



A C O R N

ENGINEERING, INC.

Jean Fraser - Planner
City of Portland
Planning & Urban Development Department
389 Congress St., Room 308
Portland, Maine 04101

March 20th, 2012

Re: Comment Response to City of Portland Peer Review Engineer
Harborview Development, LLC – 121 York Street

Dear Jean Fraser,

On behalf of the project team Acorn Engineering, Inc. is pleased to respond to the comments provided by the City Peer Review Engineer dated June 23rd, 2011 by David Senus, P.E. and Ashley Auger, E.I.T. of Woodard & Curran.

To facilitate the review Woodard & Curran's comments are provided below in italics followed by Acorn Engineering, Inc.'s response. Acorn Engineering's plans were updated to reflect applicable conditions of approval and changes as a result of comment responses.

Comments:

- 1. In the Applicant's response to comments letter, an explanation was provided on how the proposed grading will match into adjacent, existing conditions; however, this is not clearly presented on the most recent plans. Proposed contours along the majority of the perimeter of the property are not shown to connect to existing contours. Additional clarification is needed on the plans, especially along the eastern side of the property and the northwest portion of the parking lot.*

Response:

The project team requested Ocean Park Land Surveying, Inc. provide additional information regarding the existing contours and the presence of retaining walls both on and abutting the property. The revised survey provided some additional information on how the existing contours within the parcel connect to the abutting parcels along the eastern property line. Please refer to the Existing Conditions Survey Plan from Ocean Park Land Surveying, Inc.

The following additional information has been added to the plans.

Eastern Property Line –

- Locations adjacent to the proposed parking lot. Acorn Engineering added the following note to the Grading, Drainage, Erosion & Sed. Control Plan, Grading and

Drainage Notes 7, “Curb along the eastern parking lot perimeter may not have soil flush with the top of curb depending upon the grades at the adjacent property. “ Given the proposed grading within the parking lot is consistent and the surrounding existing grades are not the use of the curb is proposed to account for these irregularities. Please refer to Soren Deniord Design Studio’s - Site Plan for the location of granite curbing. Through the use of the granite curbing no offsite grading is anticipated.

- Locations adjacent to the proposed building. Kaplan Thompson Architects in coordination with Casco Bay Engineering have added a perimeter retaining wall parallel to the property line. Please refer to the attached Kaplan Thompson Architect’s – Retaining Wall Elevation Plan, Northeast Retaining Elevation for the proposed retaining wall elevations and existing abutting property grades. Acorn Engineering’s Grading, Drainage, Erosion & Sed. Control Plan was updated to reflect the use of the retaining wall. Through the use of the retaining wall no offsite grading is anticipated.

Northern Property Line –

- Kaplan Thompson Architects in coordination with Casco Bay Engineering have added a perimeter retaining wall parallel to the property line. Please refer to the attached Kaplan Thompson Architect’s – Retaining Wall Elevation Plan, Northwest Retaining Elevation for the proposed retaining wall elevations and existing abutting property grades. Acorn Engineering’s Grading, Drainage, Erosion & Sed. Control Plan was updated to reflect the use of the retaining wall. Through the use of the retaining wall no offsite grading is anticipated.

Western Property Line –

- Locations adjacent to the proposed building. Kaplan Thompson Architects in coordination with Casco Bay Engineering have added a perimeter retaining wall parallel to the property line. Please refer to the attached Kaplan Thompson Architect’s – Retaining Wall Elevation Plan, Southwest Retaining Elevation for the proposed retaining wall elevations and proposed abutting property grades. Acorn Engineering’s Grading, Drainage, Erosion & Sed. Control Plan was updated to reflect the use of the retaining wall. It is anticipated that offsite grading will be necessary adjacent to McCormick Place. Please see response 2 below regarding abutting property easements.
- Locations adjacent to the Northwest parking lot. Acorn Engineering revised the Grading, Drainage, Erosion & Sed. Control Plan to depict a 2:1 slope. The plan includes a note allowing either a 2:1 slope on the abutting property or the extension of the building perimeter retaining wall. If offsite grading is necessary adjacent to Bethany Cary then please see response 2 below regarding abutting property easements.

2. *The updated plans show proposed grading on the adjacent McCormick Place Condominium property as a means to match into the existing conditions. Because this work will occur beyond the applicant's property, the applicant must provide appropriate easements or temporary construction rights granted by the adjacent land owner(s).*

Response: Harborview Development, LLC is aware that any proposed grading or disturbance on an adjacent property line will require an appropriate easement or temporary construction right. Acorn Engineering has added the following applicable notes on the Grading, Drainage, Erosion & Sed. Control Plan.

General Note 2. – The contractor shall verify with a professional land surveyor that the location of any proposed permanent structures are within the property line prior to construction. The contractor shall be responsible for providing adequate shoring between the permanent structure and property line during construction.

Grading and Drainage Note 6. - Harborview Development, LLC shall be responsible for obtaining any easement or temporary construction rights as necessary by adjacent landowners. The contractor shall not disturb any soil beyond the property line without notifying and obtaining such easement or temporary construction right from Harborview Development, LLC.

3. *The updated plans still do not provide clarity to the location and type of proposed curbing and sidewalks within the site.*

Response: Please refer to Soren Deniord Design Studio's - Site Plan for the location of granite curbing. To facilitate your review the curbing linetype was darkened and depicted within the symbols legend. Refer to Soren Deniord Design Studio's – Landscape Details for curbing within the reconstructed brick driveway apron.

4. *The applicant has provided additional documentation for the Stormwater Maintenance and Inspection Plan. The plan suggests that the Subsurface Sand Filter (SSSF) should be inspected annually. The frequency of SSSF inspections should be revised to reflect the requirements outlined in Section 7.3 of Volume III of the Maine Department of Environmental Protection's BMP Manual: "The system should be inspected after every major storm in the first few months to ensure proper function. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining within 24 hours to 36 hours."*

Response: The Post Construction – Stormwater Inspection & Maintenance Plan dated March 2012 was updated to reflect the maintenance criteria within Section 7.3 of Volume III BMPS Technical Design Manual listed above. Please refer to the attached.

5. *Based on the clarification provided in the applicant's response to comments, we understand the applicant is considering using underdrains with down-facing perforations for the proposed foundation drain system, which will also convey surface drainage from area drains & roof leaders. We also understand that the applicant will coordinate and review the use of the building foundation drain with the project's geotechnical and structural engineers (per applicant's response to comments letter), The applicant should ensure that the design of the underdrain system from a geotechnical and structural building foundation perspective is not compromised by the addition of surface flows into the subsurface drainage gravels.*

Response: Acorn Engineering revised the Grading, Drainage, Erosion & Sed. Control Plan with the addition of the perimeter retaining wall, revised condominium finish floors, and the inclusion of inlet drains within the sidewalk adjacent to the western edge of the building. At such time the inlet and roof drains (surface flows) were removed from the buildings foundation drain. The Roof/Foundation Drain Detail - Detail Sheet 2 was also modified to depict these changes. The inline drain detail was separated into two details. An Inline Drain Detail (Vegetated Areas Only) or Inline Drain Detail (Concrete Areas Only). This was completed at the request of Soren Deniord Design Studio to have a galvanized grate for point drains within concrete areas. The Grading, Drainage, Erosion & Sed. Control Plan was updated to reflect the spot grade, pipe lengths, slopes and elevations. The foundation underdrain and inline drain/roof drain shall tee into one another south of the proposed building below the elevation of the lowest footing elevation. The above changes do not result in an increase to the post development peak stormwater flows. As a result of separating the surface flows from the building foundation drain a review by the project's geotechnical and structural engineer is no longer necessary.

6. *Based on the applicant's response to comments letter, we understand that the utility contractor installed the proposed sewer, water, and storm drain connections within the City ROW on June 9th 10th following approval of this work by Planning DPS. Plans should be updated to the work performed to date, and should clarify how these connections were installed (ie. -The plans currently reflect proposed inserta-tee connections at 45 degree angles to both the sewer and storm drain lines; however, inserta-tees must meet the mainline perpendicular)*

Response: The Utility Plan and Detail Sheet 1 was updated to provide the work performed by Leavitt Earthworks. The installed work within the ROW was differentiated from the proposed on the plans. Length and elevations of provided by Leavitt Earthworks were provided with on the Utility Plan under the header titled, "ROW Utility Notes".

Brian Leavitt of Leavitt Earthworks confirmed that the inserta-tee for both the sewer and storm drain lines were installed perpendicular to the mainline and not at 45 degrees angles as Acorn Engineering previously depicted.

The gas service for 127 York Street was installed by Unitil on August 12th, 2011. The location of the gas line was provided by Unitil and is depicted on the revised Utility Plan.

Acorn Engineering and the project team appreciates the opportunity to respond to Woodard and Curran's review of the proposed project. Please do not hesitate to contact me with any further questions of comments.

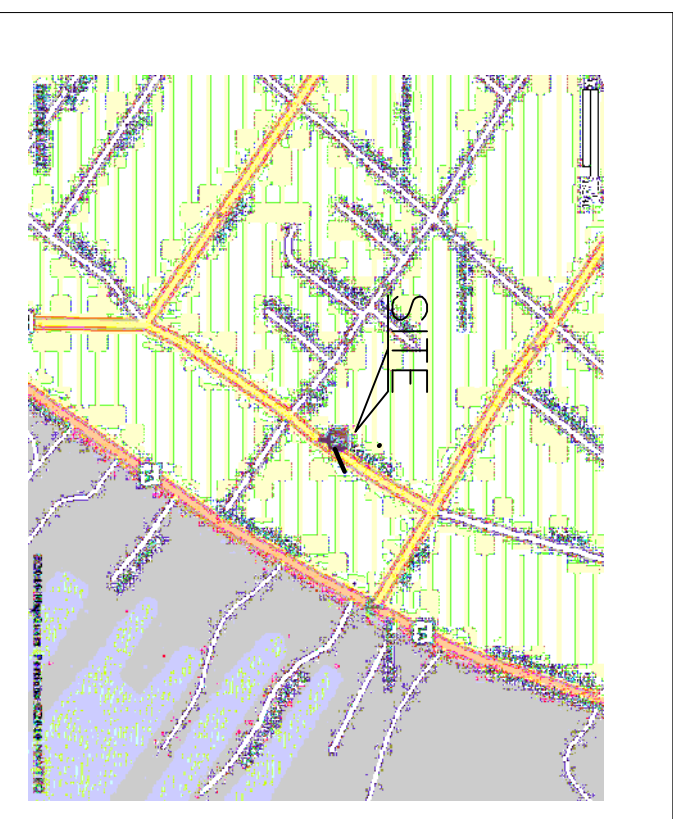
Sincerely,



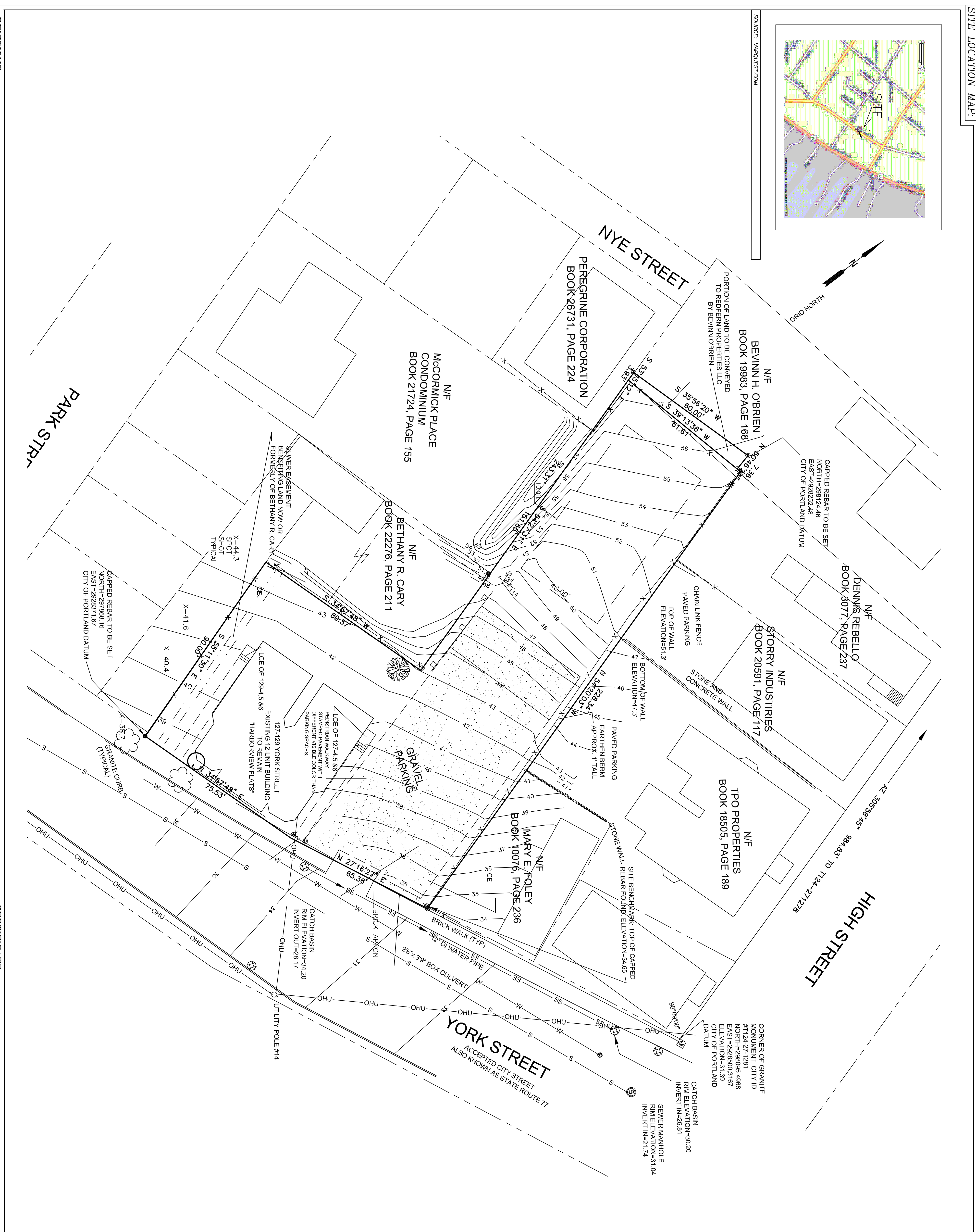
William H. Savage, P.E.
Project Manager
Acorn Engineering, Inc.

Attached:

1. Existing Conditions Survey Plan, by Ocean Park Land Surveying, Revised 3-8-12
2. L1-Site Plan and L-3 – Landscape Details, by Soren Denord Design Studio, Revised March 20th.
3. Post Construction – Stormwater Inspection & Maintenance Plan, by Acorn Engineering, Inc. Revised March 2012.
4. Retaining Wall Elevations Plan – A-2.4, by Kaplan Thompson Architects, dated March 9, 2012.
5. Revised Acorn Engineering Plan Set, Sheet C-1 – C-6, dated 3-19-12



SOURCE: MAPQUEST.COM

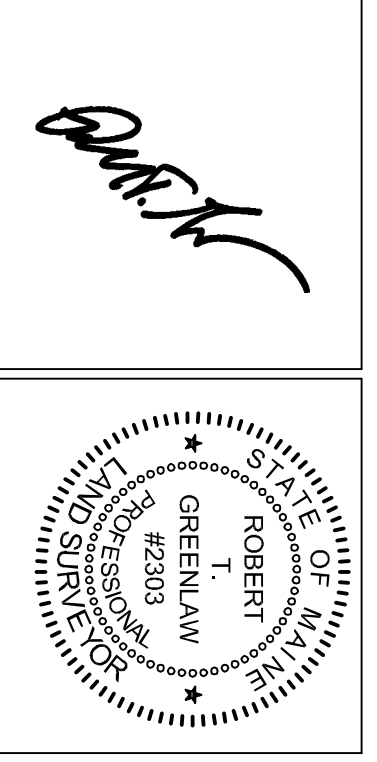
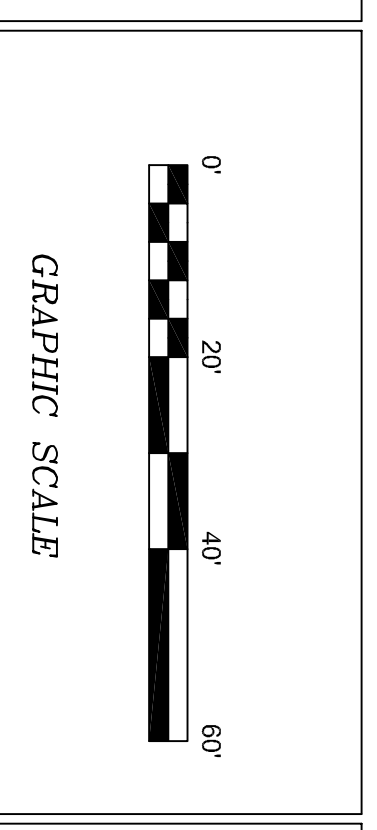


REVISIONS:

REVISION 03-08-2012:	REVISED PROPERTY LINES, ADDED NOTES AND ANNOTATIONS
REVISION 06-29-2011:	ADDED ABUTTING WALLS AND PARKING LOTS
REVISION 03-11-2011:	ADDED UTILITIES, COORDINATES AND TREES
REVISION 02-13-2011:	REVISED CONTOURS
REVISION 02-11-2011:	ADDED CONTOURS
LOCATION:	127-129 YORK STREET PORTLAND, MAINE

STATE OF MAINE, CUMBERLANDSS
REGISTRY OF DEEDS

RECEIVED AT : H . M. AND RECORDED IN PLAN BOOK PAGE 2010



CERTIFICATE:

I HEREBY CERTIFY THAT THIS SURVEY CONFORMS TO THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS STANDARDS OF PRACTICE AS ADOPTED APRIL 01, 2001 WITH THE FOLLOWING EXCEPTIONS:

a) NO WRITTEN REPORT
b) NO NEW DESCRIPTION

ROBERT T. GREENLAW P.L.S., #2303 DATE: MARCH 08, 2012

GENERAL NOTES:

- RECORD OWNER OF PARCEL: HARBORVIEW DEVELOPMENT LLC BOOK 28330 PAGE 45 AS RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS (C.C.R.D.). OWNER'S ADDRESS: P.O. BOX 8816 PORTLAND, MAINE 04104
- BEARINGS ARE BASED UPON TWO CITY OF PORTLAND GRANITE MONUMENTS ONE OF WHICH IS SHOWN HEREON.
- BEARINGS ARE BASED UPON 298095.4958 EAST 2928500.9187 ELEVATION=31.89
- 1724-27-1281 NORTH GRANITE MONUMENT LOCATED AT THE NORTHWESTERLY STREET CORNER OF YORK AND HIGH STREETS.
- 1124-27-1278 NORTH 298674.0750 EAST 2927703.3650 IS THE INSIDE CORNER OF A GRANITE MONUMENT LOCATED AT THE SOUTHWESTERLY STREET CORNER OF HIGH AND PARK STREETS. MONUMENTS ARE ZONED AS A BASIS FOR THE STREETLINE SHOWN HEREON. THESE MONUMENTS WERE UTILIZED AS A BASIS FOR THE STREETLINE SHOWN HEREON. MAINE STATE PLANE COORDINATES ARE SHOWN HEREON AS REFERENCE TO THE CITY OF PORTLAND COORDINATE SYSTEM.
- ELEVATIONS BASED UPON THE HIGH POINT OF A GRANITE "M" MONUMENT LOCATED AT THE SOUTHWEST STREETLINE CORNER OF DANFORTH AND PARK STREETS. ELEVATION OF SAID MONUMENT SUPPLIED BY THE CITY OF PORTLAND ENGINEERING DEPARTMENT REPORTED TO BE 75.84 CITY OF PORTLAND DATUM.
- AREA OF SUBJECT PARCELS: LOT 044-A-004= 14,117 SQ. FT., LOT 044-A-005=7122 SQUARE FEET, TOTAL AREA OF PARCEL=21239 SQ. FT.
- REFERENCE IS MADE TO THE FOLLOWING PLANS:
 - CITY OF PORTLAND TAX MAP 44, SUBJECT LOTS SHOWN AS BLOCK A, LOTS 004 AND 005.
 - THERE WERE APPARENT EASEMENTS OR RESTRICTIONS BURDENING OR BENEFITING SUBJECT PROPERTY AT THE TIME OF THIS SURVEY. IDENTIFIED AS BELONGING TO BETHANY R. CARY AS DESCRIBED IN DEED BOOK 22276, PAGE 211.
 - THE EXISTING STRUCTURE WAS BUILT IN 1900 WHICH WAS PRIOR TO THE ADOPTION OF ZONING ORDINANCES WHICH WERE ENACTED IN 1957.
 - NO HISTORIC SITES OR STRUCTURES ON OR ADJACENT TO THIS SITE APPEAR ON OR ARE NOMINATED TO THE NATIONAL REGISTER.

ZONING:

R-6 RESIDENTIAL ZONE:
MINIMUM LOT SIZE: 4500 SQUARE FEET
MINIMUM STREET FRONTAGE: 40 FEET
MINIMUM FRONT YARD SETBACK: 20 FEET
MINIMUM REAR YARD SETBACK: 20 FEET
MINIMUM SIDE YARD SETBACK: 10 FEET
MINIMUM LOT WIDTH: 50 FEET
MAXIMUM HEIGHT: 45 FEET

FLOOD NOTE:

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE C OF THE FLOOD INSURANCE RATE MAP. THE FLOOD ZONE IS SHOWN IN RED AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.

LEGEND:

CRS @	Capped 5/8" Rebar Set	(50.00)	Distance from reference
With # 2303.			
IPF ○	Iron Pipe Found	N/F	Now Or Formerly
MONF □	Monument Found	12345/99	Deed Book/Page of Local Registry
---	Contour Line		Edge of traveled way
---	Abutted Line		Overhead Utility
---	Property Line		Utility Pole
---	Street Line		Indicates Ownership in Common
---	Setback Line		Catch Basin with Throat at Curb
---	Old Lot Line		Sewer Manhole
○	Willow Tree 24" Diameter		
○	Street Tree Maple 3" Diameter		

EXISTING CONDITIONS SURVEY PLAN
AT 127-129 YORK STREET, PORTLAND, MAINE
FOR HARBORVIEW DEVELOPMENT LLC

PREPARED BY:
OCEAN PARK LAND SURVEYING LLC
134 PORTLAND AVE
OLD ORCHARD BEACH MAINE
BOBGREENLAW@YFAIRPOINT.NE.T










DRAWN BY: RTG
CHECKED BY: MMB
SCALE: 1" = 20'
DATE OF SURVEY: 10/20/2010
JOB NUMBER: 121 YORK ST
SHEET: 1 OF 2
DRAWER: 2005 NO. 002

PLANT LIST

Botanical Names	Common Name	Quantity	Size	Comments
TREES				
Acer rubrum 'Armstrong'	Red Maple	8	2.5" cal.	B/B
Amelanchier canadensis	Shadbush	11	1.75" cal.	B/B
PERENNIALS				
Baptisia australis	Blue False Indigo	80	1 gal.	24" O.C.
Pennisetum alopecuroides 'Hameln'	Dwarf Fountain Grass	80	1 gal.	24" O.C.
Perovskia	Russian Sage	80	1 gal.	24" O.C.
Vaccinium angustifolium	Lowbush Blueberry	80	1 gal.	24" O.C.

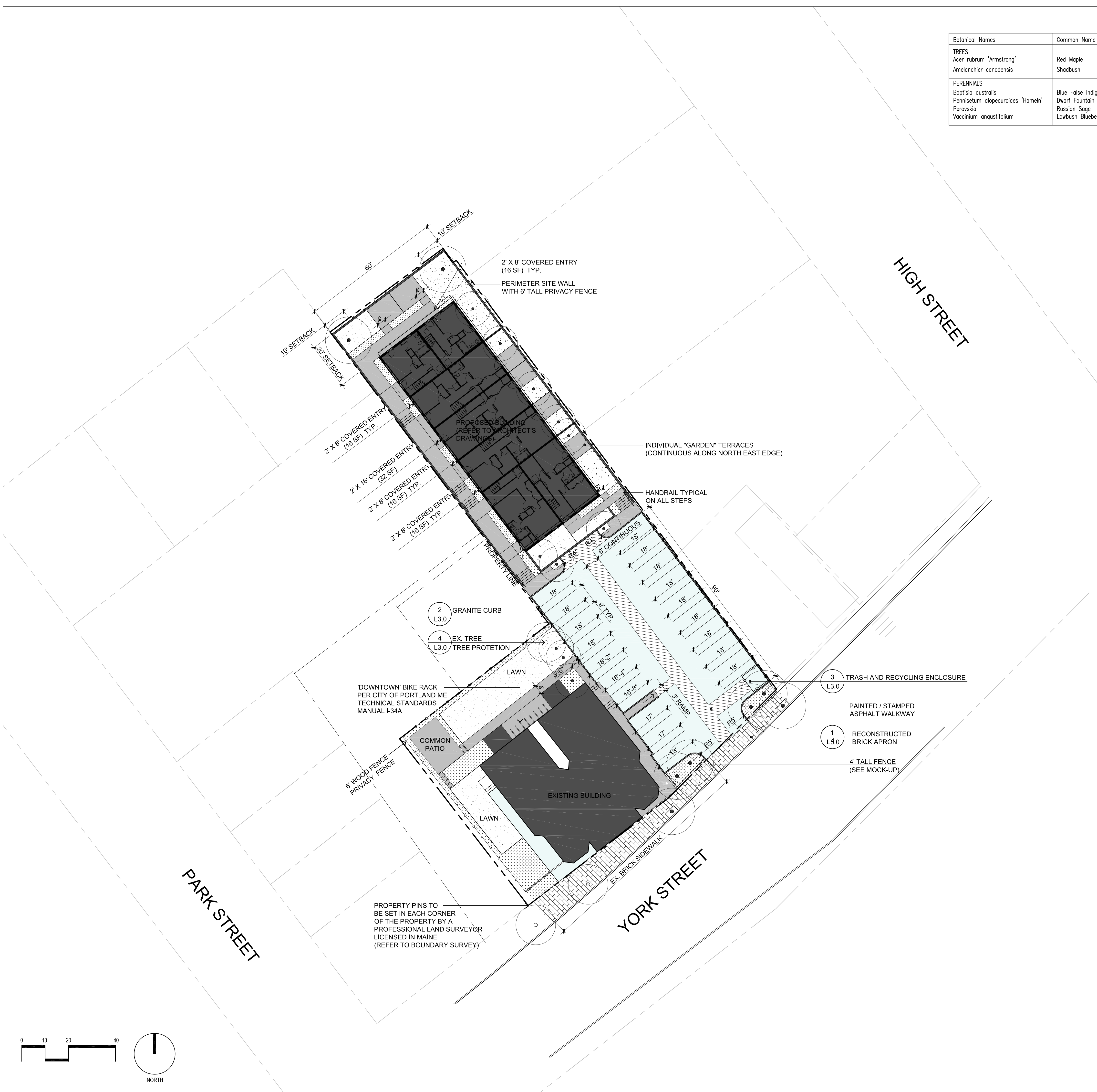
NOTE:
 -REFER TO STRUCTURAL ENGINEER DRAWINGS FOR CONCRETE SLAB / STEPS AND WALL DETAILS.
 -REFER TO CIVIL ENGINEER'S DRAWINGS FOR GRADING AND DRAINAGE
 -REFER TO ARCH. DRAWINGS FOR FINISH FLOOR ELEVATIONS.
 -TAKE MEASURES TO PROTECT TREES ON ADJACENT PROPERTIES DURING SITE WORK. INCLUDE ROOT PRUNING EXPOSED ROOTS FOUND DURING EXCAVATION AND PRUNING ANY DAMAGED LIMBS DURING CONSTRUCTION. THESE ITEMS CAN BE REVIEWED DURING THE PROJECT 'PRE-CONSTRUCTION' MEETING.
 -THE CONTRACTOR SHALL VERIFY WITH A PROFESSIONAL LAND SURVEYOR THAT THE LOCATION OF ANY PROPOSED PERMANENT STRUCTURES ARE WITHIN THE PROPERTY LINE PRIOR TO CONSTRUCTION. THE CONTRACTORS SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SHORING BETWEEN THE PERMANENT STRUCTURE AND PROPERTY LINES DURING CONSTRUCTION.

SYMBOLS LEGEND

-  CONCRETE PAVING
-  BRICK PAVING
-  ASPHALT PAVING (REFER TO CIVIL DWGS)
-  STAMPED PAINTED ASPHALT
-  TURF AND / OR GROUND COVER
-  PROPOSED CONCRETE STEPS
-  6' TALL WOOD FENCE
-  BICYCLE PARKING (9 SPACES)
-  GRANITE CURB (DETAIL 2, L3.0)

PLANT LEGEND

-  EXISTING TREE
-  PROPOSED Amelanchier SP.
-  PROPOSED Acer Rubrum 'Armstrong'
-  TREE GRATE (WITH PROPOSED STREET TREE)
-  LAWN
-  PERENNIALS AND GRASSES (SEE PLANT LIST)



PROJECT:
121 YORK ST.
 PORTLAND, MAINE

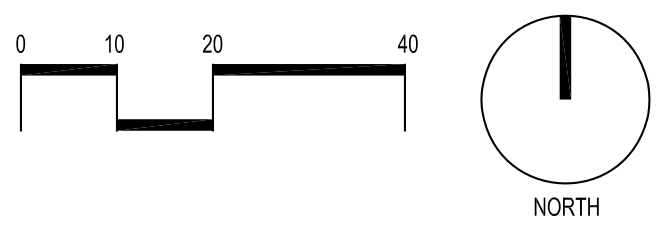
CLIENT:
 HARBORVIEW DEVELOPMENT LLC.
 DBA, RED FERN PROPERTIES

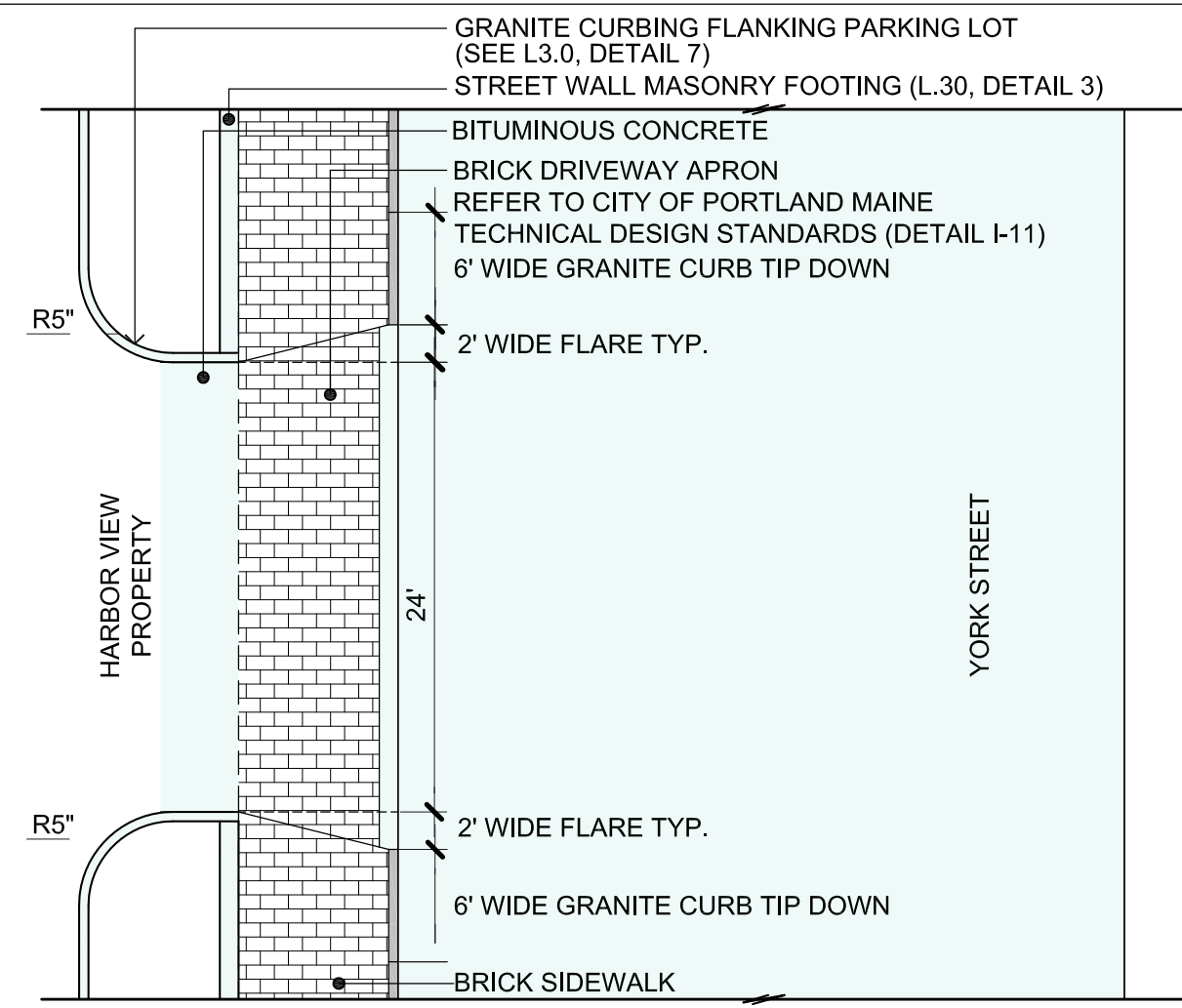
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TITLE:
 SITE PLAN

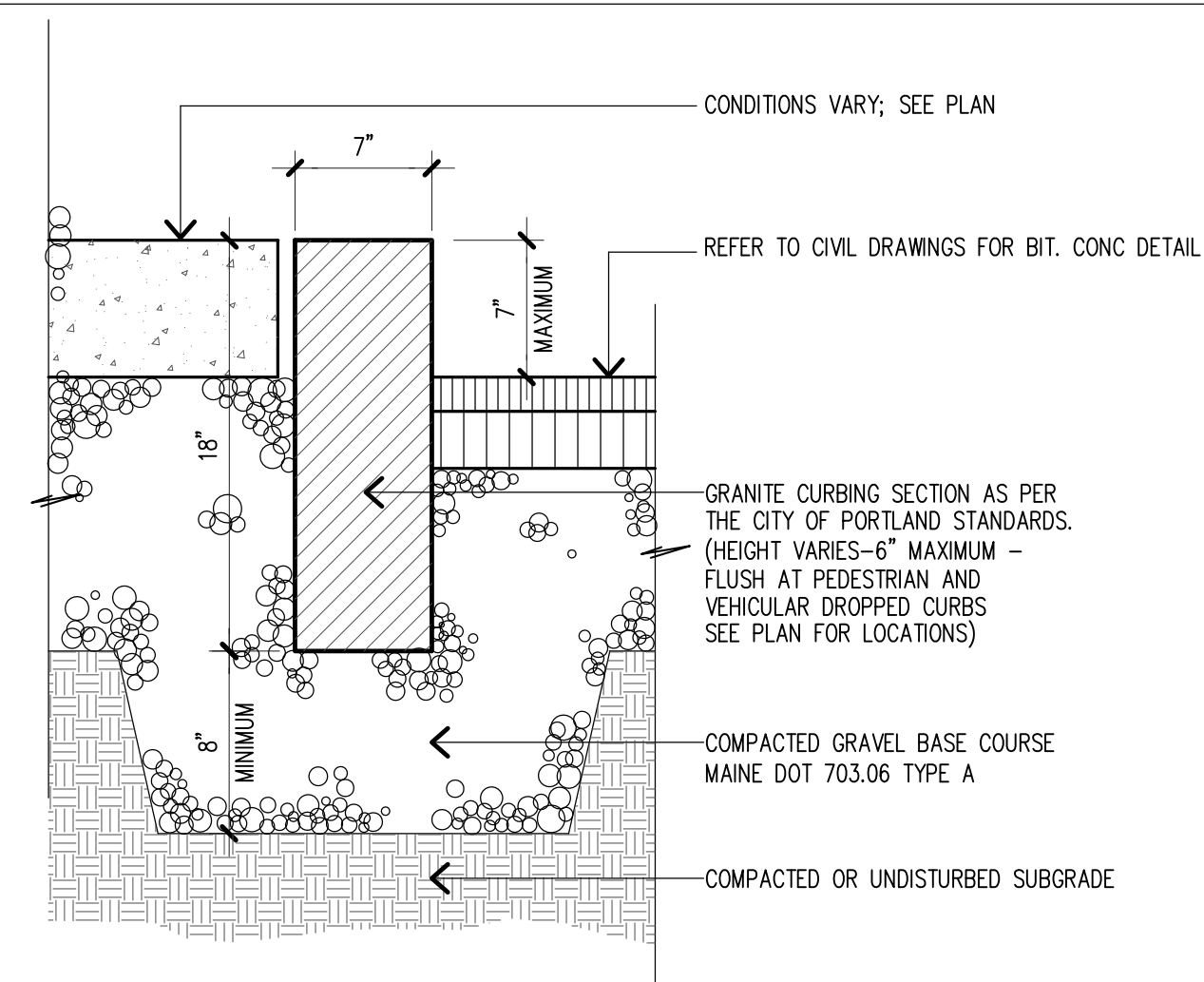
SHEET:
L1.0

SOREN DENIORD DESIGN STUDIO
 43 WELLWOOD RD.
 PORTLAND, ME 04103
 T: 207-400-2450
 soren@sorendenior.com

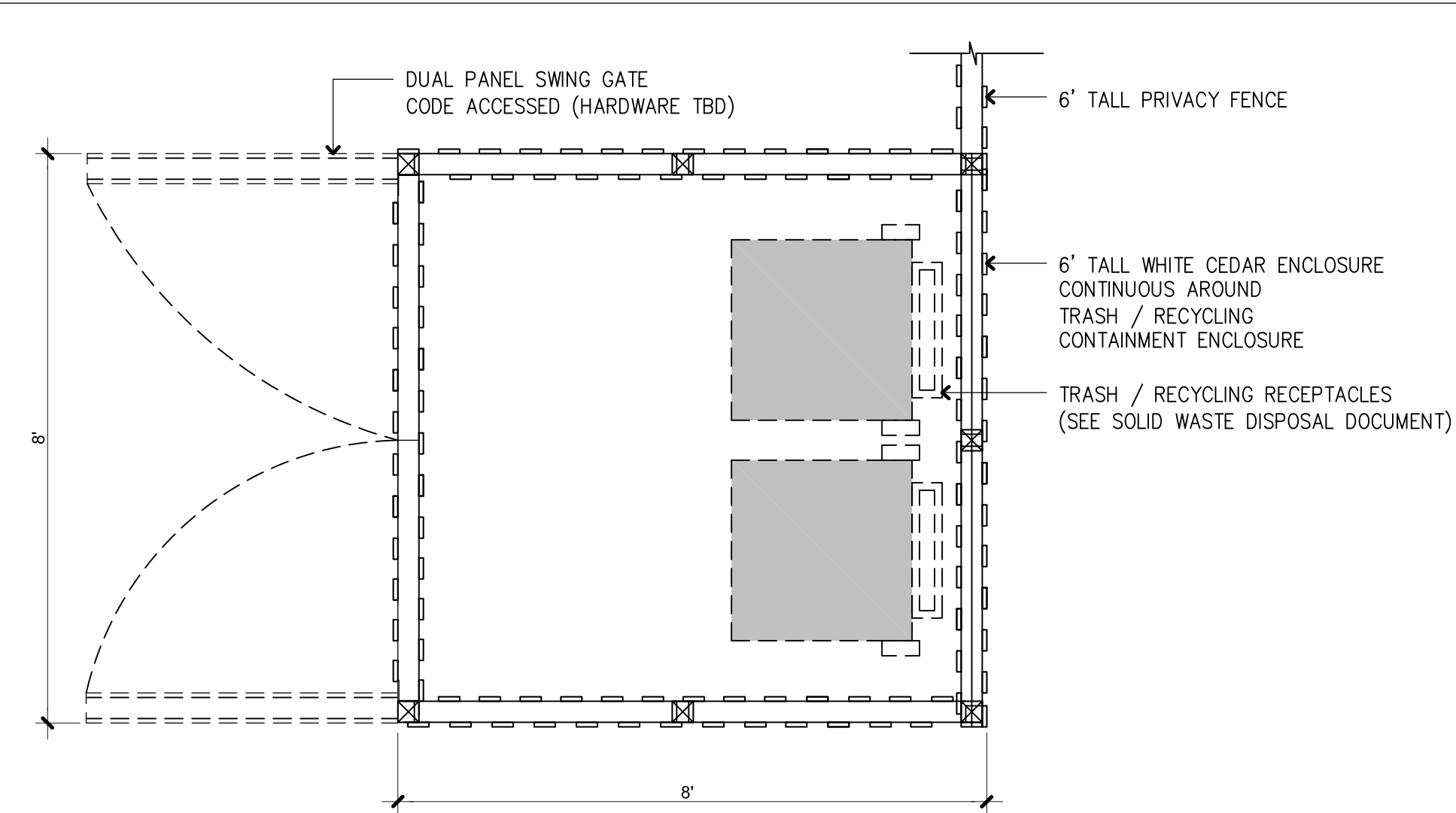




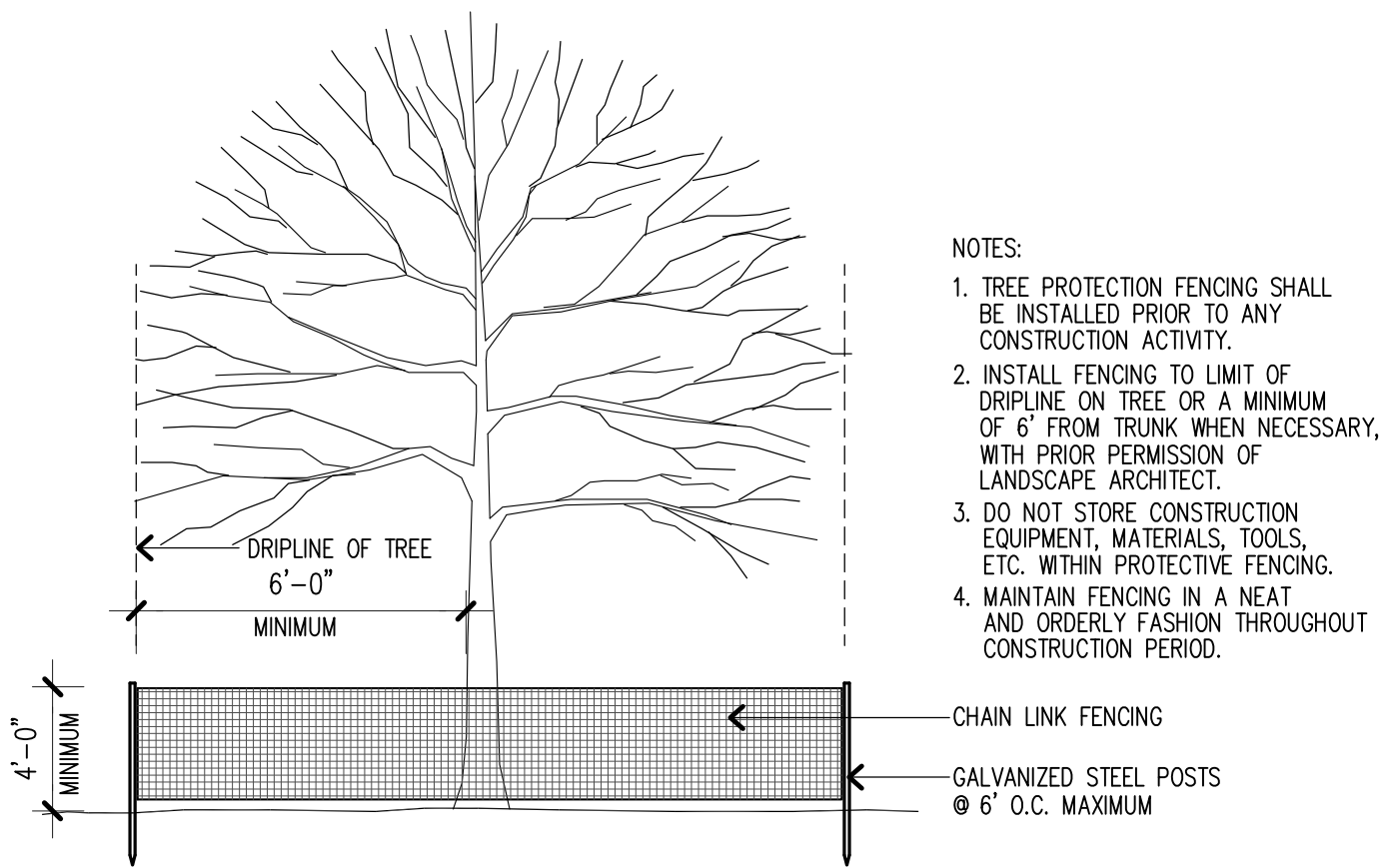
1 RECONSTRUCTED BRICK DRIVEWAY APRON LAYOUT
L3.0 NOT TO SCALE



2 GRANITE CURBING
L3.0 SCALE: 1-1/2" = 1'-0"

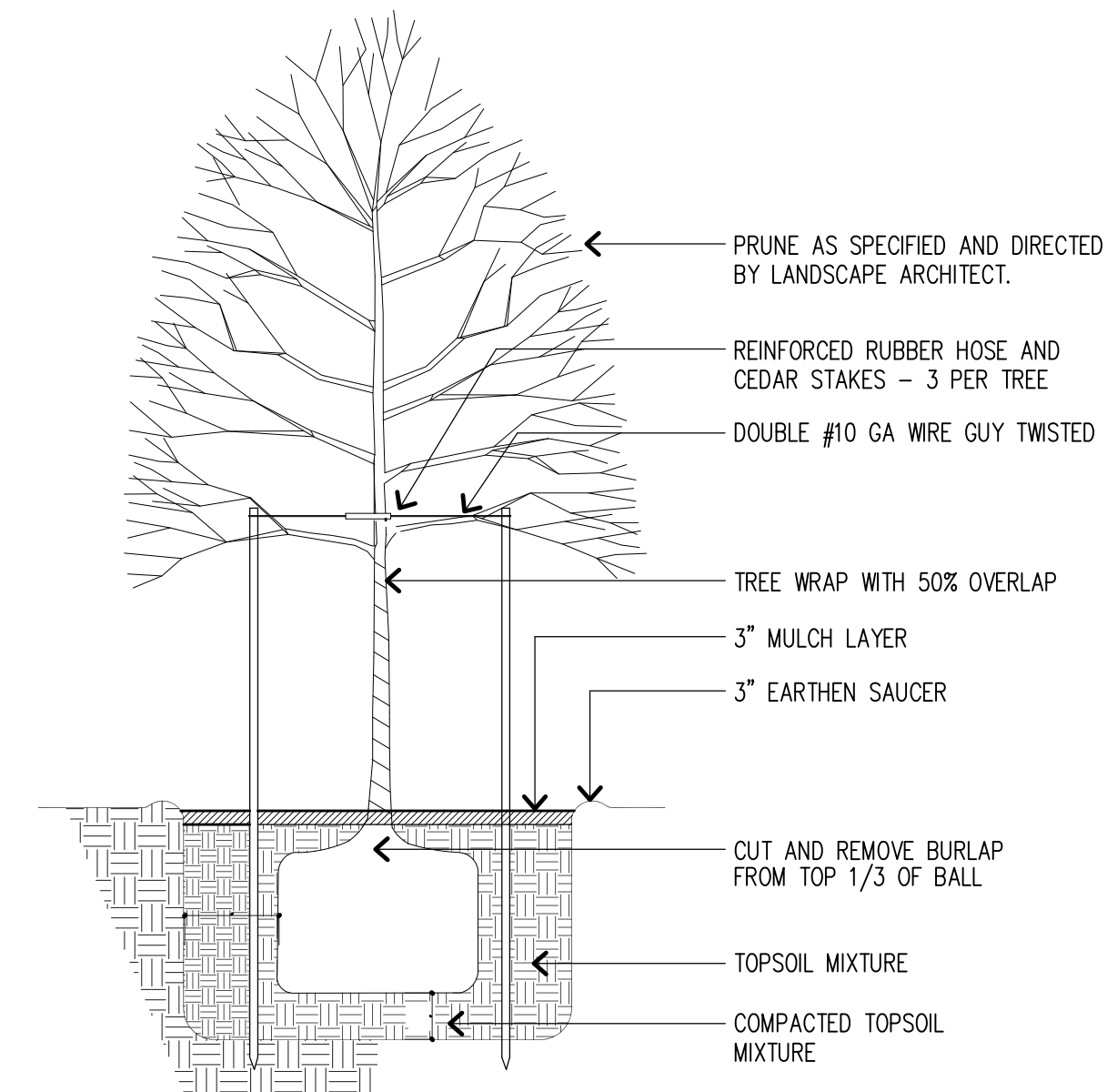


3 SCREENED GARBAGE / RECYCLE ENCLOSURE: PLAN
L3.0 SCALE: 1/2" = 1'

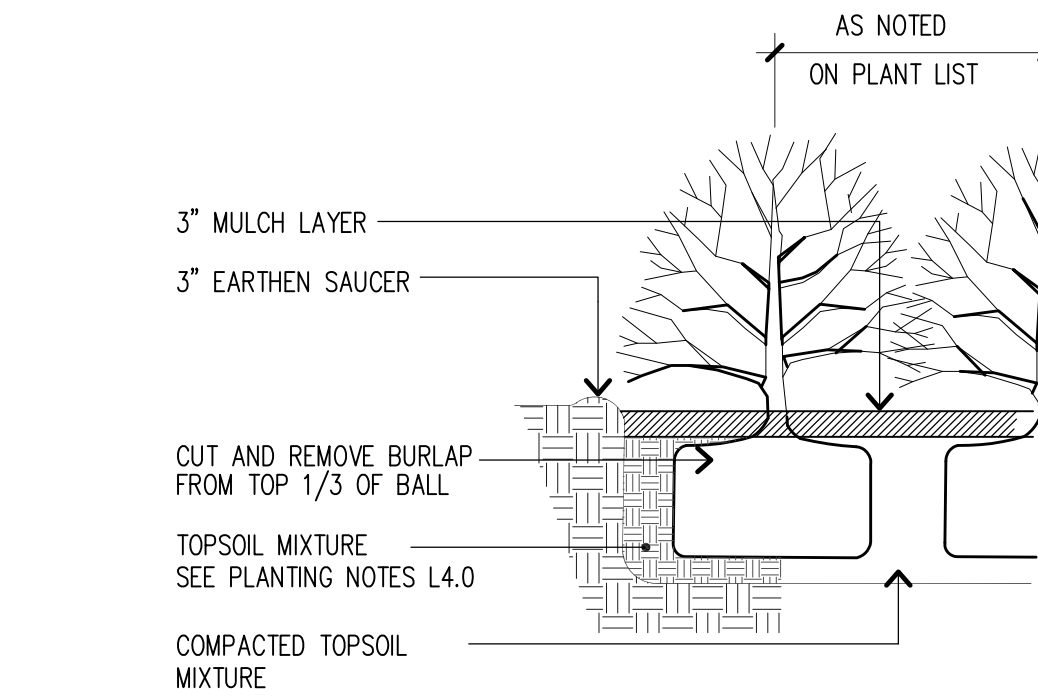


- NOTES:
- TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY.
 - INSTALL FENCING TO LIMIT OF DRIPLINE ON TREE OR A MINIMUM OF 6' FROM TRUNK WHEN NECESSARY, WITH PRIOR PERMISSION OF LANDSCAPE ARCHITECT.
 - DO NOT STORE CONSTRUCTION EQUIPMENT, MATERIALS, TOOLS, ETC. WITHIN PROTECTIVE FENCING.
 - MAINTAIN FENCING IN A NEAT AND ORDERLY FASHION THROUGHOUT CONSTRUCTION PERIOD.

4 TREE PROTECTION
L3.0 NOT TO SCALE



5 TREE PLANTING DETAIL
L3.0 NOT TO SCALE



6 SHRUB PLANTING DETAIL
L3.0 NOT TO SCALE

PROJECT:
121 YORK ST.
PORTLAND, MAINE

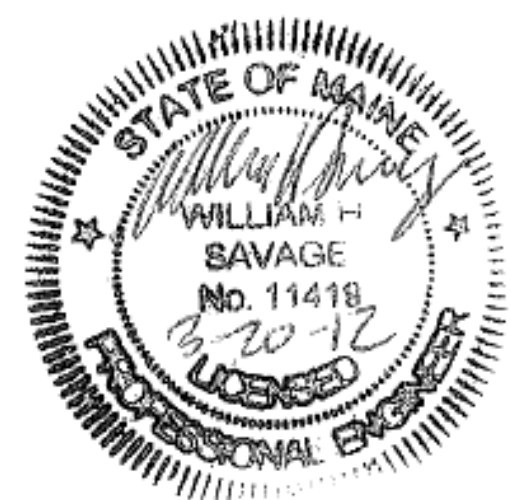
CLIENT:
HARBORVIEW DEVELOPMENT LLC.
DBA, RED FERN PROPERTIES

ISSUE: PERMIT SET
DATE: MARCH 20, 2012
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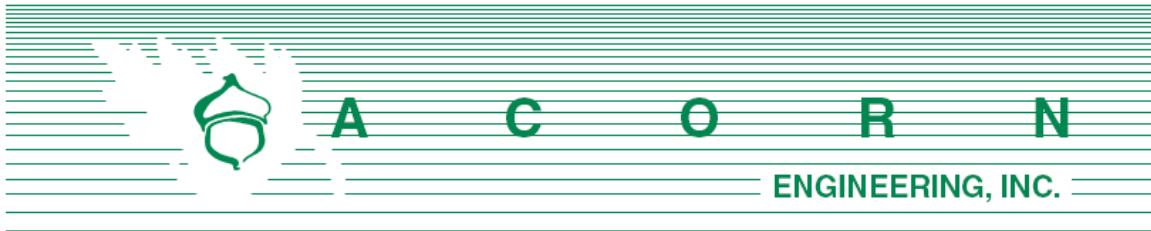
TITLE:
LANDSCAPE DETAILS

SHEET:

L3.0



SOREN DENIORD DESIGN STUDIO
43 WELLWOOD RD.
PORTLAND, ME 04103
1-207-400-2450
soren@sorendenior.com



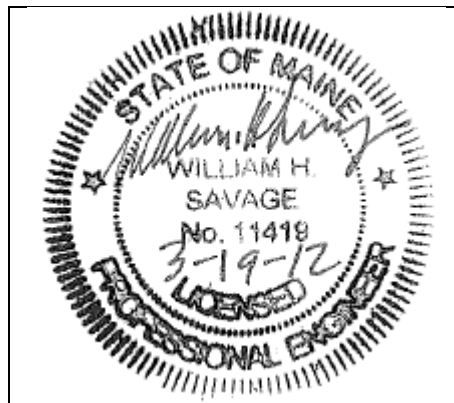
POST CONSTRUCTION - STORMWATER INSPECTION & MAINTENANCE PLAN

Prepared For:

**Harborview Development, LLC
P.O. Box 8816
Portland, Maine 04104**

Prepared By:

**Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104**



March 2012

RESPONSIBLE PARTY

The owner, Harborview Development, LLC, and or their successor shall be responsible for contracting with a qualified stormwater professional to implement the Inspection and Maintenance Plan. The qualified stormwater professional shall maintain a stormwater log (report) summarizing inspections, maintenance, and corrective action taken. The Qualified Stormwater Professional shall annually submit the Stormwater Log to the Department of Public Services prior to June 30th.

The following is an example of a qualified stormwater professional that the homeowners association may contract through.

Organization: Will Savage, PE - Acorn Engineering, Inc
Phone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #11419
- Maine DEP - Certified in Maintenance & Inspection of Stormwater BMP's Cert #14
- Certified Erosion, Sediment and Storm Water Inspector (CESSWI) Cert #0293
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #4620

The inspection and maintenance criteria based upon the Maine DEP - Stormwater Management for Maine, Volume III: BMPs Technical Design Manual. Refer to the Grading and Drainage Plan for the location of the BMP's

PURPOSE

This Inspection and Maintenance Plan has been individually tailored to this parcel's stormwater infrastructure, site characteristics, and their respective opportunities and limitations related to reducing the pollutant load on the receiving watershed. The maintenance of a parcel's impervious surfaces and stormwater infrastructure is critical to extending the long term performance and effectiveness of Best Management Practices (BMP's). The Inspection and Maintenance Plan represents the parcel's minimum activities to meet the permit requirements. The parcel shall still be subject to any applicable Civil Site Plans, Permit Applications, Erosion and Sedimentation Control Plans Reports, Stormwater Management Plans, Inspection and Maintenance Manuals, and all Municipal, State, and Federal rules.



OPERATION AND MAINTENANCE ACTIVITY

Underdrained Subsurface Sand Filter:

The maintenance of the underdrained subsurface sand filter shall be in accordance with the following activities identified below and the Stormwater Drainage System Maintenance Agreement included within Stormwater Report, Attachment F.

- The system should be inspected after every major storm in the first few months to ensure proper function. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining within 24 hours to 36 hours.
- Inspect Outlet Control Structures (OCS) to ensure they are in good working order and that the orifice and trash racks are unobstructed from trash and debris.
- Inspect and maintain the StormTech Isolator Row in accordance with the attached proprietary Operation and Maintenance Plan.

Sweeping:

Annual sweeping of the parking lot following the snow melt for accumulated winter sand, if necessary. Appropriately dispose of all collected material.

Storm Drains:

The storm drain shall be annually inspected for the presence of accumulated sediment or debris any sediment shall be removed as required.

- The equipment shall meet the following minimum specifications; power jet and water source for washing down the storm drain, vacuum attachment for catch basin cleaning, and a liquid handling method to dewater the material.
- Inspect and legally dispose of accumulated sediment and debris within the storm drains between basins.

Catch Basins:

Catch basins shall be inspected to confirm the structure is operating properly.

- Inspect the catch basin to confirm the structure is operating properly.
- Sediment shall be removed when accumulation is within 6 inches of the outfall pipe invert. Legally dispose of accumulated sediment and debris from the bottom of the basin, inlet grates, and inflow channels to the basin.
- If the basin outlet is designed with a hood to trap floatable materials (e.g. Snout), check to ensure watertight seal is working. Remove floating debris and hydrocarbons (e.g. using absorbent pads) at the time of the inspection.
- Remove and replace any hydrocarbon absorptive pads.
- Remove and replace any sediment sacks.

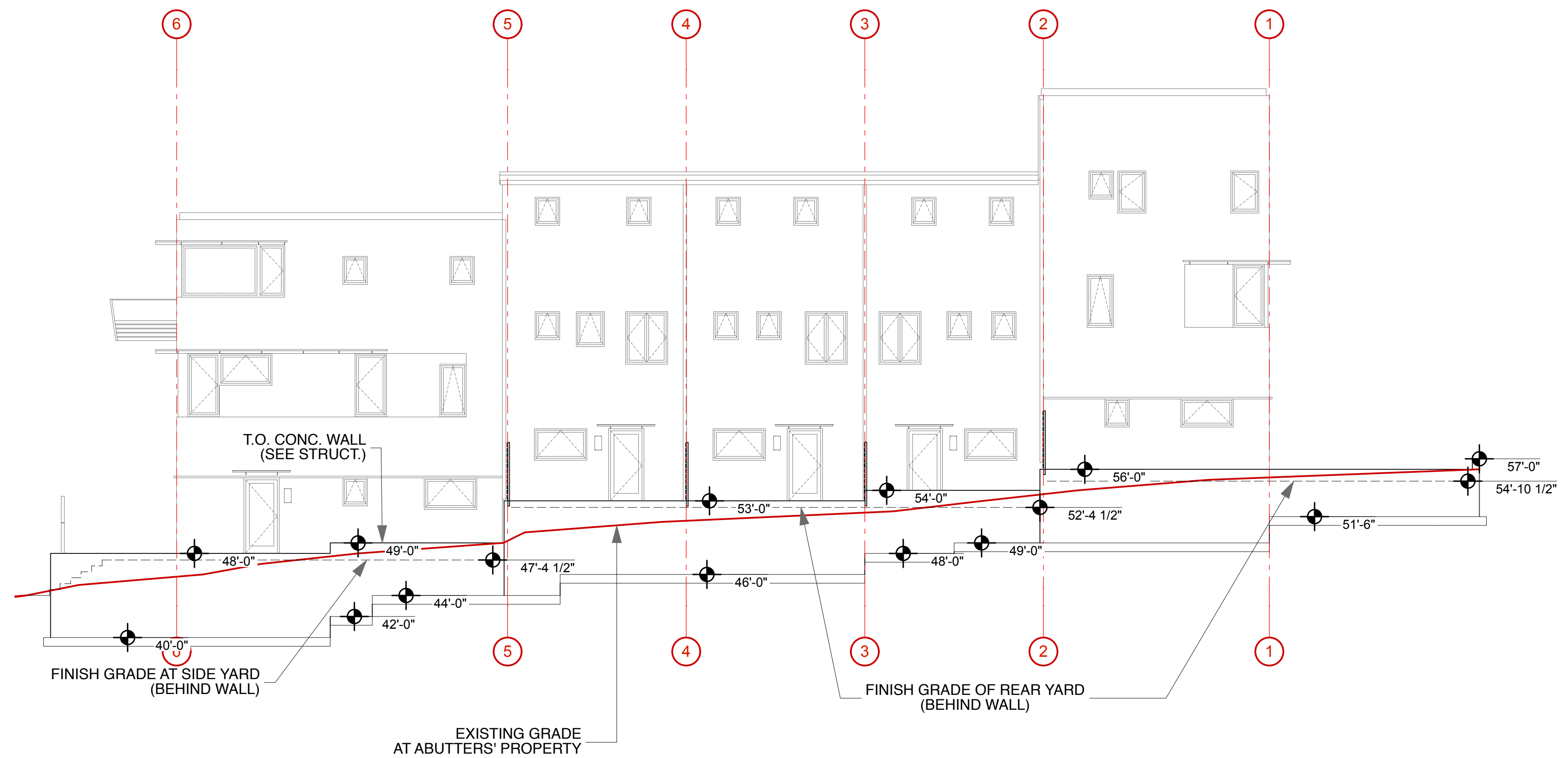
Vegetated Areas:

Inspect all vegetated slopes and embankments on an annual basis. Replant bare areas with sparse growth (<90% coverage) and armor areas showing signs of rill erosion with an appropriate lining.

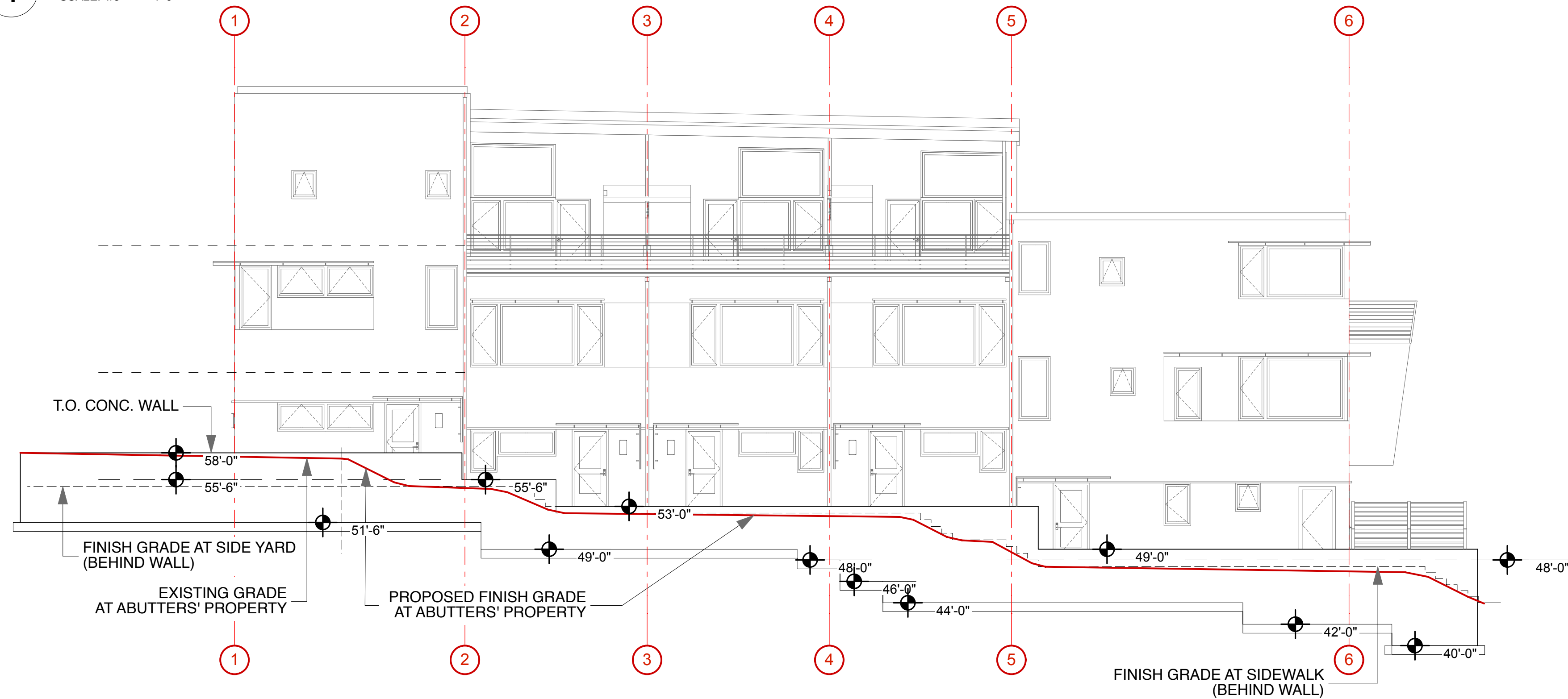
INSPECTION AND MAINTENANCE TABLE

Inspection and Maintenance Frequency	Spring or Yearly	Fall
Underdrained subsurface sand filter	X	X
Sweeping	X	
Storm Drains	X	
Catch Basins	X	
Vegetated Areas	X	

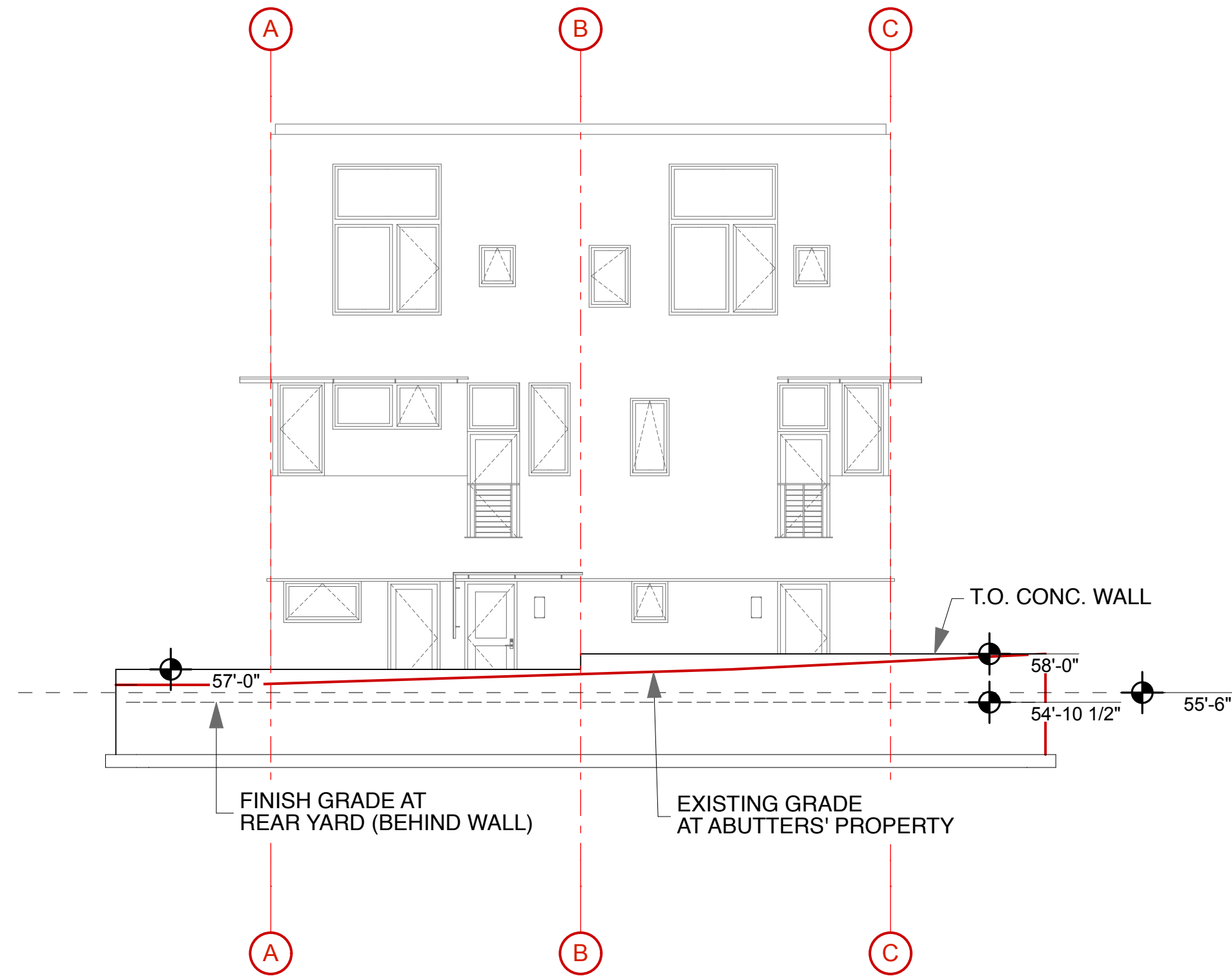




1 NORTHEAST RETAINING ELEVATION
SCALE: 1/8" = 1'-0"



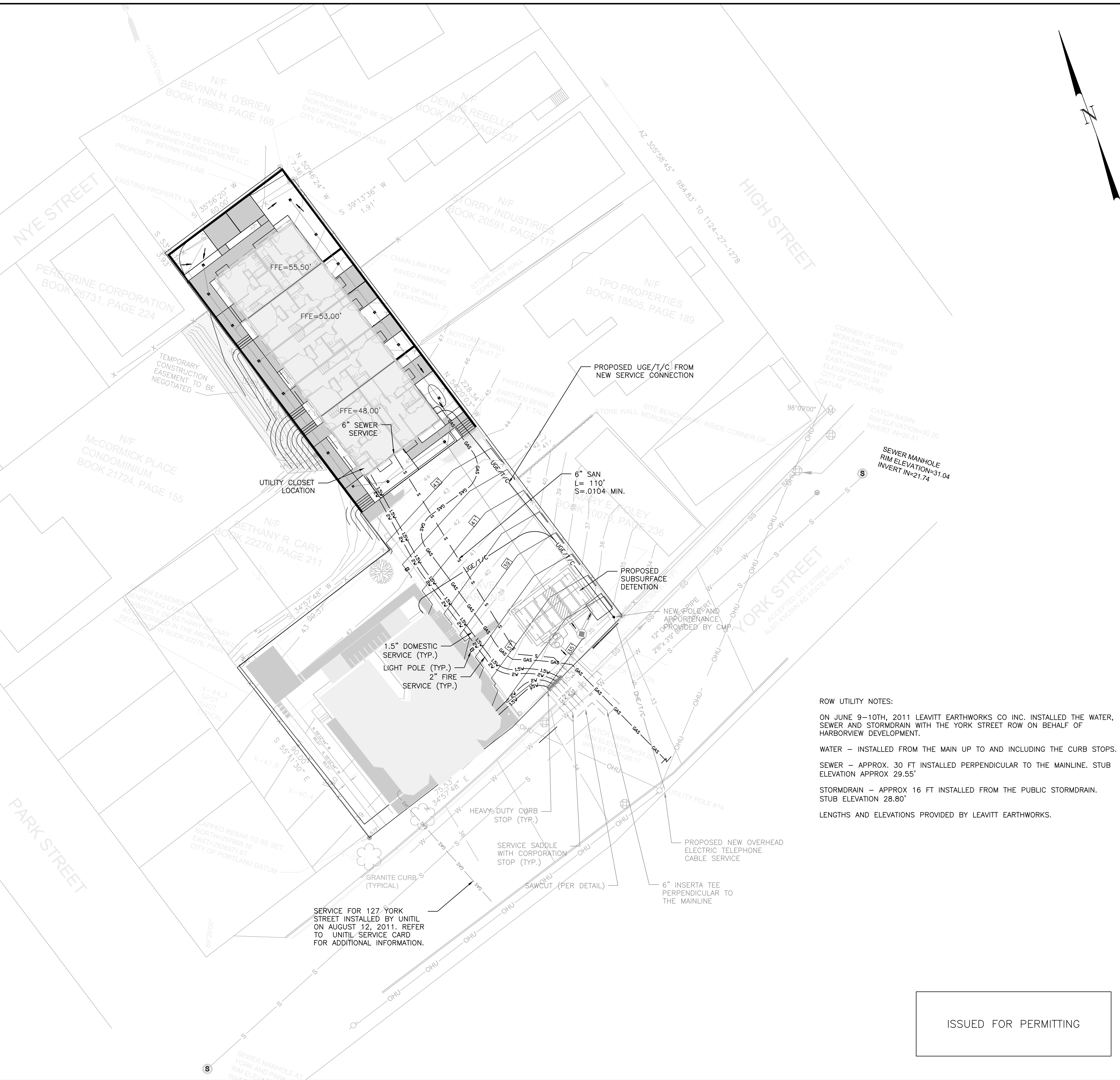
2 SOUTHWEST RETAINING ELEVATION
SCALE: 1/8" = 1'-0"



3 NORTHWEST RETAINING ELEVATION
SCALE: 1/8" = 1'-0"

FOR PERMIT

- NOTES:
1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED UPON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TEST PIT TO DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES TO COORDINATE WITH THE PROPOSED CONNECTIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE CIVIL ENGINEER FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.
 2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
 3. DO NOT SCALE THESE DRAWINGS. ANY DISCREPANCIES BETWEEN DRAWINGS, DETAILS, SPECIFICATIONS, AND THE FIELD CONDITION SHALL BE IMMEDIATELY REPORTED TO THE CIVIL ENGINEER FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.
 4. COORDINATE ALL UTILITY ENTRY POINTS WITH ARCHITECTURAL PLANS PRIOR TO START OF CONSTRUCTION.
 5. COORDINATE EXIT POINT FOR SECONDARY ELECTRIC SERVICE WITH ARCHITECT/ELECTRIC ENGINEER. SECONDARY ELECTRIC LINES NOT DEPICTED AT THIS TIME WITHIN THE UTILITY PLAN.
 6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO OBTAIN ALL NECESSARY PERMITS FOR THE INSTALLATION OF THE UTILITIES WITHIN THE PUBLIC WAY. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN TO THE CITY IN ACCORDANCE WITH THE CITY OF PORTLAND TECHNICAL MANUAL PRIOR TO ANY WORK.
 7. THE DEPTH OF UTILITY INSTALLATION SHALL BE BASED UPON THE PROPOSED GRADES AND NOT THE EXISTING.
 8. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COMPLETE THE INSTALLATION OF THE WATER SERVICE IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT'S STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL NOTIFY THE DISTRICT 72 HOURS PRIOR TO DISRUPTING WATER SERVICE. PORTLAND WATER DISTRICT CONTACT: RICO SPUGNARDI, PE.
 9. ALL SEWER UTILITY MATERIALS, INSTALLATION METHODS, INSPECTIONS AND TESTING SHALL CONFORM TO THE CITY OF PORTLAND REQUIREMENTS. PORTLAND PUBLIC SERVICES CONTACT: DAVID MARGOLIS-PINEO (207) 874-8850
 10. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE ONSITE NATURAL GAS SUPPLY SYSTEM WITH UNTIL. THE GAS COMPANY SHALL BE RESPONSIBLE FOR THE INSTALLATION OF THE GAS LINE, APPURTENANCES AND ANY TEMPORARY STUB. CONTACT: KELLY FOWLER (207) 541-2505.
 11. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF OVERHEAD AND UNDERGROUND TELEPHONE AND CABLE UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUITS. TIME WARNER CONTACT: MARK PELLETIER (207) 253-2324
 12. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OR RELOCATION OF THE OVERHEAD AND UNDERGROUND ELECTRIC WITH CENTRAL MAINE POWER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TOTAL INSTALLATION OF THE UNDERGROUND SERVICE INCLUDING BUT NOT LIMITED TO, ALL TRENCHING, CONDUIT, PRIMARY AND SECONDARY CABLES, TERMINATORS, CONNECTORS, PULL WIRES, SPARE CONDUIT, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COST TO RELOCATE ANY OVERHEAD ELECTRIC SERVICE. CENTRAL MAINE POWER CONTACT JAMIE COUGH (207) 842-2367.
 13. THE CONTRACTOR SHALL PROVIDE THE CIVIL ENGINEER WITH THE LOCATION, ELEVATION, AND TYPE OF MATERIAL OF ANY UTILITY STUBS.
 14. SITE LIGHTING REFER TO APEX LIGHTING SOLUTIONS SITE LIGHTING PLAN SHEET SL-AB DATED 6-22-11 FOR BOLLARD, POLE, OR WALL LIGHT INFORMATION. CONTACT THE ARCHITECT FOR ADDITIONAL INFORMATION.



ROW UTILITY NOTES:

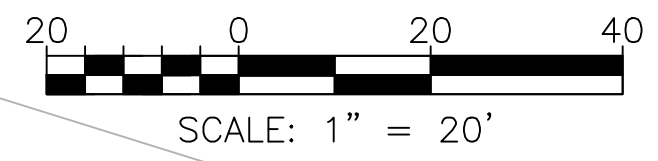
ON JUNE 9-10TH, 2011 LEAVITT EARTHWORKS CO INC. INSTALLED THE WATER, SEWER AND STORMDRAIN WITH THE YORK STREET ROW ON BEHALF OF HARBORVIEW DEVELOPMENT.

WATER - INSTALLED FROM THE MAIN UP TO AND INCLUDING THE CURB STOPS.

SEWER - APPROX. 30 FT INSTALLED PERPENDICULAR TO THE MAINLINE. STUB ELEVATION APPROX 29.55'

STORMDRAIN - APPROX 16 FT INSTALLED FROM THE PUBLIC STORMDRAIN. STUB ELEVATION 28.80'

LENGTHS AND ELEVATIONS PROVIDED BY LEAVITT EARTHWORKS.



ISSUED FOR PERMITTING

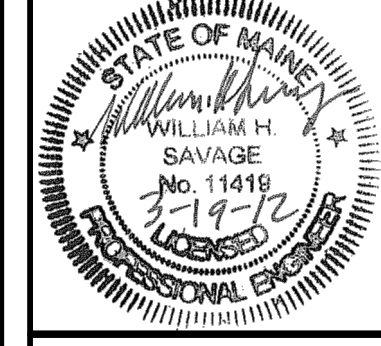
ISSUED FOR	BY	DATE
ABILITY TO SERVE	WHS	03/14/11
PRELIMINARY	WHS	02/21/11
FINAL SITE/SUB	WHS	02/06/11
COMMENT RESPONSE	WHS	02/17/11
COMMENT RESPONSE	WHS	03/12/11
REVISION	REV.	DATE
UTILITIES	WHS	02/21/11

UTILITY PLAN
 HARBORVIEW DEVELOPMENT, LLC
 HARBORVIEW DEVELOPMENT, LLC
 PO BOX 8816, PORTLAND, MAINE 04104

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY CHANGES, CORRECTIONS, OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE: ACORNPLAN
 DATE: 03/14/11
 JN: 1035
 SCALE: 1"=20'
 DESIGNED BY: WHS
 DRAWN BY: WHS
 CHECKED BY: HPS



DRAWING NO.
C-1

NOTES:

GENERAL:

1. REFER TO THE PLANS TITLED, FINAL SITE PLAN AND LANDSCAPE DETAILS PREPARED BY SOREN DENIORD DESIGN STUDIO FOR INFORMATION REGARDING THE LOCATION, DIMENSIONS, AND MATERIALS OF THE PROPOSED VEHICLE AND PEDESTRIAN ACCESS WAYS, AND BICYCLE ACCESS WAYS, WITH CORRESPONDING CURBING. REFER TO THE EXISTING CONDITIONS PLAN BY OCEAN PARK LAND SURVEYING, LLC FOR EXISTING SITE FEATURES. THE CONTRACTOR SHALL NOTIFY ACORN ENGINEERING IF ANY CONFLICTS OR DISCREPANCIES EXIST.

2. THE CONTRACTOR SHALL VERIFY WITH A PROFESSIONAL LAND SURVEYOR THAT THE LOCATION OF ANY PROPOSED PERMANENT STRUCTURES ARE WITHIN THE PROPERTY LINE PRIOR TO CONSTRUCTION. THE CONTRACTORS SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SHORING BETWEEN THE PERMANENT STRUCTURE AND PROPERTY LINES DURING CONSTRUCTION.

GRADING AND DRAINAGE NOTES:

1. UNLESS OTHERWISE NOTED, ALL SANITARY SEWER, STORM SEWERS, CATCH BASIN DRAINS, OR UNDERDRAINS WITHIN THE CITY OF PORTLAND RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE CITY OF PORTLAND TECHNICAL MANUAL SECTION 2.5.2.

2. TOPSOIL STRIPPED FROM THE SITE THAT IS SUITABLE FOR REUSE AS LOAM SHALL BE STOCKPILED WITHIN THE PROPOSED LIMIT OF WORK AREA.

3. 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.

4. SPOT GRADES SHOWN ARE THE ELEVATIONS AT THE BOTTOM OF THE CURB. THE TOP OF THE CURB SHALL BE 0.50' OR 6" HIGHER WITHIN THE PROPERTY AND 7" ON THE STREET UNLESS OTHERWISE NOTED.

5. THE CONTRACTOR SHALL PROVIDE THE CIVIL ENGINEER WITH THE LOCATION, ELEVATION, AND TYPE OF MATERIAL OF ANY STORMWATER STUBS.

6. HARBORVIEW DEVELOPMENT, LLC SHALL BE RESPONSIBLE FOR OBTAINING ANY EASEMENT OR TEMPORARY CONSTRUCTION RIGHTS AS NECESSARY BY ADJACENT LAND OWNERS. THE CONTRACTOR SHALL NOT DISTURB ANY SOIL BEYOND THE PROPERTY LINE WITHOUT NOTIFYING AND OBTAINING SUCH EASEMENT OR TEMPORARY CONSTRUCTION RIGHT FROM HARBORVIEW DEVELOPMENT, LLC.

7. CURB ALONG THE EASTERN PARKING LOT PERIMETER MAY NOT HAVE SOIL FLUSH WITH THE TOP OF CURB DEPENDING UPON THE GRADES AT THE ADJACENT PROPERTY LINE.

EROSION CONTROL NOTES:

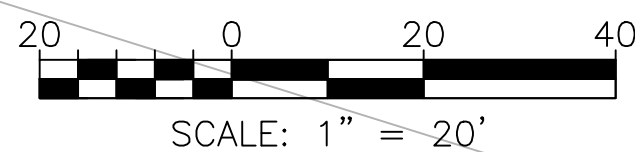
1. ALL LAND DISTURBING ACTIVITIES SHALL BE CONDUCTED IN SUCH A WAY TO LIMIT THE AMOUNT OF DISTURBED AREA AT ONE TIME TO THE EXTENT PRACTICABLE.

2. PRIOR TO THE START OF ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL APPLICABLE EROSION CONTROL DEVICES SUCH AS PERIMETER SILT FENCE, AND OTHER APPLICABLE MEASURES. IN THE EVENT THE CONTRACTOR IS NOT SURE A EROSION CONTROL MEASURE SHOULD BE IMPLEMENTED, THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD TO CONFIRM IMPLEMENTATION OF ANY EROSION CONTROL DEVICES.

3. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED, SEEDED AND MULCH SHALL BE APPLIED AS SOON AS POSSIBLE WITHIN 7 DAYS FOLLOWING THE COMPLETION OF ANY SOIL DISTURBANCE, AND PRIOR TO ANY STORM EVENT.

4. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED TO THE SATISFACTION OF THE CITY. THE CONTRACTOR SHALL REFERENCE THE APPROVED EROSION AND SEDIMENTATION CONTROL REPORT FOR TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES IN ADDITION TO THE PLAN SET. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE D.E.P.'S PERMIT CONDITIONS, FINDINGS OF FACT AND ORDER (IF ANY), AND THE CURRENT MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

5. ALL DISTURBED AREAS ARE TO RECEIVE A MINIMUM OF 4" OF TOPSOIL PRIOR TO PERMANENT SEEDING.



ISSUED FOR PERMITTING

ISSUED FOR	BY	DATE
PRELIMINARY	WHS	3/24/11
FINAL SITE/SUB.	WHS	02/21/11
COMMENT RESPONSE	WHS	02/21/11
COMMENT RESPONSE	WHS	02/21/11

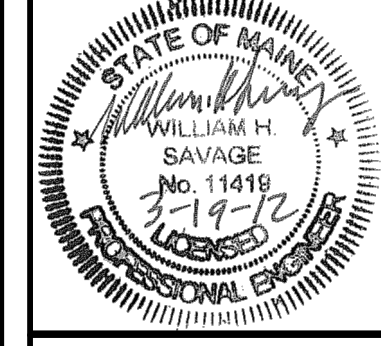
REVISION	REV.	DATE
UTILITIES	WHS	3/23/11

DRAWING NAME: GRADING, DRAINAGE, EROSION & SED. CONTROL PLAN
 PROJECT NAME: HARBORVIEW DEVELOPMENT, LLC
 CLIENT: HARBORVIEW DEVELOPMENT, LLC
 PO BOX 8816, PORTLAND, MAINE 04104

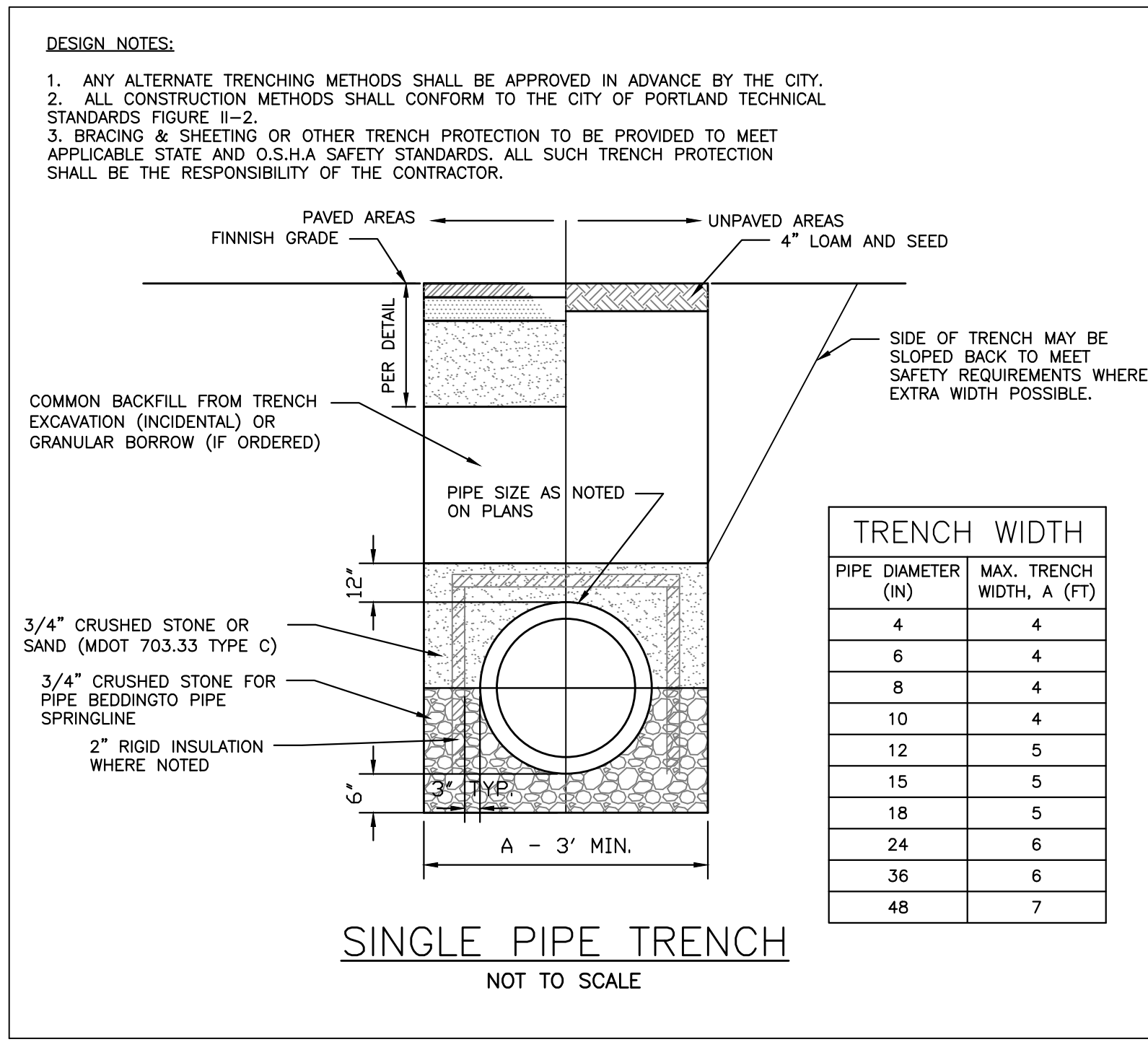
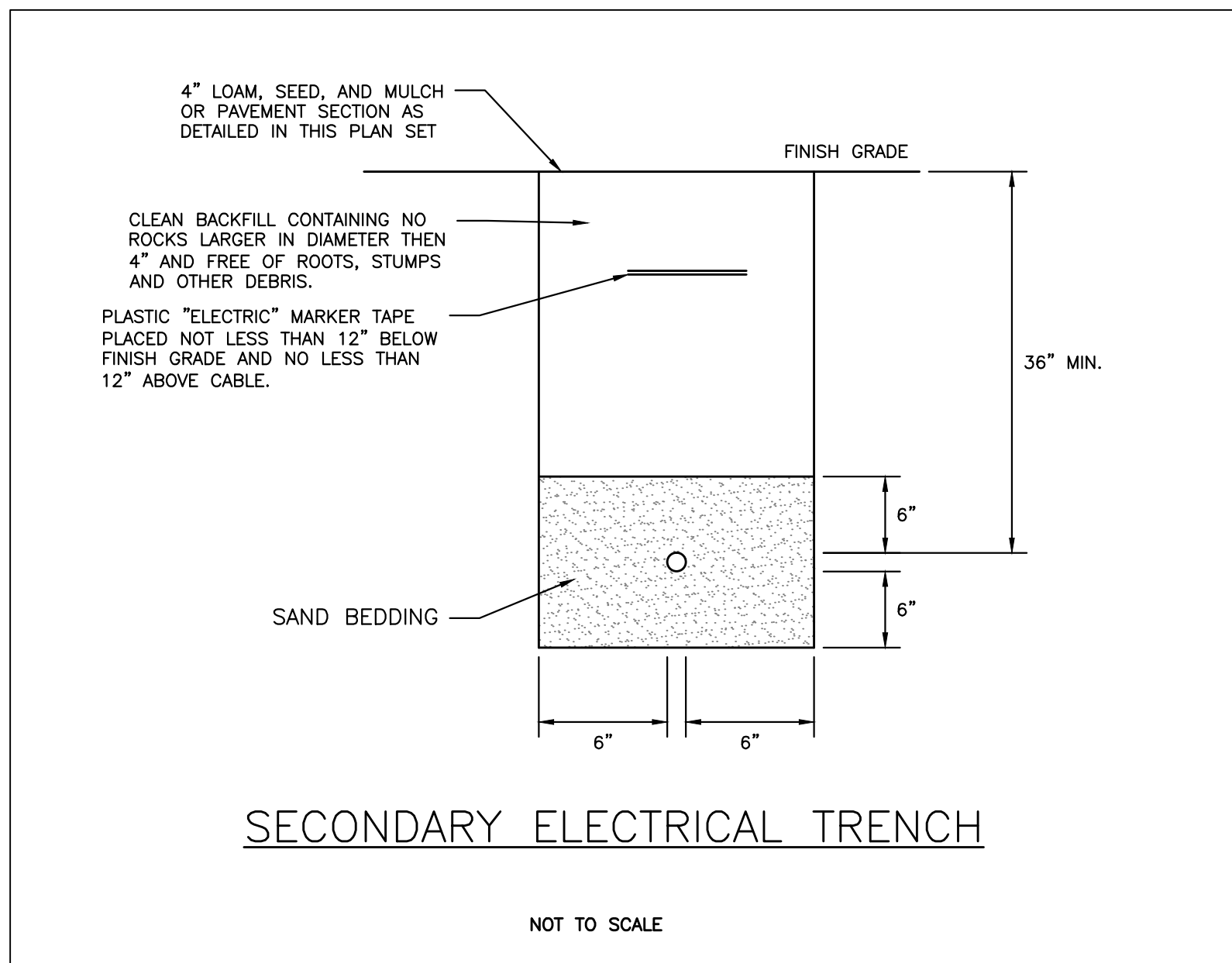
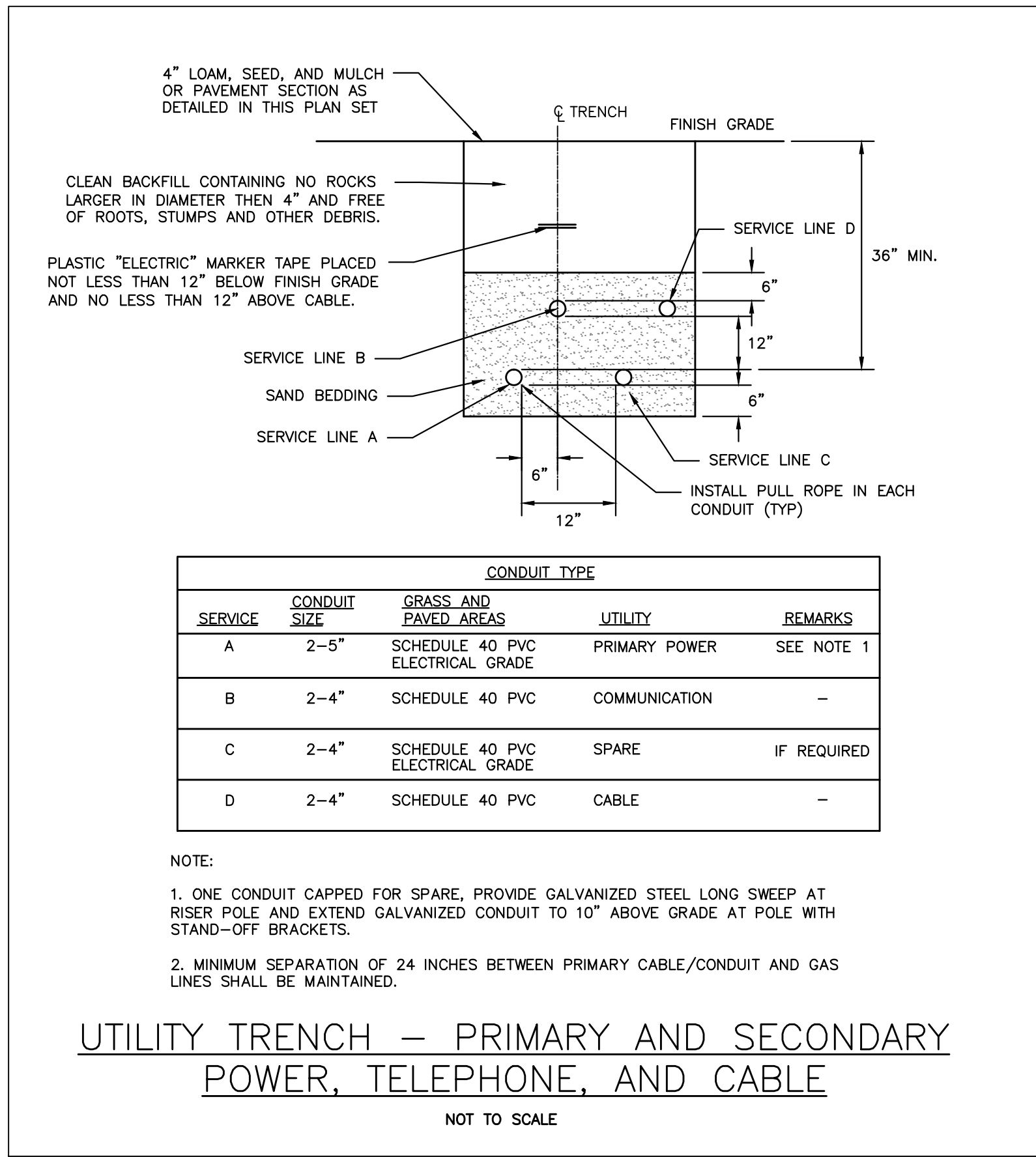
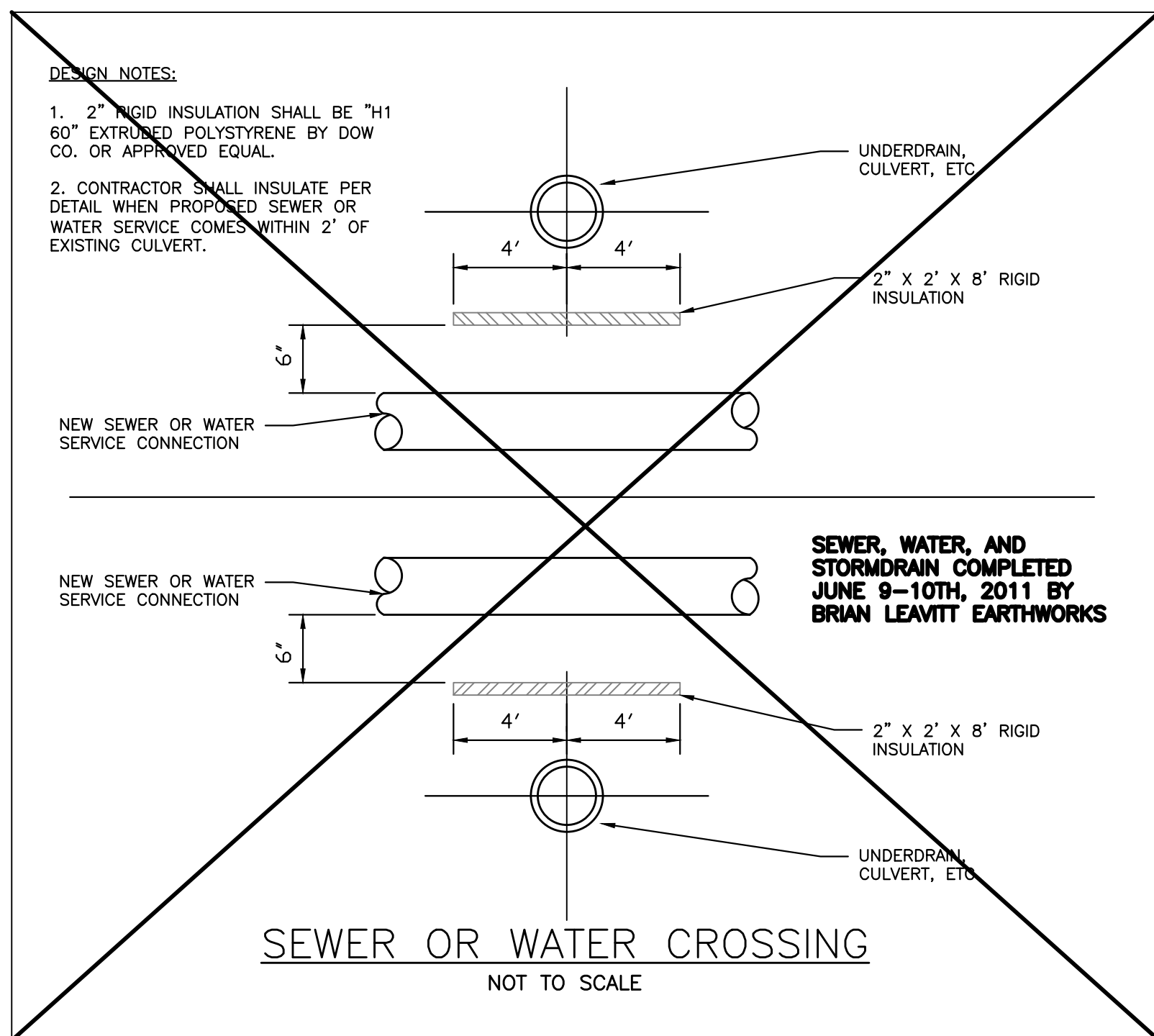
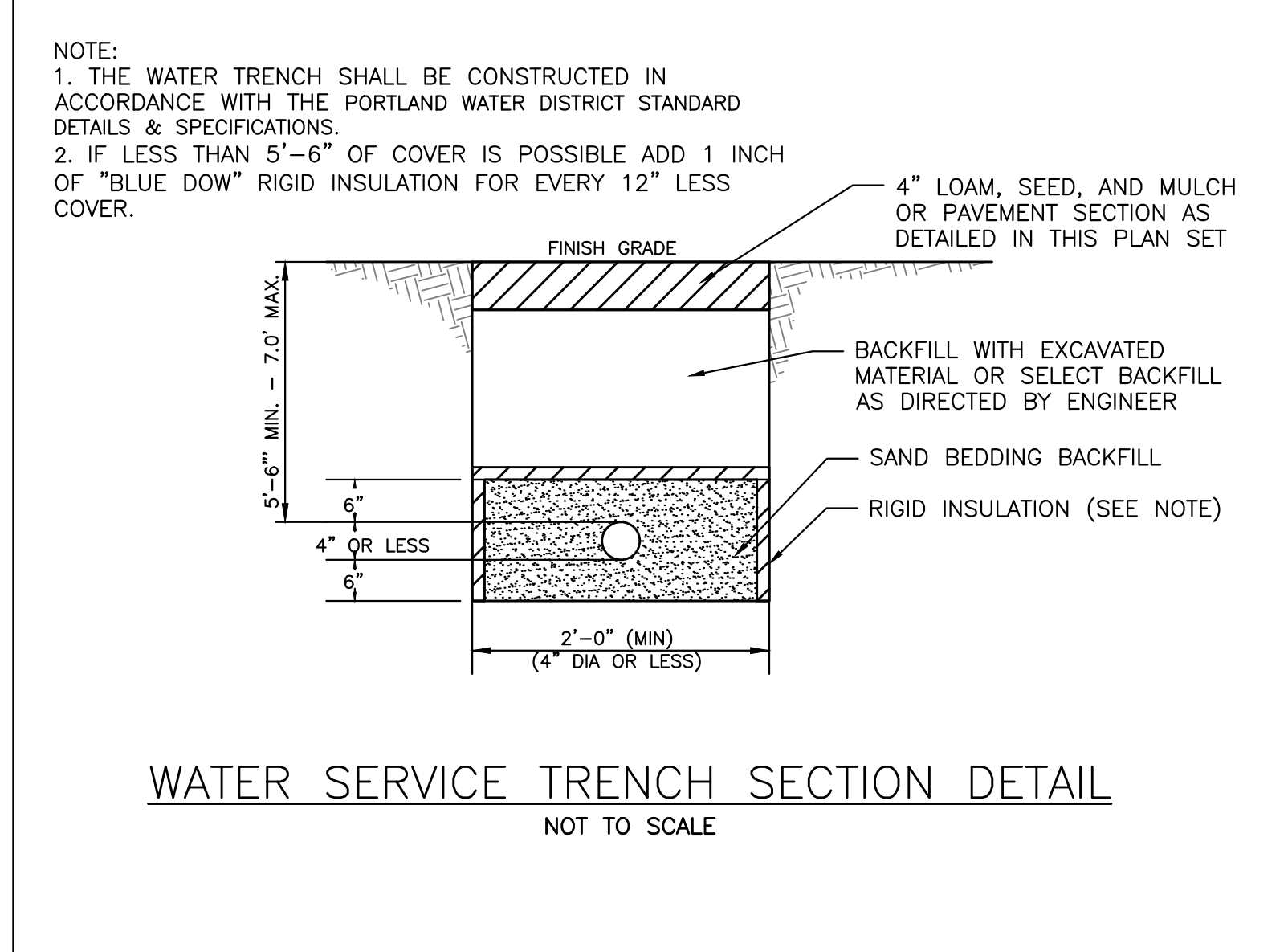
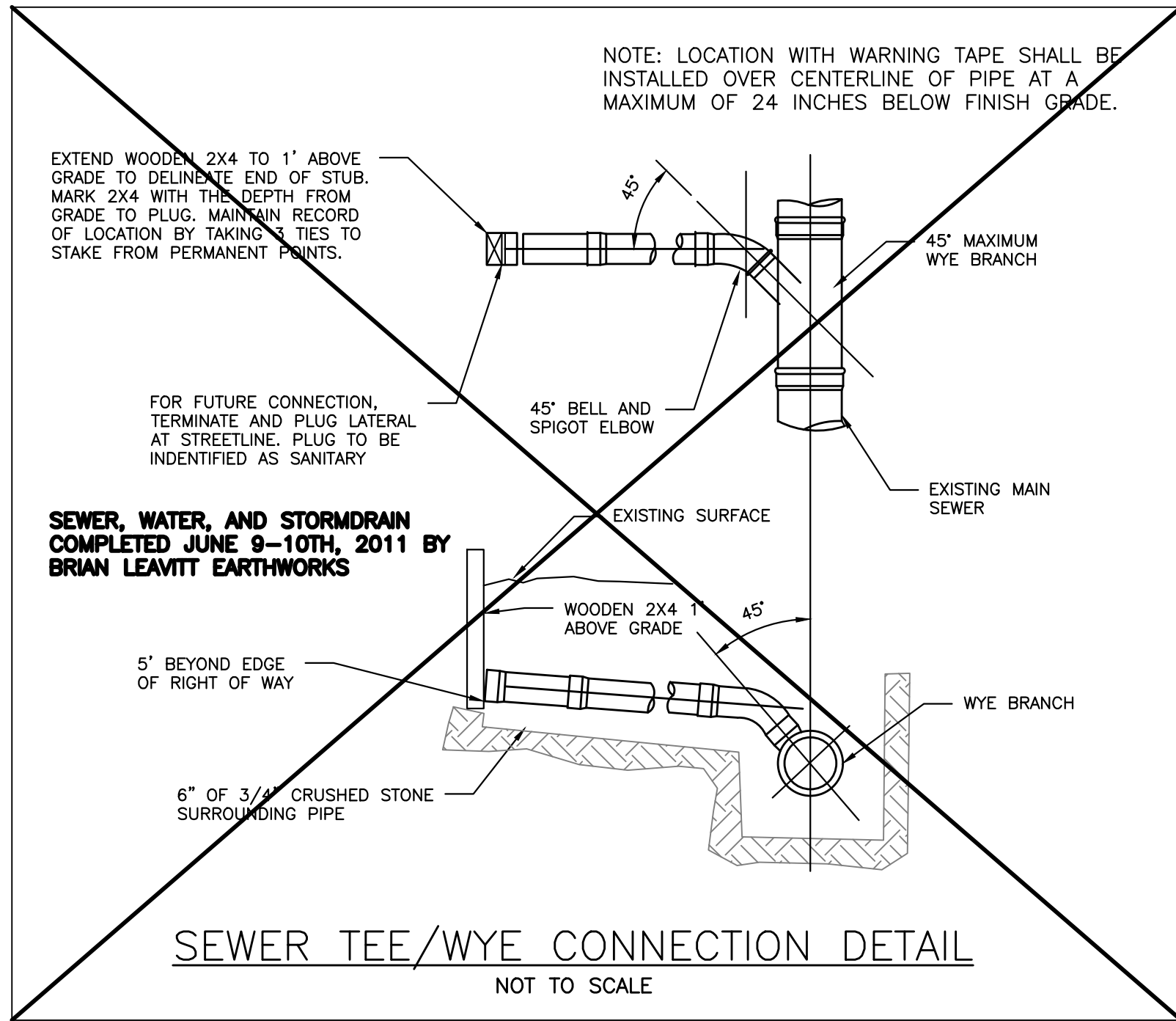
A C O R N
ENGINEERING, INC.

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FILE: ACORNPLAN
DATE: 03/14/11
JN: 1035
SCALE: 1" = 20'
DESIGNED BY: WHS
DRAWN BY: WHS
CHECKED BY: HPS



DRAWING NO.
C-2



ABBREVIATIONS:

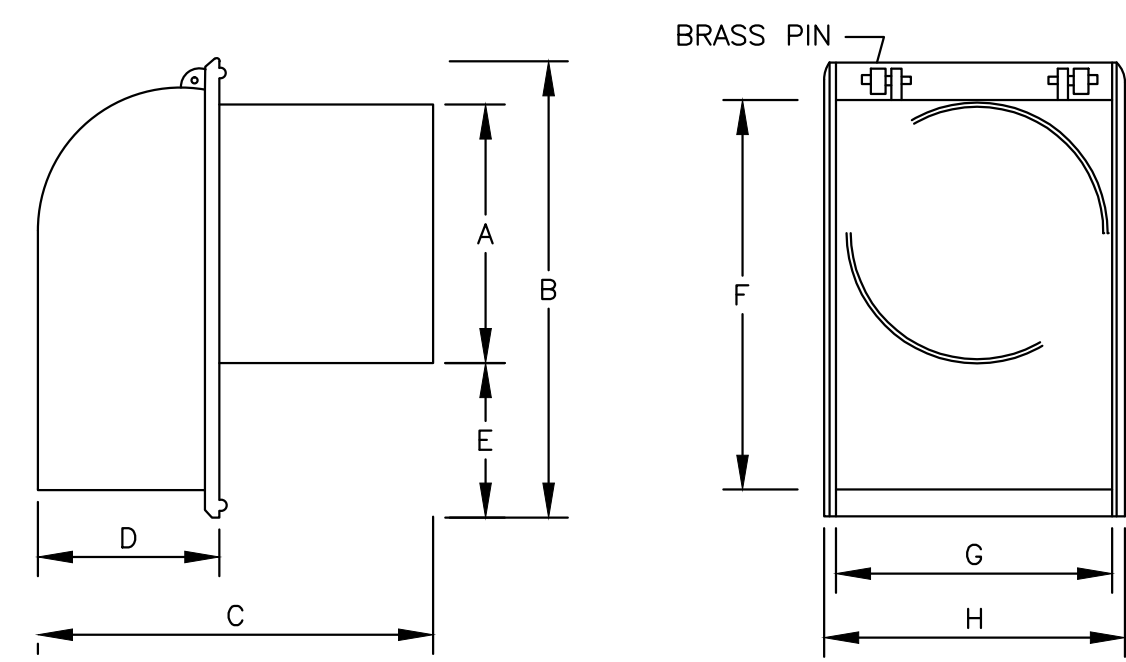
- PARTIAL LIST OF ABBREVIATIONS AND THERE CORRESPONDING MEANING. PLEASE CONTACT THE ENGINEER FOR ANY CLARIFICATION:
- EX. = EXISTING
 - PROP. = PROPOSED
 - PVC = POLYVINYL CHLORIDE
 - SDR = STANDARD DIMENSION RATIO
 - PE = PROFESSIONAL ENGINEER
 - PLS = PROFESSIONAL LAND SURVEYOR
 - TYP = TYPICAL
 - ELEV. = ELEVATION
 - INV. = INVERT
 - BOT. = BOTTOM
 - MAX. = MAXIMUM
 - CB = CATCH BASIN
 - ID = INNER DIMENSION
 - DIA. = DIAMETER
 - IN. = INCH
 - FT. = FEET
 - PSI = POUNDS PER SQUARE INCH

ISSUED FOR	BY
DATE	DATE
FINAL SITE/SUB.	WHS
COMMENT RESPONSE	WHS
DATE	02/21/11
COMMENT RESPONSE	WHS
DATE	03/16/11
REVISION	REV. DATE
UTILITIES	WHS
DATE	02/25/11
DRAWING NAME:	DETAIL SHEET 1
PROJECT NAME:	HARBORVIEW DEVELOPMENT, LLC
CLIENT:	HARBORVIEW DEVELOPMENT, LLC PO BOX 8816, PORTLAND, MAINE 04104
ENGINEERING, INC.	ACORN
FILE: ACORNPLAN	
DATE: 12/6/10	
JN: 1035	
SCALE: N/A	
DESIGNED BY: WHS	
DRAWN BY: WHS	
CHECKED BY: HPS	
STATE OF MAINE	
WILLIAM H. SAVAGE	
No. 11418	
12/19/10	
PROFESSIONAL ENGINEER	
DRAWING NO.	C-3

ISSUED FOR PERMITTING

NOTES:

1. INSTALL ETHERIDGE FOUNDRY CASCO TRAP IN ALL CATCH BASINS WITH A 12" OR 15" OUTLET PIPE.
2. THE CASCO TRAP IS AN ETHERIDGE STYLE DESIGNED TO ELIMINATE CEMENTING OF THE TRAP.
3. TO INSTALL, THE CASCO TRAP IS INSERTED INTO THE SEWER PIPE WITH THE HOOD DOWN.



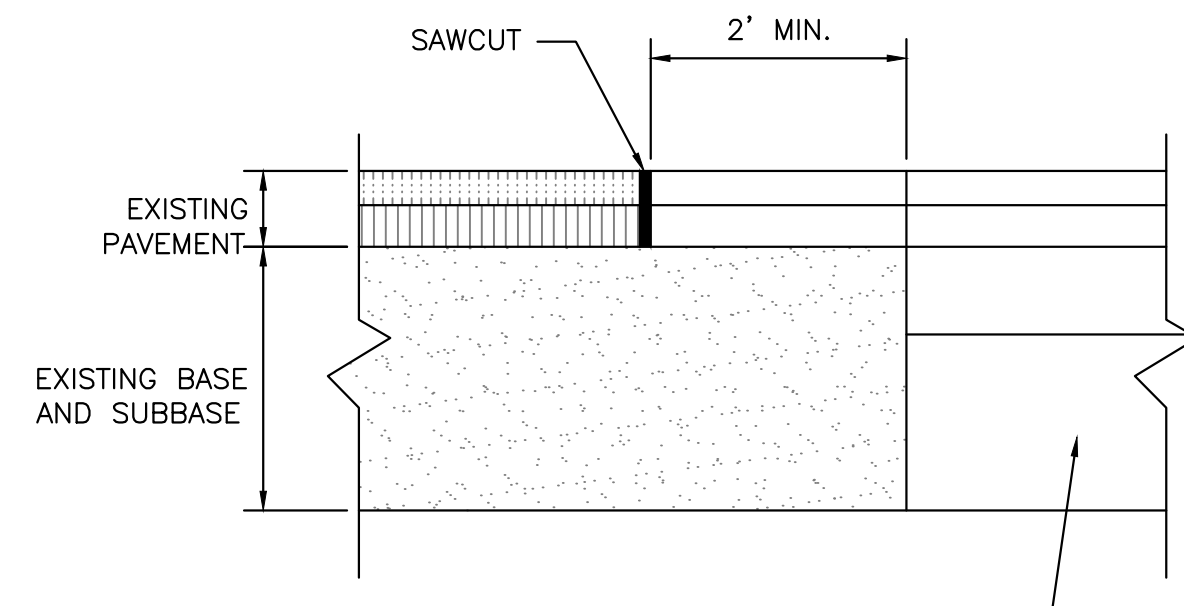
SIZE	A	B	C	D	E	F	G	H
6"	5 1/2	13 3/8	13 3/8	5 3/8	5 7/8	11 5/8	6 1/2	7 1/4
8"	7 1/2	15	15 3/8	5 1/2	5 3/8	13 3/4	8 3/4	9 3/8
10"	9 1/2	16	16 1/4	6	4 1/2	14 1/8	11 1/2	12 3/8
12"	11 1/2	17	17	8	3 1/2	17	12 1/2	13 3/8
15"	14 1/2	21 3/4	22 3/4	10 1/4	7	20 1/2	14 1/4	15 3/4

CASCO TRAP DETAIL

NOT TO SCALE

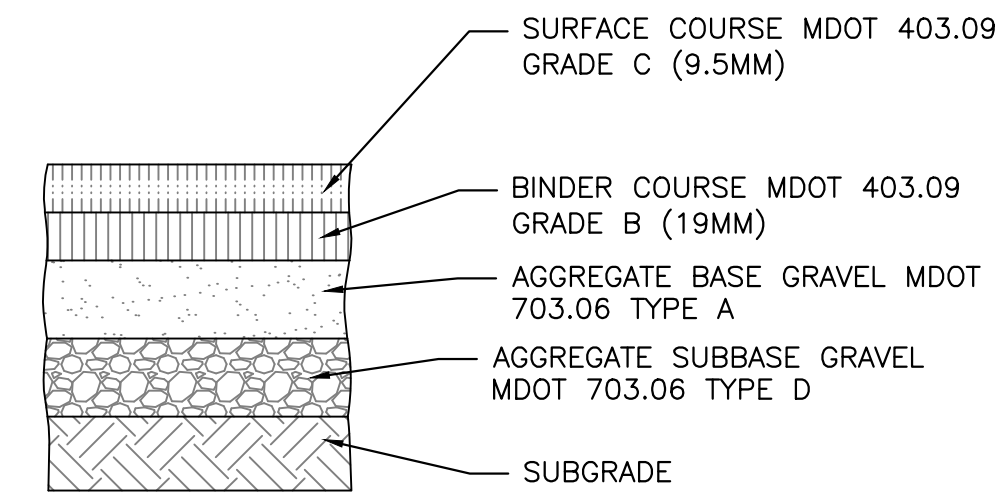
NOTES:

1. SAWCUT EXISTING PAVEMENT AND REMOVE 2' STRIP OF EXISTING PAVEMENT. APPLY BITUMINOUS TACK COAT PRIOR TO PLACEMENT OF NEW BITUMINOUS PAVEMENT.
2. THE NEW PAVEMENT SECTION SHALL MEET THE CITY OF PORTLAND ARTERIAL BITUMINOUS PAVEMENT SECTION DETAIL AT A MINIMUM OR THE EXISTING PAVEMENT AND AGGREGATE BASE AND SUBBASE DEPTH WHICHEVER IS GREATER.



PAVEMENT SAWCUT DETAIL

NOT TO SCALE

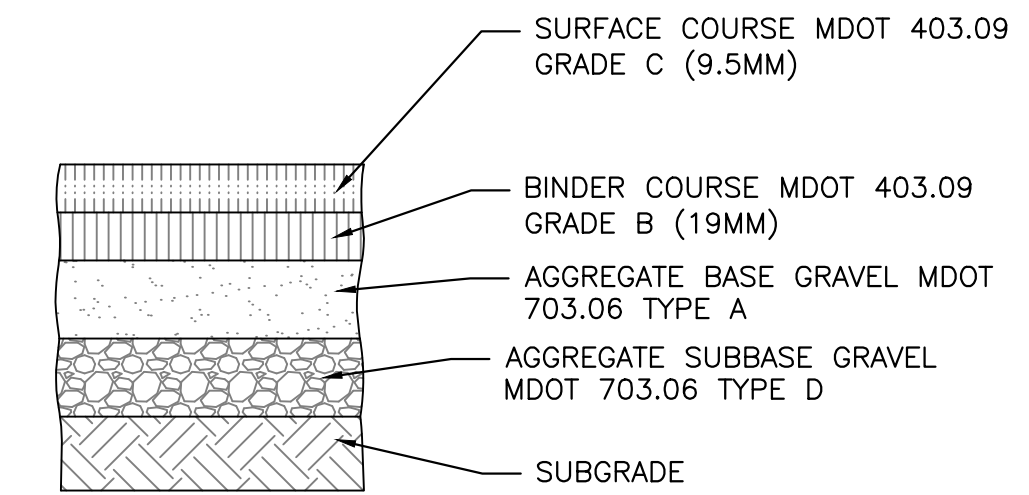


NOTE:
COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557

THICKNESS OF LAYERS	
STANDARD	LAYERS
2"	SURFACE COURSE MDOT 403.09 GRADE C (12.5mm)
3"	BINDER COURSE MDOT 403.09 GRADE B (19mm)
6"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B
18"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

CITY OF PORTLAND ARTERIAL BITUMINOUS PAVEMENT PROFILE

NOT TO SCALE



NOTE:
COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557

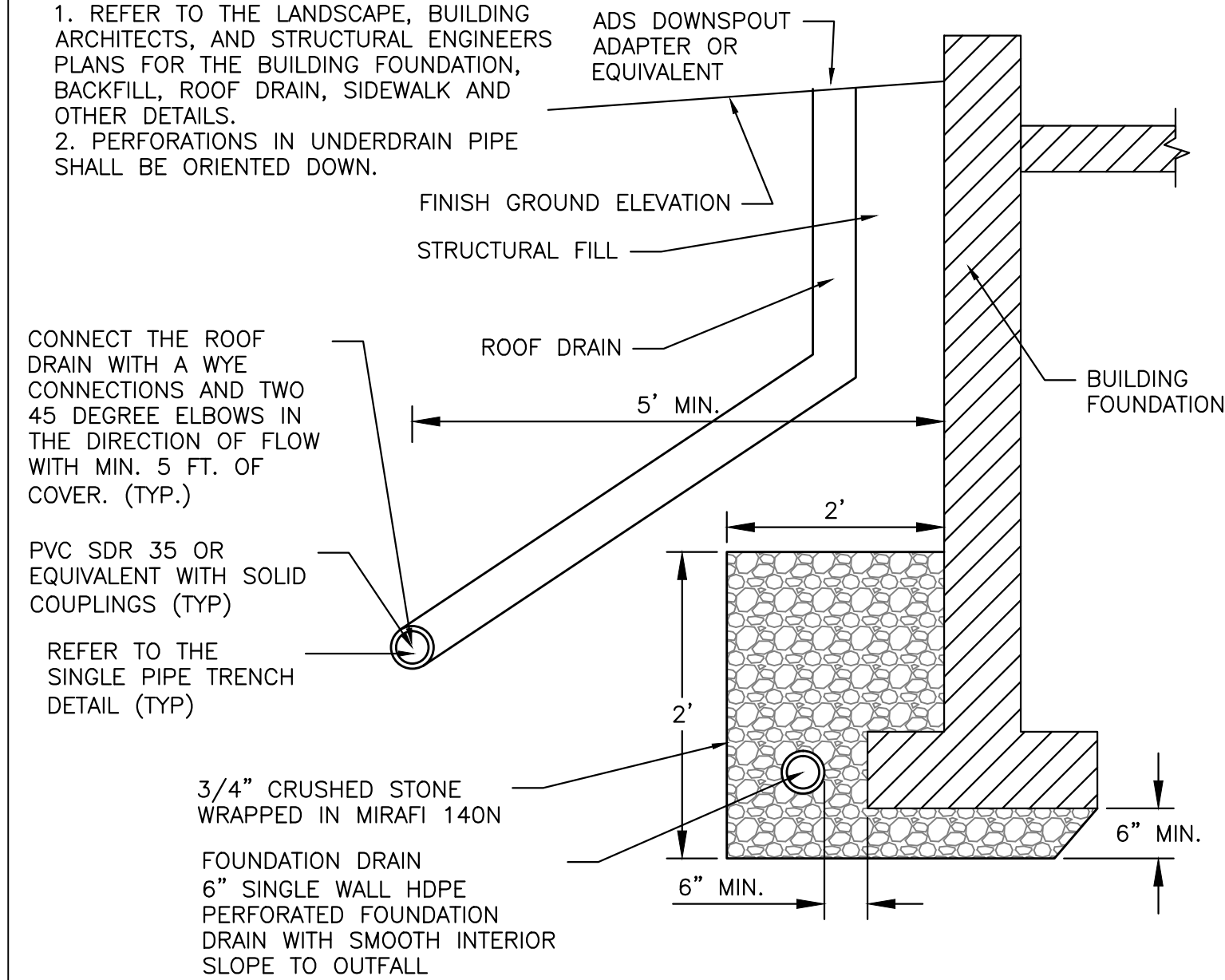
THICKNESS OF LAYERS	
STANDARD	LAYERS
1.25"	SURFACE COURSE MDOT 403.09 GRADE C (9.5mm)
2"	BINDER COURSE MDOT 403.09 GRADE B (19mm)
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE A
9"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

BITUMINOUS PAVEMENT PROFILE

NOT TO SCALE

NOTES:

1. REFER TO THE LANDSCAPE, BUILDING ARCHITECTS, AND STRUCTURAL ENGINEERS PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.

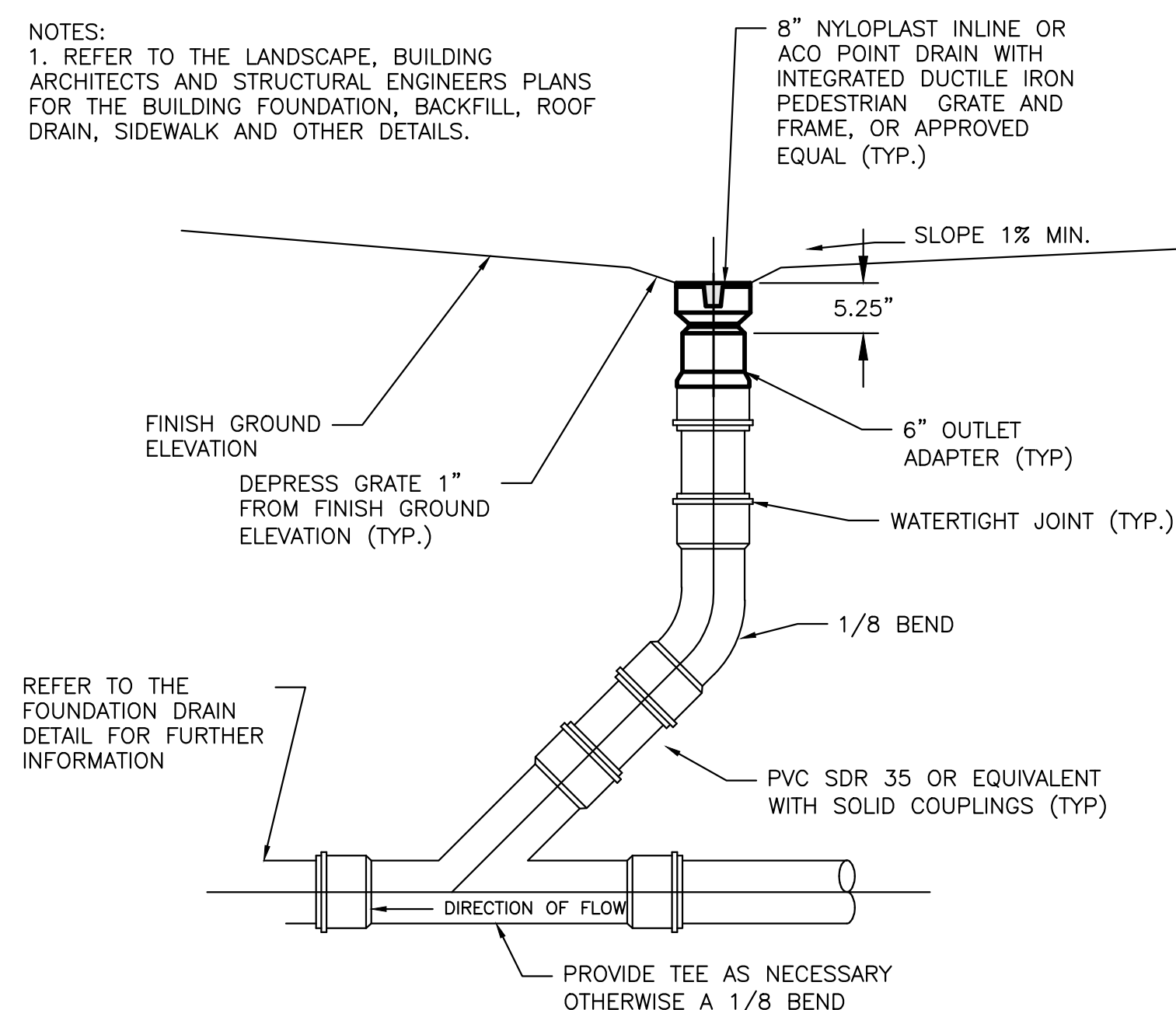


ROOF / FOUNDATION DRAIN DETAIL

NOT TO SCALE

NOTES:

1. REFER TO THE LANDSCAPE, BUILDING ARCHITECTS AND STRUCTURAL ENGINEERS PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.

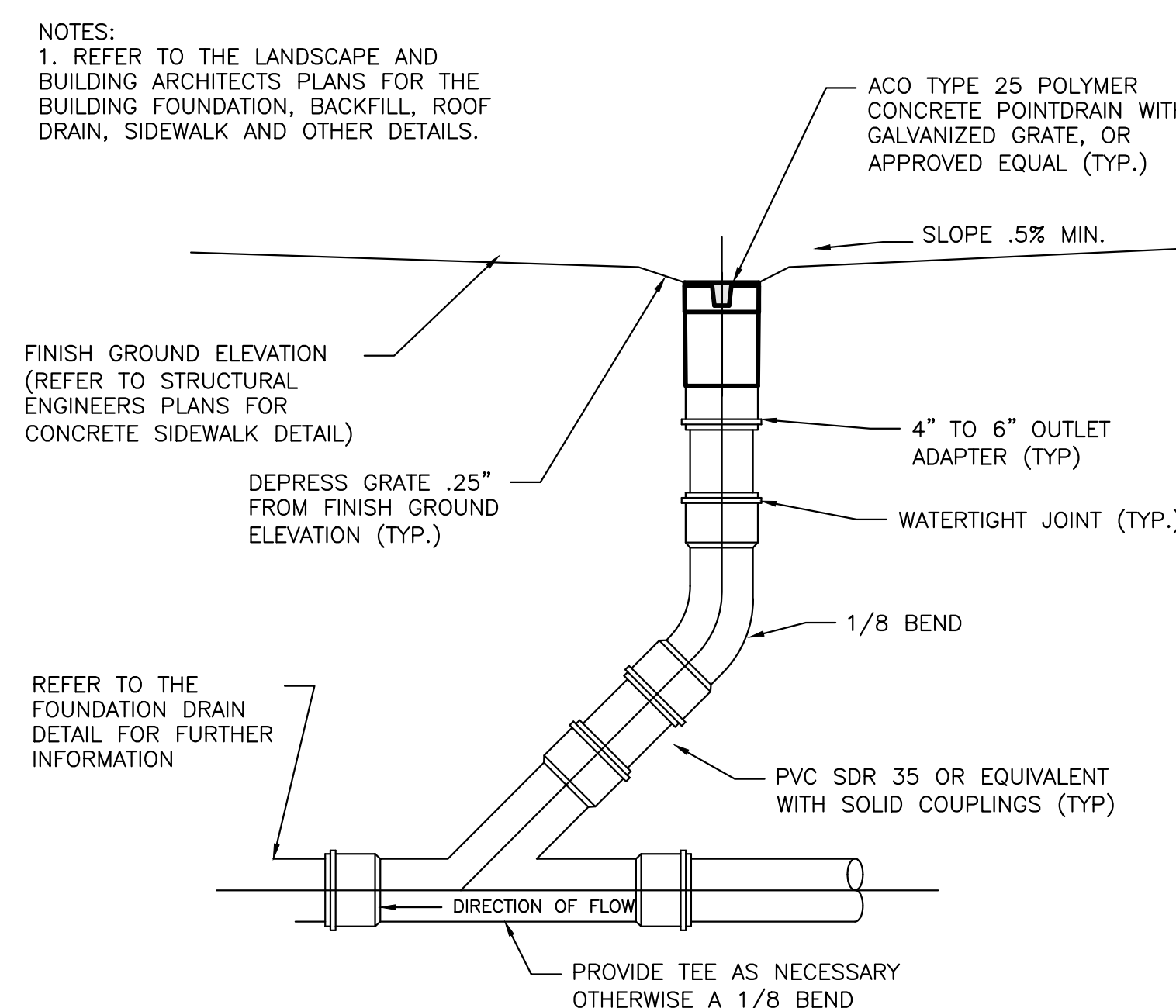


INLINE DRAIN DETAIL (VEGETATED AREAS ONLY)

NOT TO SCALE

NOTES:

1. REFER TO THE LANDSCAPE AND BUILDING ARCHITECTS PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.

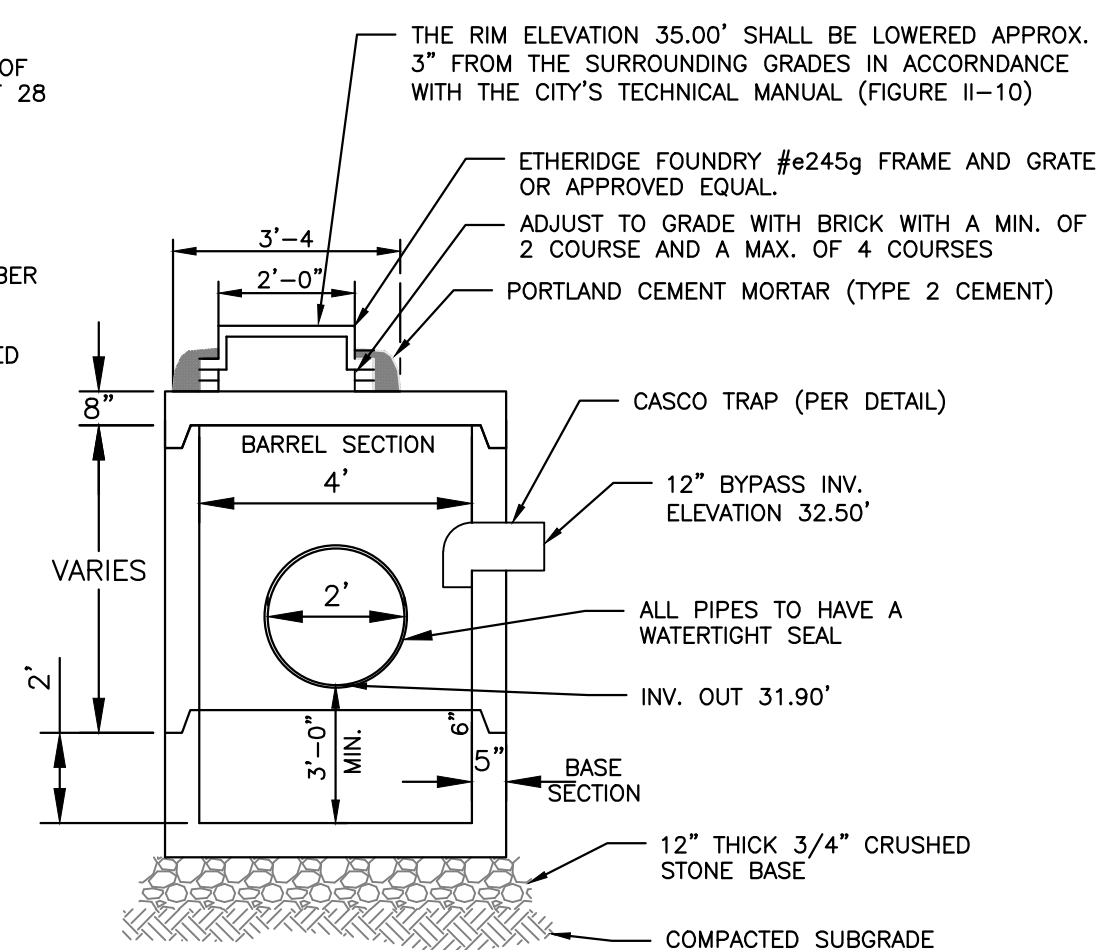


INLINE DRAIN DETAIL (CONCRETE AREAS ONLY)

NOT TO SCALE

DESIGN NOTES:

1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
4. REINFORCE TO 0.12 IN SQ./LF.
5. JOINTS SEALED WITH BUTYL RUBBER OR GROUTED IN PLACE.
6. POLYPROPYLENE STEPS 12" O.C.
5. CASCO TRAPS SHALL BE PROVIDED ON ALL PIPES 12" OR LESS



4'-0" PRECAST CATCH BASIN WITH FLATTOP

NOT TO SCALE

ISSUED FOR	BY	DATE
FINAL SITE/SUB.	WHS	08/06/11
COMMENT RESPONSE	WHS	08/21/11
COMMENT RESPONSE	WHS	03/16/12

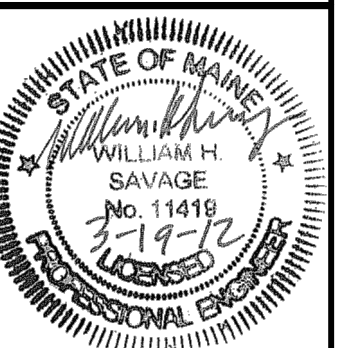
REVISION	REV.	DATE
UTILITIES	WHS	5/28/11

DRAWING NAME: **DETAIL SHEET 2**
 PROJECT NAME: **HARBORVIEW DEVELOPMENT, LLC**
 CLIENT: **HARBORVIEW DEVELOPMENT, LLC**
 PO BOX 8816, PORTLAND, MAINE 04104

ACORN ENGINEERING, INC.

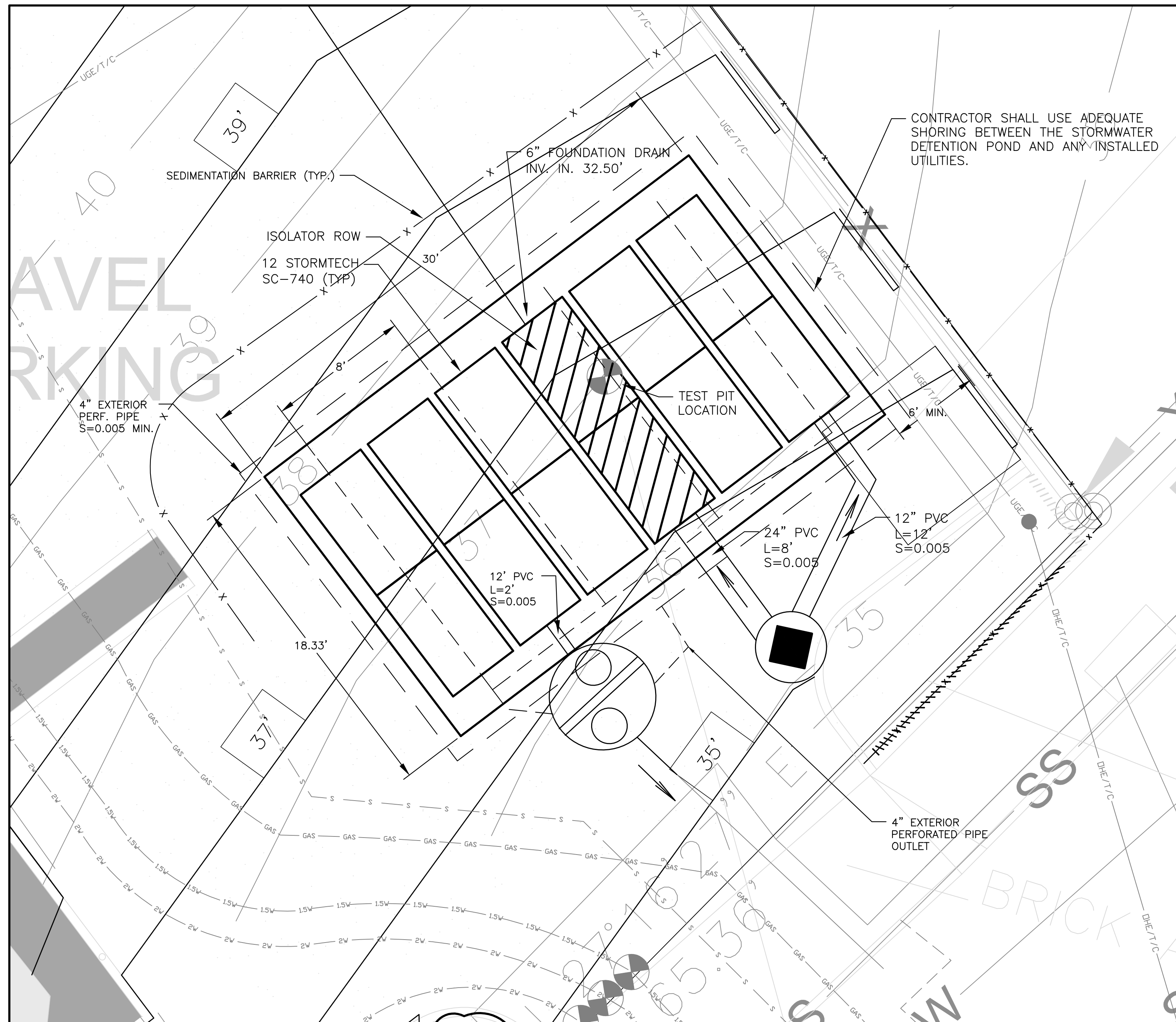
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FILE: ACORNPLAN
DATE: 12/6/10
JN: 1035
SCALE: N/A
DESIGNED BY: WHS
DRAWN BY: WHS
CHECKED BY: HPS

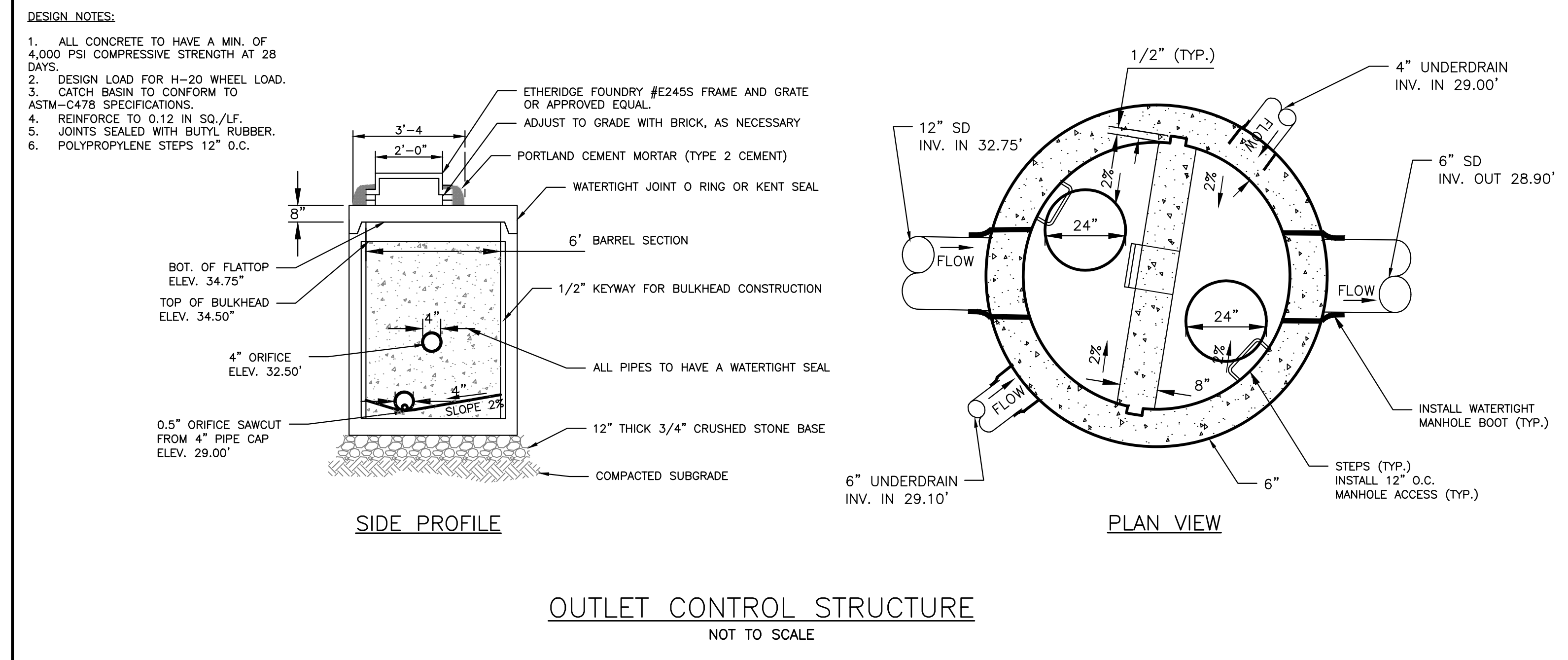


DRAWING NO.
C-4

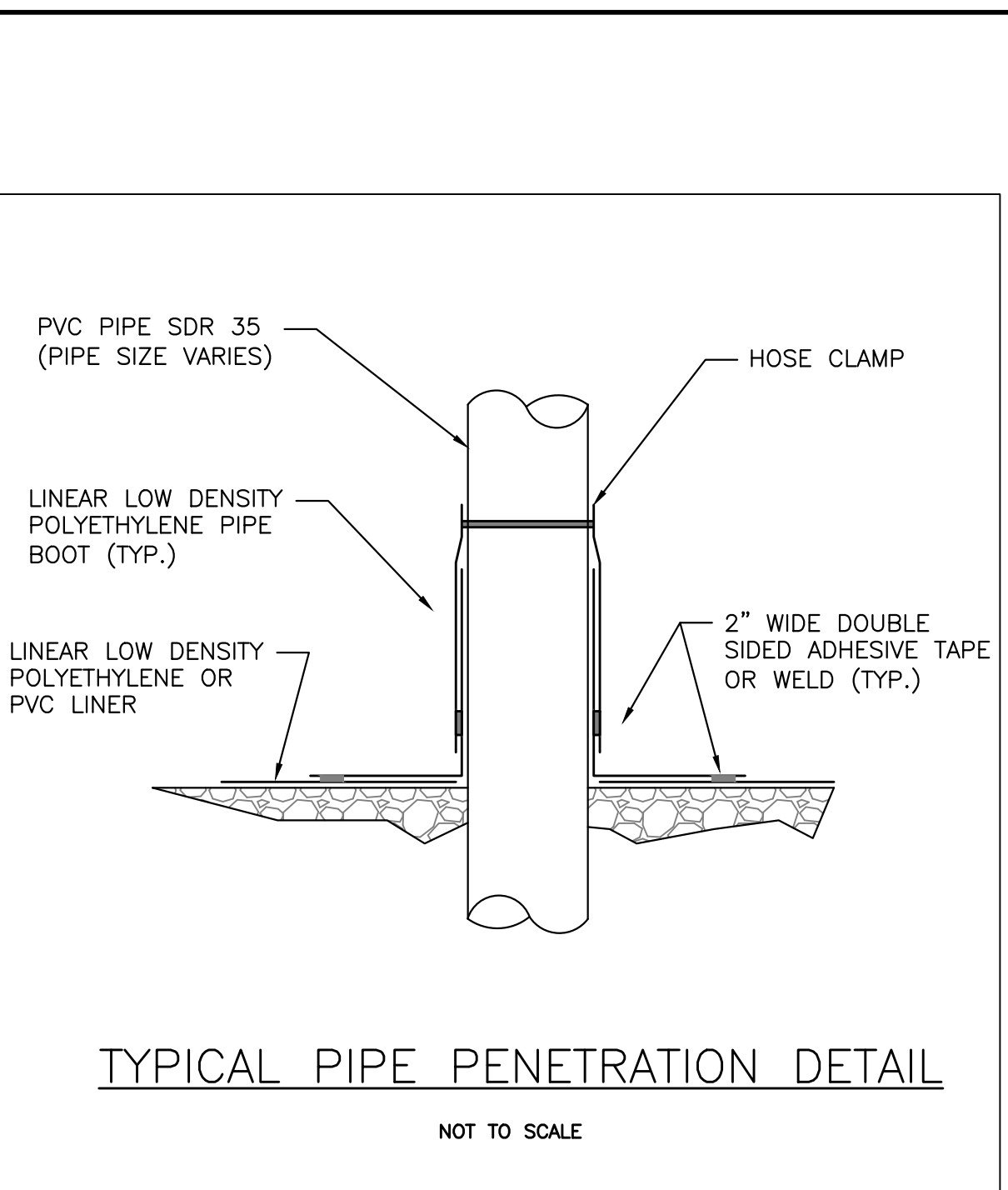
ISSUED FOR PERMITTING



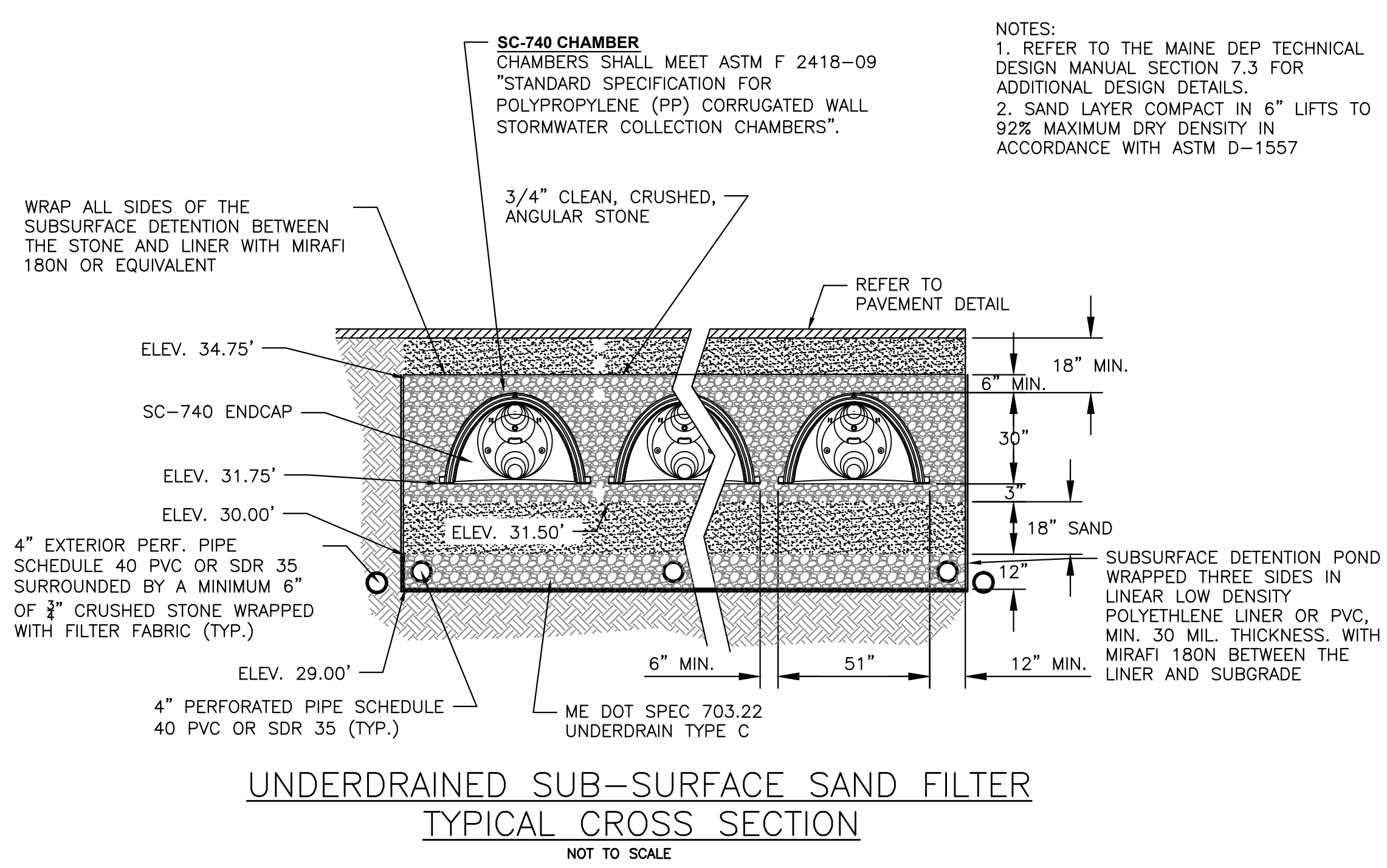
PLAN VIEW LAYOUT
1"=4'



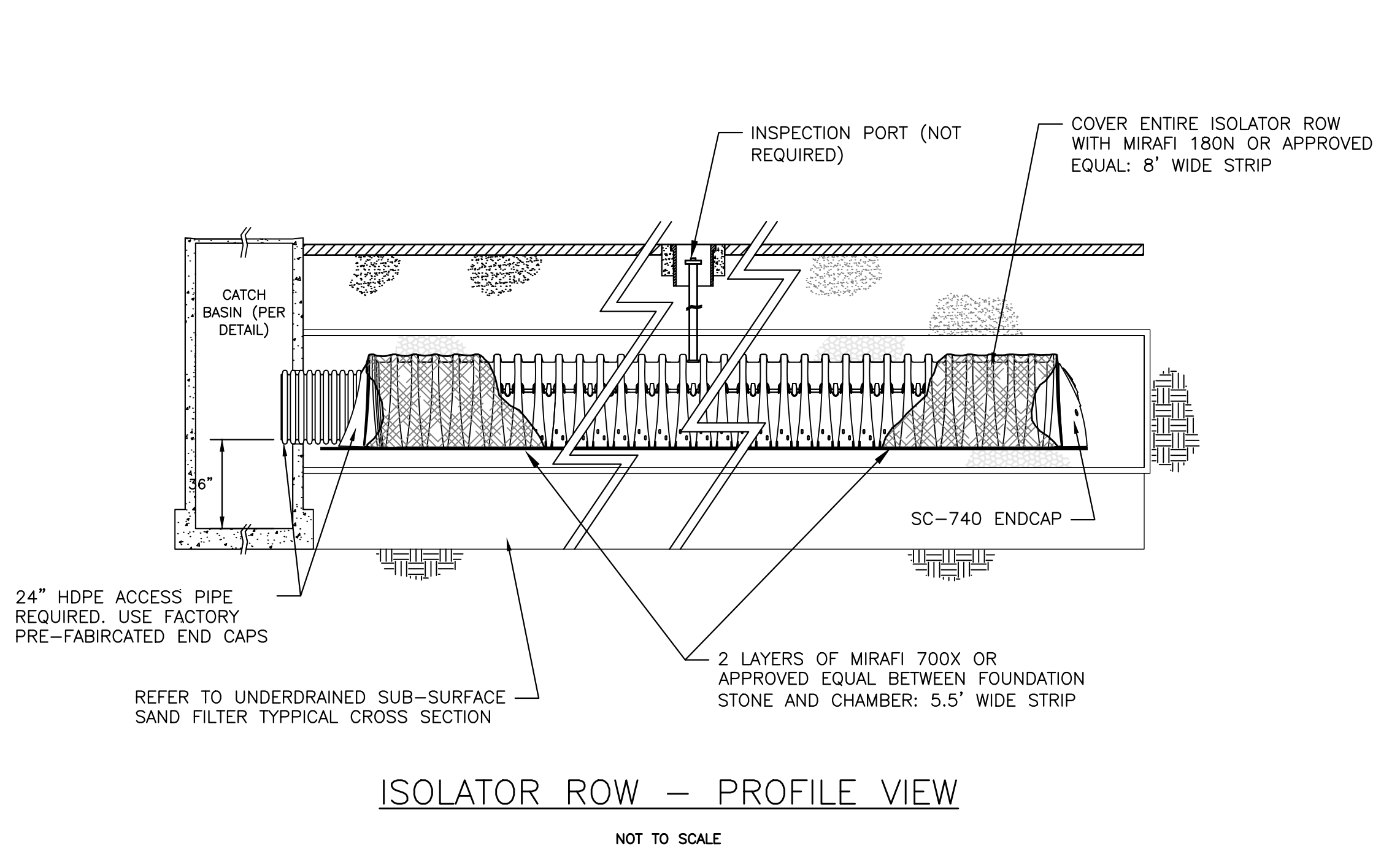
OUTLET CONTROL STRUCTURE
NOT TO SCALE



TYPICAL PIPE PENETRATION DETAIL
NOT TO SCALE



UNDERDRAINED SUB-SURFACE SAND FILTER
TYPICAL CROSS SECTION
NOT TO SCALE



ISOLATOR ROW - PROFILE VIEW
NOT TO SCALE

MANUFACTURERS NOTES:

1. ALL DESIGN SPECIFICATIONS FOR STORMTECH SC-740 CHAMBERS SHALL BE IN ACCORDANCE WITH THE STORMTECH DESIGN MANUAL
2. THE INSTALLATION OF STORMTECH SC-740 CHAMBERS SHALL BE IN ACCORDANCE WITH THE LATEST STORMTECH INSTALLATION INSTRUCTIONS
3. THE CONTRACTOR IS ADVISED TO REVIEW AND UNDERSTAND THE INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLTION. CALL 1-888-892-2694 OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF THE LATEST STORMTECH INSTALLATION INSTRUCTIONS
4. CHAMBERS SHALL MEET THE DESIGN REQUIREMENTS AND LOAD FACTORS SPECIFIED IN SECTION 12.12 OF THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

ENGINEERS NOTES:

1. THE LAYOUT AND DIMENSION OF THE SUBSURFACE DETENTION MAY BE MODIFIED WITH AN ENGINEER APPROVED EQUAL WHICH PROVIDES EQUAL DETENTION STORAGE AND WATER QUALITY TREATMENT.
2. THE SUBSURFACE DETENTION SHALL BE INSPECTED BY THE DESIGN ENGINEER AT THE FOLLOWING INTERVALS:
 - AFTER PRELIMINARY CONSTRUCTION OF THE SUBSURFACE DETENTION GRADES
 - DURING THE CONSTRUCTION OF THE SAND FILTER LAYER
 - DURING THE INSTALLATION OF THE STORMTECH ISOLATOR ROW.
 - BEFORE BACKFILLING THE STORMTECH UNITS.

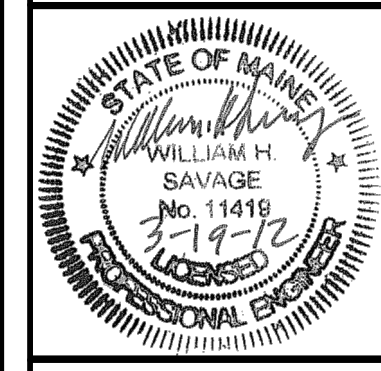
ISSUED FOR	BY
DATE	DATE
FINAL SITE/SUB.	WHS
COMMENT RESPONSE	WHS
COMMENT RESPONSE	WHS
REVISION	REV.
DATE	DATE

DRAWING NAME: **DETAIL SHEET 4**
 PROJECT NAME: **HARBORVIEW DEVELOPMENT, LLC**
 CLIENT: **HARBORVIEW DEVELOPMENT, LLC**
 ADDRESS: **PO BOX 8816, PORTLAND, MAINE 04104**

ACORN ENGINEERING, INC.

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FILE: ACORNPLAN
 DATE: 6-6-11
 JN: 1035
 SCALE: NTS
 DESIGNED BY: WHS
 DRAWN BY: WHS
 CHECKED BY: HPS



STORMTECH-CONNECTION
NOT TO SCALE

ISSUED FOR PERMITTING

DRAWING NO.
C-6