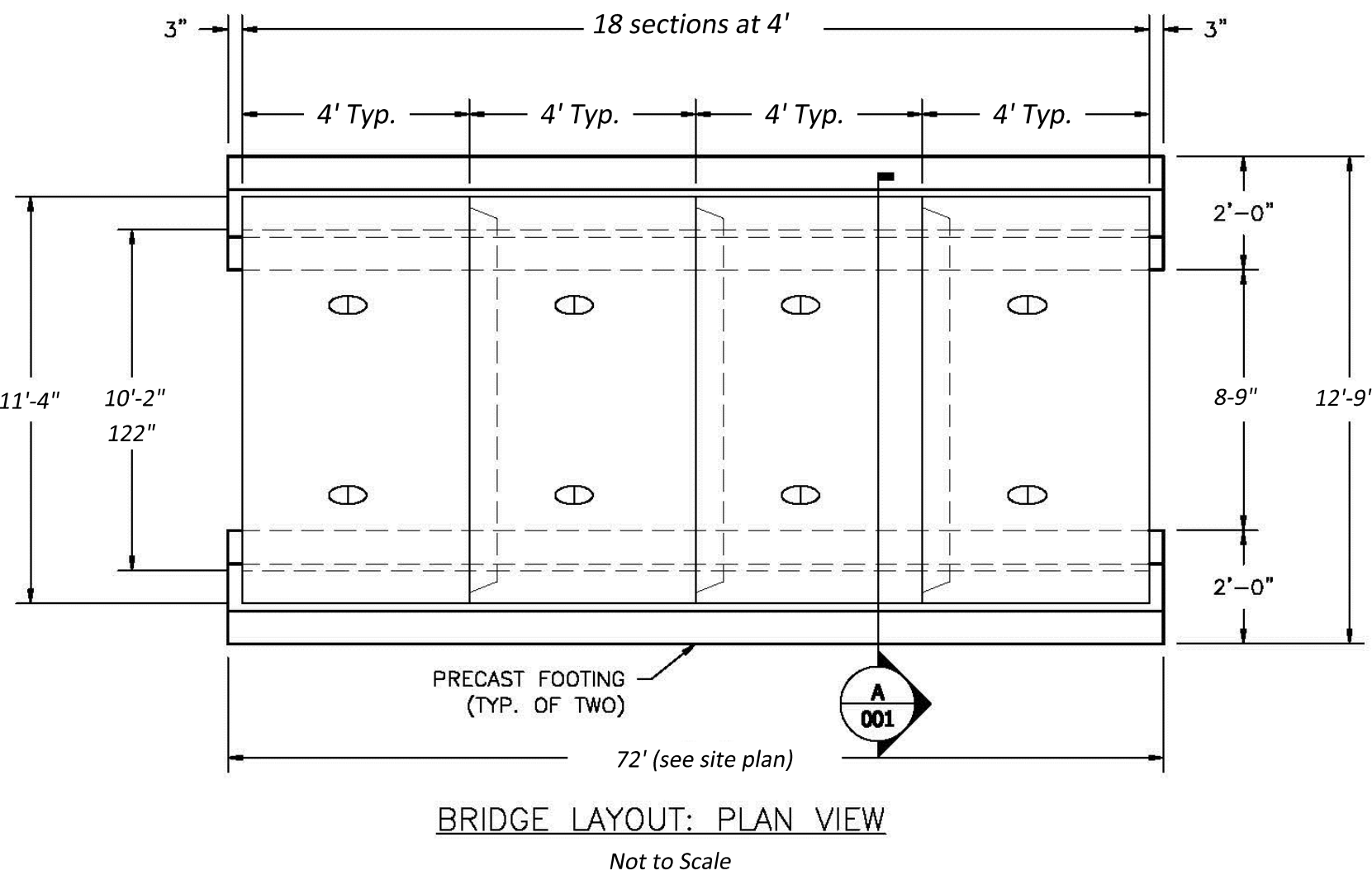
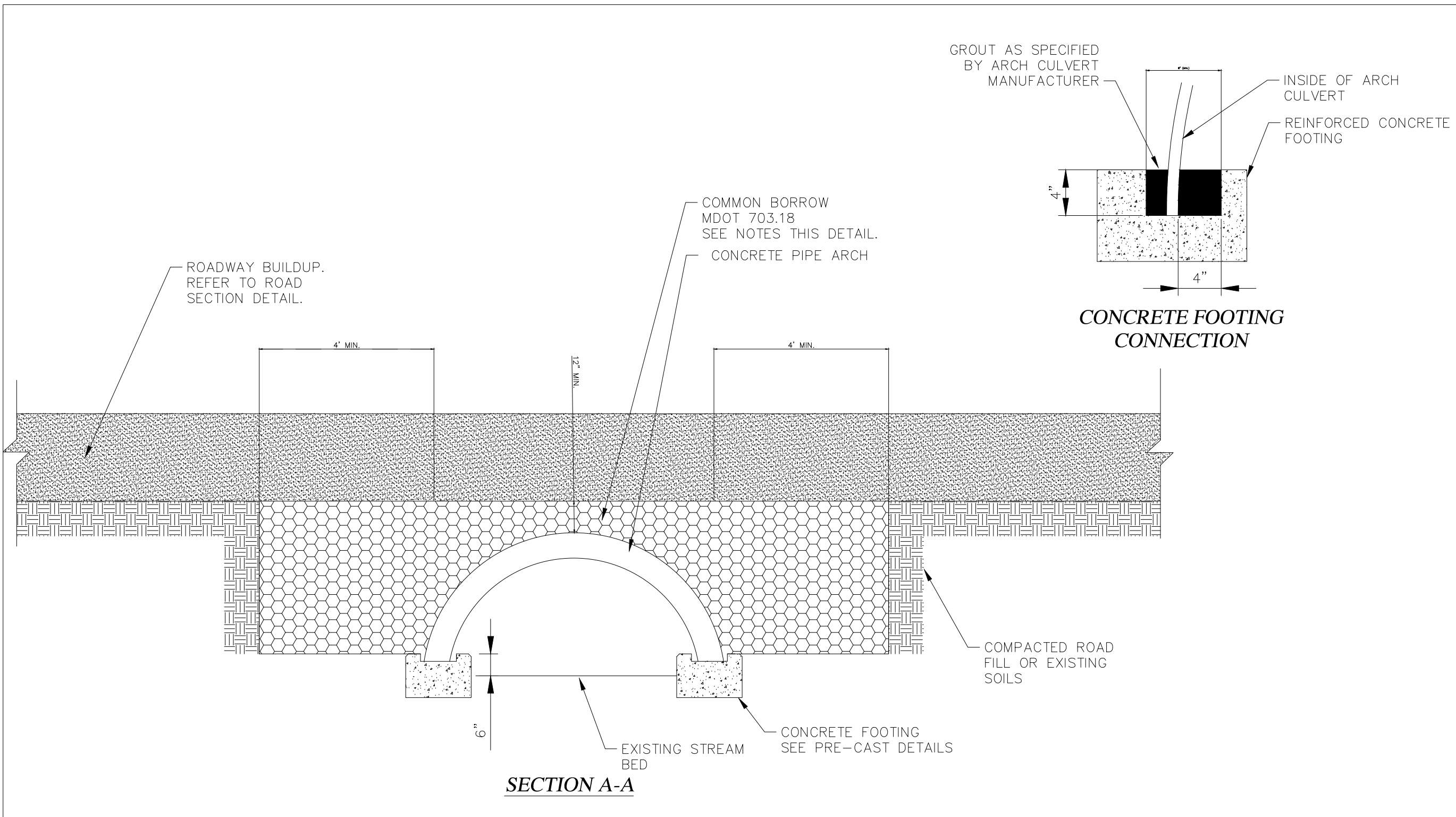
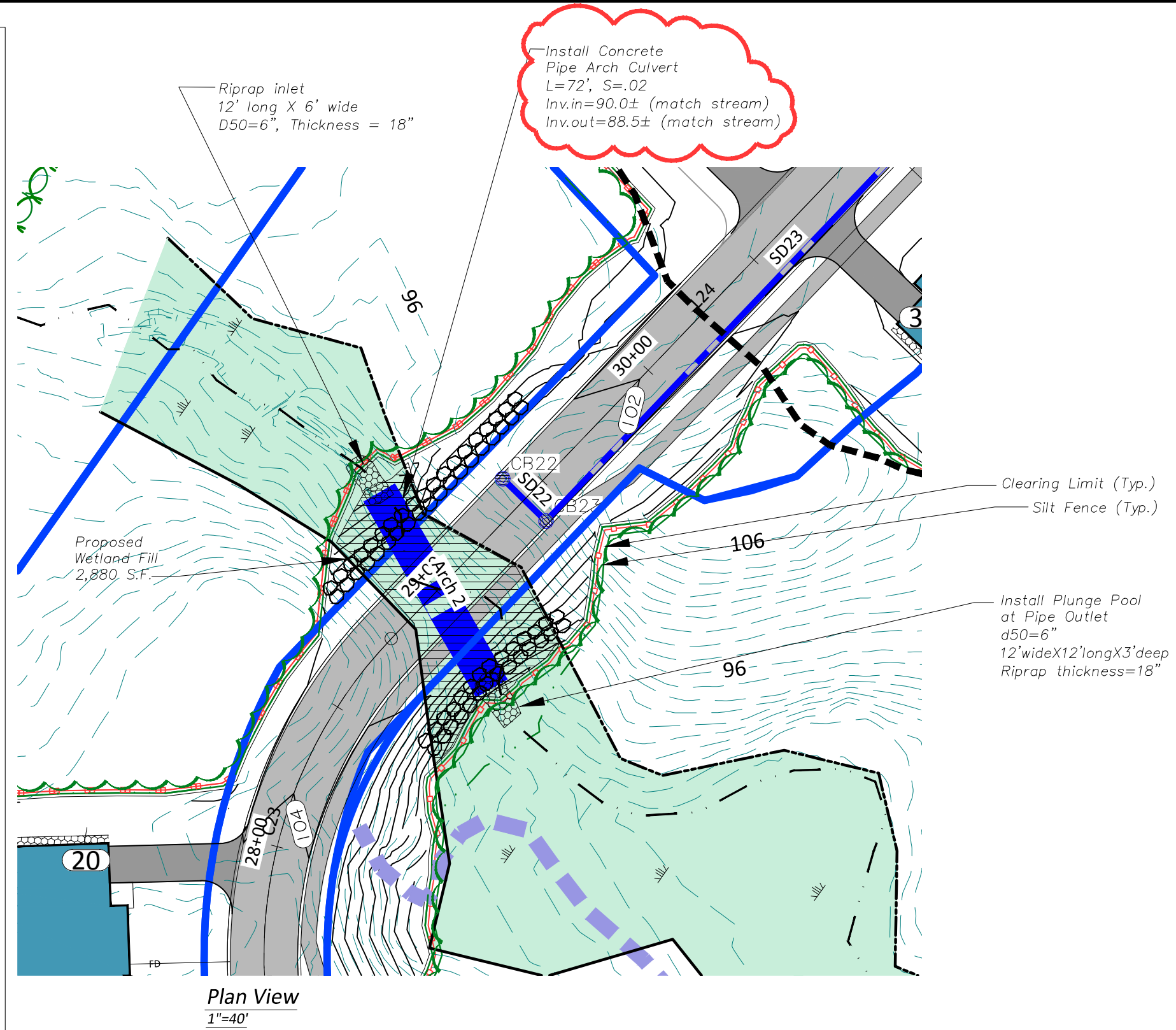
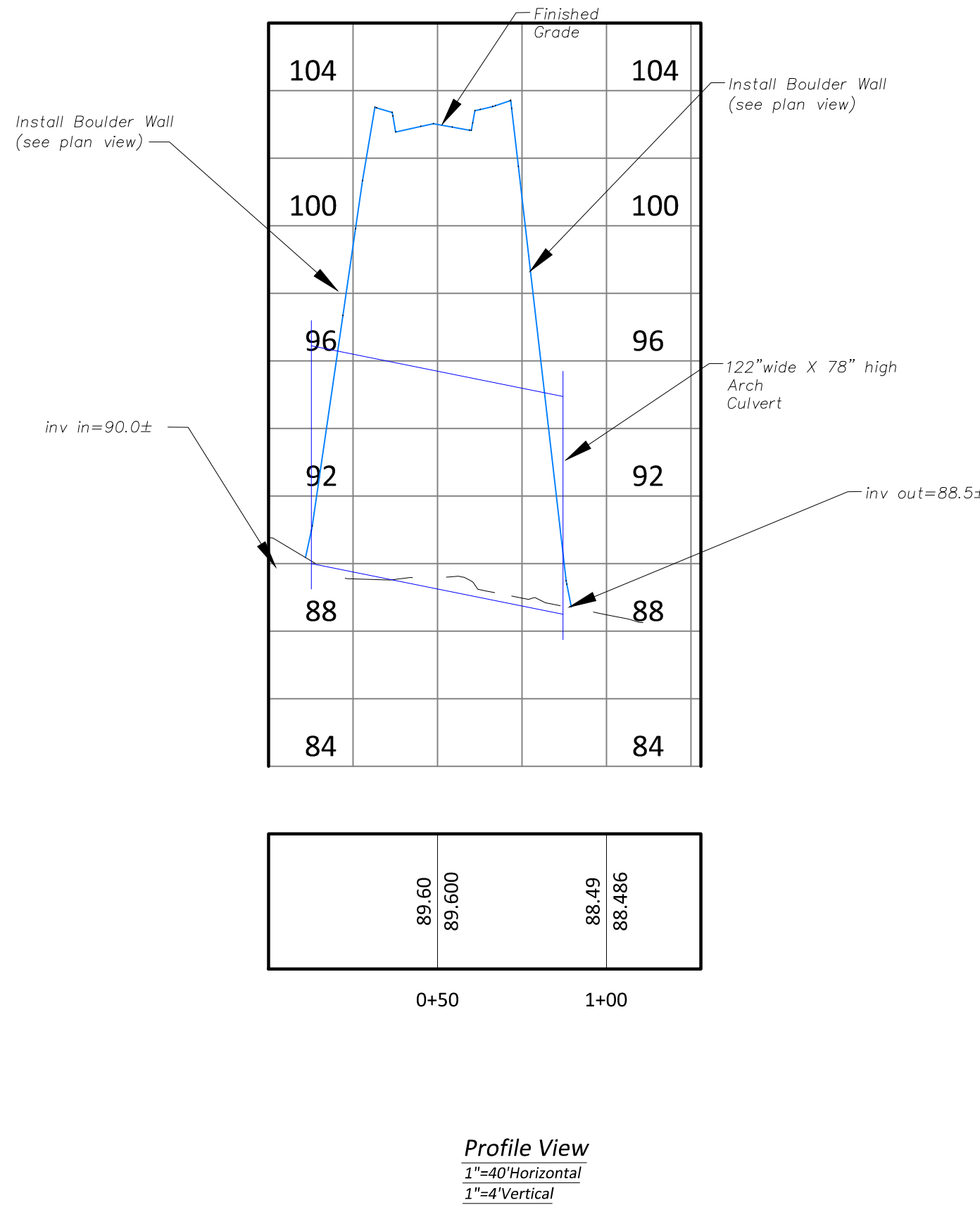


NOTES:

1. COMMON BORROW USED FOR BACKFILL SHALL CONSIST OF EARTH, SUITABLE FOR EMBANKMENT CONSTRUCTION. IT SHALL BE FREE FROM FROZEN MATERIAL, PERISHABLE RUBISH, PEAT, AND OTHER UNSUITABLE MATERIALS INCLUDING MATERIAL CURRENTLY OR PREVIOUSLY CONTAMINATED BY CHEMICAL, RADIOLOGICAL, OR BIOLOGICAL AGENTS. ALL MATERIAL SHALL HAVE NO ROCKS WITH A MAXIMUM DIMENSION OVER 6 INCHES. ON-SITE MATERIAL MAY BE USED IF IT MEETS THE ABOVE SPECIFIED REQUIREMENTS.



Arch Culvert 2 PROFILE



PROGRESS PLAN  
NOT FOR CONSTRUCTION

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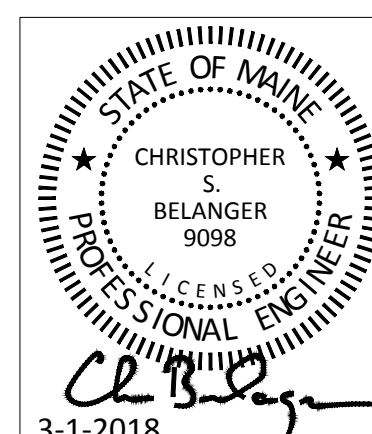
DESIGN NOTES:

1. CONCRETE TO BE 5,000PSI @ 28 DAYS.
2. DESIGNED FOR HS-20 LOADING.
3. JOINTS SEALED WITH BUTYL RUBBER JOINT SEALANT, AASHTO M-19.
4. EXTERIOR OF JOINT TO BE SEALED WITH 12" EZ-WRAP.
5. CONTRACTOR SHALL PROVIDE SHOP DRAWING TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

APPROX. WEIGHTS:  
FOOTER: 4,560LBS (1.14CY)  
ARCH SECTION: 3,600LBS (.90CY)

Prepared in association with:

**LICHT**  
ENVIRONMENTAL DESIGN, LLC



- | Rev | Date      | Description                                   | By  |
|-----|-----------|---|-----|
| 3.  | 3-1-2018  | Respond to Town Memos, Re-submit to Town      | CSB |
| 2.  | 2-7-2018  | SUBMIT TO DEP                                 | CSB |
| 1.  | 1-31-2018 | Respond to Town Memos, submit to Town and DEP | CSB |

Arch 2 Culvert Details

Oceanview at Cumberland  
291 Tuttle Road, Cumberland, Maine

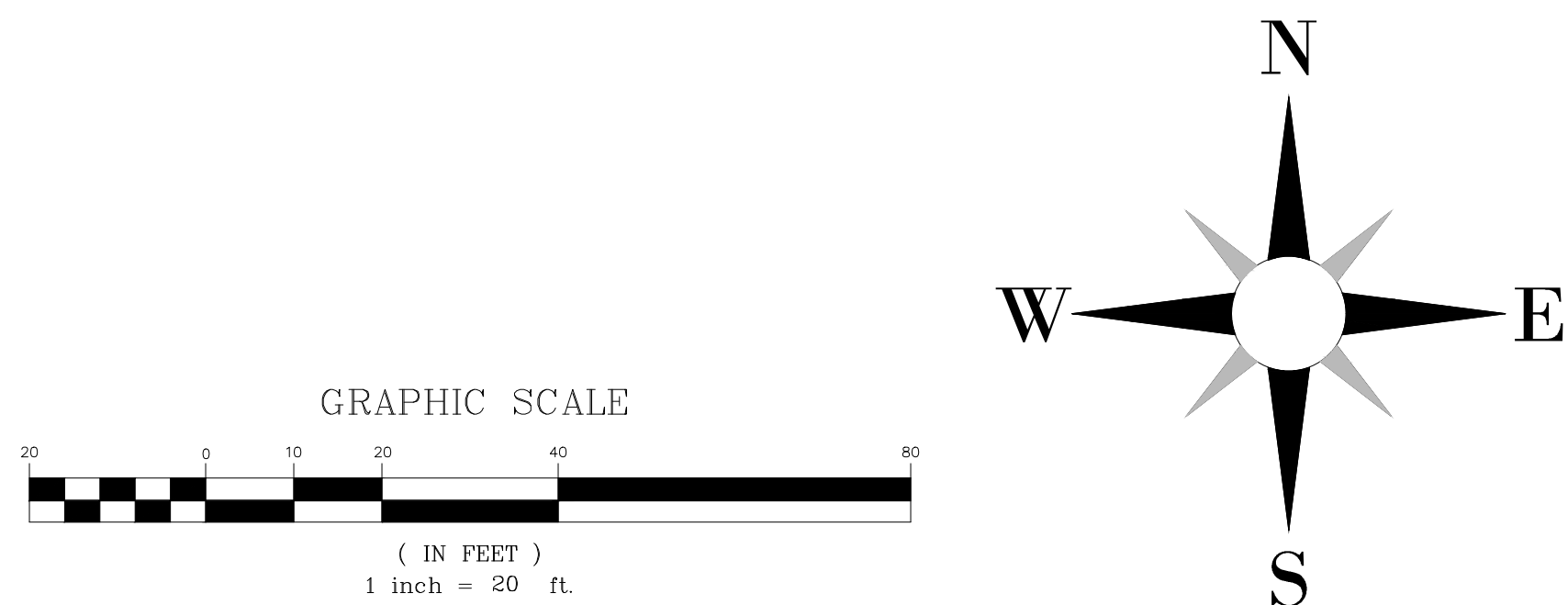
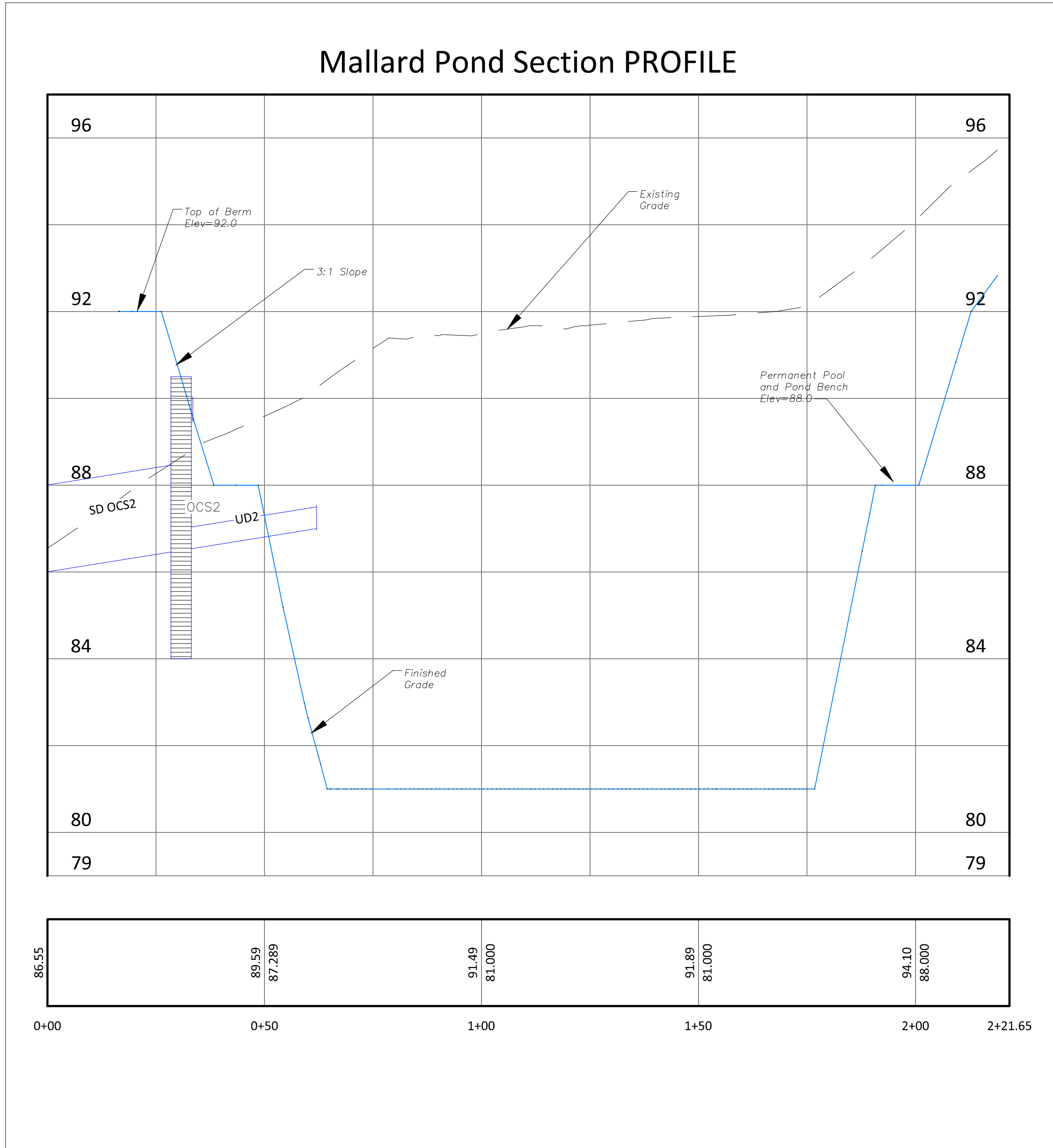
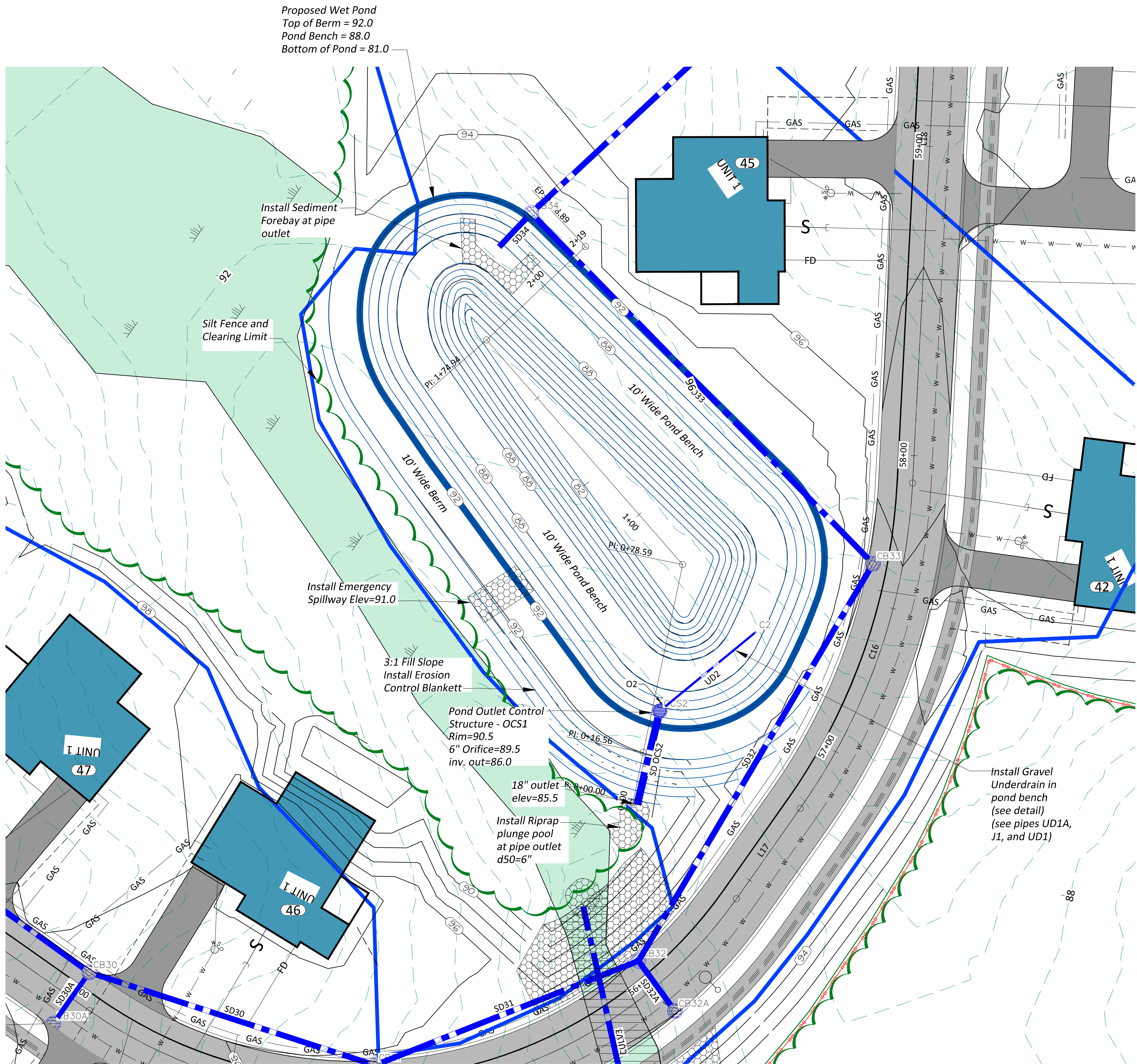
Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine

**BELANGER ENGINEERING**  
CONSULTING ENGINEERS  
63 Second Avenue, Augusta, Maine 04330 Ph 207-622-1462, Cell 207-242-5713

- COMMERCIAL PROJECTS
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- SITE PLANNING & DESIGN
- STORMWATER MANAGEMENT
- ROAD AND UTILITY DESIGN
- EROSION CONTROL PLANS

FIELD WK:	SCALE:	SHEET:
DRN BY:	JOB #: 109	C21
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	



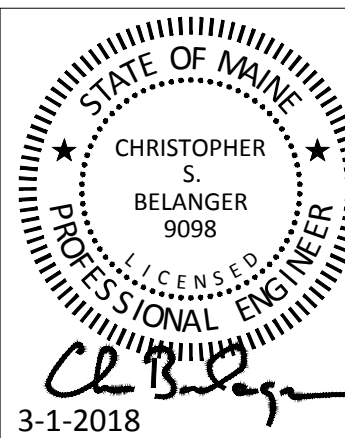



PROGRESS PLAN  
NOT FOR CONSTRUCTION

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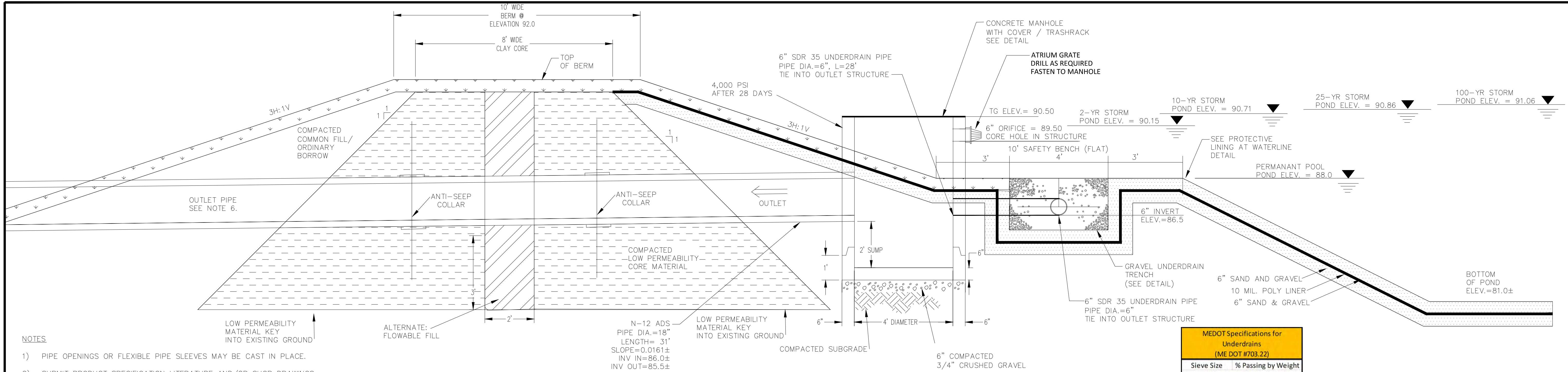
Prepared in association with:

**LICHT**  
ENVIRONMENTAL DESIGN, LLC



3. 3-1-2018 Respond to Town Memos, Re-submit to Town CSB		
2. 2-7-2018 SUBMIT TO DEP CSB		
1. 1-31-2018 Respond to Town Memos, submit to Town and DEP CSB		
<b>Mallard Way Wet Pond Plan and Profile</b>		
Oceanview at Cumberland 291 Tuttle Road, Cumberland, Maine		
Seacoast Management Company 20 Blueberry Lane, Falmouth, Maine		
 <b>BELANGER ENGINEERING</b> CONSULTING ENGINEERS 63 Second Avenue, Augusta, Maine 04330 Ph 207-622-1462, Cell 207-242-5713		
FIELD WK:	SCALE: 1"=20'	SHEET: <b>C22</b>
DRN BY:	JOB #: 109	
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	





#### NOTES

- 1) PIPE OPENINGS OR FLEXIBLE PIPE SLEEVES MAY BE CAST IN PLACE.
- 2) SUBMIT PRODUCT SPECIFICATION LITERATURE AND/OR SHOP DRAWINGS FOR OUTLET STRUCTURE.

BASIN LINER SHALL CONSIST OF AT LEAST 10 MIL POLY LINER, COVERED WITH 6" OF CLEAN SAND AND GRAVEL BELOW THE PERMANENT POOL ELEVATION; AND 6" OF CLAYEY LOAM AND SEED ABOVE THE PERMANENT POOL ELEVATION.

- 1) THE BASIN LINER SHALL BE INSTALLED ON ALL AREAS WITHIN THE BASIN TO 2' ABOVE THE OUTLET STRUCTURE TOP OF GRATE.
- 2) **EMBANKMENT CONSTRUCTION NOTES:**
  - A. CONSTRUCTION OF COMMON BORROW MATERIAL MEETING M.D.O.T. SPECIFICATION
  - B. PLACE BORROW MATERIAL IN 12" LIFTS COMPACTED TO 95% OF MAX DRY DENSITY
  - C. INSTALL RIPRAP AND EROSION CONTROL MESH WHERE SPECIFIED ON PLANS
  - D. LOAM, SEED, AND STABILIZE IN ACCORDANCE WITH SEDIMENTATION AND EROSION CONTROL PLAN.
- 6) WHERE PIPES PENETRATE THE LOW PERMEABILITY CORE, PIPE SHALL BE BEDDED IN THE LOW PERMEABILITY CORE MATERIAL.

#### CONSTRUCTION OVERSIGHT

The contractor will retain the services of a professional engineer selected by the owner to inspect the construction and stabilization of all stormwater management structures to be built as part of the project. If necessary, the inspecting engineer will interpret the construction plans for the contractor. Once all stormwater management structures are constructed and stabilized, the inspecting engineer will notify the department in writing within 30 days to state that the structures have been completed. Accompanying the engineer's notification must be a copy of the test results for any soil fill, aggregate, or mulch materials used in the construction of the stormwater management structures and a log of the engineer's inspections giving the date of each inspection, the time of each inspection, and the items inspected on each visit.

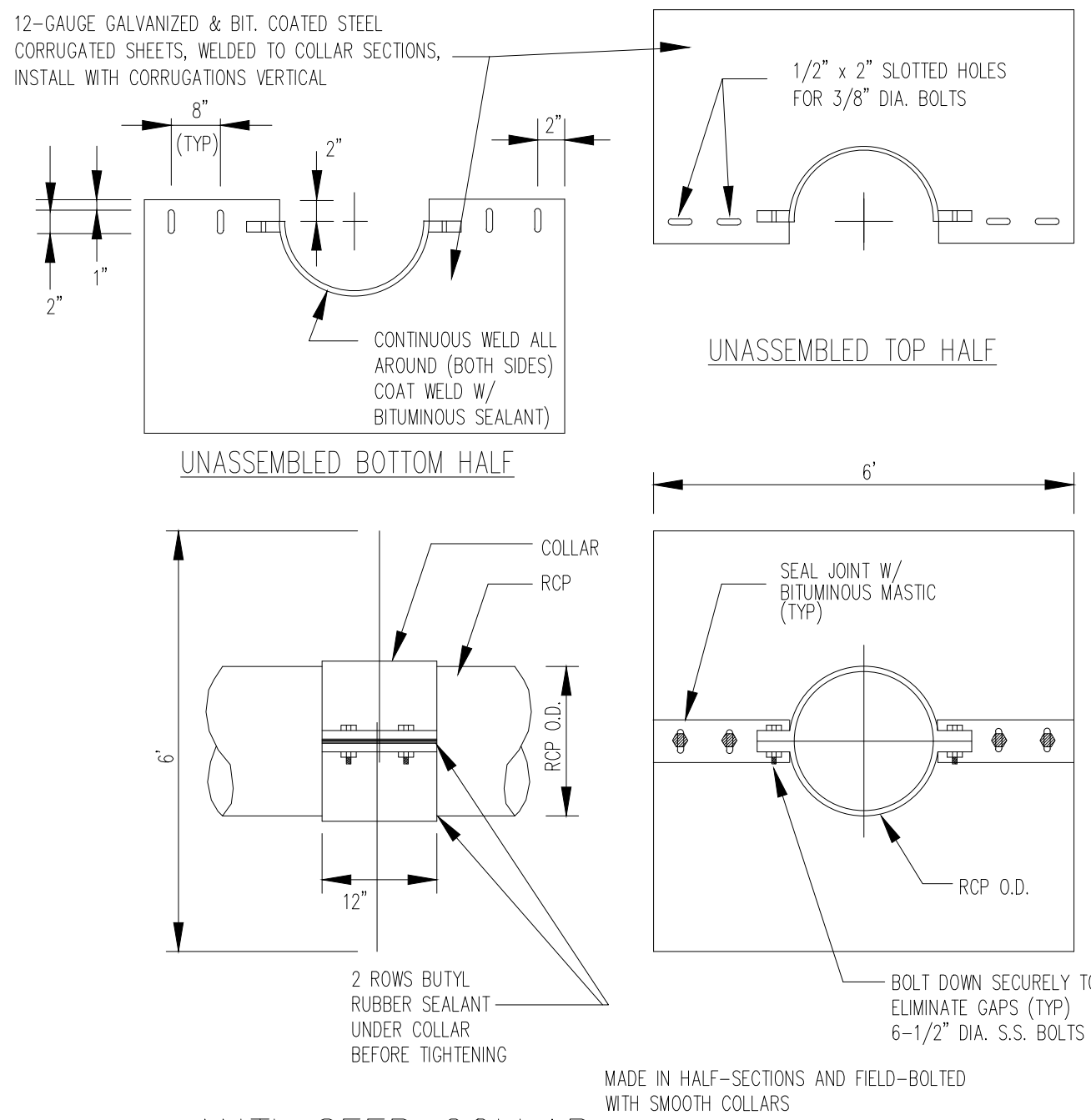
#### WetPonds with UNDERDRAINED GRAVEL TRENCH OUTLET

Construction inspections: Inspection by a professional engineer will consist of weekly visits to the site by the engineer to inspect the embankment foundation preparation, the placement of the embankment fill, the construction of the underdrained gravel trench outlet, the installation of the outlet control structure, the placement of the clay or geosynthetic liner (if applicable), and the construction of the emergency spillway from initial ground disturbance to final stabilization of the wetpond.

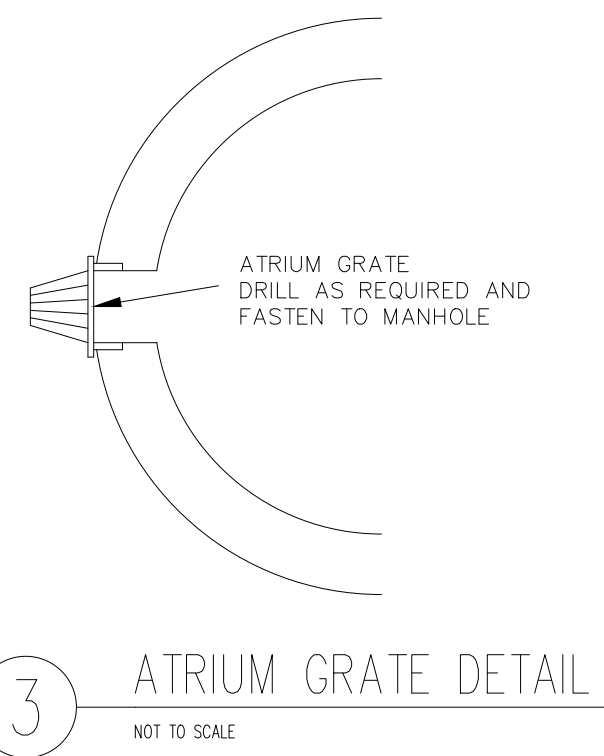
Testing and Submittals: All soil and aggregate used for the construction of the wetpond's impoundment embankment and the underdrained gravel trench outlet must be confirmed as suitable by testing. The contractor shall identify the location of the source of each fill or aggregate and obtain samples for testing. All testing must be done by a certified laboratory. All results of field and laboratory testing shall be submitted to the project engineer for confirmation. It shall be the contractor's responsibility to ensure completion of the following sampling and testing before the fill or aggregate is placed as part of the wetpond's construction.

- Obtain a sample of the embankment fill material. The sample must be a composite of three different locations (grabs) from the stockpile or pit face. The sample size required will be determined by the testing laboratory. Perform a sieve analysis conforming to ASTM C136 (Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates 1996A) of the embankment fill. The embankment fill must conform to the gradation specified on the project plans and must be approved by the design engineer.
- Obtain a sample of the gravel fill to be used for the underdrained gravel trench outlet. The sample must be a composite of three different locations (grabs) from the stockpile or pit face. The sample size required will be determined by the testing laboratory. Perform a sieve analysis conforming to ASTM C136 (Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates 1996A) of the fill for the underdrained gravel trench outlet. The fill must conform to MEDOT 703.22 Type B but with 10% to 15% by weight passing the #50 sieve.

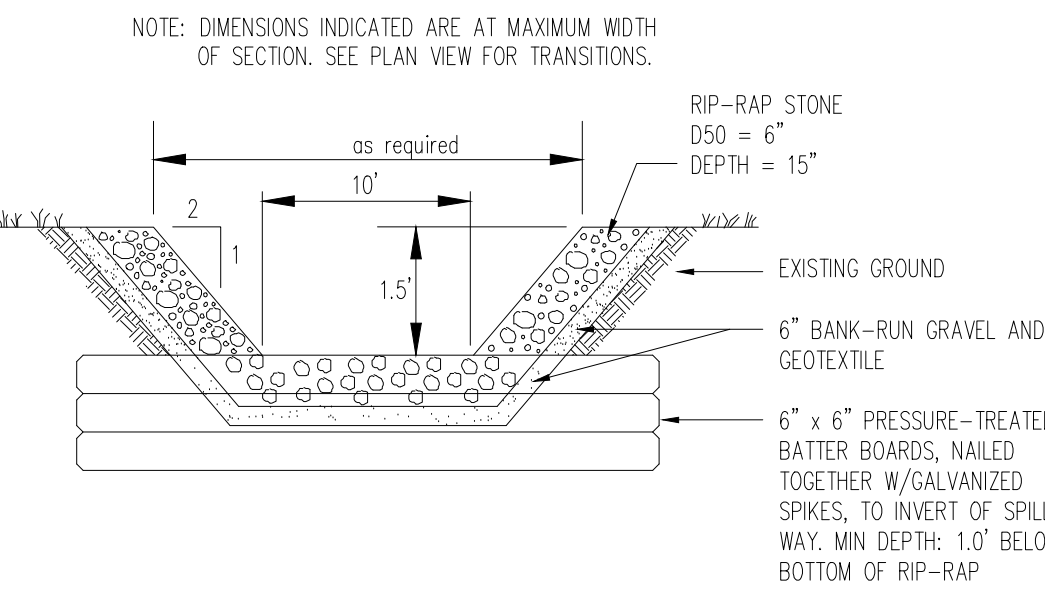
### 1 WET POND AND OUTLET STRUCTURE (SCALE: 1"=2')



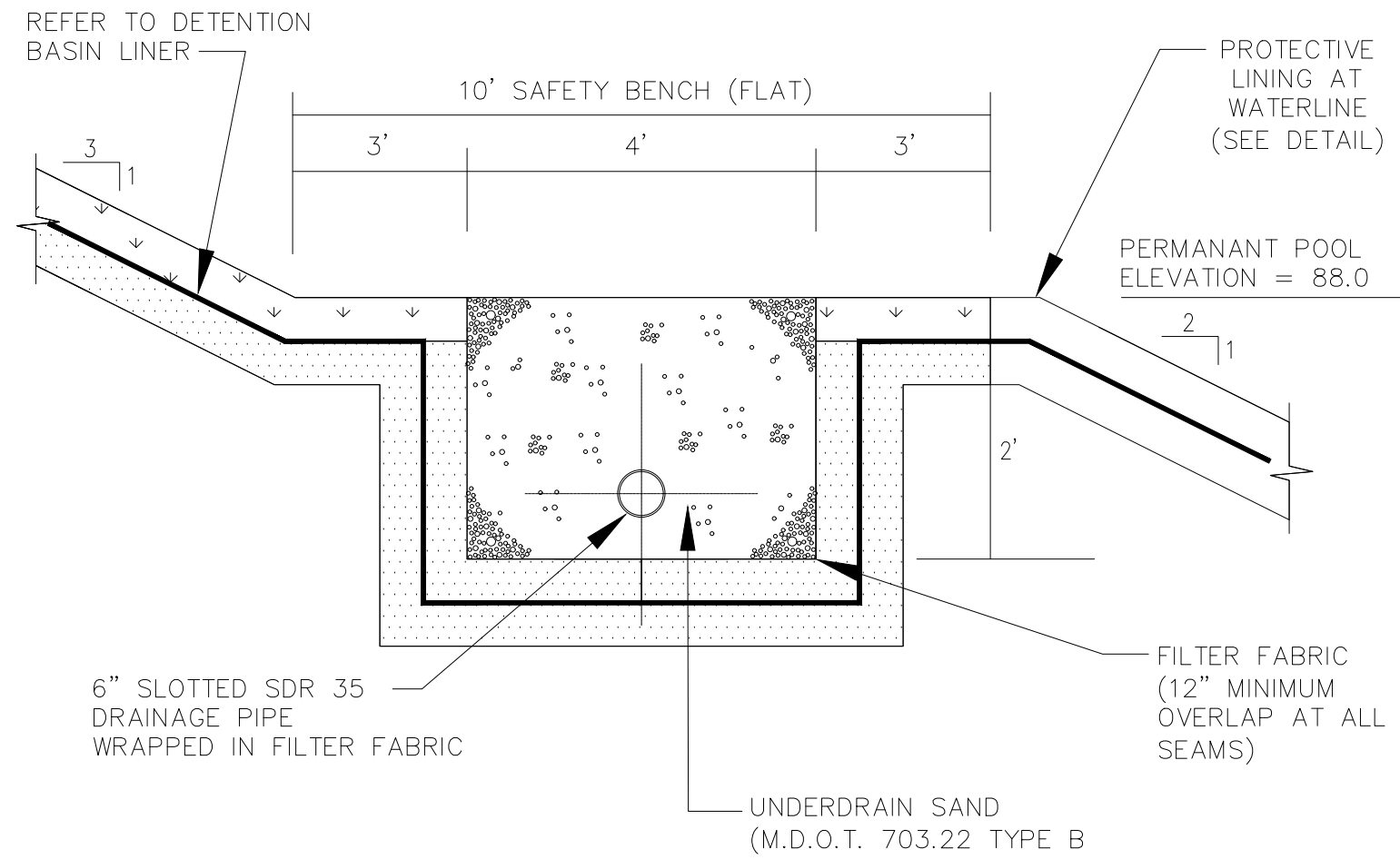
### 3 ANTI-SEEP COLLAR NOT TO SCALE



### 3 ATRIUM GRATE DETAIL NOT TO SCALE

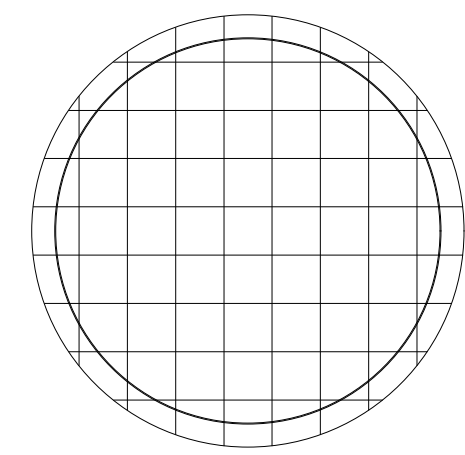


### 8 TYPICAL EMERGENCY SPILLWAY SECTION NOT TO SCALE

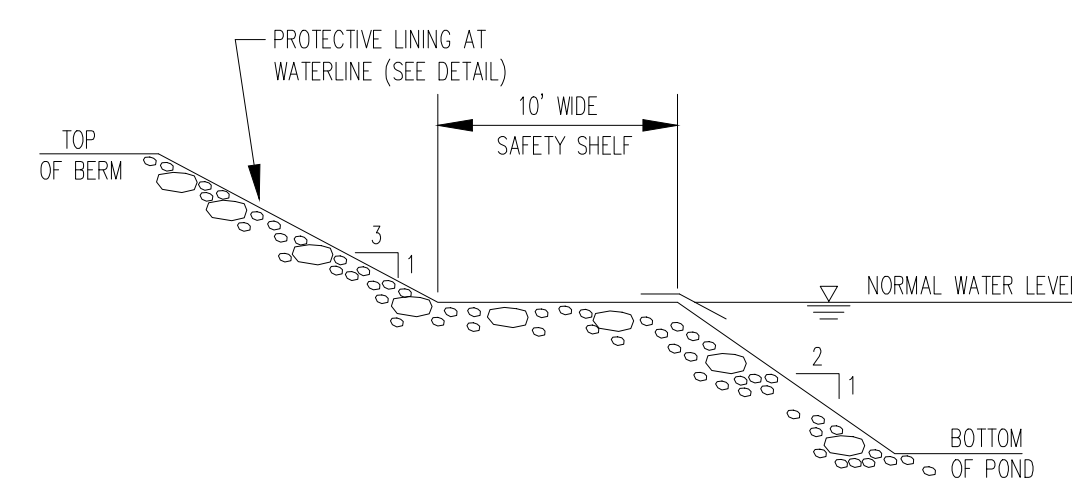


NOTE:  
FILTER FABRIC SHALL BE MIRAFI 140N OR APPROVED EQUAL.

### 6 GRAVEL UNDERDRAIN TRENCH DETAIL NOT TO SCALE

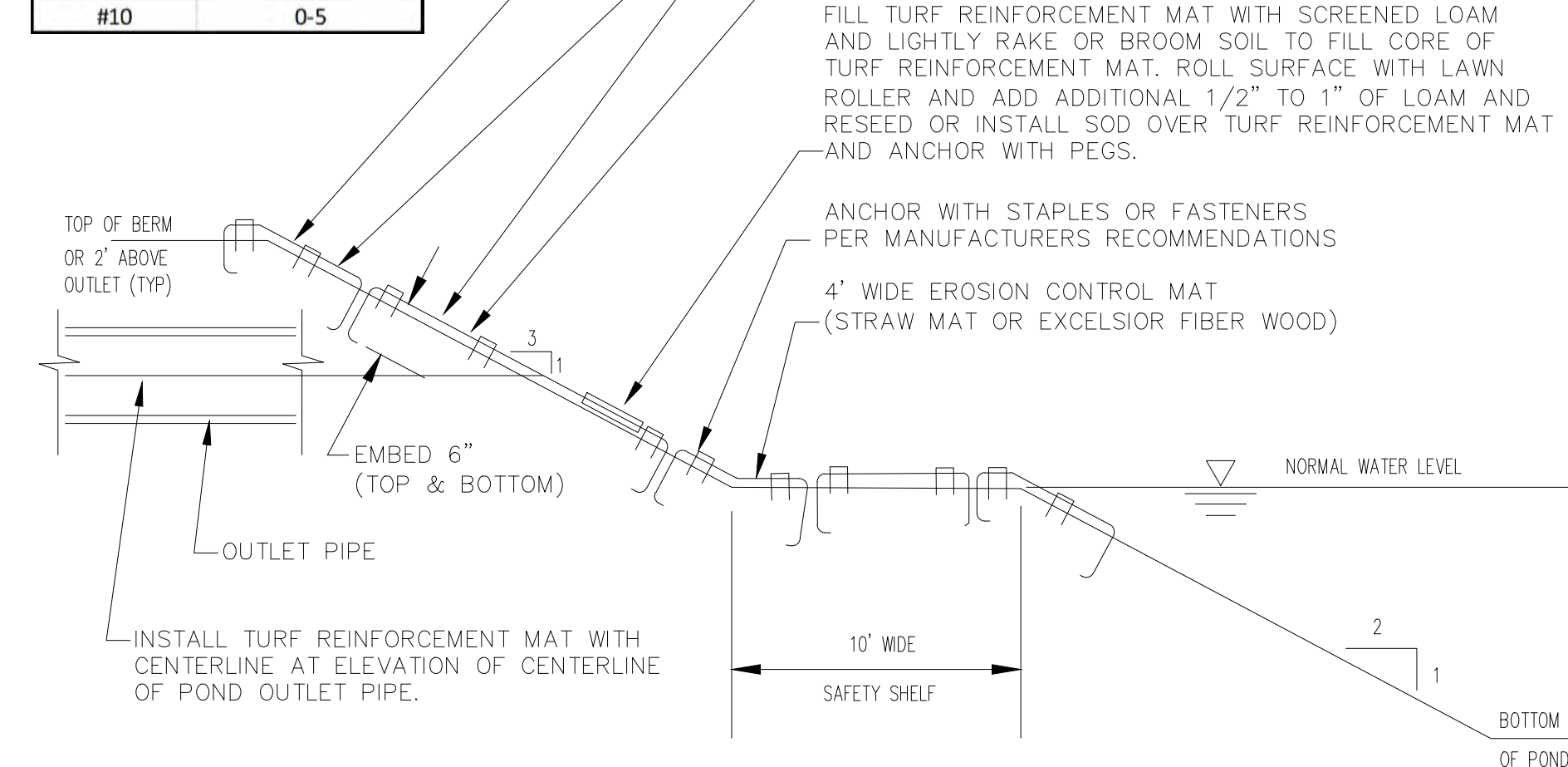


### 3 TRASH RACK / MANHOLE COVER NOT TO SCALE



### 4 TYPICAL POND GRADING NOT TO SCALE

MEDOT Specifications for Underdrains (ME DOT #703.22)	
Sieve Size	% Passing by Weight
<b>Underdrain Type B</b>	
1"	90-100
1/2"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5
<b>Underdrain Type C</b>	
1"	100
3/4"	90-100
3/8"	0-75
#4	0-25
#10	0-5



### 2 PROTECTIVE LINING AT WATERLINE NOT TO SCALE

#### PROGRESS PLAN NOT FOR CONSTRUCTION

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#### Mallard Way Wet Pond Details

Oceanview at Cumberland  
291 Tuttle Road, Cumberland, Maine

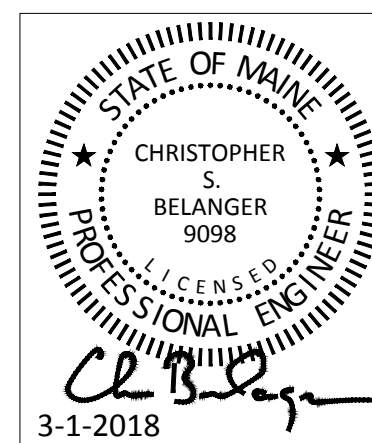
Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine

**BELANGER ENGINEERING**  
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63 Second Avenue, Augusta, Maine 04330  
Ph 207-622-1462, Cell 207-242-5713

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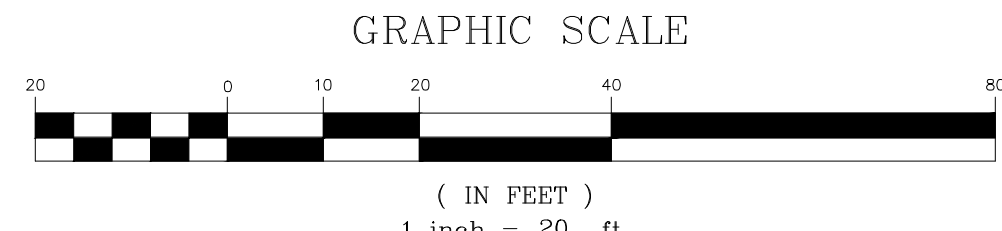
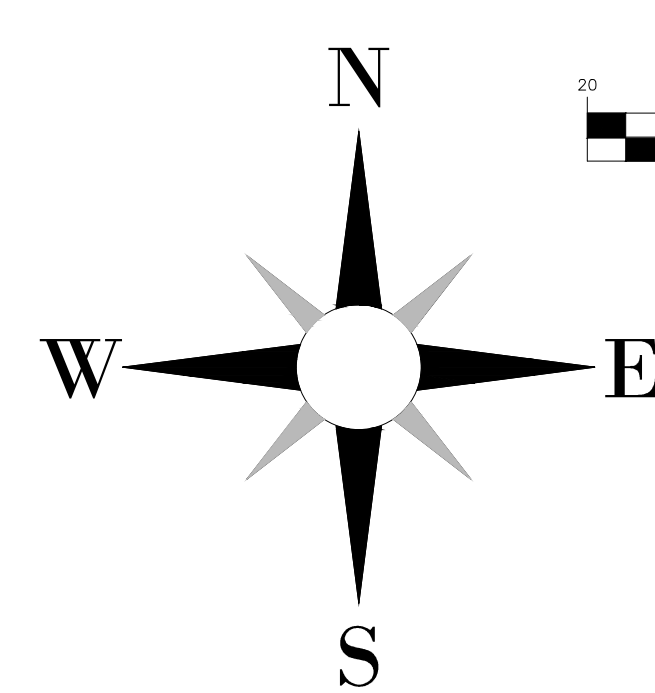
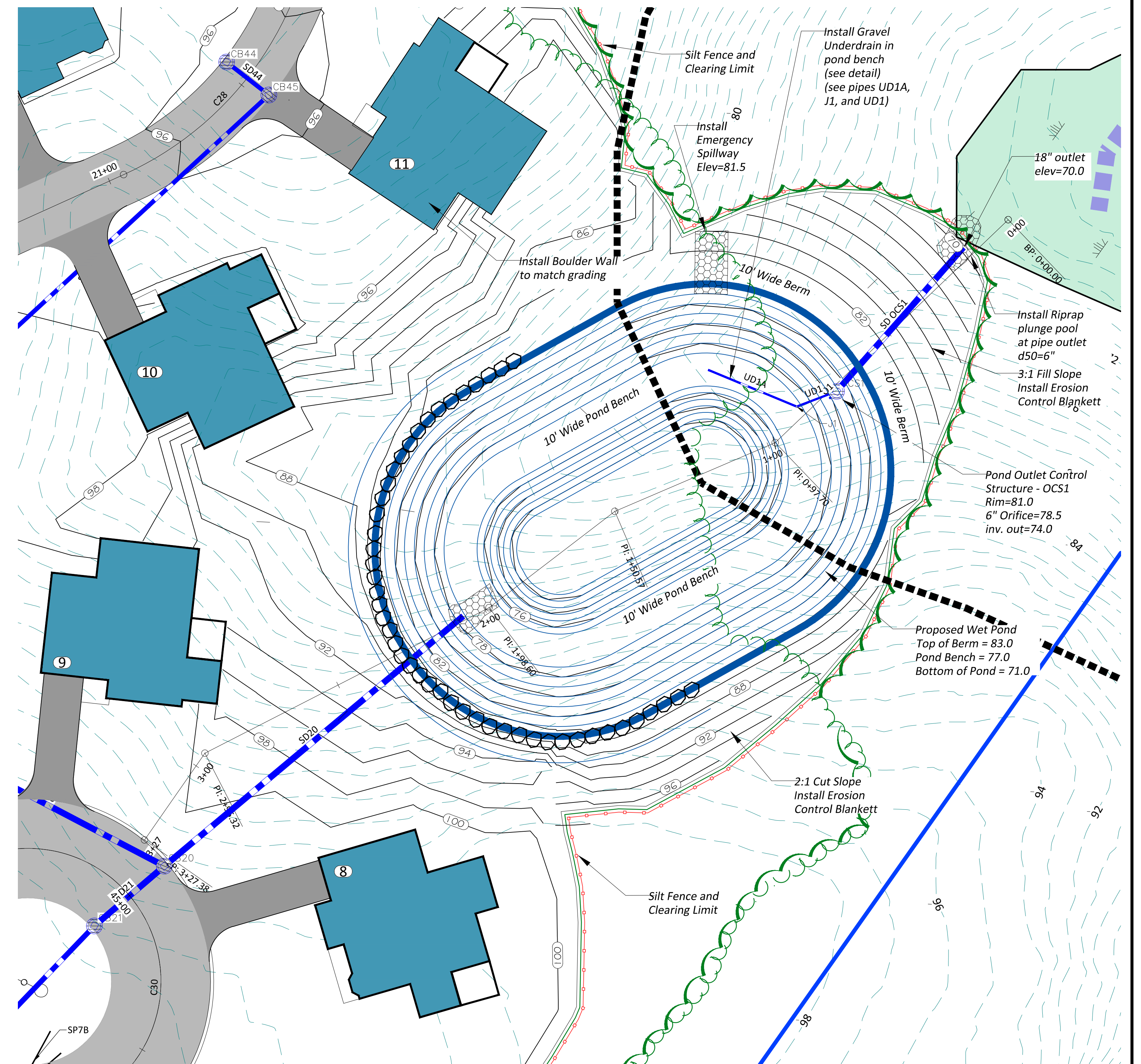
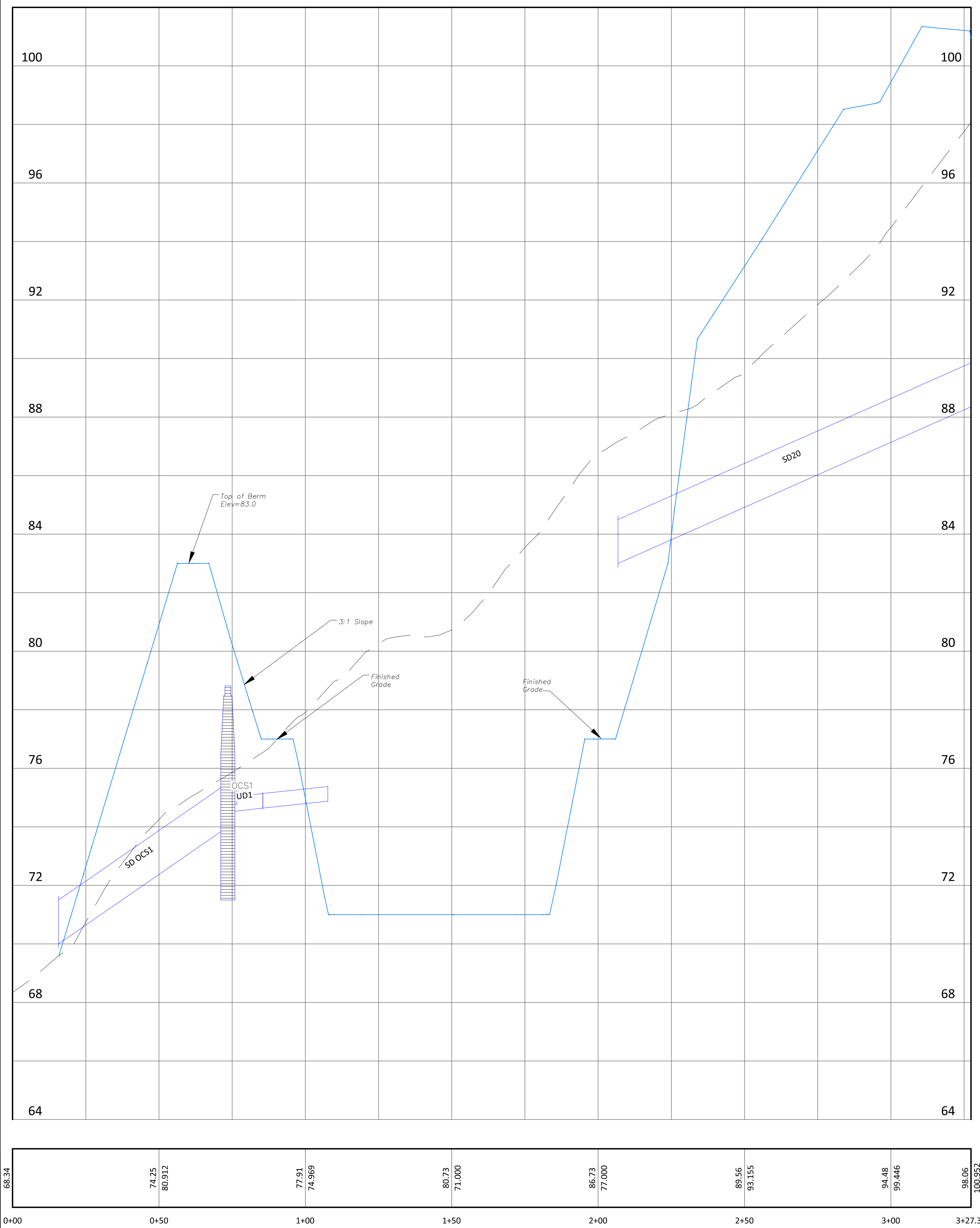
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DRN BY:	JOB #: 109	<b>C23</b>
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	

Prepared in association with:





Arctic Fox Section PROFILE

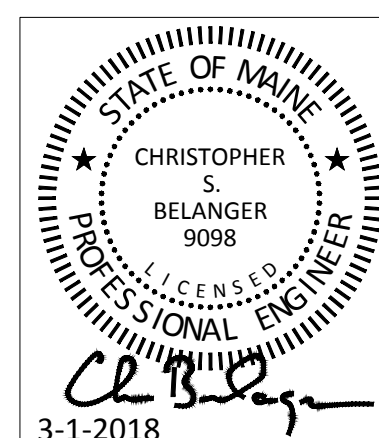


PROGRESS PLAN  
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**LICHT**  
ENVIRONMENTAL DESIGN, LLC



- |    |           |   |     |
|----|-----------|---|-----|
| 3. | 3-1-2018  | Respond to Town Memos, Re-submit to Town      | CSB |
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**Arctic Fox Wet Pond Plan and Profile**

Oceanview at Cumberland  
291 Tuttle Road, Cumberland, Maine

Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine

**BELANGER ENGINEERING**  
CONSULTING ENGINEERS  
63 Second Avenue, Augusta, Maine 04330  
Ph 207-622-1462, Cell 207-242-5713  
Email: cbelanger@roadrunner.com

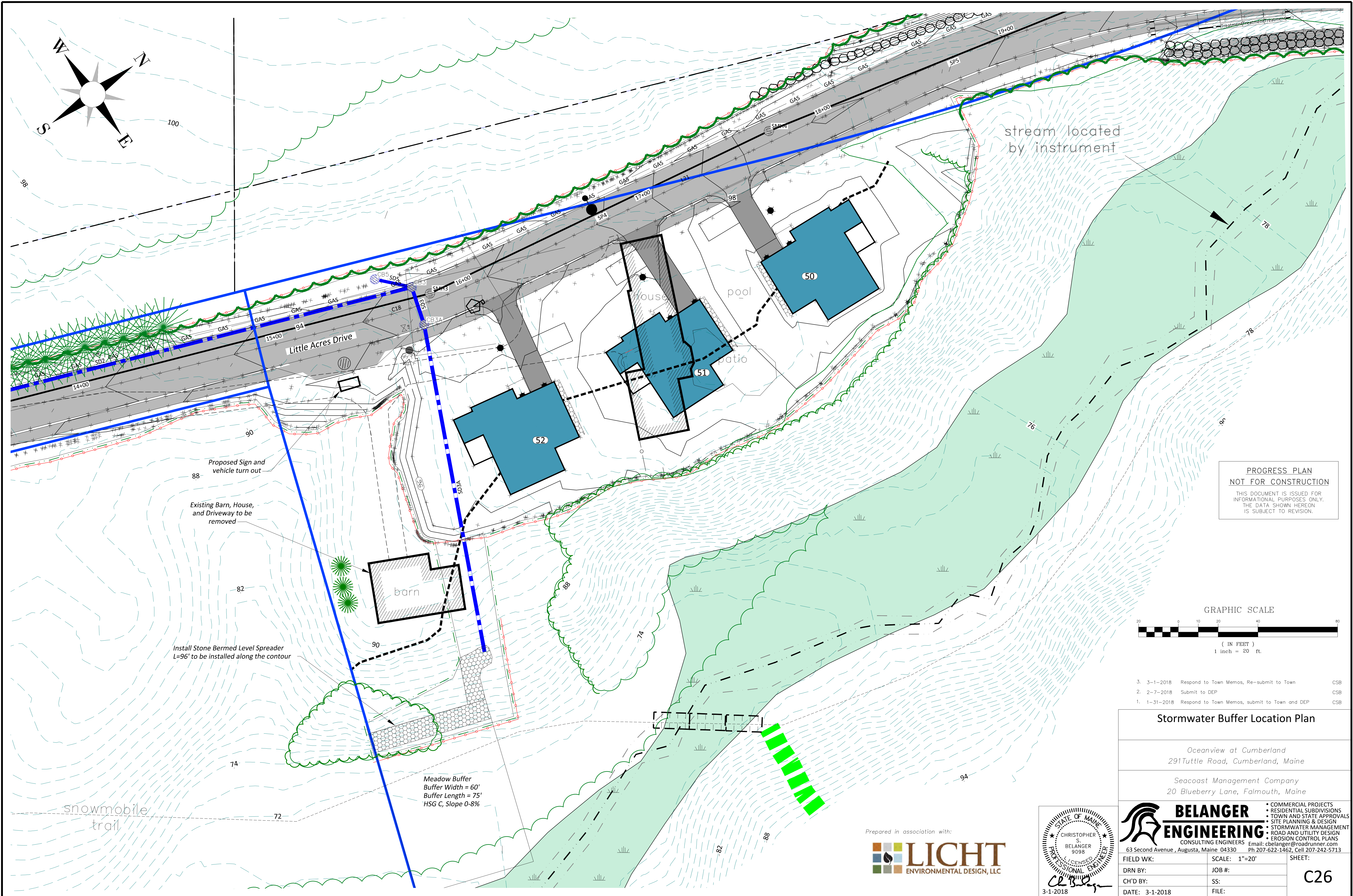
- COMMERCIAL PROJECTS
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- STORMWATER MANAGEMENT
- ROAD AND UTILITY DESIGN
- EROSION CONTROL PLANS

FIELD WK:	SCALE: 1"=20'	SHEET:
DRN BY:	JOB #: 109	<b>C24</b>
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	











FOCALPOINT I.D.		Sta 22+00						
	CULTEC CHAMBER	150XLHD						
	# CULTEC CHAMBERS	5.5						
A	SEPARATOR ROW LENGTH	60.5'						
B	BOTTOM OF CHAMBER ELEV	84.0						
C	TOP OF CHAMBER ELEV	85.5						
D	OVERFLOW PIPE TO R-TANK ELEV	85.5						
E	R-TANK INVERT	84.0						
F	R-TANK MODULE	SINGLE						
G	BEEHIVE OVERFLOW RIM	89.5						



FOR ADDITIONAL INFORMATION PLEASE CONTACT:  
ACF ENVIRONMENTAL 1-800-448-3636  
[www.acfenvironmental.com](http://www.acfenvironmental.com)

## SEPARATOR ROW SYSTEM DETAILS

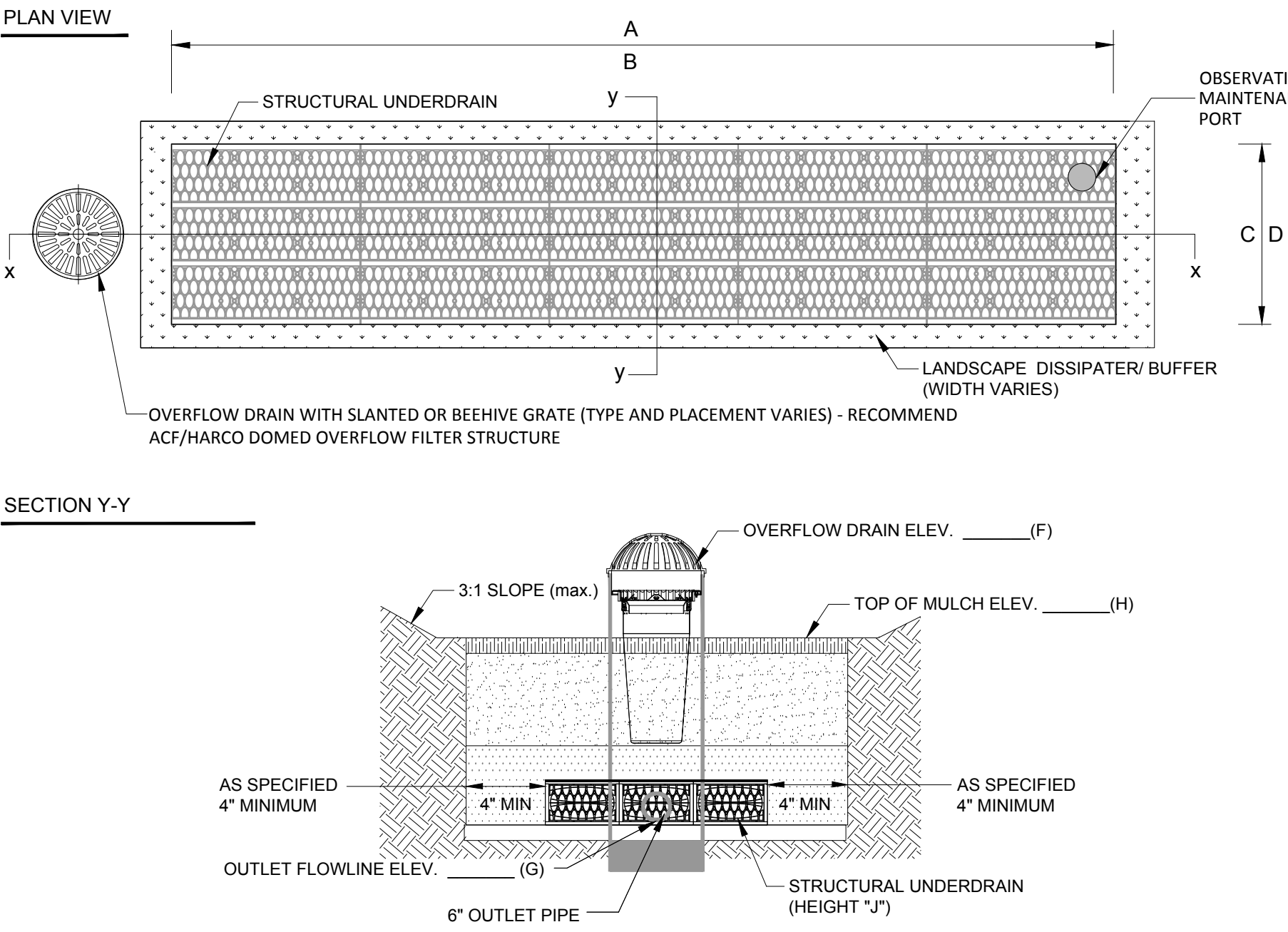
291 Little Road, Cumberland, Maine



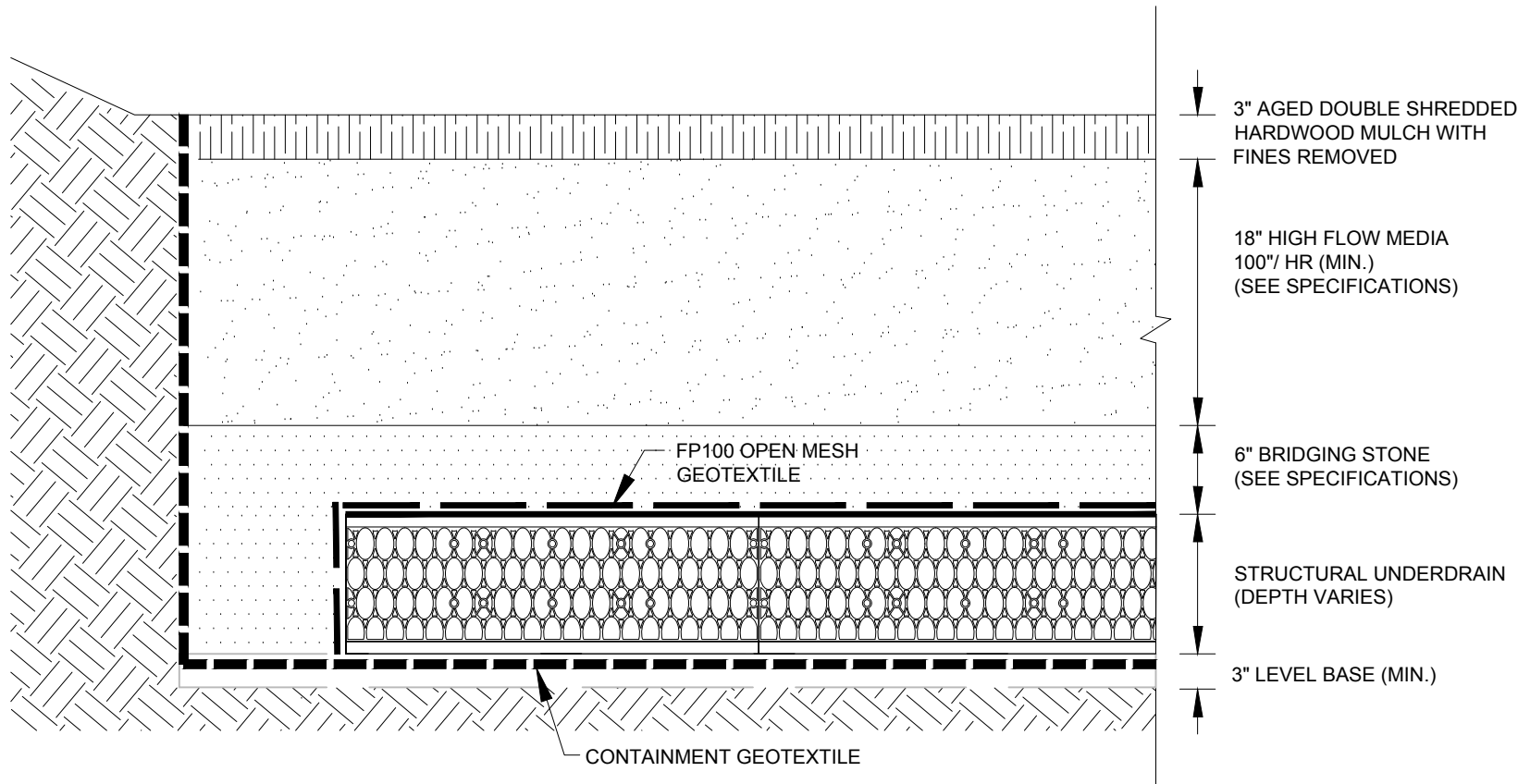
C29



FOCALPOINT KEY DIMENSIONAL DATA							
FOCALPOINT I.D.		Sta 21+80 Both					
A	FOCALPOINT LENGTH	20'					
B	# UNDERDRAIN LONG	20'					
C	FOCALPOINT WIDTH	3'					
D	# UNDERDRAIN WIDE	3'					
E	WATER QUALITY VOLUME	1280 c.f.					
F	OVERFLOW ELEVATION	85.5					
G	OUTLET FLOWLINE	83.5					
H	TOP OF MULCH	89.0					
J	UNDERDRAIN HEIGHT	MINI					



FOCALPOINT CONSTRUCTION GUIDE

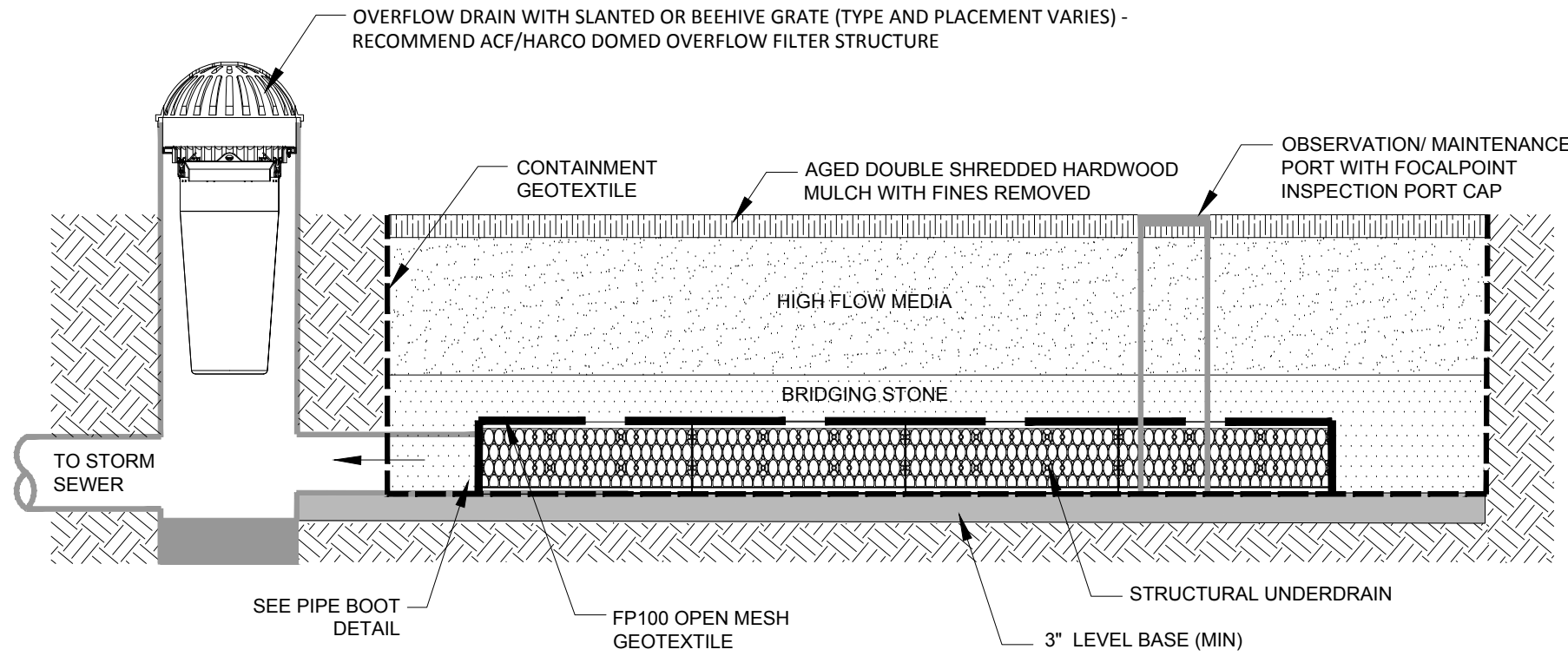


FOCALPOINT HP PERFORMANCE SPECIFICATION:

HIGH PERFORMANCE MEDIA  
HIGH PERFORMANCE MEDIA MUST MEET A MINIMUM OF 100" PER HOUR INFILTRATION RATE.

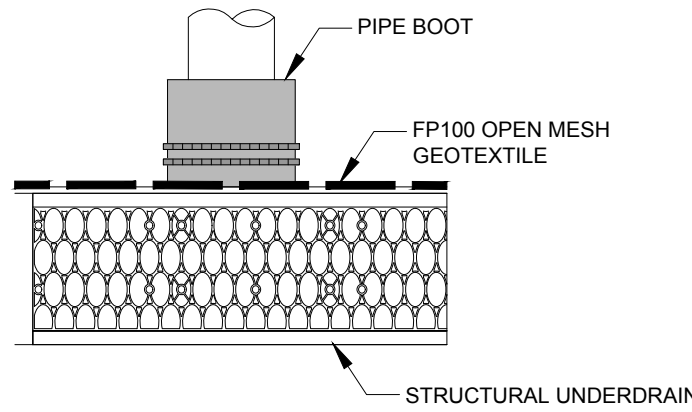
HIGH PERFORMANCE STRUCTURAL UNDERDRAIN  
MUST HAVE A MINIMUM OF 19 SQUARE INCHES OF ORIFICE OPENING PER SQUARE FOOT. MUST MEET H2O LOADING REQUIREMENTS. MUST BE MODULAR IN NATURE AND ASSEMBLED ON SITE. MUST HAVE MINIMUM 90% INTERIOR VOID SPACE.

FOCALPOINT DETAILED CROSS SECTION

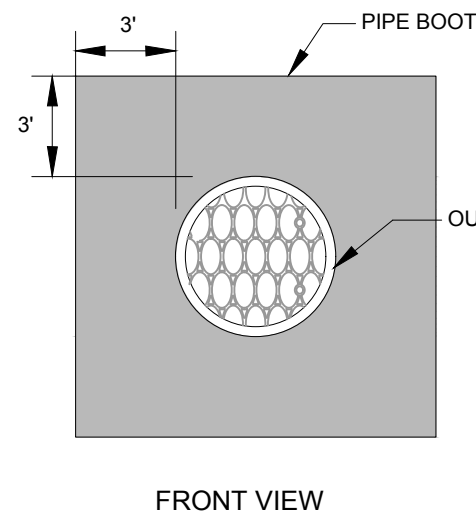


FOCALPOINT SECTION X-X

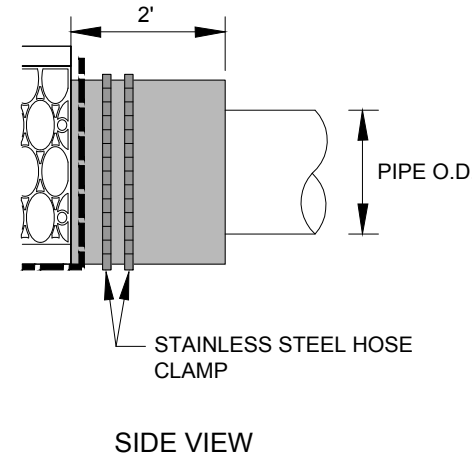
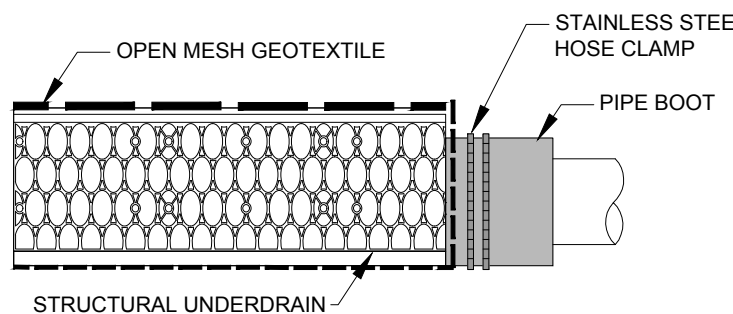
OBSERVATION/ MAINTENANCE PORT CONNECTION



PIPE BOOT DETAIL



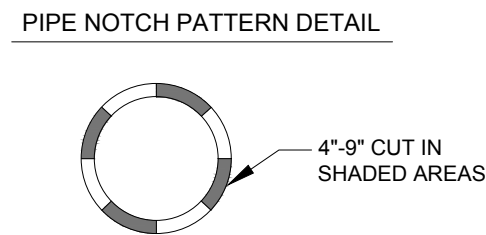
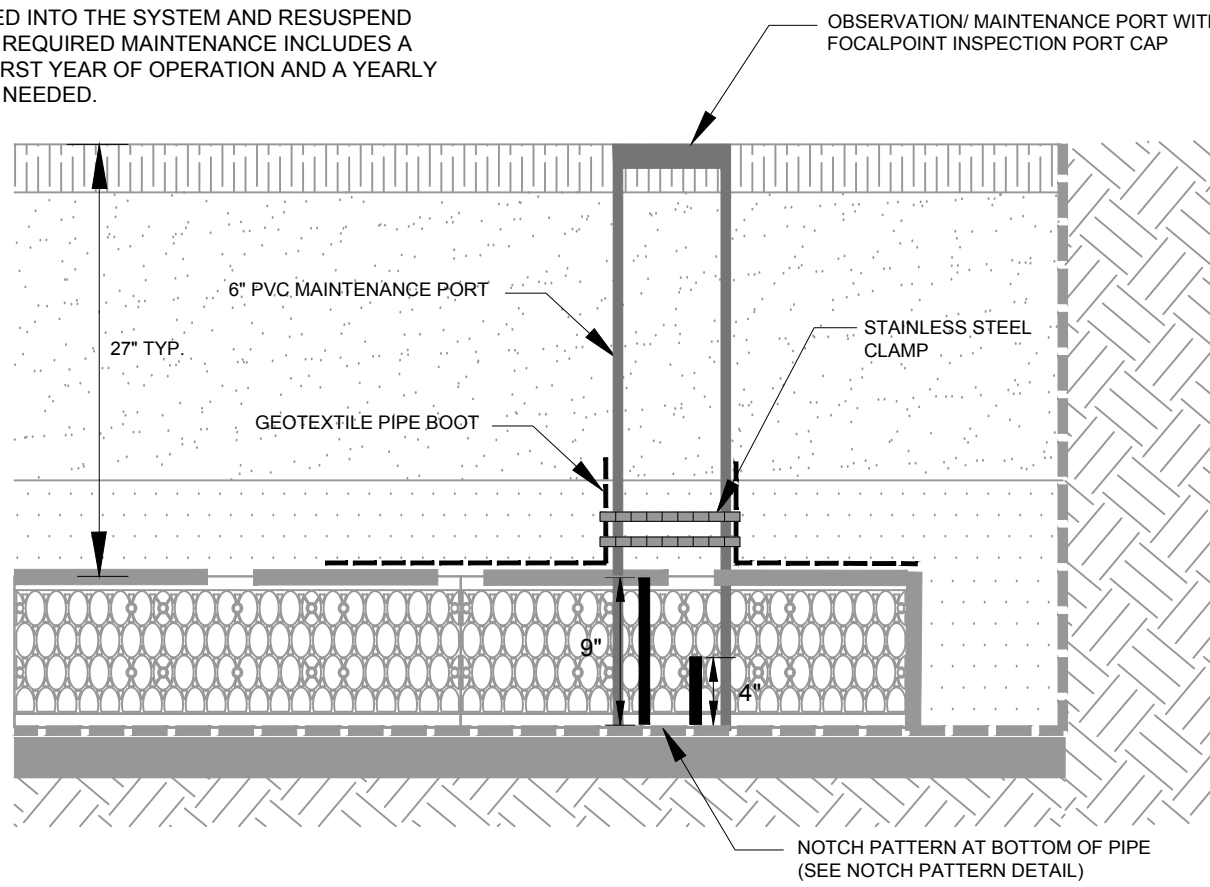
OUTLET/ INLET PIPE CONNECTION



FOCALPOINT PIPE CONNECTION DETAIL

OBSERVATION/ MAINTENANCE PORT

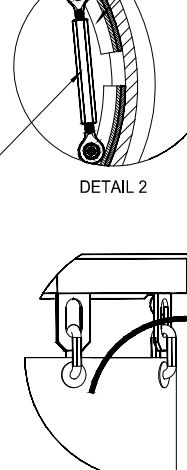
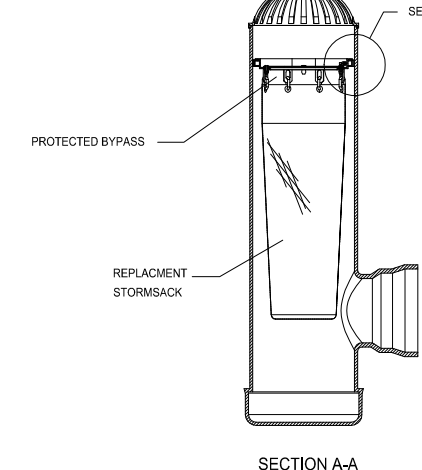
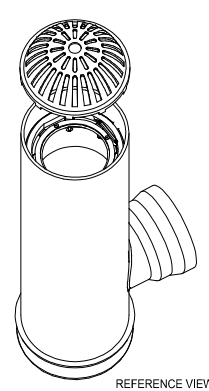
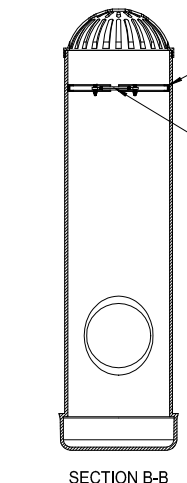
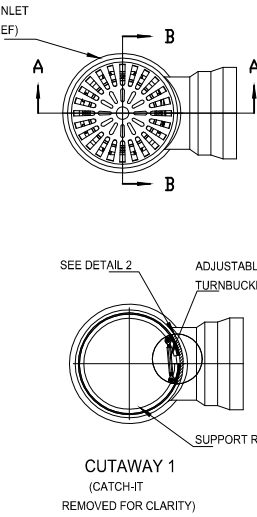
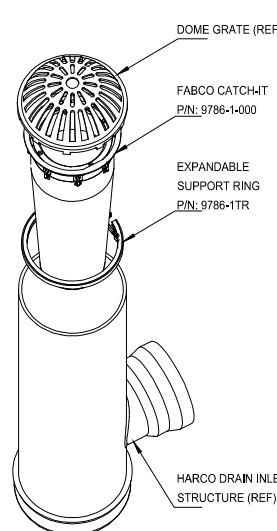
PORT USED FOR INSPECTION PURPOSES AND FOR SYSTEM MAINTENANCE AS REQUIRED. WATER SHALL BE PUMPED INTO THE SYSTEM AND RESUSPEND ACCUMULATED SEDIMENT. MINIMUM REQUIRED MAINTENANCE INCLUDES A QUARTERLY INSPECTION FOR THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER FLUSH AS NEEDED.



FOCALPOINT OBSERVATION PORT DETAIL

NOTES:  
1. STORMSACK WEIGHT (EMPTY): 12 LB MAX  
2. MATERIAL:  
A) SHROUD: HIGH DENSITY POLYETHYLENE (TYPICAL WALL THICKNESS .125")  
B) SUPPORT HUB: CRS. POWDER COATED  
C) STORMSACK: WOVEN POLYPROPYLENE GEOTEXTILE (GEOTEX 117F)  
D) HARDWARE: ALUMINUM POP-RIEVTS  
3. RECOMMENDED MINIMUM VAULT DEPTH: 24" BELOW CARTRIDGE  
4. TYPICAL INSTALLATION: RAISE STORM GRATE, PUSH CATCHAT SHROUD DOWN ON FRAME SUPPORT LEDGE UNTIL LOCKING-CLIPS CLICK IN PLACE. LOWER STORM GRATE.  
5. USE ONLY WITH FABCO REPLACEABLE STORMSACK.

STRUCTURE DIAMETER (INCHES)	DESIRE CAPACITY (CFS)	FILTERED FLOWRATE (CFS)	BYPASS FLOWRATE (CFS)	TOTAL SYSTEM FLOWRATE (CFS)
12	6.77	2.2	1.2	9.4
18	1.85	2.5	1.0	3.5
24	3.85	4.8	2.4	7.3
30	6.29	4.8	2.4	7.3



AC/HARCO DOMED OVERFLOW FILTER RISER

DATE	REVISION
-	-

FOR ADDITIONAL INFORMATION PLEASE CONTACT:  
ACF ENVIRONMENTAL 1-800-448-3636  
www.acfenvironmental.com

C:\Users\Robert.Woodman\Picture\ACF\env.jpg

FOCALPOINT SYSTEM DETAILS

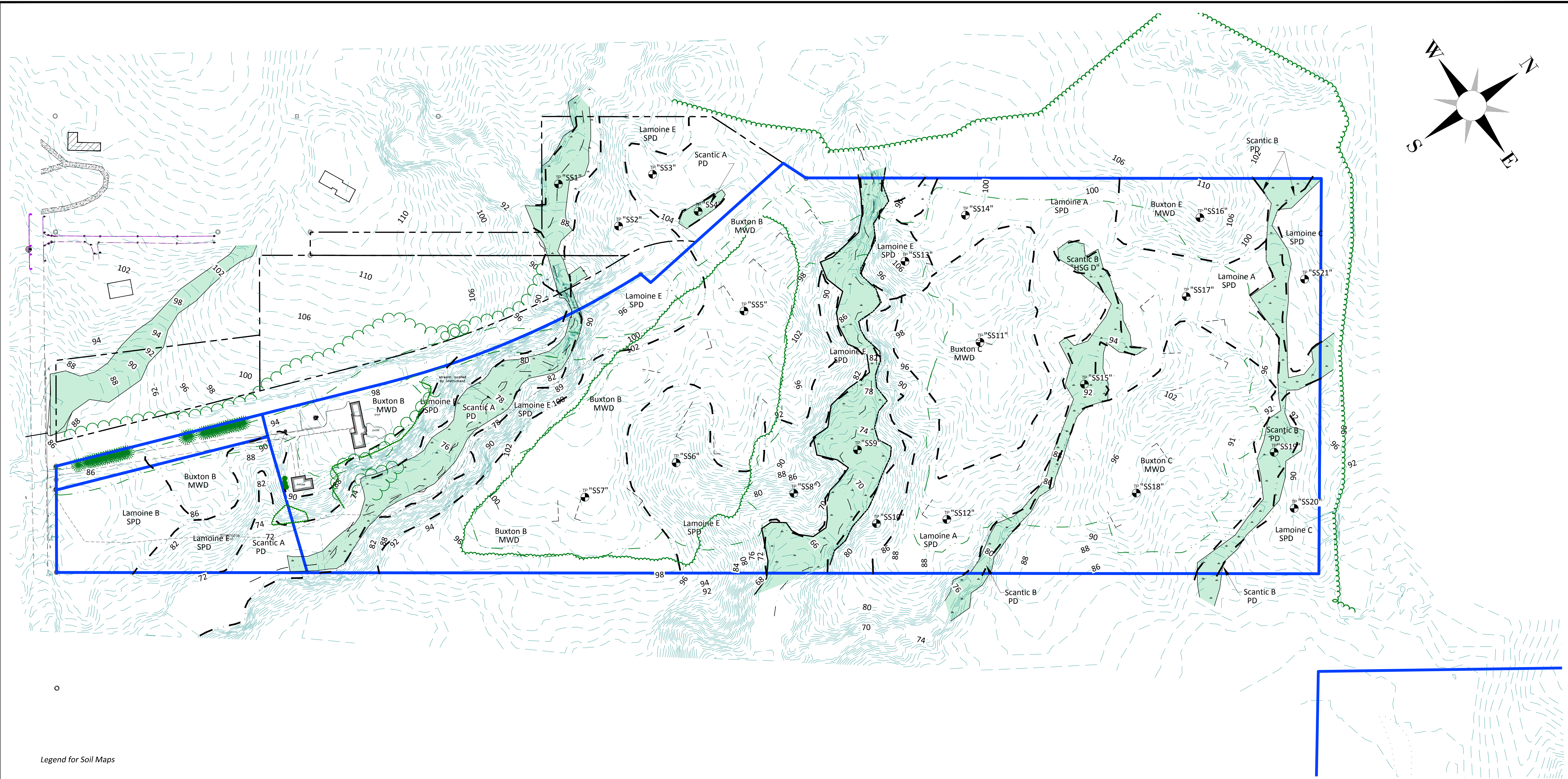
Oceanview @ Cumberland  
Tuttle Road, Cumberland, Maine

PROJECT NO.  
109  
DATE  
March 1, 2018  
SHEET NO.

C30

NOTE: ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.





Legend for Soil Maps

1. Drainage Class

Excessively Well Drained EWD  
Well Drained WD  
Moderately Well Drained MWD  
Somewhat Poorly Drained SPD  
Poorly Drained PD  
Very Poorly Drained VPD

2. Slope Designation

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

3. Note: High Intensity Soil Survey has been prepared by Mark Hampton Associates, Inc. in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, and the Maine Board of Certification of Geologists and Soil Scientists.

3.	3-1-2018	No changes, re-submit to Town	CSB
2.	2-7-2018	SUBMIT TO DEP	CSB
1.	1-31-2018	Re-submit to Town and DEP	CSB

Class B High Intensity Soil Survey

Oceanview at Cumberland  
291 Tuttle Road, Cumberland, Maine

Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine

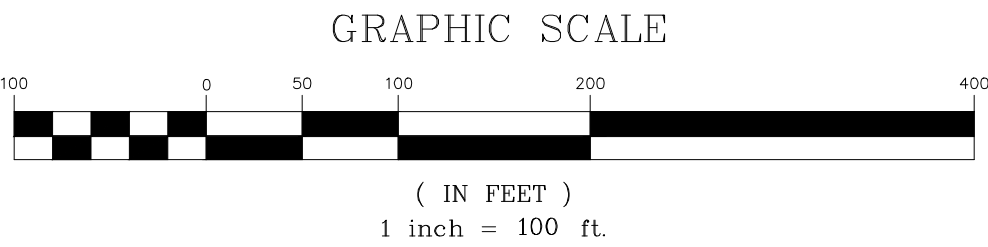


- COMMERCIAL PROJECTS
- RESIDENTIAL SUBDIVISIONS
- TOWN AND STATE APPROVALS
- SITE PLANNING & DESIGN
- STORMWATER MANAGEMENT
- ROAD AND UTILITY DESIGN
- EROSION CONTROL PLANS

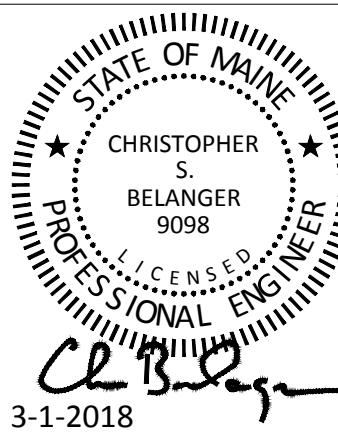
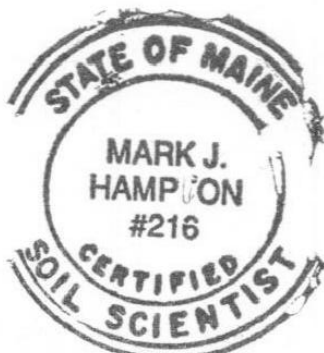
63 Second Avenue, Augusta, Maine 04330 Ph 207-622-1462, Cell 207-242-5713

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DRN BY:	JOB #: 109	
CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	

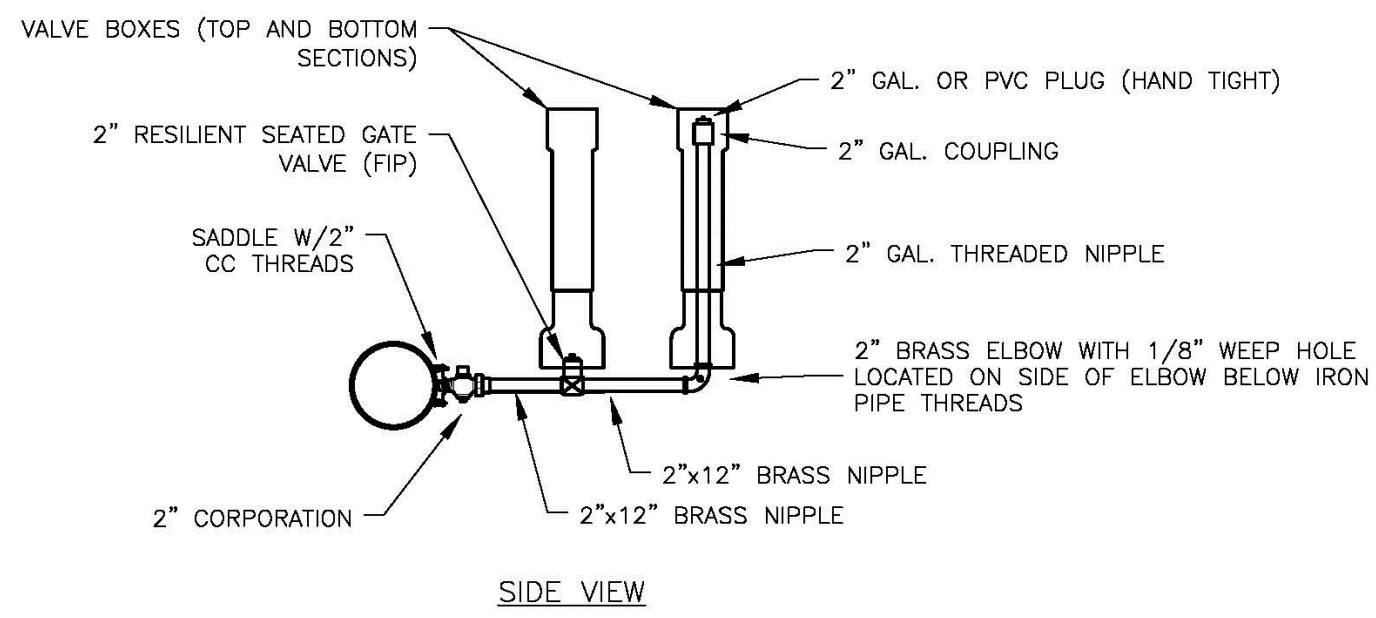
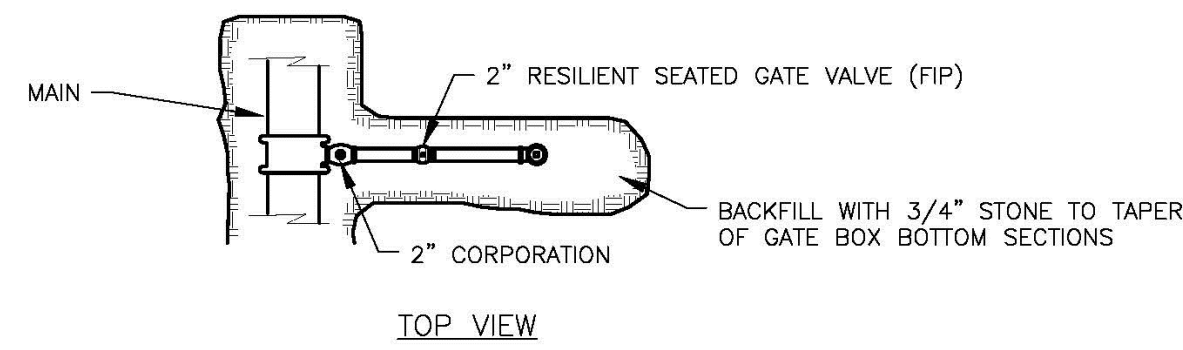
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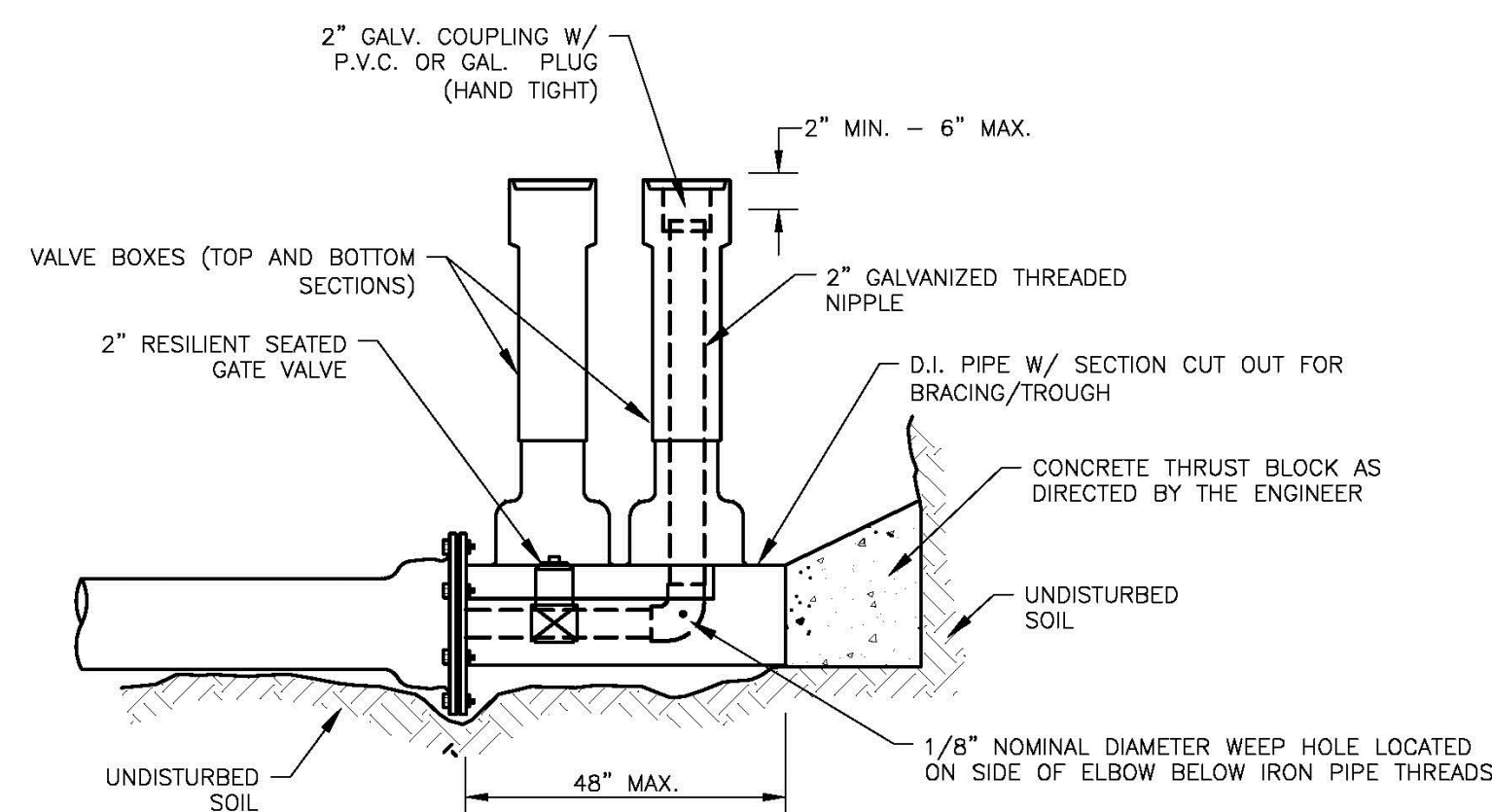
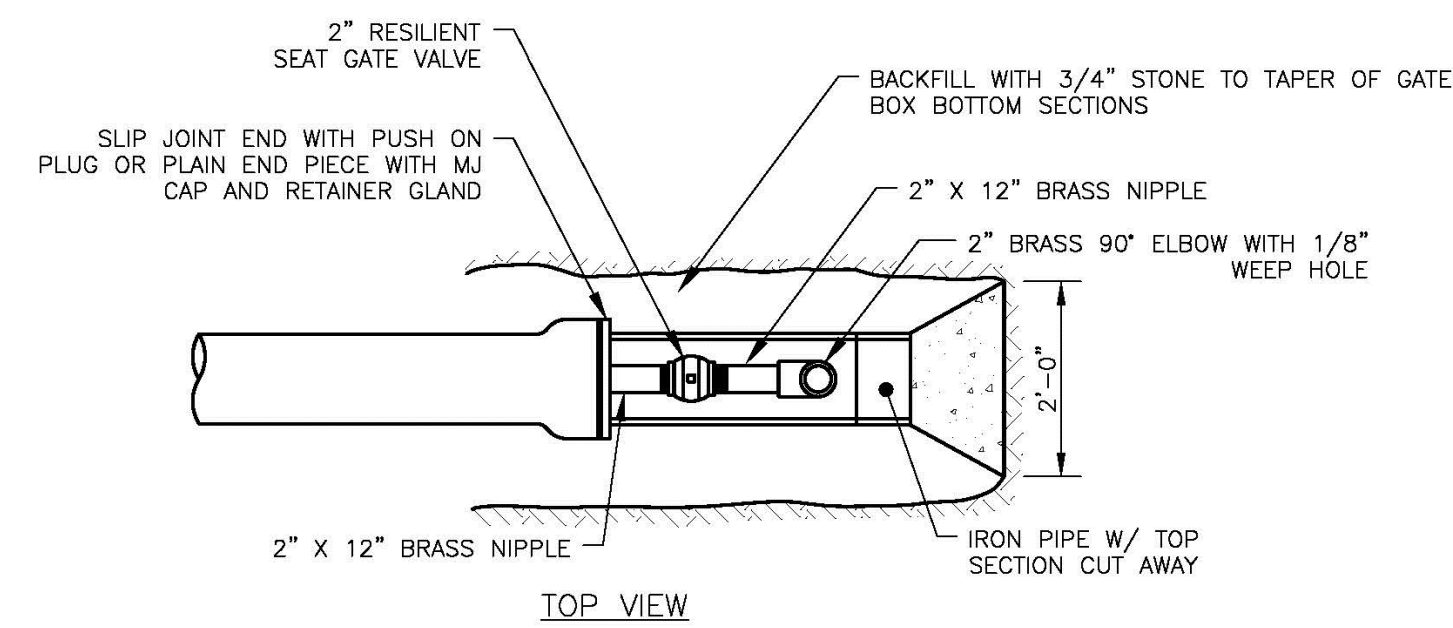
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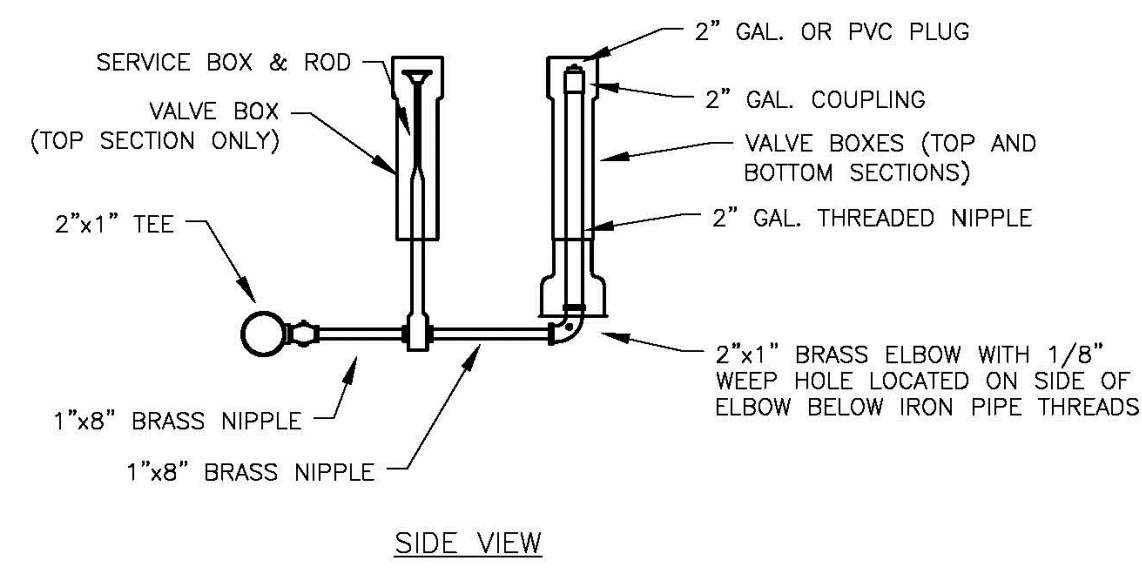
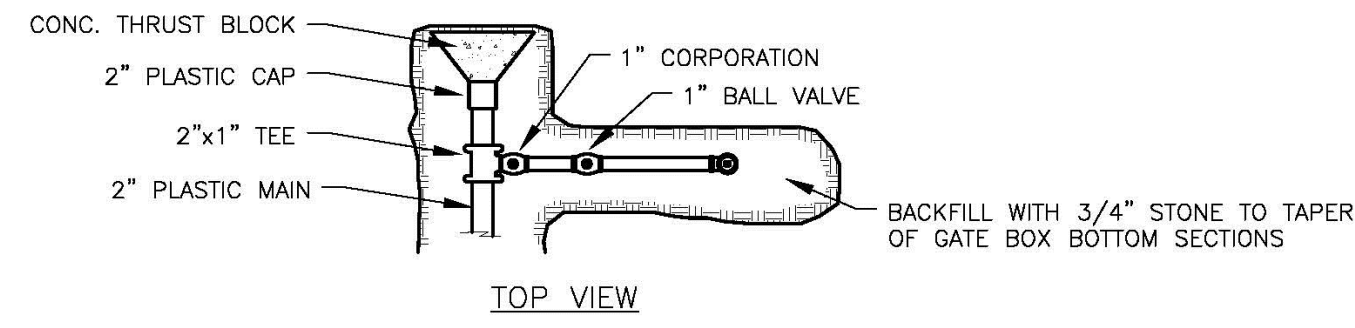




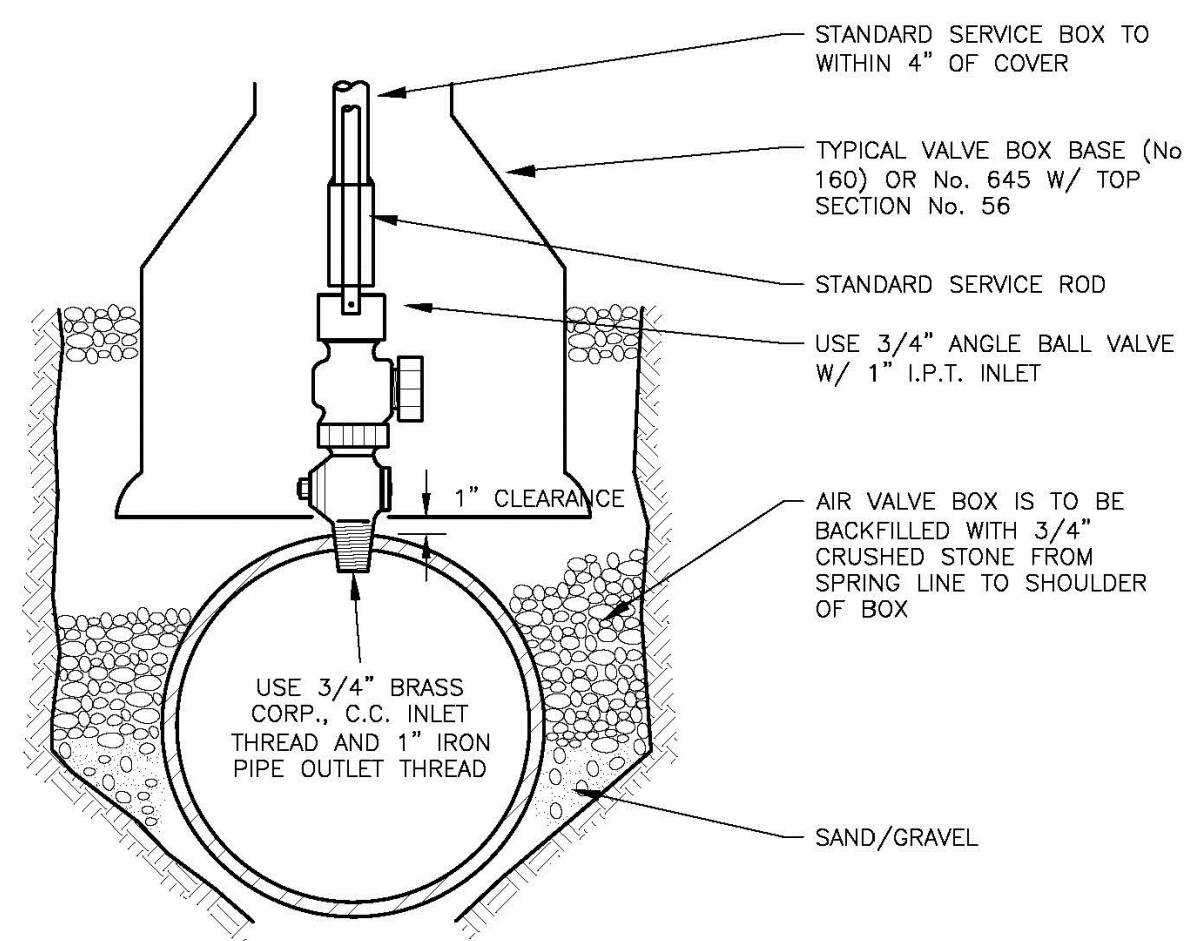
SIDE-ARM BLOW-OFF (4" & LARGER MAINS)



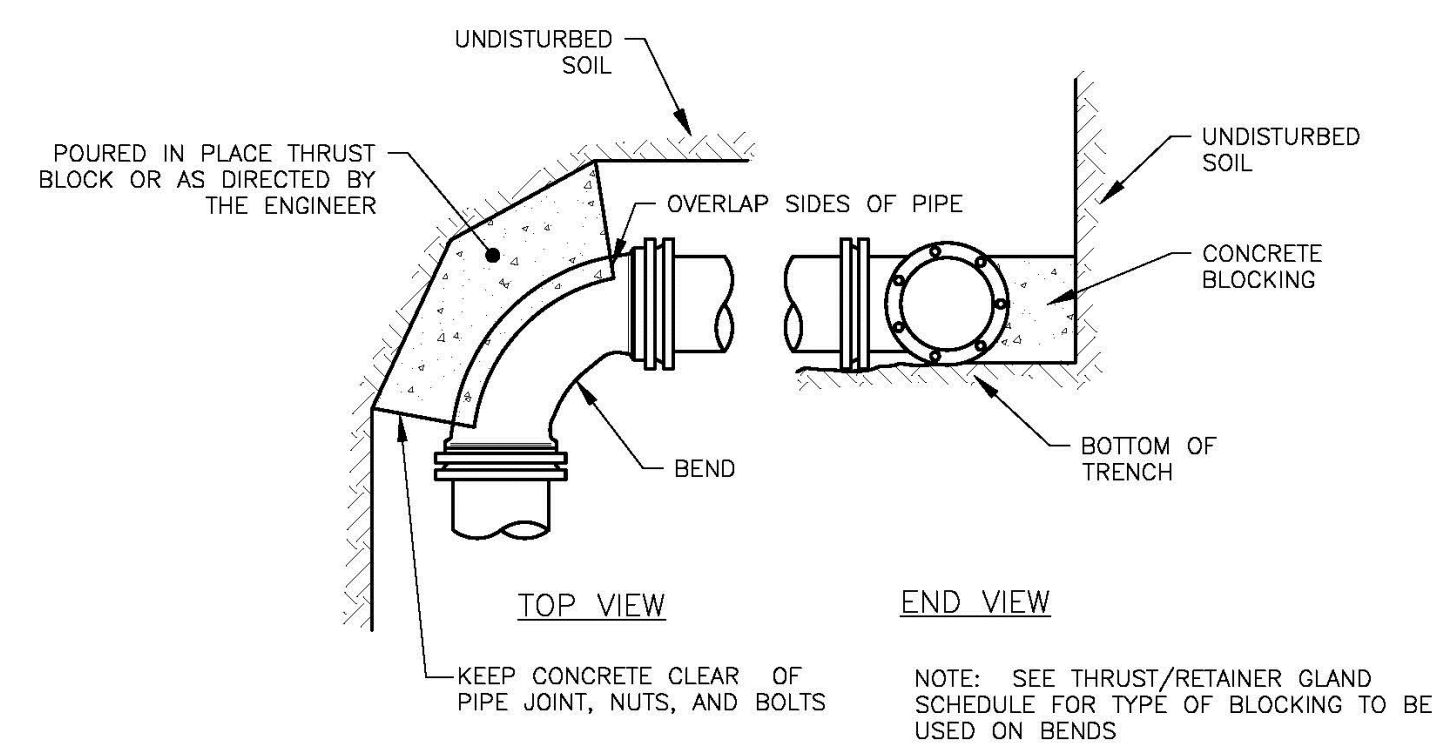
STANDARD 2" BLOW OFF



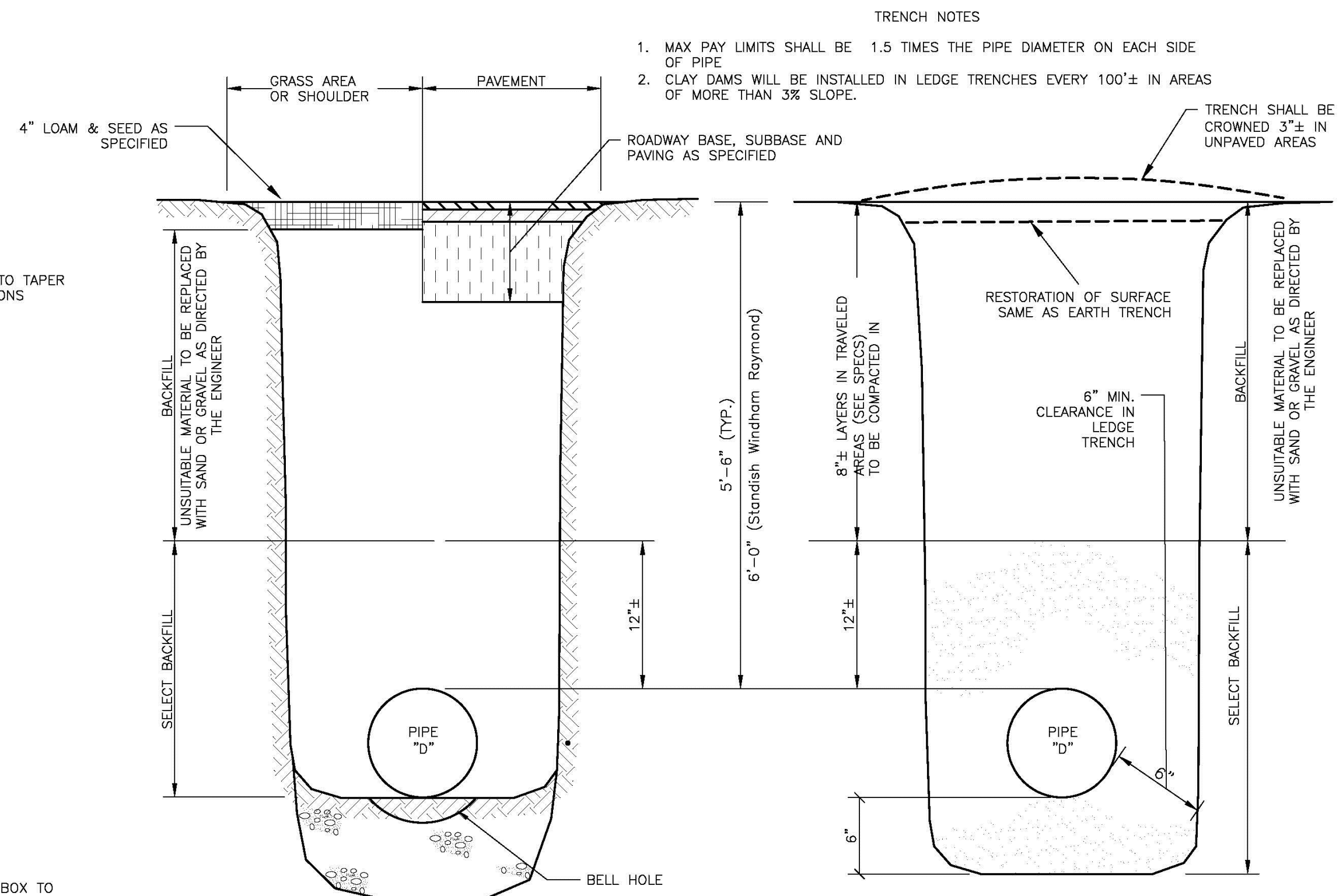
SIDE-ARM BLOW-OFF (2" MAIN)



TYPICAL AIR VALVE (1")

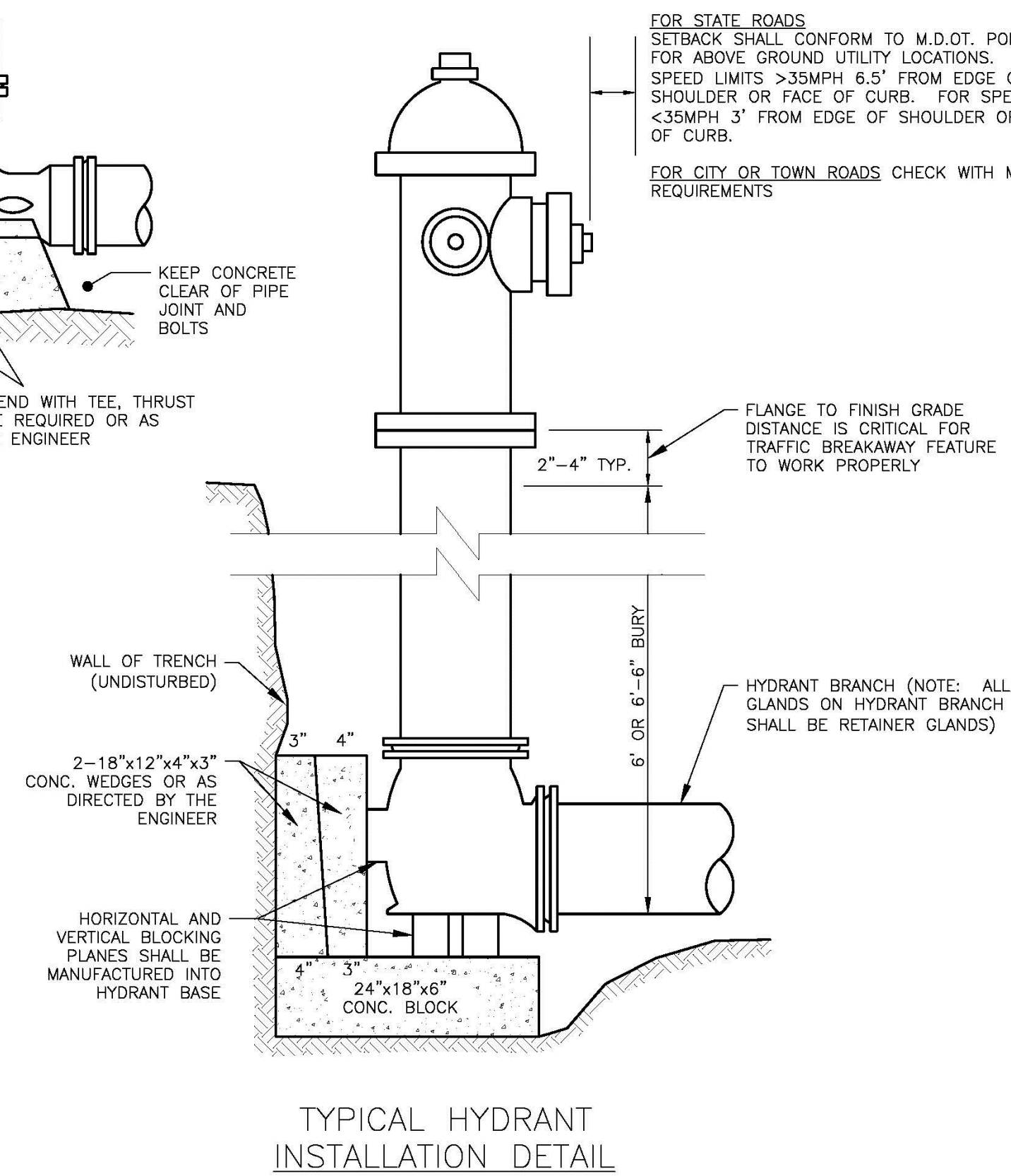
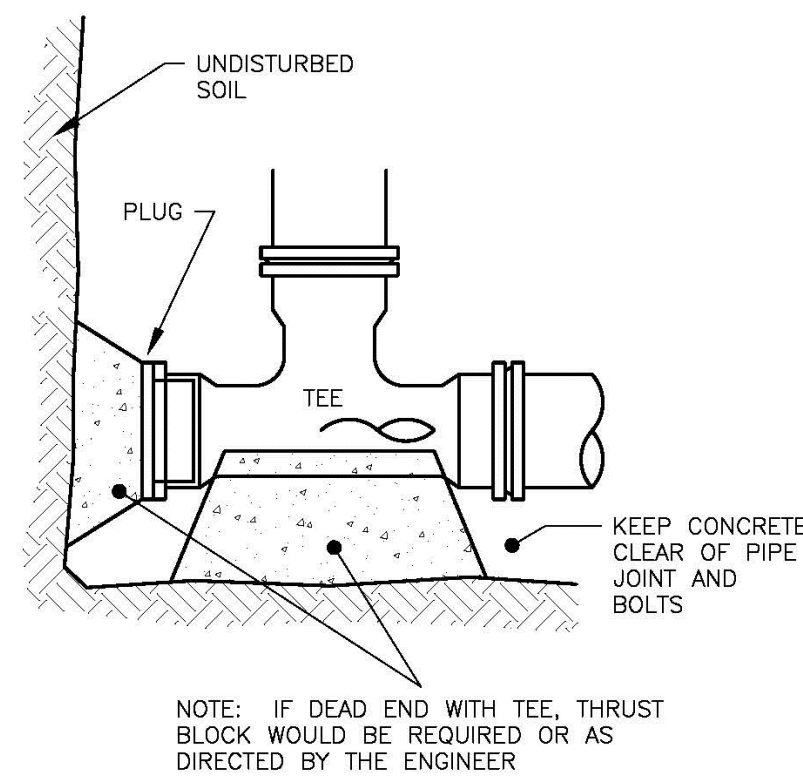


STANDARD BEND BLOCKING



SECTION THRU EARTH TRENCH

SECTION THRU LEDGE TRENCH

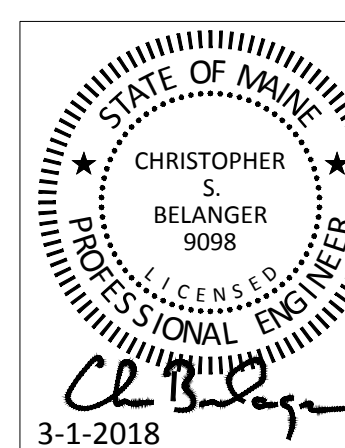


3.	3-1-2018	Respond to Town Memos, Re-submit to Town	CSB
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## PORTLAND WATER DISRICT STANDARD DETAILS 1

Oceanview at Cumberland  
277 Tuttle Road, Cumberland, Maine

Seacoast Management Company  
20 Blueberry Lane, Falmouth, Maine

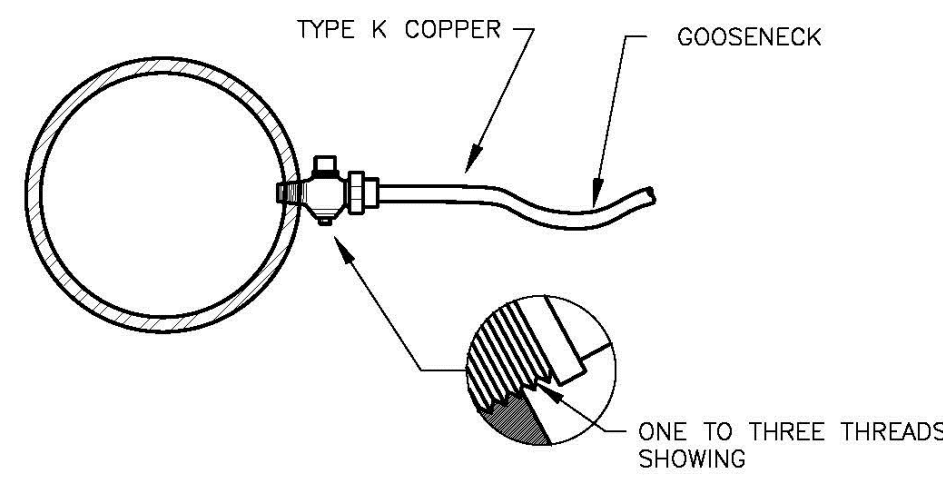


**BELANGER ENGINEERING**  
CONSULTING ENGINEERS  
63 Second Avenue, Augusta, Maine 04330  
Ph 207-622-1462, Cell 207-242-5713  
Email: cbelanger@roadrunner.com

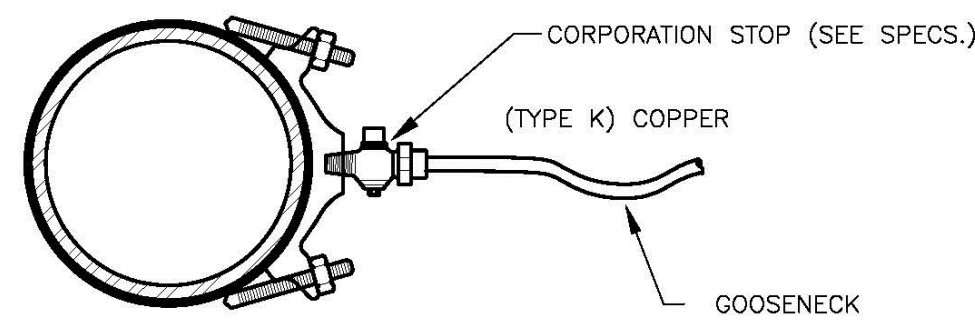
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FIELD WK:	SCALE:	SHEET:
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CH'D BY:	SS:	
DATE: 3-1-2018	FILE:	

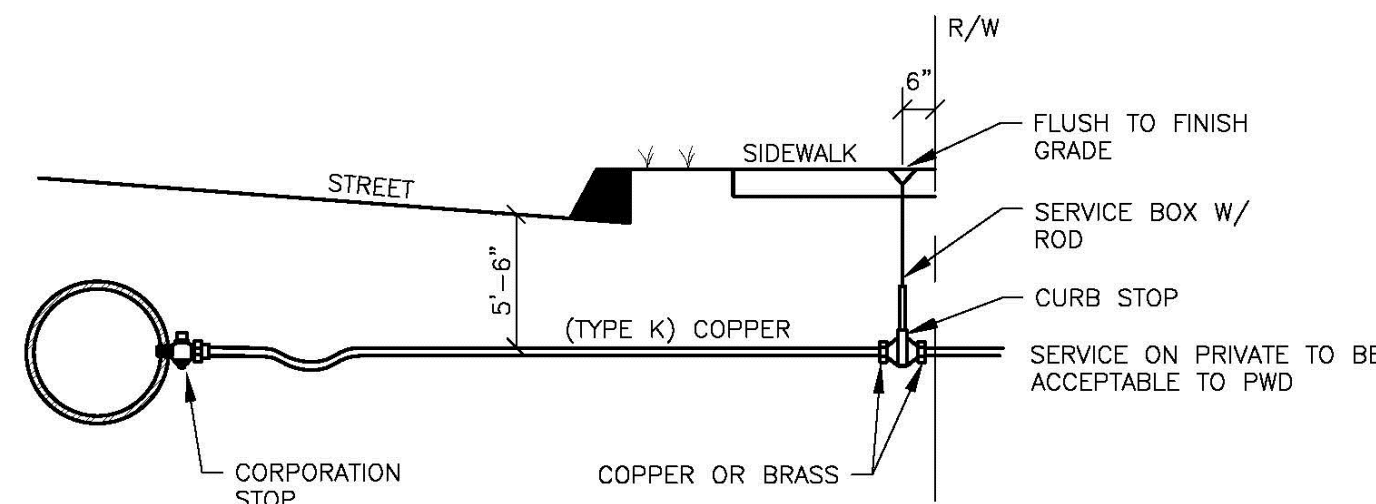




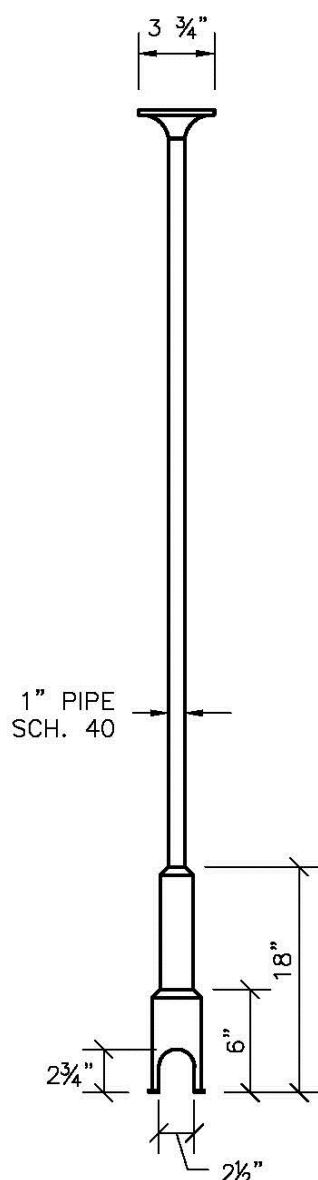
SERVICE TAP  
(3/4" AND 1" C.C. THREAD)



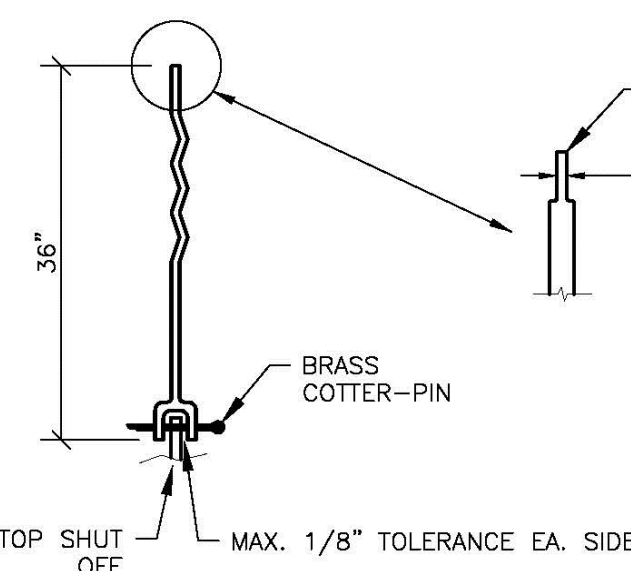
SERVICE SADDLE  
(1-1/2" AND 2" C.C. THREAD)



TYPICAL SERVICE CONNECTION



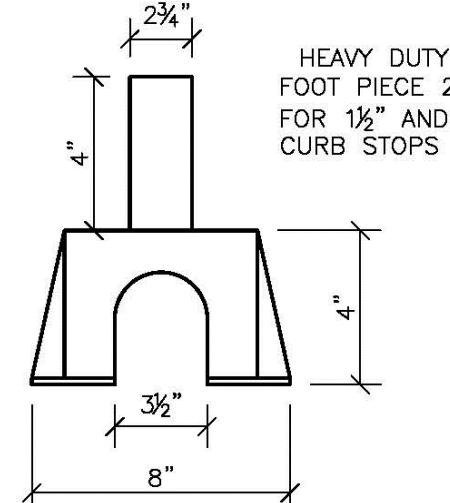
SERVICE BOX



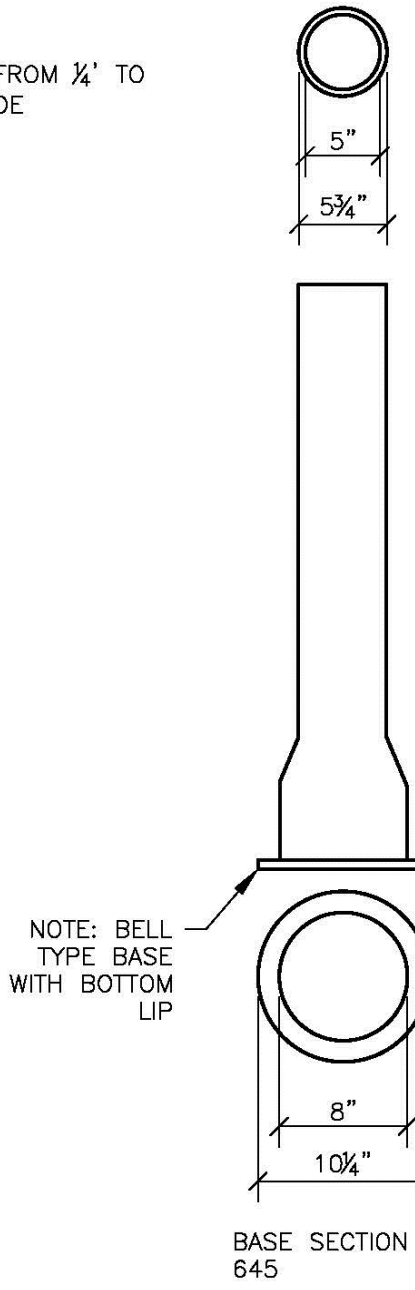
SERVICE ROD



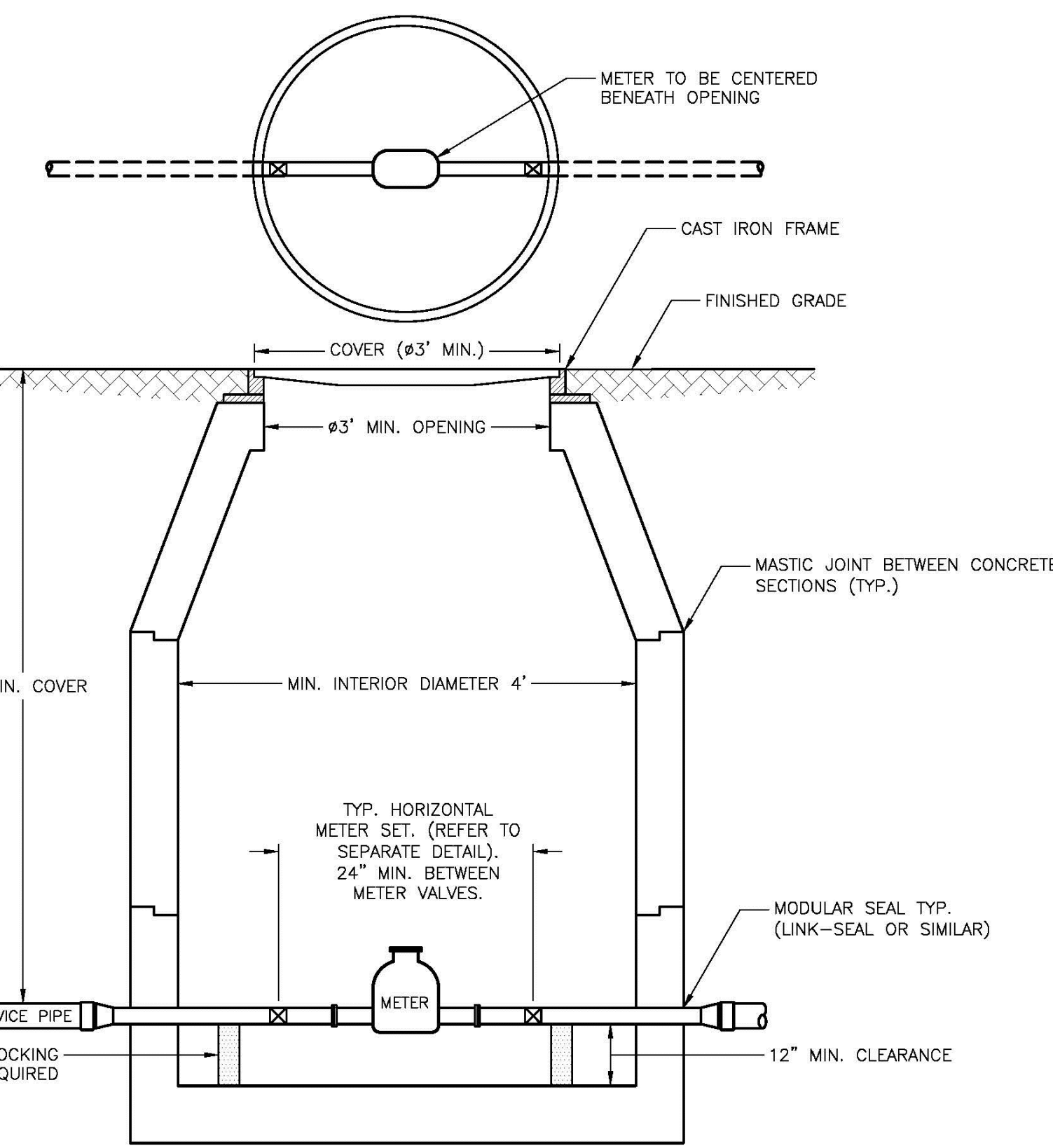
COVER



FOOT PIECE



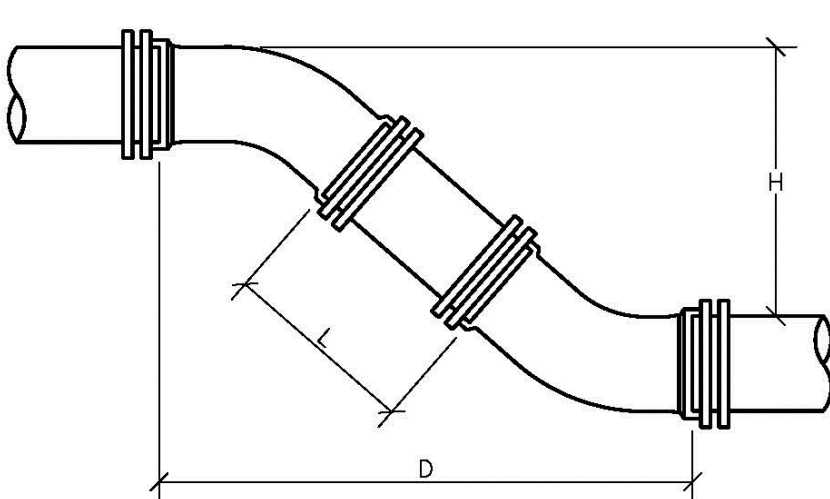
VALVE BOX & COVER



TYPICAL SMALL METER PIT  
(3/8" TO 2" METER)

- METER PIT AND COVER NOTES**
1. THE METER PIT SHALL BE SUPPLIED AND INSTALLED BY THE CUSTOMER AND LOCATED ON PRIVATE PROPERTY BETWEEN 10' AND 20' FROM THE PROPERTY LINE.
  2. THE METER PIT SHALL BE MADE OF PRECAST CONCRETE OF SUFFICIENT SIZE TO PROVIDE 5.5' MINIMUM GROUND COVER FROM FINISHED GRADE TO THE TOP OF THE SERVICE PIPE. ANY SEAMS BETWEEN CONCRETE SECTIONS SHALL BE SEALED WITH MASTIC JOINT. ALL OPENINGS IN THE CONCRETE FOR SERVICE PIPING SHALL BE SEALED WITH A MODULAR SEAL (LINK-SEAL OR SIMILAR).
  3. THE INTERIOR OF THE METER PIT SHALL BE A MINIMUM OF 4' IN DIAMETER, AND THE METER PIT OPENING SHALL BE A MINIMUM OF 30" IN DIAMETER WITH A CAST IRON FRAME. THE METER PIT COVER SHALL BE CAST IRON, 32" MINIMUM IN DIAMETER, AND BE EITHER PERMANENTLY LABELED "WATER" OR HAVE NO LABEL. ANY STEEL PLATE MATERIAL SHALL BE COATED WITH A RUST INHIBITOR PAINT.
  4. WALL-MOUNTED LADDER RUNGS SHALL NOT BE INSTALLED WITHIN METER PIT.
  5. ALL PIPING INSIDE AND EXTENDING THROUGH THE METER PIT SHALL BE MADE OF COPPER, WITH A MINIMUM OF 6" CLEARANCE FROM THE METER PIT FLOOR. BLOCKING SHALL BE INSTALLED AS REQUIRED TO SUPPORT THE PIPE.
  6. CUSTOMER SHALL ENSURE THE METER PIT AND COVER ARE PROPERLY RATED FOR TRAFFIC FLOW, IF APPLICABLE.

- METER NOTES**
7. ONLY PWD PERSONNEL ARE AUTHORIZED TO INSTALL WATER METERS. PWD PERSONNEL ARE ADDITIONALLY AUTHORIZED TO OPERATE METER VALVES AS NEEDED FOR INSTALLATION AND MAINTENANCE.
  8. PWD WILL SUPPLY THE WATER METER. ALL OTHER FITTINGS, INCLUDING A METER RESETTER FOR 1" OR SMALLER METERS, SHALL BE SUPPLIED AND INSTALLED BY CUSTOMER.
  9. FOR 1.5" AND 2" METERS, CUSTOMER SHALL INSTALL A FLANGED METER SPOOL PIECE, SUPPLIED BY PWD AT NO ADDITIONAL CHARGE, PRIOR TO METER SET. THE METER SPOOL WILL BE MADE AVAILABLE FOR CUSTOMER PICKUP AT PWD CUSTOMER SERVICE, 225 DOUGLASS STREET, PORTLAND DURING NORMAL BUSINESS HOURS.
  10. CUSTOMER WILL INSTALL TWO BALL VALVES AT LEAST 24" APART FOR METER INSTALLATION, ALLOWING FOR THE WATER METER TO BE CENTERED UNDER THE METER PIT OPENING. THE BALL VALVES SHALL BE SOLDERED IN PLACE.
  11. THE METER PIT MAY HOUSE UP TO TWO 5/8", 3/4" OR 1" METERS WITH PRIOR APPROVAL FROM PWD.



	6" PIPE		8" PIPE		12" PIPE	
H	D	L	D	L	D	L
12"	1' 6-1/2"	0' 10-1/2"	1' 7-1/2"	0' 9-1/2"	1' 11-1/2"	0' 5-1/2"
13"	1' 7-1/2"	0' 11-7/8"	1' 8-1/2"	0' 10-7/8"	2' 0-1/2"	0' 6-7/8"
14"	1' 8-1/2"	1' 1-3/16"	1' 9-1/2"	1' 0-3/16"	2' 1-1/2"	0' 8-5/16"
15"	1' 9-1/2"	1' 2-11/16"	1' 10-1/2"	1' 1-11/16"	2' 2-1/2"	0' 9-11/16"
16"	1' 10-1/2"	1' 4-1/8"	1' 11-1/2"	1' 3-1/8"	2' 3-1/2"	0' 11-7/8"
17"	1' 11-1/2"	1' 5-9/16"	2' 0-1/2"	1' 4-9/16"	2' 4-1/2"	1' 0-9/16"
18"	2' 0-1/2"	1' 6-15/16"	2' 1-1/2"	1' 5-15/16"	2' 5-1/2"	1' 1-15/16"
19"	2' 1-1/2"	1' 8-3/8"	2' 2-1/2"	1' 7-3/8"	2' 6-1/2"	1' 3-3/8"
20"	2' 2-1/2"	1' 9-13/16"	2' 3-1/2"	1' 8-13/16"	2' 7-1/2"	1' 4-13/16"
21"	2' 3-1/2"	1' 11-3/16"	2' 4-1/2"	1' 10-3/16"	2' 8-1/2"	1' 6-3/16"
22"	2' 4-1/2"	2' 0-5/8"	2' 5-1/2"	1' 11-5/8"	2' 9-1/2"	1' 7-5/8"
23"	2' 5-1/2"	2' 2"	2' 6-1/2"	2' 1"	2' 10-1/2"	1' 9"
24"	2' 6-1/2"	2' 3-7/16"	2' 7-1/2"	2' 2-7/16"	2' 11-1/2"	1' 10-7/16"
25"	2' 7-1/2"	2' 4-7/8"	2' 8-1/2"	2' 3-7/8"	2' 12-1/2"	1' 11-7/8"
26"	2' 8-1/2"	2' 6-1/4"	2' 9-1/2"	2' 5-1/4"	3' 1-1/2"	2' 1-1/4"
27"	2' 9-1/2"	2' 7-11/16"	2' 10-1/2"	2' 6-11/16"	3' 2-1/2"	2' 2-11/16"
28"	2' 10-1/2"	2' 8-1/8"	2' 11-1/2"	2' 7-1/8"	3' 3-1/2"	2' 4-1/8"
29"	2' 11-1/2"	2' 10-1/2"	2' 12-1/2"	2' 8-1/2"	3' 4-1/2"	2' 5-1/2"
30"	3' 0-1/2"	2' 11-19/16"	3' 1-1/2"	2' 10-19/16"	3' 5-1/2"	2' 6-19/16"
31"	3' 1-1/2"	3' 1-5/16"	3' 2-1/2"	3' 0-5/16"	3' 6-1/2"	2' 8-5/16"
32"	3' 2-1/2"	3' 2-3/4"	3' 3-1/2"	3' 1-3/4"	3' 7-1/2"	2' 9-3/4"
33"	3' 3-1/2"	3' 4-3/16"	3' 4-1/2"	3' 3-3/16"	3' 8-1/2"	2' 11-3/16"
34"	3' 4-1/2"	3' 5-9/16"	3' 5-1/2"	3' 4-9/16"	3' 9-1/2"	3' 0-9/16"
35"	3' 5-1/2"	3' 7"	3' 6-1/2"	3' 6"	3' 10-1/2"	3' 2"
36"	3' 6-1/2"	3' 8-7/16"	3' 7-1/2"	3' 7-7/16"	3' 11-1/2"	3' 3-7/16"
37"	3' 7-1/2"	3' 9-13/16"	3' 8-1/2"	3' 8-13/16"	4' 0-1/2"	3' 4-13/16"
38"	3' 8-1/2"	3' 11-1/4"	3' 9-1/2"	3' 10-1/4"	4' 1-1/2"	3' 6-1/4"
39"	3' 9-1/2"	4' 0-11/16"	3' 10-1/2"	3' 11-11/16"	4' 2-1/2"	3' 7-11/16"
40"	3' 10-1/2"	4' 2-1/16"	3' 11-1/2"	4' 1-1/16"	4' 3-1/2"	3' 8-1/16"
41"	3' 11-1/2"	4' 3-1/2"	4' 0-1/2"	4' 2-1/2"	4' 4-1/2"	3' 10-1/2"
42"	4' 0-1/2"	4' 4-7/8"	4' 1-1/2"	4' 3-7/8"	4' 5-1/2"	3' 11-7/8"
43"	4' 1-1/2"	4' 6-5/16"	4' 2-1/2"	4' 5-5/16"	4' 6-1/2"	4' 1-5/16"
44"	4' 2-1/2"	4' 7-3/4"	4' 3-1/2"	4' 6-3/4"	4' 7-1/2"	4' 2-3/4"
45"	4' 3-1/2"	4' 9-1/8"	4' 4-1/2"	4' 8-1/8"	4' 8-1/2"	4' 4-1/8"
46"	4' 4-1/2"	4' 10-9/16"	4' 5-1/2"	4' 9-9/16"	4' 9-1/2"	4' 5-9/16"
47"	4' 5-1/2"	4' 11-15/16"	4' 6-1/2"	4' 10-15/16"	4' 10-1/2"	4' 6-15/16"
48"	4' 6-1/2"	5' 1-3/8"	4' 7-1/2"	5' 0-3/8"	4' 11-1/2"	4' 8-3/8"
49"	4' 7-1/2"	5' 2-13/16"	4' 8-1/2"	5' 1-13/16"	5' 0-1/2"	4' 9-13/16"
50"	4' 8-1/2"	5' 4-3/16"	4' 9-1/2"	5' 3-3/16"	5' 1-1/2"	4' 11-3/16"
51"	4' 9-1/2"	5' 5-5/8"	4' 10-1/2"	5' 4-5/8"	5' 2-1/2"	5' 0-5/8"
52"	4' 10-1/2"	5' 7-1/16"	4' 11-1/2"	5' 6-1/16"	5' 3-1/2"	5' 2-1/16"
53"	4' 11-1/2"	5' 8-7/16"	5' 0-1/2"	5' 7-7/16"	5' 4-1/2"	5' 3-7/16"
54"	5' 0-1/2"	5' 9-7/8"	5' 1-1/2"	5' 8-7/8"	5' 5-1/2"	5' 4-7/8"
55"	5' 1-1/2"	5' 11-5/16"	5' 2-1/2"	5' 10-5/16"	5' 6-1/2"	5' 6-5/16"

TYPICAL MAIN OFFSET

3. 3-1-2018 Respond to Town Memos, Re-submit to Town CSB
2. 2-7-2018 SUBMIT TO DEP CSB
1. 1-31-2018 Re-Submit to Town and Maine DEP CSB

## PORTLAND WATER DISRICT STANDARD DETAILS 2

Oceanview at Cumberland  
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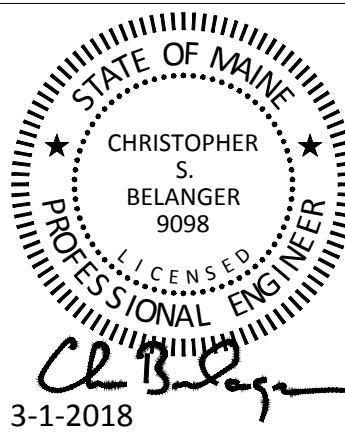
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- TOWN AND STATE APPROVALS
- SITE PLANNING & DESIGN
- STORMWATER MANAGEMENT
- ROAD AND UTILITY DESIGN
- EROSION CONTROL PLANS

FIELD WK: SCALE: SHEET: C34

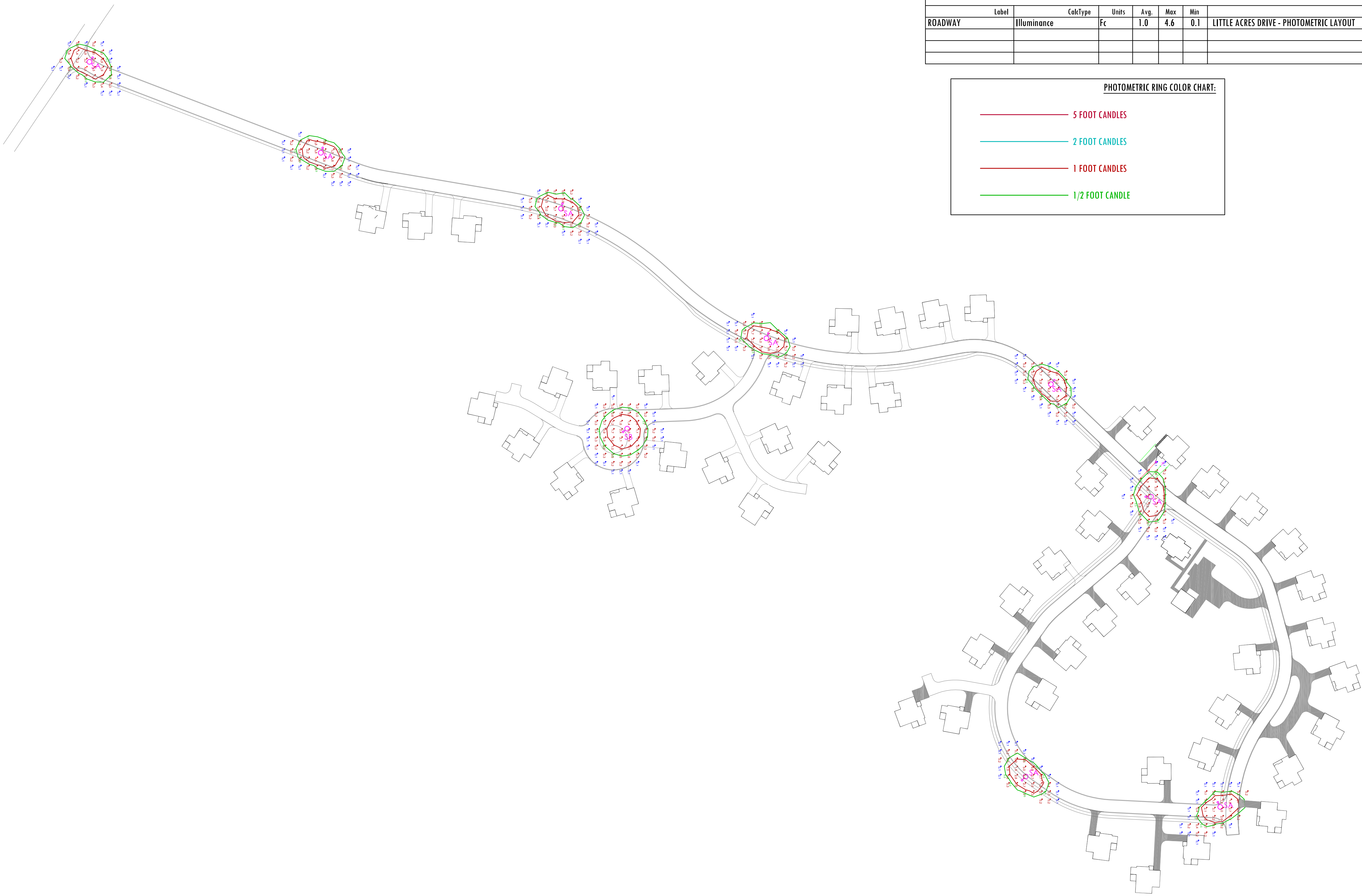
DRN BY: JOB #: 109

CH'D BY: SS:

DATE: 3-1-2018 FILE:







SITE FIXTURE SCHEDULE					
QUANTITY	TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	
8	SA	BEACON	URBCAP-26/36NB-80/4K/UNV/T3/PEC-208/GENI-XX/NRNW/BBT	ROADWAY LED FIXTURE W/ PHOTOCELL	
1	SB	BEACON	URBCAP-26/36NB-80/4K/UNV/T5W/PEC-208/GENI-XX/NRNW/BBT	ROADWAY LED FIXTURE W/ PHOTOCELL	
9			AA-41/S/4/B/P/BBT	DECORATIVE POLE MOUNT ARM	
9			RSA-B-SHO-S-14-40-B-OT-BBT/DOMU-4-BBT	14' ROUND POLE W/ BASE COVER	

NUMERIC SUMMARY							
	Label	CalcType	Units	Avg	Max	Min	
ROADWAY	Illuminance	Fc		1.0	4.6	0.1	LITTLE ACRES DRIVE - PHOTOMETRIC LAYOUT

PHOTOMETRIC RING COLOR CHART:

5 FOOT CANDLES

2 FOOT CANDLES

1 FOOT CANDLES

1/2 FOOT CANDLE

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"We appreciate Your Business."



NO.	DATE	DESCRIPTION
A	03/02/2018	REVISED PLAN FROM BELANGER ENGINEERING

PROJECT NAME & ADDRESS:  
  
Oceanview at Cumberland  
291 Tuttle Road  
Cumberland, Maine

SHEET NAME:		
Site - Photometric Layout		
Checked By: G. MANCINI	Date: 02.22.2018	
Drawn By: A. AMES	Scale: 1" = 100'-0"	