

# CITY OF PORTLAND DEPARTMENT OF PUBLIC WORKS

## CONTRACT DRAWINGS

### TORRINGTON AVENUE DRAINAGE IMPROVEMENTS

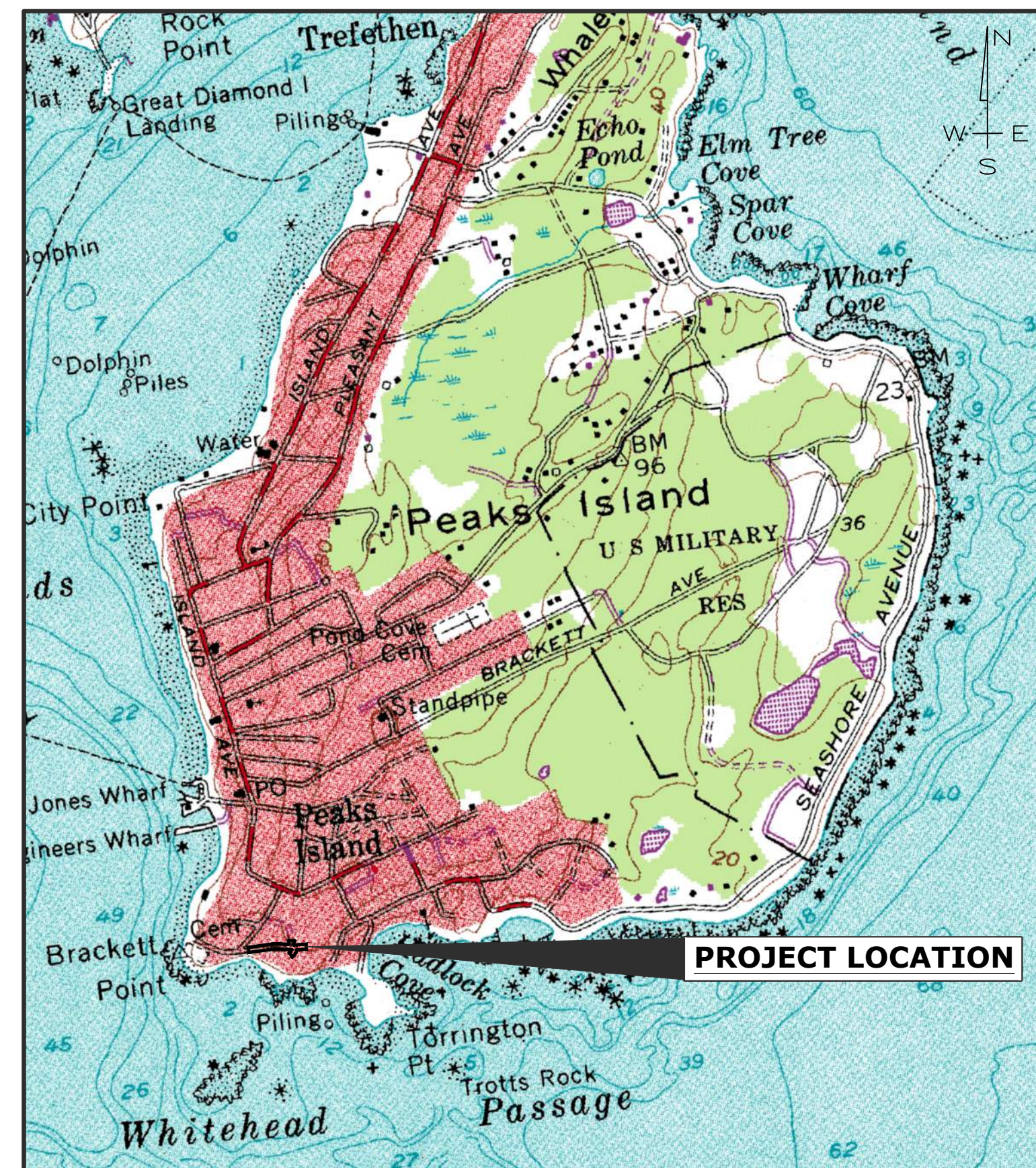
~~BID No. 25016~~

SEPTEMBER 2024

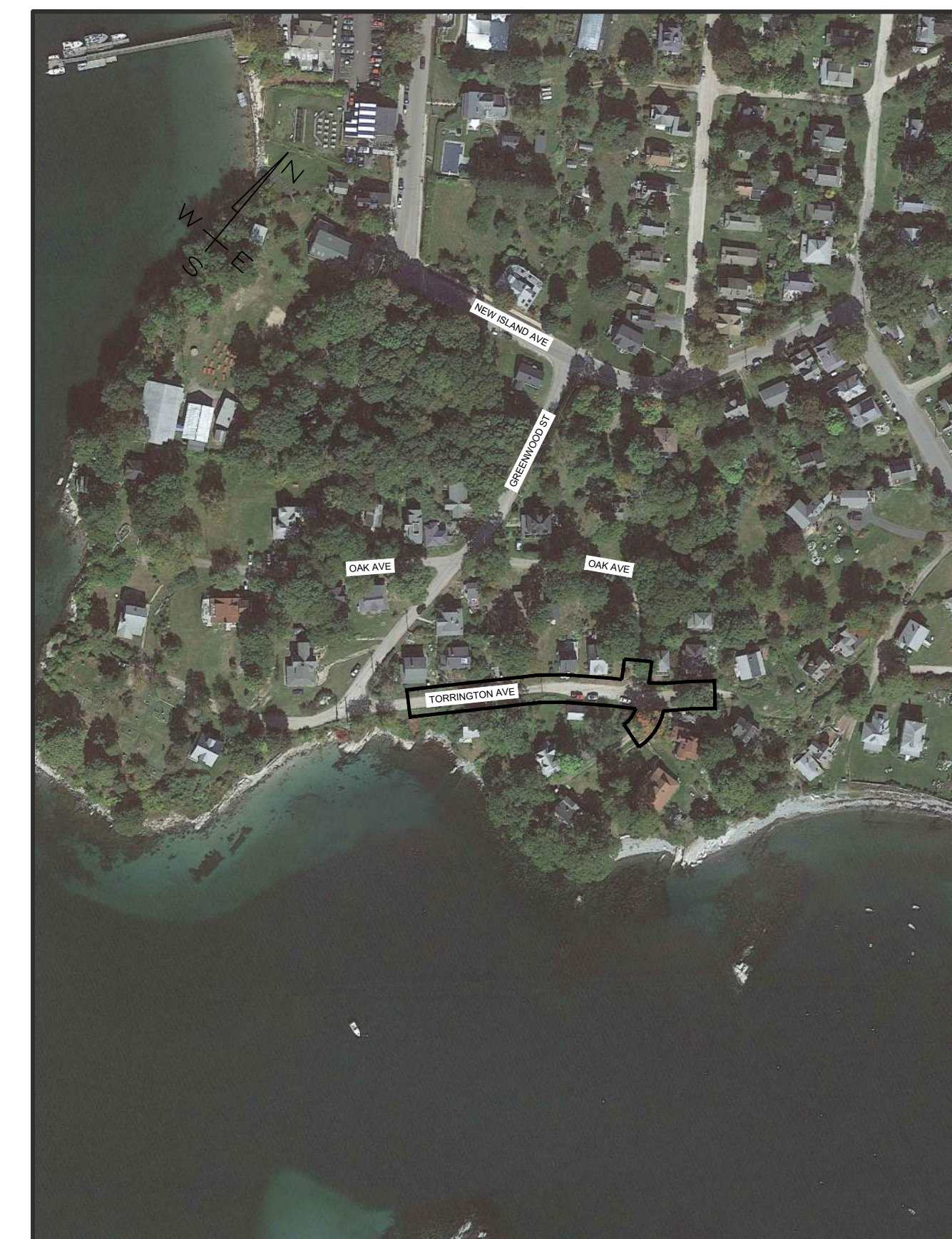
YEAR APPROVED  
2024

\_\_\_\_\_  
KEITH GRAY, P.E. DATE  
CITY ENGINEER/ENGINEERING MANAGER

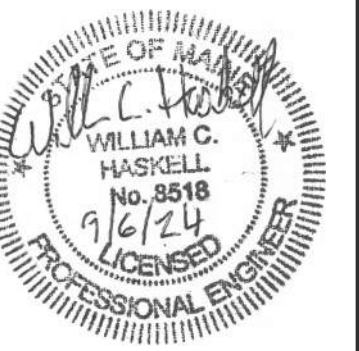
\_\_\_\_\_  
JUSTIN PELLERIN, P.E. DATE  
PROJECT ENGINEER



PROJECT LOCATION



AREA MAP



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GENERAL NOTES:

GENERAL REQUIREMENTS

- 1. THE CITY OF PORTLAND SHALL HAVE THE RIGHT AND AUTHORITY TO DETERMINE THE ACCEPTABILITY OF WORK AND MATERIALS IN PROGRESS OR COMPLETED. THE CITY OF PORTLAND SHALL HAVE THE RIGHT TO REJECT ANY WORK OR MATERIALS WHICH DO NOT CONFORM, IN ITS SOLE OPINION, TO THE PLANS OR SPECIFICATIONS.
2. ALL WORK COMPLETED UNDER THIS CONTRACT SHALL BE GOVERNED BY AND SHALL CONFORM WITH CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS AND GUIDELINES.
3. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND CITY OF PORTLAND CODES AND SPECIFICATIONS.
4. THE CONTRACTOR SHALL COMPLETE THE WORK WITHIN THE RIGHT-OF-WAY, AND SHALL BE RESPONSIBLE IF TRESPASSING ON PRIVATE PROPERTY OCCURS.
5. THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES, TO ORIGINAL FINISH SURFACE (LAWN, PAVEMENT, GRAVEL, ETC.) UNLESS NOTED OTHERWISE ON PLANS. RESTORATION OF PAVED SURFACES, GRAVEL SURFACES, DRIVEWAYS, WALKWAYS, LAWNS AND OTHER AREAS SHALL BE AT THE CONTRACTORS EXPENSE. ALL CURB DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED IN KIND, AT THE CONTRACTORS EXPENSE, AND SHALL CONFORM TO CITY OF PORTLAND STANDARDS.
6. DISPOSITION OF SURPLUS MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SURPLUS MATERIAL SHALL NOT BE DISPOSED OF ON THE PROJECT SITE. DISPOSITION SHALL BE MADE ONLY AT WASTE AREAS WHICH ARE LICENSED TO ACCEPT SUCH MATERIALS, UNLESS THE MATERIALS CAN BE INCORPORATED IN FILLS IN OTHER PROJECTS OF THE CONTRACTOR.
7. IF CONTRACTOR PROPOSES TO TEMPORARILY STOCKPILE ANY SURPLUS SOIL AND ROCK IN THE CITY OF PORTLAND, THE CONTRACTOR SHALL OBTAIN APPROVAL FOR EACH STOCKPILE LOCATION FROM THE CITY. IF CONTRACTOR PROPOSES TO PERMANENTLY STOCKPILE ANY SURPLUS SOIL AND ROCK ON PROPERTY IN THE CITY OF PORTLAND, THE CONTRACTOR MUST OBTAIN ANY SITE PLAN AND FILL PERMITS REQUIRED FROM CITY PLANNING AUTHORITY OR ANY FILL PERMITS REQUIRED FROM MAINE DEP OR US ARMY CORP OF ENGINEERS. BOTH TEMPORARY AND PERMANENT STOCKPILE LOCATIONS SHALL MEET THE APPLICABLE SETBACK REQUIREMENTS IN THE CITY LAND USE CODE.
8. PRIOR TO THE BEGINNING OF CONSTRUCTION, THE CONTRACTOR SHALL SECURE A STREET OPENING PERMIT FROM THE PORTLAND DEPARTMENT OF PUBLIC SERVICES. NO FEE WILL BE CHARGED FOR THIS PERMIT
9. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
10. PROTECT EXISTING FEATURES/STRUCTURES NOT CALLED OUT FOR REPLACEMENT/ALTERATION.
11. TEST PITS SHALL BE COMPLETED AT LEAST TWO WEEKS PRIOR TO THE START OF CONSTRUCTION OR ORDERING OF MATERIALS AT THE TEST PIT LOCATION. THE CONTRACTOR SHALL PROMPTLY PROVIDE TEST PIT INFORMATION TO THE ENGINEER FOR REVIEW, AND SHALL NOTIFY THE ENGINEER OF ANY POTENTIAL UTILITY CROSSING CONFLICTS.
12. CONTRACTOR SHALL NOT PARK, IMPEDE ACCESS OR STORE EQUIPMENT/MATERIAL ON ADJACENT CITY OR PRIVATELY OWNED LAND WITHOUT WRITTEN CONSENT FROM THE CITY OR LAND OWNER.
13. EXISTING FACILITIES/STRUCTURES (I.E. TREES, POLES, LIGHT POLES) SHALL BE REMOVED AND PROTECTED DURING CONSTRUCTION. CITY RETAINS THE RIGHT TO KEEP ANY AND ALL REMOVED FACILITIES/STRUCTURES. CONTRACTOR SHALL DISPOSE OF UNWANTED/UNUSED FACILITIES/STRUCTURES OFF SITE IN CONFORMANCE WITH APPLICABLE FEDERAL, STATE, AND LOCATION REGULATIONS.
14. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER AND SEAWATER 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.
15. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS AND CONDITIONS SPECIFIED IN THE HIGHWAY OPENING PERMIT.
16. THE CONTRACTOR SHALL SUBMIT PERFORMANCE AND PAYMENT BONDS TO THE CITY PRIOR TO THE CONTRACT AWARD.
17. THE CONTRACTOR SHALL PROVIDE THE CITY WITH A SCHEDULE OF WORK FOR CONSTRUCTING THE IMPROVEMENTS.

SURVEY/EXISTING CONDITIONS

- 18. EXISTING CONDITIONS PROJECT AREA ARE BASED ON SURVEY COMPLETED IN 2021.
19. IT IS THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS PRIOR TO BIDDING.
20. VERTICAL DATUM IS REFERENCED TO CITY DATUM WITH ONE-FOOT CONTOUR INTERVALS. CITY DATUM IS +0.02 FEET OF NGVD 1929. HORIZONTAL DATUM IS REFERENCED TO STATE PLANE NAD 1983 (FEET), MAINE WEST ZONE.
21. LOCATIONS OF RIGHT-OF-WAY SHOWN ON PLANS ARE APPROXIMATE ONLY.
22. PROPERTY LINE AND R.O.W. MONUMENTS SHALL NOT BE DISTURBED BY CONSTRUCTION. IF DISTURBED, THEY SHALL BE RESET TO THEIR ORIGINAL LOCATIONS AT THE CONTRACTOR'S EXPENSE, BY A MAINE LICENSED LAND SURVEYOR.
23. SURVEY BENCHMARKS ARE AS FOLLOWS:
• UTILITY POLE STA. 0+00±, RT., ELEV. 22.707
• UTILITY POLE STA. 2+80±, RT., ELEV. 27.797

UTILITIES

- 21. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. 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. UNDERGROUND FACILITIES INDICATED ON THE CROSS SECTIONS HAVE BEEN CARRIED OVER FROM THE PLAN VIEW DATA AND MAY ALSO INCLUDE FURTHER APPROXIMATIONS OF THE ELEVATIONS (DEPTHS) BASED UPON STRAIGHT LINE INTERPOLATION FROM THE NEAREST MANHOLES, GATE VALVES, OR TEST PITS. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE ENGINEER HAS COORDINATED THE PROPOSED WORK WITH THE AFFECTED UTILITY COMPANIES TO ARRANGE FOR REQUIRED RELOCATION OF THEIR KNOWN FACILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE HIS WORK AND SCHEDULE WITH THE UTILITY RELOCATION WORK AND THE PROPER UTILITY COMPANY. THE FOLLOWING UTILITIES HAVE FACILITIES WITHIN THE PROJECT LIMITS:
- CENTRAL MAINE POWER COMPANY
- PORTLAND WATER DISTRICT
- CITY OF PORTLAND
ANY ADDITIONAL UTILITY WORK NOT SPECIFIED ON THE PLANS SHALL BE COMPLETED BY THE RESPECTIVE UTILITY COMPANY.
25. CONTRACTOR SHALL COORDINATE DISRUPTION OF PRIVATE UTILITY SERVICES WITH LAND OWNER AT LEAST 2 DAYS (48 HOURS) PRIOR TO SCHEDULED DISRUPTION.
26. EXISTING PROFILE GRADE IS CENTERED ON PROPOSED STORM DRAIN MAIN LINE, UNLESS OTHERWISE SHOWN ON THE PLANS.
27. ELECTRICAL AND TELECOMMUNICATIONS SERVICE PROVIDED VIA OVERHEAD LINES, UNLESS OTHERWISE SHOWN. CONTRACTOR SHALL USE CAUTION WHEN WORKING NEAR EXISTING OVERHEAD LINES.
28. RESIDENTIAL SANITARY SEWER SERVICE INFORMATION (LOCATION, SIZE, PIPE MATERIALS, ETC.) OBTAINED FROM HISTORIC SEWER CARDS AND SEWER VIDEOS TAKEN IN 2018, 2020 & 2021. GORRILL PALMER MAKES NO GUARANTEES TO THE ACCURACY OF THIS INFORMATION.
29. DRIVEWAYS IMPACTED BY SEWER OR STORM DRAIN CONSTRUCTION SHALL HAVE PAVEMENT AND GRAVELS REMOVED AND BOX CUT AND REPLACED PER THE DRIVEWAY DETAIL.
30. RECONSTRUCT ALL SEWER LATERALS TO THE RIGHT-OF-WAY LINE. ALL BRICK/CONCRETE/ASPHALT DRIVEWAYS AND SIDEWALKS AND ASSOCIATED CURB SHALL BE RECONSTRUCTED TO MATCH EXISTING WHEN REQUIRED BY SEWER LATERAL RECONSTRUCTION.
31. CLEAN AND/OR FLUSH SEDIMENT AND DEBRIS FROM ALL MANHOLES, CATCH BASINS AND ASSOCIATED PIPING AFTER THE WORK HAS BEEN COMPLETED. ACCUMULATED SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF.
32. STATIONING, PIPE LENGTHS, PIPE SLOPES AND PIPE INVERT CALCULATIONS ARE MEASURED ALONG THE PIPE CENTERLINE TO THE INSIDE WALL OF MANHOLE AND CATCH BASIN STRUCTURES.
33. PROPOSED CATCH BASIN, SEWER MANHOLE (SMH), AND DRAIN MANHOLE (DMH) SYMBOLS REPRESENT NEW STRUCTURES. REFER TO DETAILS AND SPECIFICATIONS FOR INFORMATION ON FRAMES AND GRATES, COVERS, SHAPE, STYLE AND DIMENSIONS. CATCH BASINS SHALL BE SET IN ACCORDANCE WITH CITY DETAILS AND SPECIFICATIONS.
34. ON ALL "ALTER", "MODIFY" AND "REMOVE" STRUCTURES, THE CONTRACTOR SHALL REMOVE ABANDONED PIPES OR PLUG AND FILL WITH FLOWABLE FILL.
35. THE COST OF REMOVING EXISTING STRUCTURES AND/OR PIPES SHALL BE INCIDENTAL TO THE COST OF THE REPLACEMENT STRUCTURE AND/OR PIPE WHEN REPLACED IN THE SAME VICINITY, REFER TO SPECIFICATION SECTION 202.08.
36. CAPPED PIPE STUB LOCATIONS SHALL BE MARKED WITH EMBEDDED STAKE AND A MINIMUM OF THREE TIES SHOULD BE RECORDED. EMBEDDED STAKE SHALL BE 2x4 WITH PK NAIL DRIVEN IN TOP. LENGTH AS REQUIRED TO SPAN FROM TOP OF PIPE TO 6" BELOW GRADE. LOCATION AND ELEVATION OF PIPE STUB SHALL BE PROVIDED TO THE CITY OF PORTLAND ENGINEERING OFFICE. WARNING TAPE AND WIRE SHALL BE INSTALLED OVER PIPE STUBS IN ACCORDANCE WITH SPECIFICATIONS.
37. THE FOLLOWING SHALL BE INCIDENTAL TO THE 603 & 604 PAY ITEMS:
-CUTTING OF PIPE AND/OR CONNECTIONS NECESSARY TO CONSTRUCT NEW STORM DRAIN & SEWER PIPE AND APPURTENANCES
-WORK & MATERIALS NECESSARY TO CONNECT NEW OR EXISTING PIPES TO CATCH BASINS OR MANHOLES
-CHANGES TO FLOW LINES/PROFILE GRADES/PIPE INVERTS OF ONE(1) FOOT OR LESS.
38. AT LOCATIONS WHERE EXISTING CATCH BASINS ARE BEING REMOVED AND NEW CATCH BASINS ADDED IN A DIFFERENT LOCATION, CONTRACTOR SHALL REGRADE THE AREA WHERE THE OLD BASIN IS BEING REMOVED TO BLEND IN SMOOTHLY WITH ADJACENT STREET GRADES. AT THE LOCATION OF THE NEW CATCH BASIN, CONTRACTOR SHALL CONSTRUCT APPROPRIATE DEPRESSION PER THE CITY OF PORTLAND DETAILS AND STANDARDS.
39. CATCH BASIN OFFSETS AND RIM ELEVATIONS ARE MEASURED TO THE CENTER OF THE GRATE.
40. ALL EXISTING STORM DRAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. ANY EXISTING STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.

TRAFFIC CONTROL/SIGNS/STRIPING

- 41. MAINTENANCE OF TRAFFIC SHALL BE PER THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE MAINE DOT SPECIFICATIONS

AND STANDARD PLANS.

- 42. ALL WORK WITHIN CITY STREET RIGHTS-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH REQUIREMENTS OF THE CITY TRAFFIC ENGINEER. THE CONTRACTOR SHALL SUBMIT PROPOSED TRAFFIC CONTROL PLAN TO THE TRAFFIC ENGINEER AT LEAST 7 DAYS BEFORE STARTING CONSTRUCTION IN ANY STREET. THE TRAFFIC CONTROL PLAN SHALL BE SUBJECT TO APPROVAL BY THE TRAFFIC ENGINEER, WHO MAY ATTACH SPECIAL CONDITIONS TO, OR REQUIRE MODIFICATIONS OF, THE TRAFFIC CONTROL PLAN. CONSTRUCTION SHALL NOT BEGIN UNTIL THE PLAN IS APPROVED BY THE CITY TRAFFIC ENGINEER. REFER TO SPECIFICATION SECTION 652.
43. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL NECESSARY BARRIERS, FENCES, LIGHTS, WARNING SIGNS AND OTHER DEVICES NECESSARY TO SAFEGUARD TRAFFIC AND THE PUBLIC DURING WORKING AND NON-WORKING HOURS FOR THE DURATION OF THE PROJECT. SITE SHALL BE LEFT WITH APPROPRIATE SAFETY MEASURES IN PLACE DURING NON-WORKING HOURS. NO TRENCH SHALL BE LEFT OPEN DURING NON-WORKING HOURS. SITE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, DURING BOTH WORKING AND NON-WORKING HOURS.
44. ALL SIGNING, SIGNAL AND STRIPING MATERIALS AND PLACEMENT SHALL CONFORM TO THE MAINE DOT STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND STANDARD DETAILS AND WITH THE FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
45. DRIVEWAY ACCESSES SHALL BE MAINTAINED AT ALL TIMES.
46. ALL EXISTING TRAFFIC SIGNS WHICH ARE TO BE REMOVED AND RESET DURING CONSTRUCTION SHALL BE CAREFULLY DISMOUNTED AND THE POSTS REMOVED AND SHALL BE STACKED IN AN AREA APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL PROTECT THE SIGNS FROM DAMAGE WHILE IN HIS/HER POSSESSION AND SHALL REPAIR, AT NO ADDITIONAL COST TO THE CITY, ANY DAMAGES CAUSED BY HIS/HER OPERATION. ALL WORK ASSOCIATED WITH REMOVING AND RESETTING EXISTING SIGNS SHALL BE INCIDENTAL TO THE CONTRACT.

SAFETY

- 47. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA REGULATIONS SUBPART P OF 29 CFR PART 1926.650-652 (CONSTRUCTION STANDARD FOR EXCAVATIONS).
48. RESTRICT ACCESS TO SITE THROUGH THE USE OF APPROPRIATE SIGNAGE, BARRIERS, FENCES, ETC. SITE SHALL BE LEFT WITH APPROPRIATE SAFETY MEASURES IN PLACE DURING NON-WORKING HOURS. NO TRENCH SHALL BE LEFT OPEN DURING NON-WORKING HOURS. SITE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, DURING BOTH WORKING AND NON-WORKING HOURS.

ROADWAY

- 49. THE CONTRACTOR IS RESPONSIBLE FOR THE CAREFUL SIDE STAKING OF EXISTING CENTERLINE. SIDE STAKES SHALL BE PLACED SAFELY OUTSIDE OF THE CONSTRUCTION LIMITS AND THE EXISTING CENTERLINE GRADES SHALL BE TRANSFERRED TO THESE STAKES. THE CONTRACTOR IS RESPONSIBLE FOR CENTERLINE LAYOUT.
50. THE PLACEMENT OF BITUMINOUS PAVING MATERIALS SHALL BE SUBJECT TO ALL OF THE WEATHER AND SEASONAL LIMITATIONS OUTLINED IN THE MAINE DOT STANDARD SPECIFICATIONS.
51. BUTT JOINTS SHALL BE USED AT ALL LOCATIONS WHERE THE PROPOSED PAVEMENT MEETS EXISTING PAVEMENT. NO FEATHERING OF PAVEMENT WILL BE PERMITTED. COST OF BUTT JOINTS SHALL BE INCIDENTAL TO PAY ITEMS IN SECTION 403 - HOT BITUMINOUS PAVEMENT AND SECTION 608 - SIDEWALKS AND DRIVEWAYS.
52. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY TRENCH PAVEMENT THAT HAS EXPERIENCED EXCESSIVE SETTLEMENT, CRACKING, OR OPENING OF JOINTS. REPAIRS MAY INCLUDE OVERLAY, REMOVAL OF UNACCEPTABLE MATERIALS, COMPLETE REPLACEMENT, JOINT SEALING, OR RECONSTRUCTING PAVEMENT JOINTS AS REQUIRED. THIS WORK MAY BE NECESSARY AFTER THE FINAL ACCEPTANCE OF WORK OR PRIOR TO THE ONE YEAR GUARANTEE. THIS WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.
53. COMPACTION REQUIREMENTS:
LOCATION REQUIREMENT MINIMUM COMPACTION\*
BELOW PAVED AREAS 95%
BELOW SEEDED AREAS 90%
\*ALL PERCENTAGES OF COMPACTION SHALL BE OF MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557.
54. ALL EXISTING CURB AND COBBLESTONES NOT REUSED AS PART OF THIS PROJECT SHALL BE DELIVERED TO A CITY DESIGNATED LOCATION, AT NO ADDITIONAL COST TO THE CITY.
55. A TACK COAT OF EMULSIFIED ASPHALT SHALL BE APPLIED TO ANY EXISTING PAVEMENT AT A RATE OF APPROXIMATELY 0.025 GALLONS/SY AND ON MILLED PAVEMENT AT A RATE OF APPROXIMATELY 0.050 GALLONS/SY.

LANDSCAPING

- 56. INCLUDE LOAM, SEED AND MULCH (IN PAY ITEM 615.071) FOR ONE (1) FOOT MINIMUM WIDE STRIP ON BOTH SIDES OF ROADS AND ACCESS DRIVES WHERE PAVEMENT IS BEING REMOVED AND REPLACED WITHIN THE PROJECT LIMITS. THIS IS IN ADDITION TO OTHER AREAS THAT HAVE BEEN DISTURBED BY CONSTRUCTION ACTIVITIES THAT MAY REQUIRE LOAM, SEED AND MULCH.
57. THE CONTRACTOR SHALL CONTACT THE CITY OF PORTLAND ARBORIST AND ENGINEER PRIOR TO CUTTING ROOTS, TRIMMING BRANCHES, OR DISTURBING TREES THAT ARE NOT NOTED FOR REMOVAL ON THE PLANS.
58. EXISTING TREES TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL TAKE MEASURES TO PROTECT TREE TRUNKS AND ROOTS DURING CONSTRUCTION, INCLUDING THE USE OF CONSTRUCTION FENCING IN THE WORK ZONE AND AROUND TREES, AS NEEDED. THE CONTRACTOR WILL MINIMIZE THE STORAGE OF MATERIALS AND OPERATION OF EQUIPMENT CLOSE TO TREES AND UPON ROOTS TO THE EXTENT PRACTICABLE TO AVOID SOIL COMPACTION AND DAMAGE TO TRUNKS. DAMAGED ROOTS SHOULD BE CLEANLY CUT WITH A SAW AND NOT LEFT TO BE TORN AS BY AN EXCAVATOR OR OTHER EQUIPMENT. THE CITY ARBORIST WILL CONSULT ON AND ASSIST WITH ROOT AND TREE ISSUES AS NEEDED.

TEMPORARY EROSION CONTROL MEASURES

- 1. MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTIONS OF THE CITY OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE CITY.
2. LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE SITE.
3. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL INSTALL EROSION CONTROL BMPs AS SHOWN OR NOTED ON THE PLANS.
4. SILTATION FENCE SHALL BE INSTALLED DOWN GRADIENT OF ANY DISTURBED AREAS TO TRAP RUNOFF-BORNE SEDIMENTS UNTIL GRASS AREAS ARE REVEGETATED. THE SILT FENCE SHALL BE INSTALLED PER THE DETAILS PROVIDED ON THIS PLAN AND INSPECTED BEFORE AND IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE LINE. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM.
5. FOR WORK WHICH IS CONDUCTED BETWEEN SEPTEMBER 15TH AND APRIL 15TH OF ANY CALENDAR YEAR, ALL DISTURBED AREAS, SHALL BE COVERED WITH HAY MULCH OR EROSION CONTROL MIX, APPLIED AT TWICE THE NORMAL APPLICATION RATE AND ANCHORED WITH A FABRIC NETTING. THE TIME PERIOD FOR APPLYING MULCH SHALL BE LIMITED TO 7 DAYS FOR ALL AREAS.
6. PUBLIC WAYS SHALL BE SWEEPED, AS NECESSARY, TO CONTROL MUD AND DUST.
7. SILT FENCING WITH A MINIMUM STAKE SPACING OF 6 FEET SHOULD BE USED, UNLESS THE FENCE IS SUPPORTED BY WIRE FENCE REINFORCEMENT OF MINIMUM 14 GAUGE AND WITH A MAXIMUM MESH SPACING OF 6 INCHES, IN WHICH CASE STAKES MAY BE SPACED A MAXIMUM OF 10 FEET APART. THE BOTTOM OF THE FENCE SHALL BE EMBEDDED IN A SOIL TRENCH.
8. WATER AND/OR CALCIUM CHLORIDE SHALL BE FURNISHED AND APPLIED IN ACCORDANCE WITH MAINE DOT SPECIFICATIONS - SECTION 637 - DUST CONTROL.
9. LOAM AND SEED IS INTENDED TO SERVE AS THE PRIMARY PERMANENT REVEGETATIVE MEASURE FOR ALL DISTURBED AREAS NOT PROVIDED WITH OTHER EROSION CONTROL MEASURES, SUCH AS RIPRAP.

ABBREVIATIONS:

- & AND
ADA AMERICANS WITH DISABILITIES ACT
AG ABOVE GROUND
ALT ALTERNATE
AVE AVENUE
BIT BITUMINOUS
B/W BETWEEN
CB CATCH BASIN
CMP CENTRAL MAINE POWER
CONC CONCRETE
DI DUCTILE IRON
DIA DIAMETER
DMH DRAIN MANHOLE
DTL DETAIL
DYCL DOUBLE YELLOW CENTERLINE
DWLL DASHED WHITE LANE LINE
E EAST
EG EXISTING GRADE
EL/ELEV ELEVATION
EOP EDGE OF PAVEMENT
EXIST EXISTING
FF FINISH FLOOR
FT FOOT/FEET
GS GAS SERVICE
GALV GALVANIZED
GRAN GRANITE
GV GATE VALVE
HDP HIGH DENSITY POLYETHYLENE
HORIZ HORIZONTAL
HYD HYDRANT
INV INVERT
IP IRON PIPE
LF LINEAR FEET
LT LEFT
MX MAXIMUM
MIN MINIMUM
MON MONUMENT
N NORTH
NO NUMBER
NR NO REFUSAL
NSBB NUTRIENT SEPARATING BAFFLE BOX
NTS NOT TO SCALE
OB ORANGEBERG
OFF OFFSET
OH OVERHEAD ELECTRIC
OHE OVERHEAD
PLS PLUS OR MINUS
PLS PROFESSIONAL LAND SURVEYOR
PT POINT
PVC POLYVINYL CHLORIDE
RD ROAD
RCP REINFORCED CONCRETE PIPE
REINF REINFORCED
REQD REQUIRED
ROW RIGHT-OF-WAY
RT RIGHT
S SLOPE/SOUTH
SF SILT FENCE
SS SANITARY SEWER
SD STORM DRAIN
SMH SEWER MANHOLE
SCH SCHEDULE
SL STOP LINE
ST STREET
STA STATION
SWLL SOLID WHITE LANE LINE
TBM TEMPORARY BENCHMARK
TP TEST PIT
TRM TURF REINFORCING MAT
TWC TIME WARNER CABLE
TYP TYPICAL
UD UNDERDRAIN
UG UNDERGROUND
UGC UNDERGROUND CABLE
UGE UNDERGROUND ELECTRIC
UGT UNDERGROUND TELEPHONE
VER VERIZON
VERT VERTICAL
VT VITRIFIED CLAY
W WEST
W/ WITH
WS WATER SERVICE

LEGEND

Table with columns: EXISTING, DESCRIPTION, PROPOSED. Contains symbols for building, right of way, property line, parking setback, building setback, wetland boundary, stream bank, pavement edge, grading contour, spot elevation, treeline, poles, pedestrian poles, utility poles, traffic arrows, water lines, storm drains, sewers, hydrants, valves, manholes, catch basins, test pits, iron rods, monuments, riprap, silt fences, stone barriers, center lines, fences, limits of disturbance, curbs, and slopes.

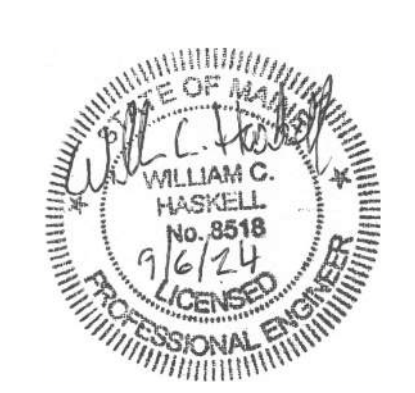


Table with columns: ISSUED FOR BIDDING, SUBMISSION, REV. Includes dates 9/6/2024 and 1.

PROJECT NAME: TORRINGTON AVENUE DRAINAGE IMPROVEMENTS
CITY OF PORTLAND, MAINE
DEPARTMENT OF PUBLIC WORKS
272 CANCO ROAD, SUITE B, PORTLAND, MAINE 04103
PHONE (207) 874-8846



Table with columns: DESIGN BY, DRAWN BY, CHECKED BY, SHEET NAME, DATE, SHEET NO., VAULT #. Includes names BBS, GHJ, WCH and dates SEPTEMBER 2024, SHEET 2 OF 6.



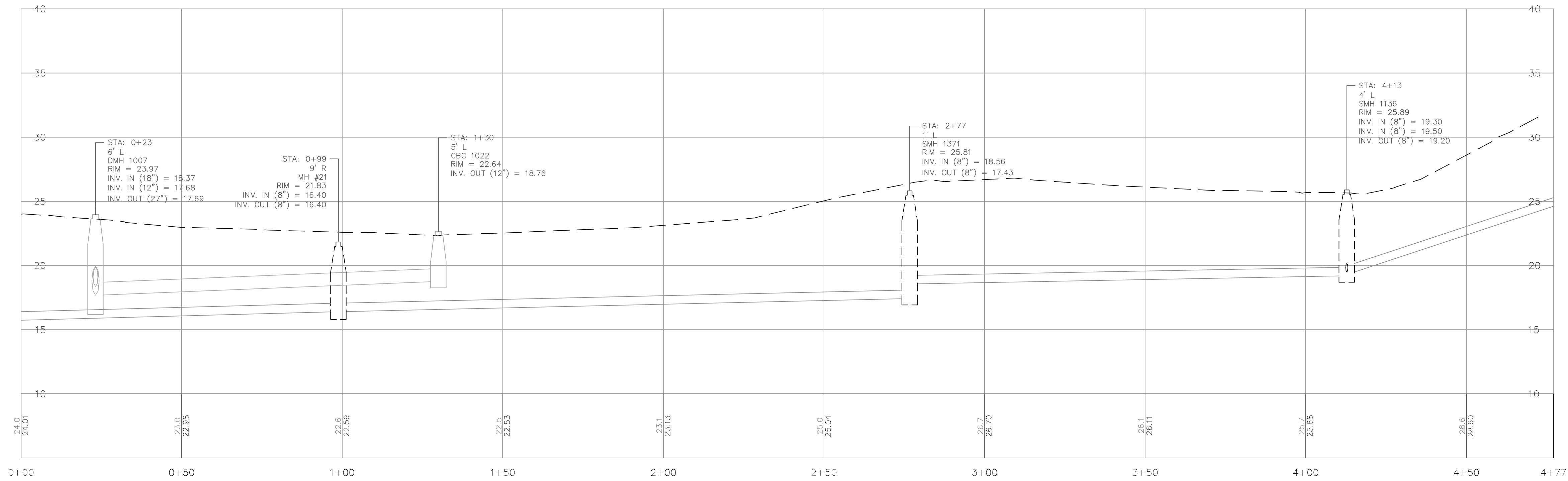
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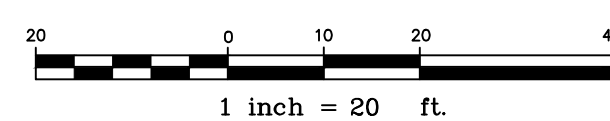


**TORRINGTON AVENUE PLAN**  
SCALE: 1"=20'

**CONSTRUCTION NOTES:**  
1. EXISTING STORM DRAIN, SEWER, AND WATER UTILITIES ARE SHOWN PER RECORD PLAN 950/001A SHEETS 1-5 & 8-9. LOCATIONS ARE APPROXIMATE AND WERE NOT FIELD VERIFIED.



**TORRINGTON AVENUE PROFILE**  
SCALE: 1"=20' HORIZ.  
1" = 5' VERT.



REV	ISSUED FOR BIDDING	DATE
1		9/6/2024

**TORRINGTON AVENUE  
DRAINAGE IMPROVEMENTS**  
CITY OF PORTLAND, MAINE  
DEPARTMENT OF PUBLIC WORKS  
212 CANCO ROAD, SUITE B, PORTLAND, MAINE 04103  
PHONE (207) 874-8846



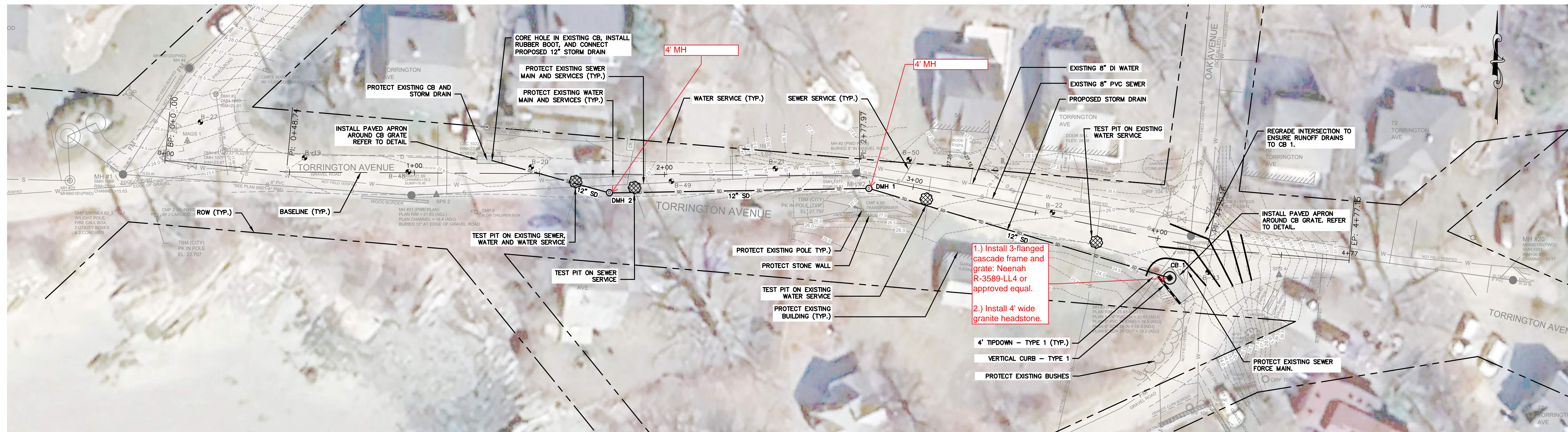
DESIGN BY: BBS  
DRAWN BY: GJH  
CHECKED BY: WCH  
SHEET NAME:

**TORRINGTON AVENUE  
EXISTING  
CONDITIONS**

DATE: SEPTEMBER 2024  
SHEET 3 OF 6  
SHEET NO.: 3  
VAULT #:



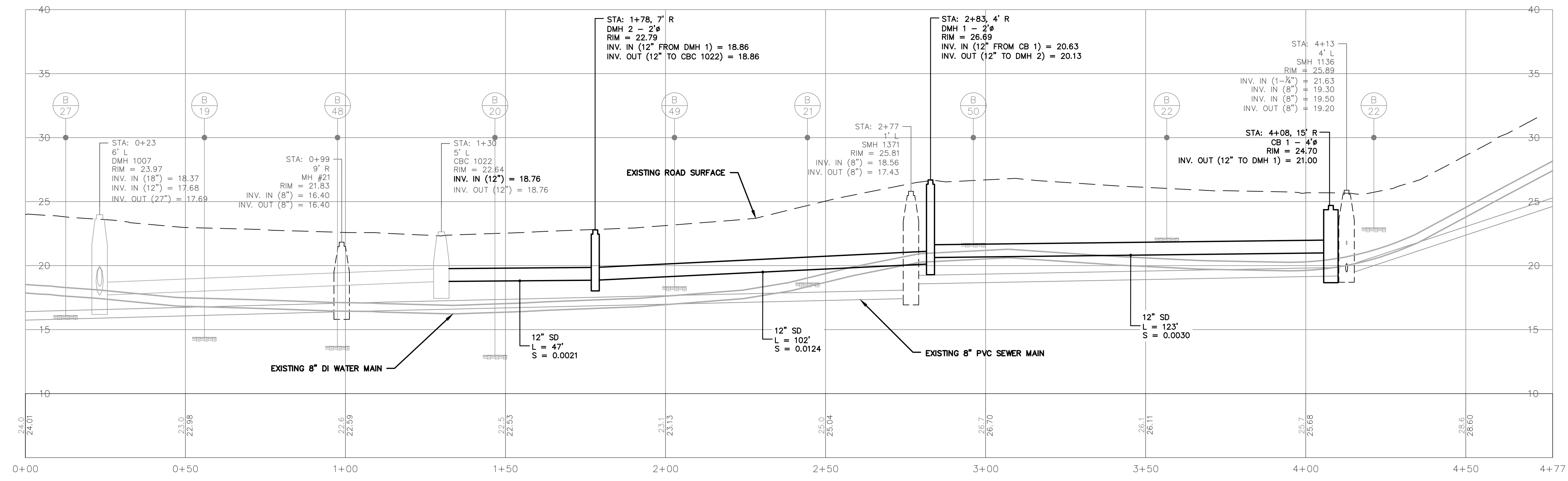
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**TORRINGTON AVENUE PLAN**

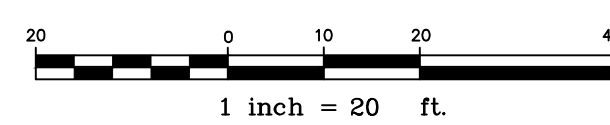
SCALE: 1"=20'

**CONSTRUCTION NOTES:**  
 1. DURING STORM DRAIN CONSTRUCTION THE CONTRACTOR SHALL REUSE EXISTING EXCAVATED MATERIAL FROM THE TRENCH AND ROADWAY GRAVELS TO BACKFILL THE TRENCH AND RESTORE THE ROADWAY.  
 2. BORING INFORMATION IS FROM RECORD DRAWINGS FOR THE PEAKS ISLAND - TORRINGTON PT. SEWERS AND WATERMAINS PROJECT (1997). THE DATE OF BORINGS IS UNKNOWN.



**TORRINGTON AVENUE PROFILE**

SCALE: 1"=20' HORIZ.  
 1" = 5' VERT.



**SK-1**  
**Justin Pellerin, P.E.**  
**2024-11-21**



REV	ISSUED FOR BIDDING	DATE
1	9/6/24	9/6/2024

**TORRINGTON AVENUE DRAINAGE IMPROVEMENTS**  
 CITY OF PORTLAND, MAINE  
 DEPARTMENT OF PUBLIC WORKS  
 212 CANCO ROAD, SUITE B, PORTLAND, MAINE 04103  
 PHONE (207) 874-6846



DESIGN BY:	BBS
DRAWN BY:	GJH
CHECKED BY:	WCH
SHEET NAME:	TORRINGTON AVENUE PLAN AND PROFILE
DATE:	SEPTEMBER 2024
SHEET NO.:	4 OF 6
SHEET NO.:	4
VAULT #:	-



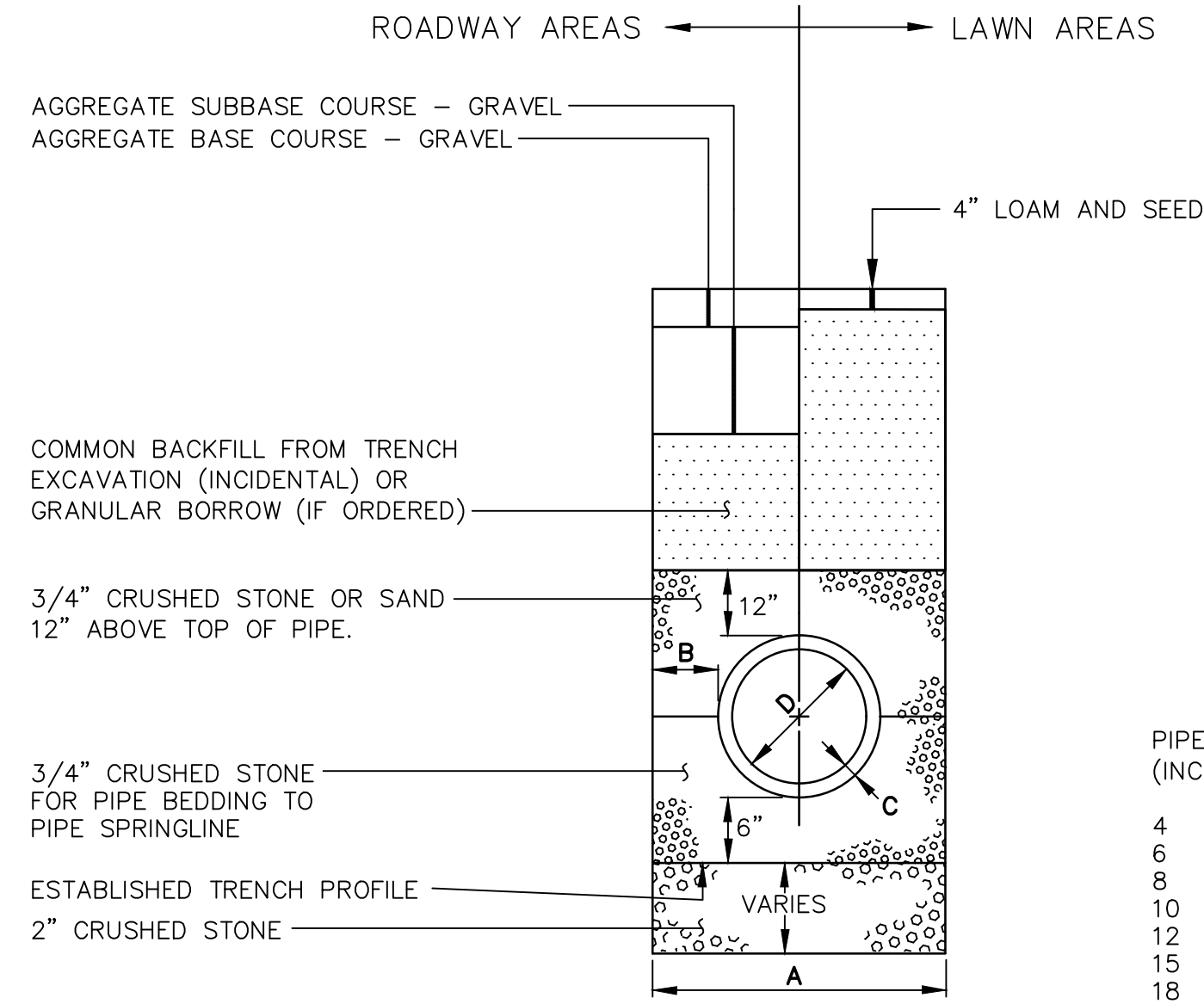
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U:\3507.06\_PORTLAND\_TORRINGTON POINT ROAD DRAINAGE - CADD\WG3507-06-PHASE DWG PPI\_44(2)19

- ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 LBS. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
- MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
- PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
- ALL PIPES ENTERING MANHOLES AND CATCH BASINS SHALL HAVE FLEXIBLE PIPE CONNECTIONS WITH STAINLESS STEEL BANDS. FILL ANY ANNUAL SPACE WITH NON SHRINK GROUT.
- ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLID
- ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
- SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C-32-63, GRADE MA AND SA.
- INVERTS SHALL BE BUILT TO THE HEIGHT OF THE FOLLOWING AS DETERMINED BY THE LARGEST PIPE SIZE.
  - FOR PIPE SIZES 4"-12" INVERTS SHALL GO TO THE TOP OF THE PIPE.
  - FOR PIPE SIZES 15"-36" INVERTS SHALL GO TO THE SPRING LINE.
  - FOR PIPE SIZES 42"-60" INVERTS SHALL GO TO THE 1/3 OF PIPE SIZE
- ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE.
- CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35.
- EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
- ALL CATCH BASIN OUTLETS SHALL BE INSTALLED WITH A HOOD / CASCO TRAP. SEE FIGURE II-09.
- ALL MANHOLES AND CATCH BASINS REQUIRE BUOYANCY CALCULATIONS AND THE STRUCTURES SHALL BE MODIFIED AS NECESSARY BASED ON THOSE CALCULATIONS.

GENERAL NOTES FOR MANHOLES AND CATCH BASINS

NOTE:  
ANY ALTERNATE TRENCHING OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY OF PORTLAND, DEPARTMENT OF PUBLIC SERVICES.



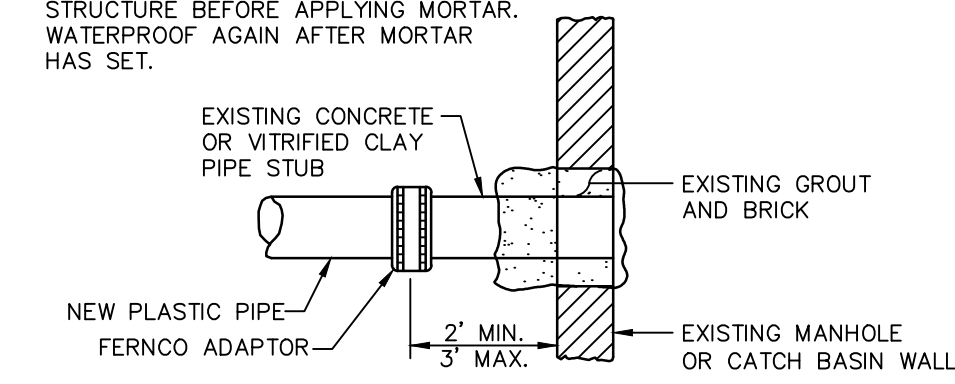
PIPE DIAMETER, D (INCHES)	MAX. TRENCH WIDTH, A (FEET)
4	4.0
6	4.0
8	4.0
10	4.0
12	5.0
15	5.0
18	5.0
21	5.0
24	6.0
27	6.0
30	6.0
36	6.0
42	7.0
48	7.0

TYPICAL PIPE TRENCH INSTALLATION  
NOT TO SCALE

NOTES

- ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
- DEPTH OF GRAVEL SHALL MATCH THE EXISTING CONDITIONS
- DIMENSION B SHALL BE SUFFICIENT TO ALLOW CRUSHED STONE BEDDING TO BE PLACED AND COMPACTED UNDER THE HAUNCHES OF THE PIPE; BUT IN ALL CASES DIMENSION B SHALL BE AT LEAST 9".
- DIMENSION A IS THE MAXIMUM WIDTH ALLOWED FOR CALCULATING PAY QUANTITIES UNDER GRANULAR BORROW, CRUSHED STONE, STRUCTURAL EARTH EXCAVATION, AND STRUCTURAL ROCK EXCAVATION. DIMENSION A SHALL BE BASED ON PIPE DIAMETER D, AS SET FORTH IN THE FOLLOWING TABLE.
- THE CONTRACTOR SHALL REUSE EXCAVATED GRAVEL AND ROADWAY GRAVEL TO BACKFILL THE STORM DRAIN TRENCHES AND RESTORE THE GRAVEL ROADWAY.

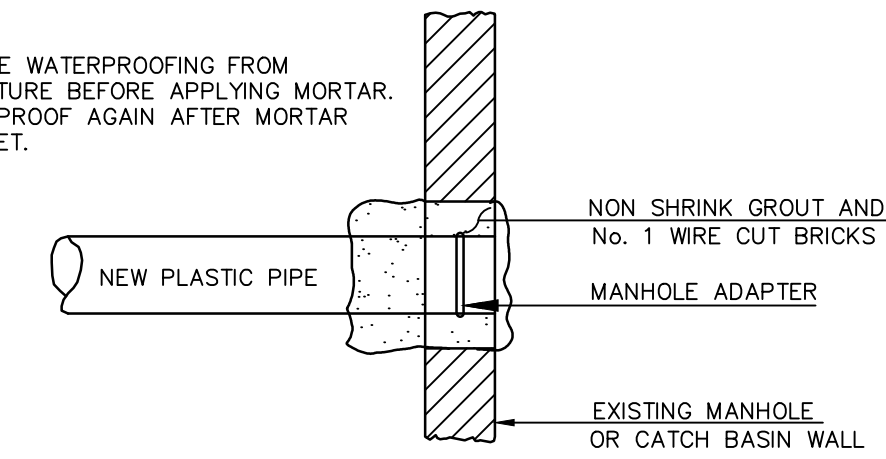
NOTE:  
REMOVE WATERPROOFING FROM STRUCTURE BEFORE APPLYING MORTAR. WATERPROOF AGAIN AFTER MORTAR HAS SET.



METHOD 4 - NEW PIPE TO EXISTING STRUCTURE STUB

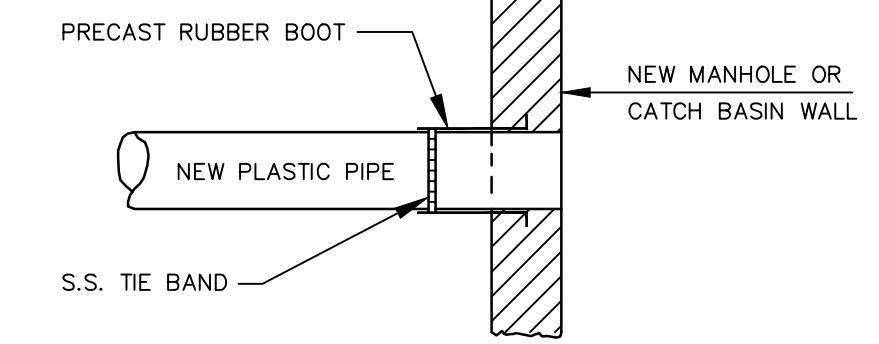
NOTE: EXISTING MANHOLE OR CATCH BASIN SHALL BE CORE DRILLED FOR PIPE INSTALLATION. IF PIPE DIAMETER IS SO LARGE THAT CORE DRILLING IS PROHIBITED, THE CONTRACTOR MAY SAW CUT THE STRUCTURE TO CREATE PIPE OPENING. THE NEW OPENING MUST THEN BE SEALED AND WATERTIGHT BOTH INSIDE AND OUTSIDE THE STRUCTURE.

NOTE:  
REMOVE WATERPROOFING FROM STRUCTURE BEFORE APPLYING MORTAR. WATERPROOF AGAIN AFTER MORTAR HAS SET.

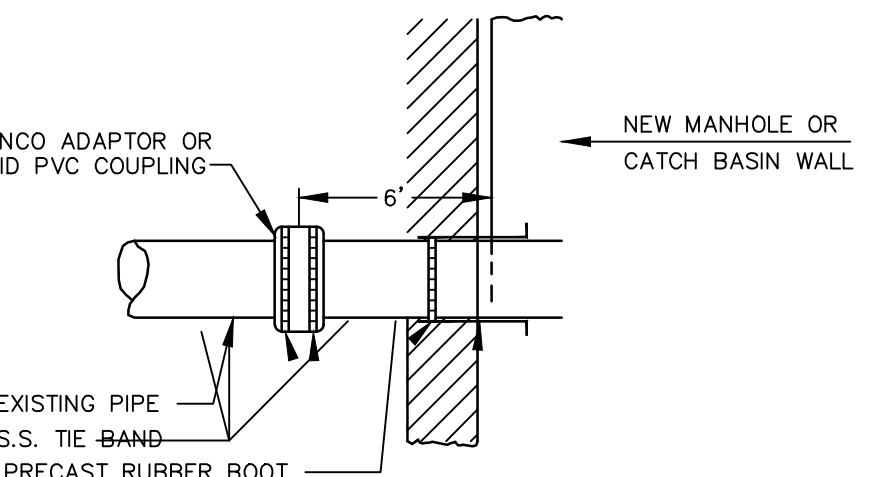


METHOD 3 - NEW PIPE INTO EXISTING STRUCTURE

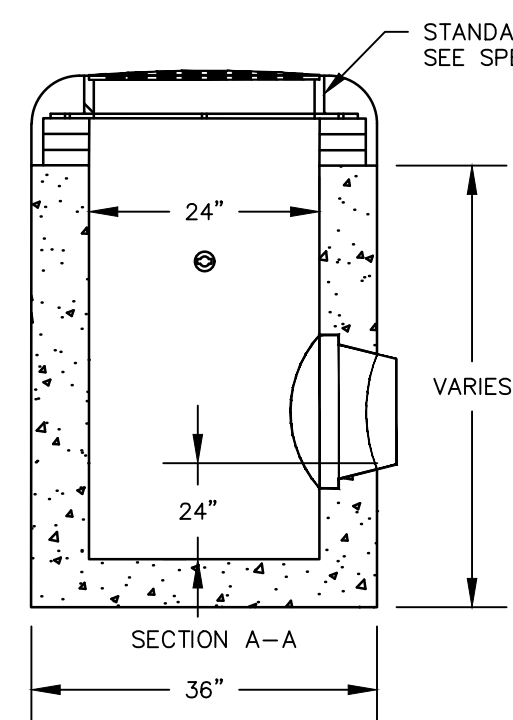
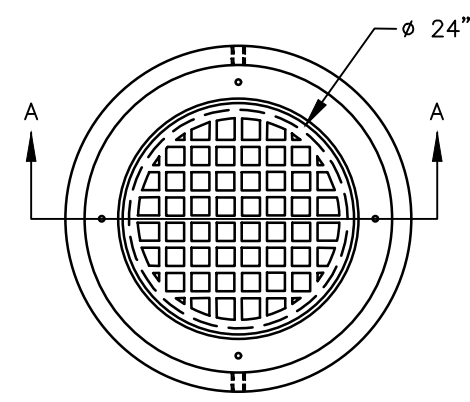
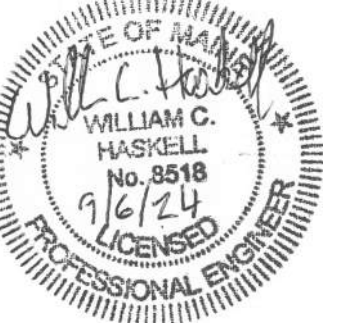
PLASTIC PIPE CONNECTIONS  
NOT TO SCALE



METHOD 2 - NEW CONSTRUCTION



METHOD 1 - EXISTING PIPE INTO NEW STRUCTURE



- NOTES:
- WEIGHT = 2240 LBS.
  - CONCRETE: 5000 PSI AFTER 28 DAYS
  - CEMENT: TYPE III PER ASTM C150-81
  - REINFORCING: MEETS H-20 LOADING REQUIREMENTS
  - CONFORMS TO ASTM C-478 & MDOT SPECIFICATIONS

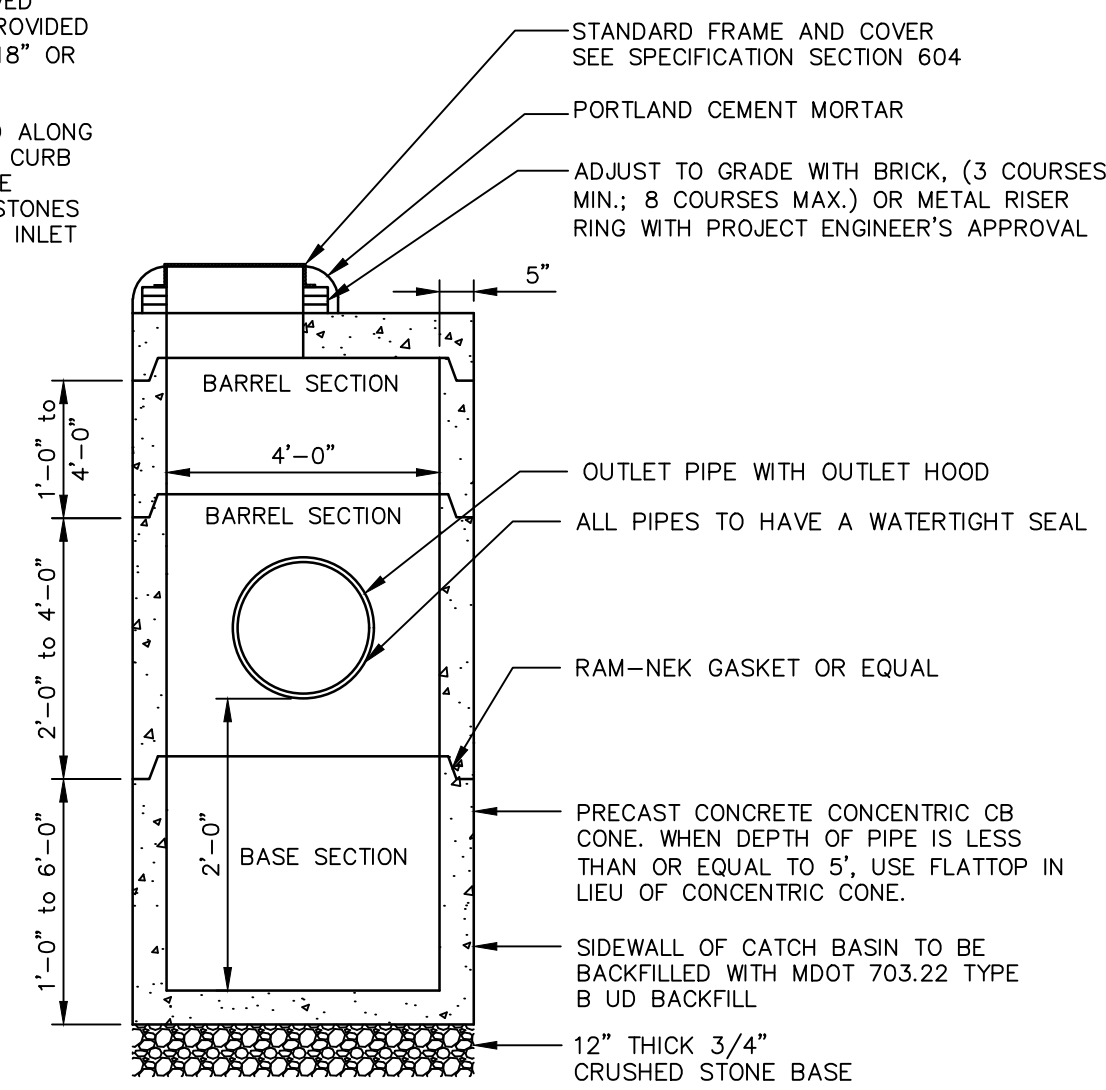
2' DIAMETER MANHOLE WITH CAST IRON FRAME AND GRATE  
NOT TO SCALE

NOTES:

- "THE SNOOT" OR APPROVED EQUIVALENT SHALL BE PROVIDED ON CATCH BASIN PIPES 18" OR LESS.
- CATCH BASINS INSTALLED ALONG CURB LINES SHALL HAVE CURB INLET STONES AND WHERE NECESSARY TRANSITION STONES ON BOTH SIDES OF CURB INLET STONE.

DESIGN NOTES:

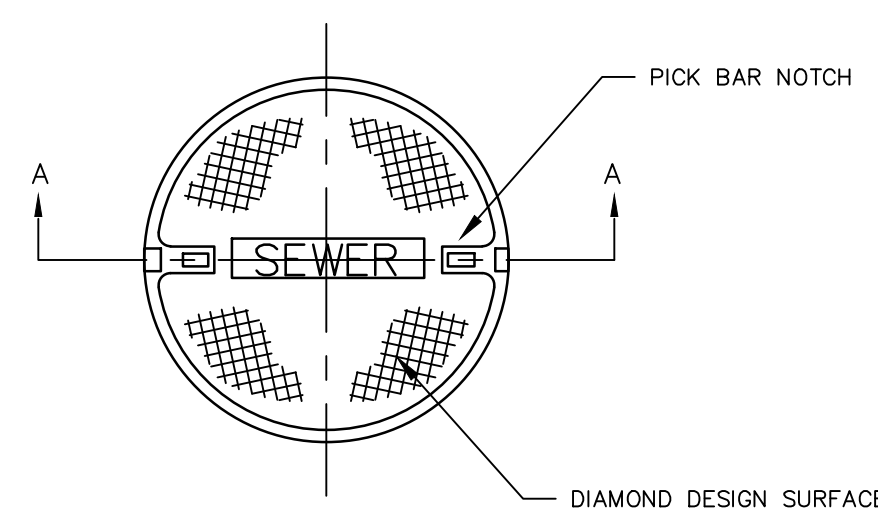
- ALL CONCRETE TO HAVE A MINIMUM OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
- DESIGN LOAD FOR H-20 WHEEL LOAD.
- CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
- REINFORCE TO 0.12 IN SQ./LF.



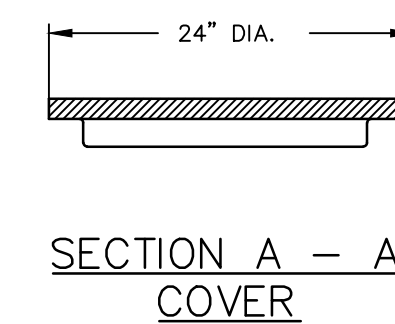
4'-0" PRECAST CATCH BASIN  
NOT TO SCALE

NOTES:

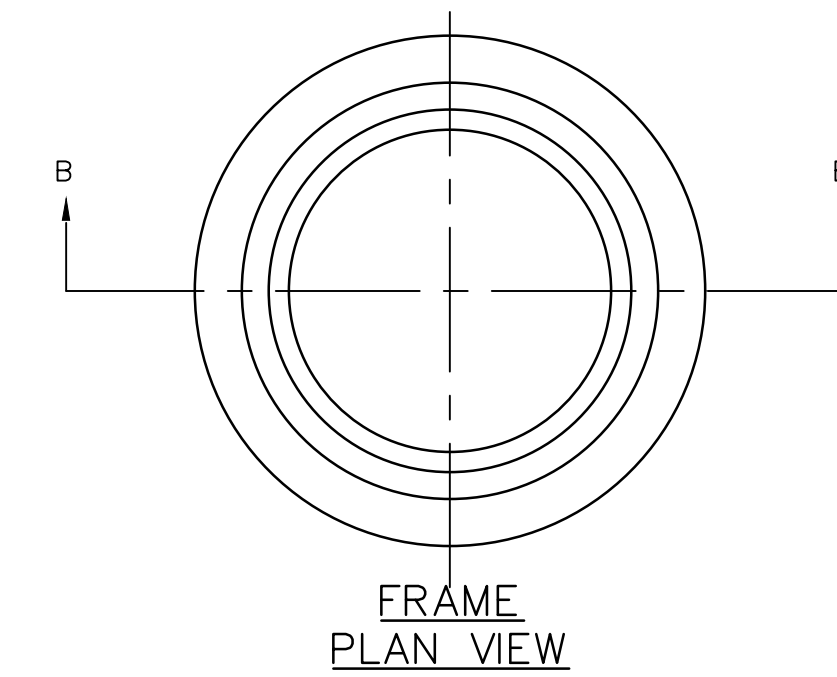
- ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
- APPROVED MANHOLE FRAMES:
  - EAST JORDAN = 1690Z
  - NEENAH = R-1496
  - OR APPROVED EQUAL
- APPROVED MANHOLE COVERS:
  - EAST JORDAN = 2160A
  - NEENAH = R-1496
  - OR APPROVED EQUAL



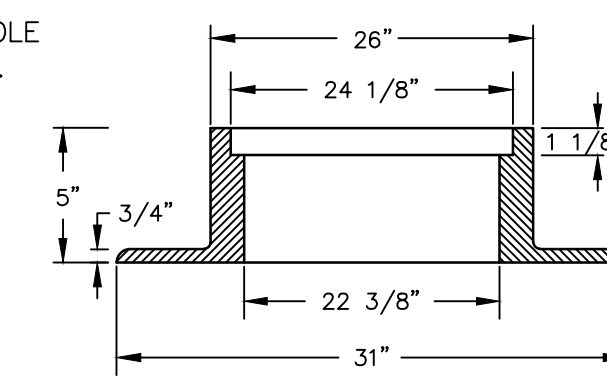
COVER PLAN VIEW



SECTION A - A COVER



FRAME PLAN VIEW



MIN. WGT. 320 LBS.  
SECTION B - B FRAME

NOTE:  
ALL SANITARY AND STORMWATER/DRAIN MANHOLE COVERS SHALL BE 24" x 5".

CAST IRON MANHOLE COVER AND FRAME  
NOT TO SCALE

REV	DESCRIPTION	DATE
1	ISSUED FOR BIDDING	9/6/2024

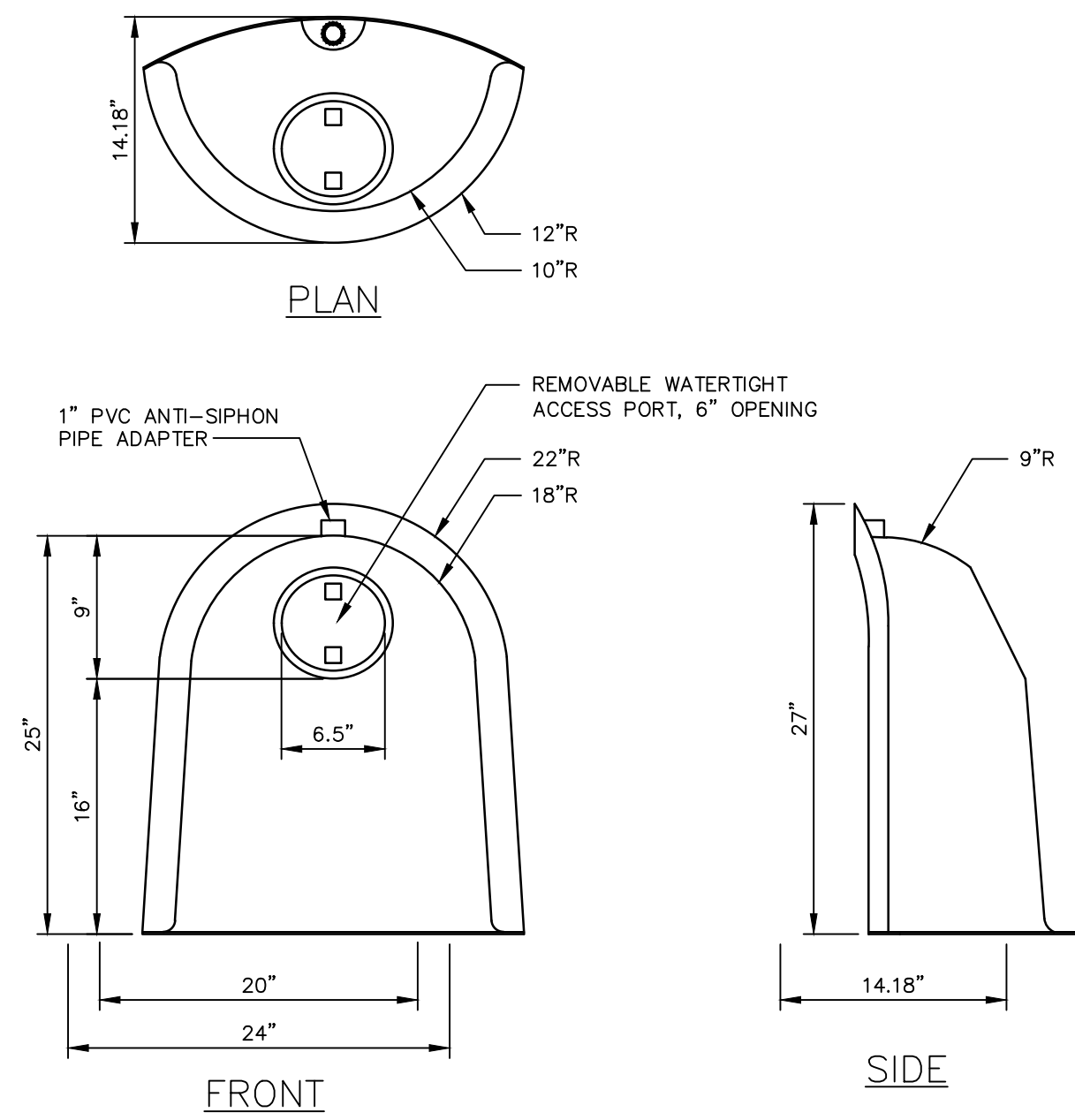
PROJECT NAME:  
TORRINGTON AVENUE DRAINAGE IMPROVEMENTS  
CITY OF PORTLAND, MAINE  
DEPARTMENT OF PUBLIC WORKS  
212 CANCO ROAD, SUITE B, PORTLAND, MAINE 04103  
PHONE: (207) 874-8846



DESIGN BY:	BBS
DRAWN BY:	GJH
CHECKED BY:	WCH
SHEET NAME:	TORRINGTON AVENUE DETAILS 1
DATE:	SEPTEMBER 2024
SHEET NO.:	5 OF 6
VAULT#:	

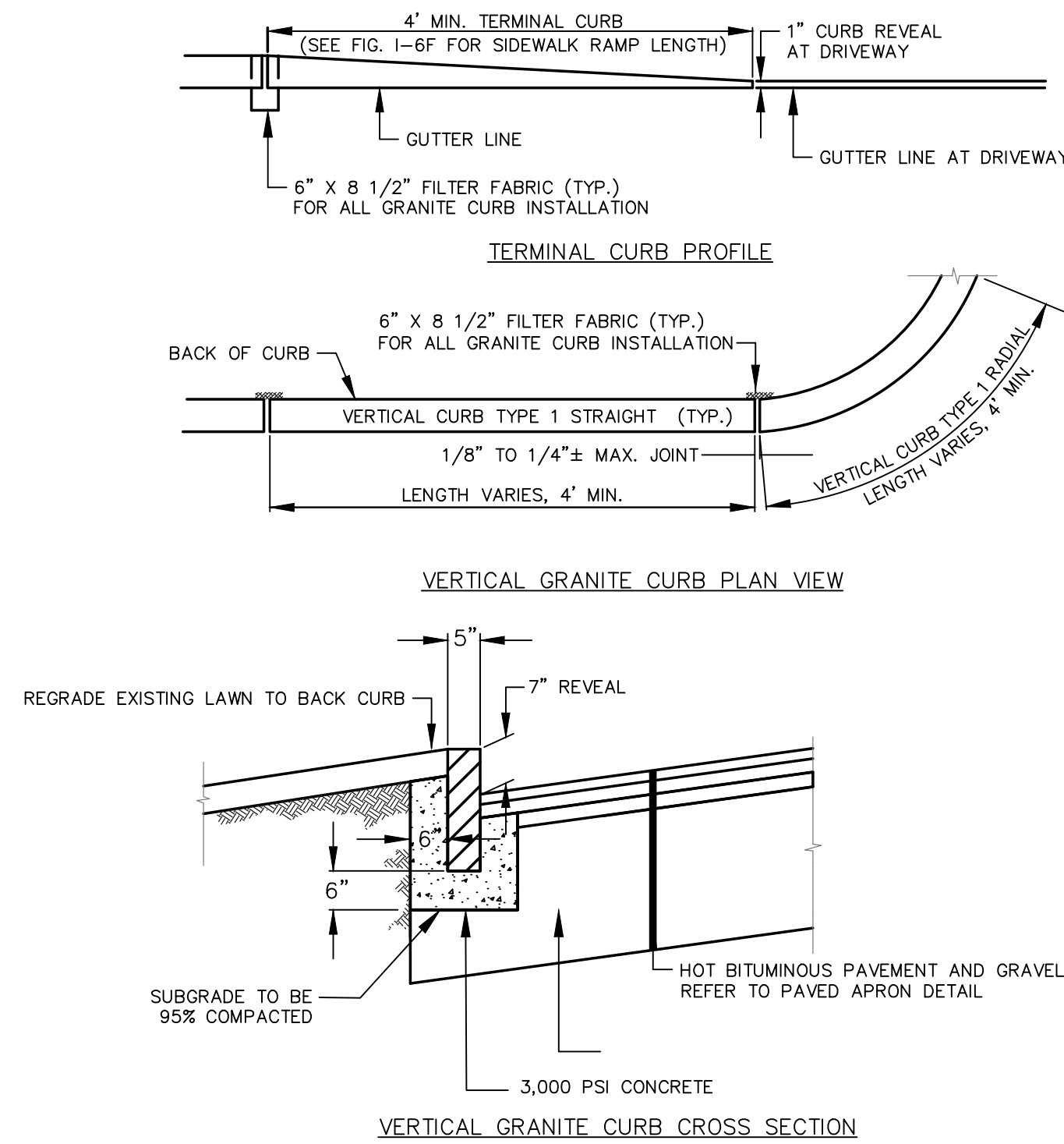


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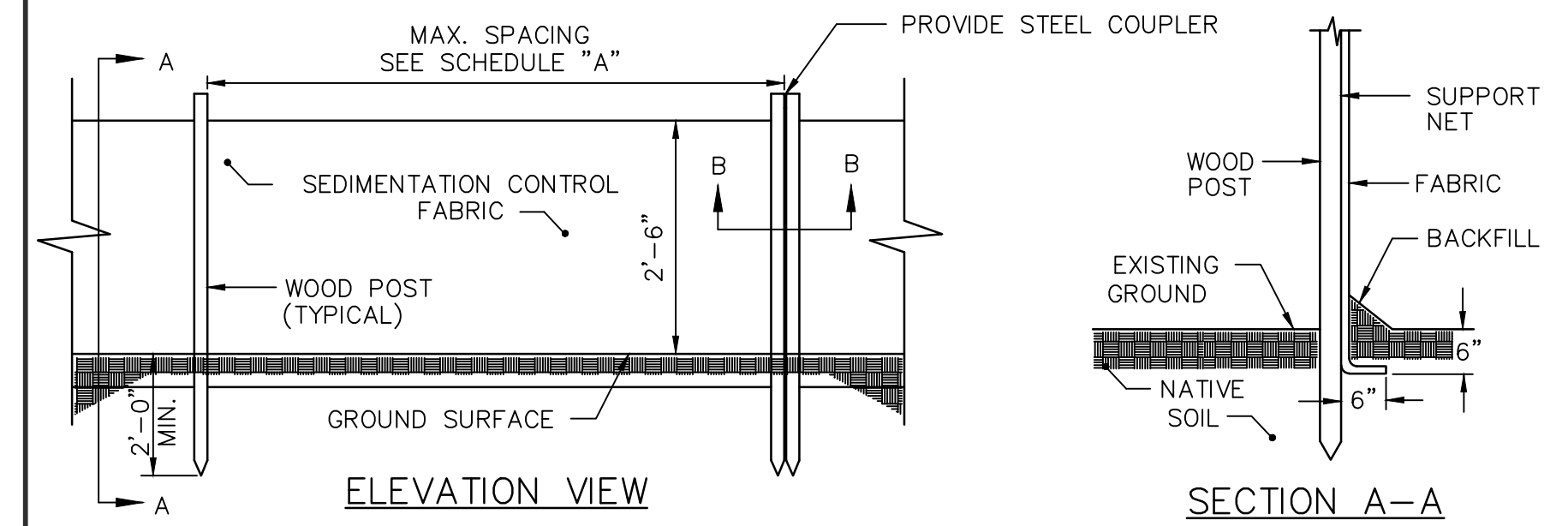
NOTE:  
FOR USE ON CATCH BASIN OUTLET  
18" IN DIAMETER AND LESS

CATCH BASIN HOOD  
NOT TO SCALE

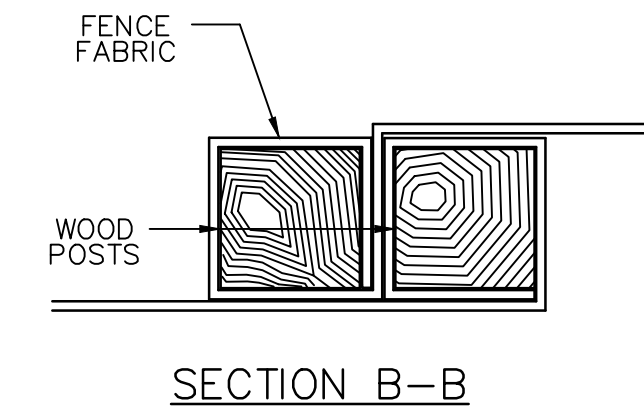


- NOTES:
- INDIVIDUAL PIECES OF CURB SHORTER THAN 4 L.F. ARE NOT ALLOWED, WITH THE EXCEPTION OF RADIAL CURB.
  - THE MINIMUM HEIGHT OF THE CONCRETE BACKING SHALL BE 10-INCHES OR TO THE BOTTOM OF THE HOT MIX ASPHALT PAVEMENT, WHICHEVER IS GREATER, MEASURED FROM THE BOTTOM OF CURB.
  - CURBING SHALL BE SET IN A 6-INCH BED OF POURED IN PLACE 3,000 PSI CONCRETE MIX.
  - WOODEN SHIMS MAY BE USED TO SET CURB.

VERTICAL GRANITE CURB  
NOT TO SCALE



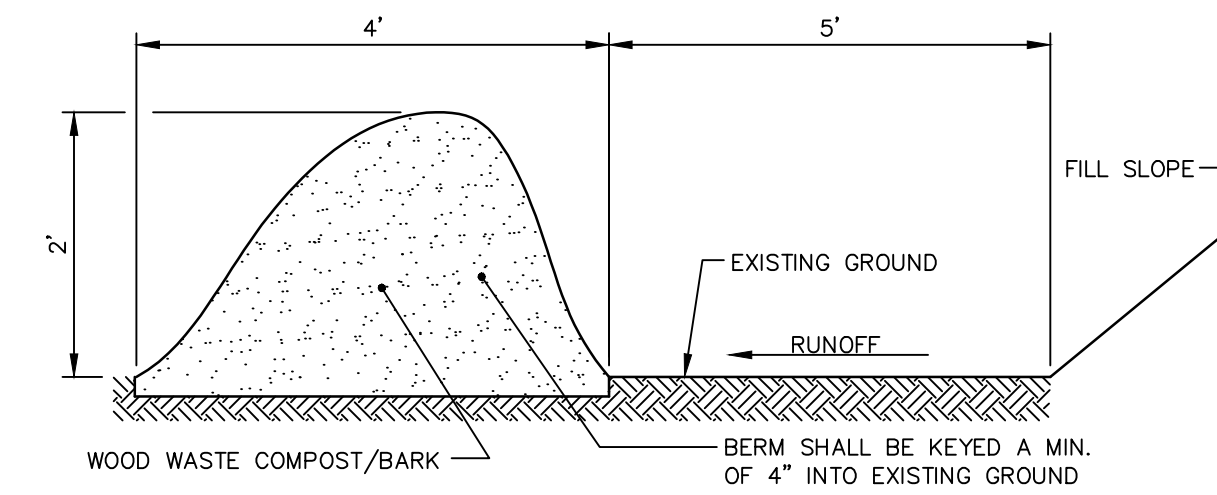
SCHEDULE "A"	
SILT FENCE REINFORCEMENT	MAX. SPACING
NONE	6'
WIRE REINFORCEMENT 14 GAUGE, 6" MESH	10'



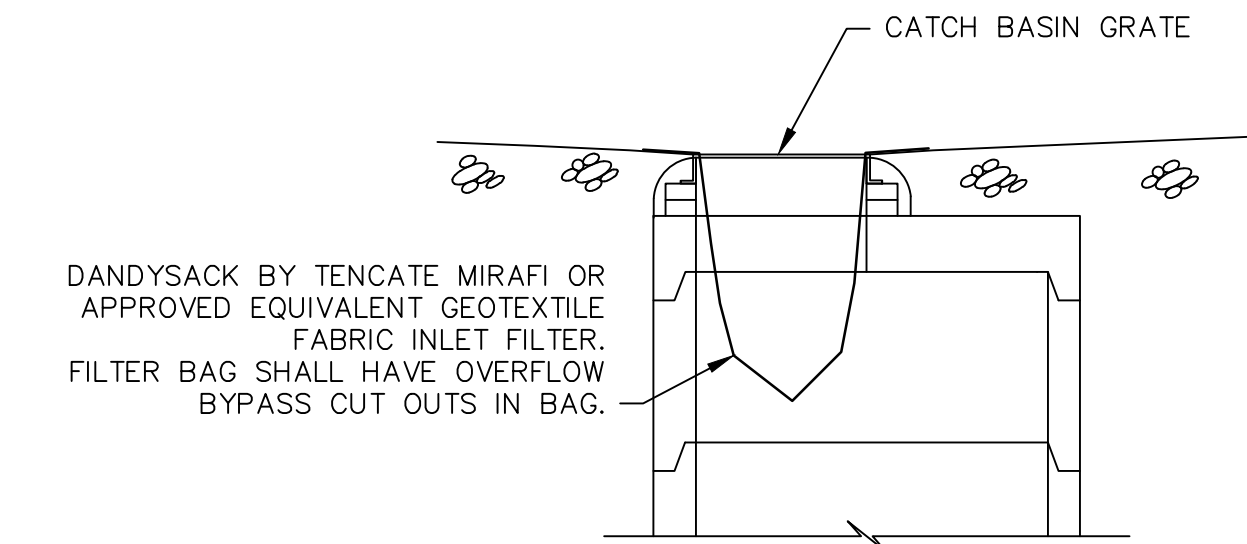
SILTATION FENCE  
NOT TO SCALE

NOTES:

- THE WOOD WASTE COMPOST/BARK MIX SHALL CONFORM TO THE FOLLOWING STANDARDS:
  - MOISTURE CONTENT - 30-60%
  - pH - 5.0 - 8.0
  - SCREEN SIZE - 100% LESS THAN 3", MAX. 70% LESS THAN 1"
  - NO LESS THAN 40% ORGANIC MATERIAL (DRY WEIGHT) BY LOSS OF IGNITION.
  - NO STONES LARGER THAN 2" IN DIAMETER.
  - SILTS, CLAYS OR SUGAR SANDS ARE NOT ACCEPTABLE IN THE MIX.
- THE COMPOST BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.
- THE WOOD WASTE COMPOST/BARK FILTER BERM MAY BE USED IN LIEU OF SILTATION FENCE, AT THE TOE OF SHALLOW SLOPES, ON FROZEN GROUND, LEDGE OUT CROPS, VERY ROOTED FORESTED AREA OR AT THE EDGE OF GRAVEL PARKING AREAS.
- BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS COMPLETED OR 70% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED BY SPREADING SUCH THAT NATIVE EARTH CAN BE SEEN BELOW.
- WOODWASTE COMPOST BARK FILTER SHALL NOT BE USED IN WETLAND AREAS.



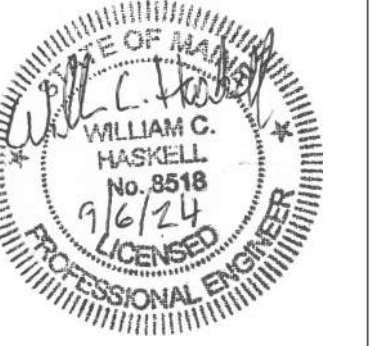
WOOD WASTE COMPOST/BARK  
FILTER BERM DETAIL  
NOT TO SCALE



CATCH BASIN INLET FILTER  
NOT TO SCALE



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DATE	REVISION
9/6/2024	1

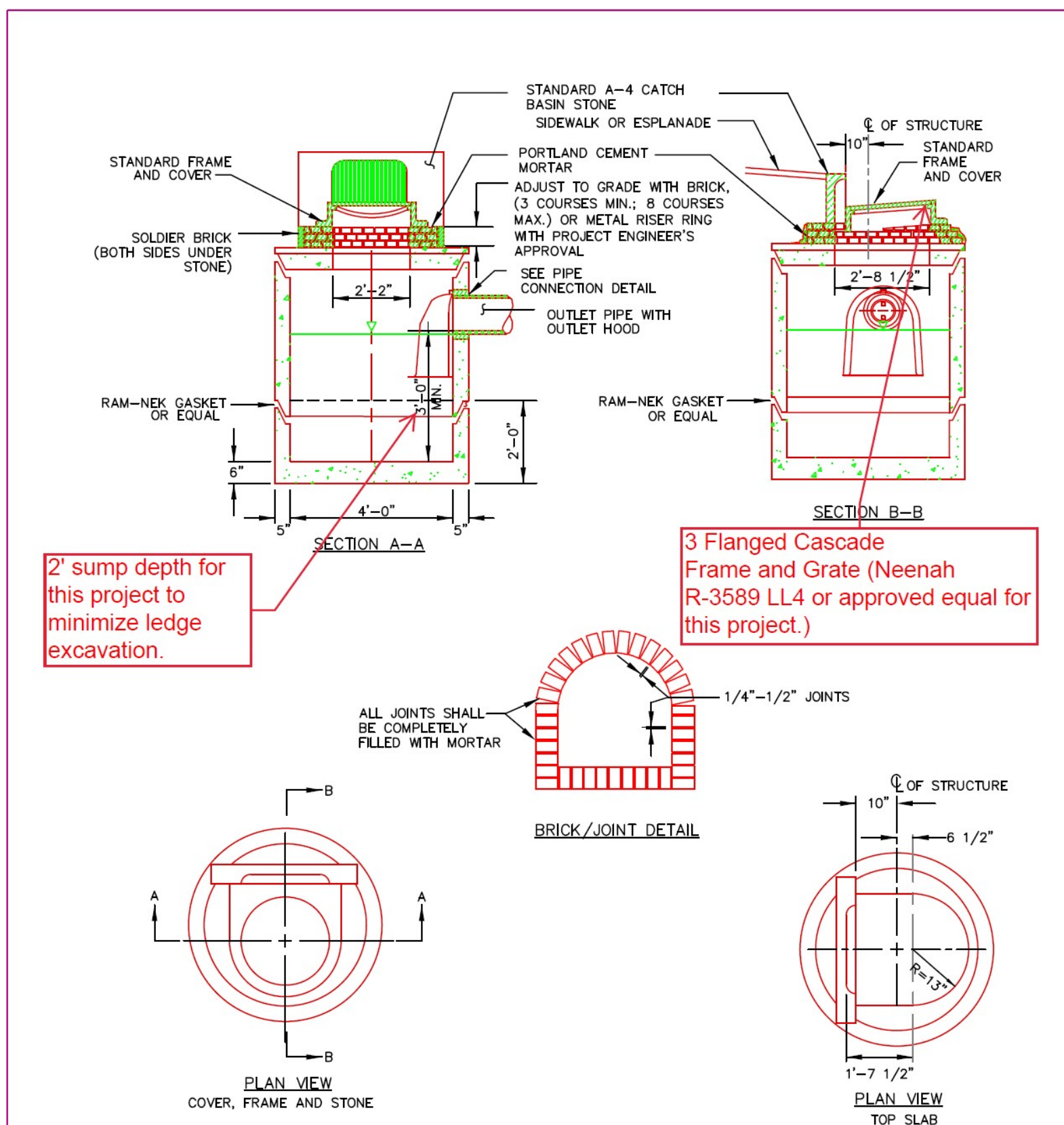
PROJECT NAME:  
TORRINGTON AVENUE  
DRAINAGE IMPROVEMENTS  
CITY OF PORTLAND, MAINE  
DEPARTMENT OF PUBLIC WORKS  
212 CANCO ROAD, SUITE B, PORTLAND, MAINE 04103  
PHONE (207) 874-8866



DESIGN BY: BBS  
DRAWN BY: GJH  
CHECKED BY: WCH  
SHEET NAME:

TORRINGTON  
AVENUE  
DETAILS 2

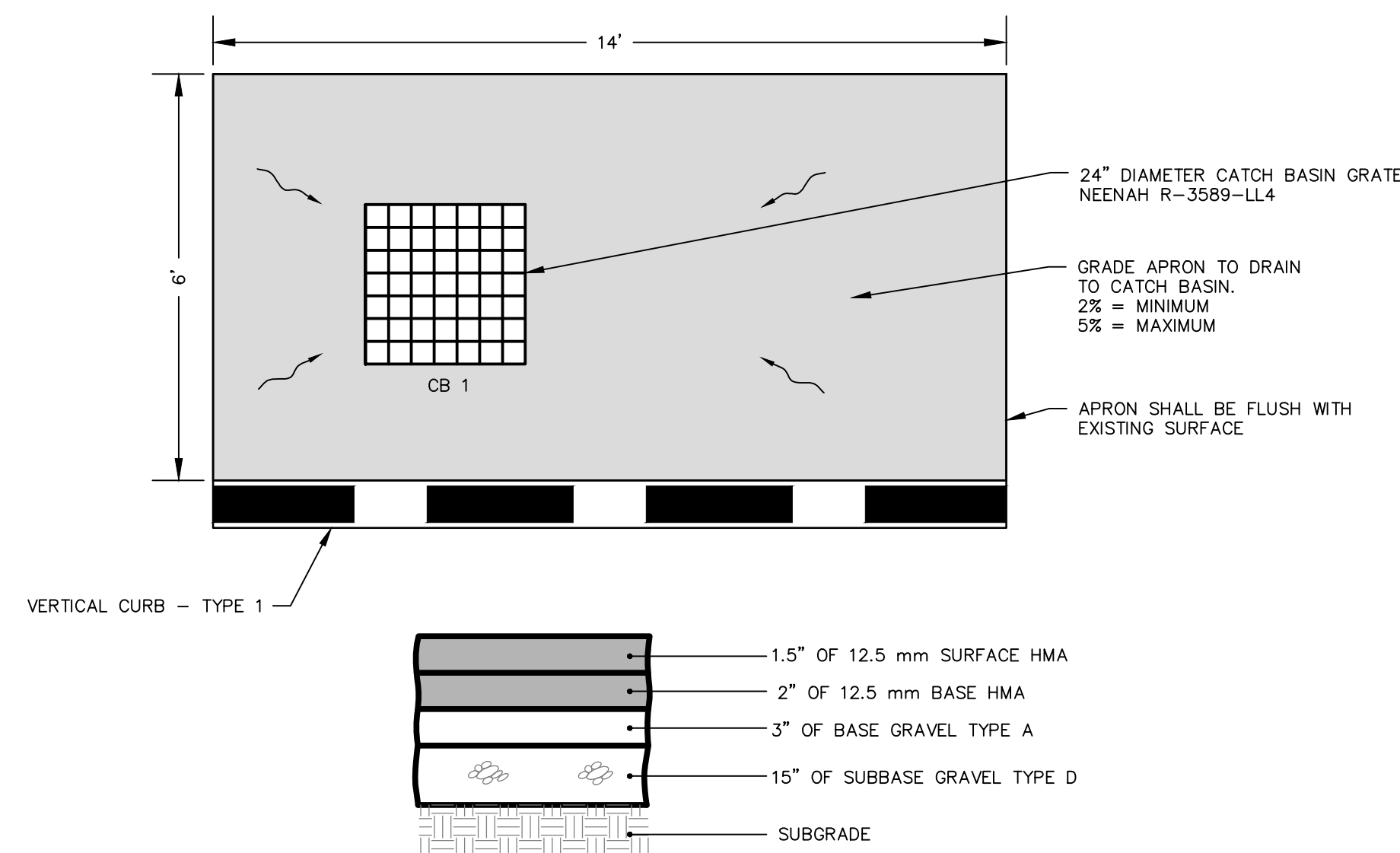
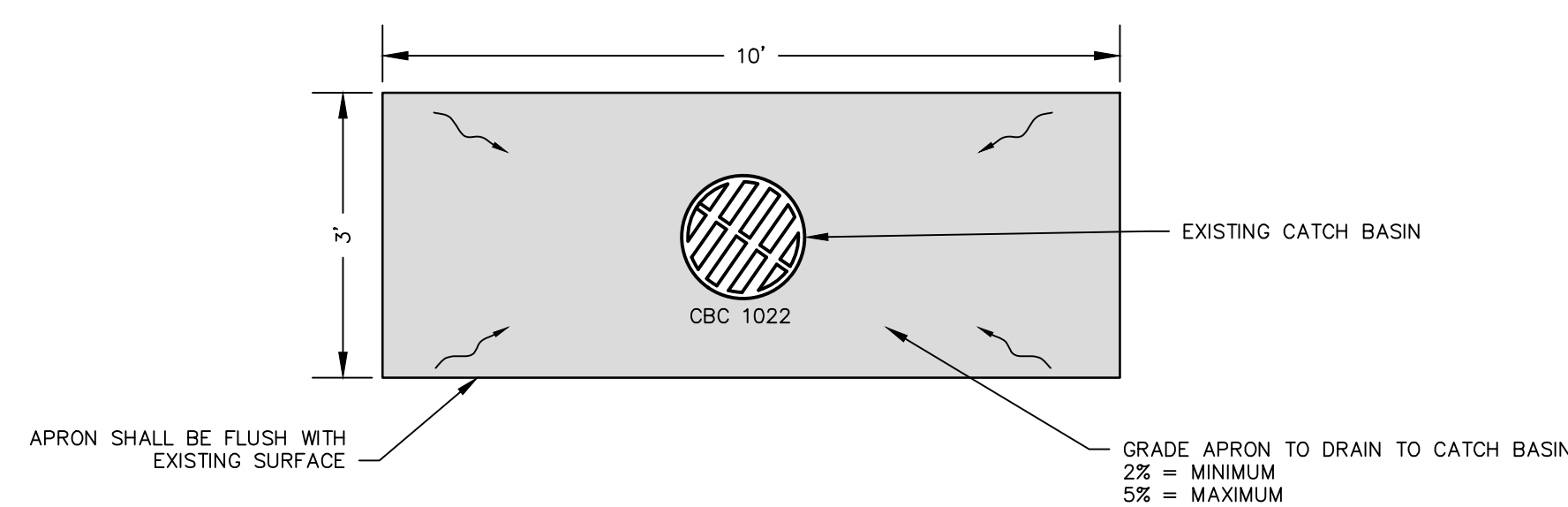
DATE: SEPTEMBER 2024  
SHEET NO. 6 OF 6  
SHEET NO. 6  
VAULT#:



PRECAST CONCRETE CATCH BASIN - TYPE "E"  
NOT TO SCALE

DATE: MARCH 2009 REVISED: AUG 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE: <b>II-7</b>
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PRECAST CONCRETE CATCH BASIN



PAVED CATCH BASIN APRON DETAIL  
NOT TO SCALE