CITY OF PORTLAND

PUBLIC WORKS DEPARTMENT

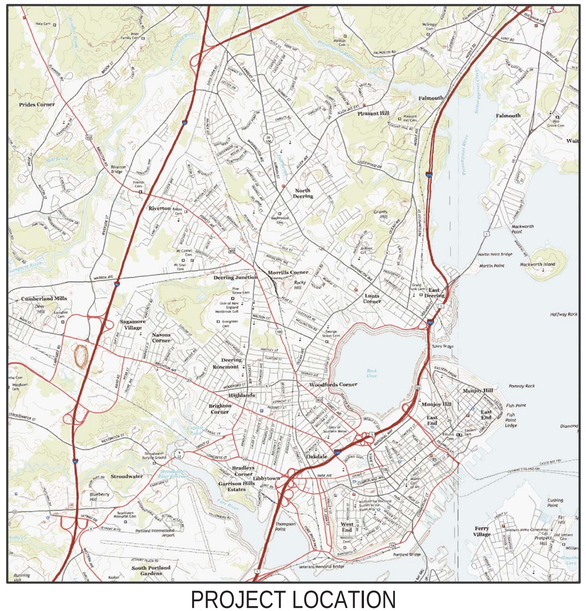
CONTRACT DRAWINGS

~~2025-2027 NEIGHBORHOOD DRAINAGE AND SEWER SYSTEM REPAIR CONTRACT~~

DEERING AVE SEWER EXTENSION (Pitt Street to Fessenden Street)

BID PLANS

~~OCTOBER 2024~~ MARCH 2025



PROJECT LOCATION

PORTLAND, ME

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YEAR APPROVED

2024

10/31/2024

JUSTIN PELLERIN, P.E. DATE

SENIOR WATER RESOURCES ENGINEER

10/31/2024

WILLIAM BOORNAZIAN, P.E. DATE

WATER RESOURCES MANAGER

STATE OF MAINE
JUSTIN R. PELLERIN
No. 14275
LICENSED PROFESSIONAL ENGINEER
10/31/24

VAULT #: 01051_003

S:\WATER RESOURCES - ENGINEERING\SEWER-STORM INVESTIGATION\2024-2026 NEIGHBORHOOD DRAINAGE AND SEWER SYSTEM REPAIR CONTRACT\CAD\20240508 NEIGHBORHOOD DRAINAGE AND SEWER CONTRACT DWG COVERSHEET 10/31/2024

GENERAL NOTES:

1. EXISTING CONDITIONS BASED ON RECORD DRAWINGS AND LIMITED FIELD SURVEY COMPLETED BY PORTLAND PUBLIC WORKS SURVEY CREW IN 2024. ALL INFRASTRUCTURE MATERIALS, SIZES, AND LOCATIONS SHALL BE FIELD VERIFIED.

2. 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.

3. PROTECT EXISTING FEATURES/STRUCTURES NOT CALLED OUT FOR REPLACEMENT/ALTERATION.

4. 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.

5. PRIOR TO THE BEGINNING OF CONSTRUCTION, THE CONTRACTOR SHALL SECURE A STREET OPENING PERMIT FROM THE PORTLAND DEPARTMENT OF PUBLIC WORKS. NO FEE WILL BE CHARGED FOR THIS PERMIT

6. 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.

7. ELECTRICAL AND TELECOMMUNICATIONS SERVICE PROVIDED VIA OVERHEAD LINES, UNLESS OTHERWISE SHOWN. CONTRACTOR SHALL USE CAUTION WHEN WORKING NEAR EXISTING OVERHEAD LINES.

8. 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.

9. RESIDENTIAL SANITARY SEWER SERVICE INFORMATION (LOCATION, SIZE, PIPE MATERIALS, ETC.) OBTAINED FROM HISTORIC SEWER CARDS AND SEWER VIDEOS. RECORD INFORMATION NOT FOUND FOR ALL RESIDENCES WITHIN THE PROJECT ZONE.

10. 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.

11. 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.

12. MAINTENANCE OF TRAFFIC SHALL BE PER THE MOST CURRENT EDITION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE MOST CURRENT MAINE DOT SPECIFICATIONS AND STANDARD PLANS.

13. PROPERTY LINE AND R.O.W. MONUMENTS SHALL NOT BE DISTURBED BY CONSTRUCTION UNLESS CALLED OUT ON THE PLANS. DISTURBED MONUMENTS SHALL BE RESET BY A MAINE LICENSED LAND SURVEYOR.

14. 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 MAY HAVE FACILITIES WITHIN THE PROJECT LIMITS: · CENTRAL MAINE POWER COMPANY · UNITIL · PORTLAND FIRE DEPARTMENT · PORTLAND WATER DISTRICT · CITY OF PORTLAND · SPECTRUM · CONSOLIDATED COMMUNICATIONS · AT&T· ANY ADDITIONAL UTILITY WORK NOT SPECIFIED ON THE PLANS SHALL BE COMPLETED BY THE RESPECTIVE UTILITY COMPANY.

15. CONTRACTOR SHALL COORDINATE DISRUPTION OF PRIVATE UTILITY SERVICES WITH LAND OWNER AT LEAST 2 DAYS (48 HOURS) PRIOR TO SCHEDULED DISRUPTION.

16. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA REGULATIONS SUBPART P OF 29 CRF PART 1926.650- 652 (CONSTRUCTION STANDARD FOR EXCAVATIONS).

17. LOCATIONS OF RIGHT-OF-WAY SHOWN ON PLANS ARE APPROXIMATE ONLY.

18. THE CONTRACTOR SHALL COMPLETE THE WORK WITHIN THE RIGHT-OF-WAY, AND SHALL BE RESPONSIBLE IF TRESPASSING ON PRIVATE PROPERTY OCCURS.

19. 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.

20. 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.

21. ALL SIGNING, SIGNAL AND STRIPING MATERIALS AND PLACEMENT SHALL CONFORM TO THE MAINE DOT STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND STANDARD DETAILS AND WITH THE MOST CURRENT FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

22. 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.

23. 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.

24. ALL WORK COMPLETED UNDER THIS CONTRACT SHALL BE GOVERNED BY AND SHALL CONFORM WITH CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS AND GUIDELINES.

25. 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.

26. 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.

27. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND CITY OF PORTLAND CODES AND SPECIFICATIONS.

28. COMPACTION REQUIREMENTS:

LOCATION	BELOW PAVED AREAS	BELOW SEEDED AREAS
MINIMUM COMPACTION*	95%	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.

29. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANING 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.

30. 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.

31. PROPOSED CATCH BASIN, SEWER MANHOLE (SMH), AND DRAIN MANHOLE (DMH) SYMBOLS REPRESENT LOCATION OF NEW STRUCTURES. REFER TO DETAILS AND SPECIFICATIONS FOR INFORMATION ON FRAMES AND GRATES, COVERS, SHAPE, STYLE AND DIMENSIONS.

32. ALL WORK WITHIN CITY STREET RIGHTS-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH REQUIREMENTS OF THE CITY TRAFFIC ENGINEER. THE CONTRACTOR SHALL SUBMIT A 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.

33. 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.

34. IT IS THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS PRIOR TO BIDDING.

35. ON ALL "ALTER", "MODIFY" AND "REMOVE" STRUCTURES, THE CONTRACTOR SHALL REMOVE ABANDONED PIPES OR PLUG AND FILL WITH FLOWABLE FILL.

36. 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.

37. 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.

38. 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.

39. 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 .

40. 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.

41. ALL SIDEWALK CONSTRUCTION SHALL CONFORM TO THE APPROPRIATE ADA/PROWAG STANDARDS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

41.1. WALKWAYS SHALL HAVE A MAXIMUM CROSS SLOPE (PERPENDICULAR TO THE DIRECTION OF TRAVEL) OF 2% AND A MAXIMUM LONGITUDINAL SLOPE (ALONG THE DIRECTION OF TRAVEL) OF 5%, UNLESS LONGITUDINAL SLOPE OF ROADWAY IS STEEPER.

41.2. CURB RAMPS MAY HAVE A RUNNING SLOPE OF UP TO 8% (1" PER FOOT), BUT ARE NOT REQUIRED TO EXCEED 15' IN LENGTH. WHERE 8% RUNNING SLOPE IS NOTE POSSIBLE, CURB STONES ARE TO BE SET TO PROVIDE CONSTANT SLOPE OVER 15', ALONG TOP-OF-CURB. FROM FULL CURB REVEAL TO FLUSH CURB.

41.3. LANDING AREAS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ALL DIRECTIONS.

41.4. IF THE CONTRACTOR DETERMINES THAT THE ABOVE STANDARDS ARE NOT COMPATIBLE WITH SITE CONDITIONS THEY SHALL CONTACT THE ENGINEER/RESIDENT INSPECTOR UPON DISCOVERY AND REQUEST GUIDANCE. INSTALLATION OF A RAMP OR SIDEWALK SEGMENT WITHOUT GUIDANCE FROM AND APPROVAL OF ENGINEER/RESIDENT, AND WHICH DOES NOT MEET ADA STANDARDS WILL NOT BE ACCEPTED.

41.5. CONTRACTOR TO FIELD VERIFY LIMITS OF WORK AND GRADING OF DRIVEWAYS WITH ENGINEER/RESIDENT INSPECTOR PRIOR TO BEGINNING WORK. SAW CUTS TO BE MARKED OUT AND VERIFIED WITH ENGINEERING PRIOR TO CUTTING.

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 FOR ALL STORM DRAIN INLETS IN THE VICINITY OF THE WORK ZONE AS SHOWN IN THE DETAILS.

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 SWEPT, 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.

REV	SUBMISSION	DATE

PROJECT NAME:
2025-2027 NEIGHBORHOOD DRAINAGE AND SEWER SYSTEM REPAIR CONTRACT

CITY OF PORTLAND, MAINE
DEPARTMENT OF PUBLIC WORKS
WATER RESOURCES DIVISION
212 CANCO ROAD, SUITE B, PORTLAND, MAINE 04103
PHONE (207) 874-8846

DESIGN BY: RHA
DRAWN BY: RHA
CHECKED BY: JRP
SHEET NAME: GENERAL NOTES
DATE: 10/31/2024
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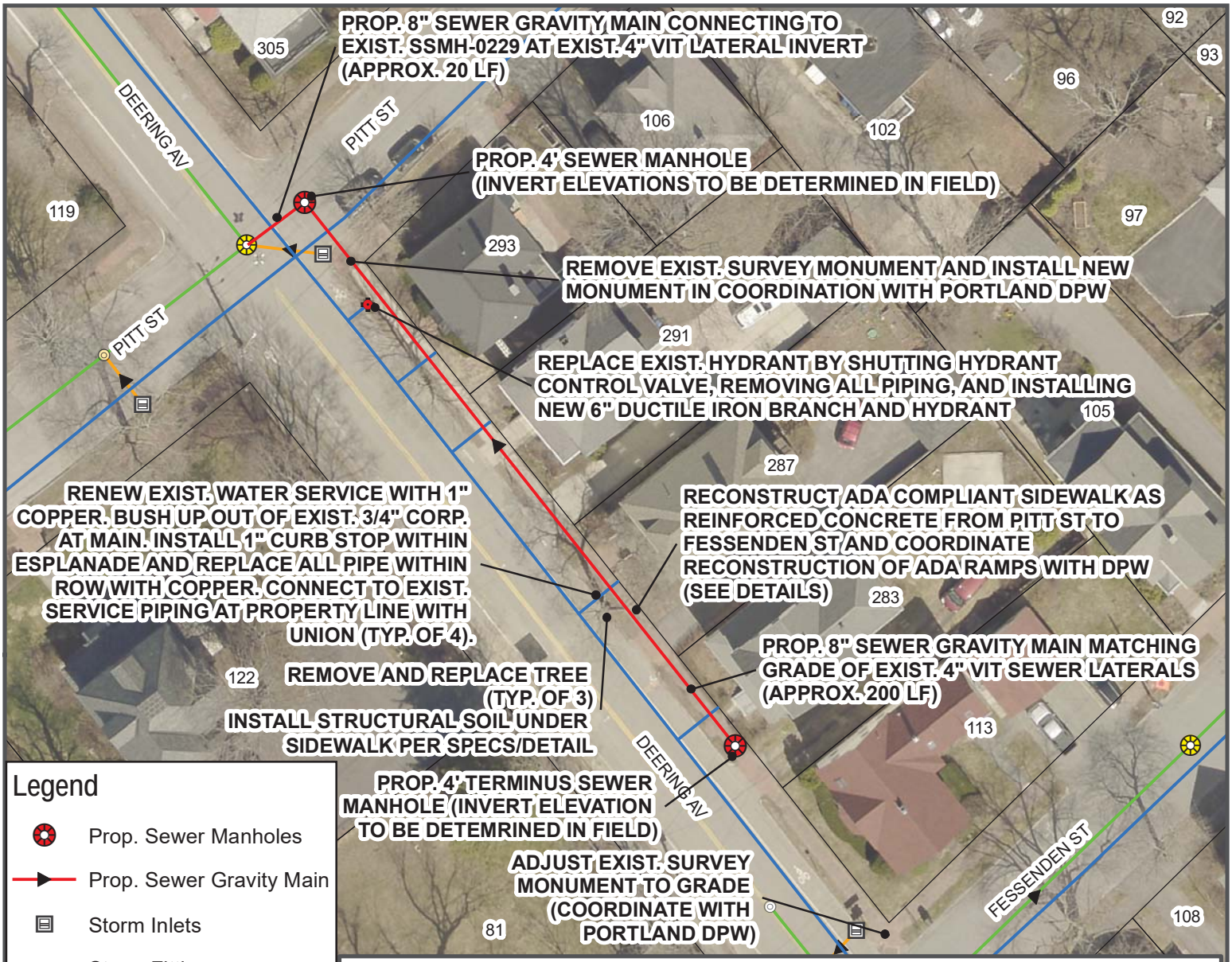
SHEET NO.: G-01
REV.:
VAULT #: 01051_003



Legend

- Prop. Sewer Manholes
- Prop. Sewer Gravity Main
- Storm Inlets
- Storm Fittings
- Sewer Manholes
- Sewer Fittings
- Hydrants
- Water Mains and Laterals
- Storm Gravity Mains
- Sewer Gravity Mains
- Parcels

NOTES:

1. COORDINATE WITH 293 AND 283 DEERING AVE PROPERTY OWNERS TO LOCATE AND TEST PIT SEWER LATERALS PRIOR TO PURCHASING MANHOLES.
2. RECONNECTION OF SEWER LATERALS AND WATER SERVICES SHALL BE COORDINATED WITH PROPERTY OWNERS OF 283, 287, 291, AND 293 DEERING AVE.
3. RECONNECT SEWER LATERALS AT PROPERTY LINE WITH CLEANOUT.
4. ALL TREE WORK SHALL BE CONDUCTED BY A LICENSED ARBORIST.
5. REPLACEMENT TREES SHALL BE 1.75"-2" CALIPER SIZE BALLED AND BURLAP BLACK GUM/TUPELO (NYSSA SYLVATICA). SPECIFIC SPECIMENS SHALL BE SELECTED BY THE CITY ARBORIST FOR CONTRACTOR PICK-UP.
6. PITT ST IS A LOCAL STREET. DEERING AVE IS A MINOR ARTERIAL STREET. SEE DETAILS FOR PAVING REQUIREMENTS. HMA BASE SHALL BE USED FOR THE FULL PAVEMENT DEPTH IN THE DEERING AVE ROW (TO BE RESURFACED BY MAINE DOT IN 2025).

CITY OF PORTLAND, MAINE
DEPT. OF PUBLIC WORKS
212 CANCO ROAD, PORTLAND, MAINE 04103
PHONE (207) 874-8846 FAX (207) 874-8852

DEERING AVE SEWER EXTENSION

REV	SUBMISSION	DATE

STATE OF MAINE
JUSTIN R. PELLERIN
No. 14275
LICENSED PROFESSIONAL ENGINEER
10/31/24

N

PROJECT ID
SS-02
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OCTOBER 2024

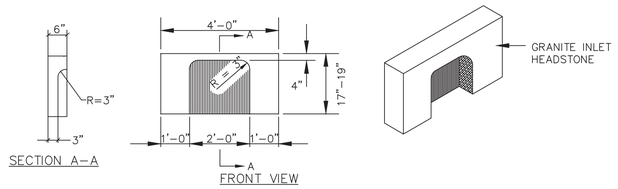
DESIGN BY: RHA	DRAWN BY: RHA	CHECK BY: JRP

0 15 30 60 Feet

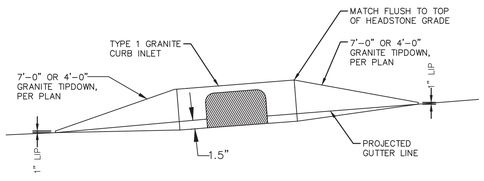
VAULT #: 01051_003

GENERAL NOTES FOR MANHOLES AND CATCH BASINS

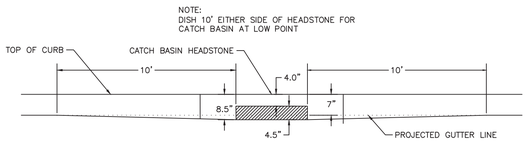
1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
4. ALL PIPES ENTERING MANHOLES AND CATCH BASINS SHALL HAVE FLEXIBLE PIPE CONNECTIONS WITH STAINLESS STEEL BANDS. FILL ANY ANNUAL SPACE WITH NON SHRINK GROUT.
5. ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLID.
6. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
7. SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C-32-63, GRADE MA AND SA.
8. INVERTS SHALL BE BUILT TO THE HEIGHT OF THE FOLLOWING AS DETERMINED BY THE LARGEST PIPE SIZE.
   - 8.1 FOR PIPE SIZES 4"-12" INVERTS SHALL GO TO THE TOP OF THE PIPE.
   - 8.2 FOR PIPE SIZES 15"-36" INVERTS SHALL GO TO THE SPRING LINE.
   - 8.3 FOR PIPE SIZES 42"-60" INVERTS SHALL GO TO THE 1/3 OF PIPE SIZE.
9. ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE.
10. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35.
11. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
12. ALL CATCH BASIN OUTLETS SHALL BE INSTALLED WITH A HOOD/CASCO TRAP. SEE SHEET DET-04.
13. ALL MANHOLES AND CATCH BASINS REQUIRE BUOYANCY CALCULATIONS AND THE STRUCTURES SHALL BE MODIFIED AS NECESSARY BASED ON THOSE CALCULATIONS.



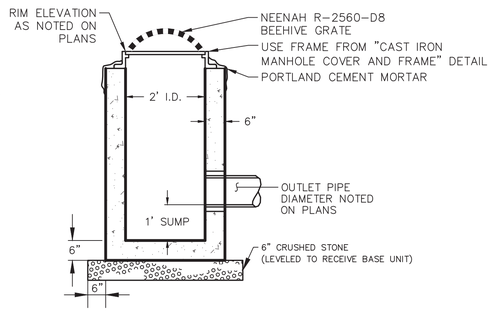
4' GRANITE HEADSTONE FOR CATCH BASIN INLET
NOT TO SCALE



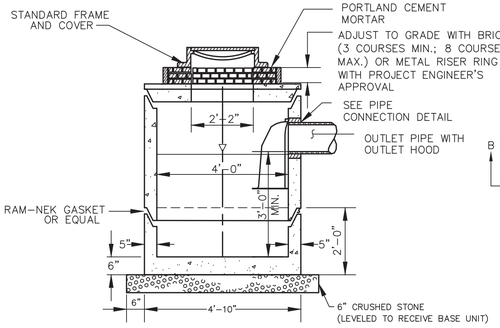
TYPICAL PAVEMENT GRADING AND TIPDOWN INSTALLATION FOR CATCH BASINS
NOT TO SCALE



TYPICAL PAVEMENT GRADING FOR CATCH BASIN INLETS
NOT TO SCALE

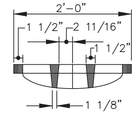


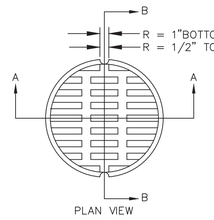
2' DIAMETER CATCH BASIN WITH BEEHIVE GRATE
NOT TO SCALE

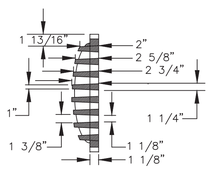


PRECAST CONCRETE CATCH BASIN - (NO CURB INLET)
NOT TO SCALE

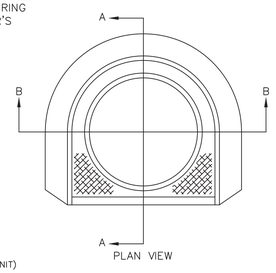
1. APPROVED CATCH BASIN FRAMES:
   - 1.1. EAST JORDAN = 7375Z
   - 1.2. NEENAH = R-3248
   - 1.3. OR APPROVED EQUAL
2. APPROVED CATCH BASIN GRATES
   - 2.1. EAST JORDAN = 2440M
   - 2.2. NEENAH = R-3248
   - 2.3. OR APPROVED EQUAL

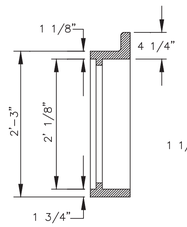


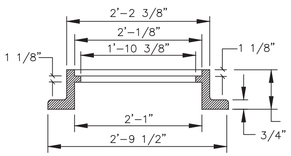




GRATE DETAIL

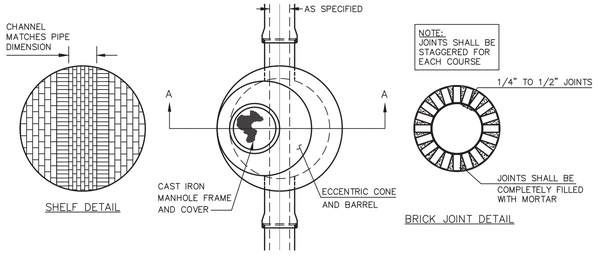


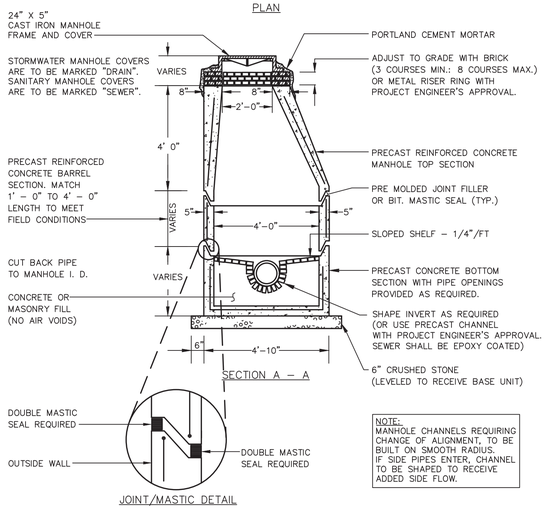




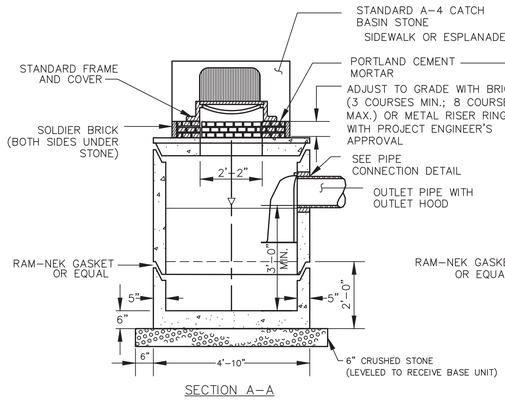
FRAME DETAIL

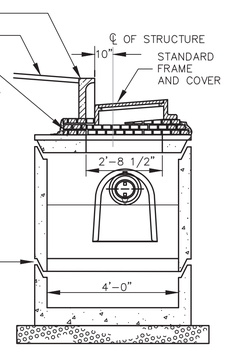
CATCH BASIN FRAME & GRATE
NOT TO SCALE

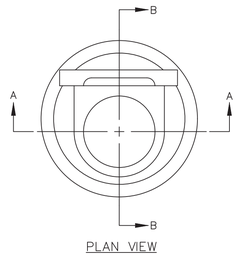


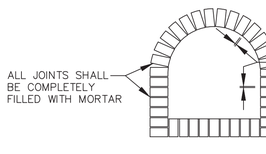


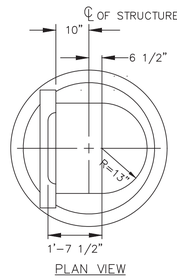
PRECAST CONCRETE MANHOLE
NOT TO SCALE





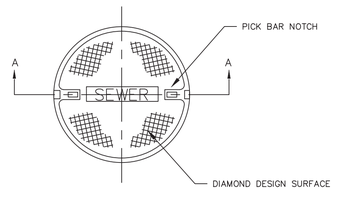


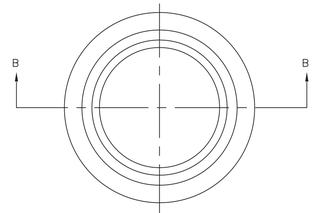


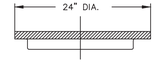


PRECAST CONCRETE CATCH BASIN - (CURB INLET)
NOT TO SCALE

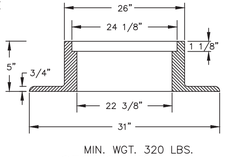
NOTES:
1. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
2. APPROVED MANHOLE FRAMES:
   - 2.1. EAST JORDAN = 1690Z
   - 2.2. NEENAH = R-1496
   - 2.3. OR APPROVED EQUAL
3. APPROVED MANHOLE COVERS
   - 3.1. EAST JORDAN = 2160A
   - 3.2. NEENAH = R-1496
   - 3.3. OR APPROVED EQUAL







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



CAST IRON MANHOLE COVER AND FRAME
NOT TO SCALE

STATE OF MAINE
JUSTIN R. PELLERIN
No. 14275
LICENSED PROFESSIONAL ENGINEER
10/31/24

REV	SUBMISSION	DATE

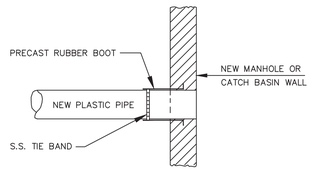
PROJECT NAME:
2025-2027 NEIGHBORHOOD DRAINAGE AND SEWER SYSTEM REPAIR CONTRACT
CITY OF PORTLAND, MAINE

DEPARTMENT OF PUBLIC WORKS
WATER RESOURCES DIVISION
212 CANCO ROAD, SUITE B, PORTLAND, MAINE 04103
PHONE (207) 874-8846

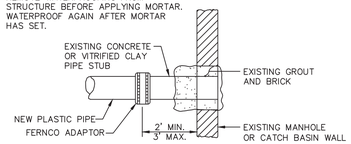
CITY OF PORTLAND MAINE

DESIGN BY:	RHA
DRAWN BY:	RHA
CHECKED BY:	JRP
SHEET NAME:	DETAILS
DATE:	10/31/2024
PAGE 19 OF 24	
SHEET NO.:	D-01
REV.:	
VAULT #:	01051_003

S:\WATER RESOURCES - ENGINEERING\SEWER\STORM INVESTIGATION\2024\2026 NEIGHBORHOOD DRAINAGE AND SEWER SYSTEM REPAIR CONTRACT\CAD\20240508 NEIGHBORHOOD DRAINAGE AND SEWER CONTRACT DWG D-01 10/31/2024

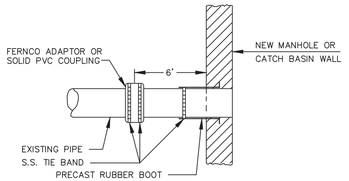


METHOD 2 – NEW CONSTRUCTION

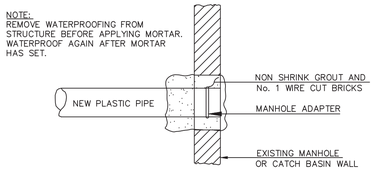


METHOD 4 – NEW PIPE TO EXISTING STRUCTURE STUB

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.

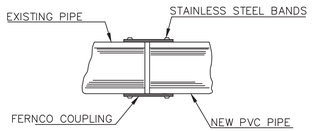


METHOD 1 – EXISTING PIPE INTO NEW STRUCTURE

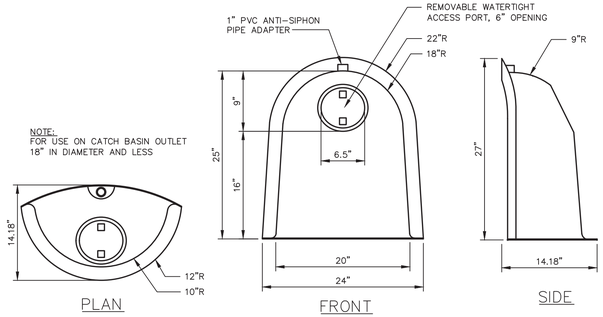


METHOD 3 – NEW PIPE INTO EXISTING STRUCTURE

PLASTIC PIPE CONNECTIONS
NOT TO SCALE



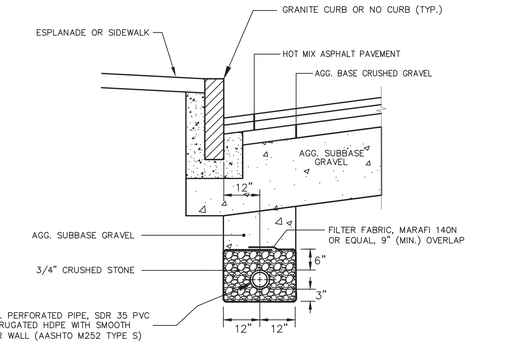
FERNCO COUPLING FOR REPAIR OR REPLACEMENT
NOT TO SCALE



NOTES:

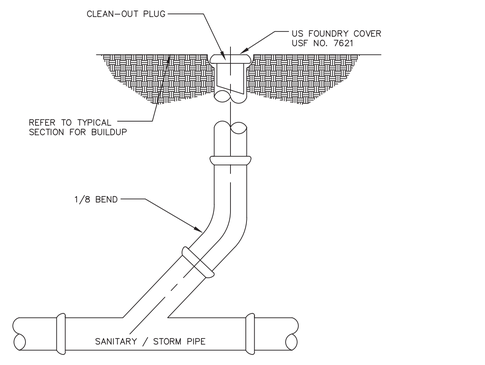
1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE MANUFACTURED BY BEST MANAGEMENT PRODUCTS, INC. OR PRE-APPROVED EQUAL
2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
3. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT PIPE AND ELBOW.
4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION (SNOUT SIZE ALWAYS LARGER THAN PIPE SIZE).
5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A MINIMUM DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
6. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 12" ACCORDING TO STRUCTURE CONFIGURATION.
7. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL AND PIPE SHALL BE FINISHED FLUSH TO WALL.
8. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER.
9. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT. INSTALLATION KIT SHALL INCLUDE: INSTALLATION INSTRUCTIONS, PVC ANTI-SIPHON VENT PIPE AND ADAPTER, OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING, 3/8" STAINLESS STEEL BOLTS, AND ANCHOR SHIELDS.

CATCH BASIN HOOD
NOT TO SCALE

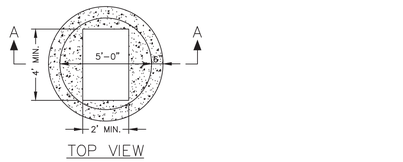


NOTES
1. UNDERDRAIN PIPE INVERT ELEVATIONS SHALL BE AT LEAST 42 INCHES BELOW GUTTER GRADES.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.
3. ALTERNATIVE UNDERDRAIN METHODS SHALL BE APPROVED BY DPW WATER RESOURCES.

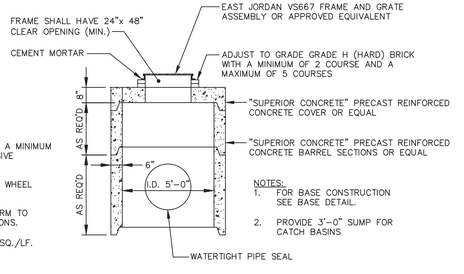
TYPE "B" UNDERDRAIN INSTALLATION
NOT TO SCALE



CLEANOUT
NOT TO SCALE



TOP VIEW

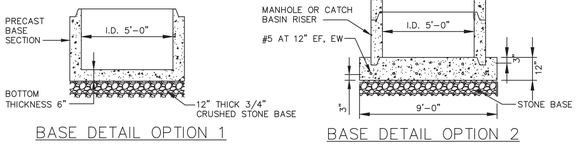


DESIGN NOTES:

1. ALL CONCRETE TO HAVE A MINIMUM 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.

NOTES:
1. FOR BASE CONSTRUCTION SEE BASE DETAIL.
2. PROVIDE 3'-0" SUMP FOR CATCH BASINS

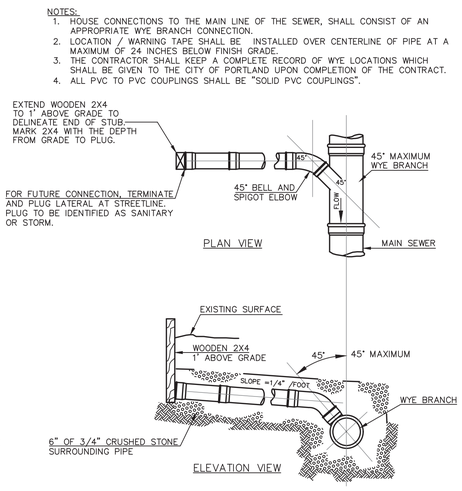
SECTION A-A



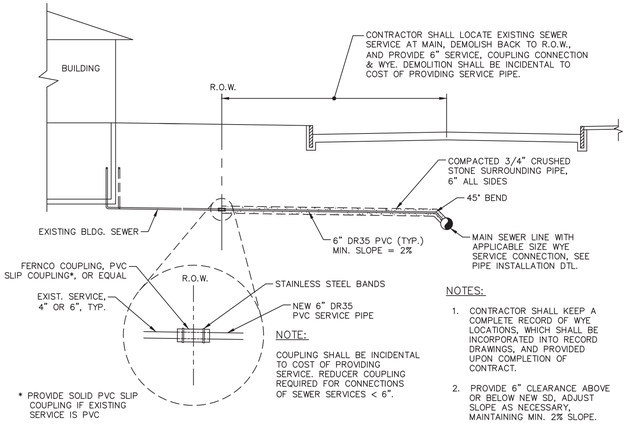
BASE DETAIL OPTION 1 | BASE DETAIL OPTION 2

5' DIAMETER CATCH BASIN WITH DOUBLE GRATE
NOT TO SCALE

NOTES:
1. HOUSE CONNECTIONS TO THE MAIN LINE OF THE SEWER, SHALL CONSIST OF AN APPROPRIATE WYE BRANCH CONNECTION.
2. LOCATION / WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.
3. THE CONTRACTOR SHALL KEEP A COMPLETE RECORD OF WYE LOCATIONS WHICH SHALL BE GIVEN TO THE CITY OF PORTLAND UPON COMPLETION OF THE CONTRACT.
4. ALL PVC TO PVC COUPLINGS SHALL BE "SOLID PVC COUPLINGS".

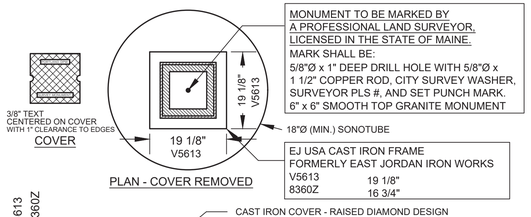


TYPICAL HOUSE LATERAL TEE/WYE CONNECTION
NOT TO SCALE

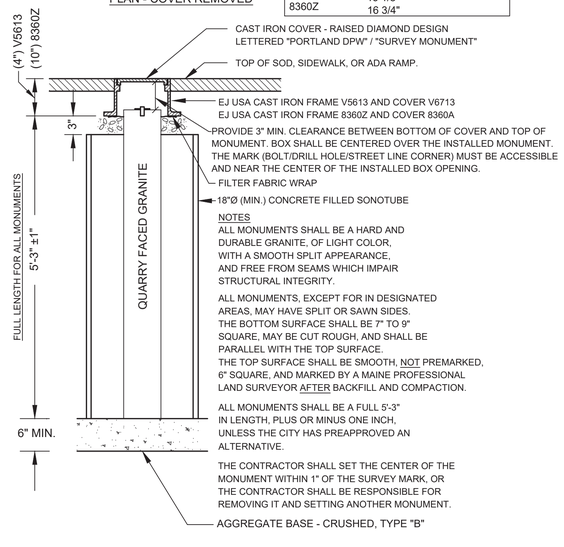


NOTES:
1. CONTRACTOR SHALL KEEP A COMPLETE RECORD OF WYE LOCATIONS, WHICH SHALL BE INCORPORATED INTO RECORD DRAWINGS, AND PROVIDED UPON COMPLETION OF CONTRACT.
2. PROVIDE 6" CLEARANCE ABOVE OR BELOW NEW SD, ADJUST SLOPE AS NECESSARY, MAINTAINING MIN. 2% SLOPE.

SEWER SERVICE DETAIL
NOT TO SCALE



PLAN - COVER REMOVED



NOTES
ALL MONUMENTS SHALL BE A HARD AND DURABLE GRANITE, OF LIGHT COLOR, WITH A SMOOTH SPLIT APPEARANCE, AND FREE FROM SEAMS WHICH IMPAIR STRUCTURAL INTEGRITY.

ALL MONUMENTS, EXCEPT FOR IN DESIGNATED AREAS, MAY HAVE SPLIT OR SAWN SIDES. THE BOTTOM SURFACE SHALL BE 7" TO 9" SQUARE, MAY BE CUT ROUGH, AND SHALL BE PARALLEL WITH THE TOP SURFACE. THE TOP SURFACE SHALL BE SMOOTH, NOT PREMARKED, 6" SQUARE, AND MARKED BY A MAINE PROFESSIONAL LAND SURVEYOR AFTER BACKFILL AND COMPACTION.

ALL MONUMENTS SHALL BE A FULL 5'-3" IN LENGTH, PLUS OR MINUS ONE INCH, UNLESS THE CITY HAS PREAPPROVED AN ALTERNATIVE.

THE CONTRACTOR SHALL SET THE CENTER OF THE MONUMENT WITHIN 1" OF THE SURVEY MARK, OR THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING IT AND SETTING ANOTHER MONUMENT.

GRANITE STREET MONUMENT
NOT TO SCALE

STATE OF MAINE
JUSTIN R. PELLERIN
No. 14275
LICENSED PROFESSIONAL ENGINEER
10/31/24

REV.	SUBMISSION	DATE

PROJECT NAME:
2025-2027 NEIGHBORHOOD DRAINAGE AND SEWER SYSTEM REPAIR CONTRACT
CITY OF PORTLAND, MAINE
DEPARTMENT OF PUBLIC WORKS
WATER RESOURCES DIVISION
212 CANCO ROAD, SUITE B, PORTLAND, MAINE 04103
PHONE (207) 874-8846

CITY OF PORTLAND, MAINE

DESIGN BY:	RHA
DRAWN BY:	RHA
CHECKED BY:	JRP
SHEET NAME:	DETAILS
DATE:	10/31/2024
	PAGE 20 OF 24
SHEET NO.:	D-02
REV.:	
VAULT #:	01051_003

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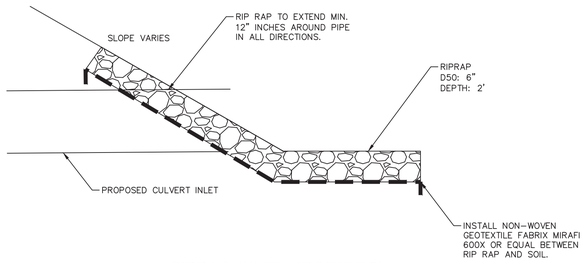
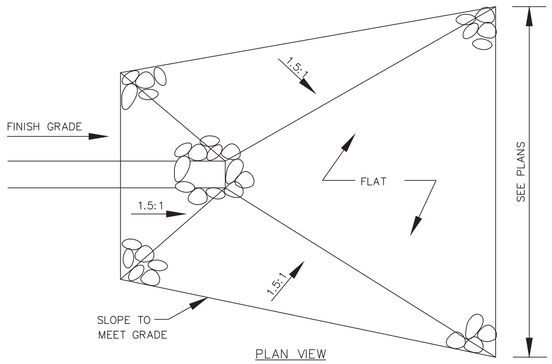
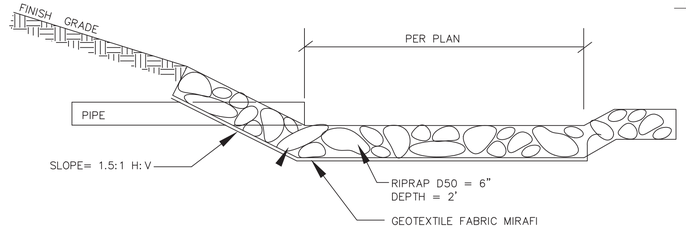


RIPRAP INLET PROTECTION
NOT TO SCALE



PLAN VIEW



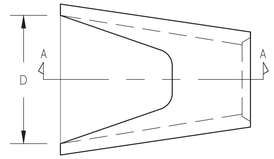
SECTION VIEW

RIPRAP APRON
NOT TO SCALE

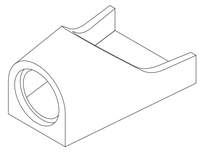
RIPRAP OUTLET CONSTRUCTION NOTES

PRE-CONSTRUCTION
1. MEET ON SITE WITH OWNER, SITE CONTRACTOR, AND THE DESIGN ENGINEER TO DISCUSS SCOPE OF WORK AND EXPECTATIONS. DETERMINE LIMITS OF TIDAL "SPARTINA" GRASS.
2. CONTRACTOR SHALL HAVE ALL MATERIALS APPROVED BY THE DESIGN ENGINEER PRIOR TO INSTALLATION.

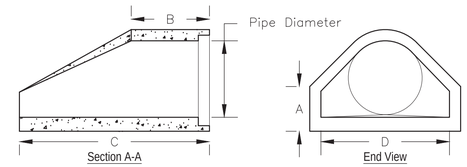
CONSTRUCTION PHASE
1. STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL BMP MANUAL, LATEST EDITION. SEE THE EROSION & SEDIMENT CONTROL NOTES AND PLAN FOR ADDITIONAL REQUIREMENTS. PROTECT NEARBY TREES, WHICH ARE PROPOSED TO REMAIN. TO THE EXTENT PRACTICAL, PROTECT THE ROOT ZONE OF THESE TREES.
2. THE CONTRACTOR SHALL CONSIDER THE TIDE SCHEDULE CAREFULLY; AND SHALL SCHEDULE WORK TO AVOID INTERRUPTIONS OF DAYLIGHT WORKING HOURS WITH HIGH TIDES. WORKING WITHIN TIDAL WATERS IS NOT PERMITTED.
3. THE CONTRACTOR SHALL ONLY WORK IN AREAS THAT CAN BE COMPLETED DURING EACH CONSTRUCTION DAY. NO AREAS SHALL BE EXCAVATED BY THE CONTRACTOR AND LEFT EXPOSED, AS THESE AREAS WILL BE SUBJECT TO EROSION FROM TIDAL SURGES OR STORM EVENTS.
4. WITHIN VEGETATIVE AREA PROPOSED TO BE DISTURBED, CAREFULLY REMOVE THE TOP ORGANIC LAYER (12"±) BELOW ELEVATION DETERMINED AT PRECONSTRUCTION MEETING. REMOVE USING METHOD THAT WILL KEEP THE VEGETATION SYSTEM INTACT. STOCKPILE THE ORGANIC LAYER IN A MANNER SO THAT MATERIAL CAN BE REUSED. REMOVE ONLY ENOUGH VEGETATION NEEDED TO INSTALL THE TIDE GATE VAULT AND SEWER PIPE IN ACCORDANCE WITH THE CROSS-SECTION. ORGANIC LAYER REMOVAL, STORAGE AND PLACEMENT SHALL BE INCIDENTAL TO THE RELATED PIPE PAY ITEM.
5. PIPE INSTALLATION: LOW PERMEABILITY DAMS OF NATURAL CLAY, BETONITE OR FLOWABLE FILL SHALL BE INSTALLED AS SHOWN TO MINIMIZE TIDAL FLOW THROUGH THE BACKFILL. DAMS SHALL EXTEND A MINIMUM 1 FOOT BELOW THE TRENCH BOTTOM, 1 FOOT BEYOND THE SIDEWALLS AND UP TO ELEVATION 7.4 OR TOP OF FINISHED GRADE. DAMS SHALL BE A MINIMUM OF 2 FEET THICKNESS. COSTS OF LOW PERMEABILITY DAMS SHALL BE INCIDENTAL TO THE CONTRACT.
6. INSTALL RIPRAP APRON IN ACCORDANCE WITH THE DETAILS. ONCE THE RIPRAP SLOPE IS COMPLETELY INSTALLED, THE CONTRACTOR SHALL GRADE THE DISTURBED AREAS UNIFORMLY TO MATCH EXISTING TOPOGRAPHY (U.N.O.) AND THE NEW RIPRAP EDGE.
7. PLACE EXISTING ORGANIC MATERIAL IN DISTURBED VEGETATIVE AREAS BELOW ELEVATION 10, WORKING FROM THE OUTFALL TO THE VAULT. DISTURBED VEGETATIVE AREAS ABOVE ELEVATION 10 SHALL HAVE LOAM AND SEED. ORGANIC LAYER REMOVAL, STORAGE AND PLACEMENT SHALL BE INCIDENTAL TO THE RELATED PIPE PAY ITEM.
8. INSPECT THE SITE EVERY TWO WEEKS FOR SIGNS OF EROSION AND ESTABLISHMENT OF VEGETATION. REPAIR ERODED AREAS AND REPLANT VEGETATION TO ESTABLISH 75% VEGETATION CATCH, AS REQUIRED.
9. IN AREAS REQUIRING REPLANTING, INSTALL NORTH AMERICAN GREEN C125BN EROSION CONTROL FABRIC OR APPROVED EQUAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS (PAY ITEM 613.319).
10. USING RAZOR BLADE, CAREFULLY CUT HOLES 1 FOOT O.C. AND IN ROWS SPACED 1 FOOT APART. LOOSELY OFFSET HOLES BETWEEN ROWS FOR APPROXIMATELY 6-8 HOLES PER SQUARE YARD. PLANT CORD GRASS SPARTINA PATENS (SALT MEADOW GRASS) AND SPARTINA ALTERNIFLORA (SMOOTH CORDGRASS) PLUGS IN ALTERNATING FASHION. COSTS ASSOCIATED WITH CUTTING FABRIC AND PLANTING GRASS PLUGS WILL BE PAID THROUGH THE BID ITEM 615.072.



Plan View



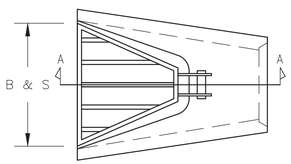
Isometric View
(For Reference Only)



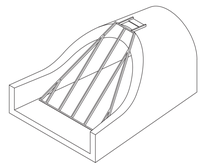
Section A-A | End View

Pipe Dia. (in.)	Dimension A (in.)	Barrel Length B (in.)	Lay Length C (in.)	Flair Width D (in.)	Weight (lbs.)
24"	12.0"	30.00"	73.50"	48.0"	3060 lbs.

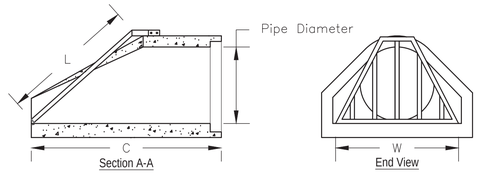
CIRCULAR RCP FLARED END SECTION
NOT TO SCALE



Plan View



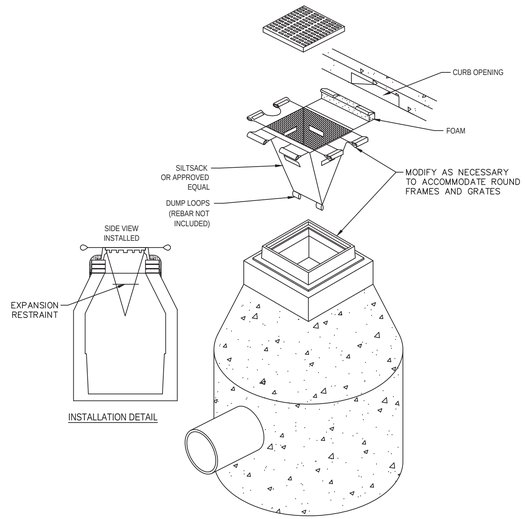
Isometric View
(For Reference Only)



Section A-A | End View

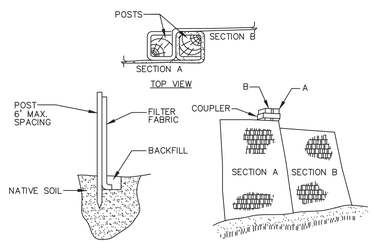
Pipe Dia. (in.)	Trash Rack Width W (in.)	Trash Rack Length L (in.)	Total # of Bars B	Bar Spacing S (in.)
24"	40.00"	47.50"	5	8.0"

TRASH GUARD FOR CIRCULAR RCP FLARED END SECTION
NOT TO SCALE



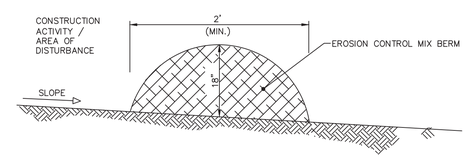
INSTALLATION DETAIL

CATCH BASIN INLET SEDIMENT CONTROL
NOT TO SCALE



INSTALLATION NOTES:
1. EXCAVATE A 6"x 6" TRENCH ALONG THE LINE OF PLACEMENT FOR THE FILTER BARRIER.
2. UNROLL A SECTION AT A TIME AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH.
3. DRIVE POSTS INTO THE GROUND UNTIL APPROXIMATELY 2" OF FABRIC IS LYING ON THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH, BACKFILL THE TRENCH AND TAMP THE SOIL. TOE-IN CAN ALSO BE ACCOMPLISHED BY LAYING THE FABRIC FLAP ON UNDISTURBED GROUND AND PILING AND TAMPING FILL AT THE BASE, BUT MUST BE ACCOMPANIED BY AN INTERCEPTION DITCH.
5. JOIN SECTION AS SHOWN ABOVE.
6. BARRIER SHALL BE MIRAFI SILT FENCE OR EQUAL.

SILT-FENCE
NOT TO SCALE



NOTES:

Erosion Control Mix Berms

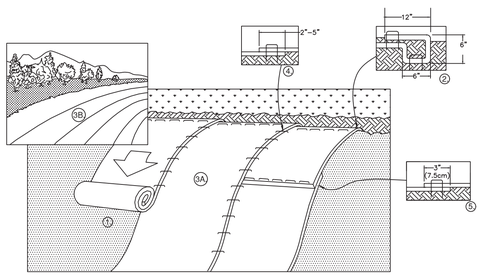
Erosion control mix can be manufactured on or off the project site. It must consist primarily of organic material and may include: shredded bark, stump grindings, composted bark, or acceptable manufactured products. Wood and bark chips, ground construction debris or reprocessed wood products will not be acceptable as the organic component of the mix.

Composition

Erosion control mix shall contain a well-graded mixture of particle sizes and may contain rocks less than 4" in diameter. Erosion control mix must be free of refuse, physical contaminants, and material toxic to plant growth. The mix composition shall meet the following standards:

- The organic matter content shall be between 80 and 100%, dry weight basis.
- Particle size by weight shall be 100 % passing a 6" screen and a minimum of 70%, maximum of 85%, passing a 0.75" screen.
- The organic portion needs to be fibrous and elongated.
- Large portions of silts, clays or fine sands are not acceptable in the mix.
- Soluble salts content shall be < 4.0 mmhos/cm.
- The pH should fall between 5.0 and 8.0.

SEDIMENT BARRIER – EROSION CONTROL MIX BERM
NOT TO SCALE



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED AS WELL AS REMOVING ANY PROTRUDING ROCKS, STUMPS OR ROOTS. DURING THE GROWING SEASON (APRIL 15– SEPTEMBER 15) USE RECP'S ON THE BASE OF GRASSED WATERWAYS, SOIL SLOPES HAVING A GRADE GREATER THAT 15%, OR ANYWHERE WHERE HAY MULCH HAS PROVEN TO BE INEFFECTIVE AT CONTROLLING SHEET EROSION. RECP'S ARE A MANUFACTURED COMBINATION OF MULCH AND NETTING DESIGNED TO PREVENT EROSION AND RETAIN SOIL MOISTURE.

2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP's.

3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.

4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" OVERLAP DEPENDING ON RECP's TYPE.

5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECP's WIDTH. NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

6. UNTIL GRASS IS ABUNDANT, INSPECT PERIODICALLY AND AFTER EACH RAINSTORM TO CHECK FOR EROSION. IMMEDIATELY REPAIR AND ADD MORE MULCH UNTIL GRASSES ARE FIRMLY ESTABLISHED.

7. DO NOT MOW THE FIRST YEAR.

8. DETAIL SHALL BE CONSIDERED GENERAL GUIDANCE FOR RECP INSTALLATION; CONTRACTOR SHALL INSTALL RECP IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

9. FOR OVER WINTER PROTECTION, APPLY RECP'S ON THE BASE AND SIDE SLOPES OF GRASSED WATERWAYS AND ON SLOPES STEEPER THAN AN 8% GRADE.

ROLLED EROSION CONTROL MATTING
NOT TO SCALE

STATE OF MAINE
JUSTIN R. PELLERIN
No. 14275
LICENSED PROFESSIONAL ENGINEER
10/31/24

DATE	REVISION
	SUBMISSION

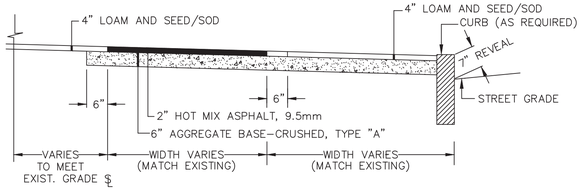
PROJECT NAME:
2025-2027 NEIGHBORHOOD DRAINAGE AND SEWER SYSTEM REPAIR CONTRACT

CITY OF PORTLAND, MAINE
DEPARTMENT OF PUBLIC WORKS
WATER RESOURCES DIVISION
212 CANCO ROAD, SUITE B, PORTLAND, MAINE 04103
PHONE (207) 874-8846

CITY OF PORTLAND, MAINE RESURGAM

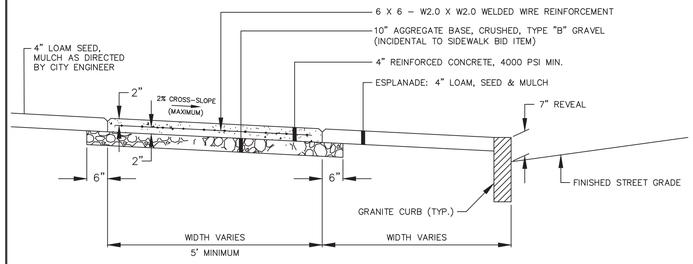
DESIGN BY:	RHA
DRAWN BY:	RHA
CHECKED BY:	JRP
SHEET NAME:	DETAILS
DATE:	10/31/2024
PAGE 21 OF 24	
SHEET NO.:	D-03
REV.:	
VAULT #:	01051_003

S:\WATER RESOURCES - ENGINEERING\SEWER-STORM INVESTIGATION\2024-2028 NEIGHBORHOOD DRAINAGE AND SEWER SYSTEM REPAIR CONTRACT\CAD\20240508 NEIGHBORHOOD DRAINAGE AND SEWER CONTRACT DWG D-03 10/31/2024

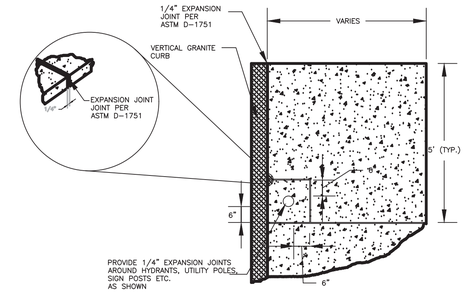


BITUMINOUS SIDEWALK WITH ESPLANADE
NOT TO SCALE

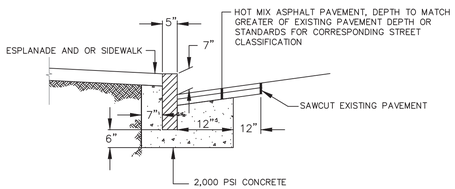
NOTE: CONCRETE SIDEWALKS TO BE TREATED WITH CONSOLIDECK SALTGUARD WB OR APPROVED EQUAL. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR APPLICATION.



REINFORCED CONCRETE SIDEWALK WITH ESPLANADE
NOT TO SCALE

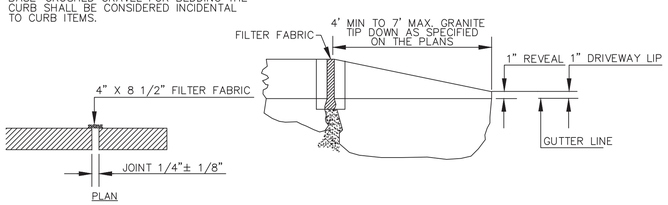


SIDEWALK EXPANSION JOINT
NOT TO SCALE



VERTICAL GRANITE CURB INSTALLATION
NOT TO SCALE

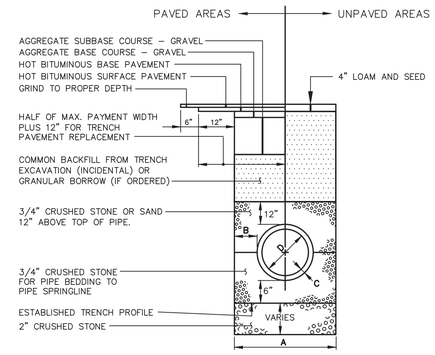
NOTE: THE EXCAVATION AND AGGREGATE BASE-CRUSHED GRAVEL FOR BEDDING THE CURB SHALL BE CONSIDERED INCIDENTAL TO CURB ITEMS.



TYPICAL TIP DOWN CURB INSTALLATION
NOT TO SCALE

NOTES:
DEPTH OF BITUMINOUS PAVEMENT AND AGGREGATE COURSES SHALL BE DETERMINED BY STREET CLASSIFICATION.

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

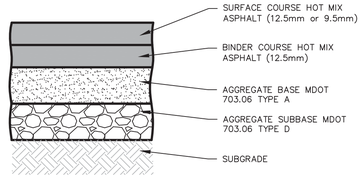


NOTES

1. ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
3. 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".
4. 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.

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

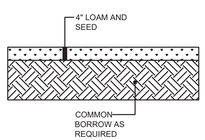


ARTERIAL STREET	COLLECTOR STREET	LOCAL STREET	LAYERS
–	–	1 1/2"	HOT MIX ASPHALT SURFACE (9.5mm)
2"	1 1/2"	–	HOT MIX ASPHALT SURFACE (12.5mm)
3"	2 1/2"	2"	HOT MIX ASPHALT BASE (12.5mm)
3"	3"	3"	AGGREGATE BASE GRAVEL MDOT 703.06 (a), TYPE A
18"	18"	15"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 (c), TYPE D

NOTES:

1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.

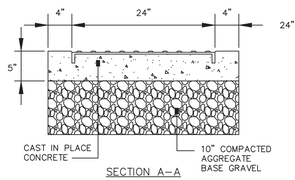
BITUMINOUS PAVEMENT SECTION
NOT TO SCALE



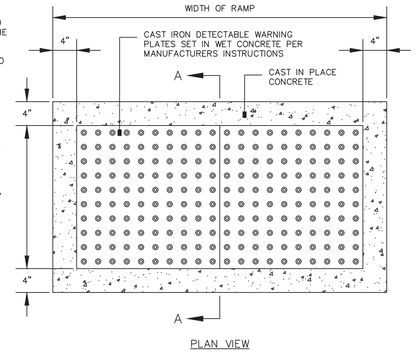
LOAM AND SEED DETAIL
NOT TO SCALE

NOTES:

1. ALL DETECTABLE WARNING PLATES SHALL BE UNCOATED CAST IRON. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
2. CAST IN PLACE CONCRETE SHALL MEET SPECIFICATIONS FOR MDOT CLASS A STRUCTURAL CONCRETE, MINIMUM COMPRESSIVE STRENGTH 4,000 PSI. THE EXPOSED CONCRETE BORDER SHALL RECEIVE A UNIFORM BROOM FINISH PERPENDICULAR TO THE FLOW OF PEDESTRIAN TRAFFIC.
3. TRUNCATED DOMES SHALL BE ALIGNED IN ROWS, PARALLEL AND PERPENDICULAR TO THE PREDOMINANT DIRECTION OF TRAVEL. TRUNCATED DOME BRICKS AND GRANITE PAVERS ARE NOT ALLOWED.
4. SIZE: THE DETECTABLE WARNING PLATES SHALL EXTEND 24 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE CURB RAMP, LANDING, OR BLENDED TRANSITION TO THE STREET.
5. ORIENTATION: THE DETECTABLE WARNING PANEL SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE. THE PANEL SHALL BE ORIENTED TO THE DIRECTION OF TRAVEL AS IDENTIFIED BY THE POINT OF EGRESS.

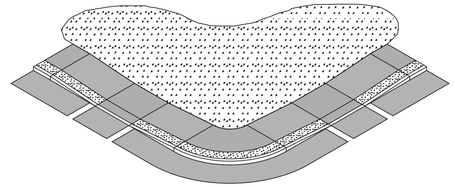


SECTION A–A

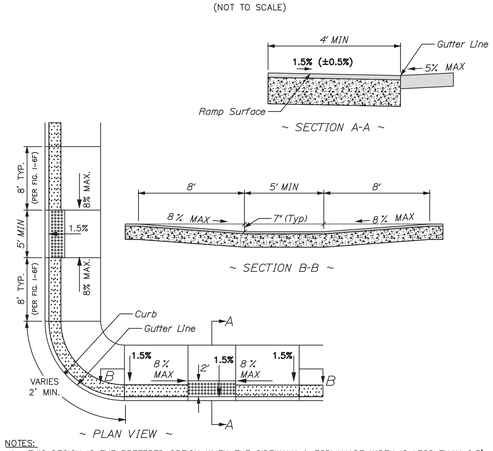


PLAN VIEW

SIDEWALK RAMP DETECTABLE WARNING PANEL
NOT TO SCALE



~ ISOMETRIC VIEW ~
(NOT TO SCALE)



NOTES:
1. THIS DESIGN IS THE PREFERED OPTION WHEN THE SIDEWALK & ESPLANADE WIDTH IS LESS THAN 6.5'. USE OTHER OPTIONS ONLY WHEN REQUIRED BY DESIGN CONSTRAINTS.
2. A MINIMUM CURB REVEAL OF 4" IS REQUIRED AT THE APEX OF THE CURB RADIUS.
3. MINIMUM TERMINAL CURB LENGTH SHALL BE 4 FEET.
4. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

PARALLEL ADA RAMP – SIDEWALK LESS THAN 6.5' WIDE WITH OR WITHOUT ESPLANADE
NOT TO SCALE

STATE OF MAINE
JUSTIN R. PELLERIN
No. 14275
LICENSED PROFESSIONAL ENGINEER
10/31/24

REV	DATE
SUBMISSION	

PROJECT NAME:
2025-2027 NEIGHBORHOOD DRAINAGE AND SEWER SYSTEM REPAIR CONTRACT
CITY OF PORTLAND, MAINE
DEPARTMENT OF PUBLIC WORKS
WATER RESOURCES DIVISION
212 CANCO ROAD, SUITE B, PORTLAND, MAINE 04103
PHONE (207) 874-8846

CITY OF PORTLAND MAINE – RESURGAM

DESIGN BY:	RHA
DRAWN BY:	RHA
CHECKED BY:	JRP
SHEET NAME:	DETAILS
DATE:	10/31/2024
	PAGE 22 OF 24
SHEET NO.:	D-04
REV.:	
VAULT #:	01051_003

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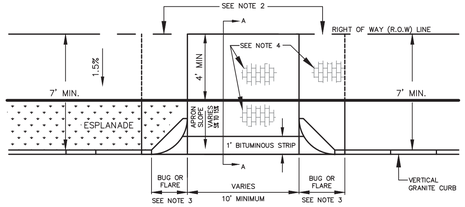
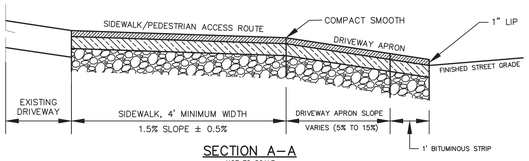
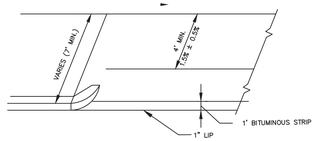




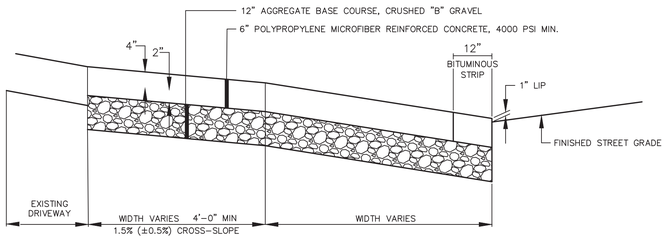
SECTION A–A
NOT TO SCALE



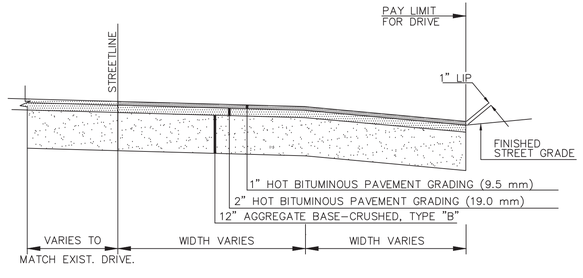
NOTES:

1. MATCH EXISTING GRADE AT R.O.W LINE. WHERE REQUIRED TO MEET A.D.A. AND DRIVEWAY APRON SLOPE REQUIREMENTS, A CONSTRUCTION EASEMENT MAY BE REQUIRED.
2. IF MATCHING THE EXISTING GRADE AT ROW CAUSES APRON SLOPE TO EXCEED RECOMMENDED %, SIDEWALK TRANSITION AREAS MAY BE ADDED, BUT SHALL NOT EXCEED 8.33%.
3. TWO–FOOT RADIUS CORNER GRANITE PIECES ("BUGS") ARE REQUIRED AT LOW–VOLUME DRIVEWAYS UNLESS OTHERWISE DIRECTED BY DPW. AT OTHER DRIVEWAYS, STANDARD FLARE/TIPDOWN TREATMENTS SHALL BE USED.
4. ALL MATERIALS IN ROW TO COMPLY WITH CITY'S SIDEWALK & DRIVEWAY MATERIAL POLICY. BRICK IN DRIVEWAY APRONS, WHERE APPLICABLE, SHALL BE ORIENTED IN THE SAME WAY AS THE ADJACENT BRICK SIDEWALK.
5. THIS LAYOUT MAY BE REQUIRED AT MINOR DRIVEWAYS SERVING COMMERCIAL OR INDUSTRIAL USES.

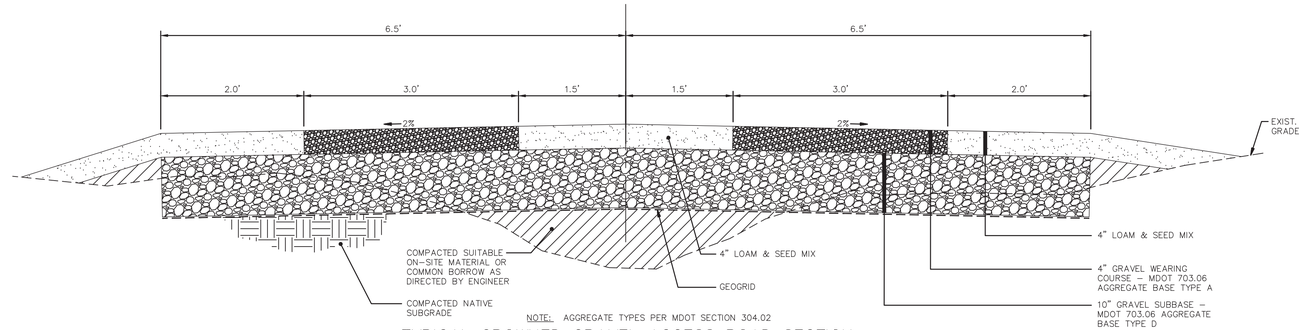
STANDARD RESIDENTIAL DRIVEWAY APRON LAYOUT
NOT TO SCALE



REINFORCED CONCRETE DRIVEWAY APRON
NOT TO SCALE

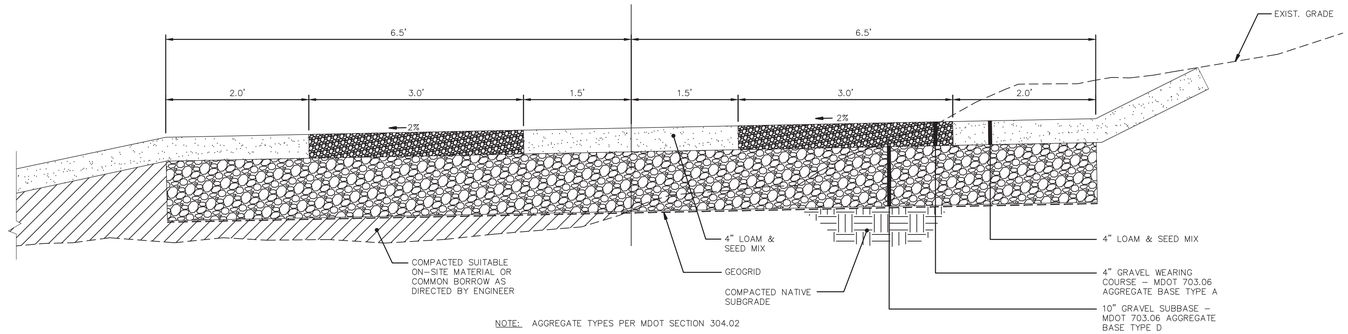


HOT BITUMINOUS DRIVEWAY APRON
NOT TO SCALE



NOTE: AGGREGATE TYPES PER MDOT SECTION 304.02

TYPICAL CROWNED GRAVEL ACCESS ROAD SECTION
NOT TO SCALE

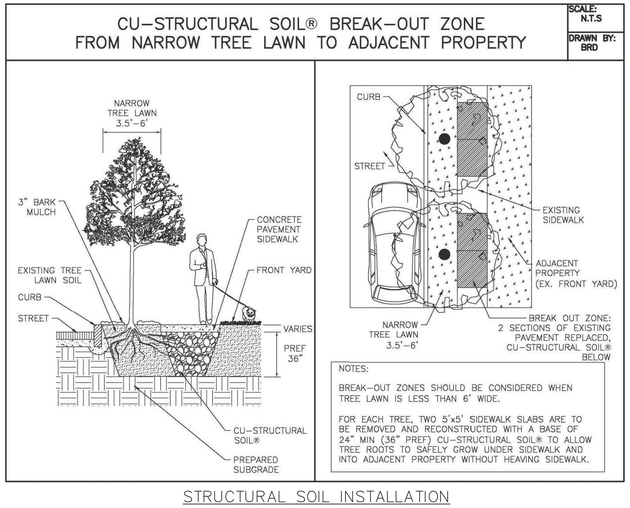


NOTE: AGGREGATE TYPES PER MDOT SECTION 304.02

TYPICAL SUPERELEVATED GRAVEL ACCESS ROAD SECTION
NOT TO SCALE

CU–STRUCTURAL SOIL® BREAK–OUT ZONE FROM NARROW TREE LAWN TO ADJACENT PROPERTY

SCALE: N.T.S
DRAWN BY: BRD

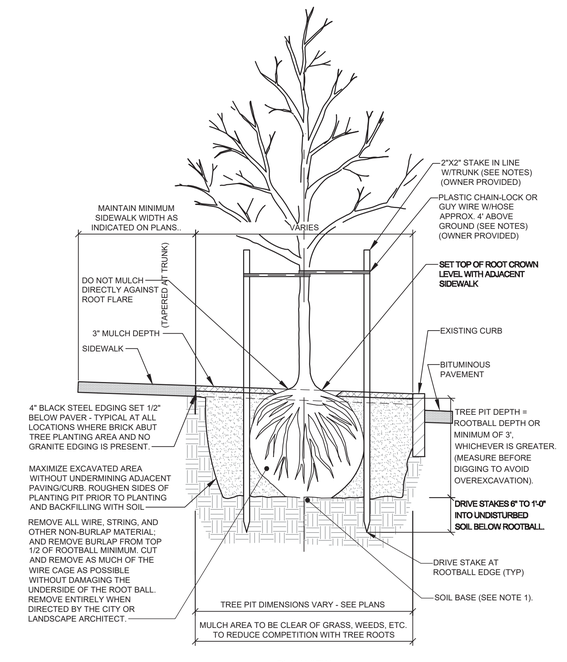


NOTES:

BREAK–OUT ZONES SHOULD BE CONSIDERED WHEN TREE LAWN IS LESS THAN 6' WIDE.

FOR EACH TREE, TWO 5'x5' SIDEWALK SLABS ARE TO BE REMOVED AND RECONSTRUCTED WITH A BASE OF 24" MIN (36" PREF) CU–STRUCTURAL SOIL® TO ALLOW TREE ROOTS TO SAFELY GROW UNDER SIDEWALK AND INTO ADJACENT PROPERTY WITHOUT HEAVING SIDEWALK.

STRUCTURAL SOIL INSTALLATION
NOT TO SCALE



PLAN VIEW

TREE WELL/PLANTING DETAIL
NOT TO SCALE

NOTES:
1. IN ACCORDANCE WITH ASTM STANDARDS REFERENCED IN THE NOTES, DURING SITE PREP, THE TREE WELL SHALL BE EXCAVATED TO A DEPTH OF 3' AND BACKFILLED WITH PLANTING SOIL. WHEN READY FOR PLANTING, THE PLANTING PIT SHALL BE EXCAVATED AND THE ROOTBALL WILL BE SET ON A COMPACTED SOIL BASE, NOT UNDISTURBED SUBGRADE.
2. REMOVE EXISTING SOIL AND REPLACE WITH LOAM OR CITY PROVIDED SOIL MIX.
3. CONTRACTOR TO EXCAVATE AND REPLACE ALL SOILS TO A DEPTH OF 3' FOR ALL EXISTING AND NEW TREE WELLS, NEW ESPLANADES, AND EXISTING BUMPOUTS.
4. CONTRACTOR SHALL NOT EXCAVATE WITHIN 2' OF EXISTING UTILITY POLES, LIGHT POLES OR TRAFFIC SIGNALS.
5. EXISTING ESPLANADES AND RAISED PLANTERS TO RECEIVE NEW PLANTING SOIL TO A DEPTH OF 3' AND EQUIVALENT WIDTH TO ACHIEVE A MINIMUM OF 85 CUBIC FT, FOR EACH NEW TREE PIT.

STATE OF MAINE
JUSTIN R. PELLERIN
No. 14275
LICENSED PROFESSIONAL ENGINEER
10/31/24

REV.	SUBMISSION	DATE

PROJECT NAME:
2025-2027 NEIGHBORHOOD DRAINAGE AND SEWER SYSTEM REPAIR CONTRACT

CITY OF PORTLAND, MAINE
DEPARTMENT OF PUBLIC WORKS
WATER RESOURCES DIVISION
212 CANCO ROAD, SUITE B, PORTLAND, MAINE 04103
PHONE (207) 874-8846

CITY OF PORTLAND, MAINE — RESURGAM

DESIGN BY:	RHA
DRAWN BY:	RHA
CHECKED BY:	JRP
SHEET NAME:	DETAILS
DATE:	10/31/2024
	PAGE 23 OF 24
SHEET NO.:	D-05
REV.:	
VAULT #:	01051_003

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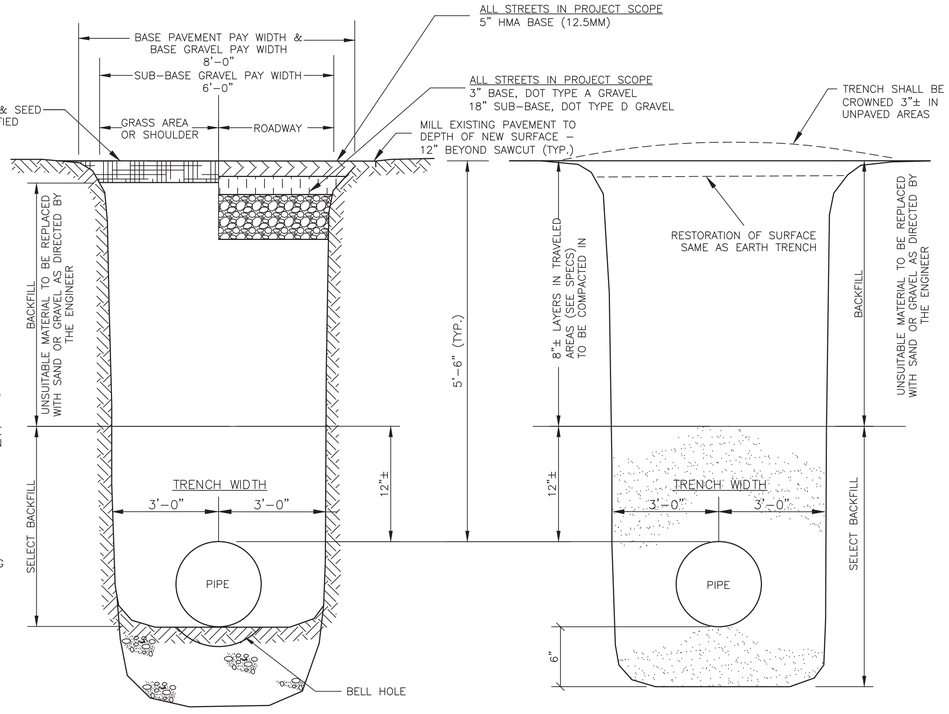
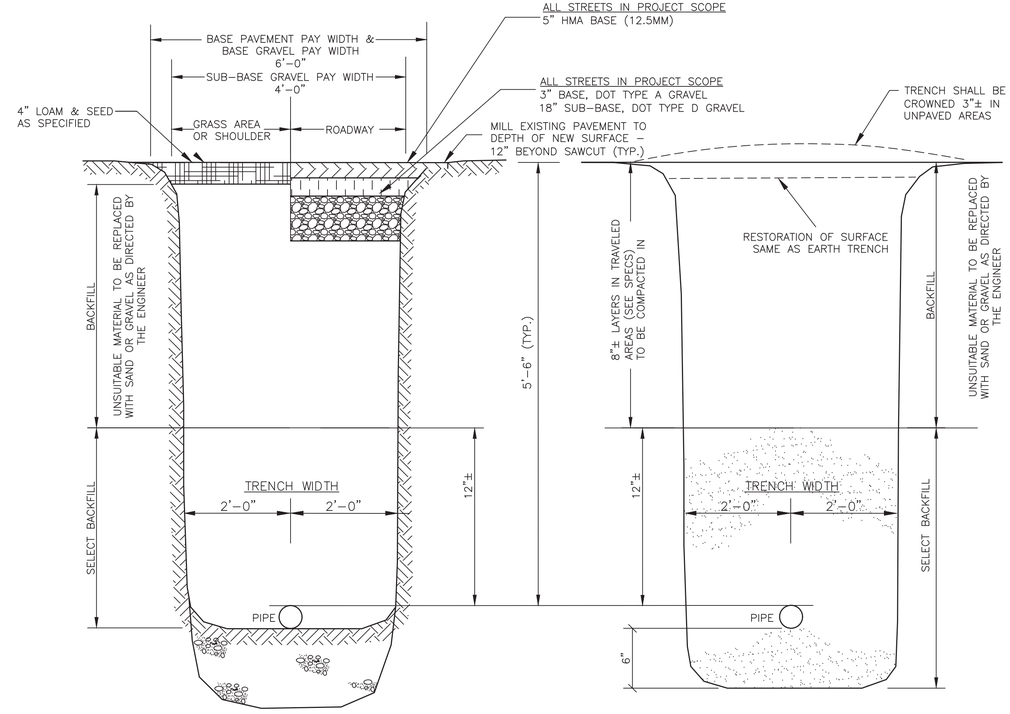


SECTION THRU EARTH TRENCH
WATER MAIN & LARGE SERVICE PIPE (≥4")
NOT TO SCALE

SECTION THRU LEDGE TRENCH
WATER MAIN & LARGE SERVICE PIPE (≥4")
NOT TO SCALE

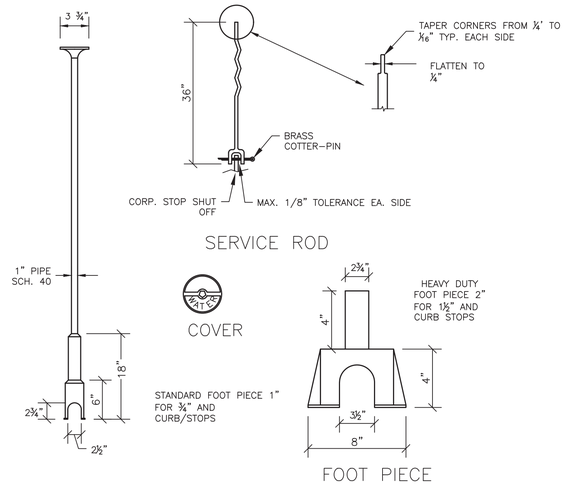


SECTION THRU EARTH TRENCH
SERVICE PIPE (1"–2")
NOT TO SCALE

SECTION THRU LEDGE TRENCH
SERVICE PIPE (1"–2")
NOT TO SCALE

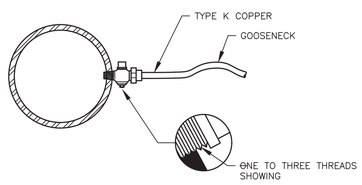
TRENCH SECTION NOTES

1. ALL ROADWAY PAVEMENT SHALL BE SAWCUT AND PLACED WITH A STREET PAVER.
2. TACK COAT APPLIED TO ALL SAWCUT AND MILLED SURFACES.
3. THE FINAL SAW CUTTING OF PAVEMENT SHALL BE PERFORMED AFTER BACKFILLING AND COMPACTION TO THE TOP OF THE EXISTING GRAVEL BASE IS COMPLETE.
4. INSTALL BASE PAVEMENT TO MATCH EXISTING PAVEMENT GRADE IN <YEAR>. TRENCH TO BE MILLED AND PAVED WITH #" OF #MM SURFACE HMA IN SPRING <YEAR> WHERE SURFACE PAVEMENT REQUIRED.
5. BASE PAVEMENT INSTALLED MUST MATCH EXISTING BASE PAVEMENT DEPTH WITH A MAX PAVEMENT DEPTH OF 6". DEPTHS LISTED IN DETAIL ARE APPROXIMATE BASED ON CITY RECORDS OF PAVEMENT DEPTH.

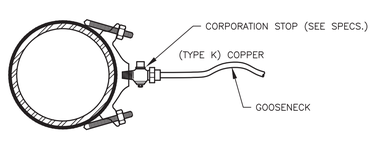


SERVICE ROD

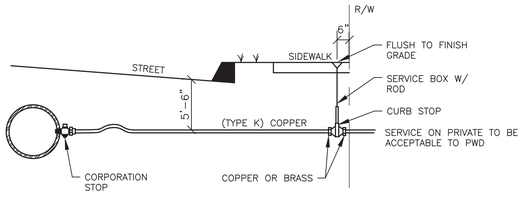
FOOT PIECE



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

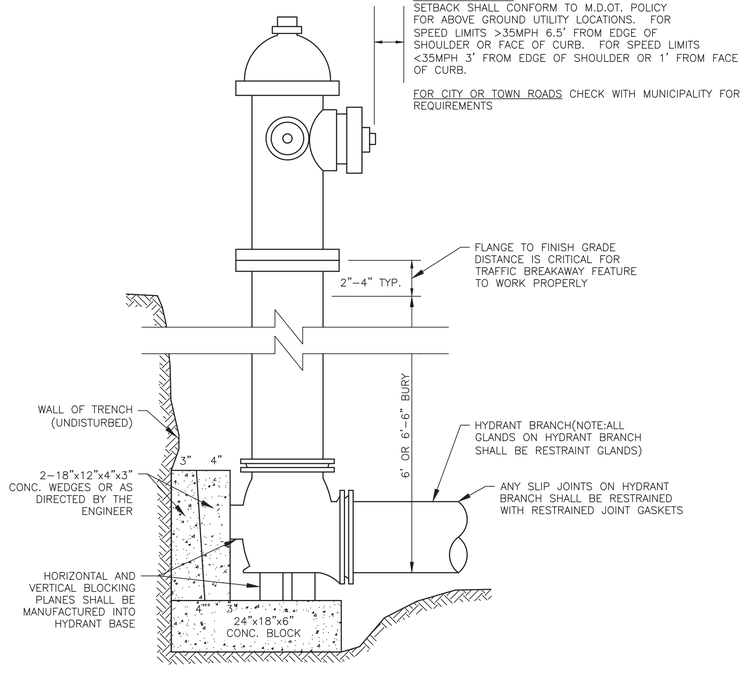


SERVICE SADDLE
(1–1/2" AND 2" C.C. THREAD)



TYPICAL SERVICE CONNECTION

NOTE: ANY EXTENSION OF SERVICE BOX REQUIRES:
1. 1" FEMALE IRON PIPE COUPLING
2. 1" THREADED PIPE (THIS IS TO BE A NON–WELDED, TWO PIECE ARRANGEMENT. SLIP ON ADAPTERS ARE NOT PERMISSIBLE.)



TYPICAL HYDRANT
INSTALLATION DETAIL

STATE OF MAINE
JUSTIN R. PELLERIN
No. 14275
LICENSED PROFESSIONAL ENGINEER
10/31/24

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