

# CITY OF PORTLAND PUBLIC SERVICES DEPARTMENT

CONTRACT



DRAWINGS

## FALL BROOK - PHASE 4 SEWER SEPARATION PROJECT

YEAR  
APPROVED  
2010

BID NUMBER: 6811

MARCH 2011

### PERMITS

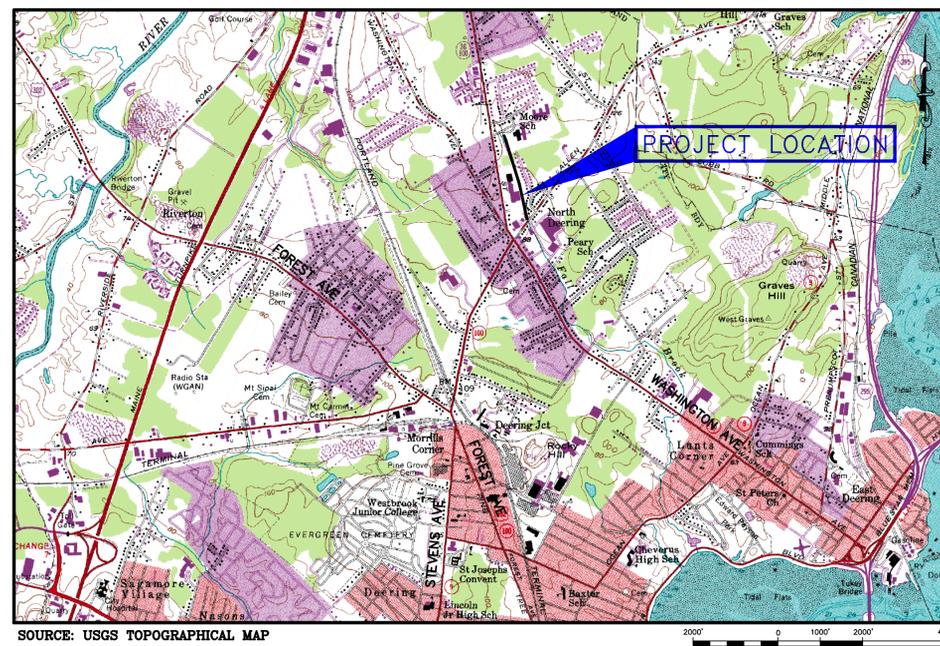
TYPE OF PERMIT	GOVERNING BODY	STATUS
NATURAL RESOURCE PROTECTION ACT, TIER 3	MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION & ARMY CORPS OF ENGINEERS	RECEIVED: JANUARY 2011

KATHERINE A. EARLEY, PE  
CITY ENGINEER

DATE

NATHANIEL H. SMITH  
CITY PROJECT MANAGER

DATE



SOURCE: USGS TOPOGRAPHICAL MAP

**AS-BUILT**  
DECEMBER 01, 2011

ALL AS-BUILT INFORMATION PROVIDED BY  
D&C CONSTRUCTION

AS-BUILT DRAWING PREPARED BY  
GORRILL-PALMER CONSULTING ENGINEERS

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**AS-BUILT**

AS-BUILT

LEGEND

Table with columns: EXISTING, DESCRIPTION, PROPOSED. Lists various symbols and line styles for features like buildings, right of way, property lines, sewer easements, parking setbacks, wetland boundaries, edges of pavement, grading contours, spot elevations, tree lines, trees & hedges, poles, utility poles, signs, traffic arrows, overhead/underground cables, water lines, storm drains, culverts, hydrants, valves, manholes, catch basins, test pits, iron rods, monuments, riprap, silt fences, stone barriers, center lines, fences, roadway overlays, and clay borrows.

GENERAL NOTES:

- 1. EXISTING CONDITIONS BASED ON SURVEY COMPLETED BY TITCOMB ASSOCIATES OF FALMOUTH, MAINE IN 2007, 2008 AND 2009.
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. THE CITY OF PORTLAND SHALL HAVE THE RIGHT AND AUTHORITY TO DETERMINE THE ACCEPTABILITY OF WORK AND MATERIALS IN PROGRESS OR COMPLETED.
4. PRIOR TO THE BEGINNING OF THE CONSTRUCTION, THE CONTRACTOR SHALL SECURE A STREET OPENING PERMIT FROM THE PORTLAND DEPARTMENT OF PUBLIC SERVICES. NO FEE WILL BE CHARGED FOR THIS PERMIT.
5. 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.
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. MAINTENANCE OF TRAFFIC SHALL BE PER THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE MAINE DOT SPECIFICATIONS AND STANDARD PLANS.
8. 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.
9. 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
UNITIL
PORTLAND FIRE DEPARTMENT
PORTLAND WATER DISTRICT
CITY OF PORTLAND
TIME WARNER CABLE
FAIRPOINT
AT&T
ANY ADDITIONAL UTILITY WORK NOT SPECIFIED ON THE PLANS SHALL BE COMPLETED BY THE RESPECTIVE UTILITY COMPANY.
10. CONTRACTOR SHALL COORDINATE DISRUPTION OF PRIVATE UTILITY SERVICES WITH LAND OWNER AT LEAST 2 DAYS (48 HOURS) PRIOR TO SCHEDULED DISRUPTION.
11. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SUBPART P OF 29 CRF PART 1926.650-.652 (CONSTRUCTION STANDARD FOR EXCAVATIONS).
12. LOCATIONS OF RIGHT-OF-WAY SHOWN ON PLANS ARE APPROXIMATE ONLY.
13. THE CONTRACTOR SHALL COMPLETE THE WORK WITHIN THE RIGHT-OF-WAY, AND SHALL BE RESPONSIBLE IF TRESPASSING ON PRIVATE PROPERTY OCCURS.
14. 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.
15. 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 OUTSIDE THE PAID TRENCH WIDTH SHALL BE INCIDENTAL TO THE PROJECT. ALL CURB DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED IN KIND AND SHALL CONFORM TO CITY OF PORTLAND STANDARDS - COST SHALL BE INCIDENTAL TO THE PROJECT.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL TREES AND SHRUBS ON THE PROJECT WHICH ARE NOT TO BE REMOVED.
17. EXISTING PAVEMENT STRIPING SHALL BE REPLACED AFTER COMPLETION OF PAVING, SHALL BE INCIDENTAL TO PAY ITEMS WITHIN SECTION 603 - PIPE CULVERTS AND STORM DRAINS.
18. 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".
19. BUTT JOINTS SHALL BE USED AT ALL LOCATIONS WHERE THE PROPOSED PAVEMENT MEETS EXISTING PAVEMENT. NO FEATHERING OF PAVEMENT WILL BE PERMITTED. BUTT JOINTS AND GRINDING SHALL BE INCIDENTAL TO THE PAVING WORK.
20. 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.

- 21. ALL WORK COMPLETED UNDER THIS CONTRACT SHALL BE GOVERNED BY AND SHALL CONFORM WITH CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS AND GUIDELINES.
22. 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.
23. 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.
24. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND CITY OF PORTLAND CODES AND SPECIFICATIONS.
25. COMPACTION REQUIREMENTS:

LOCATION MINIMUM COMPACTION\*

Table with 2 columns: LOCATION, MINIMUM COMPACTION\*. Rows: 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.

- 26. THE CONTRACTOR SHALL CLEAN AND/OR FLUSH SEDIMENT AND DEBRIS FROM ALL MANHOLES, CATCH BASINS AND ASSOCIATED PIPING AFTER THE WORK HAS BEEN COMPLETED.
27. 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 AND TO THE END OF THE PIPE SECTION ATTACHED TO THE T-BASE STRUCTURE.
28. 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.
29. 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.
30. IT IS THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS PRIOR TO BIDDING.
31. CONSTRUCTION ACCESS SHALL BE VIA NORTHGATE SHOPPING PLAZA AND LYSETH MOORE DRIVE.
32. ON ALL "ALTER" AND "REMOVE" STRUCTURES, THE CONTRACTOR SHALL REMOVE ABANDONED PIPES OR PLUG WITH CONCRETE.
33. 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 SECTION 202.08.

UTILITY NOTES

- 1. ALL SEWER SERVICES ARE APPROXIMATE AS SHOWN ON PLANS. THE CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING SERVICE LATERALS AND PROVIDE CONNECTIONS AS REQUIRED TO COMPLETE THE WORK.
2. ALL GAS SERVICES ARE APPROXIMATE AS SHOWN ON PLANS. CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING SERVICES AND COORDINATE WITH PROPERTY OWNERS AND UNTIL FOR MODIFICATIONS TO THE SERVICES.
3. ALL WATER SERVICES ARE APPROXIMATE AS SHOWN ON PLANS. THE CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING WATER SERVICES AND SHALL RELOCATE EXISTING SERVICES AS REQUIRED TO COMPLETE THE WORK. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH THE CITY OF PORTLAND, PORTLAND WATER DISTRICT AND PROPERTY OWNERS.
4. THE PROPOSED WORK IS IN CLOSE PROXIMITY TO EXISTING UTILITIES. PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION SHALL BE INCIDENTAL TO THE PROJECT.
5. TEST PITS, IF REQUIRED, SHALL BE COMPLETED AT LEAST TWO WEEKS PRIOR TO THE START OF CONSTRUCTION OR ORDERING OF MATERIALS. THE CONTRACTOR SHALL PROMPTLY PROVIDE TEST PIT INFORMATION TO THE ENGINEER FOR REVIEW, AND SHALL NOTIFY THE ENGINEER OF ANY POTENTIAL UTILITY CROSSING CONFLICTS.
6. 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.
7. CONTACT PORTLAND WATER DISTRICT (PWD) AT LEAST 5 BUSINESS DAYS PRIOR TO ANY WORK WITHIN 50 FEET OF THE 48-INCH WATER MAIN. COORDINATE CLOSELY WITH PWD DURING THIS WORK.

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:

Table with 3 columns: Symbol, Abbreviation, Full Name. Lists abbreviations for materials, structures, and services like ADA, AG, ALT, AVE, BIT, B/W, CB, CMP, CONC, DI, DIA, DMH, DTL, DYCL, DWLL, E, EG, EL, EOP, EXIST, FF, FT, GS, GALV, GRAN, GV, HDPE, HORIZ, HYD, INV, IP, LF, LT, MAX, MIN, MON, N, NO.

LDD PROJECT NAME: N/A
DRAWING NAME: 1343.31-GENERAL-AS-BUILT.dwg
FIELD BOOK USED: N/A

REFERENCES:

Table with 4 columns: DESIGNED BY, DRAWN BY, CHECKED BY, SCALE. Values: J. MARBER, C. GORRILL, AS NOTED, 2/28/2011.



FALL BROOK PHASE 4 LEGEND AND NOTES

CITY OF PORTLAND, MAINE PUBLIC SERVICES DEPARTMENT ENGINEERING SECTION



SHEET # 2 OF 20 VAULT PLAN NUMBER VPLAN #

AS-BUILT DECEMBER 01, 2011

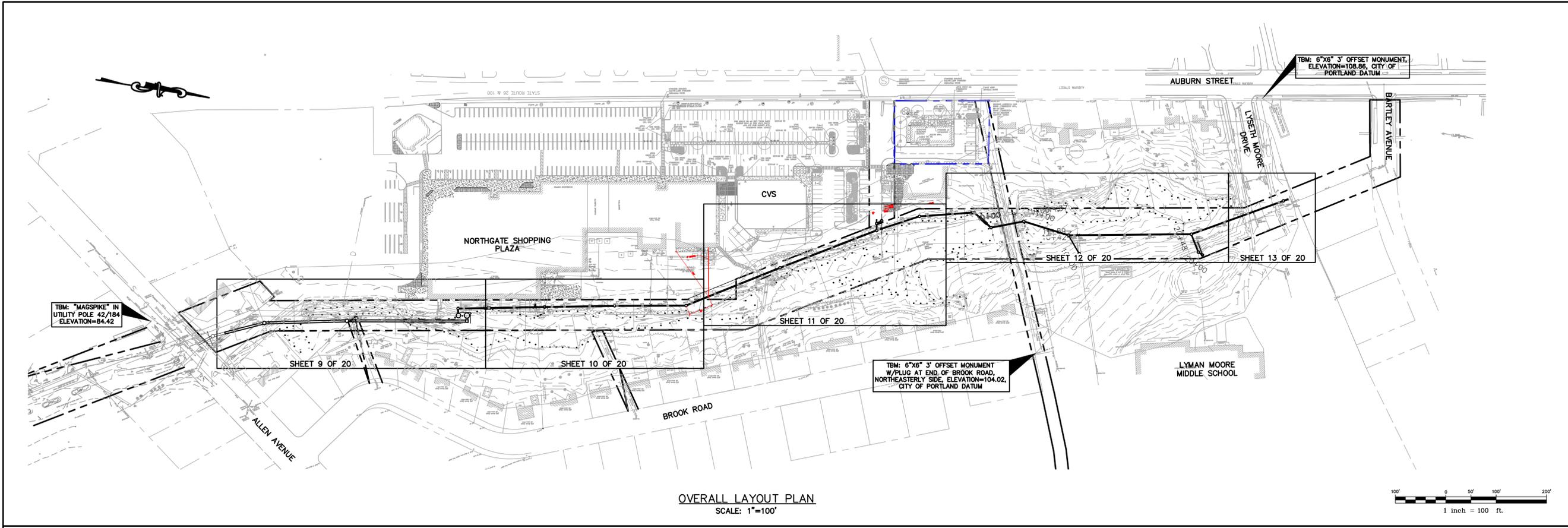
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OVERALL LAYOUT PLAN  
SCALE: 1"=100'



OVERALL LAYOUT PLAN  
SCALE: 1"=100'

**AS-BUILT**

NOTES:  
1. NORTH END OF NORTHGATE SHOPPING PLAZA HAS BEEN RE-CONSTRUCTED SINCE DATE OF AERIAL PHOTOGRAPH

**AS-BUILT**  
DECEMBER 01, 2011

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REFERENCES:

DESIGNED BY:	J. MARDEN
DRAWN BY:	C. GROUARD
CHECKED BY:	A. PALMER
SCALE:	AS NOTED
DATE:	2/28/2011

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 FIELD BOOK USED: N/A

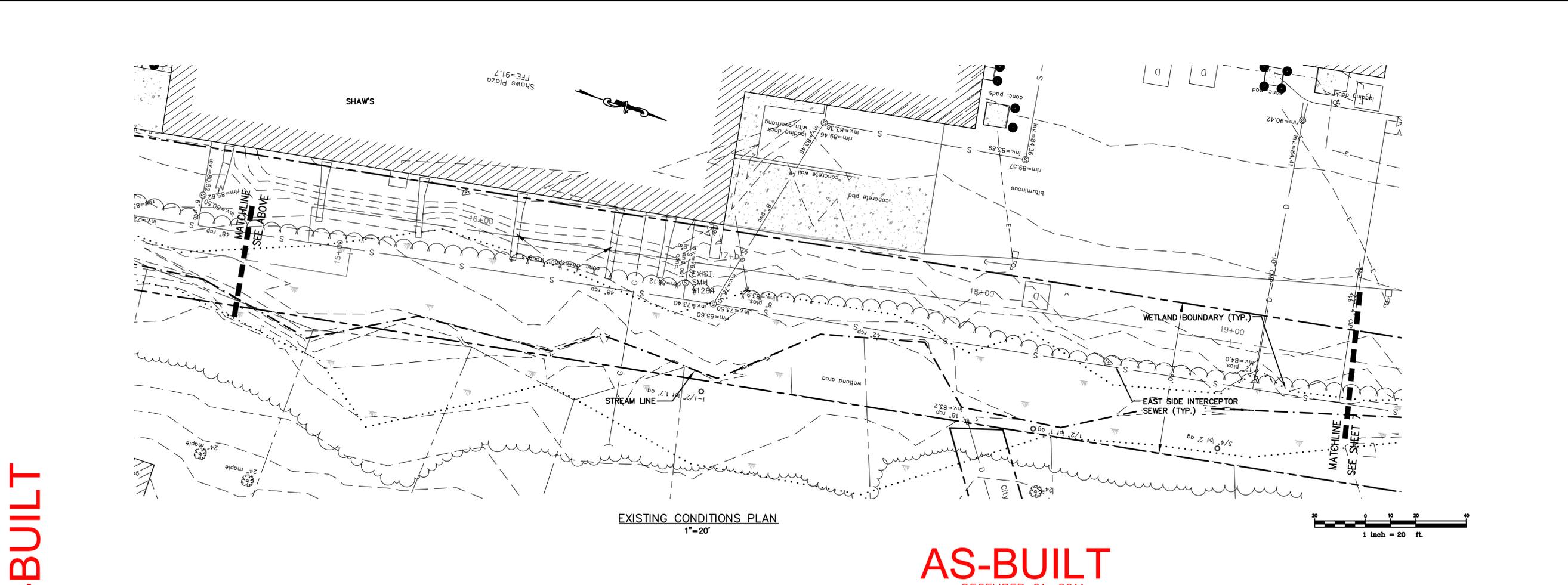
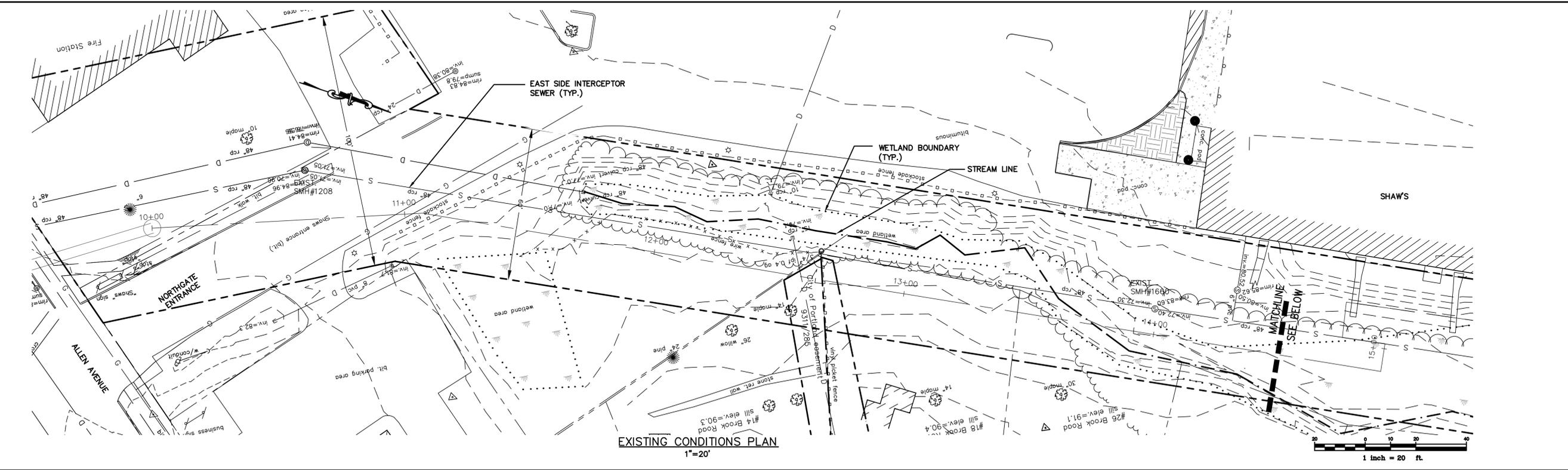
FALL BROOK  
PHASE 4  
OVERALL LAYOUT  
PLAN

CITY OF PORTLAND, MAINE  
PUBLIC SERVICES DEPARTMENT  
ENGINEERING SECTION



SHEET #  
3 OF 20  
VAULT PLAN NUMBER  
VPLAN #

AS-BUILT



REFERENCES:

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CHECKED BY:	J. ATTANASE
SCALE:	AS NOTED
DATE:	2/28/2011

LDD PROJECT NAME: N/A  
DRAWING NAME: 1343.31-EXIST-AS BUILT.dwg  
FIELD BOOK USED: N/A

FALL BROOK  
PHASE 4  
EXISTING CONDITIONS 1  
1343.31-EXIST - PP 40F10

CITY OF PORTLAND, MAINE  
PUBLIC SERVICES DEPARTMENT  
ENGINEERING SECTION



SHEET #  
6 OF 20  
VAULT PLAN NUMBER

AS-BUILT

DECEMBER 01, 2011

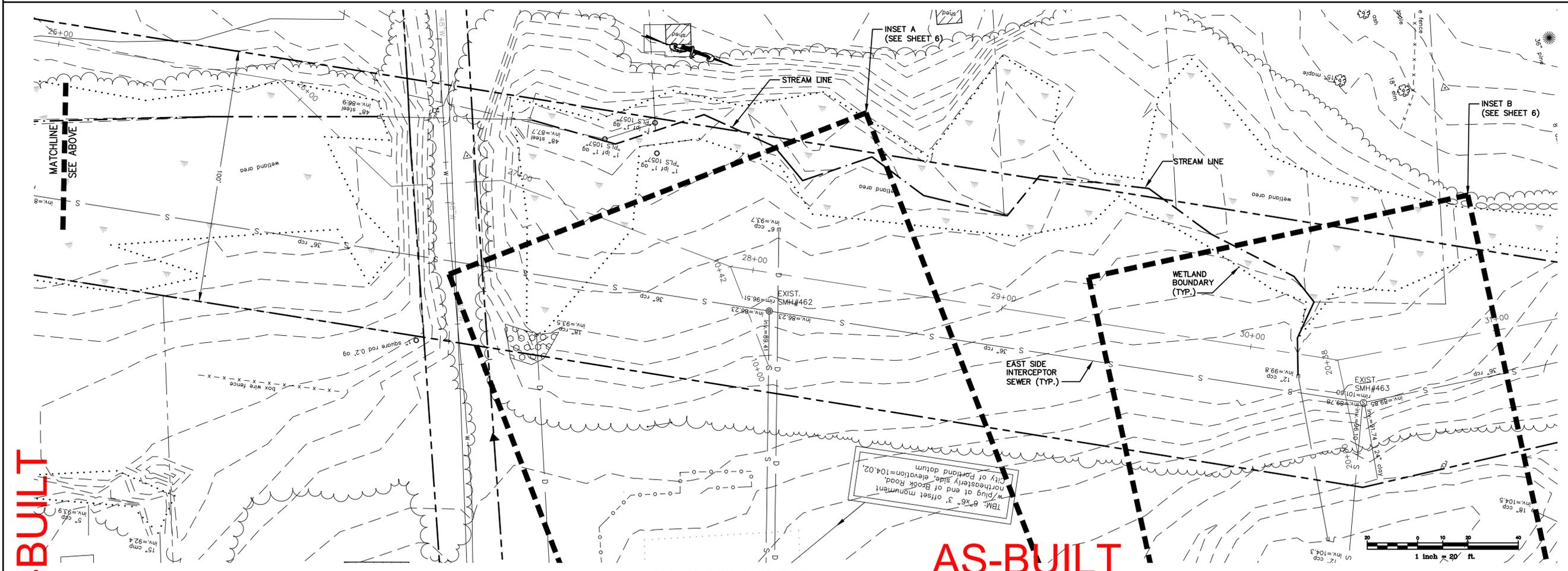
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**AS-BUILT**



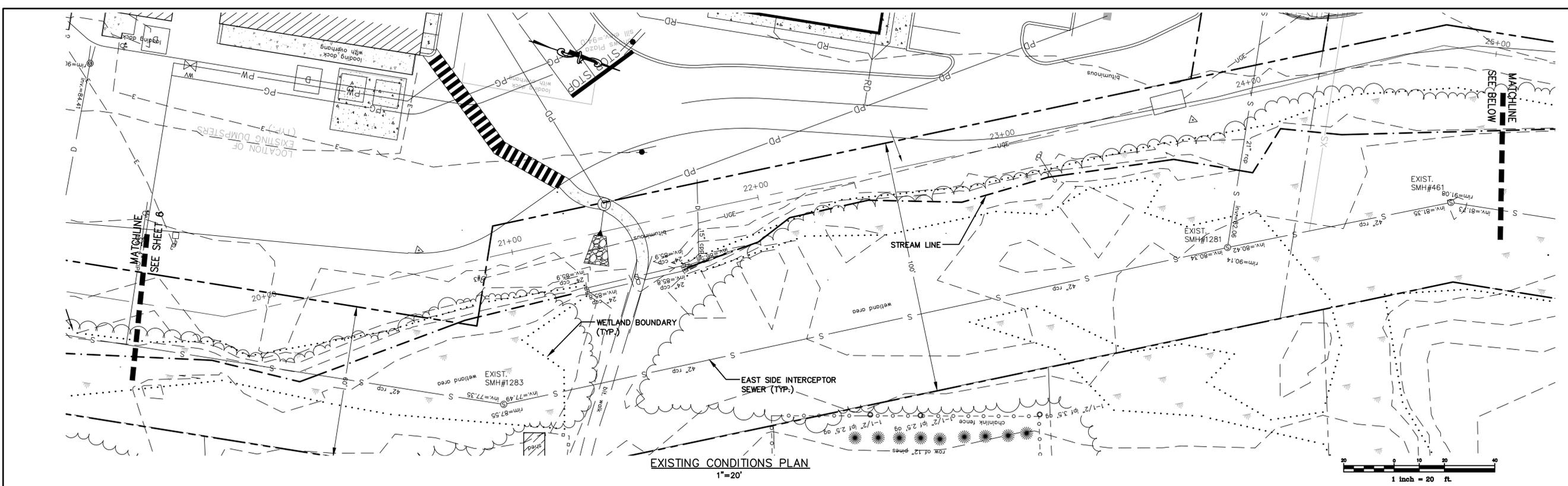
EXISTING CONDITIONS PLAN  
1"=20'

**AS-BUILT**  
DECEMBER 01, 2011

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EXISTING CONDITIONS PLAN  
1"=20'

DESIGNED BY: J. MARDEN  
 DRAWN BY: C. GROUARD  
 CHECKED BY: J. ATTANASE  
 SCALE: AS NOTED  
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 FIELD BOOK USED: N/A

FALL BROOK  
PHASE 4  
EXISTING CONDITIONS 2  
1343.31-EXIST - PP 60F10

CITY OF PORTLAND, MAINE  
PUBLIC SERVICES DEPARTMENT  
ENGINEERING SECTION

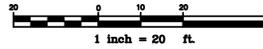


SHEET #  
7 OF 20  
VAULT PLAN NUMBER

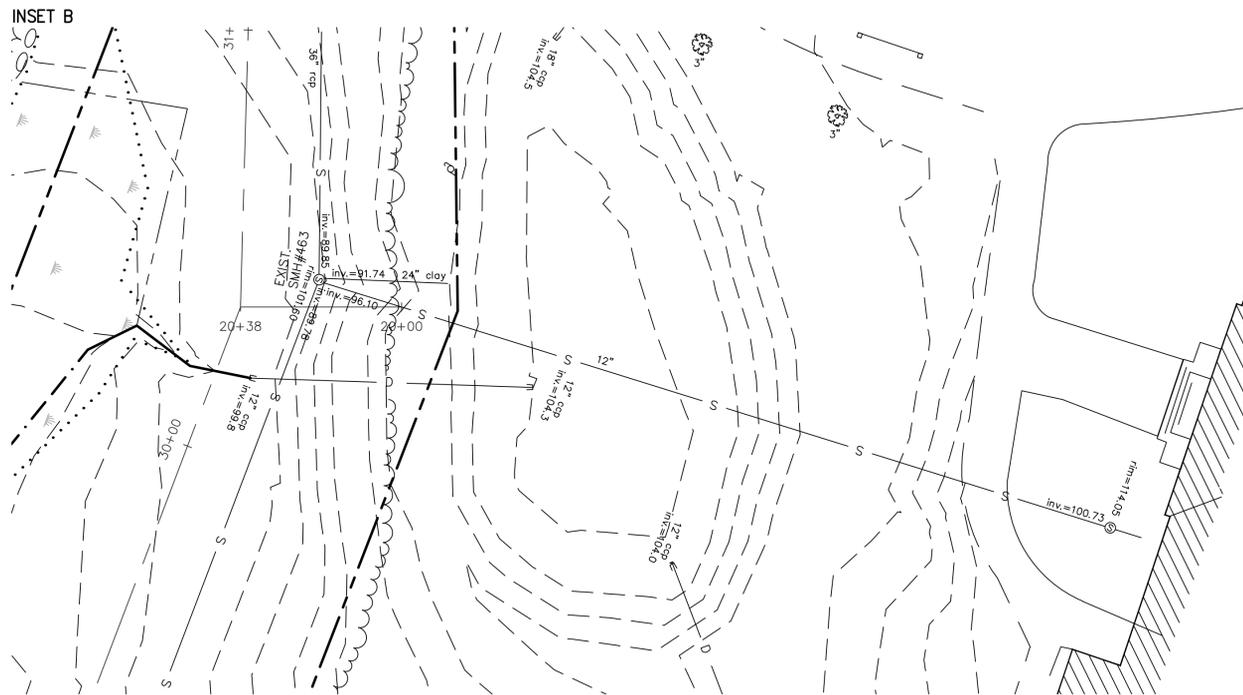
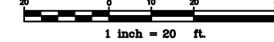
AS-BUILT



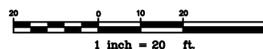
INSET A - EXISTING CONDITIONS PLAN  
1"=20'



EXISTING CONDITIONS PLAN  
1"=20'



INSET B - EXISTING CONDITIONS PLAN  
1"=20'



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FIELD BOOK USED:  
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FALL BROOK  
PHASE 4  
EXISTING CONDITIONS 3  
1343.31-EXIST - PP 80F10

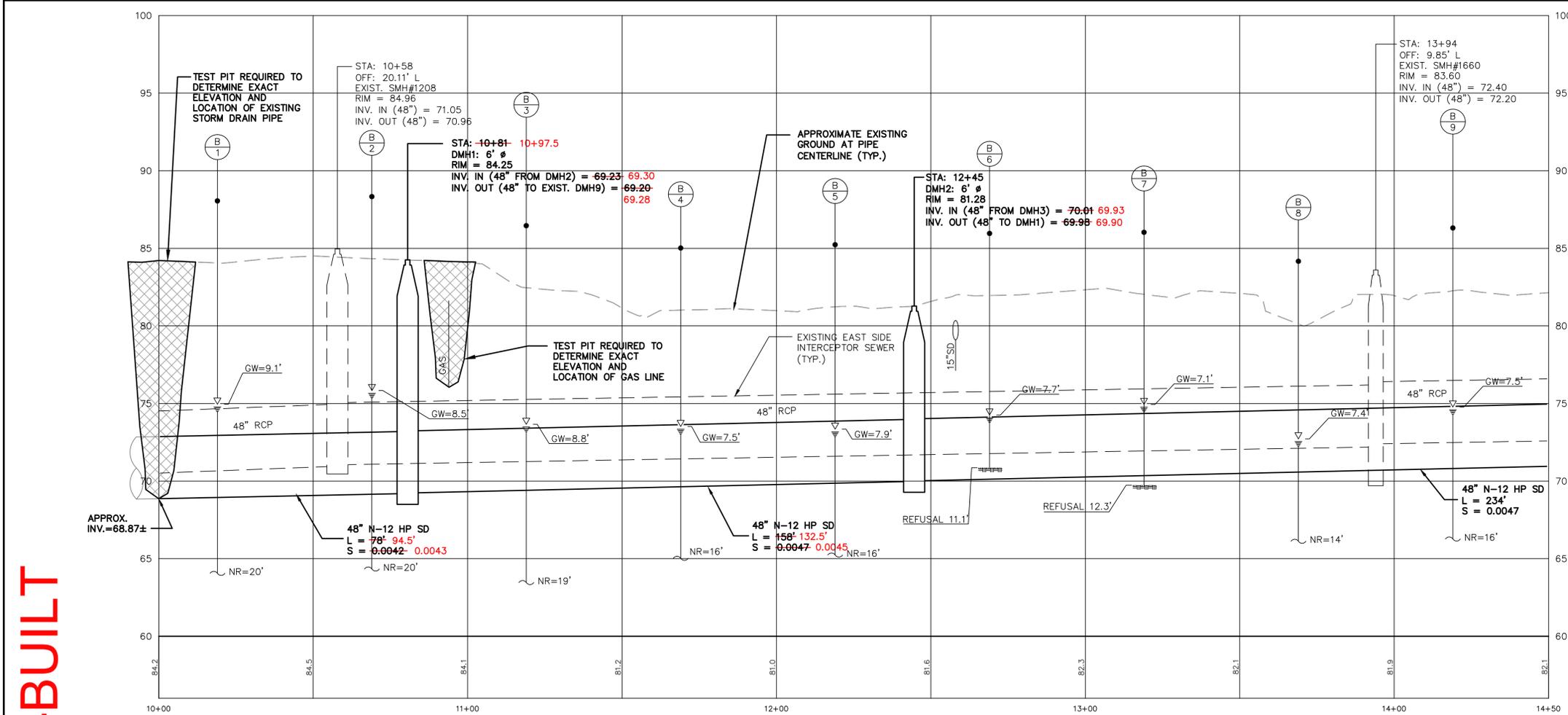
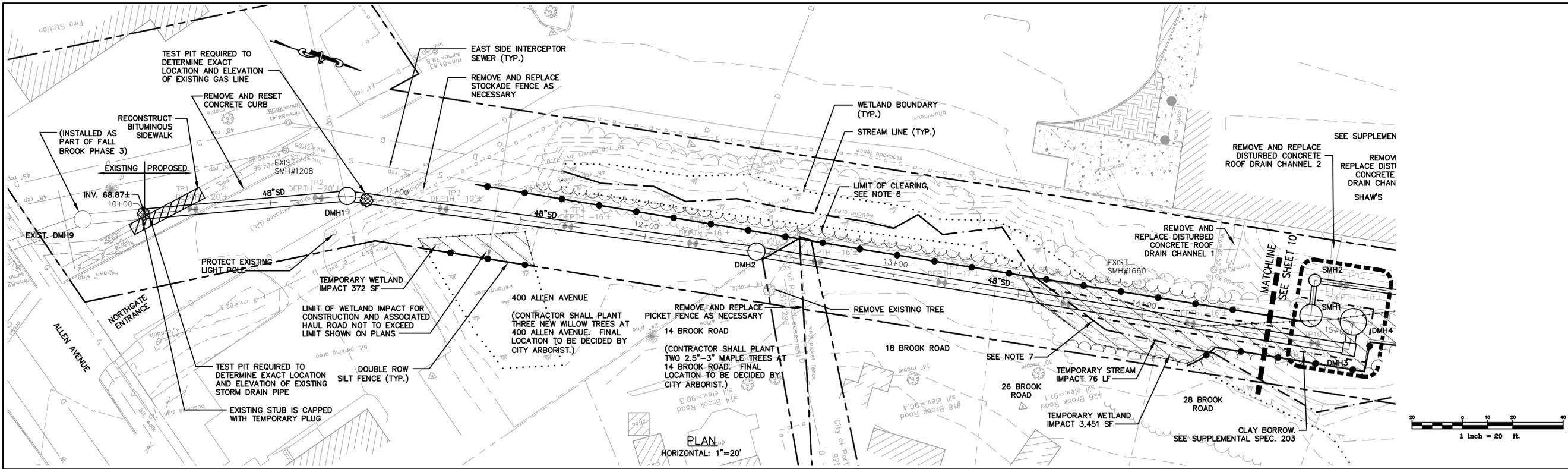
CITY OF PORTLAND, MAINE  
PUBLIC SERVICES DEPARTMENT  
ENGINEERING SECTION



SHEET #  
8 OF 20

VAULT PLAN NUMBER

AS-BUILT



- NOTES:**
- PROTECT EXISTING EAST SIDE INTERCEPTOR SEWER MANHOLE STRUCTURES AND PIPES.
  - REFER TO SHEETS 17 AND 18 FOR EROSION CONTROL DETAILS AND NOTES.
  - CONSTRUCTION ACCESS SHALL BE VIA NORTHGATE SHOPPING PLAZA AND LYSETH MOORE DRIVE (REFER TO SHEET 3).
  - CONTRACTOR IS CAUTIONED THAT ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT DEPICTED ON THESE PLANS. CONTRACTOR, AT THEIR EXPENSE, SHALL REPAIR ANY DAMAGE TO EXISTING UTILITIES CAUSED DURING CONSTRUCTION.
  - CONTRACTOR IS CAUTIONED THAT EXISTING VEGETATION WITHIN CROSS COUNTRY CONSTRUCTION AREA CONSISTS OF MATURE (>12" DIAMETER) DECIDUOUS AND EVERGREEN TREES. NO SEPARATE/INDIVIDUAL PAYMENT WILL BE MADE FOR CLEARING WORK AREA. PAYMENT SHALL BE ON A PER ACRE BASIS.
  - CLEARING LIMITS SHALL NOT BE EXCEEDED WITHOUT CITY APPROVAL.
  - TEMPORARY CONSTRUCTION STREAM CROSSING SHALL BE PROVIDED TO FACILITATE CONSTRUCTION. AFTER CONSTRUCTION, CONSTRUCTION STREAM CROSSING SHALL BE REMOVED AND STREAM SHALL BE REESTABLISHED PER "STREAM BED RECONSTRUCTION DETAIL" ON SHEET 16.
  - TEST PITS, IF REQUIRED, SHALL BE COMPLETED AT LEAST TWO WEEKS PRIOR TO THE START OF CONSTRUCTION OR ORDERING OF MATERIALS. THE CONTRACTOR SHALL PROMPTLY PROVIDE TEST PIT INFORMATION TO THE ENGINEER FOR REVIEW, AND SHALL NOTIFY THE ENGINEER OF ANY POTENTIAL UTILITY CROSSING CONFLICTS.

AS-BUILT  
DECEMBER 01, 2011

ALL AS-BUILT INFORMATION PROVIDED BY  
D&C CONSTRUCTION  
AS-BUILT DRAWING PREPARED BY  
GORRILL-PALMER CONSULTING ENGINEERS

REFERENCES:

DESIGNED BY:	J. MARDEN
DRAWN BY:	C. GORRARD
CHECKED BY:	
SCALE:	AS NOTED
DATE:	2/28/2011

LDD PROJECT NAME: N/A  
DRAWING NAME: 1343.31-PP-AS-BUILT.dwg  
FIELD BOOK USED: N/A

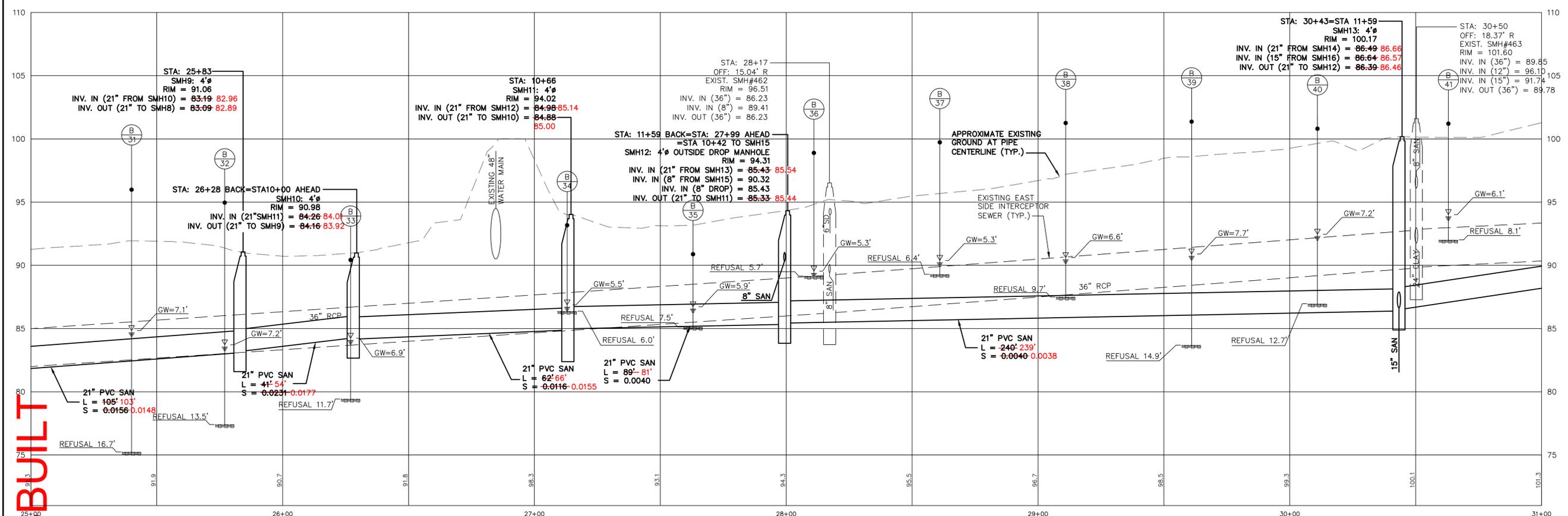
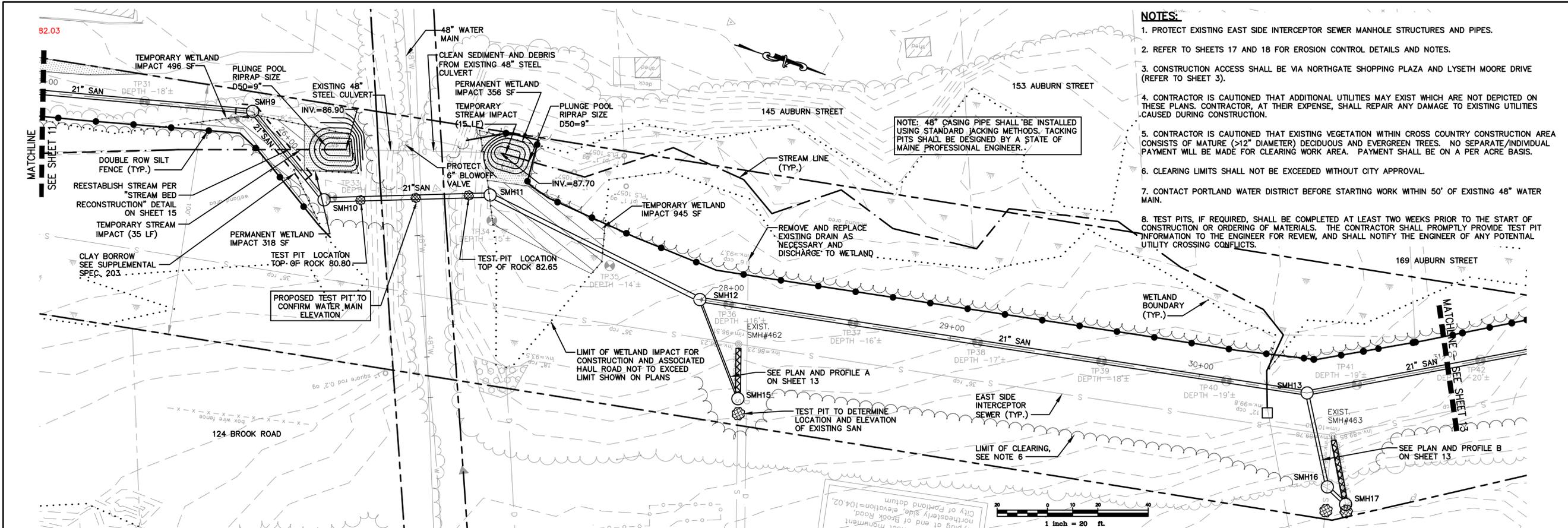
FALL BROOK  
PHASE 4  
PLAN AND PROFILE  
STA 10+00 TO STA. 14+50

CITY OF PORTLAND, MAINE  
PUBLIC SERVICES DEPARTMENT  
ENGINEERING SECTION









**AS-BUILT**

PROFILE  
HORIZONTAL: 1"=20'  
VERTICAL: 1"=4'

**AS-BUILT**  
DECEMBER 01, 2011

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AS-BUILT DRAWING PREPARED BY GORRILL-PALMER CONSULTING ENGINEERS

**GP** Gorrill-Palmer Consulting Engineers, Inc.  
 PO Box 1237 15 Shaker Road Gray, ME 04039  
 Engineering Excellence Since 1998  
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**REFERENCES:**

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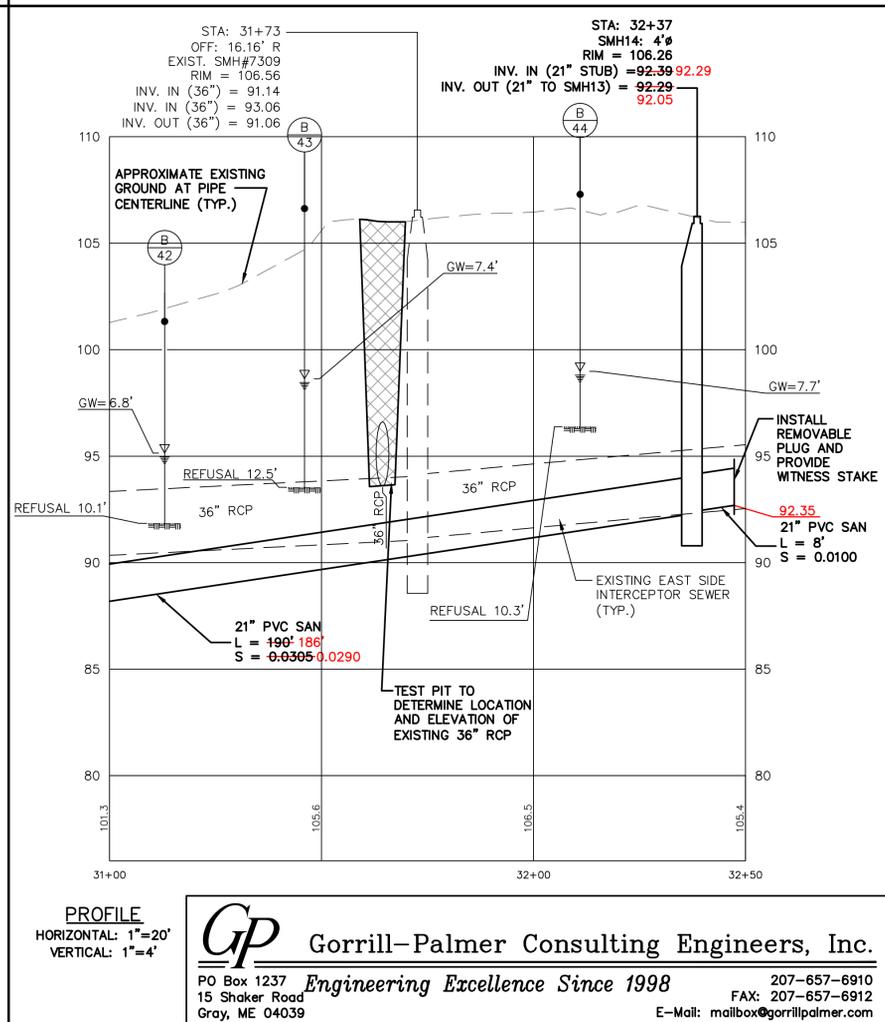
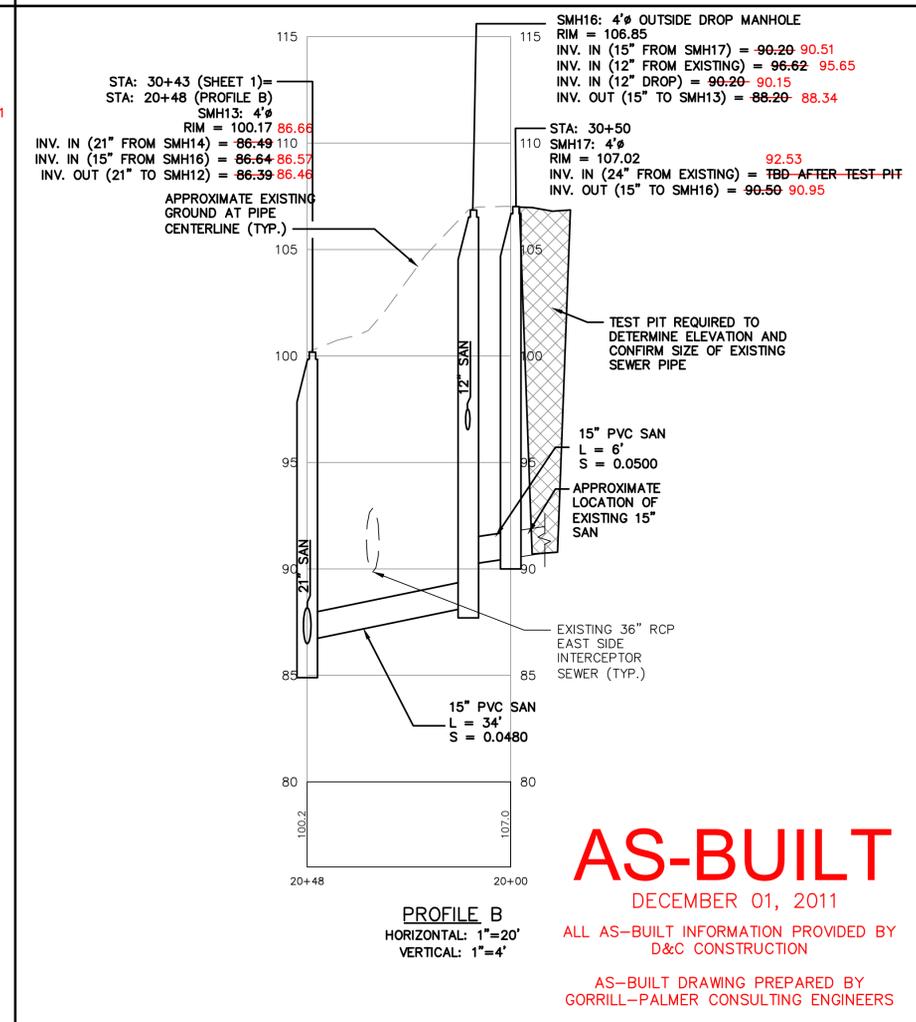
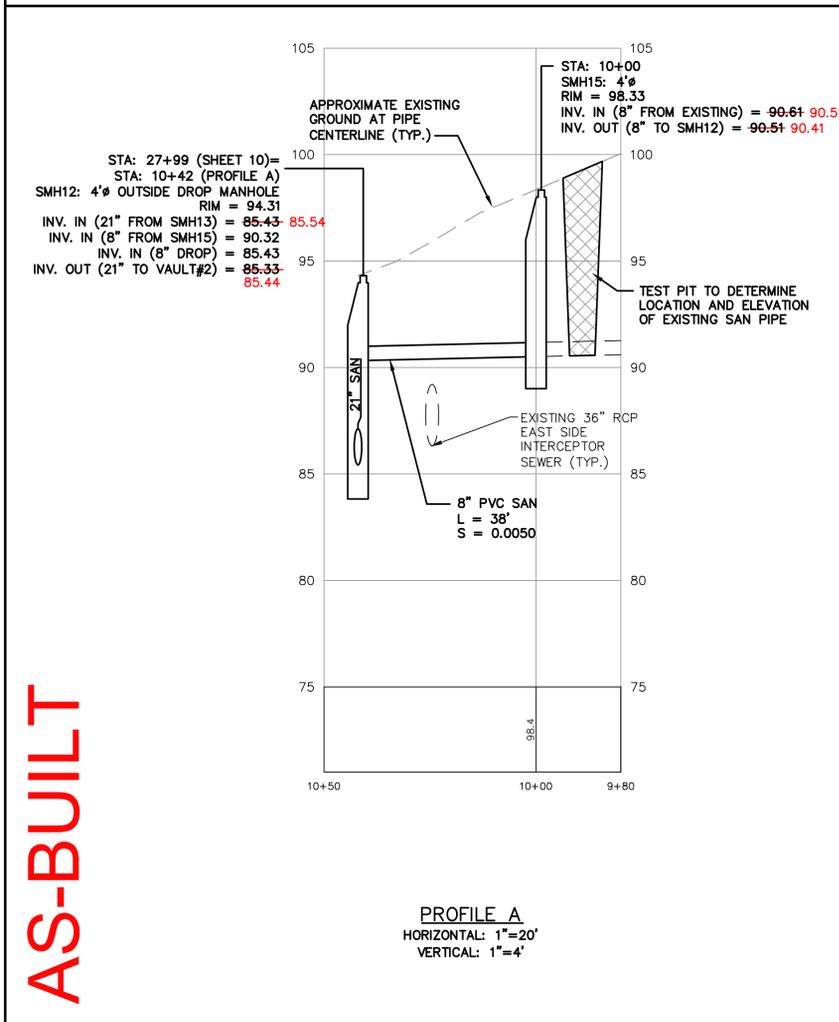
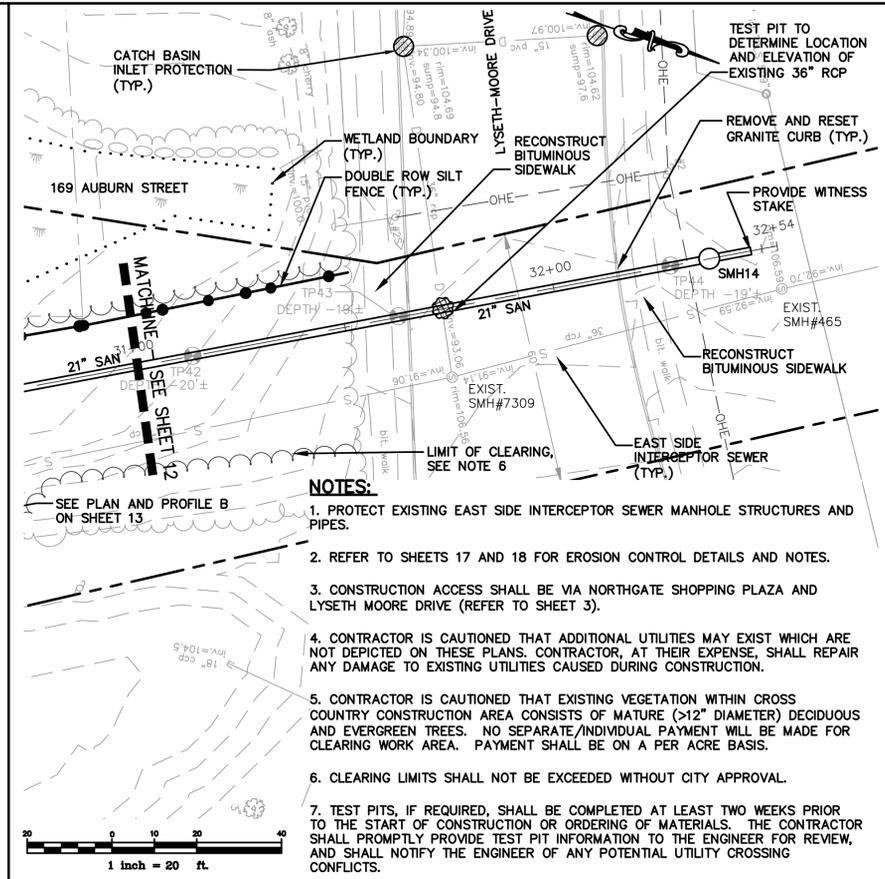
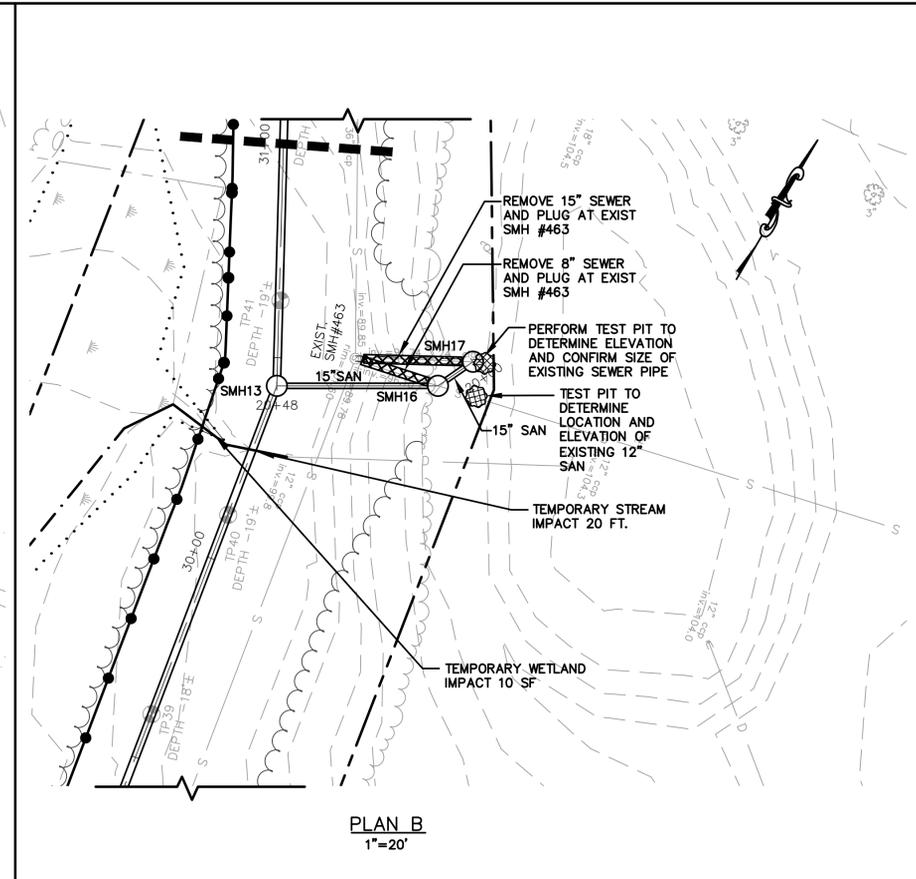
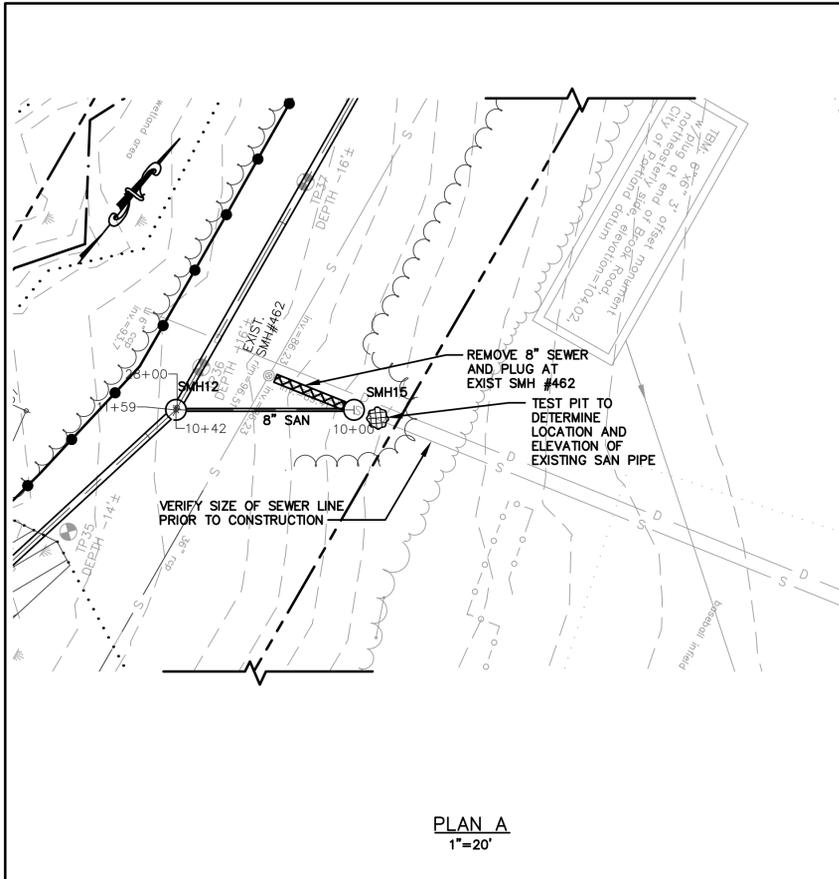
**FALL BROOK PHASE 4**  
**PLAN AND PROFILE**  
 STA. 25+00 TO STA. 31+00

CITY OF PORTLAND, MAINE  
 PUBLIC SERVICES DEPARTMENT  
 ENGINEERING SECTION

**Y. O. RESURGAN, ENR.**  
 CITY OF PORTLAND, MAINE

SHEET # 12 OF 20  
 VAULT PLAN NUMBER

**AS-BUILT**



**AS-BUILT**  
DECEMBER 01, 2011  
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AS-BUILT DRAWING PREPARED BY GORRILL-PALMER CONSULTING ENGINEERS

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DRAWING NAME: 1343.31-PP-AS-BUILT.dwg  
FIELD BOOK USED: N/A

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DRAWN BY:	C. GRIFFARD
CHECKED BY:	
SCALE:	AS NOTED
DATE:	2/28/2011

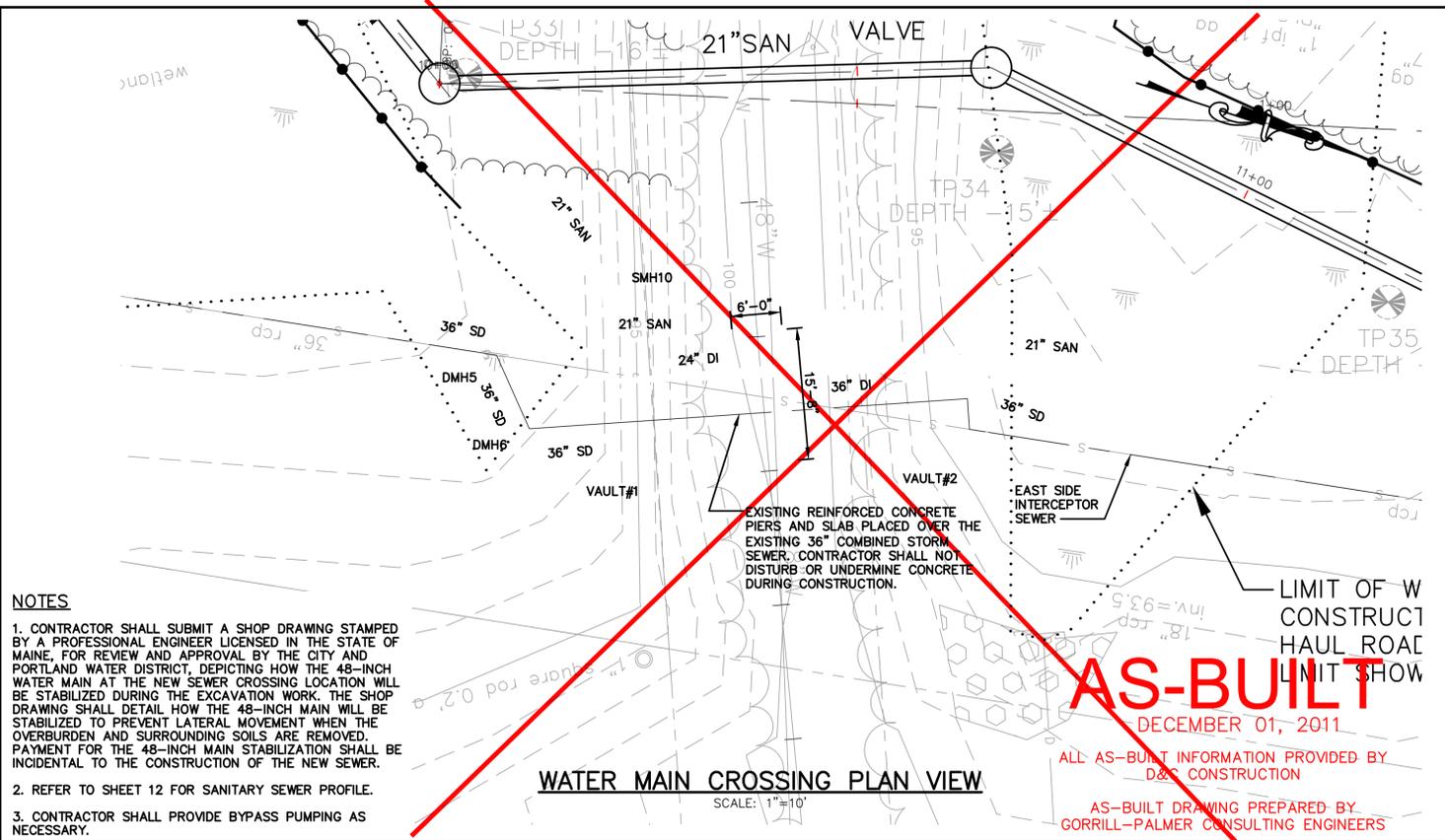
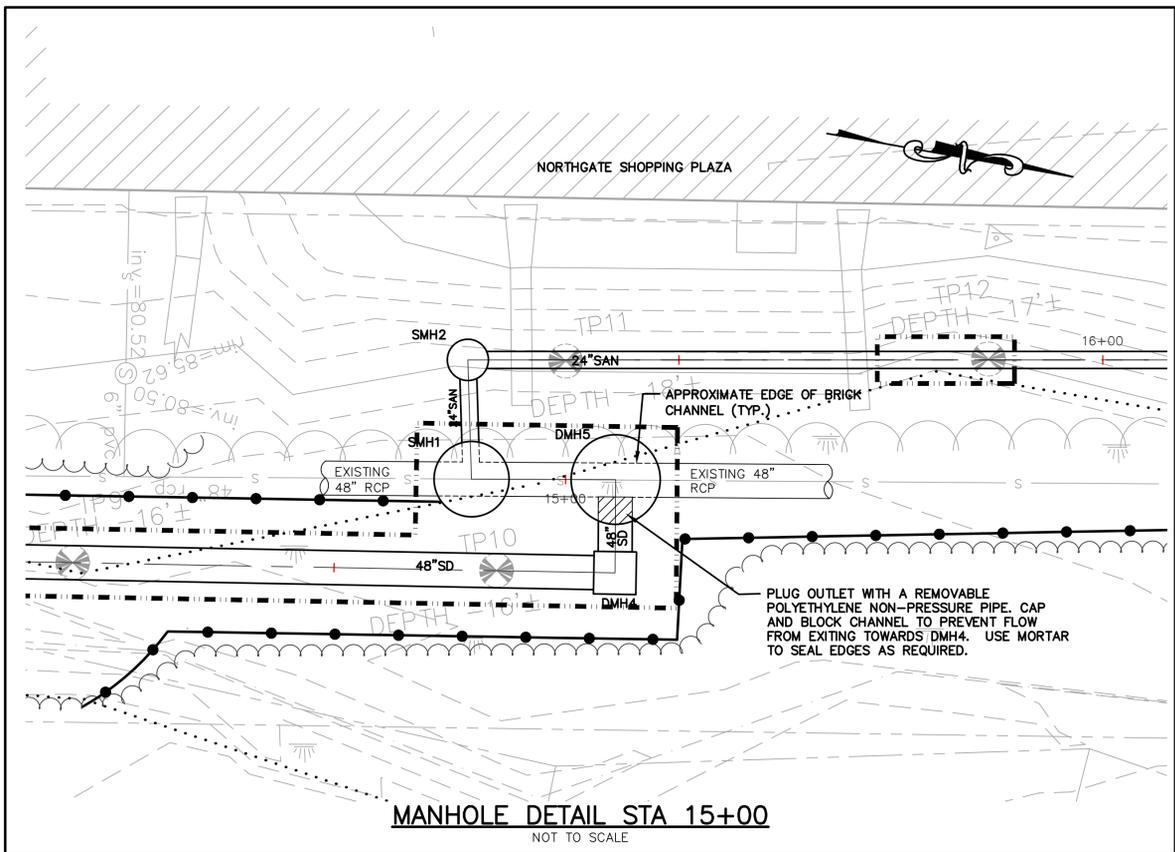
**FALL BROOK PHASE 4**

**PLAN AND PROFILE**  
STA. 9+80 TO STA. 10+50 (A)  
STA. 20+00 TO STA. 20+48 (B)

CITY OF PORTLAND, MAINE  
PUBLIC SERVICES DEPARTMENT  
ENGINEERING SECTION

SHEET # 13 OF 20  
VAULT PLAN NUMBER

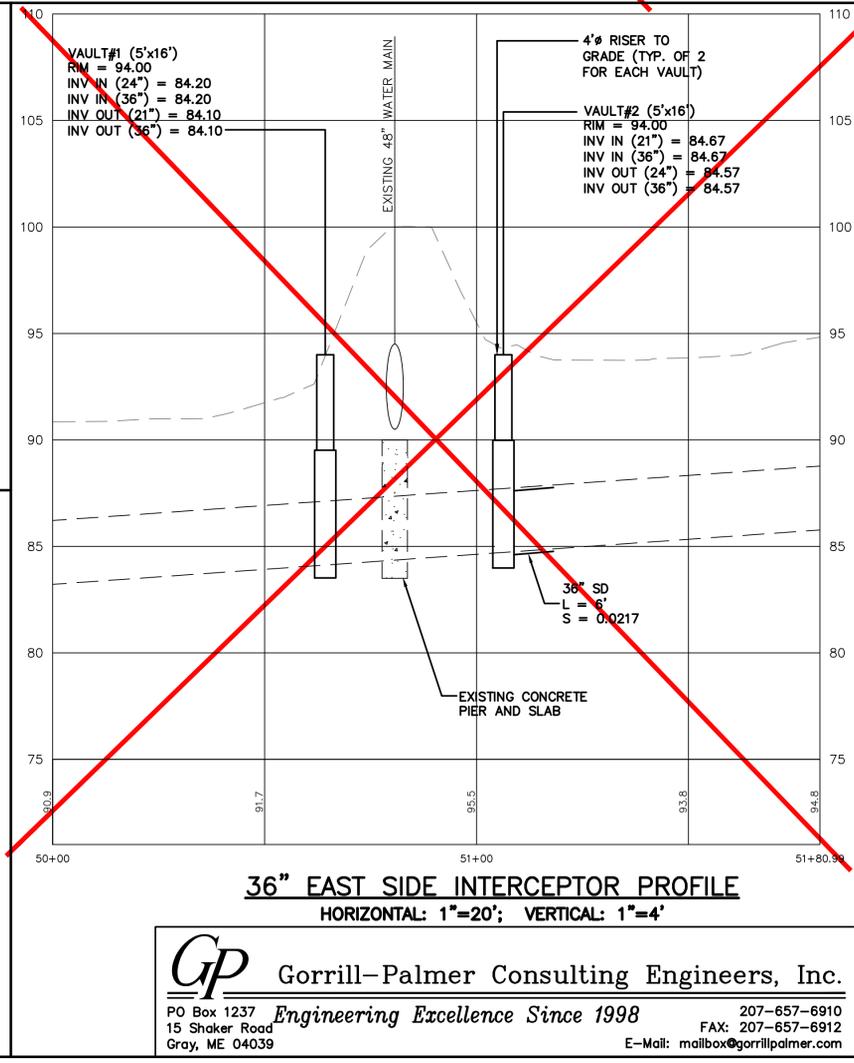
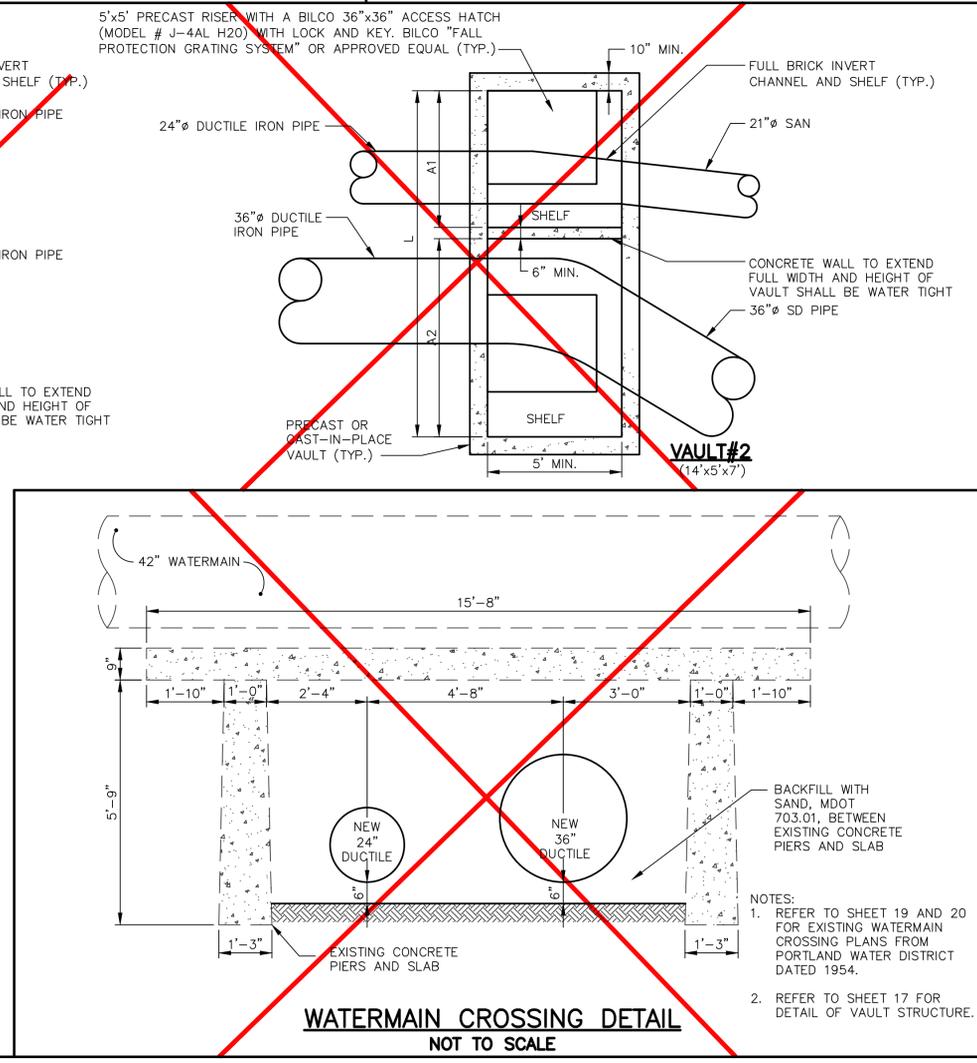
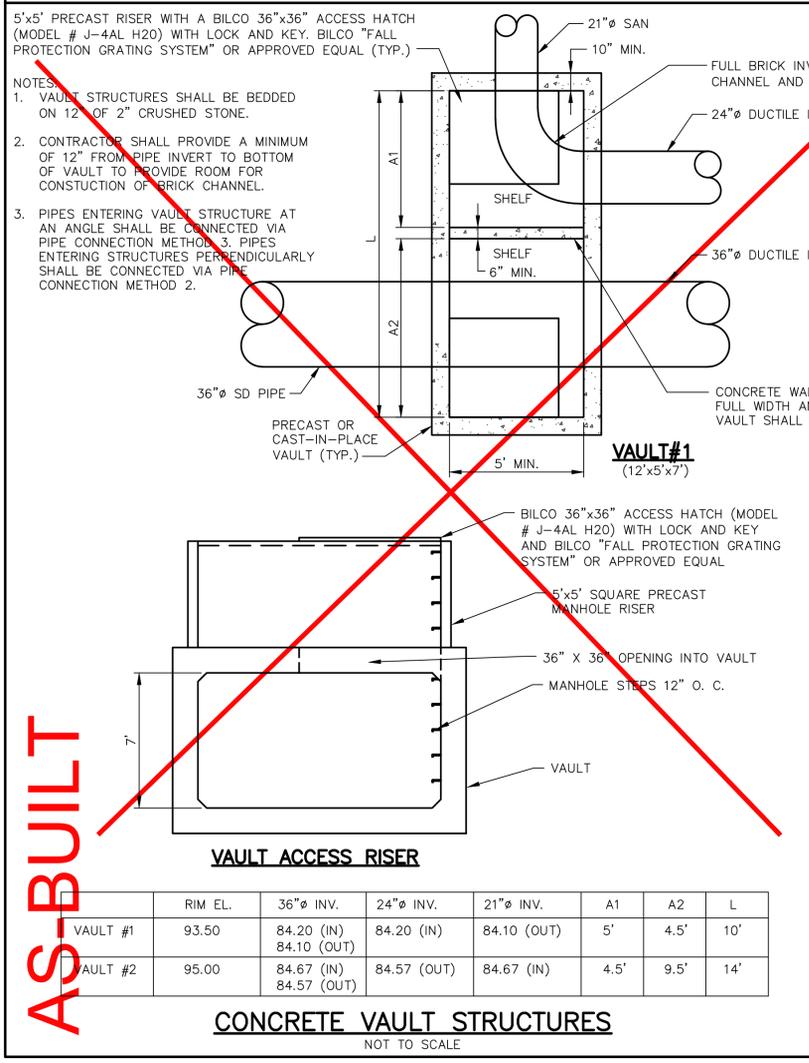
Gorrill-Palmer Consulting Engineers, Inc.  
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**NOTES**

- CONTRACTOR SHALL SUBMIT A SHOP DRAWING STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MAINE, FOR REVIEW AND APPROVAL BY THE CITY AND PORTLAND WATER DISTRICT, DEPICTING HOW THE 48-INCH WATER MAIN AT THE NEW SEWER CROSSING LOCATION WILL BE STABILIZED DURING THE EXCAVATION WORK. THE SHOP DRAWING SHALL DETAIL HOW THE 48-INCH MAIN WILL BE STABILIZED TO PREVENT LATERAL MOVEMENT WHEN THE OVERBURDEN AND SURROUNDING SOILS ARE REMOVED. PAYMENT FOR THE 48-INCH MAIN STABILIZATION SHALL BE INCIDENTAL TO THE CONSTRUCTION OF THE NEW SEWER.
- REFER TO SHEET 12 FOR SANITARY SEWER PROFILE.
- CONTRACTOR SHALL PROVIDE BYPASS PUMPING AS NECESSARY.

**AS-BUILT**  
 DECEMBER 01, 2011  
 ALL AS-BUILT INFORMATION PROVIDED BY D&C CONSTRUCTION  
 AS-BUILT DRAWING PREPARED BY GORRILL-PALMER CONSULTING ENGINEERS



**AS-BUILT**

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 DRAWING NAME: 1343.31-DET-AS BUILT.dwg  
 FIELD BOOK USED: N/A

DESIGNED BY: J. MARDEN  
 DRAWN BY: C. GIRAUD  
 CHECKED BY:  
 SCALE: AS NOTED  
 DATE: 2/28/2011

REFERENCES:

FALL BROOK PHASE 4 DETAILS

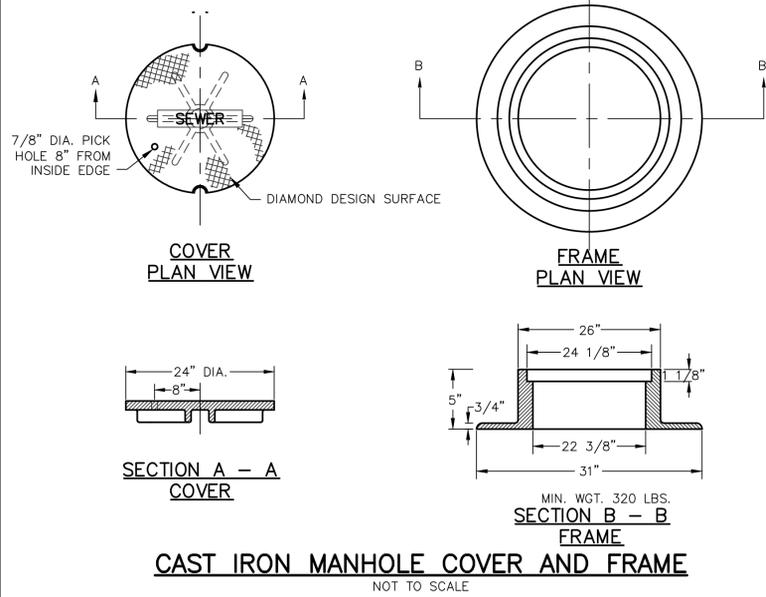
CITY OF PORTLAND, MAINE  
 PUBLIC SERVICES DEPARTMENT  
 ENGINEERING SECTION

SHEET # 15 OF 20  
 VAULT PLAN NUMBER

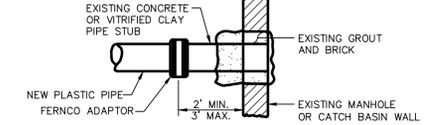
**GP** Gorrill-Palmer Consulting Engineers, Inc.  
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 15 Shaker Road FAX: 207-657-6912  
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**NOTES:**

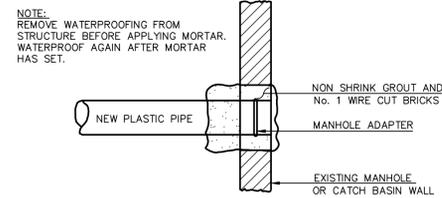
1. ALL MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE 7/8" DIAMETER DRILLED PICK HOLE, LOCATED 8" FROM THE CENTER OF THE COVER.
2. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
3. MANHOLES IN CROSS COUNTRY SECTIONS SHALL BE HEAVY DUTY DUCTILE IRON CLASS 400 SOLID PAMREX HINGED FRAME AND COVER WITH OPTIONAL LOCKING KIT (OR APPROVED EQUIVALENT)



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

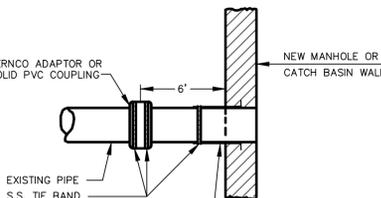
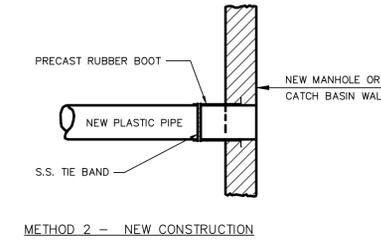
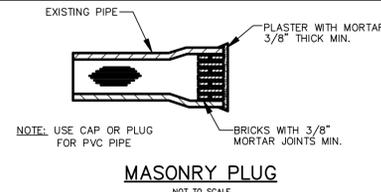


**NOTE:** EXISTING MANHOLE OR CATCH BASIN SHALL BE CORE DRILLED FOR PIPE INSTALLATION. IF PIPE DIAMETER IS SO LARGE THAT CORE DRILLING IS PROHIBITED, THE CONTRACTOR MAY SAW OUT THE STRUCTURE TO CREATE PIPE OPENING. THE NEW OPENING MUST THEN BE SEALED AND WATERTIGHT BOTH INSIDE AND OUTSIDE THE STRUCTURE.

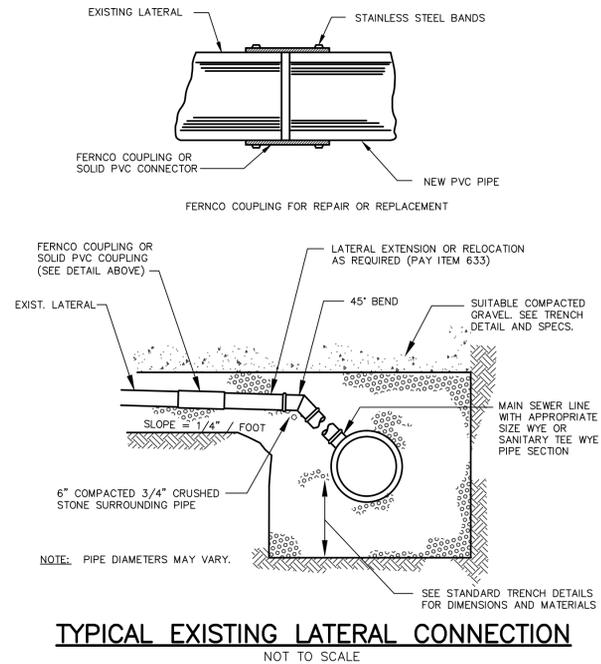
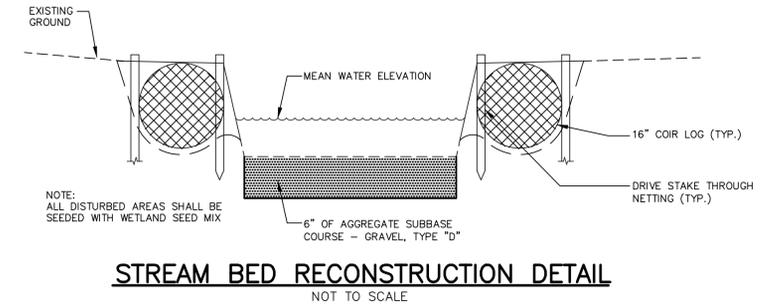


**METHOD 2 - NEW CONSTRUCTION**

**PLASTIC PIPE CONNECTIONS**  
NOT TO SCALE

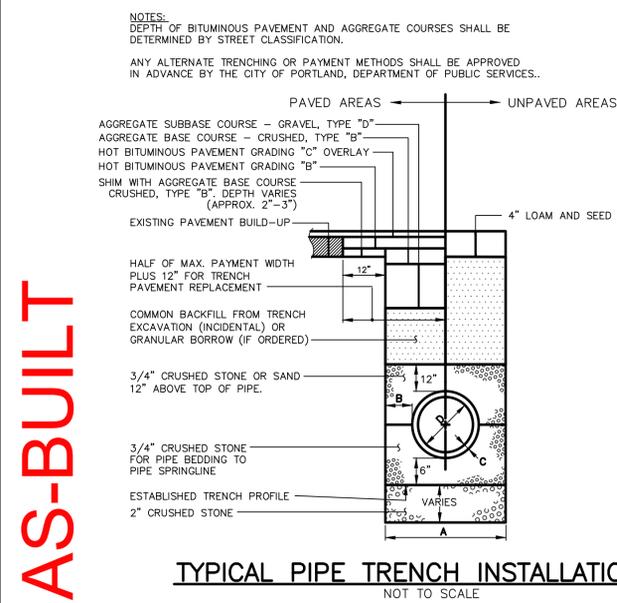
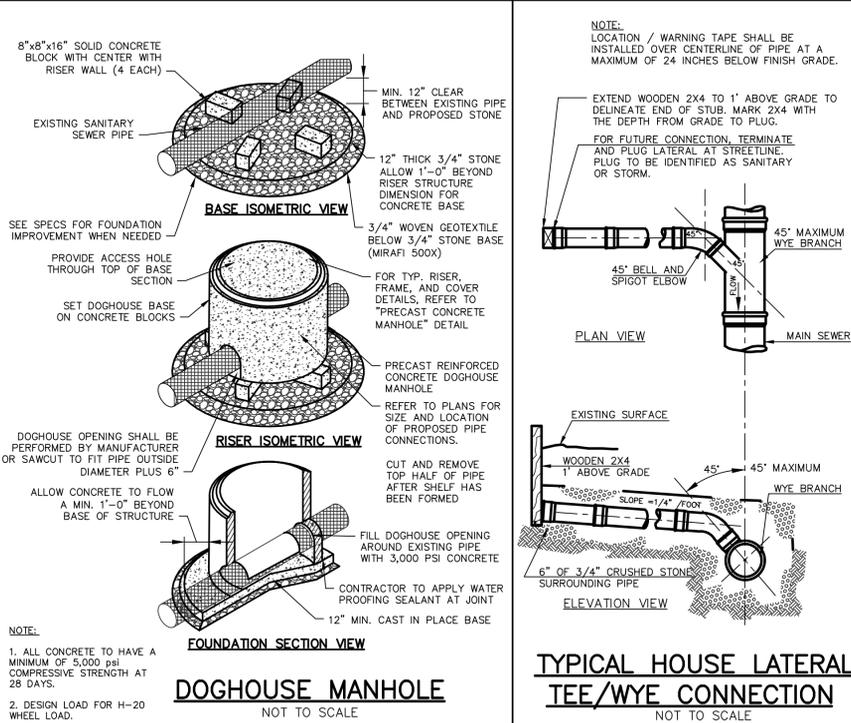
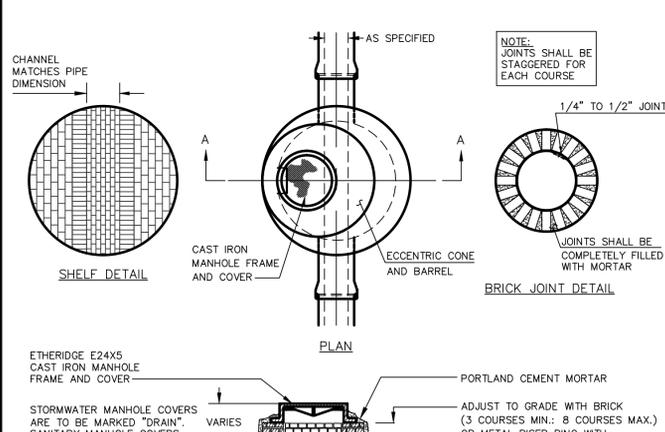
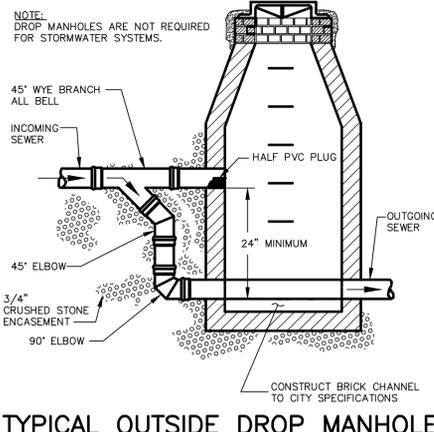


**PLASTIC PIPE CONNECTIONS**  
NOT TO SCALE



**GENERAL NOTES FOR MANHOLES AND CATCH BASINS**

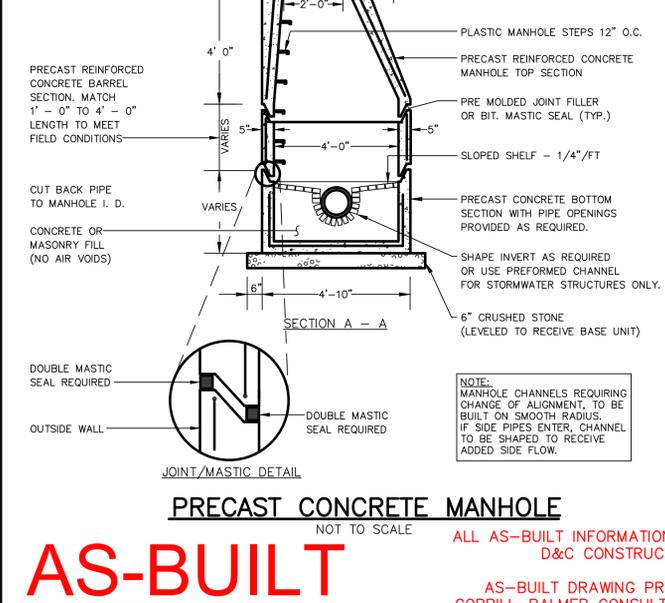
1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 LBS. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF MASONRY, PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
4. ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE 7/8" DIAMETER DRILLED PICK HOLE LOCATED 8" FROM THE CENTER OF THE COVER.
5. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
6. ALL MANHOLE RISERS SHALL BE ETHERIDGE 24" OR APPROVED EQUAL.
7. SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C-32-63, GRADE MA AND SA.
8. ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE. IF CATCH BASIN FRAMES FOR TYPE A4 CATCH BASIN CURB INLETS SHALL BE ETHERIDGE DR5A OR APPROVED EQUAL.
9. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35.
10. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
11. ALL CATCH BASIN OUTLETS SHALL BE INSTALLED WITH A CASCO TRAP.



**NOTES:**

1. ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. IN PAVED AREAS, REFER TO BITUMINOUS PAVEMENT SECTION FOR DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT.
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 "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.
5. EXCAVATION BELOW ESTABLISHED TRENCH PROFILE (IF ORDERED). PAY ITEM 205.061.
6. EXCAVATION INCIDENTAL TO PIPE PAY ITEMS (PAVED AND SEEDED AREAS)

PIPE DIAMETER, "D" (INCHES)	MAX. TRENCH WIDTH, "A" (FEET)
4	4.0
6	4.0
8	4.0
10	4.0
12	4.0
15	4.0
18	5.0
21	5.0
24	5.5
27	6.0
30	6.0
36	7.0
42	8.0
48	8.0



**AS-BUILT**

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DECEMBER 01, 2011

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FIELD BOOK USED: N/A

DESIGNED BY: J. MARDEN  
DRAWN BY: C. GIRAUD  
CHECKED BY: A. PALMER  
SCALE: AS NOTED  
DATE: 2/28/2011

REFERENCES:

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CITY OF PORTLAND, MAINE  
PUBLIC SERVICES DEPARTMENT  
ENGINEERING SECTION

SHEET # 16 OF 20  
VAULT PLAN NUMBER



**EROSION CONTROL MEASURES AND SITE STABILIZATION**

THE PRIMARY POINTS THAT ARE EMPHASIZED BY THE EROSION AND SEDIMENTATION CONTROL PLAN TO BE IMPLEMENTED FOR THIS PROJECT ARE AS FOLLOWS:

- DEVELOPMENT OF A CAREFUL CONSTRUCTION SEQUENCE.
• RAPID REVEGETATION OF DENUDED AREAS TO MINIMIZE THE DURATION OF SOIL EXPOSURE.
• RAPID STABILIZATION OF DRAINAGE PATHS TO AVOID RILL AND GULLY EROSION.
• USE OF ON-SITE MEASURES TO CAPTURE SEDIMENT (SEDIMENTATION BASINS, SILT FENCE, ETC.)

THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES WILL BE IMPLEMENTED AS PART OF THE SITE DEVELOPMENT. THESE DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS OR AS DESCRIBED WITHIN THIS REPORT. AS THE PROPOSED PROJECT MAY INVOLVE CONSTRUCTION DURING THE WINTER MONTHS (SEPTEMBER 15 TO APRIL 15) THE CONTRACTOR IS REFERRED TO SECTION 8.4 - WINTER STABILIZATION PLAN AND 8.5 - STANDARDS FOR TIMELY STABILIZATION OF CONSTRUCTION SITE DURING WINTER, FOR ADDITIONAL INFORMATION RELATIVE TO EROSION CONTROL MEASURE. FOR FURTHER REFERENCE, SEE THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES.

**A. TEMPORARY EROSION CONTROL MEASURES**

THE FOLLOWING MEASURES ARE PLANNED AS TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION:

- 1. A CRUSHED-STONE-STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT THE PROPOSED ACCESS POINTS TO THE CONSTRUCTION AREA. WATER SHALL BE UTILIZED TO CONTROL DUST.
2. SILTATION FENCE OR OTHER APPROVED SEDIMENT BARRIER SHALL BE INSTALLED DOWNSTREAM OF ANY DISTURBED AREAS TO TRAP RUNOFF-BORNE SEDIMENTS UNTIL THE SITE IS RE-VEGETATED. DURING FROZEN CONDITIONS, SEDIMENT BARRIERS SHALL CONSIST OF WOOD WASTE FILTER BERMS AS FROZEN SOILS PREVENT PROPER INSTALLATION OF HAY BALES AND SILT FENCE. SILT FENCE SHALL BE INSTALLED PER THE DETAIL PROVIDED IN THE PLAN SET AND INSPECTED IMMEDIATELY AFTER EACH RAINFALL EVENT AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE LINE OR IF THE FENCE BECOMES DAMAGED, TORN, OR KNOCKED OVER. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPONDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM. A DOUBLE ROW OF SILTATION FENCE SHALL BE INSTALLED ADJACENT TO WETLANDS, AS SHOWN ON THE PLANS.
3. STRAW OR HAY MULCH INCLUDING HYDROSEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL RE-VEGETATION IS ESTABLISHED. MULCH PLACED BETWEEN APRIL 15 AND SEPTEMBER 15 ON SLOPES LESS THAN 15 PERCENT SHALL BE ANCHORED BY APPLYING WATER. MULCH PLACED ON SLOPES GREATER THAN OR EQUAL TO 15 PERCENT SHALL BE COVERED BY A FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. FABRIC NETTING AND STAPLES SHALL BE USED ON ALL DISTURBED AREAS WITHIN 100 FEET OF ANY STREAM OR WETLAND REGARDLESS OF THE UPSTREAM SLOPE. MULCH PLACED BETWEEN SEPTEMBER 15 AND APRIL 15 ON SLOPES GREATER THAN OR EQUAL TO 15 PERCENT SHALL BE COVERED WITH A FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. SLOPES STEEPER THAN 3H:1V AND EQUAL TO OR FLATTER THAN 2H:1V THAT ARE TO BE RE-VEGETATED SHALL RECEIVE CURLEX BLANKETS BY AMERICAN EXCELSIOR OR APPROVED EQUIVALENT. SLOPES STEEPER THAN 2H:1V SHALL RECEIVE RIPRAP AS NOTED IN THE PLAN SET. MULCH APPLICATION RATES ARE PROVIDED IN ATTACHMENT B OF THIS SECTION. IN NO INSTANCE SHALL MULCH BE PLACED OVER SNOW.
4. TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, AND/OR COMMON EXCAVATION WILL BE PROTECTED AS FOLLOWS:
a) TEMPORARY STOCKPILES SHALL BE LOCATED AWAY FROM DRAINAGE SWALES AND SHALL NOT BE LOCATED WITHIN 100 FEET OF ANY UNDISTURBED WETLANDS.
b) STOCKPILES SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OF THE TIME OF FORMATION DURING SUMMER CONSTRUCTION AND WITHIN 24 HOURS OF FORMATION DURING WINTER CONSTRUCTION BY ONE OF THE FOLLOWING METHODS:
i) TEMPORARILY SEEDING THE STOCKPILE BY A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIFIER, OR
ii) COVERING THE STOCKPILE WITH MULCH SUCH AS HAY, STRAW, OR OTHER EROSION CONTROL MIX.
c) STOCKPILES SHALL BE SURROUNDED BY SEDIMENTATION BARRIER AT THE TIME OF FORMATION.
5. ALL DENUDED AREAS WITHIN 100 FEET OF UNDISTURBED WETLANDS THAT HAVE BEEN ROUGH GRADED SHALL RECEIVE MULCH OR EROSION CONTROL MESH FABRIC WITHIN SEVEN (7) DAYS OF INITIAL DISTURBANCE OF SOIL. ALL AREAS WITHIN 100 FEET OF UNDISTURBED WETLANDS SHALL BE MULCHED PRIOR TO ANY PREDICTED RAIN EVENT REGARDLESS OF THE SEVEN-DAY WINDOW. IN OTHER AREAS THE TIME PERIOD MAY BE EXTENDED TO FOURTEEN (14) DAYS.
6. FOR WORK THAT IS CONDUCTED BETWEEN SEPTEMBER 15 AND APRIL 15 OF ANY CALENDAR YEAR, ALL DENUDED AREAS SHALL BE COVERED WITH HAY MULCH OR EROSION CONTROL MIX APPLIED AT TWICE THE NORMAL APPLICATION RATE AND ANCHORED WITH FABRIC NETTING. THE TIME PERIOD FOR APPLYING MULCH SHALL BE LIMITED TO SEVEN (7) DAYS FOR ALL AREAS.
7. THE SURROUNDING ROADWAY INFRASTRUCTURE SHALL BE SWEEPED OF MUD AND DUST AS NECESSARY.
8. DURING GRUBBING OPERATIONS, STONE CHECK DAMS SHALL BE INSTALLED AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINT AND AS INDICATED IN THE PLAN SET.
9. SILT FENCING WITH A MINIMUM STAKE SPACING OF SIX (6) FEET SHALL BE USED DOWNSTREAM OF ALL DISTURBED AREAS AND AS INDICATED IN THE PLAN SET. IF FENCE IS SUPPORTED BY WIRE FENCE REINFORCEMENT OF MINIMUM FOURTEEN (14) GAUGE AND MAXIMUM MESH SPACING OF SIX (6) INCHES, STAKES MAY BE SPACED A MAXIMUM OF TEN (10) FEET APART. THE BOTTOM OF THE FENCE SHALL BE ANCHORED.
10. STORM DRAIN CATCH BASIN INLET PROTECTION SHALL BE PROVIDED THROUGH THE USE OF STONE SEDIMENT BARRIERS OR APPROVED SEDIMENT BAGS; INSTALLATION DETAILS ARE PROVIDED IN THE PLAN SET. THE BARRIERS SHALL BE INSPECTED AFTER EACH RAINFALL AND REPAIRS MADE AS NECESSARY. SEDIMENT SHALL BE REMOVED AND THE BARRIER RESTORED TO ITS ORIGINAL DIMENSIONS WHENEVER THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE BARRIER. THE BARRIER SHALL BE REMOVED WHEN THE TRIBUTARY DRAINAGE AREA HAS BEEN STABILIZED.
11. WATER SHALL BE FURNISHED AND APPLIED IN ACCORDANCE WITH MDOT SPECIFICATIONS, SECTION 637 - DUST CONTROL.
12. LOAM AND SEED IS INTENDED TO SERVE AS THE PRIMARY PERMANENT RE-VEGETATIVE MEASURE FOR ALL DENUDED AREAS NOT PROVIDED WITH OTHER EROSION CONTROL MEASURES SUCH AS PAVING OR RIPRAP. APPLICATION RATES ARE PROVIDED IN ATTACHMENT B OF THIS SECTION. IN NO INSTANCE SHALL SEEDING OCCUR OVER SNOW.

**B. PERMANENT EROSION CONTROL MEASURES**

THE FOLLOWING PERMANENT EROSION AND SEDIMENTATION CONTROL MEASURES WILL BE IMPLEMENTED AS PART OF THE EROSION AND SEDIMENTATION CONTROL PLAN:

- 1. ALL AREAS DISTURBED DURING CONSTRUCTION NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.) SHALL BE LOAMED, LIMED, FERTILIZED, MULCHED, AND SEEDED. FABRIC NETTING ANCHORED WITH STAPLES SHALL BE PLACED OVER THE MULCH IN AREAS AS NOTED IN PARAGRAPH 8.3.5.A.3. ALL AREAS WITHIN 100 FEET OF UNDISTURBED WETLANDS SHALL BE MULCHED PRIOR TO ANY PREDICTED RAIN EVENT REGARDLESS OF THE 7-DAY WINDOW. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION IF DEEMED TO BE OF SUFFICIENT QUALITY.
2. CATCH BASINS SHALL BE PROVIDED WITH SEDIMENT SUMPS AND INLET HOODS FOR ALL OUTLET PIPES EIGHTEEN (18) INCHES IN DIAMETER OR LESS.

**WINTER STABILIZATION PLAN**

THE WINTER CONSTRUCTION PERIOD BEGINS SEPTEMBER 15 AND ENDS APRIL 15. IF THE CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, ROAD GRAVEL BASE, 75 PERCENT MATURE VEGETATION COVER, OR RIPRAP BY NOVEMBER 15, ALL EXPOSED AREAS SHALL BE PROTECTED WITH OVER-WINTER STABILIZATION. AN EXPOSED AREA IS ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MAT, RIPRAP, OR GRAVEL BASE (ROAD ONLY).

WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT ANY AREA LEFT EXPOSED CAN BE CONTROLLED BY THE CONTRACTOR TO THE SATISFACTION OF THE THIRD PARTY EROSION CONTROL INSPECTOR. EXPOSED AREAS SHALL BE LIMITED TO THOSE AREAS IN WHICH WORK IS EXPECTED TO COMMENCE AND COMPLETE IN THE NEXT FIFTEEN (15) DAYS AND THAT CAN BE MULCHED WITHIN ONE DAY PRIOR TO ANY SNOW EVENT.

ALL FUTURE ROADWAY AREAS SHALL BE CLASSIFIED EXPOSED UNTIL SUBBASE GRAVEL HAS BEEN INSTALLED; ALL FUTURE LOAM AND SEED AREAS SHALL BE CLASSIFIED EXPOSED UNTIL THEY HAVE BEEN LOAMED, SEED, AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT TWICE THE NORMAL RATE, OR 150 LBS./1,000 S.F. (3 TONS/ACRE) MINIMUM, AND SHALL BE PROPERLY ANCHORED.

THE CONTRACTOR SHALL INSTALL ANY ADDITIONAL MEASURES AS NECESSARY TO CONTROL EROSION AND SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. EARTHWORK OPERATIONS ON OTHER AREAS SHALL NOT COMMENCE UNTIL THE EXPOSED SOIL SURFACE ON PREVIOUS AREAS BEING WORKED ON HAS BEEN STABILIZED IN ORDER TO MINIMIZE THE QUANTITY OF EXPOSED AREA AT ANY GIVEN TIME.

**SOIL STOCKPILES**

STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER-WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE - 150 LBS./1,000 S.F. (3 TONS/ACRE) - OR WITH A 4-INCH LAYER OF WOODWASTE EROSION CONTROL MIX. THIS MULCHING SHALL BE DONE WITHIN 24 HOURS OF STOCKING AND SHALL BE RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL EVENT. NO SOIL STOCKPILE, MULCHED OR OTHERWISE, SHALL BE PLACED WITHIN 100 FEET OF ANY NATURAL RESOURCE.

**NATURAL RESOURCE PROTECTION**

ANY AREA WITHIN 100 FEET OF A NATURAL RESOURCE THAT IS NOT STABILIZED WITH A MINIMUM 75 PERCENT MATURE VEGETATION CATCH SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH EROSION CONTROL MATS. A DOUBLE-LINE SEDIMENT BARRIER - SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX - SHALL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA. ANY NATURAL RESOURCE CROSSINGS SHALL BE PROTECTED TO MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE OF THE RESOURCE.

**SEDIMENT BARRIERS**

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS SHALL CONSIST OF WOOD WASTE FILTER BERMS AS FROZEN SOILS PREVENT PROPER INSTALLATION OF HAY BALES AND SILT FENCE.

**GENERAL MULCHING**

ALL FUTURE LOAM AND SEED AREAS SHALL BE CONSIDERED DENUDED UNTIL THEY HAVE BEEN LOAMED, SEED, AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT TWICE THE NORMAL RATE, OR 150 LBS./1,000 S.F. (3 TONS/ACRE), AND SHALL BE PROPERLY ANCHORED. IN NO INSTANCE SHALL MULCH BE SPREAD ON TOP OF SNOW. SNOW SHALL BE REMOVED DOWN TO A MAXIMUM DEPTH OF ONE (1) INCH PRIOR TO MULCH APPLICATION.

AFTER EACH DAY OF FINAL GRADING, THE AREA SHALL BE PROPERLY STABILIZED WITH ANCHORED HAY, STRAW, OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED STABILIZED WHEN EXPOSED SURFACES HAVE BEEN MULCHED WITH STRAW OR HAY AT A RATE OF 150 LBS./1,000 S.F. (3 TONS/ACRE) AND ADEQUATELY ANCHORED TO THE EXTENT THAT THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. ALL MULCH SHALL BE ANCHORED BY PEG LINE, MULCH NETTING, TRACKING, OR WOOD CELLULOSE FIBER. MULCH SHALL BE CONSIDERED SUFFICIENT WHEN THE GROUND SURFACE IS NO LONGER VISIBLE.

**SLOPE AND DITCH MULCHING**

SLOPES SHALL NOT BE LEFT EXPOSED FOR ANY EXTENDED PERIOD OF TIME UNLESS FULLY MULCHED AND ANCHORED WITH PEG AND NETTING OR EROSION CONTROL BLANKET. MULCH SHALL BE APPLIED TO ALL SLOPES GREATER THAN 8 PERCENT AT A RATE OF 230 LBS./1,000 S.F. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH SLOPES GREATER THAN 3 PERCENT. FOR ALL SLOPES EXPOSED TO DIRECT WINDS, AND FOR ALL OTHER SLOPES GREATER THAN 8 PERCENT, EROSION CONTROL BLANKETS SHALL BE USED IN LIEU OF MULCH IN ALL DRAINAGE WAYS WITH SLOPES GREATER THAN OR EQUAL TO 8 PERCENT. EROSION CONTROL MIX MAY BE SUBSTITUTED FOR EROSION CONTROL BLANKETS ON ALL SLOPES NOT ASSOCIATED WITH DITCHES.

**SEEDING**

BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM AND SEED SHALL NOT BE REQUIRED. DURING PERIODS OF ABOVE-FREEZING TEMPERATURES, FINISHED AREAS SHALL BE FINE GRADED AND PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL FINAL TREATMENT CAN BE APPLIED. IF AFTER NOVEMBER 1 THE EXPOSED AREA HAS BEEN LOAMED AND FINAL GRADED WITH A UNIFORM SURFACE, THE AREA MAY BE DORMANT-SEED AT A RATE THREE TIMES THAT SPECIFIED FOR PERMANENT SEEDING AND MULCHED. DORMANT SEEDING MAY BE PLACED PRIOR TO THE PLACEMENT OF MULCH AND STAPLE-ANCHORED FABRIC NETTING. ALL DISTURBED AREAS RECEIVING DORMANT SEEDING SHALL RECEIVE FOUR (4)

INCHES OF LOAM AND SHALL BE SEED AT A RATE OF 5 LBS./1,000 S.F. ALL AREAS SEEDING DURING THE WINTER SHALL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED AT THIS TIME (LESS THAN 75 PERCENT CATCH) SHALL BE RE-VEGETATED WITH LOAM, SEED, AND MULCH. IF DORMANT SEEDING IS NOT USED, ALL DISTURBED AREAS SHALL BE RE-VEGETATED IN THE SPRING.

**DEWATERING AND TEMPORARY STREAM DIVERSION**

WATER FROM CONSTRUCTION TRENCH DEWATERING OR TEMPORARY STREAM DIVERSION SHALL PASS THROUGH A FILTER BAG OR SECONDARY CONTAINMENT STRUCTURE (E.G. HAY BALE LINED POOL) PRIOR TO DISCHARGE. A DISCHARGE LOCATION SHALL BE SELECTED THAT AVOIDS FLOODING, ICING, AND SEDIMENT DISCHARGE TO ANY PROTECTED RESOURCE. IN NO INSTANCE SHALL FILTER BAGS OR CONTAINMENT STRUCTURES BE LOCATED WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE.

**INSPECTION AND MONITORING**

MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED THROUGHOUT THE ENTIRE CONSTRUCTION PHASE. AFTER EACH RAINFALL EVENT, SNOWFALL EVENT, OR PERIOD OF THAWING AND RUNOFF, CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO ENSURE THEIR PROPER CONTINUOUS FUNCTION. IN THE SPRING FOLLOWING TEMPORARY AND/OR FINAL SEEDING AND MULCHING, CONTRACTOR SHALL INSPECT AND REPAIR ANY DAMAGED AND/OR UNESTABLISHED AREAS. VEGETATIVE COVER IS CONSIDERED ESTABLISHED WHEN A MINIMUM 85 TO 90 PERCENT OF VEGETATED AREAS EXHIBIT VIGOROUS GROWTH.

**STANDARDS FOR TIMELY STABILIZATION OF CONSTRUCTION SITES DURING WINTER**

**DITCHES AND CHANNELS**

CONTRACTOR SHALL CONSTRUCT AND STABILIZE ALL STONE-LINED DITCHES AND CHANNELS ON SITE BY NOVEMBER 15 AND ALL GRASS-LINED DITCHES AND CHANNELS ON SITE BY SEPTEMBER 15. IF CONTRACTOR FAILS TO STABILIZE A GRASS-LINED DITCH BY SEPTEMBER 15, CONTRACTOR SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.

- 1. INSTALL SOD LINING IN DITCH - CONTRACTOR SHALL LINE DITCHES WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES PINNING THE SOD TO UNDERLYING SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO UNDERLYING SOIL, AND ANCHORING THE SOD WITH JUTE OR PLASTIC MESH TO PREVENT SOD STRIPS FROM SLOUGHING DURING FLOW CONDITIONS.
2. INSTALL STONE LINING IN DITCH - CONTRACTOR SHALL LINE DITCHES WITH STONE RIPRAP BY NOVEMBER 15. APPLICANT SHALL RETAIN A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE STONE SIZE AND LINING THICKNESS REQUIRED TO WITHSTAND ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, CONTRACTOR SHALL RE-GRADE THE DITCH PRIOR TO PLACING STONE IN ORDER TO PREVENT A REDUCTION IN DITCH CROSS-SECTIONAL AREA.

**DISTURBED SLOPES**

CONTRACTOR SHALL CONSTRUCT AND STABILIZE STONE-LINED SLOPES BY NOVEMBER 15. ALL SLOPES TO BE VEGETATED SHALL BE SEED AND MULCHED BY SEPTEMBER 15. THE DEPARTMENT CONSIDERS ANY AREA HAVING A GRADE GREATER THAN 15 PERCENT TO BE A SLOPE. IF CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15, CONTRACTOR SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.

- 1. STABILIZE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS - CONTRACTOR SHALL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A RATE OF 3 LBS./1,000 S.F. AND APPLY EROSION CONTROL MATS OVER THE MULCHED SLOPE BY OCTOBER 1. CONTRACTOR SHALL MONITOR RYE GROWTH OVER THE FOLLOWING 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75 PERCENT OF THE DISTURBED SLOPE BY NOVEMBER 1, CONTRACTOR SHALL COVER THE SLOPE WITH A LAYER OF WOODWASTE COMPOST AS DESCRIBED IN ITEM 3 BELOW OR WITH STONE RIPRAP AS DESCRIBED IN ITEM 4 BELOW.
2. STABILIZE SLOPE WITH SOD - CONTRACTOR SHALL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER SOD INSTALLATION INCLUDES PINNING TO THE UNDERLYING SOIL WITH WIRE PINS, ROLLING TO GUARANTEE CONTACT WITH UNDERLYING SOIL, WATERING TO PROMOTE ROOT GROWTH INTO UNDERLYING SOIL, AND ANCHORING WITH JUTE OR PLASTIC MESH TO PREVENT SOD STRIPS FROM SLOUGHING DURING FLOW CONDITIONS. CONTRACTOR SHALL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33 PERCENT (3H:1V).
3. STABILIZE SLOPE WITH WOODWASTE COMPOST - CONTRACTOR SHALL PLACE A 6-INCH WOODWASTE COMPOST LAYER ON THE DISTURBED SLOPE BY NOVEMBER 15. PRIOR TO PLACING THE WOODWASTE COMPOST, CONTRACTOR SHALL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED SLOPE. CONTRACTOR SHALL NOT USE WOODWASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50 PERCENT (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
4. STABILIZE SLOPE WITH STONE RIPRAP - CONTRACTOR SHALL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. APPLICANT SHALL RETAIN A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE STONE SIZE, LINING THICKNESS, AND FILTER LAYER DESIGN REQUIRED FOR STABILITY.

**DISTURBED SOILS**

CONTRACTOR SHALL SEED AND MULCH ALL AREAS OF DISTURBED SOIL HAVING A GRADE OF LESS THAN 15 PERCENT BY SEPTEMBER 15. IF CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, CONTRACTOR SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.

- 1. STABILIZE SOIL WITH TEMPORARY VEGETATION - CONTRACTOR SHALL SEED THE DISTURBED SOIL WITH WINTER RYE AT A RATE OF 3 LBS./1,000 S.F., LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT A RATE OF 75 LBS./1,000 S.F., AND ANCHOR THE MULCH WITH PLASTIC NETTING BY OCTOBER 1. CONTRACTOR SHALL MONITOR RYE GROWTH OVER THE NEXT 30 DAYS. IF THE RYE FAILS GROW AT LEAST THREE INCHES OR COVER AT LEAST 75 PERCENT OF THE DISTURBED SOIL BEFORE NOVEMBER 15, CONTRACTOR SHALL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM 3 BELOW.
2. STABILIZE SOIL WITH SOD - CONTRACTOR SHALL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER SOD INSTALLATION INCLUDES PINNING TO THE UNDERLYING SOIL WITH WIRE PINS, ROLLING TO GUARANTEE CONTACT WITH UNDERLYING SOIL, WATERING TO PROMOTE ROOT GROWTH INTO UNDERLYING SOIL, AND ANCHORING WITH JUTE OR PLASTIC MESH TO PREVENT SOD STRIPS FROM SLOUGHING DURING FLOW CONDITIONS.

3. STABILIZE SOIL WITH MULCH - CONTRACTOR SHALL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF 150 LBS./1,000 S.F. TO THE EXTENT THAT NO SOIL IS VISIBLE THROUGH THE MULCH BY NOVEMBER 15. PRIOR TO APPLICATION OF MULCH, CONTRACTOR SHALL REMOVE ANY SNOW ACCUMULATION FROM THE DISTURBED AREA. IMMEDIATELY AFTER APPLYING, CONTRACTOR SHALL ANCHOR THE MULCH WITH PLASTIC NETTING TO PROTECT AGAINST DIRECT WIND.

**IMPLEMENTATION SCHEDULE**

THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE REQUIRED TO OPTIMIZE THE EFFECTIVENESS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES. THE CONTRACTOR MAY PROPOSE ALTERNATE CONSTRUCTION SEQUENCING PROVIDED THAT THE EFFECTIVENESS OF THE OVERALL EROSION AND SEDIMENTATION CONTROL MEASURES IS PRESERVED:

**NOTES:**

- FOR ALL GRADING ACTIVITIES, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION NOT TO OVEREXPOSE THE SITE BY LIMITING THE DISTURBED AREA.
• PERIMETER EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED CONCURRENTLY WITH CLEARING AND GRUBBING OPERATIONS AND SHALL BE MAINTAINED BY THE CONTRACTOR AS NECESSARY AS CONSTRUCTION PROGRESSES. CRUSHED-STONE-STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT ACCESS POINTS AND MAINTAINED DURING CONSTRUCTION.

- 1. INSTALL PERIMETER EROSION CONTROL MEASURES AS SHOWN ON SHEETS WITHIN PLAN SET.
2. CLEAR AND GRUB WORK AREA, BEING COGNIZANT OF NOT OVER EXPOSING TOO MUCH AREA. STOCKPILES SHALL NOT BE PLACED WITHIN 100 FEET OF A PROTECTED RESOURCE. CLEARING SHALL NOT EXCEED LIMITS SHOWN ON THE PLANS.
3. COMMENCE CONSTRUCTION OF TEMPORARY HAUL ROAD. CONTRACTOR MAY NOT EXCEED THE TEMPORARY OR PERMANENT WETLAND IMPACTS AS SHOWN ON THE PLANS.
4. COMMENCE INSTALLATION OF TEMPORARY STREAM CROSSING.
5. COMMENCE EXCAVATION FOR INSTALLATION OF 48-INCH STORM DRAIN AND 21- AND 24-INCH SEWER.
6. INSTALL 48-INCH STORM DRAIN AND 21- AND 24-INCH SEWER FROM BEHIND NORTHGATE SHOPPING PLAZA TO LYSETH MOORE DRIVE.
7. REMOVE TEMPORARY HAUL ROAD AND STREAM CROSSING. WETLAND AREAS THAT WERE IMPACTED AS PART OF THE TEMPORARY HAUL ROAD AND TEMPORARY STREAM CROSSING SHALL BE RESEED WITH WETLAND MIX.
8. STABILIZE DISTURBED AREA, EITHER BITUMINOUS PAVEMENT OR GRASS.

**EROSION, SEDIMENTATION AND STABILIZATION CONTROL PLAN**

EROSION AND SEDIMENTATION CONTROL PLANS ARE INCLUDED IN THE PLAN SET.

**DETAILS AND SPECIFICATIONS**

EROSION AND SEDIMENTATION DETAILS, NOTES, AND SPECIFICATIONS ARE INCLUDED IN THE PLAN SET.

**PROVISIONS FOR MAINTENANCE OF THE EROSION/SEDIMENTATION CONTROL FEATURES**

THE PROPOSED PROJECT IS SUBJECT TO THE REQUIREMENTS OF MDEP NATURAL RESOURCE PROTECTION ACT PERMIT. THE CONTRACTOR SHALL PREPARE A LIST AND DESIGNATE BY NAME, ADDRESS, AND TELEPHONE NUMBER ALL INDIVIDUALS WHO WILL BE RESPONSIBLE FOR IMPLEMENTATION, INSPECTION, AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROL MEASURES IDENTIFIED WITHIN THIS NARRATIVE AND AS CONTAINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN OF THE CONTRACT DRAWINGS. SPECIFIC RESPONSIBILITIES OF THE CONTRACTOR'S INSPECTOR(S) SHALL INCLUDE:

- 1. EXECUTION OF THE CONTRACTOR/SUBCONTRACTOR CERTIFICATION, WHICH WILL BE CONTAINED IN ATTACHMENT WITH THE FINAL APPLICATION SUBMISSION, BY ANY AND ALL PARTIES RESPONSIBLE FOR EROSION CONTROL MEASURES ON SITE AS REQUIRED BY THE ENVIRONMENTAL PROTECTION AGENCY.
2. ASSURING AND CERTIFYING THE OWNER'S CONSTRUCTION SEQUENCE IS IN CONFORMANCE WITH THE SPECIFIED SCHEDULE OF THIS SECTION. WEEKLY CERTIFICATION STATING COMPLIANCE, ANY DEVIATIONS, AND CORRECTIVE MEASURES NECESSARY TO COMPLY WITH THE EROSION CONTROL REQUIREMENTS OF THIS NARRATIVE SHALL BE PREPARED AND SIGNED BY THE INSPECTOR(S).
3. IN ADDITION TO WEEKLY CERTIFICATIONS, THE INSPECTOR(S) SHALL MAINTAIN WRITTEN REPORTS RECORDING CONSTRUCTION ACTIVITIES ON SITE WHICH INCLUDE:
• DATES WHEN MAJOR GRADING ACTIVITIES OCCUR IN A PARTICULAR AREA.
• DATES WHEN MAJOR CONSTRUCTION ACTIVITIES CEASE IN A PARTICULAR AREA, EITHER TEMPORARILY OR PERMANENTLY.
• DATES WHEN AN AREA HAS BEEN STABILIZED.
4. INSPECTION OF THIS PROJECT WORK SITE SHALL OCCUR ON A WEEKLY BASIS AND BEFORE AND AFTER STORM EVENTS (0.5 INCHES OR MORE RAINFALL) DURING CONSTRUCTION UNTIL PERMANENT EROSION CONTROL MEASURES HAVE BEEN PROPERLY INSTALLED AND THE SITE HAS BEEN STABILIZED. INSPECTION OF THE PROJECT WORK SITE SHALL INCLUDE:
• IDENTIFICATION OF PROPER EROSION CONTROL MEASURE INSTALLATION IN ACCORDANCE WITH THE EROSION CONTROL DETAIL SHEET OR AS SPECIFIED IN THIS NARRATIVE.
• DETERMINATION THAT EACH EROSION CONTROL MEASURE IS OPERATING PROPERLY. IF NOT, IDENTIFY DAMAGE TO THE CONTROL DEVICE AND DETERMINE REMEDIAL MEASURES NEEDED.
• IDENTIFICATION OF AREAS THAT APPEAR VULNERABLE TO EROSION AND DETERMINATION OF ADDITIONAL EROSION CONTROL MEASURES THAT SHOULD BE USED TO IMPROVE CONDITIONS.
• INSPECTION OF RECENTLY SEEDED AREAS TO DETERMINE PERCENT CATCH OF VEGETATION. A MINIMUM CATCH OF 90 PERCENT IS REQUIRED PRIOR TO REMOVAL OF EROSION CONTROL MEASURES.
• REMOVAL OF ACCUMULATED SILT/SEDIMENT WHEN DEPTH OF SEDIMENT REACHES 50 PERCENT OF THE BARRIER HEIGHT; REMOVAL OF ACCUMULATED SILT/SEDIMENT FROM BEHIND SILT FENCING WHEN DEPTH OF THE SEDIMENT REACHES SIX (6) INCHES.
5. IF INSPECTION OF THE SITE INDICATES A CHANGE SHOULD BE MADE TO THE EROSION CONTROL PLAN, EITHER TO IMPROVE EFFECTIVENESS OR TO CORRECT A SITE-SPECIFIC DEFICIENCY, THE INSPECTOR SHALL

IMMEDIATELY IMPLEMENT THE CORRECTIVE MEASURE AND NOTIFY THE OWNER OF THE CHANGE.

6. ALL CERTIFICATIONS, INSPECTION FORMS, AND WRITTEN REPORTS PREPARED BY THE INSPECTOR(S) SHALL BE FILED WITH THE OWNER, WITH AN ADDITIONAL COPY SUBMITTED TO THE CITY. ALL WRITTEN CERTIFICATIONS, INSPECTION FORMS, AND WRITTEN REPORTS MUST BE FILED WITHIN ONE (1) WEEK OF THE INSPECTION DATE. A SAMPLE INSPECTION FORM WILL BE ENCLOSED IN ATTACHMENT A AS PART OF THE FINAL APPLICATION SUBMISSION.

**PRECONSTRUCTION CONFERENCE**

PRIOR TO ANY ON-SITE CONSTRUCTION, THE SITE DESIGN ENGINEER AND REPRESENTATIVES OF THE CONTRACTOR SHALL ARRANGE FOR AND HOLD A MEETING WITH THE OWNER TO DISCUSS SCHEDULING OF THE SITE CONSTRUCTION. ON OR BEFORE THAT MEETING, THE CONTRACTOR SHALL PREPARE A DETAILED SCHEDULE AND MARKED-UP SITE PLAN INDICATING AREAS AND COMPONENTS OF WORK WITH KEY DATES SHOWING DATE OF DISTURBANCE AND COMPLETION OF WORK. IF DISTURBED AREAS ARE NOT TO BE FINISHED (LOAMED, SEED, AND MULCHED) WITHIN SEVEN (7) DAYS, THE SCHEDULING SHALL INDICATE THOSE AREAS TO BE PROTECTED WITH TEMPORARY SEEDING/MULCH. THREE COPIES OF THE SCHEDULE AND MARKED-UP SITE PLAN SHALL BE PROVIDED TO THE OWNER. TEMPORARY SEED MIXTURE SHALL BE ANNUAL RYE GRASS APPLIED AT A RATE OF 0.9 LBS./1,000 S.F.

**PERMANENT SEEDING NOTES:**

- 1. INSTRUCTION ON PREPARATION OF SOIL: PREPARE A GOOD SEED BED FOR PLANTING METHOD USED.
2. APPLY LIME AS FOLLOWS:  $\frac{\#}{\#}$  / ACRES, OR  $138 \frac{\#}{\#}$  /M SQ. FT.
3. FERTILIZE WITH  $\frac{\#}{\#}$  POUNDS OF  $\frac{\#}{\#}$  N-P-K/AC. OR  $18.4 \frac{\#}{\#}$  POUNDS OF  $10-20-20$  N-P-K/M SQ. FT.
4. METHOD OF APPLYING LIME AND FERTILIZER: SPREAD AND WORK INTO THE SOIL BEFORE SEEDING.
5. SEED WITH THE FOLLOWING MIXTURE:
45% KENTUCKY BLUEGRASS
45% CREEPING RED FESCUE
10% PERENNIAL RYEGRASS
6. MULCHING INSTRUCTIONS: APPLY AT THE RATE OF  $\frac{\#}{\#}$  PER ACRE, OR  $115 \frac{\#}{\#}$  POUNDS PER M. SQ. FT.

Table with 3 columns: AMOUNT, UNIT # TONS, ETC., and a numerical value. Row 1: 138, #/1000 SQ. FT. Row 2: 18.4, #/1000 SQ. FT. Row 3: 1.03, #/1000 SQ. FT. Row 4: 115, #/1000 SQ. FT.

SPRING SEEDING IS RECOMMENDED; HOWEVER, LATE SUMMER (PRIOR TO SEPTEMBER 1) SEEDING CAN BE MADE. PERMANENT SEEDING SHOULD BE MADE PRIOR TO AUGUST 5 OR AS A DORMANT SEEDING AFTER THE FIRST KILLING FROST AND BEFORE THE FIRST SNOWFALL. IF SEEDING CANNOT BE DONE WITHIN THESE SEEDING DATES, TEMPORARY SEEDING AND MULCHING SHALL BE USED TO PROTECT THE SITE. PERMANENT SEEDING SHALL BE DELAYED UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

**TEMPORARY SEEDING NOTES:**

- 1. INSTRUCTION ON PREPARATION OF SOIL: PREPARE A GOOD SEED BED FOR PLANTING METHOD USED.
2. APPLY LIME AS FOLLOWS:  $\frac{\#}{\#}$  / ACRES, OR  $138 \frac{\#}{\#}$  /M SQ. FT.
3. FERTILIZE WITH  $\frac{\#}{\#}$  POUNDS OF  $\frac{\#}{\#}$  N-P-K/AC. OR  $13.8 \frac{\#}{\#}$  POUNDS OF  $10-20-20$  N-P-K/M SQ. FT.
4. METHOD OF APPLYING LIME AND FERTILIZER: SPREAD AND WORK INTO THE SOIL BEFORE SEEDING.
5. TEMPORARY SEEDING RATES AND DATES:
SEEDLBS/1000 S.F. SEEDING DEPTH (N) RECOMMENDED SEEDING DATES WINTER RYE 2.51-1.58/15 - 10/10ATS2.01-1.54/1 - 7/1
8/15 - 9/15ANNUAL RYEGRASS10.254/1 - 7/15UDANGRASS10.5 - 15/15 - 8/15PERENNIAL10.258/15 - 9/15
6. MULCHING INSTRUCTIONS: APPLY AT THE RATE OF  $\frac{\#}{\#}$  PER ACRE, OR  $115 \frac{\#}{\#}$  POUNDS PER M. SQ. FT.

Table with 3 columns: AMOUNT, UNIT # TONS, ETC., and a numerical value. Row 1: 138, #/1000 SQ. FT. Row 2: 13.8, #/1000 SQ. FT. Row 3: REFER TO ABOVE TABLE, #/1000 SQ. FT. Row 4: 115, #/1000 SQ. FT.

- 7. TOTAL LIME
8. TOTAL FERTILIZER
9. TOTAL SEED REFER TO ABOVE TABLE
10. TOTAL MULCH
11. TOTAL OTHER MATERIALS, SEEDS, ETC.
12. REMARKS

AS-BUILT
DECEMBER 01, 2011

ALL AS-BUILT INFORMATION PROVIDED BY D&C CONSTRUCTION

AS-BUILT DRAWING PREPARED BY GORRILL-PALMER CONSULTING ENGINEERS

AS-BUILT

LOD PROJECT NAME: N/A
DRAWING NAME: 1343.31-DET-AS BUILT.dwg
FIELD BOOK USED: N/A

REFERENCES:

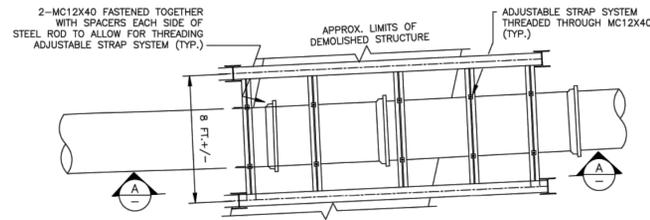
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FALL BROOK
PHASE 4
EROSION CONTROL NOTES

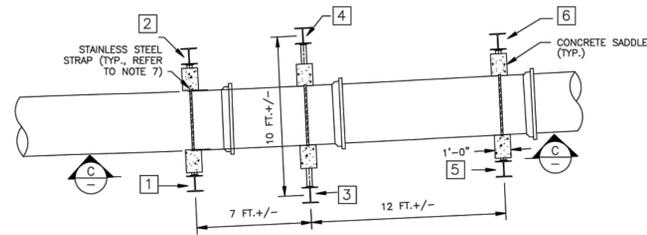
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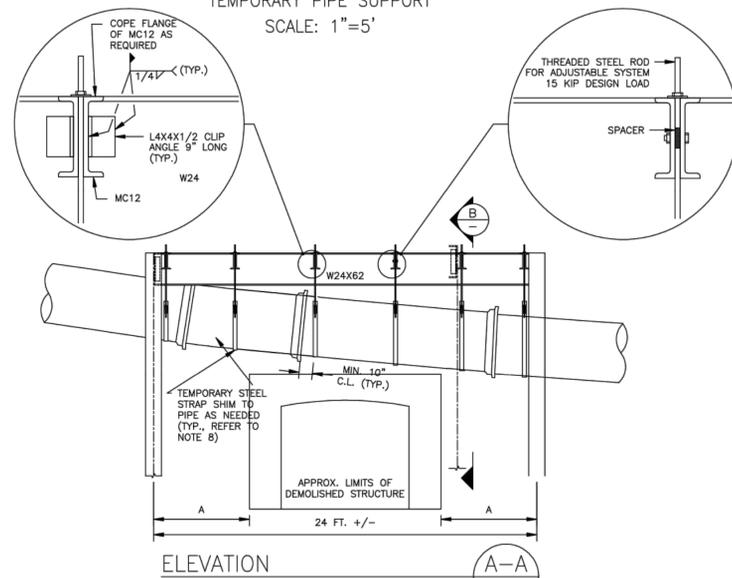
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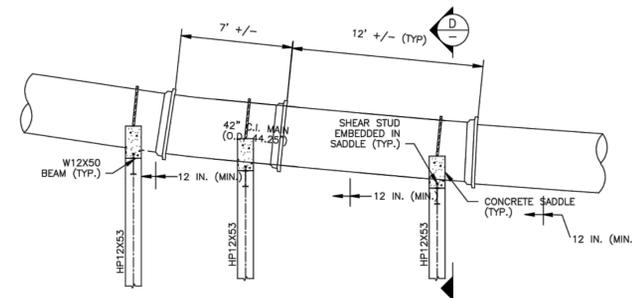
PLAN VIEW  
TEMPORARY PIPE SUPPORT  
SCALE: 1"=5'



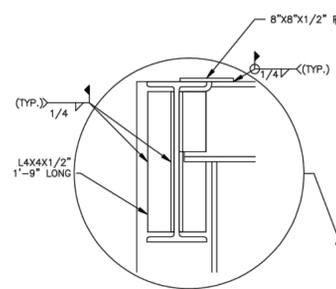
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PERMANENT PIPE SUPPORT  
SCALE: 1"=5'



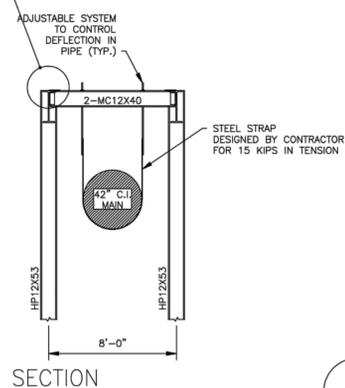
ELEVATION  
TEMPORARY PIPE SUPPORT  
SCALE: 1"=5'



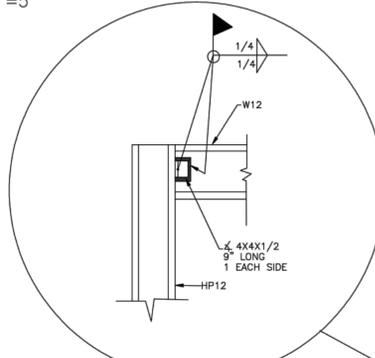
ELEVATION  
PERMANENT PIPE SUPPORT  
SCALE: 1"=5'



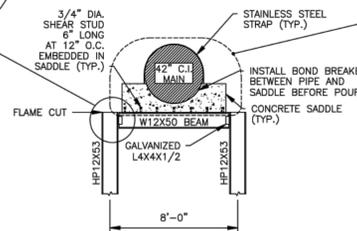
W24 TO HP12 CONNECTION  
(BEYOND)



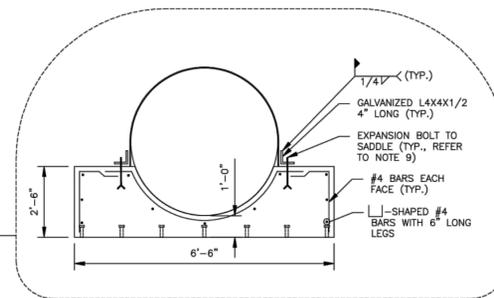
SECTION  
TEMPORARY PIPE SUPPORT  
SCALE: 1"=5'



CONNECTION DETAIL



SECTION  
PERMANENT PIPE SUPPORT  
SCALE: 1"=5'



NOTES:

- ALL STEEL MEMBERS SHALL BE NEW, ROLLED OR FABRICATED, SECTIONS CONFORMING TO THE REQUIREMENTS OF ASTM A36 UNLESS OTHERWISE NOTED.
- ALL CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH EQUAL TO 4000 PSI,  $f'_c=4000$  PSI.
- WELDS ARE TO BE IN ACCORDANCE WITH AWS D1.1.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL EXPOSE THE TOP SURFACE OF THE PIPE AND ESTABLISH SEVEN SURVEYING REFERENCE POINTS ALONG THE TOP OF PIPE. THE PIPE SHALL BE SURVEYED FOR INITIAL PROFILE OF PIPE AND MONITORED FOR PIPE SETTLEMENT.
- CONTRACTOR SHALL MONITOR PIPE. IF PIPE DISPLACEMENT EQUALS OR EXCEEDS 0.01 FEET, THEN STRAP SYSTEM SHALL BE ADJUSTED UNTIL THE DISPLACEMENT IS LESS THAN 0.01 FEET.
- CONTRACTOR SHALL EXCAVATE LOCALLY TO INSTALL TEMPORARY STEEL STRAPS AROUND PIPE AND THROUGH EXISTING STRUCTURE. REMOVAL OF EXISTING STRUCTURE SHALL BE LIMITED BY INDUCING NO MORE THAN 0.01 FEET VERTICAL MOVEMENT TO THE PIPE AT ANY POINT.
- STAINLESS STEEL SHALL BE 4"x1/4" PER ASTM A666, TYPE 201.
- SHIM MATERIAL SHALL BE PRE-FORMED SPONGE RUBBER JOINT FILLER IN ACCORDANCE WITH AASHTO SPECIFICATIONS OF MATERIALS, NINETEENTH EDITION, M 153-98.
- 3/4" DIA. EXPANSION BOLT WITH MIN. 6" EMBEDMENT INTO CONCRETE SADDLE. USE STAINLESS STEEL BOLT HILTI KWIK BOLT II AISI 316 STAINLESS OR APPROVED.

1 PILE NUMBER

PILE	PILE DEPTH (FT)
1	66.3
2	67.0
3	72.6
4	72.2
5	64.0
6	65.1

**AS-BUILT**  
DECEMBER 01, 2011

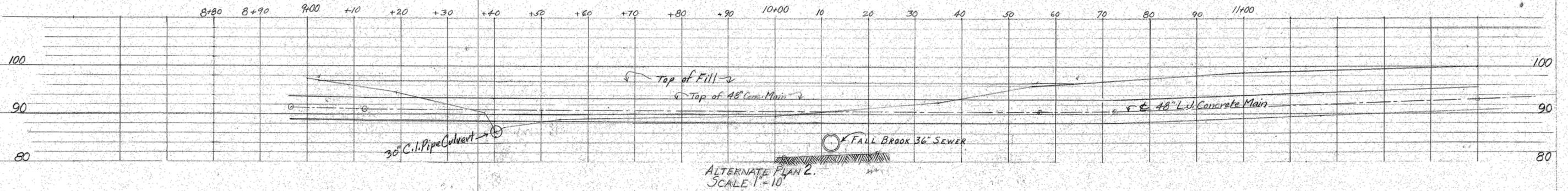
ALL AS-BUILT INFORMATION PROVIDED BY  
D&C CONSTRUCTION

AS-BUILT DRAWING PREPARED BY  
GORRILL-PALMER CONSULTING ENGINEERS

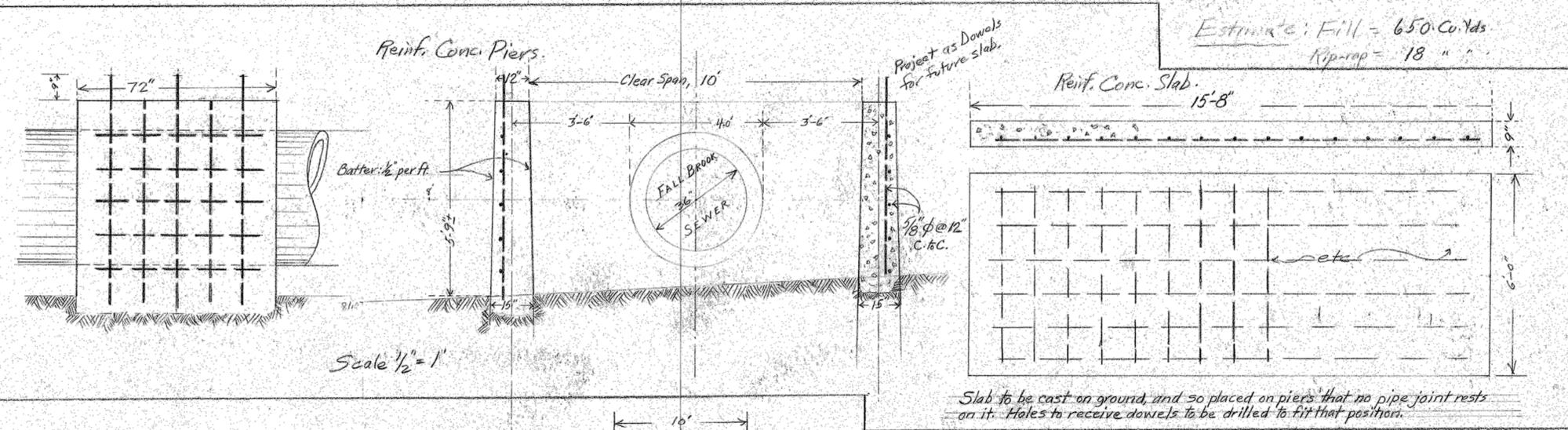
**AS-BUILT**

STROUDWATER 42" C.I. REPAIR		DESIGN		RAC	CHECK	BPS
TEMPORARY AND PERMANENT STRUCTURAL SUPPORT		DRAWN		RAC	APPROVED	???
Portland Water District ENGINEERING DEPARTMENT 200 DOUGLASS STREET, P.O. BOX 1000, PORTLAND, MAINE 04104-0000		PROJECT NUMBER		273TRM_W0006	FIELD BOOK	141
REVISIONS		SCALE		AS SHOWN	DATE	6/16/00
AS-BUILT 2/21/01 - JS		SHEET		3	OF 4	

AS-BUILT



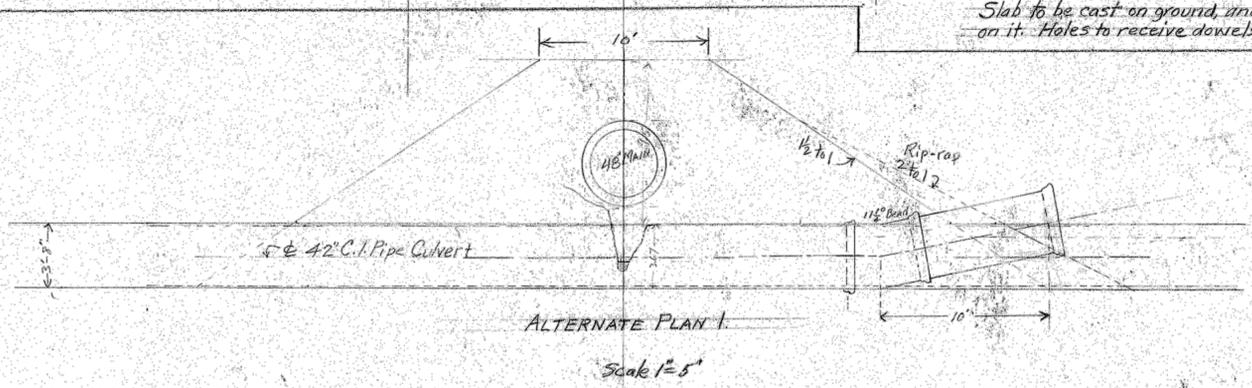
ALTERNATE PLAN 2. SCALE 1" = 10'



Estimate: Fill = 650 Cu. Yds  
Rip-rap = 18 "

Scale 1/2" = 1'

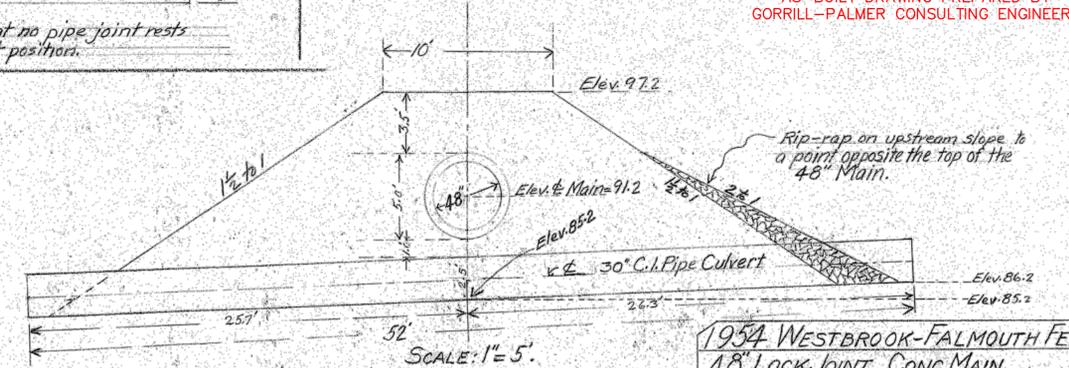
Slab to be cast on ground, and so placed on piers that no pipe joint rests on it. Holes to receive dowels to be drilled to fit that position.



ALTERNATE PLAN 1

Scale 1" = 5'

ALTERNATE PLAN 2



SCALE: 1" = 5'

AS-BUILT

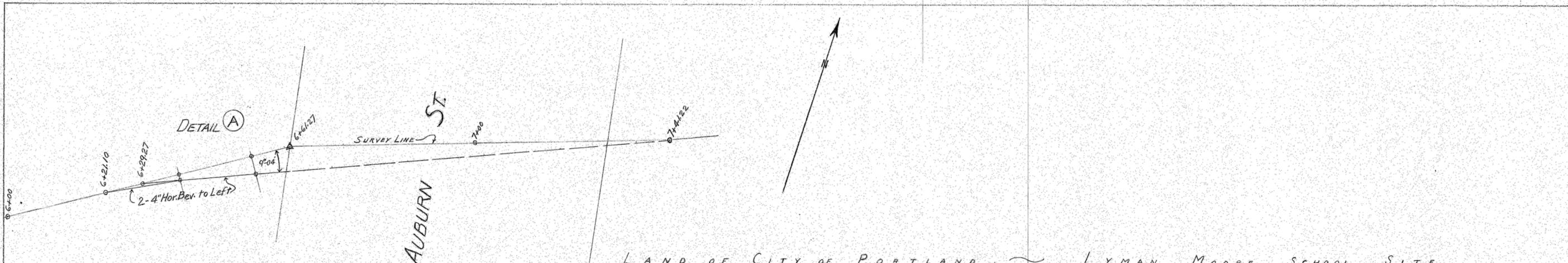
DECEMBER 01, 2011

ALL AS-BUILT INFORMATION PROVIDED BY D&C CONSTRUCTION

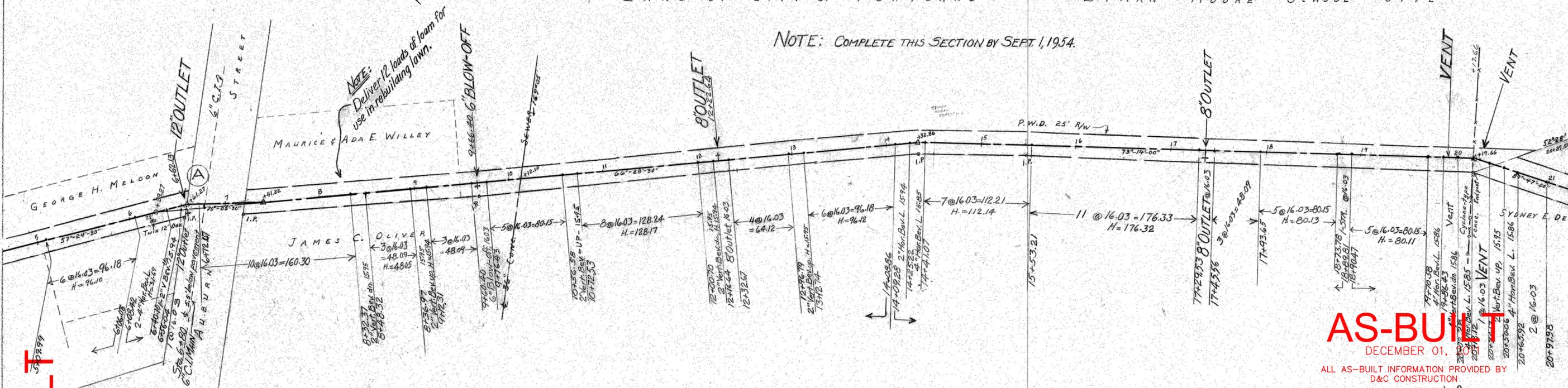
AS-BUILT DRAWING PREPARED BY GORRILL-PALMER CONSULTING ENGINEERS

1954 WESTBROOK-FALMOUTH FEEDER	
48" LOCK JOINT CONC. MAIN	
42" C.I. PIPE CULVERT AT FALL BROOK (Alt. Plan 1) and Reinforced Conc. Support for Main over Sewer.	
Acct. No.	PORTLAND WATER DISTRICT
W.O.	16 CASCO ST., PORTLAND, MAINE.
No.	SCALE: As noted DRAWN: HFL
	DATE: 1-24-54 APPROVED
	SHEET No. 12 A of SHEETS

Revised 6-8-54



NOTE: COMPLETE THIS SECTION BY SEPT. 1, 1954.



AS-BUILT

AS-BUILT

DECEMBER 01,  
 ALL AS-BUILT INFORMATION PROVIDED BY  
 D&C CONSTRUCTION  
 AS-BUILT DRAWING PREPARED BY  
 GORRILLY-PALMER CONSULTING ENGINEERS

SEE SHEET #12A FOR  
CONSTRUCTION DETAILS OF  
FALL BROOK SEWER CROSSING

1954 WESTBROOK-FALMOUTH FEEDER  
 48" LOCKJOINT CONC. MAIN BETWEEN  
 LAND OF GEO. H. MELON AND SYDNEY E. DEE  
 (OVR. LYMAN MOORE SCHOOL SITE)

Acct. No.	PORTLAND WATER DISTRICT
W.O.	16 CASCO ST., PORTLAND, MAINE
No.	SCALE: HOR. 1"=30' DRAWN VERT. 1"=10'
DATE	4-27-54 APPROVED

REVISED 6-8-54

OUTLET + VENT 4-22-54

SHEET No. 12 OF SHEETS