STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND, MAINE

CUMBERLAND COUNTY

FOREST AVENUE / US ROUTE 302

PROJECT NO. NH-1310(700)E

PROJECT LENGTH : 0.413 mi.

PLAN LEGEND

Town, County, State
Property Lines
R/W Lines-Existing
R/W Lines-Proposed
Centerline-Existing
Centerline-Proposed
Travelway-Existing
Travelway-Proposed
Railroad
Culvert-Existing
Culvert Proposed
Catch Basins Existing Proposed
Manholes Existing Proposed
Proposed Underdrain
Proposed Ditch
Existing Ditch
Curbing Existing Proposed
Type 1
Type 3
Type 5
Utility Poles Existing Proposed
Fire Hydrants Existing Proposed
Existing Water Line
Existing San. Sewer
Existing San. Sewer Manhole
Outline of Bodies of Water
Ledge
Buildings
Trees Conifer Deciduous
Tree Line
Clearing Limit Line CLL
Guardrail-Existing
Guardrail-Proposed
Guardrail-Cable, Other

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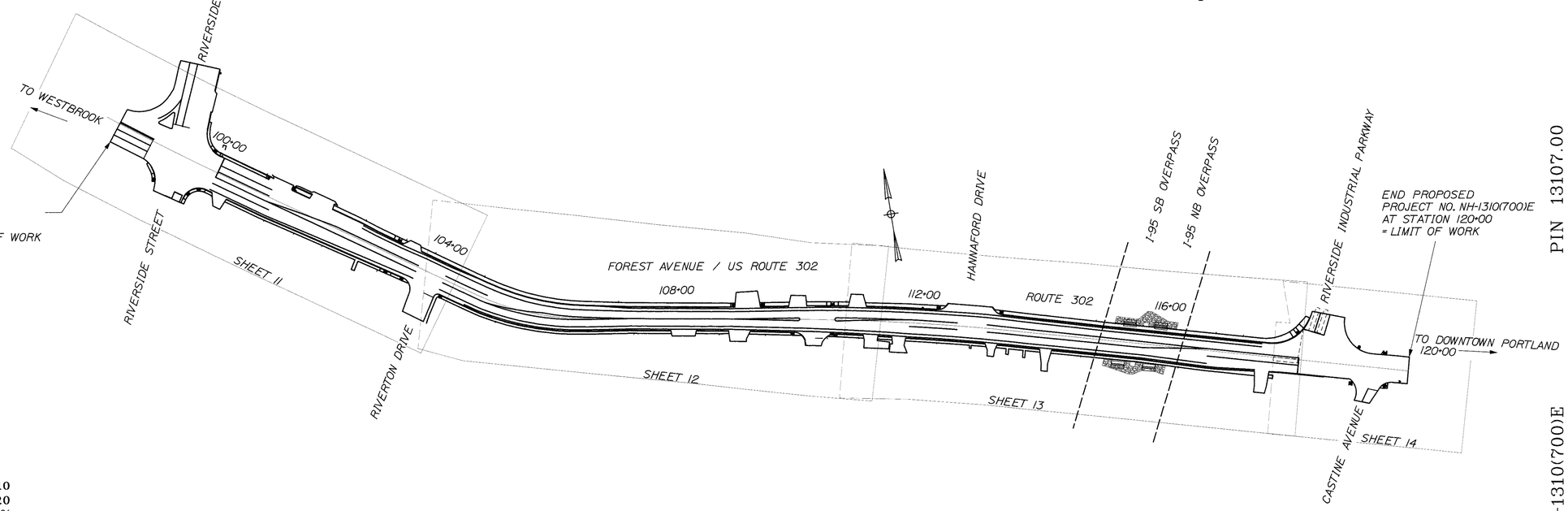
Portland Water District - Water Main Replacement	W1-W6
Portland Public Services Dept - Sewer Extension Project	S1-S4

*The Portland Water District (Water) and The City of Portland (Sewer) are solely responsible for their respective plans, details, quantities, specifications, and all other contents therein. The Louis Berger Group, Inc. shall not be held responsible for their contents, errors, or omissions.

LAYOUT SCALE

100 0 100 200

Scale in Feet



TRAFFIC DATA

Current (2012) AADT	15,710
Future (2032) AADT	20,420
DHV - % of AADT	9%
Design Hour Volume	1920
% Heavy Trucks (AADT)	6%
% Heavy Trucks (DHV)	10%
Directional Distribution (DHV)	57%
18 kip Equivalent P 2.0	339
18 kip Equivalent P 2.5	323
Design Speed (mph)	35
Posted Speed (mph)	30

Functional Class - Principal Urban Arterial - NHS

PROJECT LOCATION:	BEGINNING AT RIVERSIDE STREET AND EXTENDING TO RIVERSIDE INDUSTRIAL PARKWAY
PROGRAM AREA:	PACTS
OUTLINE OF WORK:	GEOMETRIC IMPROVEMENTS INCLUDING LANE LAYOUT, LANE TAPERS, BICYCLE LANES, SIDEWALKS, AND INCREASING CLEARANCE UNDER THE I-95 OVERPASS. PAVEMENT, CURBING, DRAINAGE, AND GRADING IMPROVEMENTS.

PIN 13107.00

NH-1310(700)E

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED — DATE
COMMISSIONER: 6/28/11
CHIEF ENGINEER: 6-27-11

STATE OF MAINE — MATTHEW E. HILL No. 11015 — PROFESSIONAL ENGINEER

PROJECT INFORMATION	
PROGRAM	HIGHWAY
PROJECT MANAGER	ERNEST MARTIN
DESIGNER	MATTHEW E. HILL, P.E.
CONSULTANT	THE LOUIS BERGER GROUP
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

SIGNATURE	MATTHEW E. HILL
P.E. NUMBER	11015
DATE	JUNE 24, 2011

PORTLAND, MAINE
FOREST AVENUE

TITLE SHEET

SHEET NUMBER
1
OF 48

Filename: ...\00\HIGHWAY\MSTA\001_Title.dgn Division: HIGHWAY Username: mhill Date:6/22/2011

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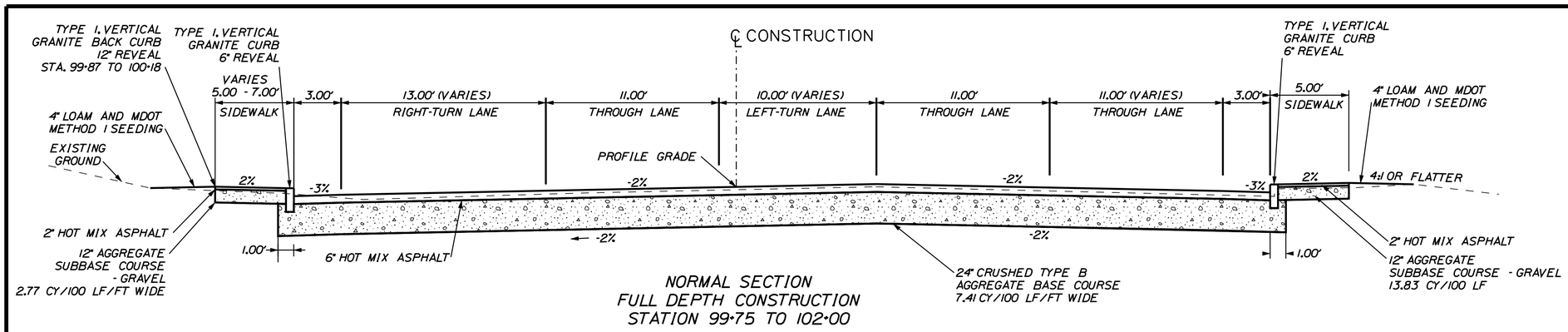
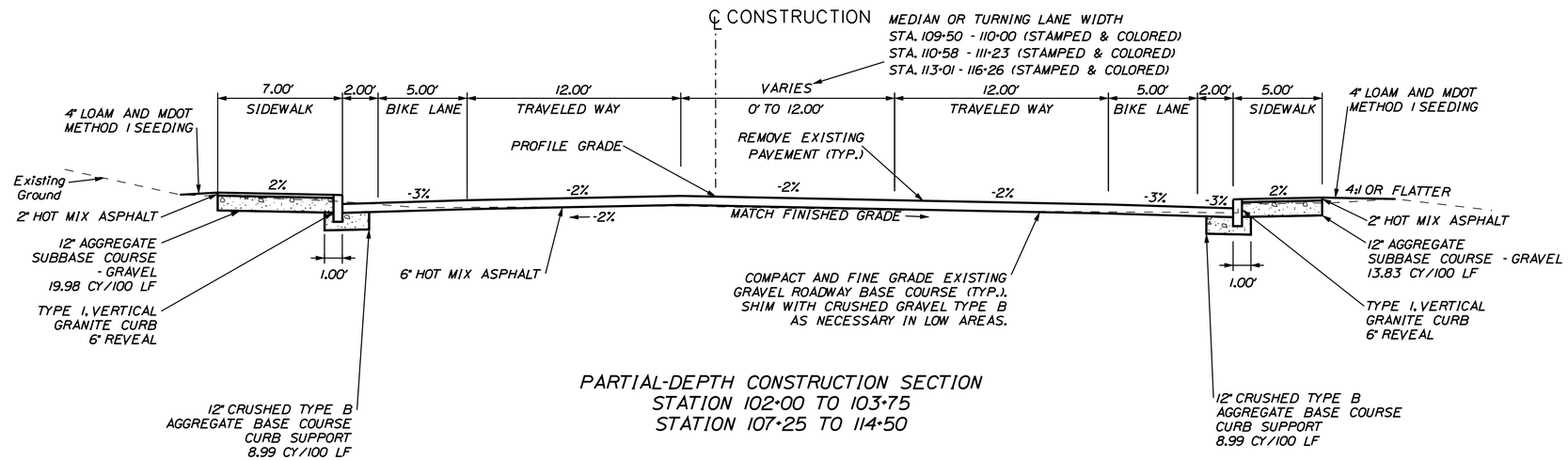
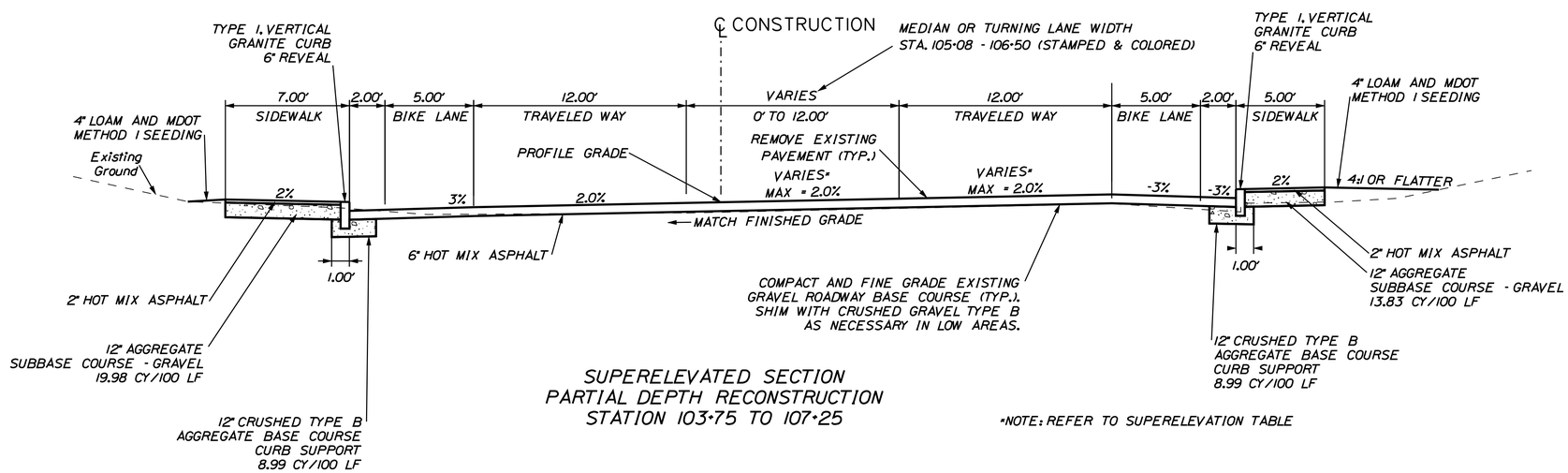


NORMAL SECTION
FULL DEPTH CONSTRUCTION
STATION 99+75 TO 102+00



PARTIAL-DEPTH CONSTRUCTION SECTION
STATION 102+00 TO 103+75
STATION 107+25 TO 114+50



SUPERELEVATED SECTION
PARTIAL DEPTH RECONSTRUCTION
STATION 103+75 TO 107+25

*NOTE: REFER TO SUPERELEVATION TABLE

NOTES:

1. THE PAVEMENT, BASE AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.
2. WHEN SUPERELEVATION EXCEEDS THE SLOPE OF THE LOW SIDE SHOULDER, THE LOW SIDE SHOULDER SHALL HAVE THE SAME SLOPE AS THE TRAVELWAY.
3. CROWNS FOR BOTH NORMAL AND SUPERELEVATION SECTIONS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT.
4. THE ALGEBRAIC DIFFERENCE BETWEEN THE SHOULDER AND TRAVELWAY CROSS SLOPES "ROLLOVER" SHALL NOT EXCEED 8%.
5. THE STATIONING SHOWN UNDER EACH TYPICAL IS APPROXIMATE.
6. ALL OTHER PRIVATE SIDEROADS AND DRIVEWAYS ARE TO BE CONSTRUCTED WITH ONE JOINT AS SHOWN ON THE PROJECT CROSS SECTIONS AND PER MDOT STANDARD SPECIFICATION 401.17.
7. THE RECONSTRUCTED PORTIONS OF SIDEROADS SHALL HAVE A PAVEMENT AND SUBGRADE SECTION MATCHING THAT OF THE IMMEDIATELY ADJACENT ROADWAY UNLESS OTHERWISE DIRECTED BY THE RESIDENT.
8. THE SIDEWALK WIDTH SHALL BE PAVED FOR DRIVEWAYS IN ALL CASES.

STATE OF MAINE
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NH-1310(700)E

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PIN 13107.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	JPL		
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

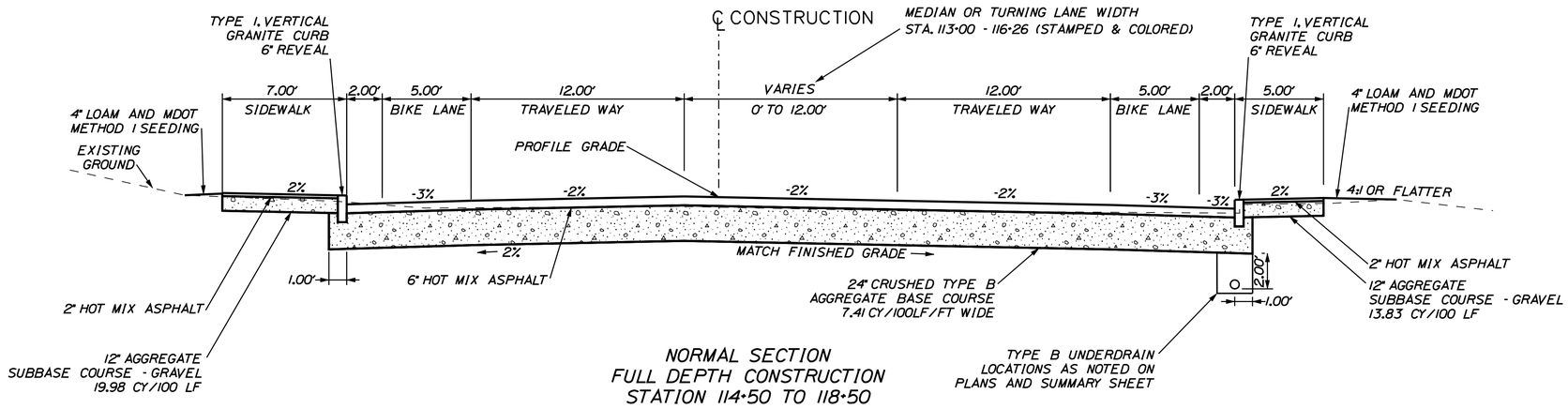
DATE

PORTLAND, MAINE
FOREST AVENUE

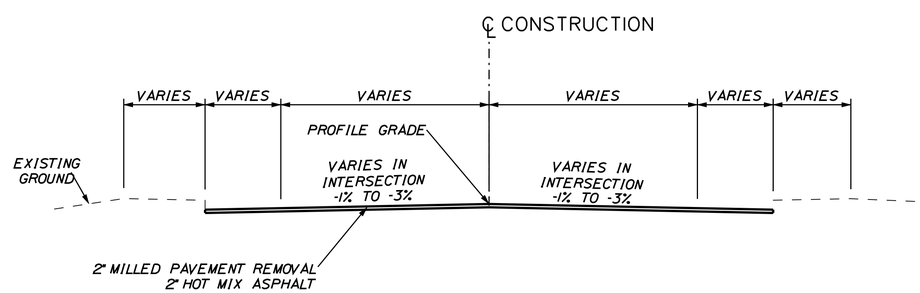
TYPICAL SECTIONS

SHEET NUMBER
2
OF 48

Filename: ...\highway\msta\002_Typical1.dgn Division: HIGHWAY Username: mhill Date:6/23/2011



NORMAL SECTION
FULL DEPTH CONSTRUCTION
STATION 114+50 TO 118+50



COLD PLANE AND OVERLAY AREAS
STATION 98+18 TO 99+75
STATION 118+50 TO 119+75

SUPERELEVATION TABLE

ROUTE 302 / FOREST AVENUE				
LT. SHOULDER	LT. TRAVELWAY	STATION	RT. TRAVELWAY	RT. SHOULDER
		START		
-3.0	-2.0	103+75	-2.0	-3.0
-3.0	-2.0	104+00	-1.2	-3.0
-3.0	-2.0	104+25	-0.4	-3.0
-3.0	-2.0	104+38	0.0	-3.0
-3.0	-2.0	104+50	0.4	-3.0
-3.0	-2.0	104+75	1.2	-3.0
-3.0	-2.0	105+00	2.0	-3.0
		TO		
-3.0	-2.0	106+00	2.0	-3.0
-3.0	-2.0	106+25	1.2	-3.0
-3.0	-2.0	106+50	0.4	-3.0
-3.0	-2.0	106+62	0.0	-3.0
-3.0	-2.0	106+75	-0.4	-3.0
-3.0	-2.0	107+00	-1.2	-3.0
-3.0	-2.0	107+25	-2.0	-3.0

STATE OF MAINE
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NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL		
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

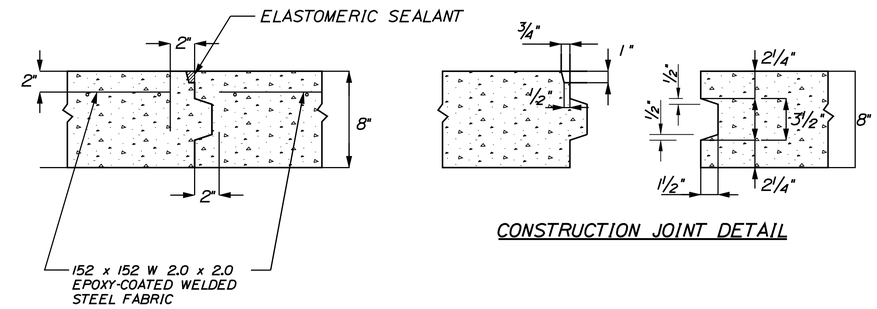
DATE

PORTLAND, MAINE
FOREST AVENUE

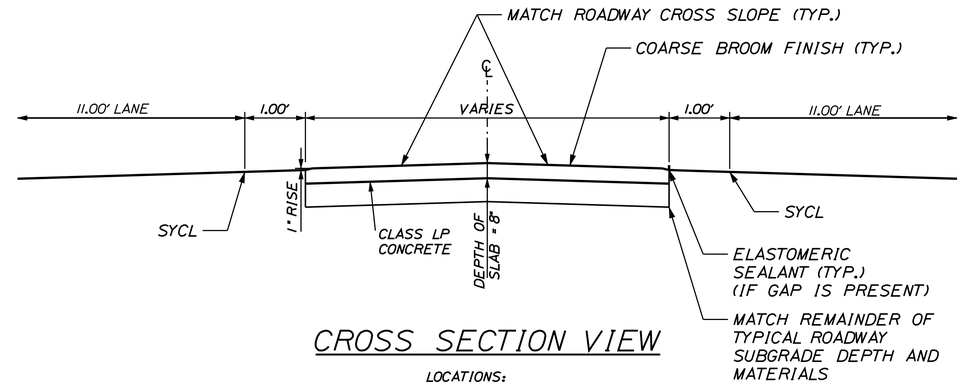
TYPICAL SECTIONS

SHEET NUMBER
3
OF 48

Filename: ...\highway\msta\003_Typical2.dgn Division: HIGHWAY Username: mhill Date:6/23/2011



CONSTRUCTION JOINT DETAIL



CROSS SECTION VIEW

LOCATIONS:
STA. 101+30 - 103+59

NOTES:

1. EPOXY COATED REINFORCING STEEL MEETING THE REQUIREMENTS OF MDOT SECTION 503 SHALL BE PLACED IN THE CONCRETE MEDIAN ISLAND WITH TWO (2) INCHES OF CLEARANCE BENEATH THE FINISHED SURFACE.

2. THE REINFORCING STEEL SHALL TERMINATE TWO (2) INCHES FROM ANY CONCRETE MEDIAN EDGE AND/OR JOINT.

3. THE CONCRETE SHALL MEET THE MDOT SPECIFICATIONS AS DESCRIBED IN SECTION 502 (CLASS LP).

4. MAXIMUM JOINT SPACING = 20 FT OR 3 X THE AVERAGE WIDTH OF THE ISLAND IN THE TRANSVERSE DIRECTION.

5. THE ISLAND AT STA. 101+30 - 103+59 SHALL BE A 1" RAISED ISLAND WITH 4:1 BEVELED EDGES WITH THE SAME DEPTH AND REINFORCEMENT AS SHOWN ABOVE.

FLUSH ISLAND DETAIL
NTS

STATE OF MAINE
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HIGHWAY PLANS

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CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

PORTLAND, MAINE
FOREST AVENUE

TRAFFIC CALMING MEASURES

SHEET NUMBER

4

OF 48

Filename: ...\highway\msta\004_Typical3.dgn Division: HIGHWAY Username: mhill Date:6/23/2011

NOTE:

PLEASE SEE THE CONTRACT DOCUMENTS FOR ESTIMATE QUANTITY INFORMATION.

COMMON EXCAVATION FOR ESTIMATE

COMMON EXCAVATION (FROM CROSS SECTIONS)	6,431	
EARTH FROM DRIVES, OLD ROAD, ETC.	467	
TOTAL COMMON EXCAVATION		6,898

FILL FOR BORROW CALCULATIONS

COMMON FILL (FROM CROSS SECTIONS)	98	
FILL FOR DRIVES	0	
TOTAL FILL		98

AVAILABLE COMMON EXCAVATION FOR BORROW CALCULATIONS

(1) TOTAL COMMON EXCAVATION		6,898
DEDUCTIONS:		
GRUBBING IN CUT	0	
LOAM SALVAGE IN CUT	142	
(2) TOTAL DEDUCTIONS		142
TOTAL AVAILABLE COMMON EXCAVATION (1) MINUS (2)		6,756
TOTAL AVAILABLE STRUCT. EXCAVATIONS (USUALLY UNDERDRAIN ONLY)		115
TOTAL AVAILABLE NON-ROCK EXCAVATION		6,871

COMPUTATION FOR COMMON BORROW FOR ESTIMATE

(3)TOTAL FILL			98
TOTAL AVAIL. NON-ROCK EXCAV.	6,871	x 0.85 =	5,840 CY

NOTE: QUANTITIES ARE NOT ROUNDED AND DO NOT INCLUDE PAVEMENT EXCAVATION.

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HIGHWAY PLANS

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DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

PORTLAND, MAINE
FOREST AVENUE

ESTIMATED QUANTITIES

SHEET NUMBER

5

OF 48

Filename: ...\MSTA\005_Quantities.dgn Division: HIGHWAY Username: mhill Date:6/27/2011

STATION	CULVERT PIPE											CATCH BASIN					PIPE ARCH				MH	UNDERDRAIN						ELBOWS, TEES, WYES AND INLET GRATE UNITS DESCRIPTIONS	REMARKS
	RCP			CMP		OPTION I		OPTION III														TYPE B		TYPE C					
								SMOOTHLINED		CORRUGATED										GAGE OR WALL THICKNESS		OUTLETS		SMOOTHLINED		CORRUGATED			
	SIZE	LENGTH	CLASS	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	CI CB	B1-C	A1-P	E	F	SPAN	RISE	LENGTH			LENGTH	LENGTH	SIZE	LENGTH	SIZE	LENGTH		
ROADWAY CULVERTS & CLOSED DRAINAGE																													
STA. 23+54.0 RT TO STA. 23+51.5 LT								18"	108'																				SMOOTHLINED ONLY
STA. 22+68.4 RT TO STA. 23+52.0 RT								18"	82'																				SMOOTHLINED ONLY
STA. 99+92.2 LT TO STA. 99+47.9 LT								18"	53'																				SMOOTHLINED ONLY
STA. 99+89.0 LT TO STA. 99+92.2 LT								15"	14'																				SMOOTHLINED ONLY
STA. 99+94.0 RT TO STA. 99+92.2 LT								15"	55'																				SMOOTHLINED ONLY
STA. 99+94.7 LT TO STA. 101+23.0 LT								15"	128'																				SMOOTHLINED ONLY
STA. 101+25.0 RT TO STA. 101+25.0 LT								15"	55'																				SMOOTHLINED ONLY
STA. 101+27.0 LT TO STA. 104+23.0 LT								15"	296																				SMOOTHLINED ONLY
STA. 104+25.0 RT TO STA. 104+25.0 LT								15"	45'																				SMOOTHLINED ONLY
STA. 109+67.0 RT TO STA. 109+67.0 LT								15"	36'																				SMOOTHLINED ONLY
STA. 109+69.0 LT TO STA. 111+98.0 LT																								15"	231'				SMOOTHLINED ONLY
STA. 112+00.0 RT TO STA. 112+00.0 LT								15"	46'																				SMOOTHLINED ONLY
STA. 112+02.0 LT TO STA. 114+38.0 LT																								15"	238'				SMOOTHLINED ONLY
STA. 114+40.0 LT TO STA. 114+40.0 RT								15"	43'																				SMOOTHLINED ONLY
STA. 114+40.0 RT TO STA. 114+33.6 RT								15"	83'																				SMOOTHLINED ONLY
STA. 115+50.0 RT TO STA. 115+50.0 RT								12"	8'																				SMOOTHLINED ONLY
STA. 115+65.8 LT TO STA. 115+50.0 RT	15"	44'	III																										SMOOTHLINED ONLY
STA. 115+65.8 LT TO STA.115+65.8 LT								12"	6'																				SMOOTHLINED ONLY
STA. 115+52.0 RT TO STA. 116+61.0 RT																								15"	110'				SMOOTHLINED ONLY
STA. 116+63.0 LT TO STA. 116+63.0 RT	15"	45'	III																										
STA. 116+63.0 RT TO STA. 116+75.2 RT								15"	26'																				
STA. 116+84.4 LT TO STA. 116+84.7 RT	15"	45'	III																										
STA. 116+84.7 RT TO STA. 116+84.1 RT				15"	3'																								
STA. 118+09.0 LT TO STA. 118+03.0 LT				15"	4'																								
STA. 117+84.2 LT TO STA. 116+86.4 LT				15"	98'																								
CATCH BASINS AND MANHOLES																													
STA. 23+54.0, RT																					1.6								5' DIAMETER
STA. 22+68.4, RT														1.3															
STA. 99+92.2, LT												1.3																	5' DIAMETER, FLAT TOP, CURB INLET
STA. 99+94.0, RT														1.1															
STA. 101+25.0, LT														1.1															
STA.101+25.0, RT												1.2																	CURB INLET
STA. 104+25.0, LT														1.1															
STA. 104+25.0, RT														1															
STA. 109+67.0, LT														1.1															
STA. 109+67.0, RT														1															
STA. 112+00.0, LT												1.2																	CURB INLET
STA. 112+00.0, RT														1.1															
STA. 114+40.0, LT														1															
STA. 114+40.0, RT														1.1															
STA. 115+50.0, RT														1															
STA. 115+50.0, RT																1													TYPE CB-F, NO SUMP
STA. 115+65.8, LT														1															
STA. 115+65.8, LT																1													TYPE CB-F, NO SUMP
STA. 116+63.0, LT														1															
STA. 116+63.0, RT														1															
STA. 116+84.4, LT														1															
STA. 116+84.7, RT														1															
STA. 118+09.0, LT														1															
STA. 111+00.0 RT TO STA. 111+98.0 RT																						98'							CONNECT TO PROPOSED CB
STA. 112+04.0 RT TO STA. 114+38.0 RT																						234'							CONNECT TO PROPOSED CB

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HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE	
DESIGN-DETAILED	MEH	MEW	11\06\21	SIGNATURE
CHECKED-REVIEWED	--	--	--	
DESIGN2-DETAILED2	TPL	MJC	--	P.E. NUMBER
DESIGN3-DETAILED3	TCH	--	--	
REVISIONS 1	--	--	--	
REVISIONS 2	--	--	--	DATE
REVISIONS 3	--	--	--	
REVISIONS 4	--	--	--	
FIELD CHANGES	--	--	--	

PORTLAND, MAINE
FOREST AVENUE

DRAINAGE SHEET

SHEET NUMBER
6
OF 48

Filename: ...\msta\006_Drainage Summary.dgn Division: HIGHWAY Username: mhill Date:6/23/2011

GENERAL NOTES:

1. THE UTILITIES INVOLVED IN THIS CONTRACT ARE AS FOLLOWS: CENTRAL MAINE POWER. FAIRPOINT. AT&T. TIME WARNER CABLE. UNITIL. PORTLAND WATER DISTRICT. CITY OF PORTLAND SEWER.

2. ALL UTILITY FACILITIES SHALL BE ADJUSTED BY THE RESPECTIVE UTILITIES UNLESS OTHERWISE NOTED.

3. UTILITY INVOLVEMENT IS INCLUDED IN THE CONTRACT. REFER TO CITY OF PORTLAND SEWER PLANS AND PORTLAND WATER DISTRICT PLANS PROVIDED.

4. ALL JOINTS BETWEEN EXISTING AND PROPOSED HOT BITUMINOUS PAVEMENT SHALL BE BUTTED IN AREAS OF OVERLAY EXCEPT AS NOTED HEREIN. PAYMENT SHALL BE MADE UNDER ITEM 202.203 PAVEMENT BUTT JOINT.

5. GRIND TRANSITION TAPERS AT CATCH BASINS UNDER ITEM 202.203 PAVEMENT BUTT JOINTS. AS DIRECTED BY THE RESIDENT.

6. TRIM ALL TREE BRANCHES TO 20 FEET ABOVE THE PAVEMENT AND 21 FEET FROM CENTERLINE. AS WELL AS ANY BRANCHES DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION. PAYMENT SHALL BE MADE UNDER THE APPROPRIATE RENTAL ITEMS. IF A TREE SPECIALIST IS SUBCONTRACTED FOR THIS WORK. PAYMENT WILL BE MADE BY INVOICE PLUS 5%.

7. CLEARING LIMITS SHALL BE 10' BEYOND AND PARALLEL TO THE CONSTRUCTION SLOPE LINES OR AS SHOWN ON THE PLANS UNLESS OTHERWISE AUTHORIZED BY THE RESIDENT.

8. ALL CLEARING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO SEPARATE PAYMENT WILL BE MADE. THE ACTUAL LINES FOR CLEARING SHALL BE ESTABLISHED IN THE FIELD BY THE CONTRACTOR AS INDICATED ON THE PLANS AND APPROVED BY THE RESIDENT.

9. STUMPS HAVE BEEN ESTIMATED TO BE REMOVED UNDER ITEM 201.24 REMOVE STUMP. HOWEVER. WHERE DIRECTED BY THE RESIDENT. ITEM 631.20 STUMP CHIPPER RENTAL. MAY BE USED TO REMOVE STUMPS.

10. PRIOR TO REMOVING ANY PAVEMENT OR PLACING ANY SHIM PAVEMENT. THE ROADWAY WILL BE INSPECTED FOR POSSIBLE SUBSURFACE BOULDERS. WHICH WILL BE REMOVED AS DIRECTED BY THE RESIDENT. PAYMENT WILL BE MADE UNDER APPROPRIATE CONTRACT RENTAL ITEMS. BACKFILL WITH MATERIAL CONSISTENT WITH SURROUNDING MATERIAL UP TO SUBGRADE. PLACE AGGREGATE SUBBASE COURSE GRAVEL FROM SUB-GRADE TO FINISH GRAVEL GRADE AND COMPACT ALL MATERIAL. ANY MATERIAL AND EQUIPMENT USED TO BACKFILL HOLES AFTER REMOVAL OF BOULDERS WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT ITEMS.

11. WHERE DEEMED NECESSARY BY THE RESIDENT. UNSUITABLE EXCESS MATERIAL SHALL BE REMOVED FROM THE EDGES OF SHOULDERS AND PLACED IN DESIGNATED AREAS OR DISPOSED OF. PAYMENT WILL BE MADE UNDER THE APPROPRIATE CONTRACT ITEMS.

12. DRIVEWAY FILL SIDE SLOPES SHALL BE THE SAME AS THE NON-GUARDRAIL FILL SLOPES UNLESS OTHERWISE NOTED ON THE PLANS.

13. ALL WASTE MATERIAL NOT USED ON THE PROJECT SHALL BE DISPOSED OF OFF THE PROJECT IN WASTE AREAS APPROVED BY THE RESIDENT.

14. REQUIRED DITCH PROTECTION SHOWN ON THE PLANS OR IN THE CONSTRUCTION NOTES IS FOR ESTIMATING PURPOSES ONLY. THE ACTUAL TYPE AND LOCATION OF DITCH PROTECTION MAY BE ALTERED BY THE RESIDENT.

15. GRANULAR BORROW USED TO BACKFILL MUCK EXCAVATION OR IN LOW WET AREAS TO 1' ABOVE WATER LEVEL OR OLD GROUND SHALL MEET REQUIREMENTS FOR GRANULAR BORROW UNDERWATER BACKFILL.

16. RESIDENTIAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH: 2" HOT MIX ASPHALT AND 12" AGGREGATE SUBBASE COURSE GRAVEL.

17. COMMERCIAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH: 3" HOT MIX ASPHALT AND 11" AGGREGATE SUBBASE COURSE GRAVEL.

18. IF FOUNDATION MATERIAL IS REQUIRED UNDER CULVERTS. IT SHALL MEET THE REQUIREMENTS FOR GRANULAR BORROW - UNDERWATER BACKFILL AND WILL BE PAID FOR AS GRANULAR BORROW.

19. A 3' PAVED LIP SHALL BE PLACED AT ALL GRAVEL ENTRANCES UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.

20. THE CULVERT SIZES SHOWN ON THE PLANS AND CROSS SECTIONS ARE FOR SMOOTHLINED PIPES. FOR COMPARABLE CORRUGATED SIZES. SEE THE DRAINAGE TABULATION.

21. ALL CATCH BASINS TYPE A PLACED ON CIRCULAR CURB TYPE 1 SHALL HAVE THE CURB INLET CUT THE SAME RADIUS AS ADJACENT CIRCULAR CURB. PAYMENT SHALL BE INCIDENTAL TO ITEM 604.

22. ALL PAVED WALKS TO BE CONSTRUCTED WITH 12" AGGREGATE SUBBASE COURSE-GRAVEL AND 2" HOT MIX ASPHALT UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.

23. PLACE 12 INCHES GRAVEL AND 2 INCHES HOT MIX ASPHALT AROUND CATCH BASINS IN GRASSED AREAS (3' OUTSIDE OF FRAME) AND PAINT WITH 658.20 - ACRYLIC LATEX COLOR FINISH - GREEN. PAYMENT SHALL BE UNDER THE APPLICABLE CONTRACT ITEMS.

24. ANY NECESSARY CLEANING OF EXISTING PAVEMENT PRIOR TO PAVING SHALL BE INCIDENTAL TO THE RELATED PAVING ITEMS.

25. NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT.

26. ANY NECESSARY CUTTING OF EXISTING PIPES TO FIT IN AREAS OF PROPOSED CATCH BASINS WILL NOT BE PAID FOR SEPARATELY AND WILL BE CONSIDERED INCIDENTAL TO ITEM 604.

27. ANY NECESSARY CUTTING OF EXISTING CATCH BASINS TO ALLOW FOR PROPOSED PIPE CONNECTIONS WILL NOT BE PAID FOR SEPARATELY AND WILL BE CONSIDERED INCIDENTAL TO ITEM 603 OR 605.

28. EXISTING ABANDONED WATER MAINS BROKEN BY THE CONTRACTOR DURING CONSTRUCTION SHALL HAVE THE ENDS PLUGGED WITH BRICK AND MORTAR. COST FOR ALL LABOR AND MATERIAL WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO DIRECT PAYMENT WILL BE MADE.

29. ALL EXISTING GUARDRAIL SHALL BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR. REMOVAL AND DISPOSAL OF EXISTING GUARDRAIL SHALL BE INCIDENTAL TO THE CONTRACT.

30. IN AREAS WHERE CURB TYPE 1 WILL BE RESET. THE EXISTING CURB SUITABLE FOR USE AS TERMINAL ENDS SHALL BE CUT IF NECESSARY AND UTILIZED AS SUCH AND PAID FOR UNDER ITEM 609.38 (RESET CURB TYPE 1).

31. LOAM HAS BEEN ESTIMATED FOR DISTURBED LAWN AREAS. ACTUAL PLACEMENT OF THE LOAM SHALL BE AS NOTED ON THE PLANS OR DESIGNATED BY THE RESIDENT.

32. UNLESS OTHERWISE NOTED. SEEDING METHOD NO. 1 SHALL BE UTILIZED ON ALL LAWNS AND DEVELOPED AREAS.

33. LOAM SHALL BE PLACED TO A NOMINAL DEPTH OF 4 INCHES IN LAWN AREAS AND 2 INCHES IN ALL OTHER AREAS UNLESS OTHERWISE NOTED OR DIRECTED.

34. ANY BASE PAVEMENT NOT SURFACED BEFORE WINTER WILL REQUIRE TEMPORARY PAVEMENT MARKINGS OF PAINT. BOTH YELLOW CENTERLINE AND WHITE EDGE LINES AND WILL BE CONSIDERED PART OF ITEM 627.78.

35. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING MAILBOXES TO ENSURE THAT THE MAIL WILL BE DELIVERABLE. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK; IT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

36. THE CONTRACTOR IS RESPONSIBLE FOR THE CAREFUL SIDE STAKING OF EXISTING CENTERLINE AS PER STANDARD SPECIFICATION 105.6.2. SIDE STAKES SHALL BE PLACED SAFELY OUTSIDE OF THE CONSTRUCTION LIMITS AND THE EXISTING CENTERLINE GRADES SHALL BE TRANSFERRED TO THESE STAKES. THESE STAKES AND GRADES WILL BE USED TO LAYOUT CENTERLINE AND DETERMINE NEW CONSTRUCTION FINISH GRADES FROM DIFFERENTIAL ELEVATION SHEETS FURNISHED BY MAINEDOT. ALL LAYOUT. STAKES. AND GRADES WILL BE CHECKED AND MUST BE ACCEPTABLE TO THE RESIDENT.

37. ANY DAMAGE TO THE SLOPES CAUSED BY THE CONTRACTOR'S EQUIPMENT. PERSONNEL. OR OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT. ALL WORK. EQUIPMENT. AND MATERIALS REQUIRED TO MAKE REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE.

38. AREAS REQUIRING FILL ON THE PROJECT WILL COME FROM SUITABLE EXCAVATION FROM EXCAVATION AREAS.

39. ESTIMATED QUANTITIES FOR REQUIRED STRUCTURAL EARTH EXCAVATION. DRAINAGE AND MINOR STRUCTURES ARE INFORMATIONAL ONLY AND REPRESENT THE APPROXIMATE MINIMUM QUANTITY REQUIRED TO INSTALL DRAINAGE STRUCTURES. ADDITIONAL EXCAVATION FOR THE CONTRACTOR'S CONVENIENCE OR TO COMPLY WITH BACKSLOPING REQUIREMENTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL TO THE RELATED DRAINAGE ITEMS.

40. NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMAN WILL BE MADE FOR THE SUPERVISION OF EQUIPMENT BEING PAID FOR UNDER THE EQUIPMENT RENTAL ITEMS.

41. "UNDETERMINED LOCATIONS" SHALL BE DETERMINED BY THE RESIDENT.

42. STATIONS REFERENCED ARE APPROXIMATE.

43. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION'S BEST MANAGEMENT PRACTICES FOR EROSION CONTROL & SEDIMENT CONTROL. FEBRUARY. 2008.

44. ALL PIER SURFACES. EXPOSED AS A RESULT OF CONSTRUCTION. SHALL RECEIVE A PIGMENTED COATING MATCHING THE CURRENT PIER COATING EXPOSED.

45. SUBGRADE TRANSITIONS FROM PARTIAL-DEPTH TO FULL-DEPTH CONSTRUCTION SHALL TAPER BETWEEN 0" TO 24" OF DEPTH RESPECTIVELY OVER THE COURSE OF 50 FEET AS MEASURED ON THE ALIGNMENT.

46. LANDSCAPING ITEMS ARE INCLUDED IN THE CONTRACT AND SHALL BE LOCATED IN THE FIELD BY THE RESIDENT ENGINEER PRIOR TO PLANTING.

47. FULL ROADWAY CONSTRUCTION ACTIVITY SHALL ONLY BE PERFORMED ON ROUTE 302/FOREST AVENEUE. WITHIN THE PROJECT LIMITS AS SHOWN HEREIN. BETWEEN THE HOURS OF 7:00 PM AND 6:00 AM (NIGHT WORK) AND/OR AS PERMITTED BY THE CITY OF PORTLAND.

GEOTECHNICAL NOTES:

GENERAL

G1. BIDDERS AND CONTRACTORS MAY OBTAIN A COPY OF THE PROJECT GEOTECHNICAL REPORT(S). REPORT ON RECONSTRUCTION OF ROUTE 302. FOREST AVENUE. PORTLAND. MAINE. PIN 13107.00. MAINEDOT SOILS REPORT NUMBER 2011-04. MARCH 1. 2011. BY CONTACTING THE PROJECT MANAGER.

G2. GEOTECHNICAL INFORMATION FURNISHED OR REFERENCED IN THIS PLANSET IS FOR THE BIDDER' AND CONTRACTOR'S USE. NO ASSURANCE IS GIVEN THAT THE INFORMATION OR INTERPRETATIONS WILL BE REPRESENTATIVE OF THE ACTUAL SUBSURFACE CONDITIONS AT THE TIME OF CONSTRUCTION. THE DEPARTMENT SHALL NOT BE RESPONSIBLE FOR THE BIDDERS' AND CONTRACTOR'S INTERPRETATIONS OF. OR CONCLUSIONS DRAWN FROM. THE GEOTECHNICAL INFORMATION. THE BORING LOGS CONTAINED IN THE PLAN SET PRESENT INTERPRETIVE SUBSURFACE INFORMATION COLLECTED AT DISCRETE LOCATIONS. DATA PROVIDED MAY NOT BE REPRESENTATIVE OF THE SUBSURFACE CONDITIONS BETWEEN BORING LOCATIONS.

SUBGRADE

G3. STABILIZATION AND REINFORCEMENT GEOTEXTILES MAY BE USED TO SUPPORT CONSTRUCTION TRAFFIC IF WET SOILS ARE ENCOUNTERED IN CUT SECTIONS. STABILIZATION AND REINFORCEMENT GEOTEXTILES SHALL BE NON-WOVEN MATERIAL MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 722 AND SUPPLEMENTAL SPECIFICATION 722.

G4. ALL MUCK ENCOUNTERED DURING CONSTRUCTION SHALL BE REMOVED AND DISPOSED OF PER STANDARD SPECIFICATION 203.05 ROADWAY EXCAVATION.

REUSE OF SOILS

G5. EXCAVATED EXISTING SUBGRADE AGGREGATE MAY NOT BE REUSED IN BASE OR SUBBASE AGGREGATE FOR NEW CONSTRUCTION ON THIS PROJECT. IT MAY BE USED AS FILL BELOW SUBGRADE ELEVATION.

G6. EXCAVATED CLAY-SILT SOILS MAY NOT BE REUSED ON THIS PROJECT.

G7. MARINE SILTY SAND AND GLACIAL TILL MAY BE REUSED ON THIS PROJECT AS COMMON BORROW IN ACCORDANCE WITH SECTIONS 203 AND 703. MOISTURE CONDITIONING MAY BE REQUIRED TO REDUCE THE MOISTURE CONTENT OF EXCAVATED MATERIAL BEFORE REUSE ON THE PROJECT. LABOR AND EQUIPMENT REQUIRED FOR MOISTURE CONDITIONING WILL BE PAID UNDER APPROPRIATE HOURLY LABOR AND EQUIPMENT RENTAL TIMES.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11/06/21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--	--	--
REVISIONS 2	--	--	--
REVISIONS 3	--	--	--
REVISIONS 4	--	--	--
FIELD CHANGES	--	--	--

SIGNATURE

P.E. NUMBER

DATE

PORTLAND, MAINE
FOREST AVENUE

GENERAL NOTES

SHEET NUMBER
7
OF 48

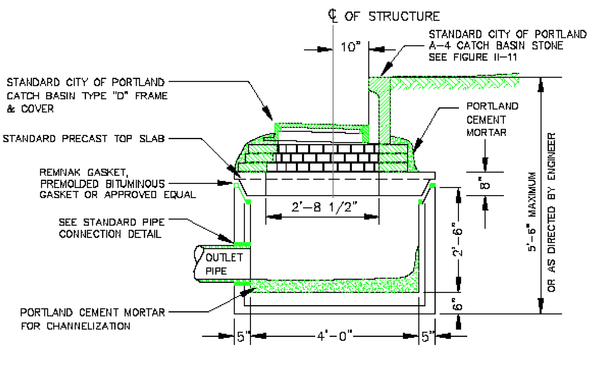
Filename: ...\mslo\007_GeneralNotes.dgn Division: HIGHWAY Username: mhill Date:6/23/2011

DATE: AUGUST 2009
REVISION:

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL
CATCH BASIN INLET

SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS
SECTION II

FIGURE: II-8



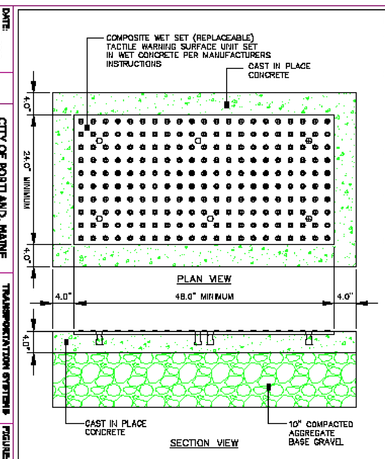
CATCH BASIN INLET
NOT TO SCALE

DATE: JUNE 3, 2010
REVISION:

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL
SIDEWALK RAMP DETECTABLE WARNING TILE

TRANSPORTATION SYSTEMS AND STREET DESIGN
SECTION I

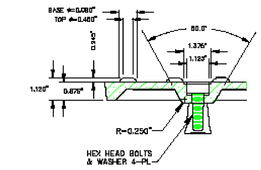
FIGURE: I-7



SIDEWALK RAMP DETECTABLE WARNING TILE
NOT TO SCALE

NOTES:

1. COMPOSITE WET SET (REPLACEABLE) TACTILE WARNING SURFACE UNITS SHALL BE AS MANUFACTURED BY ADA SOLUTIONS, INC. (WWW.ADATILE.COM), OR APPROVED EQUAL.
2. CAST IN PLACE CONCRETE SHALL MEET SPECIFICATIONS FOR MOOT CLASS A STRUCTURAL CONCRETE, MINIMUM COMPRESSIVE STRENGTH 4,000 PSI. THE CONCRETE SHALL BE SEALED PRIOR TO SETTING PANELS. THE EXPOSED CONCRETE BORDER SHALL RECEIVE A GROOVED EDGE BETWEEN THE TILE AND CONCRETE, ALONG WITH 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. FOR ALL SIDEWALK RAMPS MADE OF CONCRETE OR ASPHALT, FEDERAL YELLOW COLORED (#33530) TILES SHALL BE USED. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
5. FOR ALL SIDEWALK RAMPS MADE OF BRICK, SEATTLE YELLOW (#20394) COATED COLORED TILES SHALL BE USED.



BOLT DETAIL

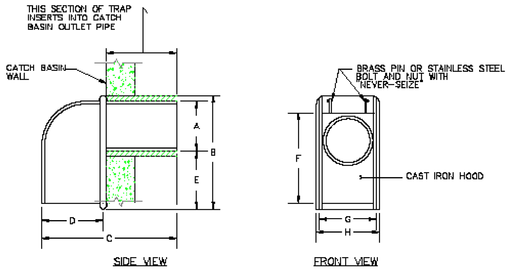
42

DATE: FEB 2010
REVISION:

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL
CASCO TRAP

SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS
SECTION II

FIGURE: II-9



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

(AS MANUFACTURED BY THE ETHERIDGE FOUNDRY IN PORTLAND, ME.)

NOTE: CONTRACTOR SHALL UTILIZE THE "CASCO TRAP" AS MANUFACTURED BY THE ETHERIDGE FOUNDRY, OR AN APPROVED EQUIVALENT.

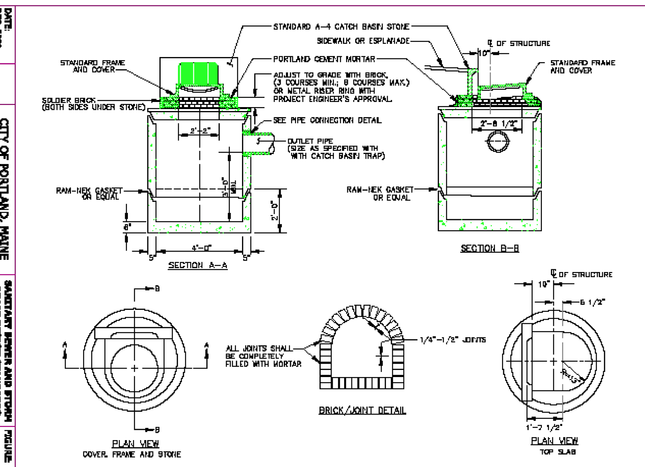
CASCO TRAP
NOT TO SCALE

DATE: DEC. 2009
REVISION:

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL
PRECAST CONCRETE CATCH BASIN

SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS
SECTION II

FIGURE: II-2



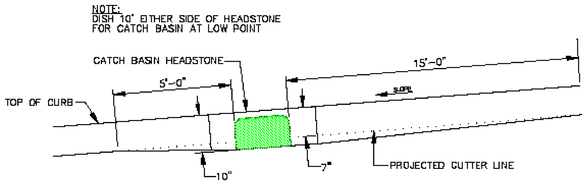
PRECAST CONCRETE CATCH BASIN – TYPE "E"
NOT TO SCALE

DATE: AUGUST 2009
REVISION:

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL
TYPICAL PAVEMENT GRADING ON SLOPES FOR CATCH BASIN AND INLET

SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS
SECTION II

FIGURE: II-10



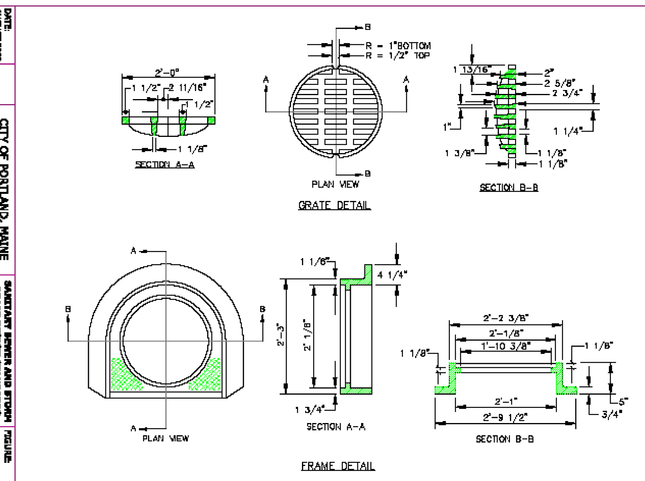
TYPICAL PAVEMENT GRADING ON SLOPES FOR CATCH BASIN AND INLET
NOT TO SCALE

DATE: AUGUST 2009
REVISION:

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL
CATCH BASIN FRAME AND GRATE

SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS
SECTION II

FIGURE: II-7



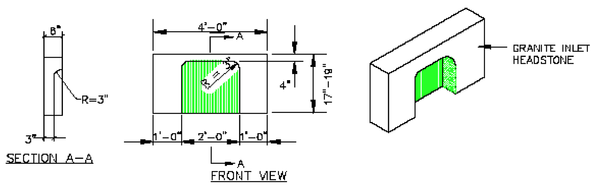
CATCH BASIN FRAME & GRATE

DATE: AUGUST 2009
REVISION:

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL
4' GRANITE HEADSTONE FOR CATCH BASIN INLET

SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS
SECTION II

FIGURE: II-11



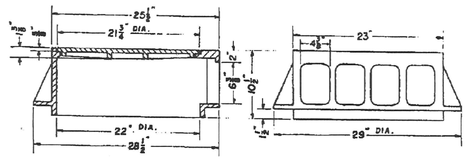
4' GRANITE HEADSTONE FOR CATCH BASIN INLET
NOT TO SCALE

R-3303
Catch Basin Frame and Lid

Heavy Duty

For behind-the-curb construction.

Furnished standard with as-cast bearing surfaces.



PORTLAND, MAINE
FOREST AVENUE

SPECIAL DETIALS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

1. The Contractor shall provide a Precast Concrete Block Gravity (PCBG) Wall in accordance Special Provision 635 included in this contract. Precast Concrete Block Gravity Wall shall be designed and stamped by a Licensed Professional Engineer and the design shall be submitted to the Resident for review. Plan details are shown for estimating purposes only. All work shall be conducted in accordance with Maine DOT Standard Specifications, Latest Edition, unless otherwise noted.

2. The PCBG Wall shall be designed in accordance with the AASHTO LRFD Bridge Design Specifications, 5th Edition, with 2011 interims.

3. Rail posts shall not be driven or drilled through the geotextile reinforcement. Loss of area due to rail posts shall be considered in the wall design.

4. The applied factored bearing pressure for Precast Concrete Block Gravity Wall founded on soil shall not exceed a factored bearing resistance of 2.7 ksf for the strength limit state. For any segments of the wall founded on concrete, the factored bearing stress shall not exceed the factored compressive resistance of the footing concrete, 0.3 f'c. The factored bearing pressure for the service limit state shall not exceed the factored bearing resistance of 5 ksf.

5. All blocks at the ends of the wall must be finished on three sides: the front, the top and the exposed end. Blocks with exposed surfaces at the ends and top of the wall must be manufactured for this purpose and must be finished to match the face of the blocks.

6. Piped drainage shall be included in the design of the walls. Wall drainage will be incidental to construction of the wall.

7. A minimum embedment depth of eighteen (18) inches is required in the design and construction of the Precast Concrete Block Gravity Wall.

8. The quantity of Precast Concrete Block Wall will be approved by the Project Geotechnical Engineer.

9. If blasting is required at the base of the wall, no water pockets will be left between the drain at the back of the wall and the highway underdrain.

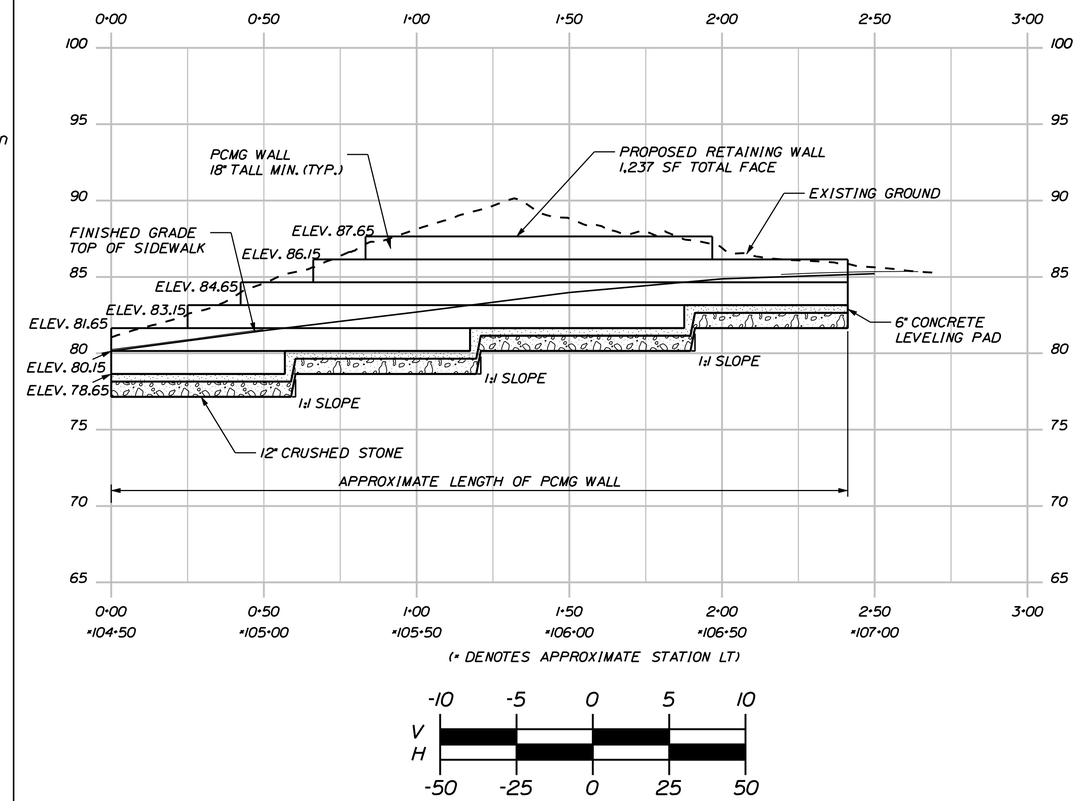
10. Cedar rail fence placed behind the wall shall be trimmed to avoid conflicts with the concrete blocks.

11. All existing structures shall be protected against damage or displacement throughout construction. Temporary shoring, sheeting, and bracing shall be designed by a Licensed Maine Professional Engineer and submitted to the Resident Engineer. All excavations shall comply with OSHA 1926 Subpart P standards and shall not encroach on the proposed Right-of-Way limits as depecited on the Plans herein.

12. A cobblestone face pattern shall be required on the retaining wall.

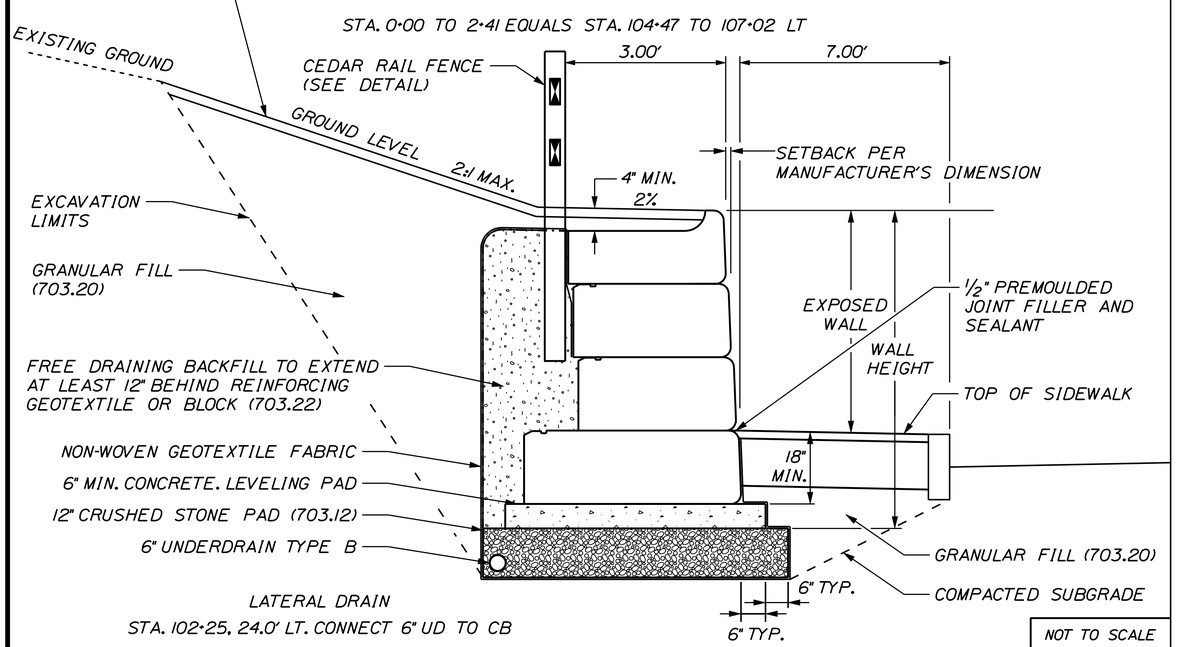
13. Any and all utilities shall avoid all impacts to the wall incldiing disturbance of the wall proper, the concrete leveling pad, the crused stone or gravel base pad, and the underdrain behind the wall.

APPROXIMATE RETAINING WALL PROFILE



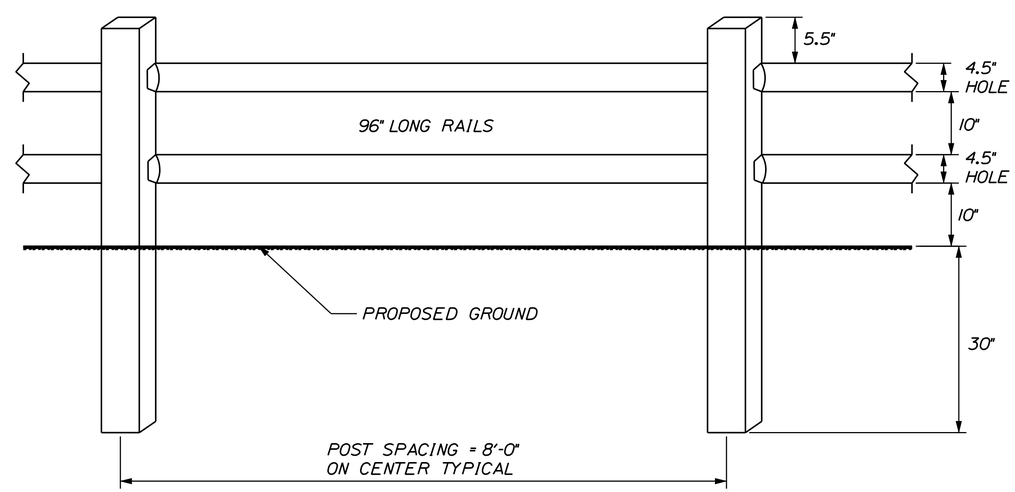
SIDE VIEW
CONCRETE BLOCK GRAVITY WALL

STA. 0+00 TO 2+41 EQUALS STA. 104+47 TO 107+02 LT



LATERAL DRAIN
STA. 102+25, 24.0' LT. CONNECT 6" UD TO CB

NOT TO SCALE



TYPICAL CEDAR RAIL FENCE

NOTES:
1. ALL DIMENSIONS SHOWN ARE APPROXIMATE.
2. DIMENSIONS WILL VARY WITH POST INSTALLATION DEPTH.
3. POST SPACING WILL VARY WITH LENGTH OF RAILS AND INSTALLATION PROCEDURE.

NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

PORTLAND, MAINE
FOREST AVENUE

SPECIAL DETAILS

SHEET NUMBER
9
OF 48

Filename: ...\msta\009_SpecialDetails2.dgn Division: HIGHWAY Username: mhill Date:6/23/2011

ROUTE 302 FOREST AVENUE - MCAM

Project: MCAM
Description: Based on InRoads Survey
File Name: V:\CM1767_Forest_Ave\CADD\Pin\13107\00\InRoadsSTD\ALIGNMENTS\MCAM.alg
Last Revised: thigginson 10/26/2010 11:18:09 AM
Input Grid Factor: 1.00000000 **Note:** All units in this report are in feet unless specified otherwise.

Alignment Name: MCAM
Alignment Description:
Alignment Style: Default

		Station	Northing	Easting
Element: Linear				
POB	( )	86+76.03	317176.94	997471.70
PC	( )	89+11.59	316996.42	997623.02
Tangential Direction:		S 39°58'12" E		
Tangential Length:		235.56		
Element: Circular				
PC	( )	89+11.59	316996.42	997623.02
PI	( )	94+59.18	316576.76	997974.78
CC	( )		319565.96	1000688.54
PT	( )	100+00.00	316267.08	998426.39
Radius:		3999.99		
Delta:		15°35'25" Left		
Degree of Curvature (Chord):		1°25'57"		
Length:		1088.41		
Tangent:		547.59		
Chord:		1085.06		
Middle Ordinate:		36.96		
External:		37.31		
Tangent Direction:		S 39°58'12" E		
Radial Direction:		S 50°01'48" W		
Chord Direction:		S 47°45'55" E		
Radial Direction:		S 34°26'23" W		
Tangent Direction:		S 55°33'37" E		
Element: Linear				
PT	( )	100+00.00	316267.08	998426.39
PC	( )	104+60.56	316006.61	998806.22
Tangential Direction:		S 55°33'37" E		
Tangential Length:		460.56		
Element: Circular				
PC	( )	104+60.56	316006.61	998806.22
PI	( )	105+54.66	315953.39	998883.83
CC	( )		316357.12	999046.58
PT	( )	106+45.77	315937.91	998976.65
Radius:		425.00		
Delta:		24°58'11" Left		
Degree of Curvature (Chord):		13°30'46"		
Length:		185.22		
Tangent:		94.10		
Chord:		183.75		
Middle Ordinate:		10.05		
External:		10.29		
Tangent Direction:		S 55°33'37" E		
Radial Direction:		S 34°26'23" W		
Chord Direction:		S 68°02'43" E		
Radial Direction:		S 9°28'12" W		
Tangent Direction:		S 80°31'48" E		
Element: Linear				
PT	( )	106+45.77	315937.91	998976.65
PC	( )	109+76.49	315883.50	999302.86
Tangential Direction:		S 80°31'48" E		
Tangential Length:		330.71		
Element: Circular				
PC	( )	109+76.49	315883.50	999302.86
PI	( )	111+69.36	315851.77	999493.10
CC	( )		311938.02	998644.73
PT	( )	113+61.93	315801.87	999679.41
Radius:		3999.99		
Delta:		5°31'16" Right		
Degree of Curvature (Chord):		1°25'57"		
Length:		385.45		
Tangent:		192.87		
Chord:		385.30		
Middle Ordinate:		4.64		
External:		4.65		
Tangent Direction:		S 80°31'48" E		
Radial Direction:		S 9°28'12" W		
Chord Direction:		S 77°46'10" E		
Radial Direction:		S 14°59'28" W		
Tangent Direction:		S 75°00'32" E		
PT	( )	113+61.93	315801.87	
PI	( )	119+61.86	315646.69	
Tangential Direction:		S 75°00'32" E		
Tangential Length:		599.92		
Element: Linear				
PI	( )	119+61.86	315646.69	
POE	( )	120+00.00	315636.83	
Tangential Direction:		S 75°00'32" E		
Tangential Length:		38.14		

RIVERSIDE STREET - MC1A

Project: MCAM
Description: Based on InRoads Survey
File Name: V:\CM1767_Forest_Ave\CADD\Pin\13107\00\InRoadsSTD\ALIGNMENTS\MCAM.alg
Last Revised: thigginson 10/26/2010 11:18:09 AM
Input Grid Factor: 1.00000000 **Note:** All units in this report are in feet unless specified otherwise.

Alignment Name: MC1A
Alignment Description: Riverside St
Alignment Style: D_Roadway_Centerline

		Station	Northing	Easting
Element: Linear				
POB	( )	20+00.00	316125.33	998266.82
PI	( )	22+00.00	316297.25	998369.01
Tangential Direction:		N 30°43'36" E		
Tangential Length:		200.00		
Element: Linear				
PI	( )	22+00.00	316297.25	998369.01
POE	( )	25+29.79	316601.69	998495.79
Tangential Direction:		N 22°36'28" E		
Tangential Length:		329.79		

RIVERTON DRIVE - MC2A

Project: MCAM
Description: Based on InRoads Survey
File Name: V:\CM1767_Forest_Ave\CADD\Pin\13107\00\InRoadsSTD\ALIGNMENTS\MCAM.alg
Last Revised: thigginson 10/26/2010 11:18:09 AM
Input Grid Factor: 1.00000000 **Note:** All units in this report are in feet unless specified otherwise.

Alignment Name: MC2A
Alignment Description: Riverton Drive
Alignment Style: D_Roadway_Centerline

		Station	Northing	Easting
Element: Linear				
POB	( )	30+00.00	316049.73	998743.35
POE	( )	31+50.00	315922.82	998663.39
Tangential Direction:		S 32°12'42" W		
Tangential Length:		150.00		

HANNAFORD DRIVE - MC3A

Project: MCAM
Description: Based on InRoads Survey
File Name: V:\CM1767_Forest_Ave\CADD\Pin\13107\00\InRoadsSTD\ALIGNMENTS\MCAM.alg
Last Revised: thigginson 10/26/2010 11:18:09 AM
Input Grid Factor: 1.00000000 **Note:** All units in this report are in feet unless specified otherwise.

Alignment Name: MC3A
Alignment Description: Hannaford Drive
Alignment Style: D_Roadway_Centerline

		Station	Northing	Easting
Element: Linear				
POB	( )	40+00.00	315824.50	999590.86
POE	( )	41+50.00	315970.39	999625.77
Tangential Direction:		N 13°27'18" E		
Tangential Length:		150.00		

RIVERSIDE INDUSTRIAL PARKWAY - MC4A

Project: MCAM
Description: Based on InRoads Survey
File Name: V:\CM1767_Forest_Ave\CADD\Pin\13107\00\InRoadsSTD\ALIGNMENTS\MCAM.alg
Last Revised: thigginson 10/26/2010 11:18:09 AM
Input Grid Factor: 1.00000000 **Note:** All units in this report are in feet unless specified otherwise.

Alignment Name: MC4A
Alignment Description: Riverside Ind Pkwy
Alignment Style: D_Roadway_Centerline

		Station	Northing	Easting
Element: Linear				
POB	( )	50+00.00	315674.62	1000154.63
PC	( )	50+46.28	315718.38	1000169.69
Tangential Direction:		N 18°59'30" E		
Tangential Length:		46.28		
Element: Circular				
PC	( )	50+46.28	315718.38	1000169.69
PI	( )	50+99.38	315768.59	1000186.97
CC	( )		315604.49	1000500.65
PT	( )	51+51.67	315811.41	1000218.36
Radius:		350.00		
Delta:		17°15'08" Right		
Degree of Curvature (Arc):		16°22'13"		
Length:		105.39		
Tangent:		53.10		
Chord:		104.99		
Middle Ordinate:		3.96		
External:		4.00		
Tangent Direction:		N 18°59'22" E		
Radial Direction:		S 71°00'38" E		
Chord Direction:		N 27°36'56" E		
Radial Direction:		S 53°45'31" E		
Tangent Direction:		N 36°14'29" E		

Filename: ...\rmsta\010_Baseline Data.dgn Division: HIGHWAY Username: mhill Date:6/23/2011

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

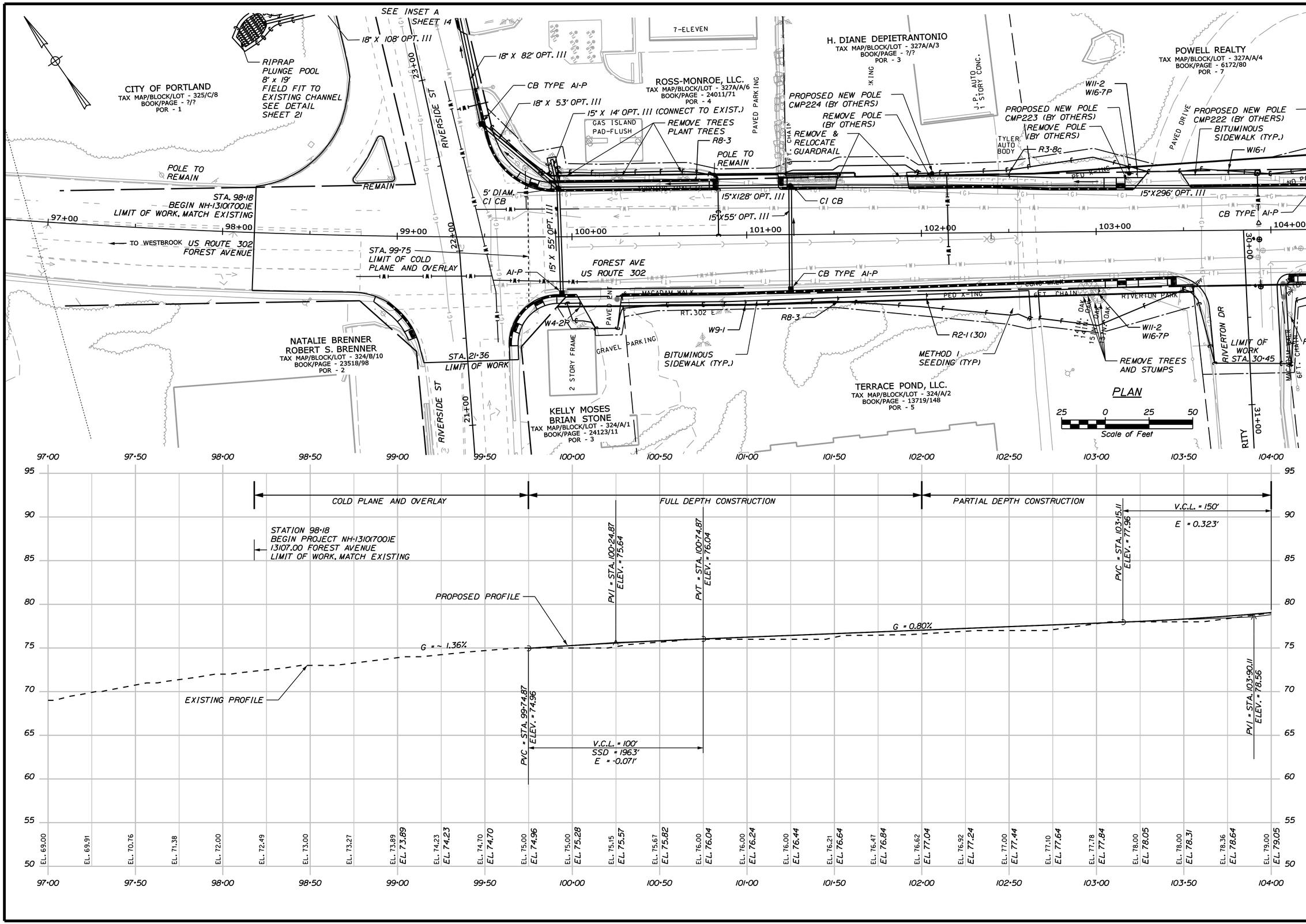
P.E. NUMBER

DATE

PORTLAND, MAINE
FOREST AVENUE

BASELINE DATA

SHEET NUMBER
10
OF 48



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

	JPL	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--	--	--
REVISIONS 2	--	--	--
REVISIONS 3	--	--	--
REVISIONS 4	--	--	--
FIELD CHANGES	--	--	--

SIGNATURE
P.E. NUMBER
DATE

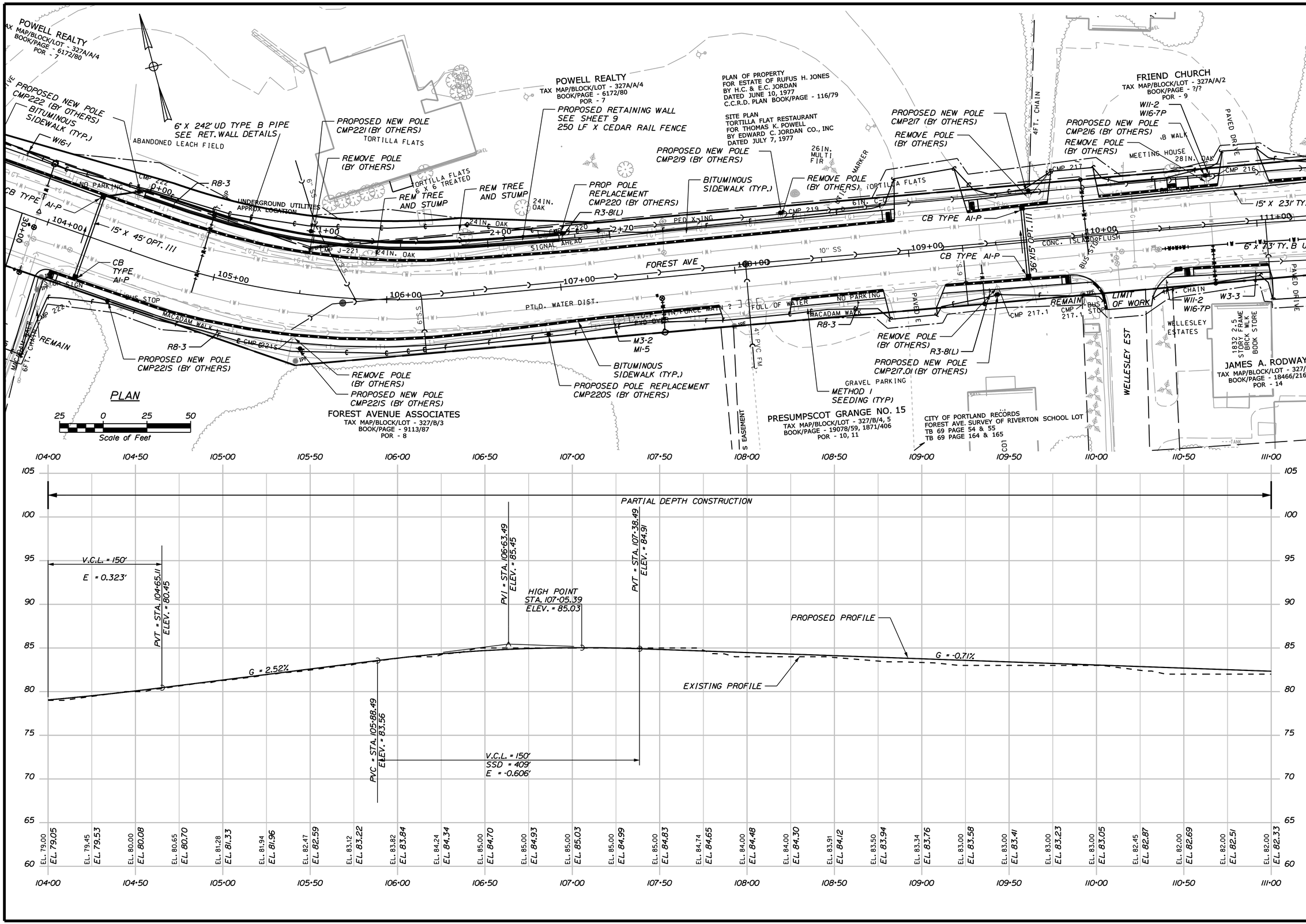
PORTLAND, MAINE
FOREST AVENUE

CONSTRUCTION PLANS

SHEET NUMBER
11
OF 48

STA. 97+00.00 TO STA. 104+00.00

Date:6/23/2011
Username: mhill
Division: HIGHWAY
Filename: ...\011_HDPlan_Construction1.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL		
DESIGN-DETAILED	MEH	MEW	11/06/21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--	--	--
REVISIONS 2	--	--	--
REVISIONS 3	--	--	--
REVISIONS 4	--	--	--
FIELD CHANGES	--	--	--

SIGNATURE
P.E. NUMBER
DATE

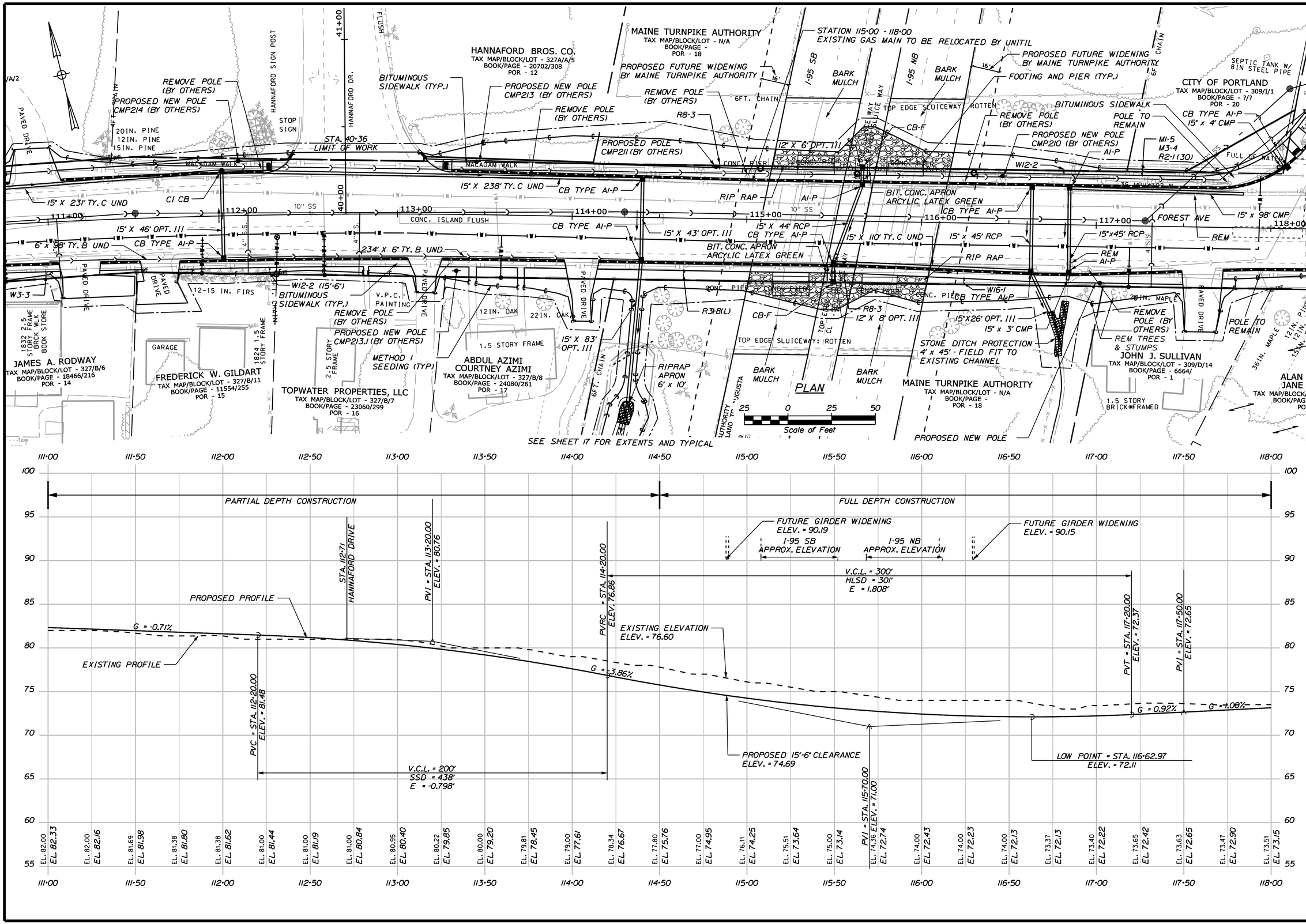
PORTLAND, MAINE
FOREST AVENUE

CONSTRUCTION PLANS

SHEET NUMBER
12
OF 48

STA.104+00.00 TO STA. 111+00.00

Filename: ...\012_HDPlan_Construction2.dgn Division: HIGHWAY Username: mhill Date:6/23/2011



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	JPL	
DESIGN-DETAILED	MEH	11\06\21
CHECKED-REVIEWED	--	--
DESIGN2-DETAILED2	TPL	MJC
DESIGN3-DETAILED3	TCH	--
REVISIONS 1	--	--
REVISIONS 2	--	--
REVISIONS 3	--	--
REVISIONS 4	--	--
FIELD CHANGES	--	--

SIGNATURE
P.E. NUMBER
DATE

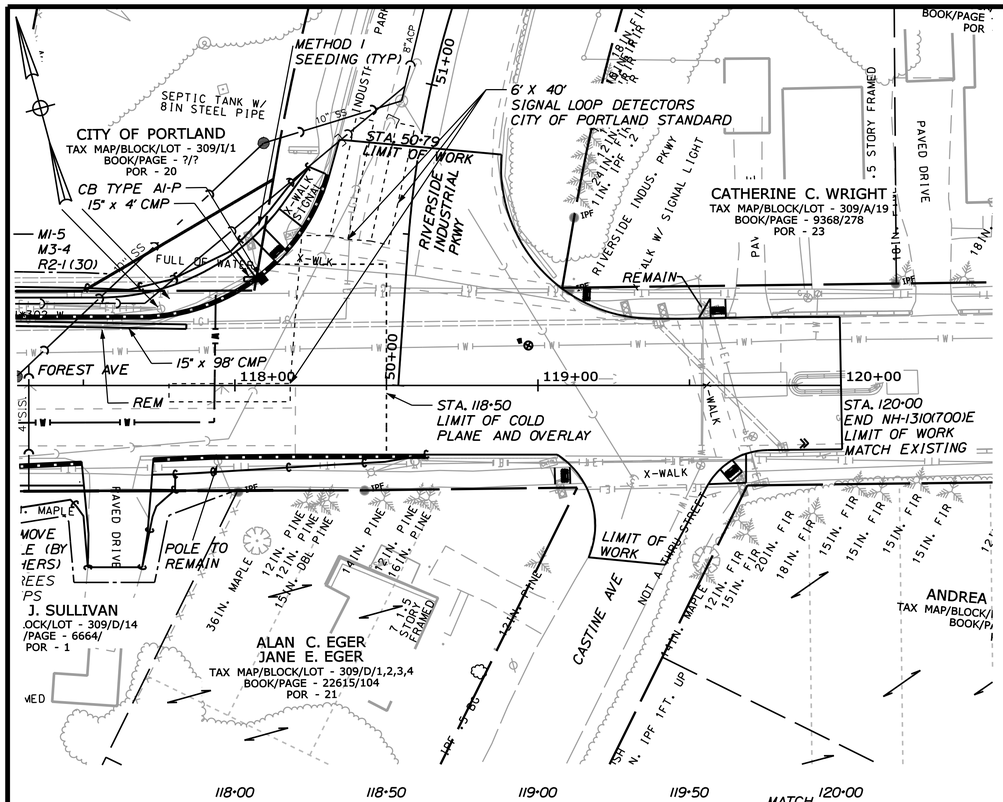
PORTLAND, MAINE
FOREST AVENUE

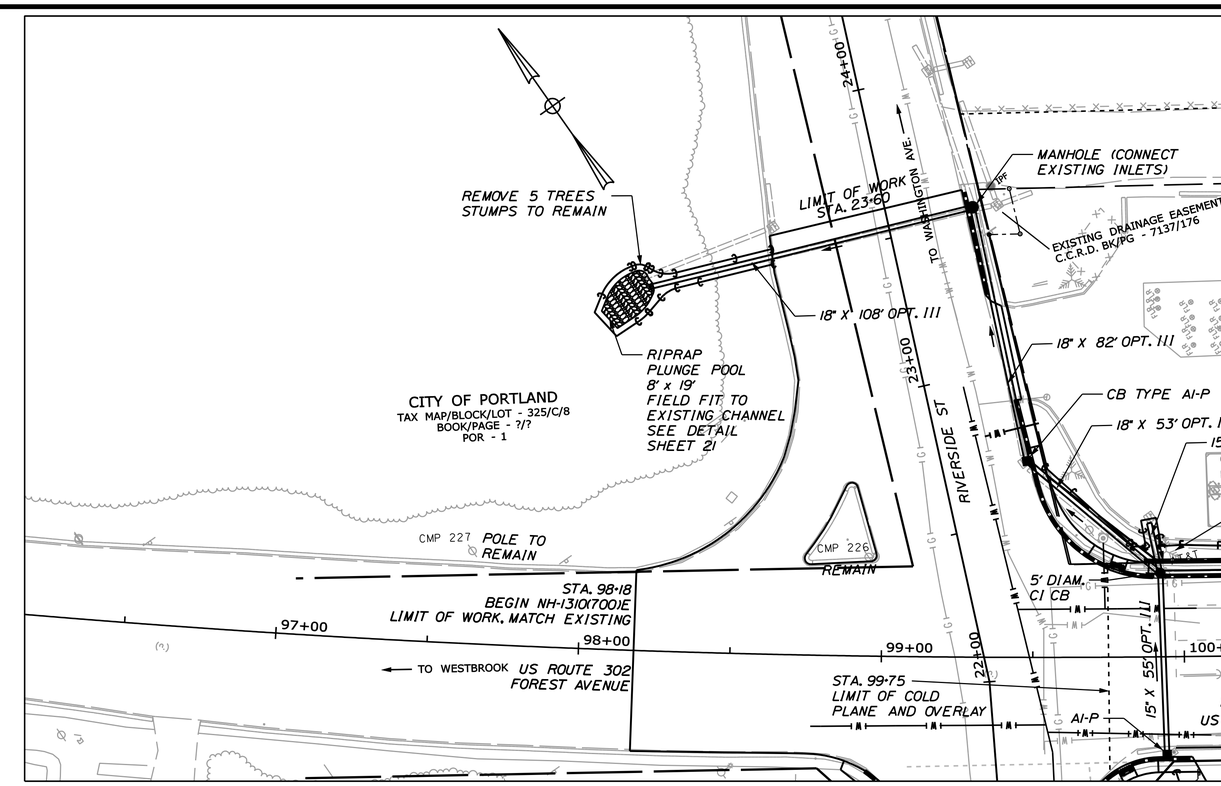
CONSTRUCTION PLANS

SHEET NUMBER
13
OF 48

STA.111+00.00 TO STA. 118+00.00

Filename: ...\013_HDPlan_Construction3.dgn Division: HIGHWAY Username: mhill Date:6/24/2011

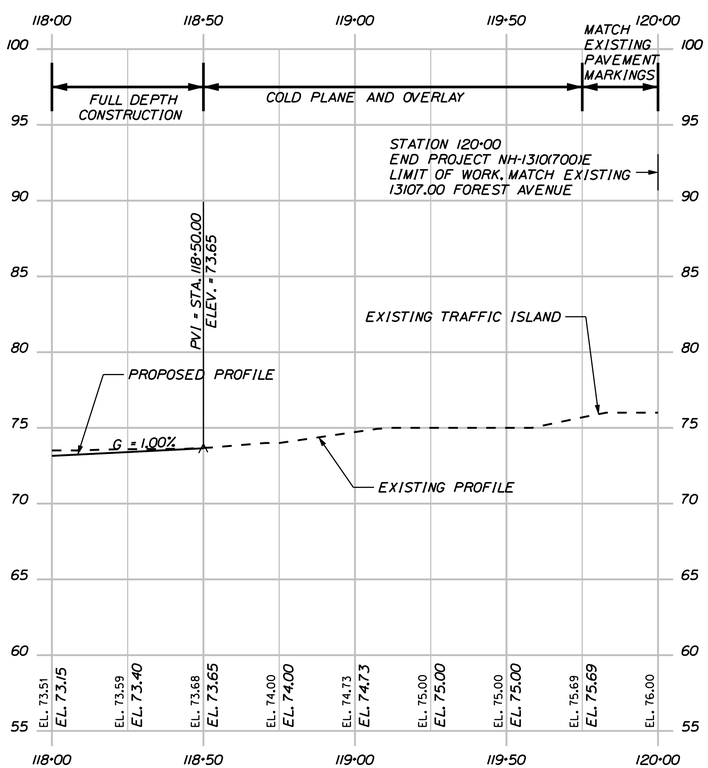




PLAN

25 0 25 50
Scale of Feet

WESTERN DRAINAGE OUTFALL ON RIVERSIDE DRIVE
FROM SHEET 11 - INSET A



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--	--	--
REVISIONS 2	--	--	--
REVISIONS 3	--	--	--
REVISIONS 4	--	--	--
FIELD CHANGES	--	--	--

SIGNATURE

P.E. NUMBER

DATE

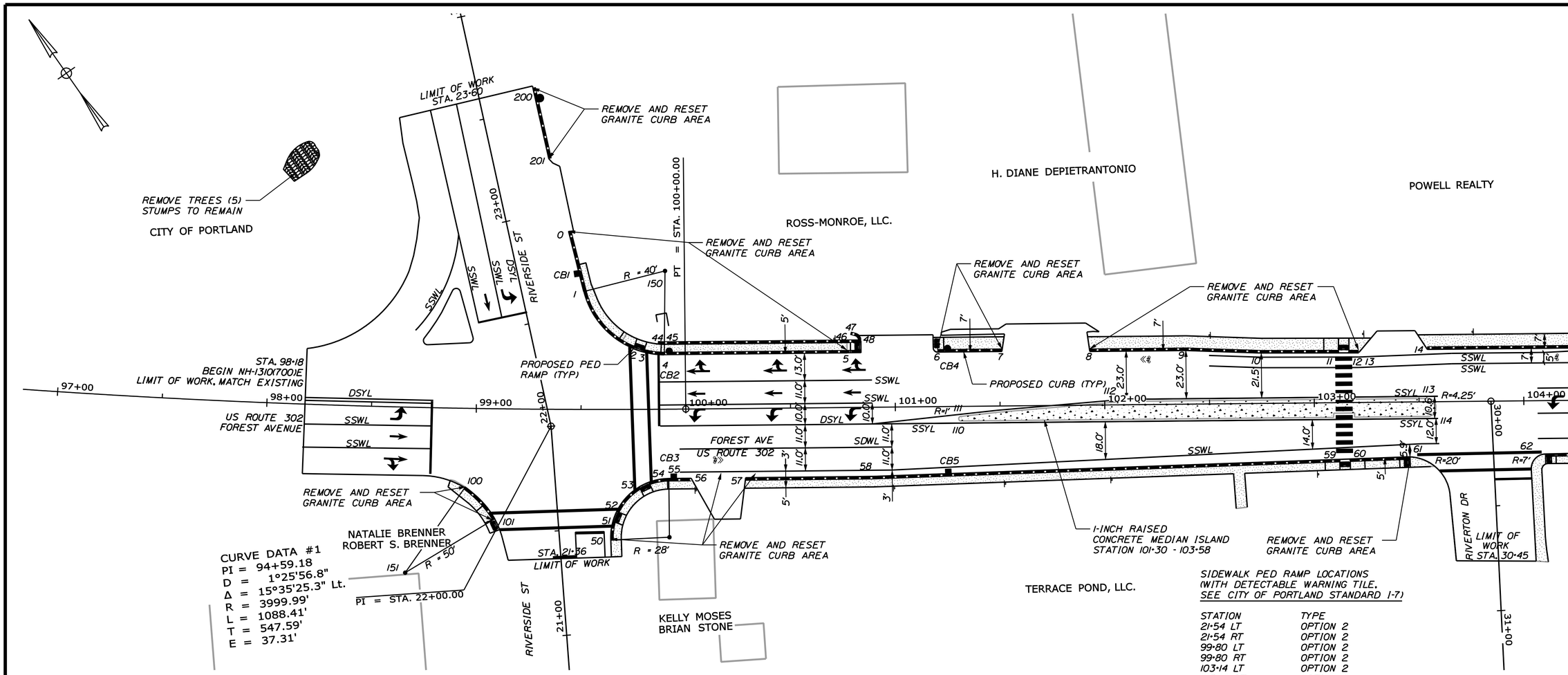
PORTLAND, MAINE
FOREST AVENUE

CONSTRUCTION PLANS

SHEET NUMBER
14
OF 48

STA.118+00.00 TO STA. 120+00.00

Filename: ...\014_HDPlan_Construction4.dgn Division: HIGHWAY Username: mhill Date:6/23/2011



SIDEWALK PED RAMP LOCATIONS
(WITH DETECTABLE WARNING TILE,
SEE CITY OF PORTLAND STANDARD I-7)

STATION	TYPE
21+54 LT	OPTION 2
21+54 RT	OPTION 2
99+80 LT	OPTION 2
99+80 RT	OPTION 2
103+14 LT	OPTION 2
103+14 RT	OPTION 2
103+40 RT	OPTION 3

GEOMETRICS - STATIONS
AND OFFSETS FOR NORTHERN CURB

POINT	PC/PT	STATION	OFFSET	X-COORD	Y-COORD
200		23.59.56	26.17 RT	998454.510	316434.485
201		23+24.87	26.34 RT	998441.327	316402.399
0		22+58.95	28.10 RT	998429.147	316368.561
1	PC	99+46.98	57.36 LT	998418.664	316340.950
2		99+75.19	28.98 LT	998422.510	316304.960
3		99+79.97	27.38 LT	998425.490	316300.950
4	PT	99+90.66	25.99 LT	998433.440	316293.768
5		100+83.86	26.00 LT	998510.261	316241.090
6		101+20.40	26.00 LT	998540.390	316220.430
7		101+51.11	26.00 LT	998565.720	316203.059
8		101+93.11	25.59 LT	998600.127	316178.973
9		102+38.94	25.59 LT	998637.921	316153.056
10		102+74.92	24.05 LT	998666.729	316131.432
11		103+11.73	23.88 LT	998696.920	316110.380
12		103+16.73	23.72 LT	998701.020	316107.520
13		103+21.39	23.69 LT	998704.845	316104.854
14		103+54.17	25.01 LT	998732.626	316087.401
44		99+86.87	31.17 LT	998433.290	316300.170
45		99+89.91	30.99 LT	998435.670	316298.300
46		100+80.18	30.96 LT	998510.030	316247.260
47		100+78.89	34.81 LT	998511.140	316251.160
48		100+83.88	31.68 LT	998513.480	316245.770
150		99+90.56	65.98 LT	998456.560	316326.750

GEOMETRICS - STATIONS
AND OFFSETS FOR SOUTHERN CURB

POINT	PC/PT	STATION	OFFSET	X-COORD	Y-COORD
100	PC	98+95.39	37.50 RT	998318.890	316296.990
101	PT	99+09.57	52.44 RT	998321.770	316276.490
50	PC	99+64.17	62.31 RT	998361.230	316236.400
51		99+65.18	53.41 RT	998367.170	316243.110
52		99+66.93	48.74 RT	998371.300	316245.920
53		99+77.69	36.96 RT	998386.960	316249.380
54		99+82.17	34.81 RT	998391.890	316248.570
55	PT	99+91.64	33.09 RT	998400.730	316244.560
56		100+10.50	33.07 RT	998416.350	316233.870
57		100+28.26	33.05 RT	998431.000	316223.830
58		100+89.24	33.00 RT	998481.320	316189.390
59		103+11.86	27.06 RT	998668.290	316068.390
60		103+16.86	26.92 RT	998672.490	316065.670
61		103+45.44	26.16 RT	998696.490	316050.140
62		104+10.17	25.43 RT	998750.280	316014.140
151		98+67.88	78.99 RT	998721.890	316279.950

GEOMETRICS - STATIONS
AND OFFSETS FOR MEDIAN ISLANDS

POINT	STATION	OFFSET	X-COORD	Y-COORD
110	101+30.88	6.92 RT	998530.620	316187.130
111	101+31.17	4.79 RT	998531.870	316188.950
112	102+09.04	1.59 LT	998599.690	316150.170
113	103+54.56	1.57 LT	998719.690	316067.860
114	103+54.68	6.99 LT	998714.950	316060.720

GEOMETRICS - STATIONS AND OFFSETS
FOR CATCH BASIN HEADER POINTS

POINT	STATION	OFFSET	X-COORD	Y-COORD
CB1	99+48.76	64.96 LT	998421.740	316349.420
CB2	99+92.19	25.98 LT	998434.690	316292.900
CB3	99+93.99	33.07 RT	998402.690	316243.230
CB4	101+25.18	26.00 LT	998544.330	316217.720
CB5	101+25.04	32.03 RT	998511.400	316169.95

DRIVES AND ENTRANCES

STATION	TYPE	OPENING WIDTH (FT)
23+00 RT	PAVED	36
100+15 RT	GRAVEL	26
101+00 LT	PAVED	34
101+75 LT	PAVED	42
103+44 LT	PAVED	33
103+83 RT	PAVED	66

WALKWAYS

STATION	TYPE
102+65 RT	PAVED

PLAN

25 0 25 50
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1		--	--
REVISIONS 2		--	--
REVISIONS 3		--	--
REVISIONS 4		--	--
FIELD CHANGES		--	--

SIGNATURE

P.E. NUMBER

DATE

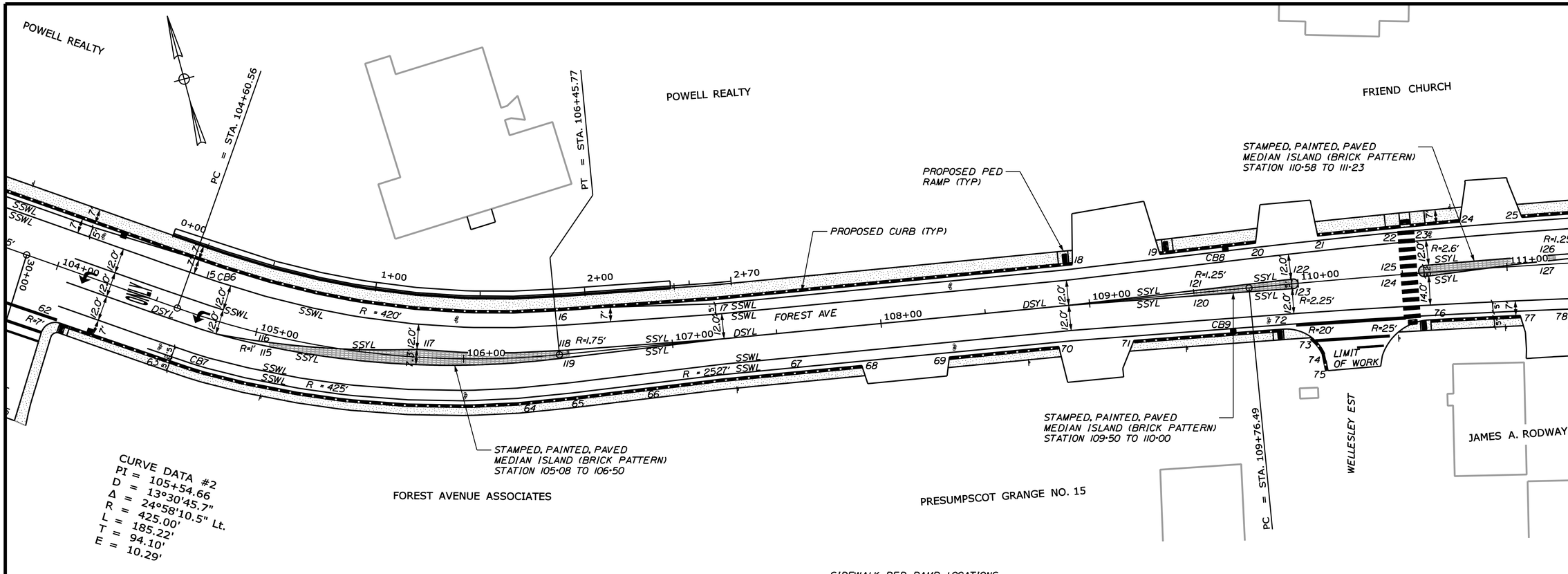
PORTLAND, MAINE
FOREST AVENUE

GEO. & CURB LAYOUT PLANS

SHEET NUMBER
15
OF 48

STA. 97+00.00 TO STA. 104+00.00

Date:6/23/2011 Username: mhill Division: HIGHWAY Filename: ...\msto\015_HDPlan_Layout1.dgn



CURVE DATA #2
PI = 105+54.66
D = 13°30'45.7"
Δ = 24°58'10.5" Lt.
R = 425.00'
L = 185.22'
T = 94.10'
E = 10.29'

DRIVES AND ENTRANCES

STATION	TYPE	OPENING WIDTH (FT)
108+06 RT	GRAVEL	42
109+00 RT	GRAVEL	36
109+17 LT	PAVED	42
110+00 LT	PAVED	30
110+24 RT	PAVED	70
110+92 LT	PAVED	30

SIDEWALK PED RAMP LOCATIONS (WITH DETECTABLE WARNING TILE, SEE CITY OF PORTLAND STANDARD 1-7)

STATION	TYPE
104+26 RT	OPTION 3
108+90 LT	OPTION 3
109+40 LT	OPTION 3
109+90 RT	OPTION 3
110+54 LT	OPTION 2
110+54 RT	OPTION 3

GEOMETRICS - STATIONS AND OFFSETS FOR NORTHERN CURB

POINT	PC/PT	STATION	OFFSET	X-COORD	Y-COORD
15	PC	104+66.65	25.12 LT	998825.123	316023.973
16	PT	106+48.95	20.83 LT	998983.213	315957.937
17		107+21.97	19.01 LT	999054.940	315944.122
18		108+93.61	19.01 LT	999224.233	315915.883
19		109+35.71	19.95 LT	999265.921	315909.887
20		109+81.56	20.90 LT	999311.331	315903.275
21		110+11.33	21.58 LT	999340.934	315898.874
22		110+50.67	22.33 LT	999379.989	315892.568
23		110+55.64	22.42 LT	999384.920	315891.741
24		110+78.99	22.93 LT	999408.083	315887.855
25		111+08.65	23.13 LT	999437.394	315882.277

GEOMETRICS - STATIONS AND OFFSETS FOR SOUTHERN CURB

POINT	PC/PT	STATION	OFFSET	X-COORD	Y-COORD
62		104+10.17	25.43 RT	998750.280	316014.140
63	PC	104+60.75	24.92 RT	998792.300	315985.940
64	PT	106+33.61	21.07 RT	998960.620	315919.410
65		106+49.97	20.83 RT	998977.370	315916.670
66		106+90.38	19.82 RT	999017.390	315911.020
67		107+53.55	19.03 RT	999079.820	315901.410
68		107+88.94	19.03 RT	999114.740	315895.580
69		108+30.94	19.03 RT	999156.170	315888.670
70		108+83.37	19.03 RT	999207.880	315880.050
71		109+19.42	19.64 RT	999243.340	315873.520
72		109+90.92	21.13 RT	999313.540	315860.270
73		110+04.19	26.39 RT	999325.640	315852.850
74		110+09.62	34.80 RT	999325.500	315843.640
75		110+10.56	42.80 RT	999329.040	315835.590
76		110+61.86	22.61 RT	999382.720	315846.340
77		111+04.82	23.46 RT	999424.480	315837.360
78		111+29.15	23.94 RT	999448.090	315832.070

GEOMETRICS - STATIONS AND OFFSETS FOR MEDIAN ISLANDS

POINT	STATION	OFFSET	X-COORD	Y-COORD
115	105+08.50	5.37 RT	998844.690	315977.040
116	105+08.36	3.32 RT	998845.520	315978.910
117	105+77.47	3.69 LT	998911.650	315958.000
118	106+49.13	1.83 LT	998980.270	315939.170
119	106+49.04	1.74 RT	998979.590	315935.660
120	109+51.15	1.29 RT	999277.650	315886.400
121	109+51.15	1.24 LT	999278.070	315888.890
122	109+97.74	2.24 LT	999324.200	315882.160
123	109+97.76	2.28 RT	999323.440	315887.690
124	110+60.42	1.81 RT	999385.160	315867.040
125	110+60.42	3.43 LT	999386.130	315872.190
126	111+22.14	4.29 LT	999446.910	315861.130
127	111+22.17	1.79 LT	999446.440	315858.670

GEOMETRICS - STATIONS AND OFFSETS FOR CATCH BASIN HEADER POINTS

POINT	STATION	OFFSET	X-COORD	Y-COORD
CB 6	104+72.07	25.06 LT	998829.420	316021.270
CB7	104+72.05	24.94 RT	998802.240	315979.290
CB8	109+67.00	20.60 LT	999296.890	315905.380
CB9	109+66.97	20.62 RT	999290.080	315864.720

PLAN

25 0 25 50
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	JPL		
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE
P.E. NUMBER
DATE

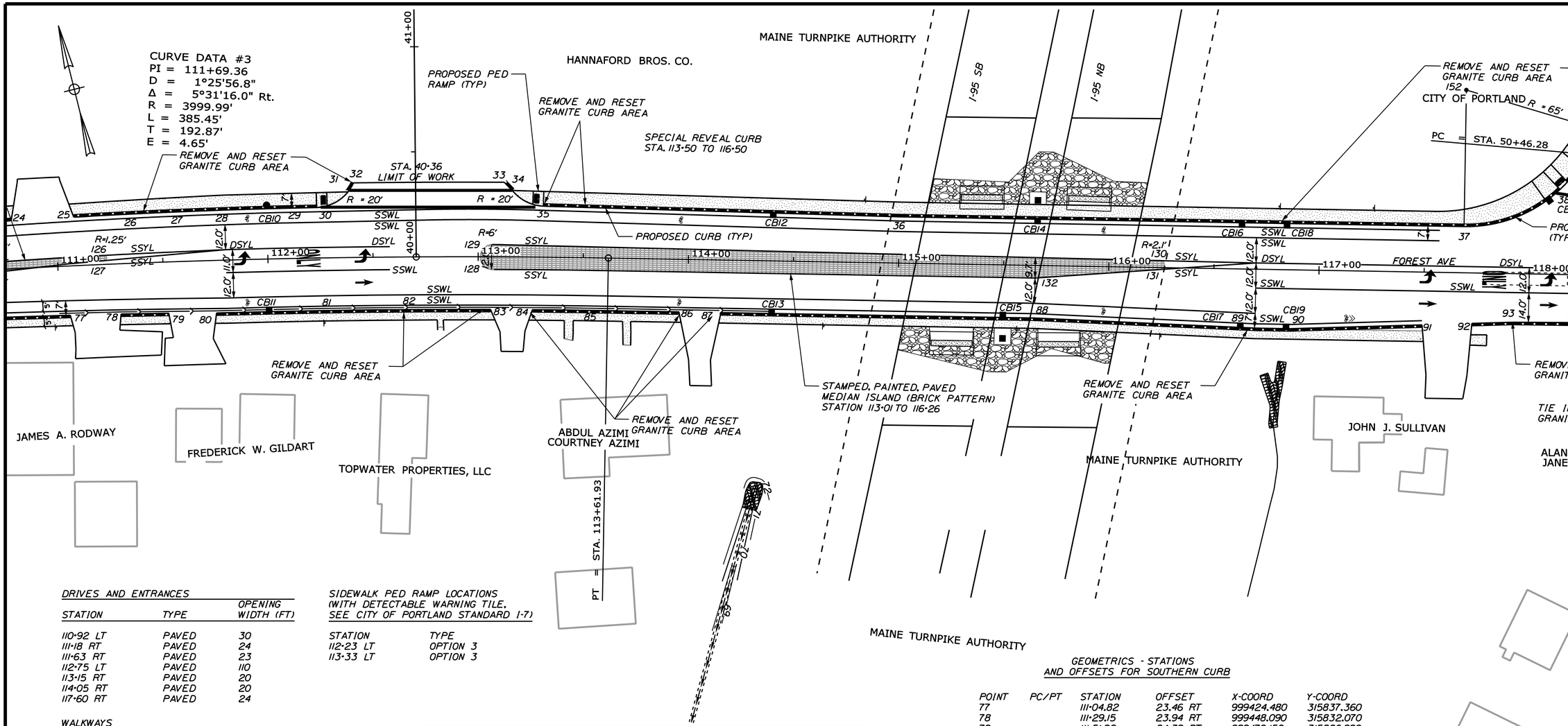
PORTLAND, MAINE
FOREST AVENUE

GEO. & CURB LAYOUT PLANS

SHEET NUMBER
16
OF 48

STA.104+00.00 TO STA. 111+00.00

Filename: ...\msta\016_HDPlan_Layout2.dgn Division: HIGHWAY Username: mhill Date:6/23/2011



DRIVES AND ENTRANCES

STATION	TYPE	OPENING WIDTH (FT)
110+92 LT	PAVED	30
111+18 RT	PAVED	24
111+63 RT	PAVED	23
112+75 LT	PAVED	110
113+15 RT	PAVED	20
114+05 RT	PAVED	20
117+60 RT	PAVED	24

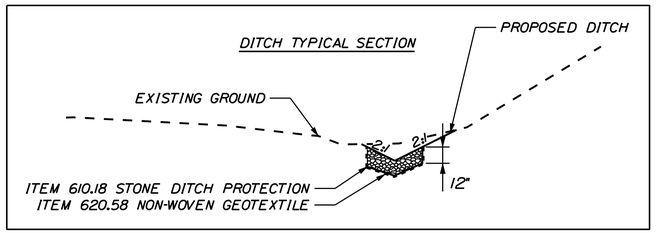
WALKWAYS

STATION	TYPE
112+82 RT	PAVED
113+43 RT	PAVED
113+71 RT	PAVED

SIDEWALK PED RAMP LOCATIONS (WITH DETECTABLE WARNING TILE, SEE CITY OF PORTLAND STANDARD 1-7)

STATION	TYPE
112+23 LT	OPTION 3
113+33 LT	OPTION 3

DITCH TYPICAL SECTION



GEOMETRICS - STATIONS AND OFFSETS FOR NORTHERN CURB

POINT	PC/PT	STATION	OFFSET	X-COORD	Y-COORD
24		110+78.99	22.93 LT	999408.083	315887.855
25		111+08.65	23.13 LT	999437.394	315882.277
26		111+34.42	23.40 LT	999463.831	315877.156
27		111+57.29	23.59 LT	999485.396	315872.802
28		111+78.88	23.81 LT	999506.664	315868.421
29		112+08.76	24.00 LT	999536.010	315862.062
30		112+23.57	24.02 LT	999550.567	315858.752
31		112+38.49	31.25 LT	999566.840	315862.380
32		112+41.19	35.57 LT	999570.490	315865.960
33		113+12.85	34.83 LT	999640.520	315848.030
34		113+15.97	31.61 LT	999642.770	315844.130
35		113+30.76	24.27 LT	999655.366	315833.314
36		115+00.31	21.99 LT	999818.768	315787.324
37	PC	117+68.59	22.01 LT	1000077.921	315717.947
38		118+13.94	40.44 LT	1000126.490	315724.020
152		117+68.59	87.01 LT	1000094.730	315780.740

GEOMETRICS - STATIONS AND OFFSETS FOR MEDIAN ISLANDS

POINT	STATION	OFFSET	X-COORD	Y-COORD
126	111+22.14	4.29 LT	999446.910	315861.130
127	111+22.17	1.79 LT	999446.440	315858.670
128	113+06.91	6.08 RT	999624.670	315809.850
129	113+07.09	5.86 LT	999627.770	315821.380
130	116+24.40	3.31 LT	999933.800	315737.180
131	116+24.55	0.89 RT	999932.860	315733.080
132	115+65.00	5.99 RT	999874.010	315743.560

GEOMETRICS - STATIONS AND OFFSETS FOR SOUTHERN CURB

POINT	PC/PT	STATION	OFFSET	X-COORD	Y-COORD
77		111+04.82	23.46 RT	999424.480	315837.360
78		111+29.15	23.94 RT	999448.090	315832.070
79		111+51.92	24.39 RT	999470.150	315826.990
80		111+74.83	25.01 RT	999492.280	315821.590
81		112+24.99	25.03 RT	999540.910	315810.640
82		112+62.49	25.05 RT	999577.170	315802.050
83		113+08.32	25.00 RT	999621.390	315791.160
84		113+24.51	25.03 RT	999636.970	315787.150
85		113+49.99	25.03 RT	999661.470	315780.750
86		113+98.88	25.03 RT	999708.620	315768.140
87		114+13.25	25.03 RT	999722.500	315764.420
88		115+65.02	25.03 RT	999869.110	315725.160
89		116+70.02	28.03 RT	999969.760	315695.100
90		116+86.24	28.03 RT	999985.430	315690.910
91		117+49.43	25.10 RT	1000047.220	315677.400
92		117+73.11	24.00 RT	1000070.380	315672.330
93		117+92.38	23.11 RT	1000089.230	315668.210

GEOMETRICS - STATIONS AND OFFSETS FOR CATCH BASIN HEADER POINTS

POINT	STATION	OFFSET	X-COORD	Y-COORD
CB10	112+00.03	23.93 LT	999527.470	315863.930
CB11	112+00.01	25.04 RT	999516.700	315816.160
CB12	114+40.07	22.78 LT	999760.780	315803.670
CB13	114+40.03	25.04 RT	999748.370	315757.490
CB14	115+65.78	22.00 LT	999882.010	315770.390
CB15	115+50.01	25.04 RT	999854.610	315729.040
CB16	116+63.09	22.00 LT	999976.000	315745.230
CB17	116+63.00	27.83 RT	999963.040	315697.110
CB18	116+84.45	22.01 LT	999996.640	315739.710
CB19	116+84.72	28.03 RT	999983.960	315691.300
CB20	118+08.55	35.75 LT	1000120.070	315720.880

PLAN

25 0 25 50
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	JPL		
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--	--	--
REVISIONS 2	--	--	--
REVISIONS 3	--	--	--
REVISIONS 4	--	--	--
FIELD CHANGES	--	--	--

SIGNATURE
P.E. NUMBER
DATE

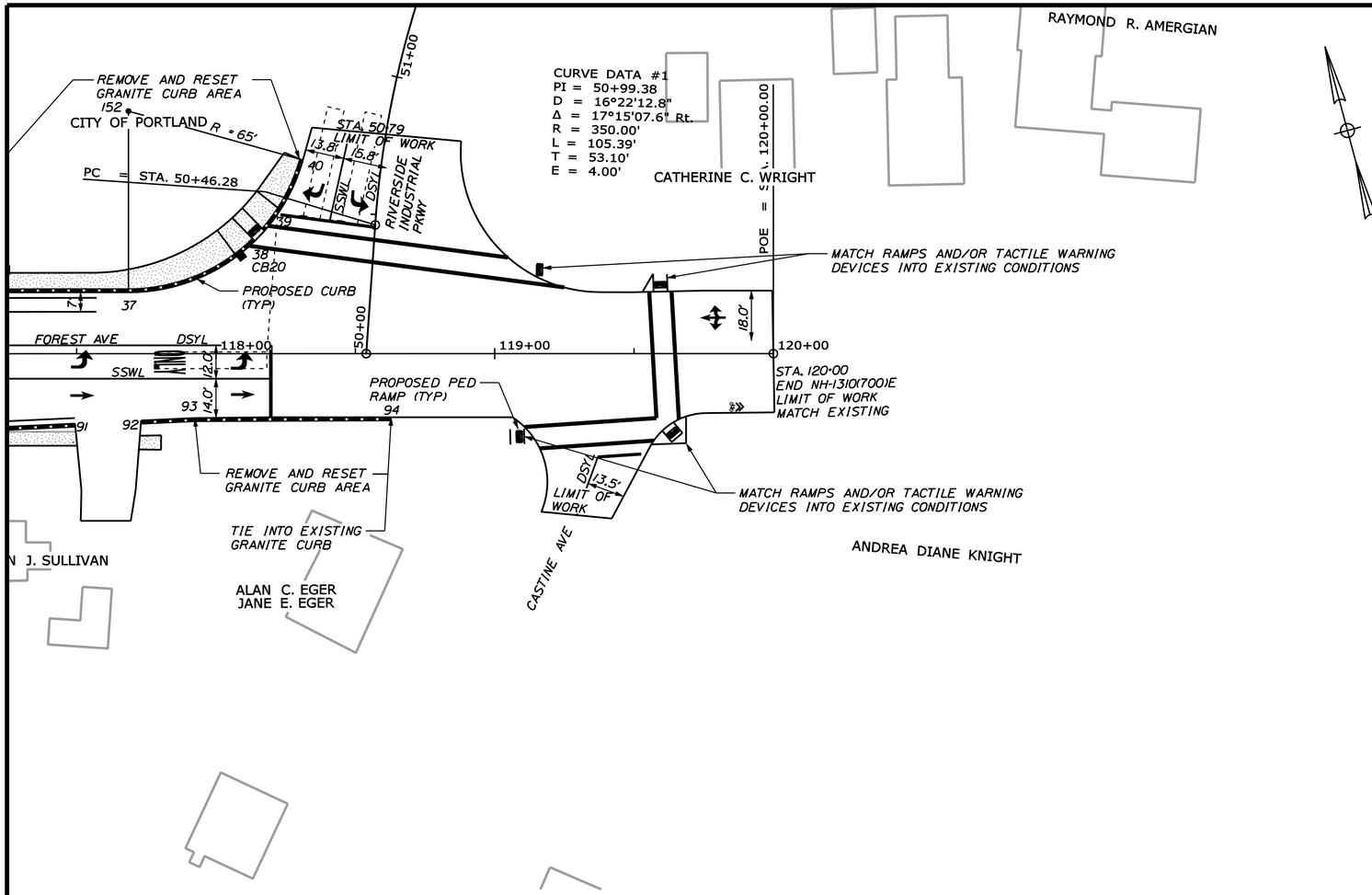
PORTLAND, MAINE
FOREST AVENUE

GEO. & CURB LAYOUT PLANS

SHEET NUMBER
17
OF 48

STA.111+00.00 TO STA. 118+00.00

Filename: ...\msta\017_HDPlan_Layout3.dgn Division: HIGHWAY Username: mhill Date:6/23/2011



PLAN

25 0 25 50
Scale of Feet

DRIVES AND ENTRANCES

STATION	TYPE	OPENING WIDTH (FT)
117+60 RT	PAVED	24
118+50 LT	PAVED	169 (SIDEROAD)
119+30 RT	PAVED	69

SIDEWALK PED RAMP LOCATIONS (WITH DETECTABLE WARNING TILE. SEE CITY OF PORTLAND STANDARD I-7)

STATION	TYPE
118+16 LT	OPTION 1
119+08 RT	OPTION 3
119+16 LT	OPTION 3
119+60 LT	OPTION 3
119+63 RT	OPTION 1

GEOMETRICS - STATIONS AND OFFSETS FOR NORTHERN CURB

POINT	PC/PT	STATION	OFFSET	X-COORD	Y-COORD
37	PC	117+68.59	22.01 LT	1000077.921	315717.947
38		118+13.94	40.44 LT	1000126.490	315724.020
39		118+17.38	44.07 LT	1000130.760	315726.630
40	PT	118+31.17	69.45 LT	1000150.638	315747.580
152		117+68.59	87.01 LT	1000094.730	315780.740

GEOMETRICS - STATIONS AND OFFSETS FOR SOUTHERN CURB

POINT	PC/PT	STATION	OFFSET	X-COORD	Y-COORD
91		117+49.43	25.10 RT	1000047.220	315677.400
92		117+73.11	24.00 RT	1000070.380	315672.330
93		117+92.38	23.11 RT	1000089.230	315668.210
94		118+63.08	22.82 RT	1000157.600	315650.200

GEOMETRICS - STATIONS AND OFFSETS FOR CATCH BASIN HEADER POINTS

POINT	STATION	OFFSET	X-COORD	Y-COORD
CB20	118+08.55	35.75 LT	1000120.070	315720.880

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	JPL		
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--	--	--
REVISIONS 2	--	--	--
REVISIONS 3	--	--	--
REVISIONS 4	--	--	--
FIELD CHANGES	--	--	--

SIGNATURE

P.E. NUMBER

DATE

PORTLAND, MAINE
FOREST AVENUE

GEO. & CURB LAYOUT PLANS

SHEET NUMBER
18
OF 48

STA.118+00.00 TO STA. 120+00.00

Filename: ...\msta\018_HDPlan_Layout4.dgn Division: HIGHWAY Username: mhill Date:6/23/2011

ITEM 609.11 - VERTICAL CURB TYPE 1

POINT / LOCATION		POINT / LOCATION		LENGTH (LF)
14	TO	18		521.4
19	TO	20		27.9
21	TO	22		25.6
23	TO	24		9.5
25	TO	26		19.9
116+50 LT	TO	CB18		26.1
62	TO	68		371
69	TO	70		38.4
71	TO	72		53.4
74	TO	75		8.1
76	TO	77		28.7
78	TO	79		8.6
80	TO	82		77
89	TO	91		75.7
92	TO	94		12.3
20% BREAKAGE FROM 609.38 RESET CURB TYPE 1				238.4

ITEM 609.111 - SPECIAL GRANITE CURB -24"

POINT / LOCATION		POINT / LOCATION		LENGTH (LF)
99+91 LT	TO	100+84 LT		93
113+50 LT	TO	116+50 LT		292

ITEM 609.12 - VERTICAL CURB TYPE 1 - CIRCULAR

POINT / LOCATION		POINT / LOCATION		LENGTH (LF)
1	TO	2		30.6
3	TO	4		3
47	TO	48		5.5
73	TO	74		10.1
100	TO	101		13.8

ITEM 609.237 - TERMINAL CURB TYPE 1 - 7 FOOT

POINT REFERENCE		EACH
0		1
5		1
6		1
7		1
8		1
11		1
12		1
14		1
18		1
19		1
20		1
21		1
22		1
23		1
24		1
25		1
30		1
35		1
38		1
39		1
56		1
57		1
59		1
60		1
61		1
62		1
68		1
69		1
70		1
71		1
72		1
76		1
77		1
78		1
79		1
80		1
83		1
84		1
86		1
87		1
91		1
92		1
201		1

ITEM 609.2371 - TERMINAL CURB TYPE 1 - 7 FT CIRCULAR

POINT REFERENCE		EACH
2		1
3		1
51		1
52		1
53		1
54		1
101		1

ITEM 609.38 - RESET CURB

POINT / LOCATION		POINT / LOCATION		LENGTH (LF)
0	TO	1		18.5
1	TO	2		30.6
3	TO	4		3.0
4	TO	5		82.9
6	TO	7		12.7
8	TO	11		104.6
12	TO	13		4.7
26	TO	30		62.8
31	TO	32		5.1
33	TO	34		5.4
35	TO	114+14.7 LT		12.4
CB18	TO	37		86.6
37	TO	38		39.2
39	TO	40		22.1
50	TO	51		2
52	TO	53		2.3
54	TO	55		2.8
55	TO	56		3.7
57	TO	59		265.7
60	TO	61		14.6
82	TO	83		35.2
84	TO	86		55.7
87	TO	89		228.1
93	TO	94		63.8
200	TO	201		27.7

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL			
DESIGN-DETAILED	MEH	BY	MEW	DATE 11\06\21
CHECKED-REVIEWED	--		--	--
DESIGN2-DETAILED2	TPL		MJC	--
DESIGN3-DETAILED3	TCH		--	--
REVISIONS 1	--			--
REVISIONS 2	--			--
REVISIONS 3	--			--
REVISIONS 4	--			--
FIELD CHANGES	--			--

SIGNATURE

P.E. NUMBER

DATE

PORTLAND, MAINE
FOREST AVENUE

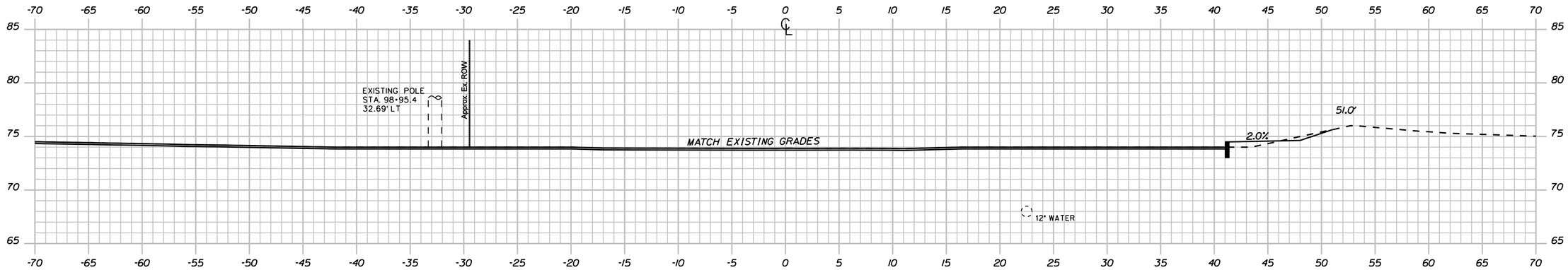
GEO. & CURB LAYOUT PLANS

SHEET NUMBER

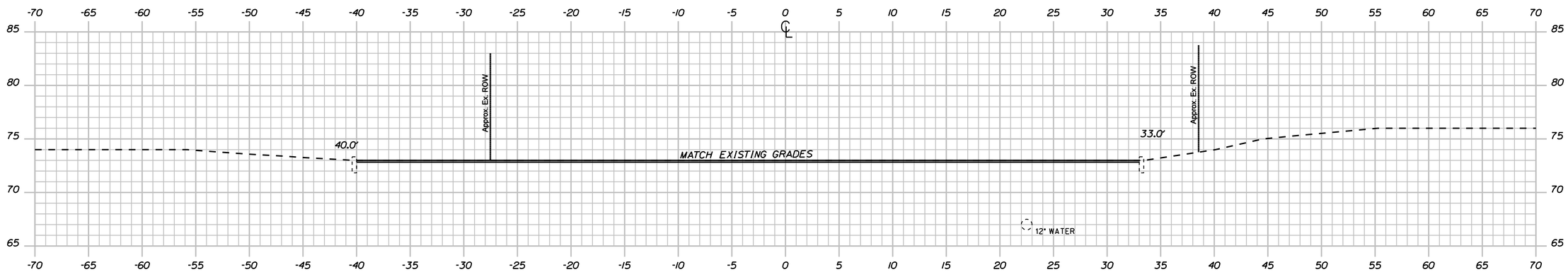
19

OF 48

Filename: ...\mstio\019_Curb Notes.dgn Division: HIGHWAY Username: mhill Date:6/23/2011

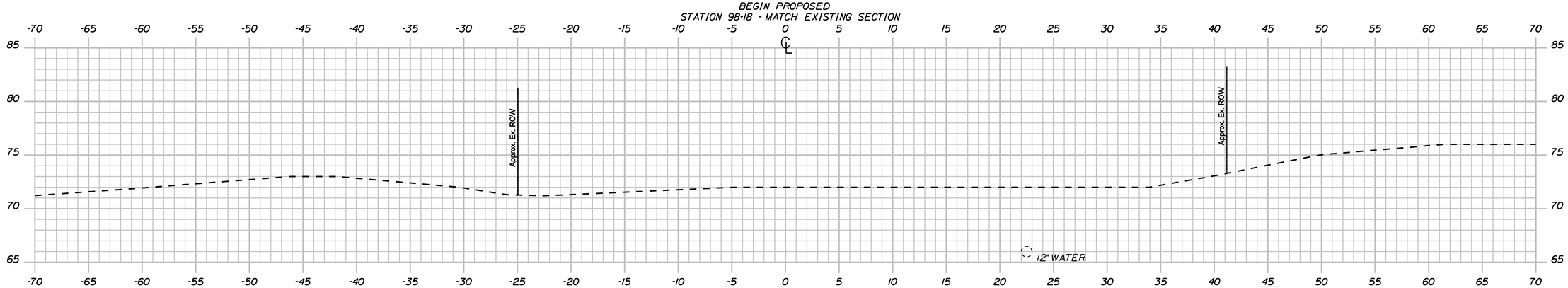


99+00.00



98+50.00

BEGIN PROPOSED
STATION 98+18 - MATCH EXISTING SECTION



98+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11/06/21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--	--	--
REVISIONS 2	--	--	--
REVISIONS 3	--	--	--
REVISIONS 4	--	--	--
FIELD CHANGES	--	--	--

SIGNATURE

P.E. NUMBER

DATE

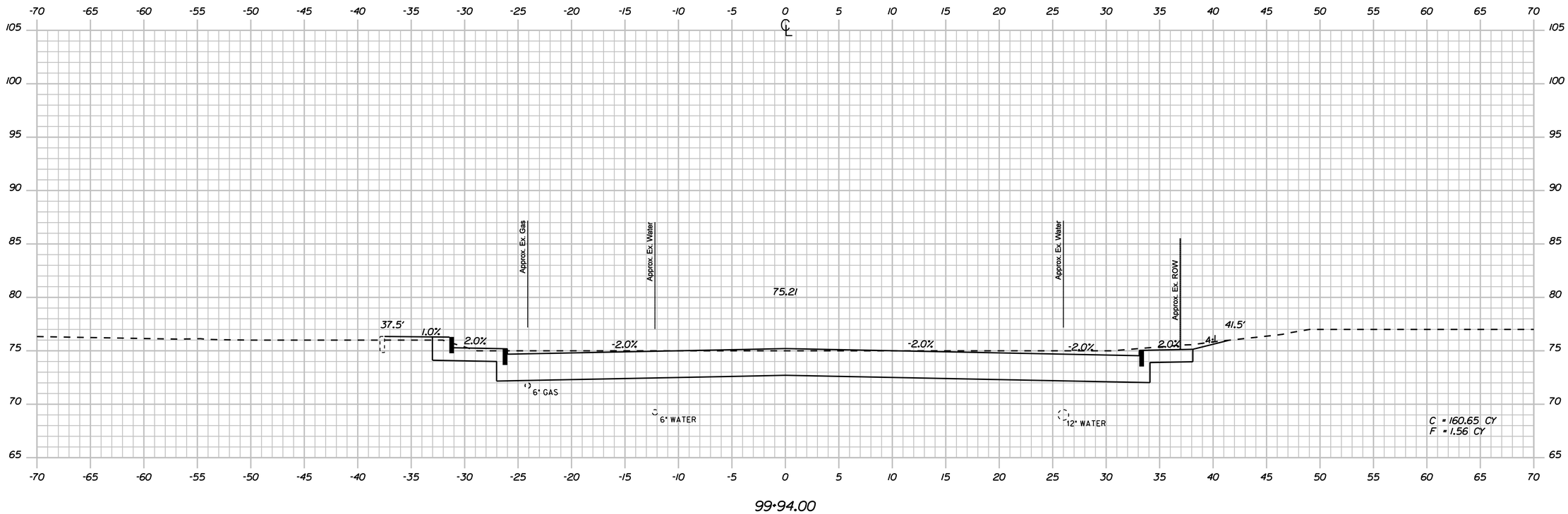
PORTLAND, MAINE
FOREST AVENUE

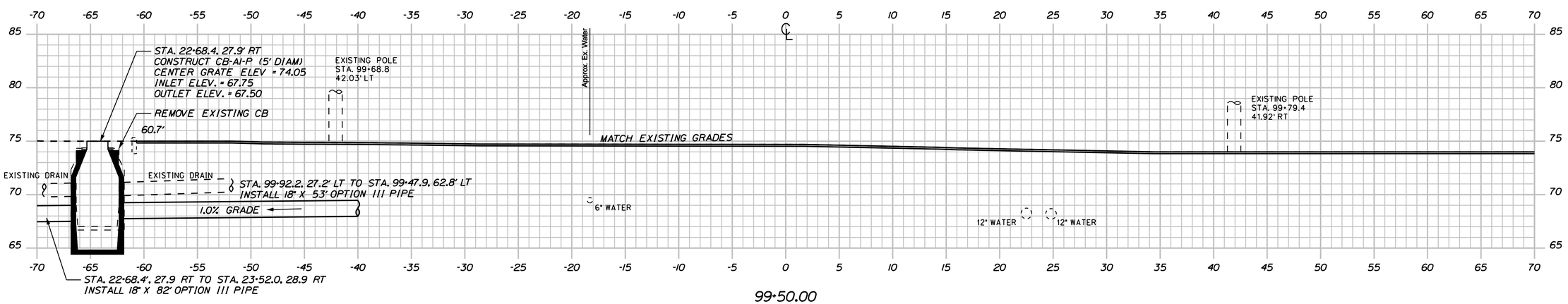
CROSS SECTIONS

SHEET NUMBER
20
OF 48

Sta. 98+00.00 to Sta. 99+00.00

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

SHEET NUMBER
21
OF 48

Sta. 99+50.00 to Sta. 99+94.00

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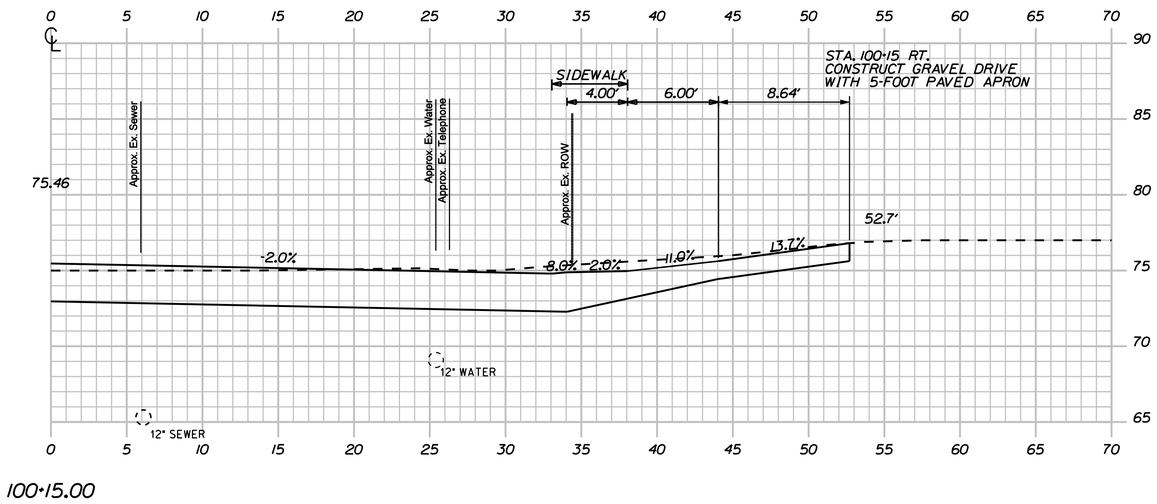
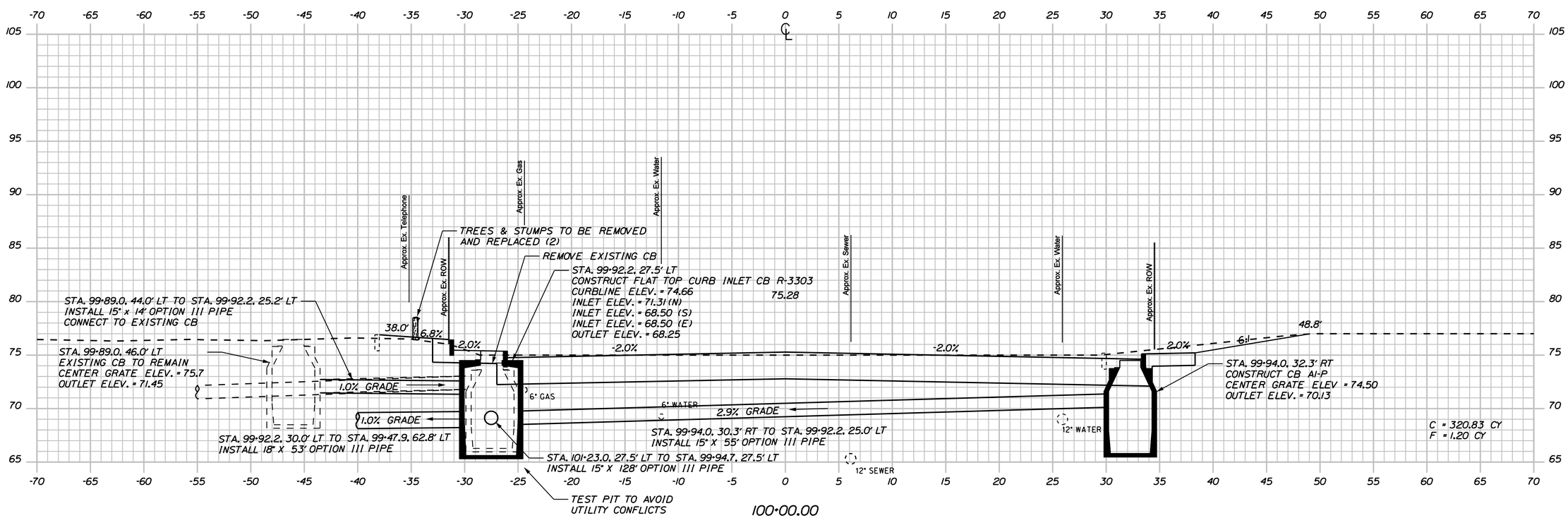




STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	JPL		
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--	--	--
REVISIONS 2	--	--	--
REVISIONS 3	--	--	--
REVISIONS 4	--	--	--
FIELD CHANGES	--	--	--

SIGNATURE

P.E. NUMBER

DATE

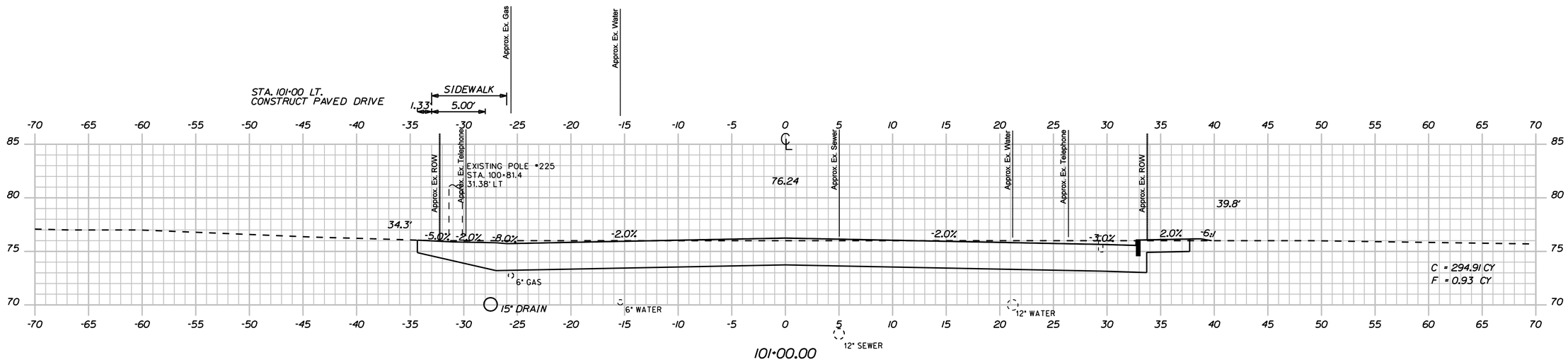
PORTLAND, MAINE
FOREST AVENUE

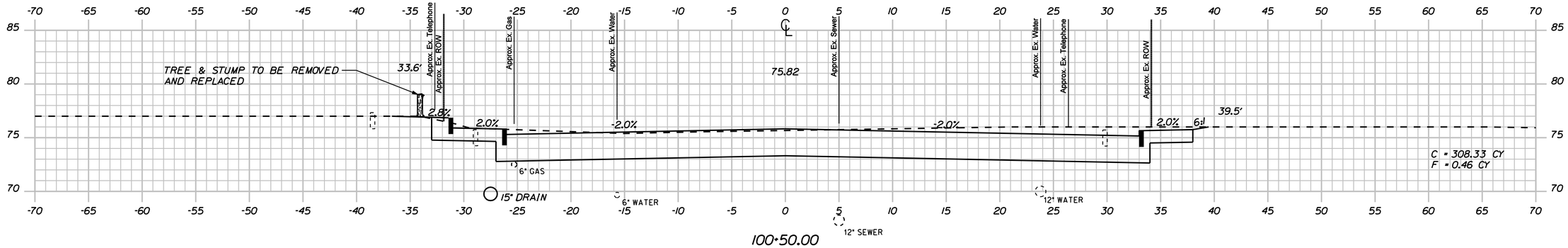
CROSS SECTIONS

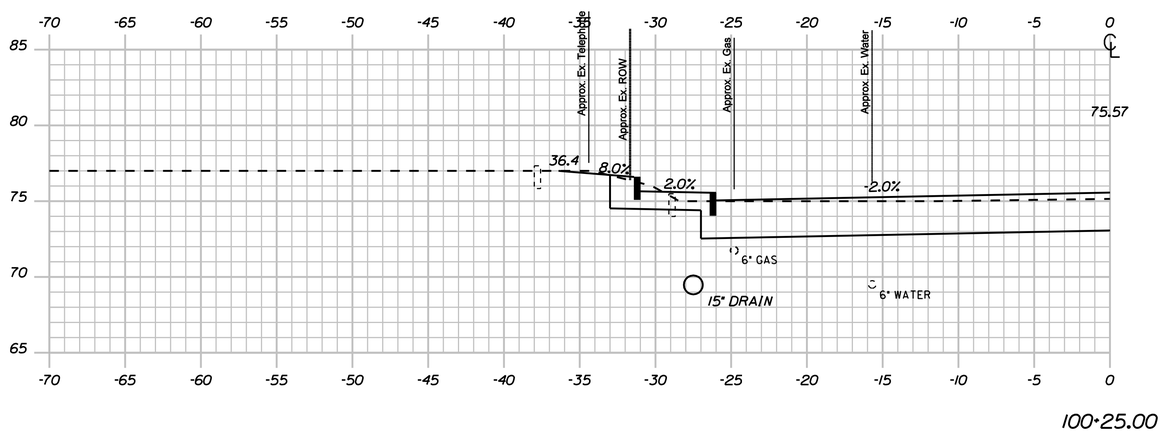
SHEET NUMBER
22
OF 48

Sta. 100+00.00 to Sta. 100+15.00

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL			
DESIGN-DETAILED	MEH	MEW	11\06\21	
CHECKED-REVIEWED	--	--	--	
DESIGN2-DETAILED2	TPL	MJC	--	
DESIGN3-DETAILED3	TCH	--	--	
REVISIONS 1		--	--	
REVISIONS 2		--	--	
REVISIONS 3		--	--	
REVISIONS 4		--	--	
FIELD CHANGES		--	--	

SIGNATURE

P.E. NUMBER

DATE

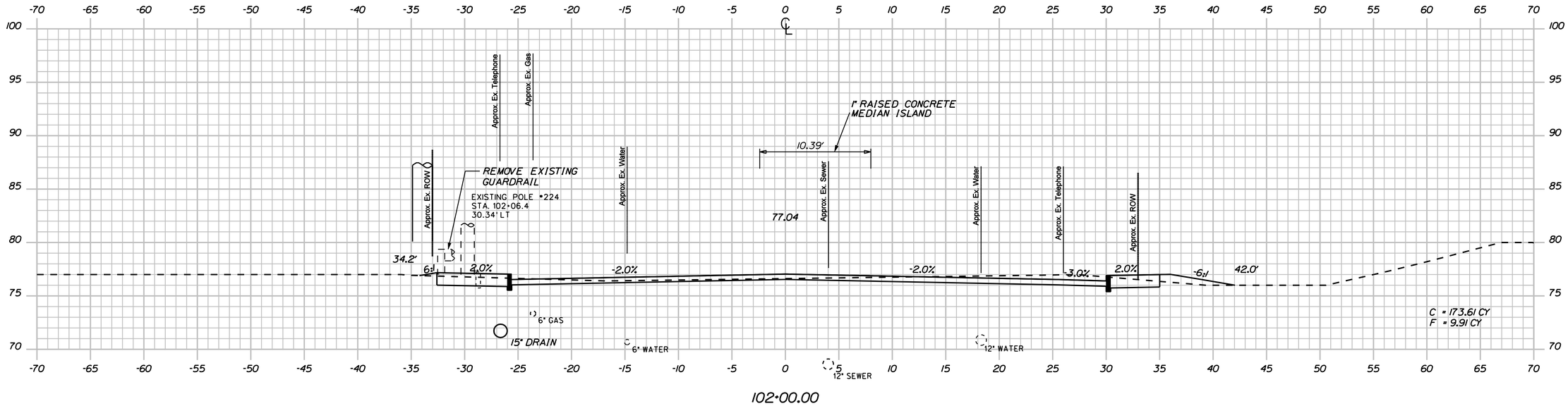
PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

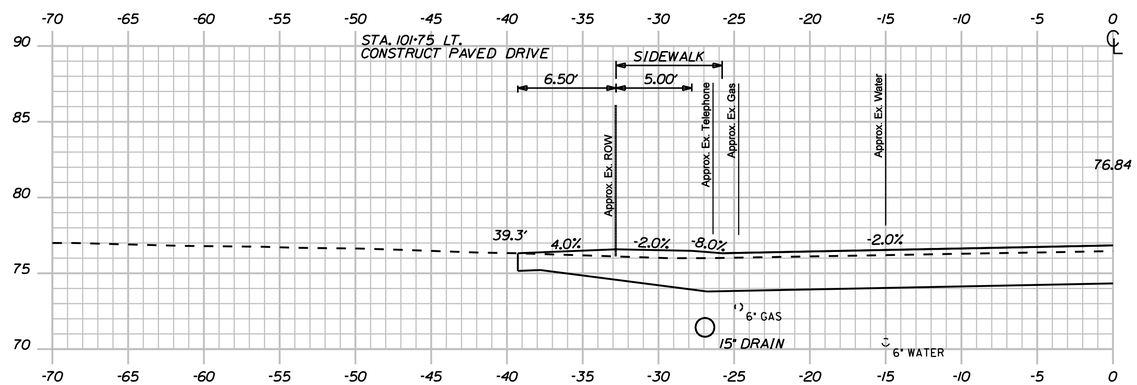
SHEET NUMBER
23
OF 48

Sta. 100+25.00 to Sta. 101+00.00

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011



102+00.00



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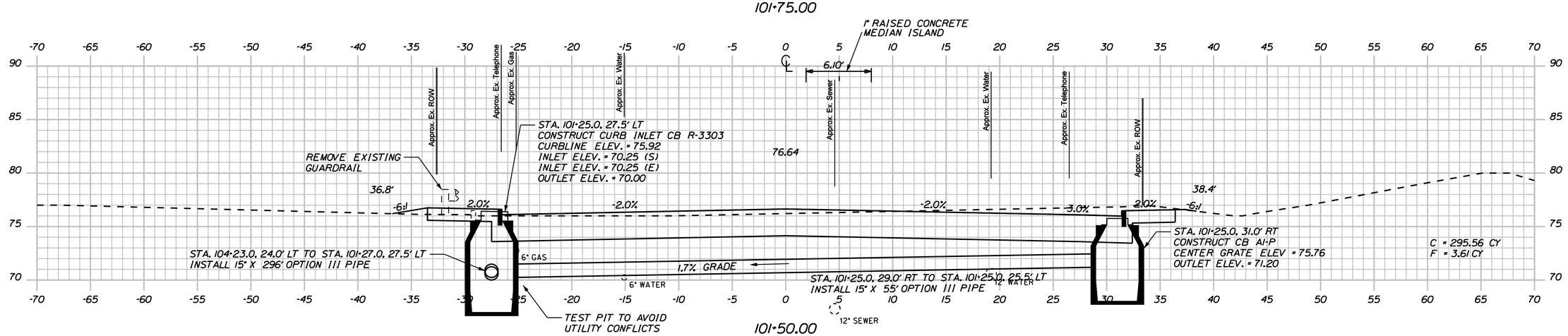


101+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL		
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

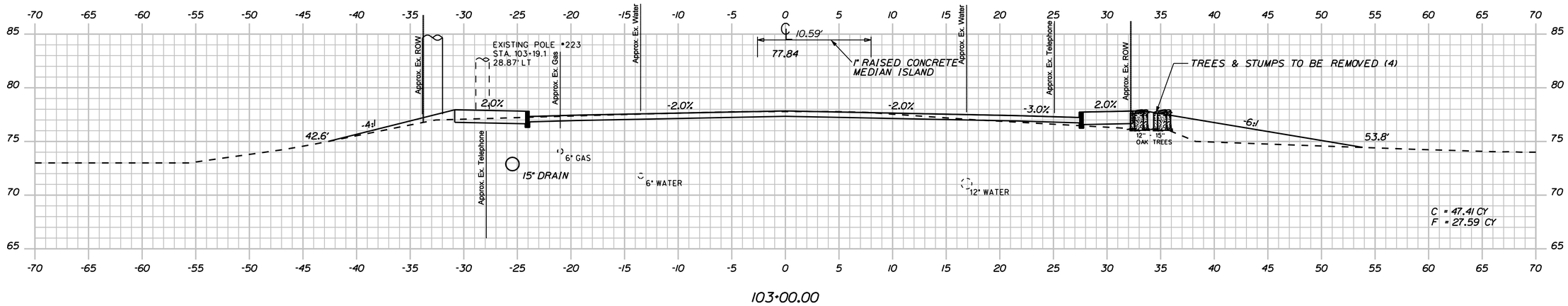
PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

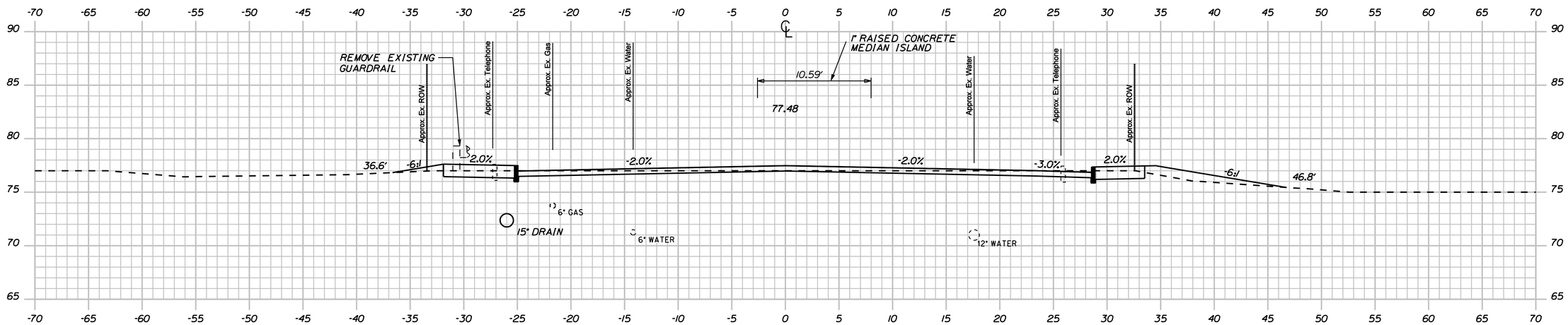
SHEET NUMBER
24
OF 48

Sta. 101+50.00 to Sta. 102+00.00

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011



103+00.00



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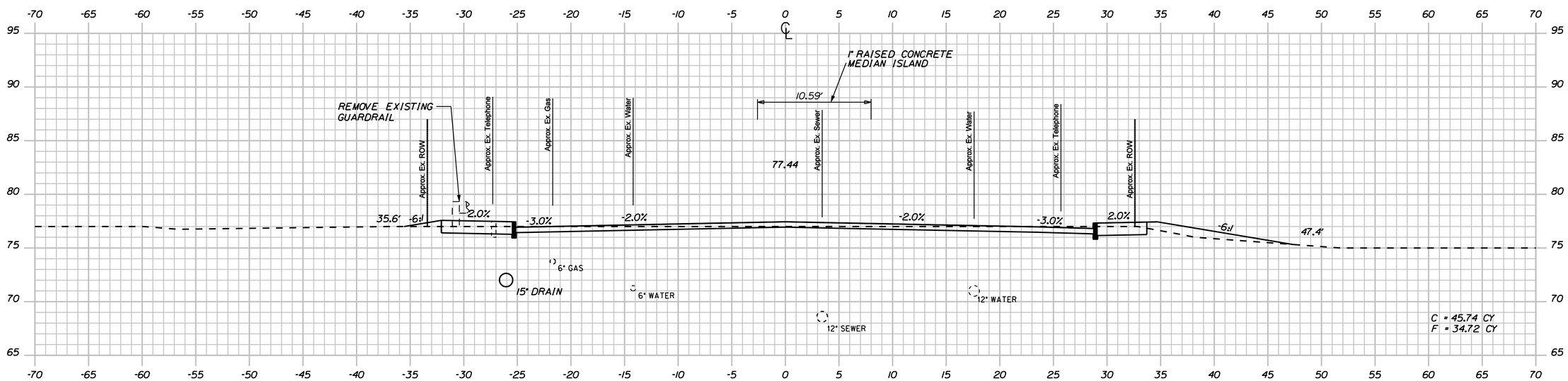


102+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--	--	--
REVISIONS 2	--	--	--
REVISIONS 3	--	--	--
REVISIONS 4	--	--	--
FIELD CHANGES	--	--	--

SIGNATURE

P.E. NUMBER

DATE

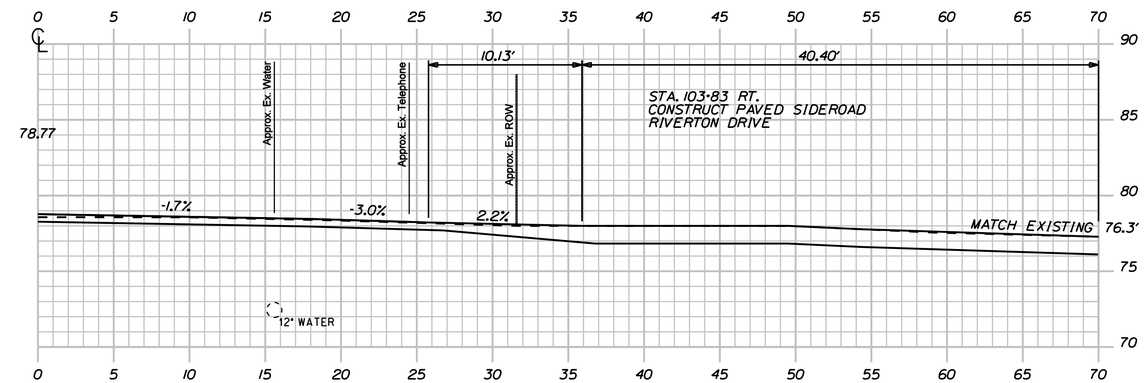
PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

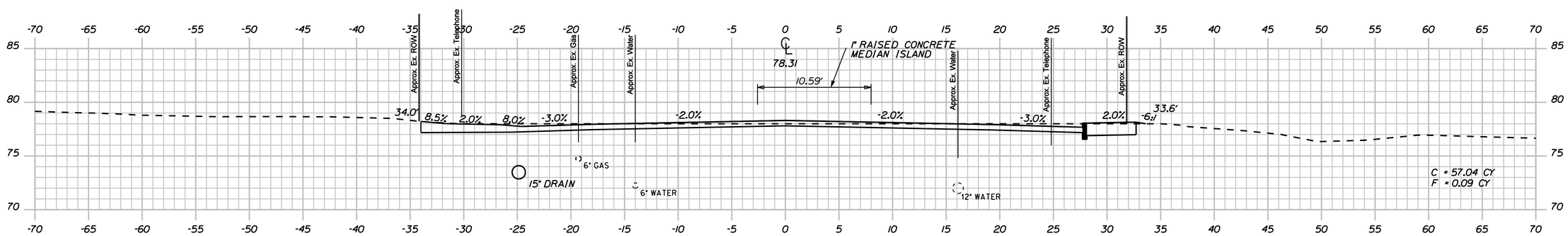
SHEET NUMBER
25
OF 48

Sta. 102+50.00 to Sta. 103+00.00

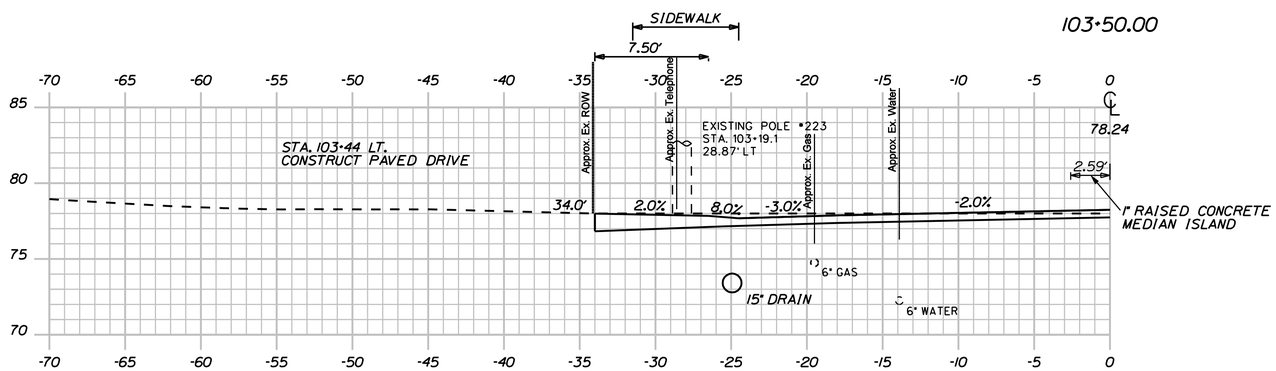
Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011



103+83.00



103+50.00



103+44.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

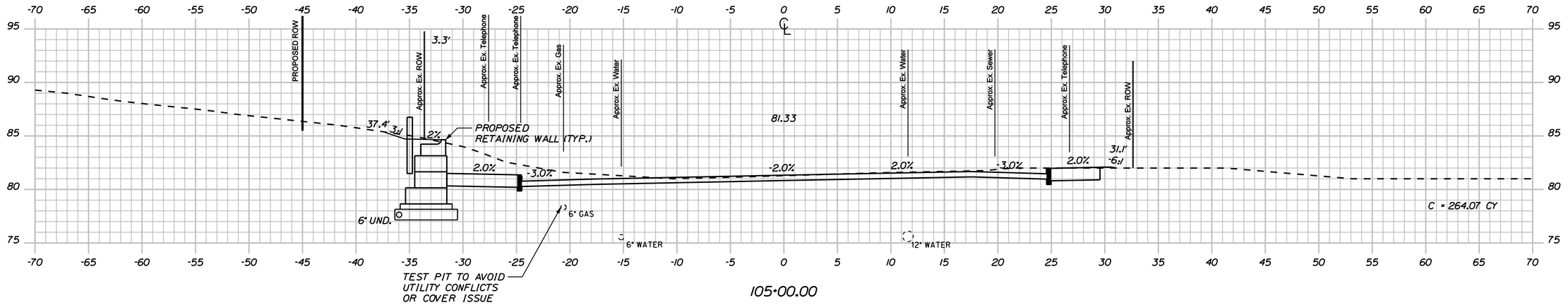
PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

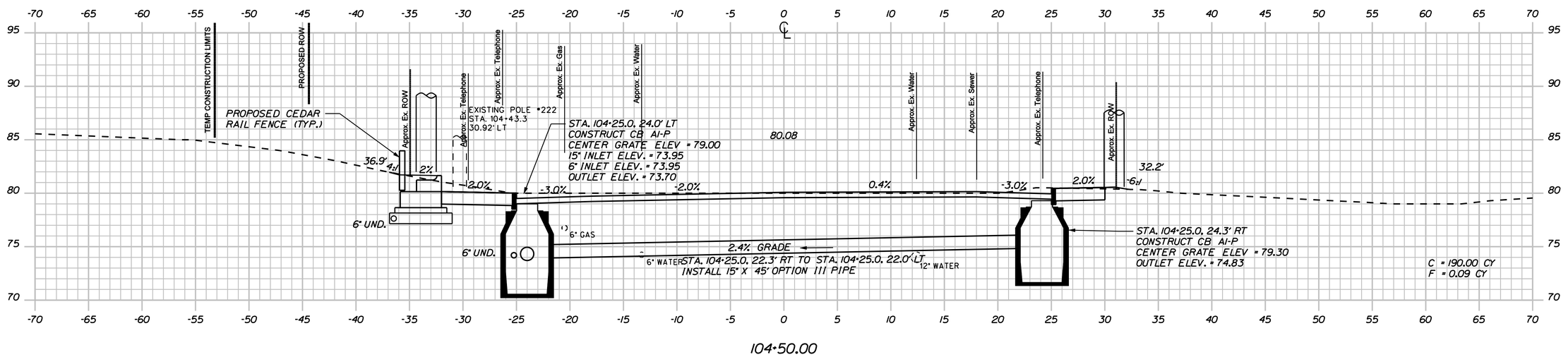
SHEET NUMBER
26
OF 48

Sta. 103+44.00 to Sta. 103+83.00

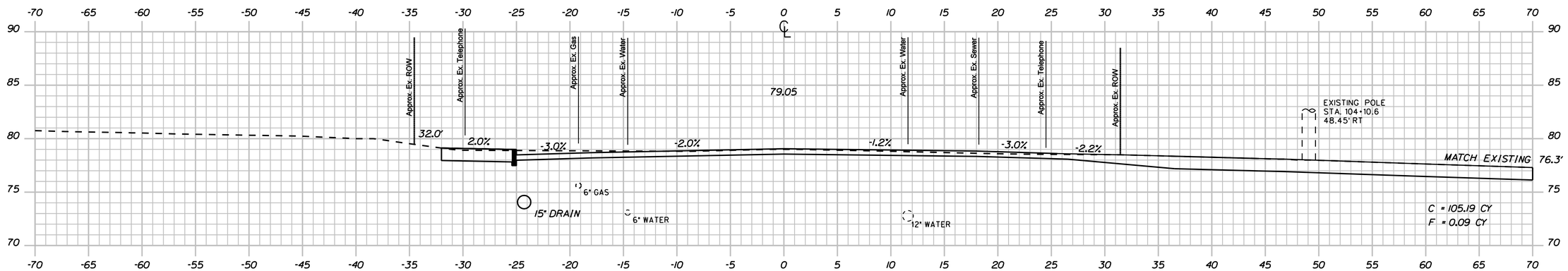
Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011



105+00.00



104+50.00



104+00.00

Sta. 104+00.00 to Sta. 105+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	JPL		
DESIGN-DETAILED	MEH	MEW	11/06/21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

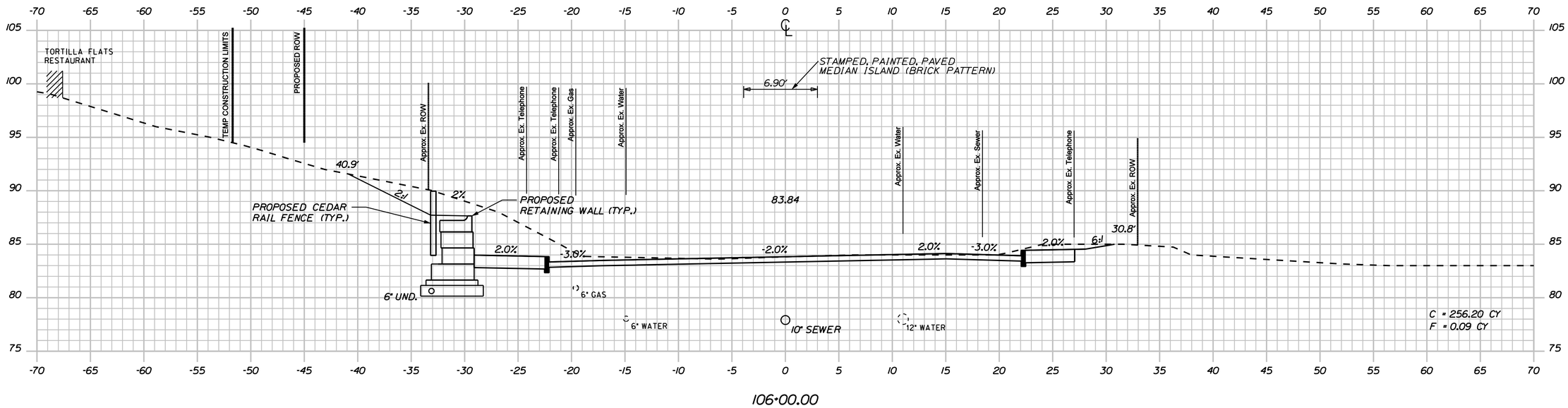
DATE

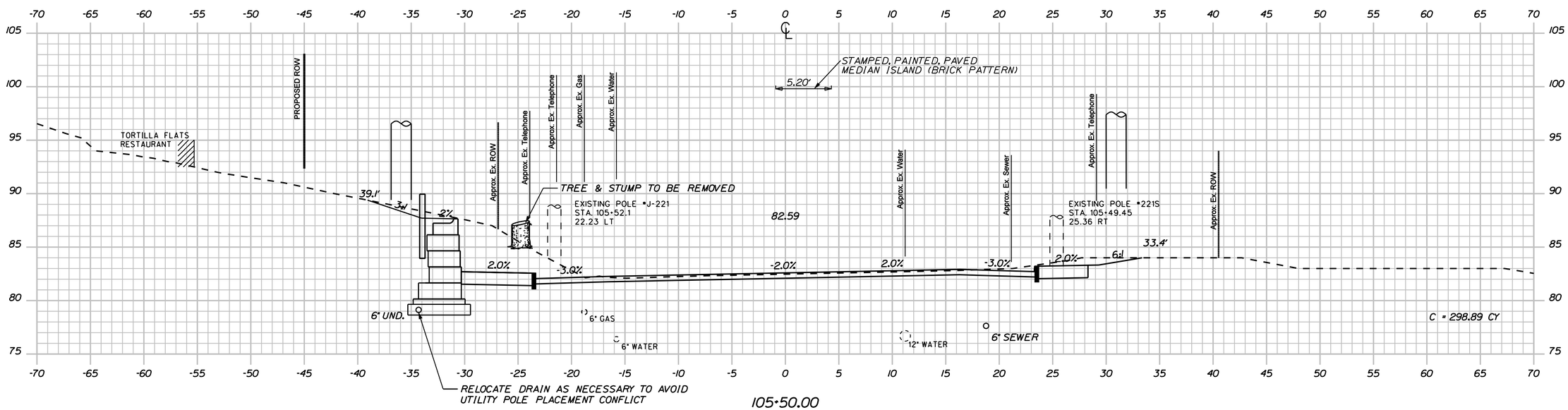
PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

SHEET NUMBER
27
OF 48

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011





Sta. 105+50.00 to Sta. 106+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

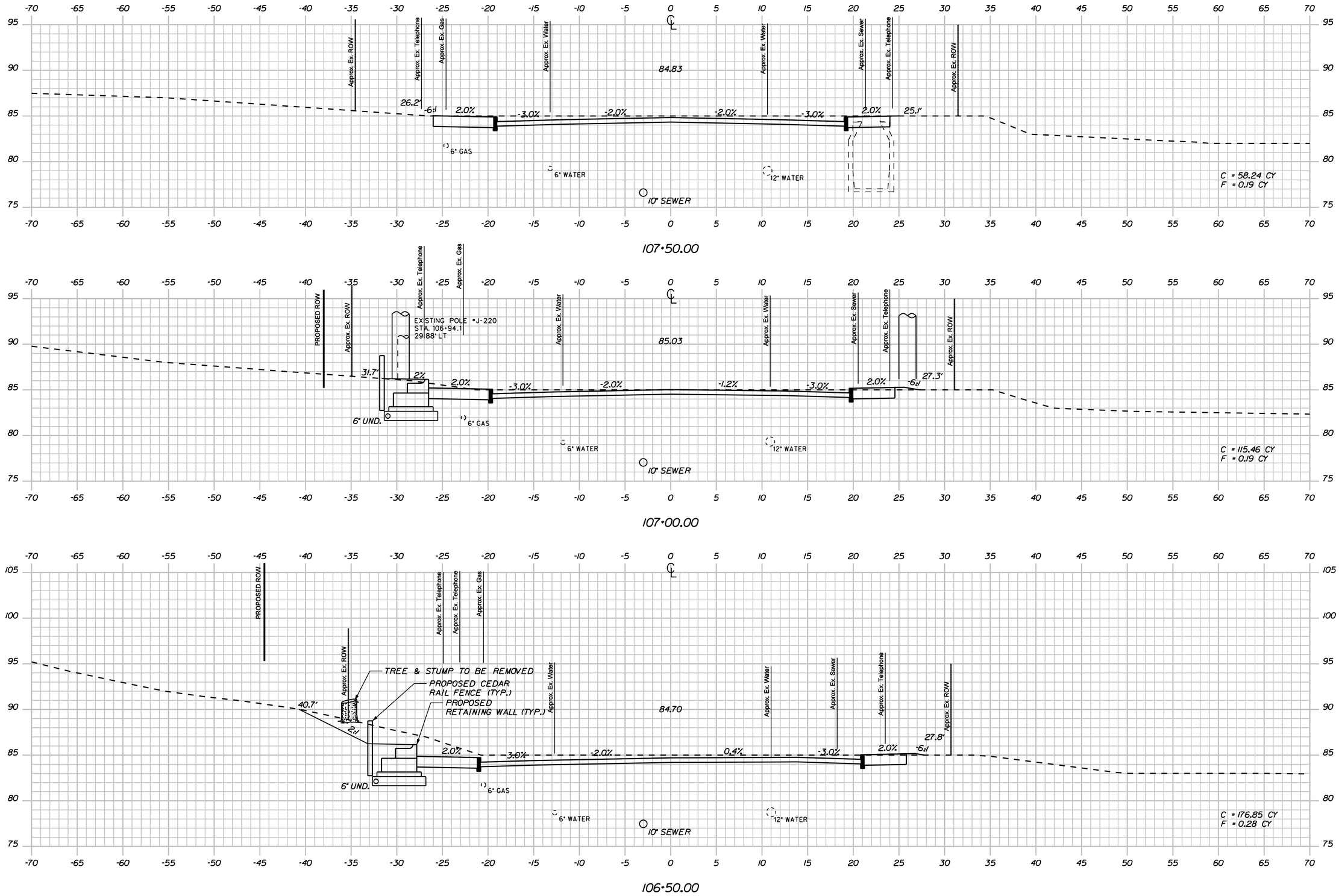
DATE

PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

SHEET NUMBER
28
OF 48

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

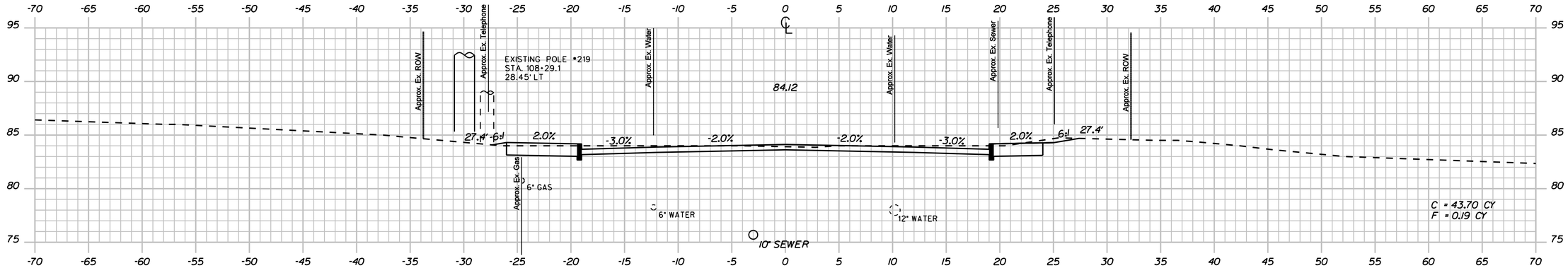
PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

SHEET NUMBER
29
OF 48

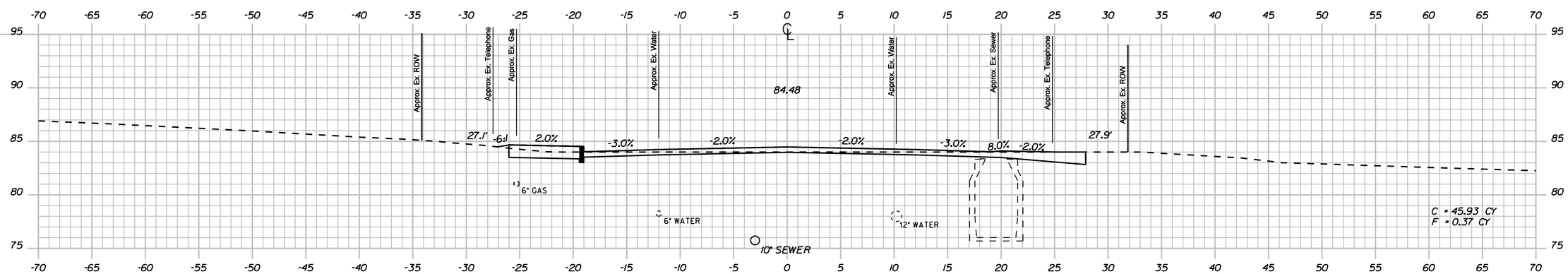
Sta. 106+50.00 to Sta. 107+50.00

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011



108+50.00

108+06.00



108+00.00

Sta. 108+00.00 to Sta. 108+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

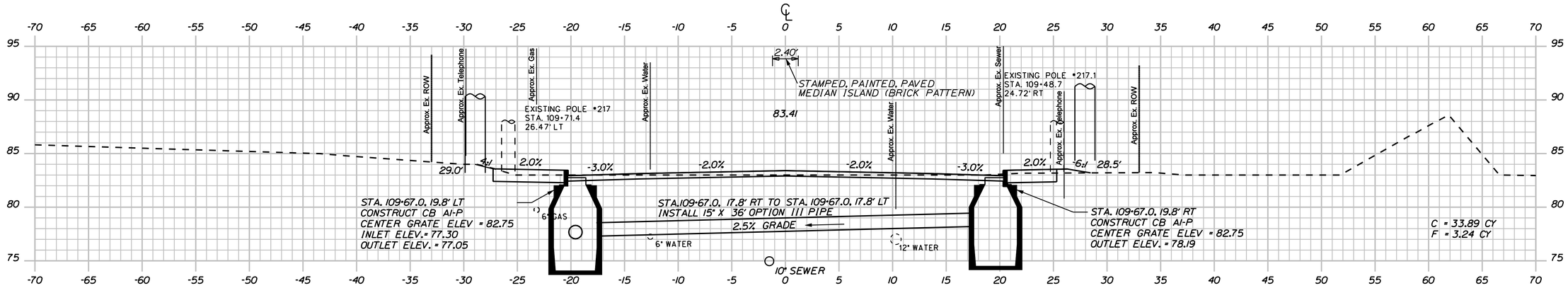
DATE

PORTLAND, MAINE
FOREST AVENUE

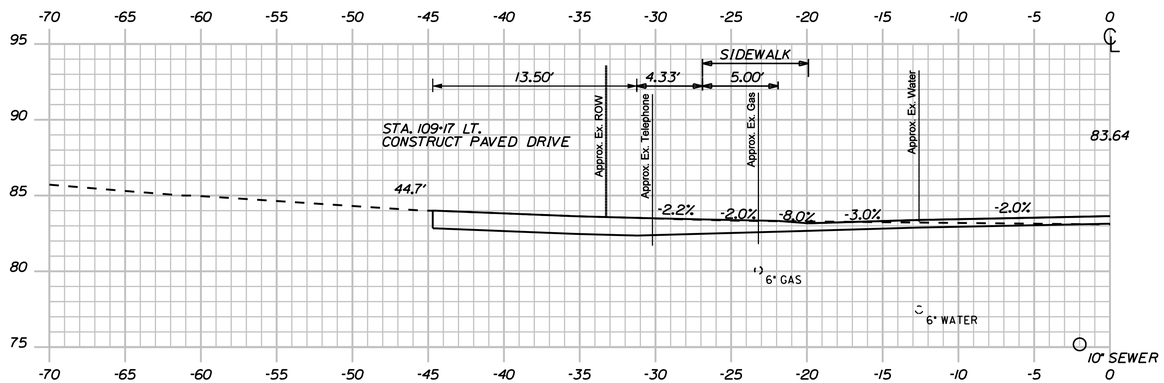
CROSS SECTIONS

SHEET NUMBER
30
OF 48

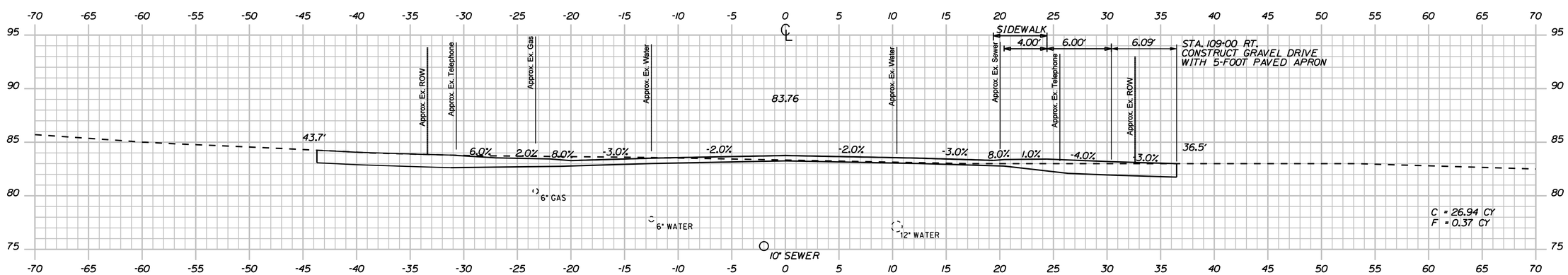
Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011



109+50.00



109+17.00



109+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	JPL		
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

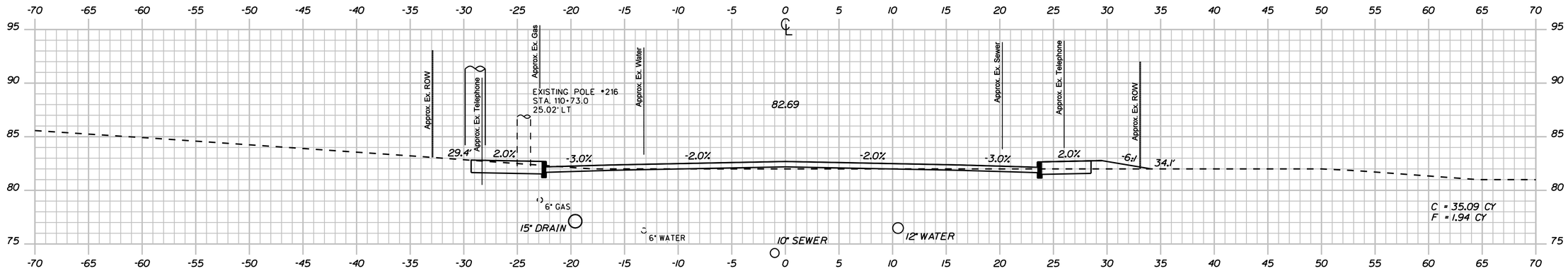
SHEET NUMBER

31

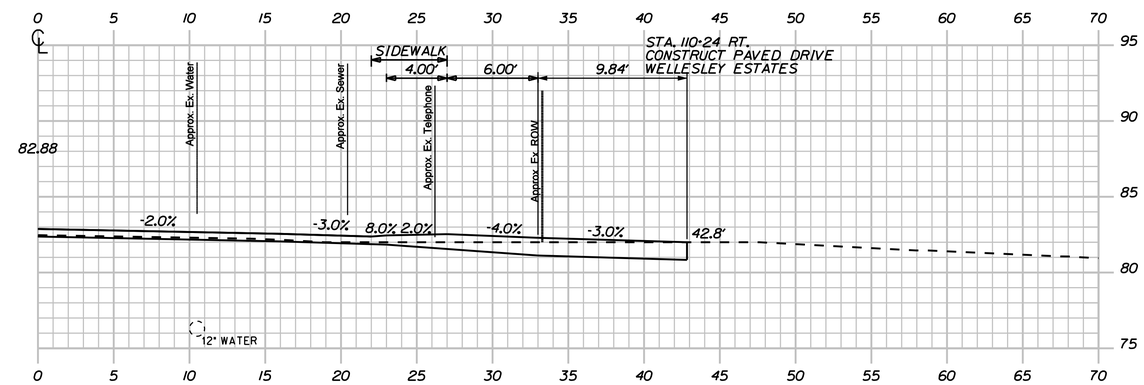
OF 48

Sta. 109+00.00 to Sta. 109+50.00

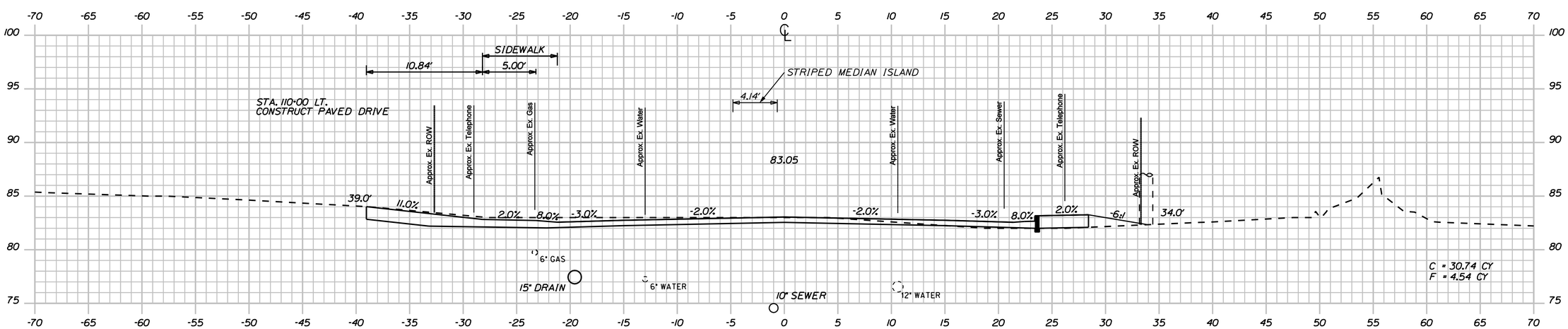
Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011



110+50.00



110+24.00



110+00.00

Sta. 110+00.00 to Sta. 110+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1		--	--
REVISIONS 2		--	--
REVISIONS 3		--	--
REVISIONS 4		--	--
FIELD CHANGES		--	--

SIGNATURE

P.E. NUMBER

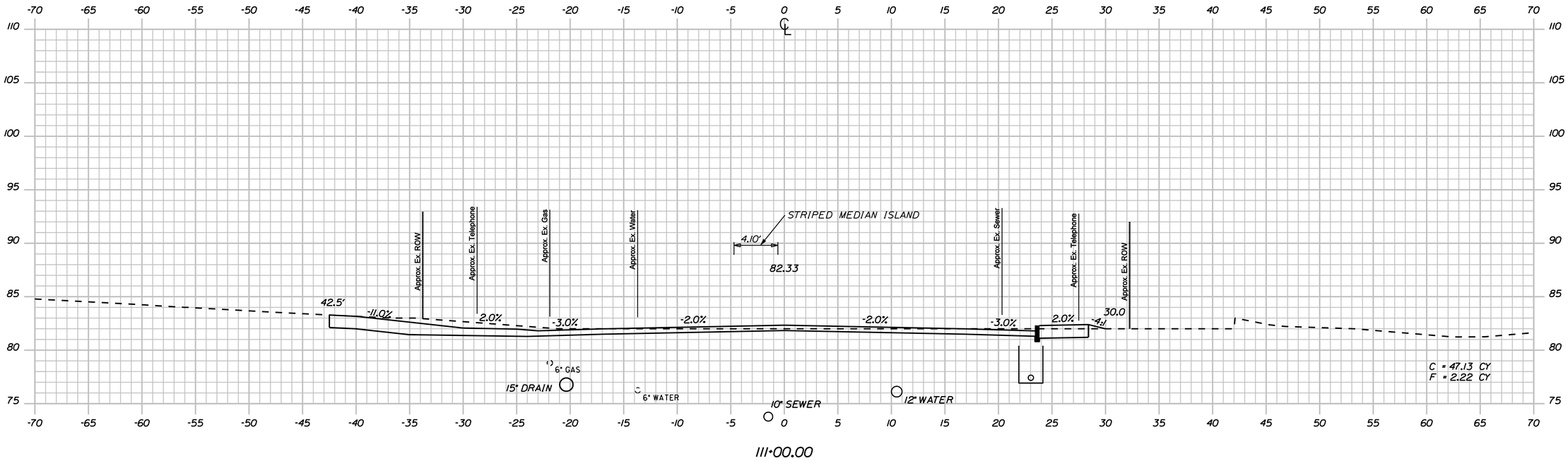
DATE

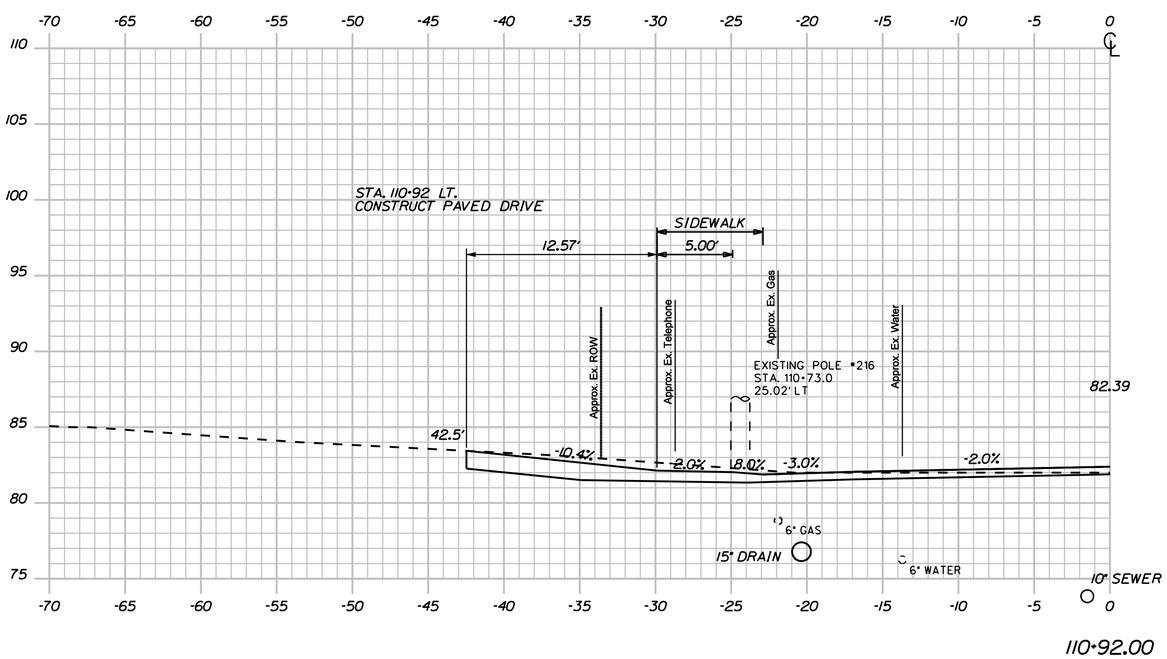
PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

SHEET NUMBER
32
OF 48

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL			
DESIGN-DETAILED	MEH	MEW	11\06\21	
CHECKED-REVIEWED	--	--	--	SIGNATURE
DESIGN2-DETAILED2	TPL	MJC	--	
DESIGN3-DETAILED3	TCH	--	--	P.E. NUMBER
REVISIONS 1	--		--	
REVISIONS 2	--		--	
REVISIONS 3	--		--	DATE
REVISIONS 4	--		--	
FIELD CHANGES	--		--	

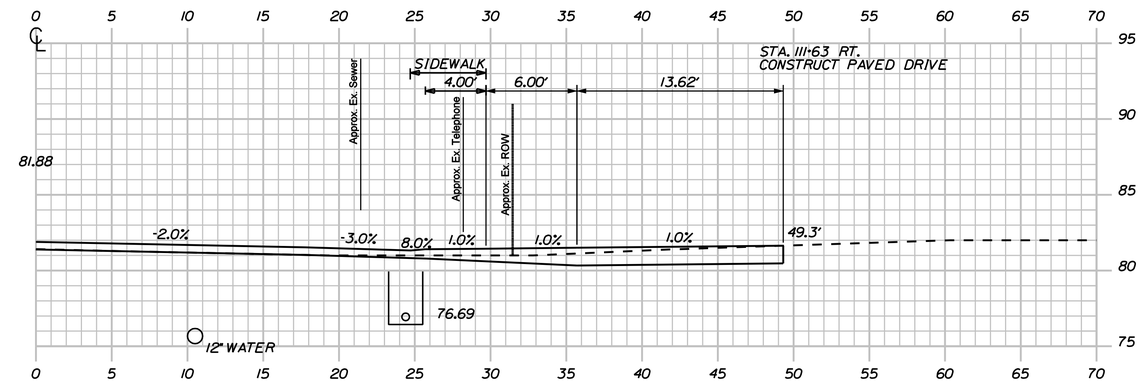
PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

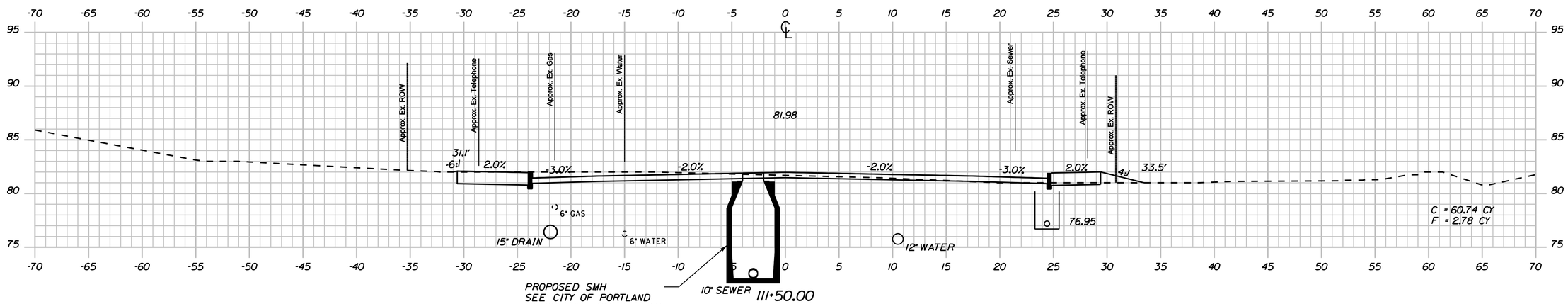
SHEET NUMBER
33
OF 48

Sta. 110+92.00 to Sta. 111+00.00

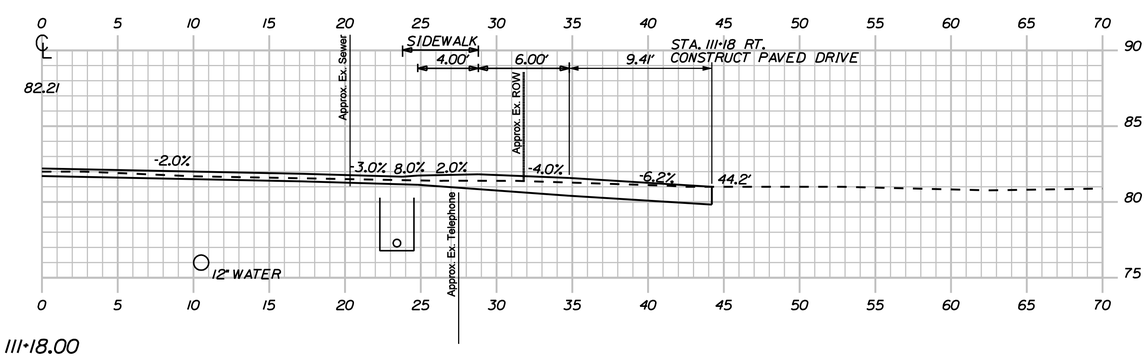
Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011



111+63.00



111+50.00



111+18.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

	JPL	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--	--	--
REVISIONS 2	--	--	--
REVISIONS 3	--	--	--
REVISIONS 4	--	--	--
FIELD CHANGES	--	--	--

SIGNATURE

P.E. NUMBER

DATE

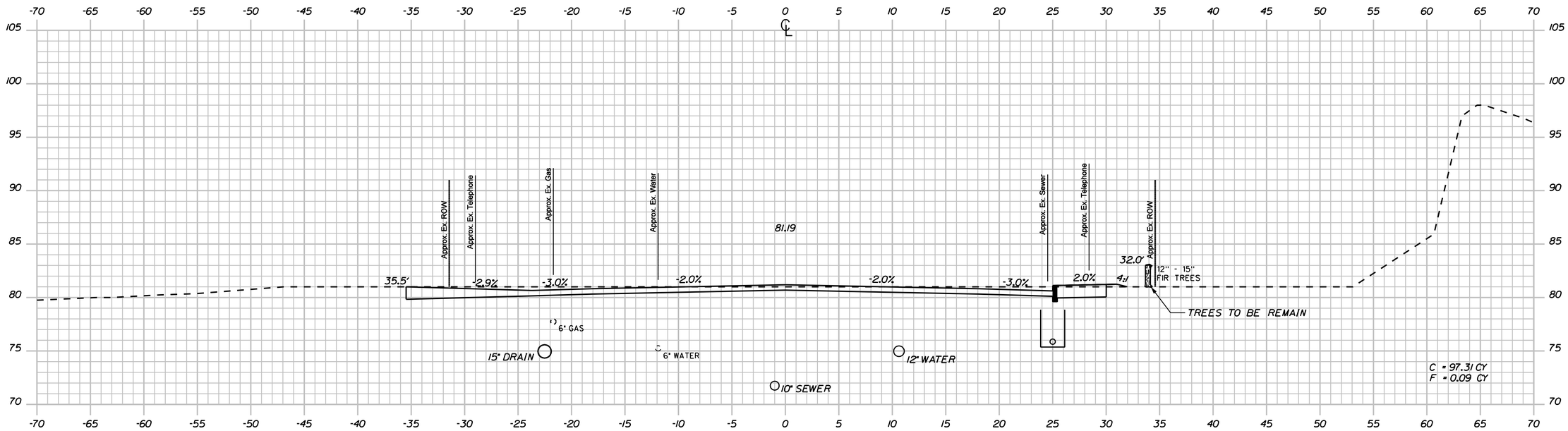
PORTLAND, MAINE
FOREST AVENUE

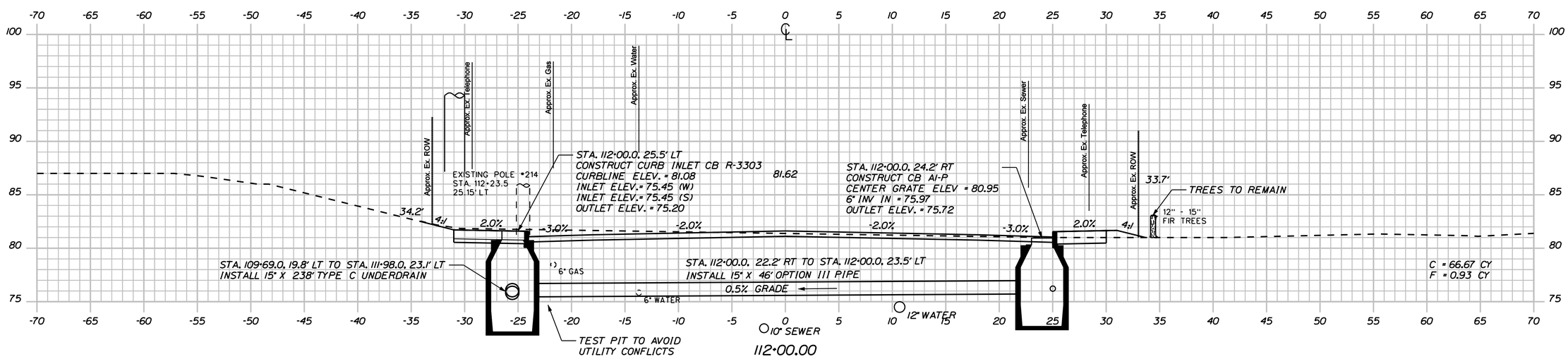
CROSS SECTIONS

SHEET NUMBER
34
OF 48

Sta. 111+18.00 to Sta. 111+63.00

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

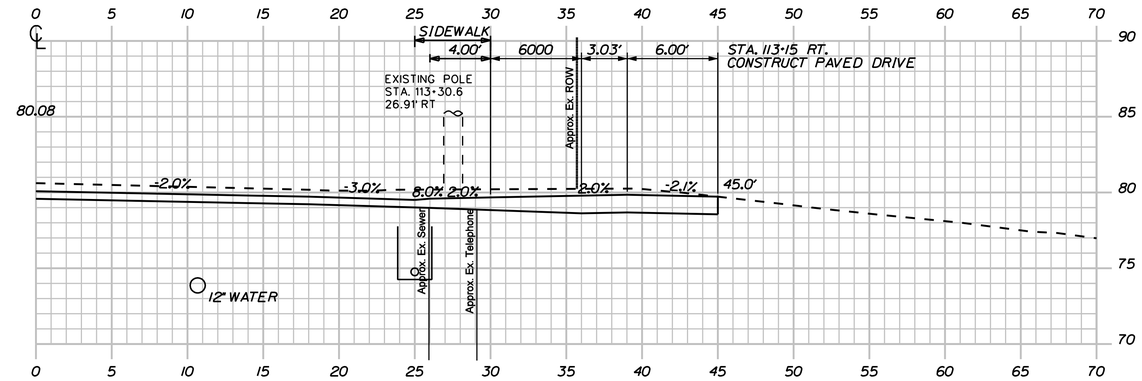
PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

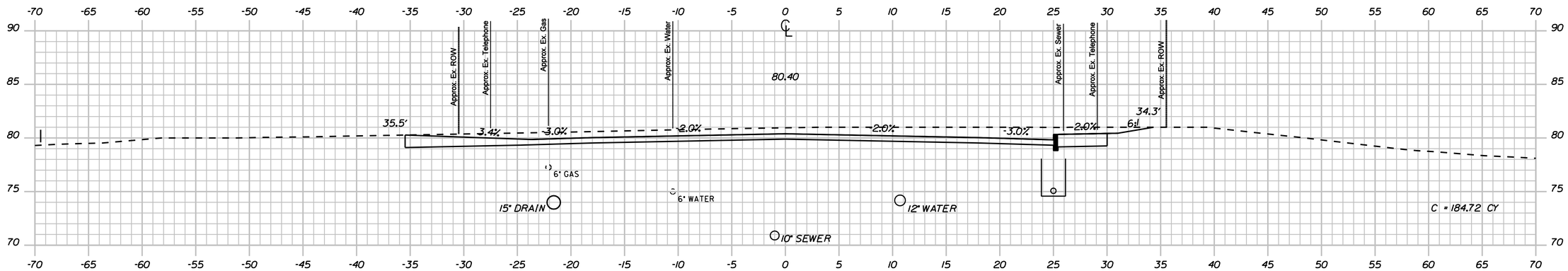
SHEET NUMBER
35
OF 48

Sta. 112+00.00 to Sta. 112+50.00

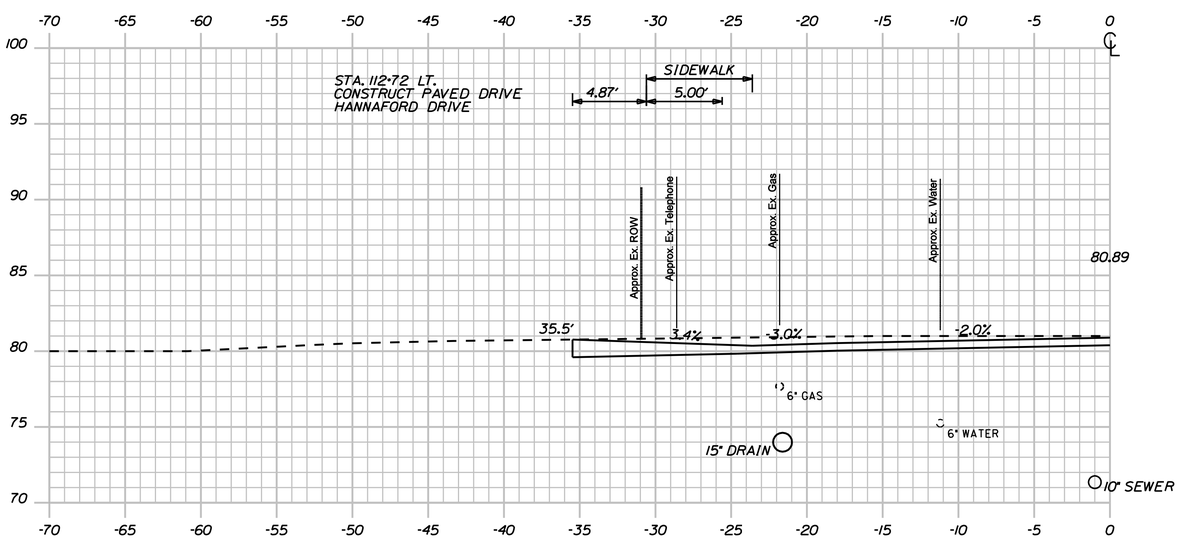
Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011



113+15.00



113+00.00



112+72.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

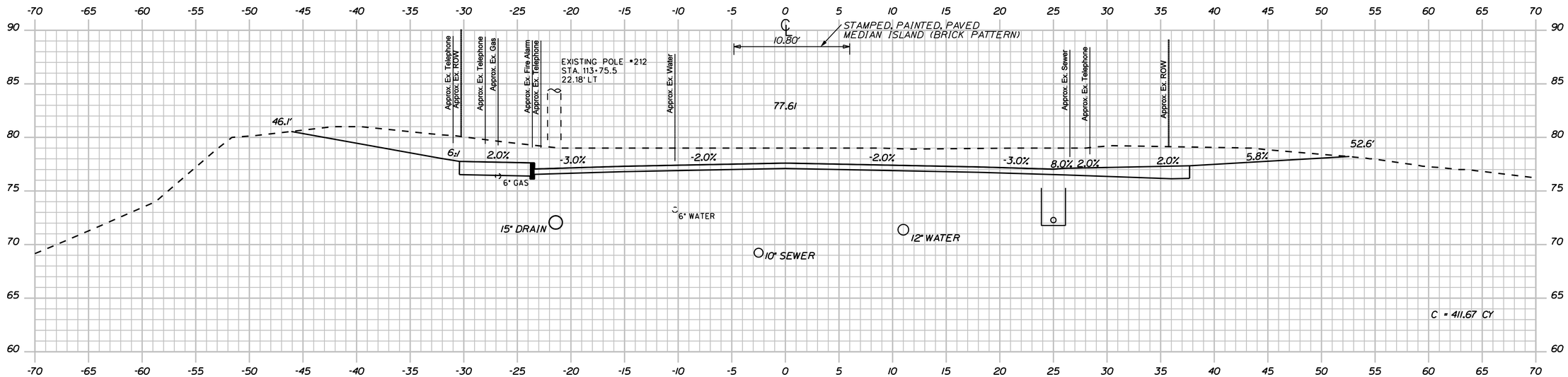
SHEET NUMBER

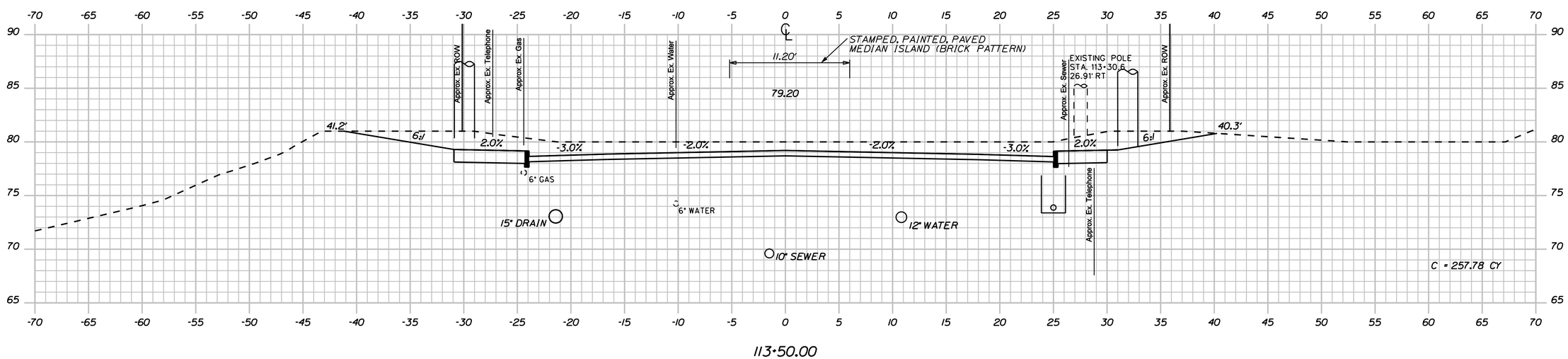
36

OF 48

Sta. 112+72.00 to Sta. 113+15.00

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

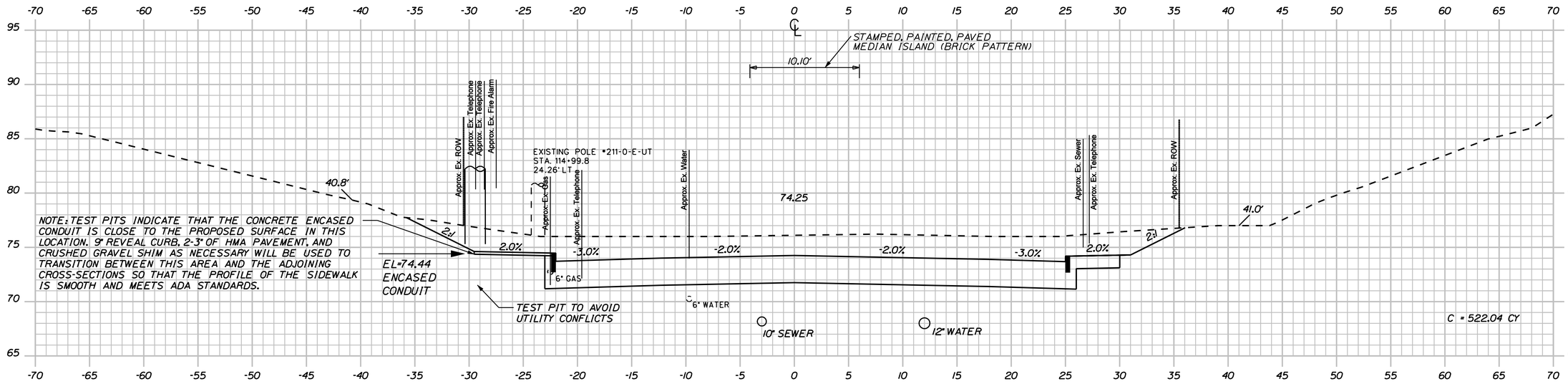
PORTLAND, MAINE
FOREST AVENUE

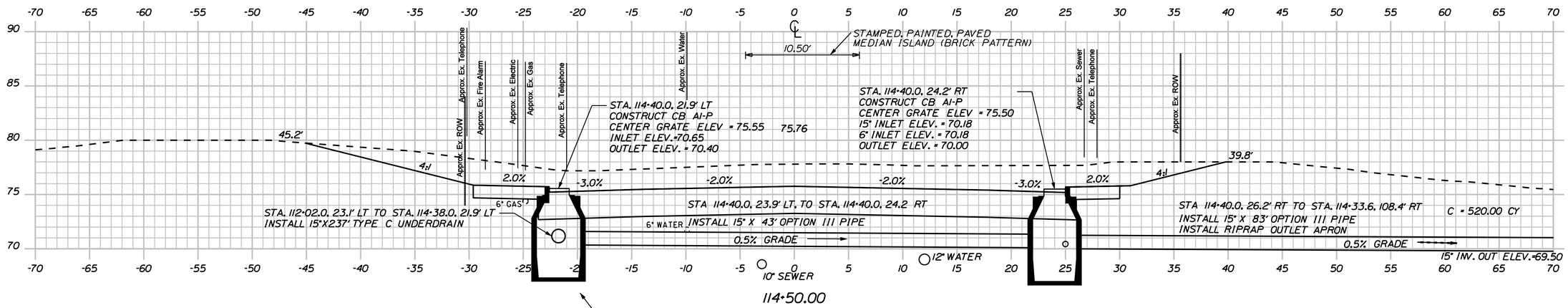
CROSS SECTIONS

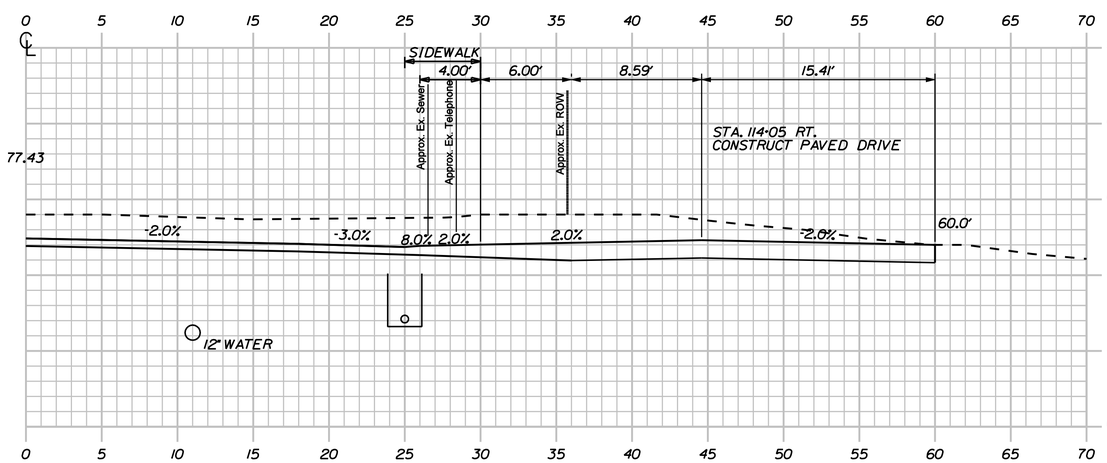
SHEET NUMBER
37
OF 48

Sta. 113+50.00 to Sta. 114+00.00

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED	MEW	11/06/21
CHECKED-REVIEWED	--	--
DESIGN2-DETAILED2	TPL	MJC
DESIGN3-DETAILED3	TCH	--
REVISIONS 1	--	--
REVISIONS 2	--	--
REVISIONS 3	--	--
REVISIONS 4	--	--
FIELD CHANGES	--	--

SIGNATURE

P.E. NUMBER

DATE

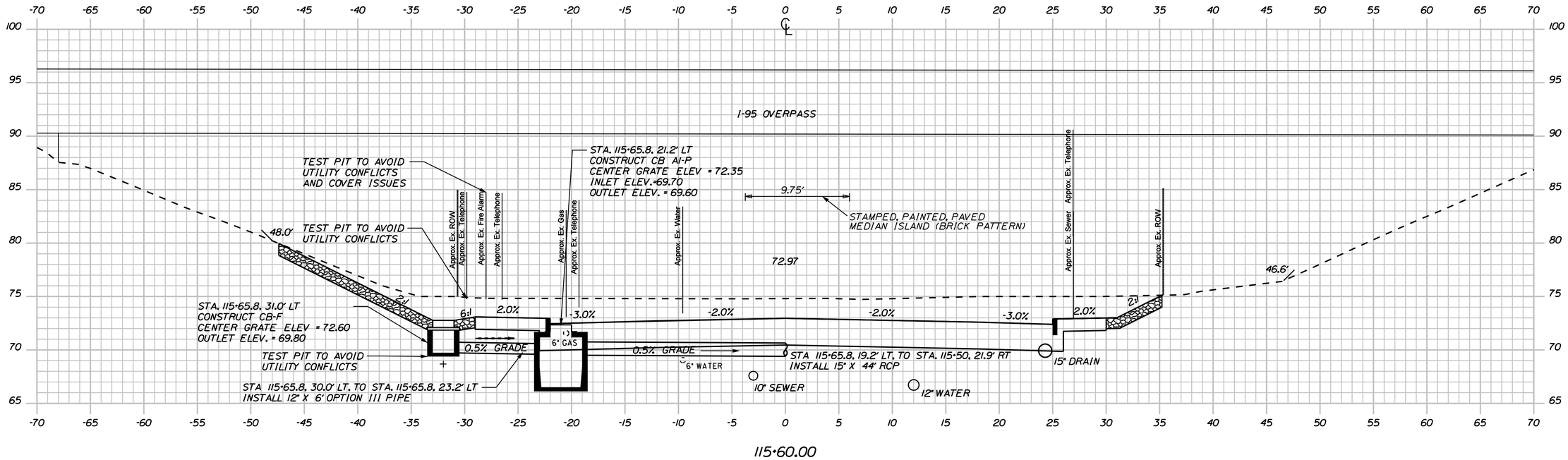
PORTLAND, MAINE
FOREST AVENUE

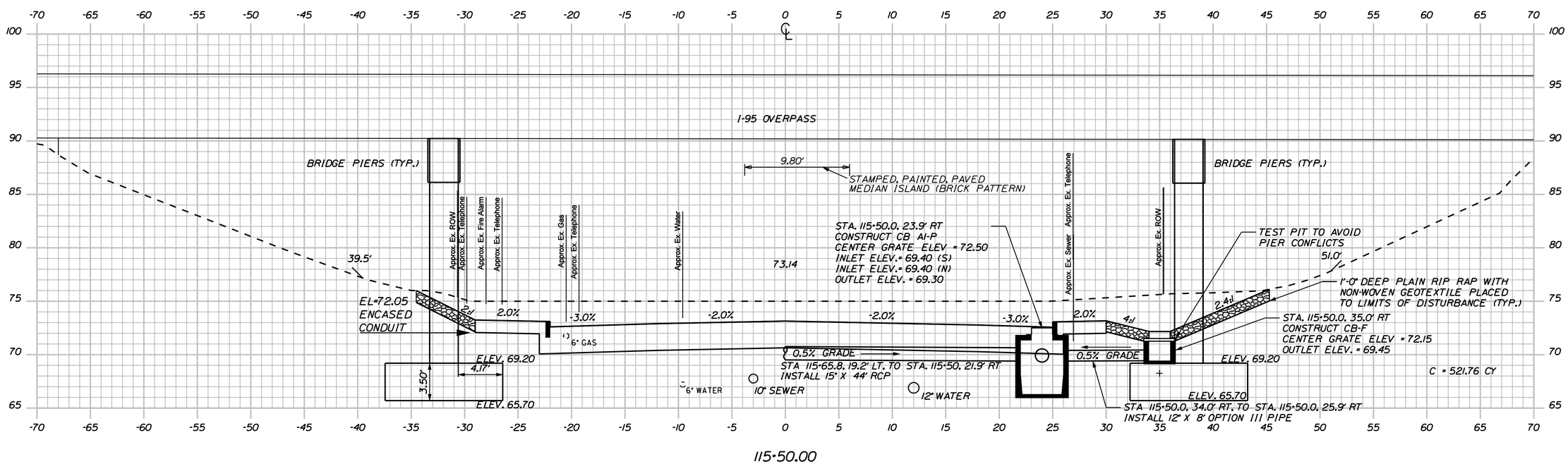
CROSS SECTIONS

SHEET NUMBER
38
OF 48

Sta. 114+05.00 to Sta. 115+00.00

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE	
DESIGN-DETAILED	MEH	MEW	11\06\21	
CHECKED-REVIEWED	--	--	--	SIGNATURE
DESIGN2-DETAILED2	TPL	MJC	--	
DESIGN3-DETAILED3	TCH	--	--	P.E. NUMBER
REVISIONS 1	--	--	--	
REVISIONS 2	--	--	--	
REVISIONS 3	--	--	--	DATE
REVISIONS 4	--	--	--	
FIELD CHANGES	--	--	--	

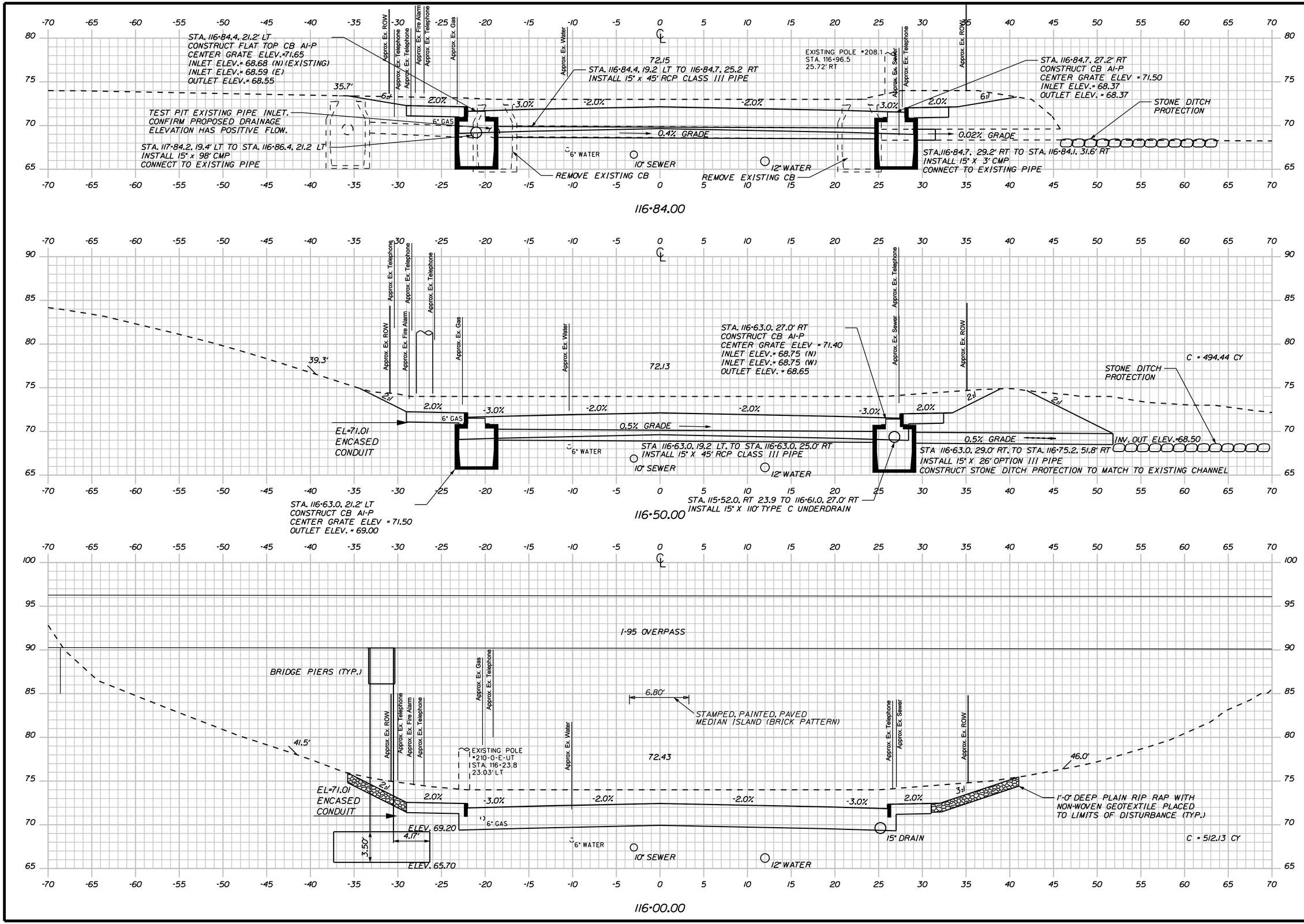
PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

SHEET NUMBER
39
OF 48

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011

Sta. 115+50.00 to Sta. 115+60.00



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--	--	--
REVISIONS 2	--	--	--
REVISIONS 3	--	--	--
REVISIONS 4	--	--	--
FIELD CHANGES	--	--	--

SIGNATURE

P.E. NUMBER

DATE

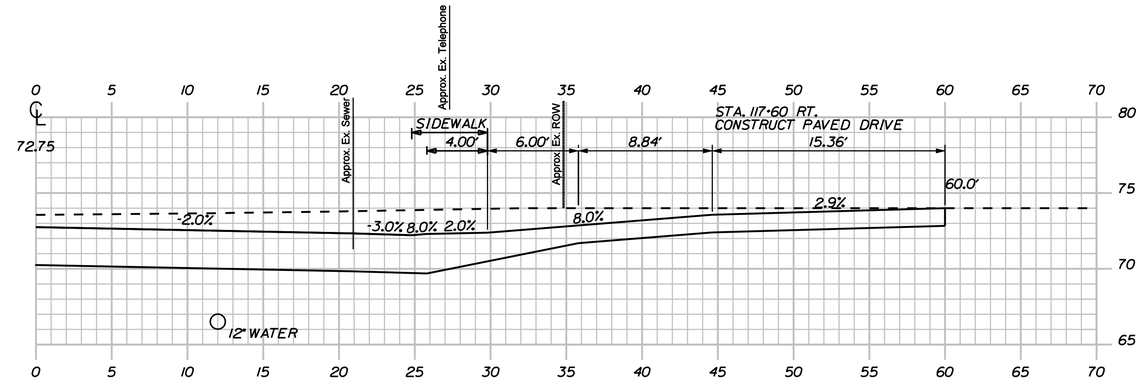
PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

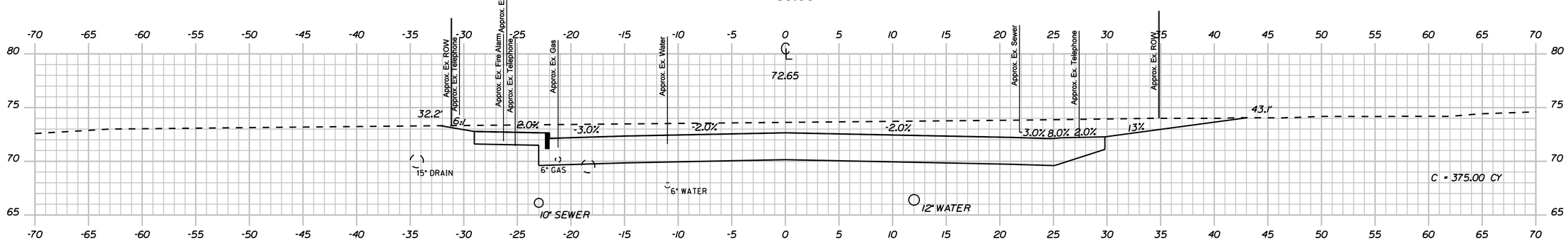
SHEET NUMBER
40
OF 48

Sta. 116+00.00 to Sta. 116+84.00

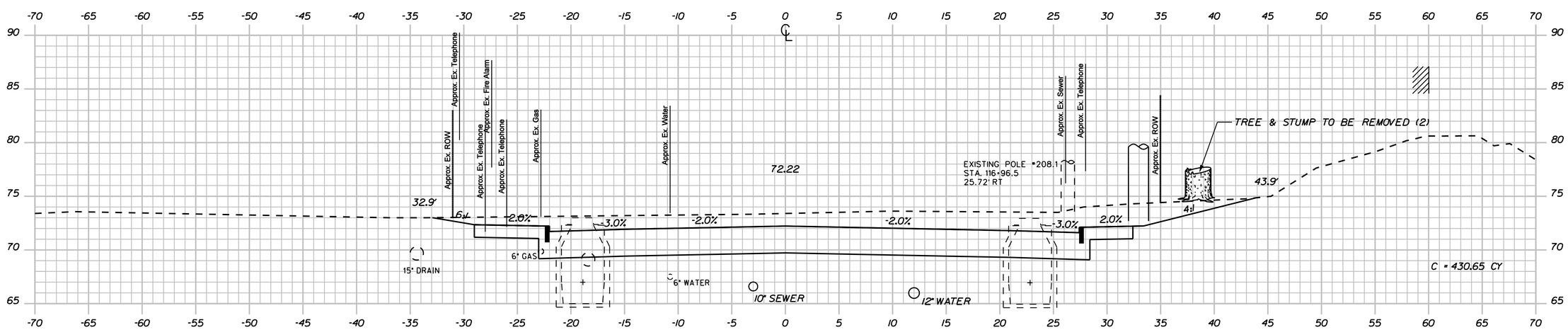
Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011



117+60.00



117+50.00



117+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

	JPL	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

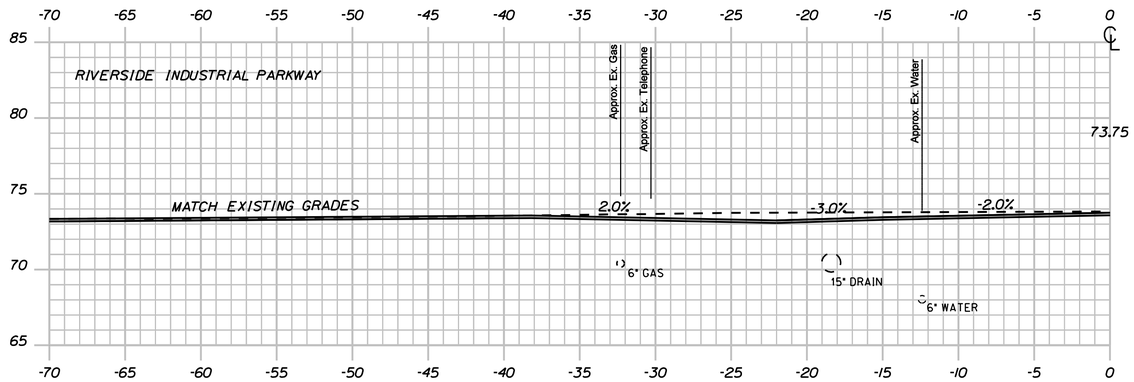
SHEET NUMBER

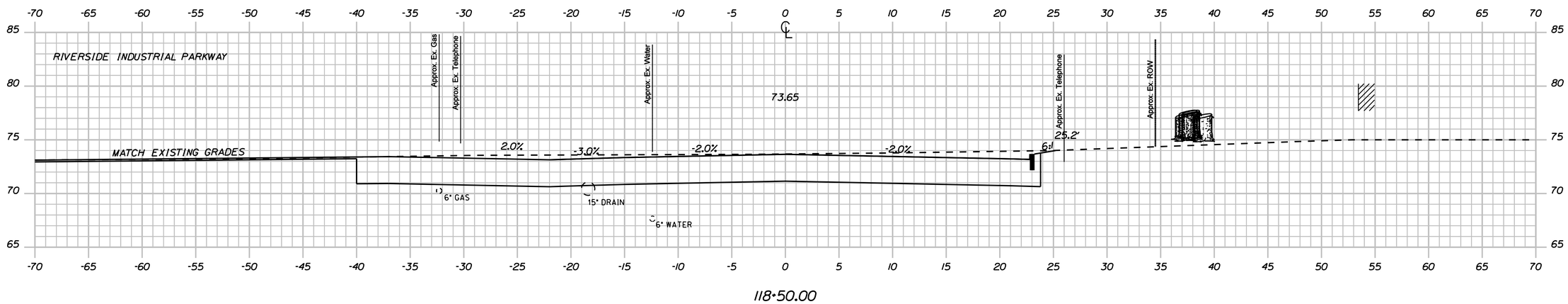
41

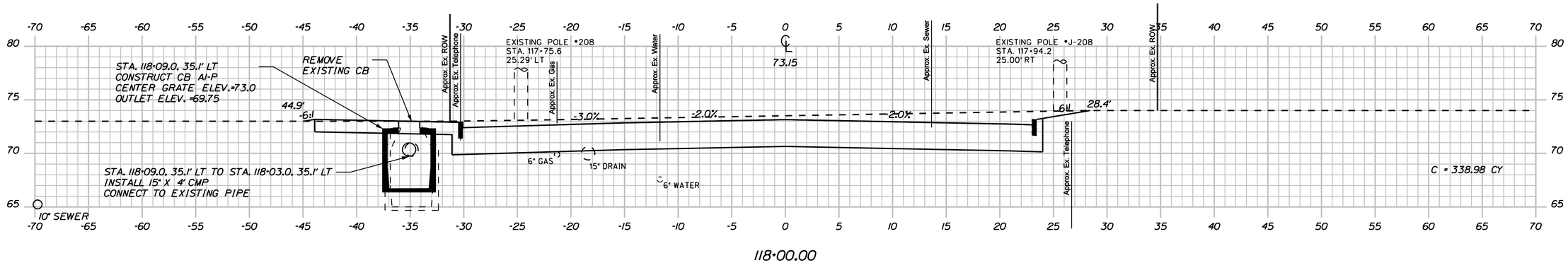
OF 48

Sta. 117+00.00 to Sta. 117+60.00

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL
DESIGN-DETAILED	MEH
CHECKED-REVIEWED	--
DESIGN2-DETAILED2	TPL
DESIGN3-DETAILED3	TCH
REVISIONS 1	--
REVISIONS 2	--
REVISIONS 3	--
REVISIONS 4	--
FIELD CHANGES	--

	BY	DATE
	MEW	11\06\21
	--	--
	MJC	--
	--	--
		--
		--
		--
		--
		--

SIGNATURE

P.E. NUMBER

DATE

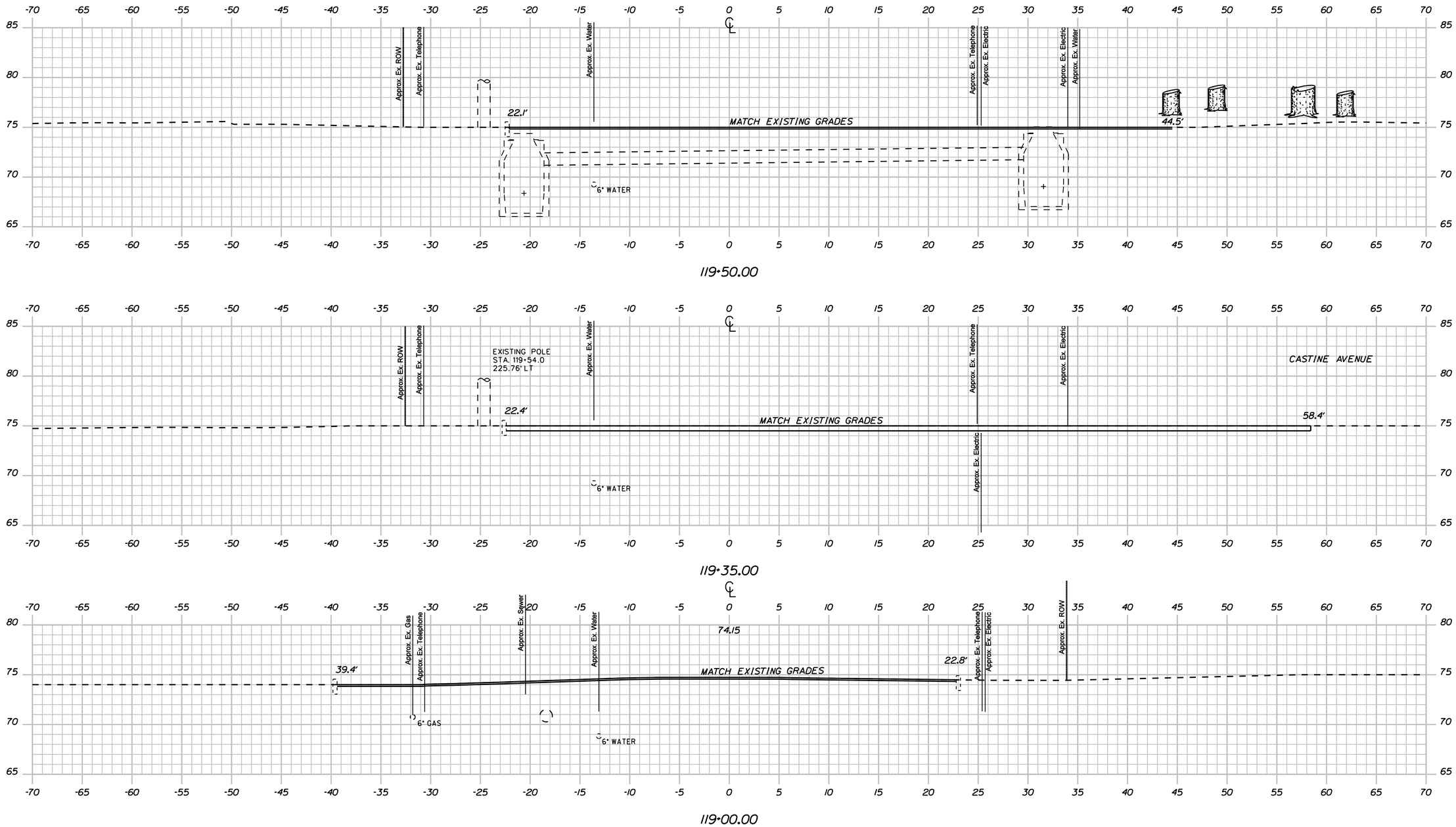
PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

SHEET NUMBER
42
OF 48

Sta. 118+00.00 to Sta. 118+60.00

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL		
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

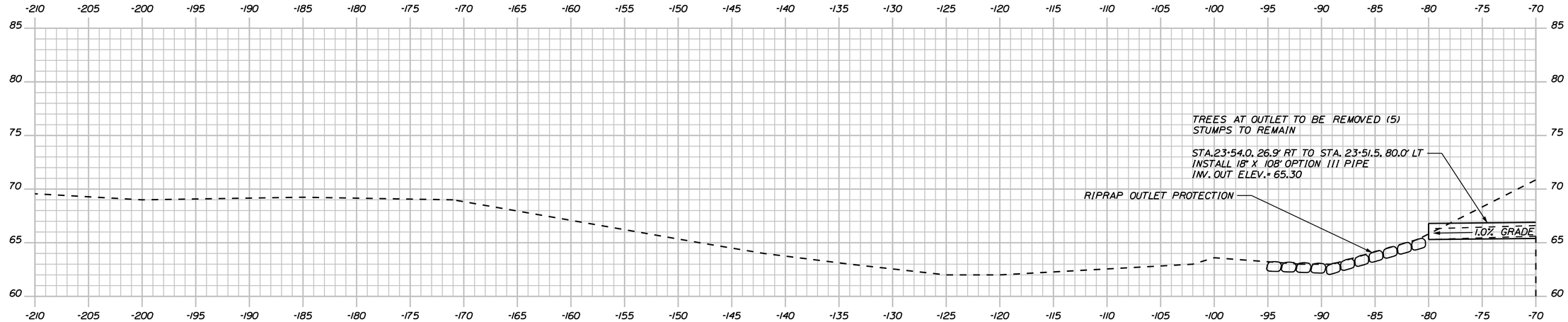
PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

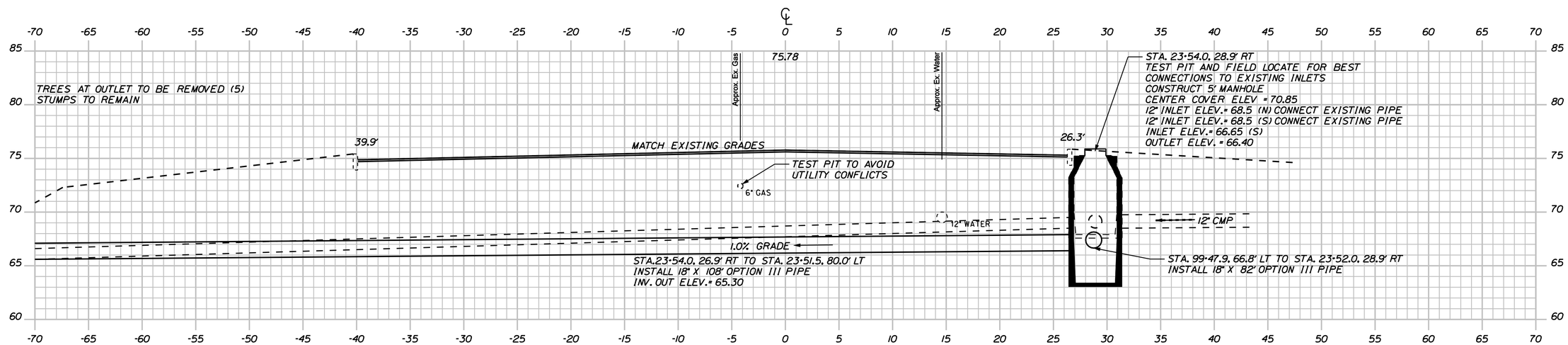
SHEET NUMBER
43
OF 48

Sta. 119+00.00 to Sta. 119+50.00

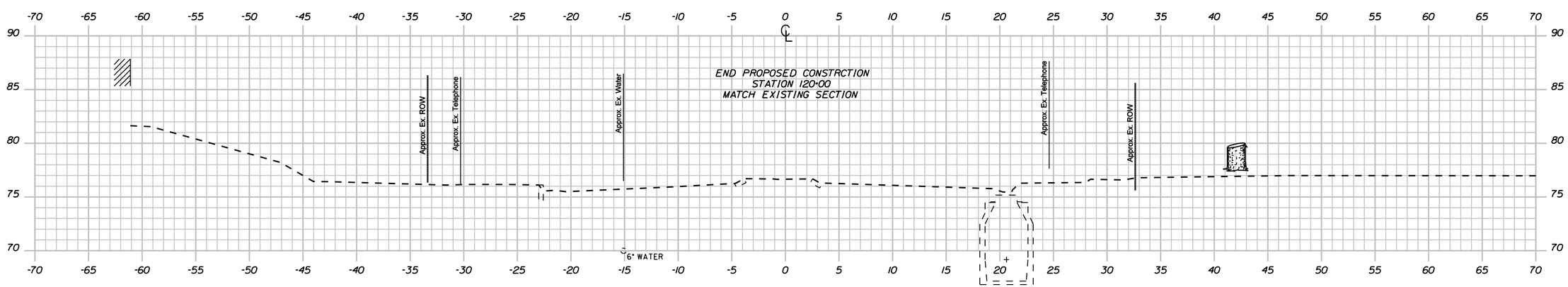
Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011



23+50 (+1)



23+50 (RIVERSIDE STREET)



120+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	JPL	
DESIGN-DETAILED	MEW	11\06\21
CHECKED-REVIEWED	--	--
DESIGN2-DETAILED2	TPL	MJC
DESIGN3-DETAILED3	TCH	--
REVISIONS 1	--	--
REVISIONS 2	--	--
REVISIONS 3	--	--
REVISIONS 4	--	--
FIELD CHANGES	--	--

SIGNATURE
P.E. NUMBER
DATE

PORTLAND, MAINE
FOREST AVENUE

CROSS SECTIONS

SHEET NUMBER
44
OF 48

Sta. 120+00.00 to Sta. 120+00.00

Filename: ...\00\HIGHWAY\MSTA\020_Xsect.dgn Division: HIGHWAY Username: mhill Date:6/24/2011

MUTCD IDENT #	SIGN SIZE WIDTH (in)	SIGN SIZE HEIGHT (in)	TEXT	# SIGNS REQ'D	SIGN AREA (ft^2) NOM AREA	SIGN AREA (ft^2) TOTAL AREA	COLORS BACKGROUND / TEXT
R2-1(30)	24	30	SPEED LIMIT 30	2	5.00	10.00	WHITE / BLACK
R3-8c	45	30	ONLY ONLY	1	9.38	9.38	WHITE / BLACK
R3-8(L)	30	30	ONLY	3	6.25	18.75	WHITE / BLACK
R8-3	12	18	NO PARKING ANY TIME	7	1.50	10.50	WHITE / RED

MUTCD IDENT #	SIGN SIZE WIDTH (in)	SIGN SIZE HEIGHT (in)	TEXT	# SIGNS REQ'D	SIGN AREA (ft^2) NOM AREA	SIGN AREA (ft^2) TOTAL AREA	COLORS BACKGROUND/TEXT
W3-3	30	30		1	6.25	6.25	YELLOW / BLACK
W4-2R	30	30		1	6.25	6.25	YELLOW / BLACK
W9-1	30	30	RIGHT LANE ENDS	1	6.25	6.25	YELLOW / BLACK
W11-2	30	30		4	6.25	25.00	YELLOW / BLACK
W12-2 (15'-6")	30	30	15'-6"	2	6.25	12.50	YELLOW / BLACK
W16-1	24	30	SHARE THE ROAD	2	5	10.00	YELLOW / BLACK
W16-7P	24	12		4	2.00	8.00	YELLOW / BLACK

MUTCD IDENT #	SIGN SIZE WIDTH (in)	SIGN SIZE HEIGHT (in)	TEXT	# SIGNS REQ'D	SIGN AREA (ft^2) NOM AREA	SIGN AREA (ft^2) TOTAL AREA	COLORS BACKGROUND/TEXT
M1-5	30	24	302	2	5.00	10.00	WHITE / BLACK
M3-2	24	12	EAST	1	2.00	2.00	WHITE / BLACK
M3-4	24	12	WEST	1	2.00	2.00	WHITE / BLACK

NOTES:

1. SIGN POSTS SHALL BE CONSTRUCTED ACCORDING TO THE FOLLOWING SCHEDULE BASED ON THE TOTAL AREA OF THE SIGN(S) MOUNTED UPON THEM:

POST TYPE	SIGN AREA (SF)
"U-CHANNEL" GALVANIZED METAL POST	< 4 SF
4" X 4" WOODEN POST	4 SF < X < 8.99 SF
4" X 6" WOODEN POST	9 SF < X < 15.99 SF
6" X 6" WOODEN POST	> 16 SF

2. SIGNS OR SIGN ASSEMBLIES WIDER THAN 60" WILL REQUIRE TWO WOODEN POSTS.

3. TWO-SIDED W1-8 CHEVRONS SHALL BE MOUNTED ON 4" X 4" WOODEN POSTS.

4. SIGN MATERAIALS SHALL MEET THE REQUIREMENTS OF MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATION SECTION 719.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NH-1310(700)E

PIN
PIN 13107.00

HIGHWAY PLANS

PROJ. MANAGER	JPL	BY	DATE
DESIGN-DETAILED	MEH	MEW	11\06\21
CHECKED-REVIEWED	--	--	--
DESIGN2-DETAILED2	TPL	MJC	--
DESIGN3-DETAILED3	TCH	--	--
REVISIONS 1	--		--
REVISIONS 2	--		--
REVISIONS 3	--		--
REVISIONS 4	--		--
FIELD CHANGES	--		--

SIGNATURE

P.E. NUMBER

DATE

PORTLAND, MAINE
FOREST AVENUE

SIGNING SUMMARY

SHEET NUMBER

45

OF 48

Filename: ...\msta\045_Sign Summary.dgn Division: HIGHWAY Username: mhill Date:6/23/2011

GRADING AND DRAINAGE PLAN
FOREST AVE.\RIVERSIDE ST. INTERSECTION IMPROVEMENTS
FOR CITY OF PORTLAND, PARKS AND PUBLIC WORKS DEPT.
BY T.Y. LIN INTERNATIONAL
PROJECT NO. 89106-30-67-11
PLAN DATE - SEPTEMBER 1988
CITY OF PORTLAND, ARCHIVE FILE NO. 945/1

NOTE: MIGHT BE A PLAN ON FILE AT THE CITY OFFICE

EXISTING DRAINAGE EASEMENT
C.C.R.D. BK/PG - 7137/176

ROSS-MONROE, LLC
7-ELEVEN, INC.
(OPTION TO PURCHASE)
PARCEL NO. (1)
LAND TAKEN = 408± S.F. (1)
DRAINAGE EASE. =(1)
TEMP. CONST. RIGHTS =
1130± S.F. (1)
TOTAL AREA = 0.50± AC.
(PER DEED)
REM. AREA = 0.49± AC.

CITY OF PORTLAND
C.C.R.D. BK/PG =
9548/336

INLET DRAINAGE STRUCTURE
STA. 99+90 LT.

508 RIVERSIDE STREET, LLC
PARCEL NO. (3)
LAND TAKEN = 100± S.F. (1)
TEMP. CONST. RIGHTS =
300± S.F. (1)
TOTAL AREA = 5290± S.F.
(CALC.)
REM. AREA = 5190± S.F.

1901 FOREST AVENUE, LLC
ITEM NO. (4)
TEMP. CONST. RIGHTS =
840± S.F. (1)
TOTAL AREA = 27,443± SF.
(CALC.)

POWELL REALTY
PARCEL NO. (6)
LAND TAKEN = 0.08± AC. (1)
TEMP. CONST. RIGHTS =0.06± AC. (4)
TOTAL AREA = 3.40± AC. (PER SURVEY)
REM. AREA = 3.32± AC.

CITY OF PORTLAND
C.C.R.D. BK/PG =
9548/322

CURVE DATA #1
PI = 94+59.18
D = 1°25'56.8"
Δ = 15°35'25.3" Lt.
R = 3999.99'
L = 1088.41'
T = 547.59'
E = 37.31'

PI = STA. 22+00.00

WILLIAM A. JIPSON, JR.
PARCEL NO. (2)
LAND TAKEN = 195± S.F. (1)
TEMP. CONST. RIGHTS = 490± S.F. (1)
TOTAL AREA = 5629± S.F. (CALC.)
REM. AREA = 5434± S.F.

TERRACE POND LLC
PARCEL NO. (5)
LAND TAKEN = 1631± S.F. (1)
TEMP. CONST. RIGHTS = 0.07± (1)
TOTAL AREA = 12.73± AC. (CALC)
REM. AREA = 12.69± AC.

PORTLAND HOUSING AUTHORITY
ITEM NO. (7)
GRADING RIGHTS = 2530± S.F.

CURVE DATA #2
PI = 105+54.66
D = 13°30'45.7"
Δ = 24°58'10.5" Lt.
R = 425.00'
L = 185.22'
T = 94.10'
E = 10.29'

JOHN CHAU
PHUONG NEANG
ITEM NO. (8)
TEMP. CONST. RIGHTS =
885± S.F. (1)
TOTAL AREA = 1.60± AC.

POE = STA. 31+50.00

EXISTING ROW REFERENCES

RIVERSIDE STREET
D.O.T. FILE NO. 3-437

FOREST AVENUE
CUMBERLAND COUNTY
VOL. 15, PAGE 203
1881 66' WIDE

POB = STA. 20+00.00

PIN 013107.00

SYMBOLS

- IP or IPF (IRON PIPE or PIN FOUND)
- ST. (SEPTIC TANK)
- (ROW MONUMENT)
- &BM (TRAVERSE POINT)
- WELL
- GRADING LIMIT LINE
- CONSTRUCTION LIMIT LINE
- PROPERTY LINE
- LIMITS OF "ARROUND" PORTION (L.O.W.P.)
- EXISTING RIGHT OF WAY
- NEW RIGHT OF WAY
- NEW ROW WITHIN EXIST. ROW
- CONTROL OF ACCESS
- WATER LINE
- GAS LINE
- ELECTRIC LINE
- TELEPHONE LINE
- SEWER LINE

ITEM	TECH	CHECKED
BASE MAP		
EXIST. R/W		
PROP. LINES	T.J.K.	T.J.K.
AREAS	T.J.K.	T.L.B.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016

PORTLAND
RIGHT OF WAY MAP

REVISIONS

NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK		PAGE	COUNTY RECORD			
NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE
		COND.	6/27/11	28780	217

DAVID A. COLE
COMMISSIONER
KENNETH L. SWEENEY
CHIEF ENGINEER
DATE

STATE HIGHWAY "14"
U.S. ROUTE 302\FOREST AVENUE
PORTLAND CUMBERLAND COUNTY
FEDERAL AID PROJECT NO. NH-1310(700)E

JUNE 2010 | RIGHT-OF-WAY MAP | D.O.T. FILE NO. 3-572
SCALE 1" = 25' | SHEET 1 OF 3

SHEET NUMBER
46
OF 48

Filename: ...\00\row\mnsto\046_RWPLAN1.dgn Division: ROW Username: guy.lodd Date:6/28/2011

Filename: ...\00\row\msta\047_RWPLAN2.dgn Division: ROW Username: guy.lodd Date:6/28/2011

POWELL REALTY
PARCEL NO. (6)
LAND TAKEN = 0.08± AC. (1)
TEMP. CONST. RIGHTS =0.06± AC. (4)
TOTAL AREA = 3.40± AC. (PER SURVEY)
REM. AREA = 3.32± AC.

FRIENDS CHURCH
ITEM NO. (10)
TEMP. CONST. RIGHTS = 1040± S.F. (2)
TOTAL AREA = 1.25± AC.

CURVE DATA #3
PI = 111+69.36
D = 1°25'56.8"
Δ = 5°31'16.0" Rt.
R = 3999.99'
L = 385.45'
T = 192.87'
E = 4.65'

POE = STA. 41+50.00

PC = STA. 104+60.56

PT = STA. 106+45.77

STATE HIGHWAY "14" U.S. ROUTE 302

S 80°-31'-47.8" E

GABRIEL J. ZAPPIA
ITEM NO. (9)
TEMP. CONST. RIGHTS = 680± S.F. (1)
TOTAL AREA = 0.73± AC.

JOHN CHAU
PHUONG NEANG
ITEM NO. (8)
TEMP. CONST. RIGHTS =
885± S.F. (1)
TOTAL AREA = 1.60± AC.

WELLESLEY ESTATES LIMITED PARTNERSHIP
ITEM NO. (11)
TEMP. CONST. RIGHTS = 585± S.F. (1)
TOTAL AREA = 4.48± AC. (PER SURVEY)

JAMES A. RODWAY
ITEM NO. (12)
TEMP. CONST. RIGHTS =
1070± S.F. (1)
TOTAL AREA = 12,247± S.F.
(CALC.)

ALLISON BERUBE
ITEM NO. (13)
TEMP. CONST. RIGHTS =
1000± S.F. (1)
TOTAL AREA = 11,680±
(CALC.)

STA. 109+76.49

PIN 013107.00

SYMBOLS

- IP or ● IPF (IRON PIPE or PIN FOUND)
- ST. (SEPTIC TANK)
- (ROW MONUMENT)
- &BM (TRAVERSE POINT)
- (WELL)
- GRADING LIMIT LINE
- CONSTRUCTION LIMIT LINE
- PROPERTY LINE
- LIMITS OF "ARROW" RIGHT PORTION (L.O.W.P.)
- EXISTING RIGHT OF WAY
- NEW RIGHT OF WAY
- NEW ROW WITHIN EXIST. ROW
- CONTROL OF ACCESS
- WATER LINE
- GAS LINE
- ELECTRIC LINE
- TELEPHONE LINE
- SEWER LINE

ITEM	TECH	CHECKED
BASE MAP		
EXIST. R/W		
PROP. LINES	T.J.K.	
AREAS	T.J.K.	T.L.B.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016
PORTLAND
RIGHT OF WAY MAP

REVISIONS

NO.	DATE	DESCRIPTION	BY

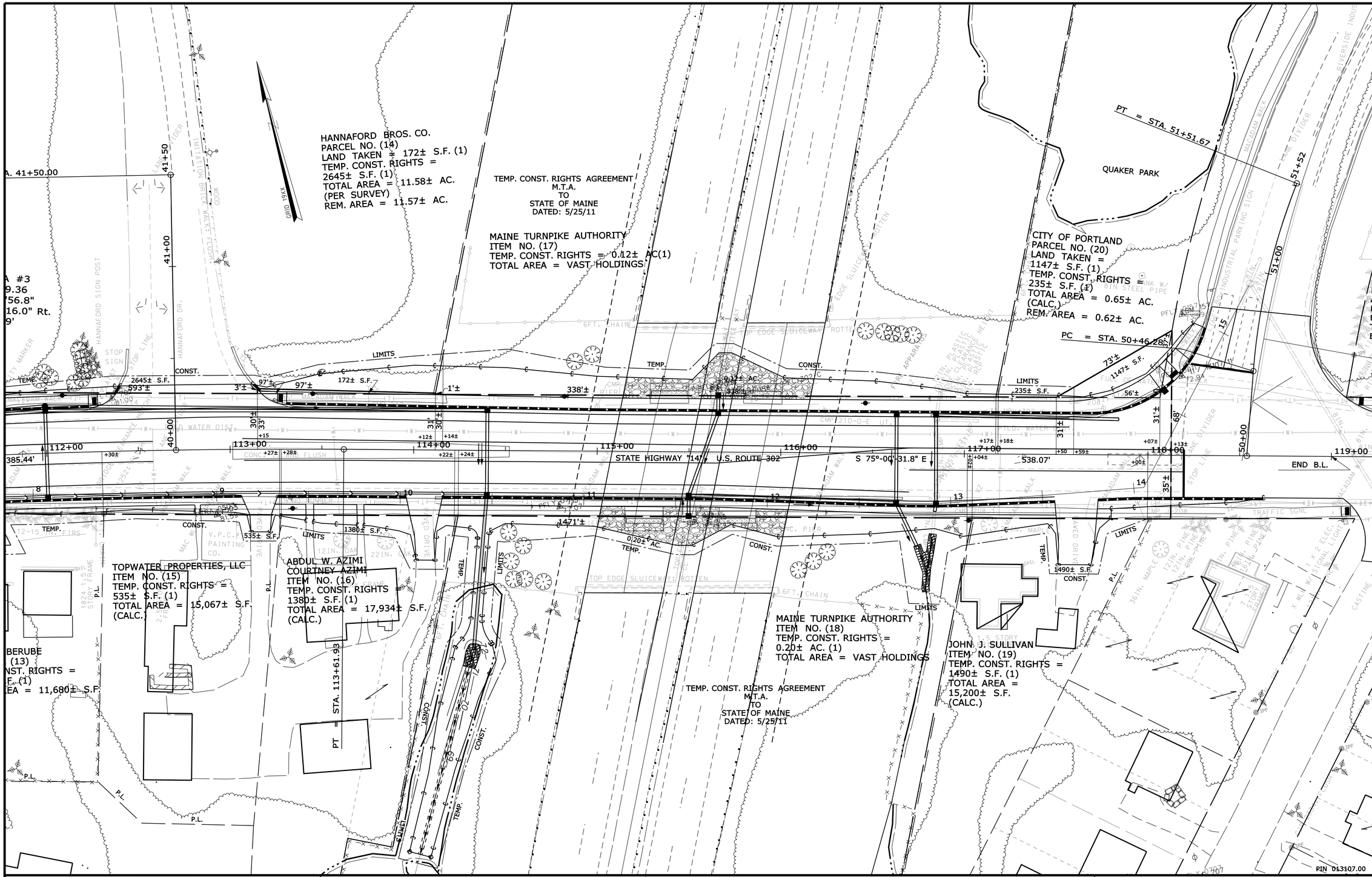
PLAN FILED IN PLAN BOOK	PAGE	COUNTY RECORD			
NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE
		COND.	6/27/11	28780	217

DAVID A. COLE
COMMISSIONER
KENNETH L. SWEENEY
CHIEF ENGINEER
DATE

STATE HIGHWAY "14"
U.S. ROUTE 302\FOREST AVENUE
PORTLAND CUMBERLAND COUNTY
FEDERAL AID PROJECT NO. NH-1310(700)E

JUNE 2010 | RIGHT-OF-WAY MAP | D.O.T. FILE NO. 3-572
SCALE 1" = 25' | SHEET 2 OF 3

SHEET NUMBER
47
OF 48



SYMBOLS

- ● IP or ● IPF (IRON PIPE or PIN FOUND)
- ☐ S.T. (SEPTIC TANK)
- ⊠ ⊕ (ROW MONUMENT)
- ⊕ (TRAVERSE POINT)
- ○ WELL
- GRADING LIMIT LINE
- CONSTRUCTION LIMIT LINE
- PROPERTY LINE
- LIMITS OF "RIGHT TO PORTION (L.O.W.P.)
- EXISTING RIGHT OF WAY
- NEW RIGHT OF WAY
- NEW ROW WITHIN EXIST. ROW
- CONTROL OF ACCESS
- W WATER LINE
- G GAS LINE
- E ELECTRIC LINE
- T TELEPHONE LINE
- SEWER LINE

ITEM	TECH	CHECKED
BASE MAP		
EXIST. R/W		
PROP. LINES	T.J.K.	T.L.B.
AREAS	T.J.K.	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016
PORTLAND
RIGHT OF WAY MAP

REVISIONS

NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK	PAGE	COUNTY RECORD			
NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE
		COND.	6/27/11	28780	217

DAVID A. COLE
COMMISSIONER
KENNETH L. SWEENEY
CHIEF ENGINEER

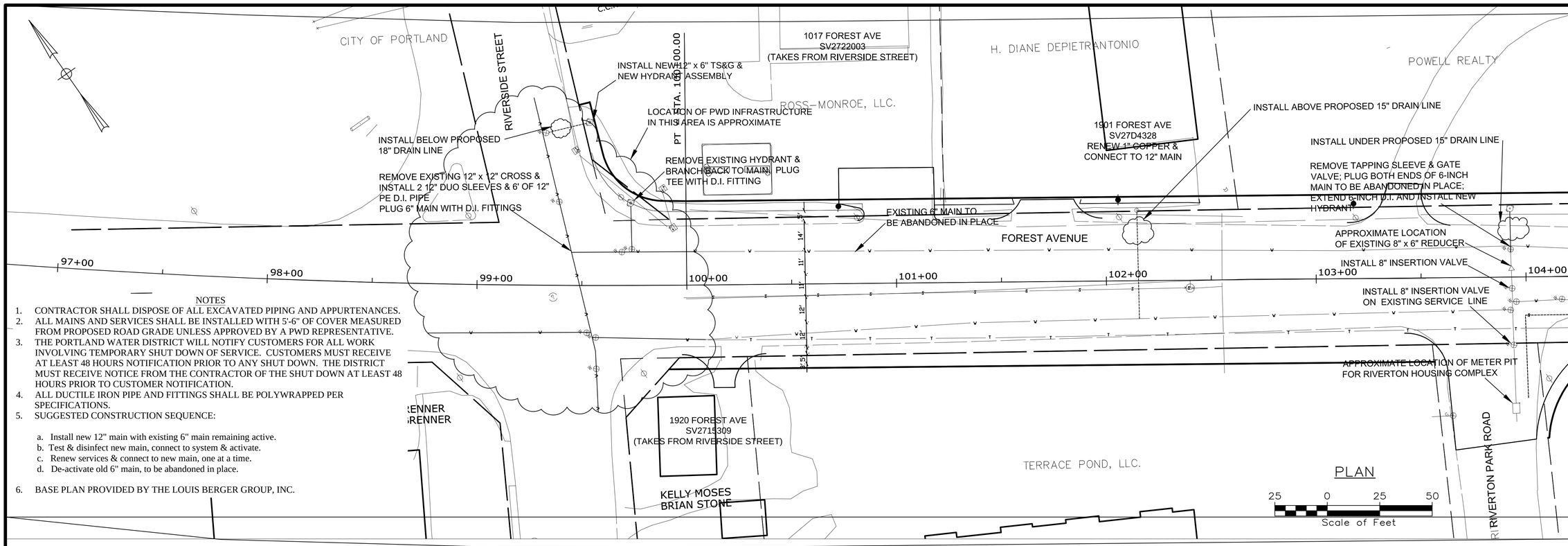
DATE

STATE HIGHWAY "14"
U.S. ROUTE 302\FOREST AVENUE
PORTLAND CUMBERLAND COUNTY
FEDERAL AID PROJECT NO. NH-1310(700)E

JUNE 2010	RIGHT-OF-WAY MAP	D.O.T. FILE NO. 3-572
SCALE 1" = 25'	SHEET 3 OF 3	

SHEET NUMBER
48
OF 48

Filename: ...\00\row\msto\048_RWPLAN3.dgn Division: ROW Username: guy.lodd Date:6/28/2011

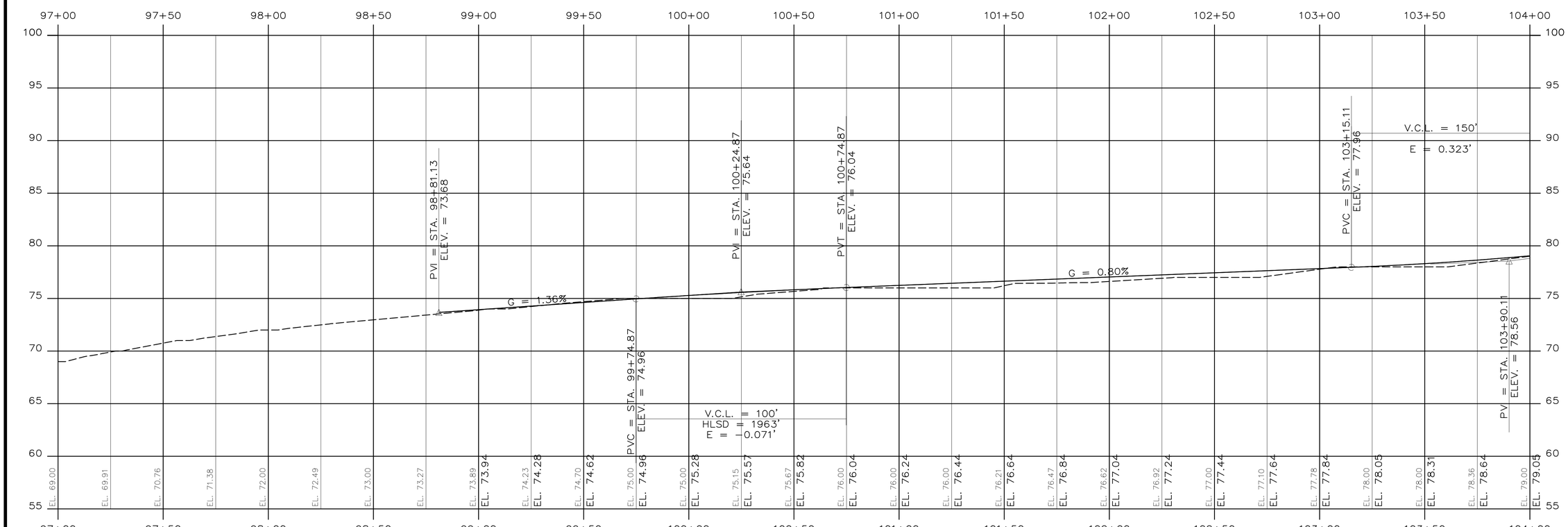


NOTES

1. CONTRACTOR SHALL DISPOSE OF ALL EXCAVATED PIPING AND APPURTENANCES.
2. ALL MAINS AND SERVICES SHALL BE INSTALLED WITH 5'-6" OF COVER MEASURED FROM PROPOSED ROAD GRADE UNLESS APPROVED BY A PWD REPRESENTATIVE.
3. THE PORTLAND WATER DISTRICT WILL NOTIFY CUSTOMERS FOR ALL WORK INVOLVING TEMPORARY SHUT DOWN OF SERVICE. CUSTOMERS MUST RECEIVE AT LEAST 48 HOURS NOTIFICATION PRIOR TO ANY SHUT DOWN. THE DISTRICT MUST RECEIVE NOTICE FROM THE CONTRACTOR OF THE SHUT DOWN AT LEAST 48 HOURS PRIOR TO CUSTOMER NOTIFICATION.
4. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYWRAPPED PER SPECIFICATIONS.
5. SUGGESTED CONSTRUCTION SEQUENCE:

   a. Install new 12" main with existing 6" main remaining active.
   b. Test & disinfect new main, connect to system & activate.
   c. Renew services & connect to new main, one at a time.
   d. De-activate old 6" main, to be abandoned in place.

6. BASE PLAN PROVIDED BY THE LOUIS BERGER GROUP, INC.



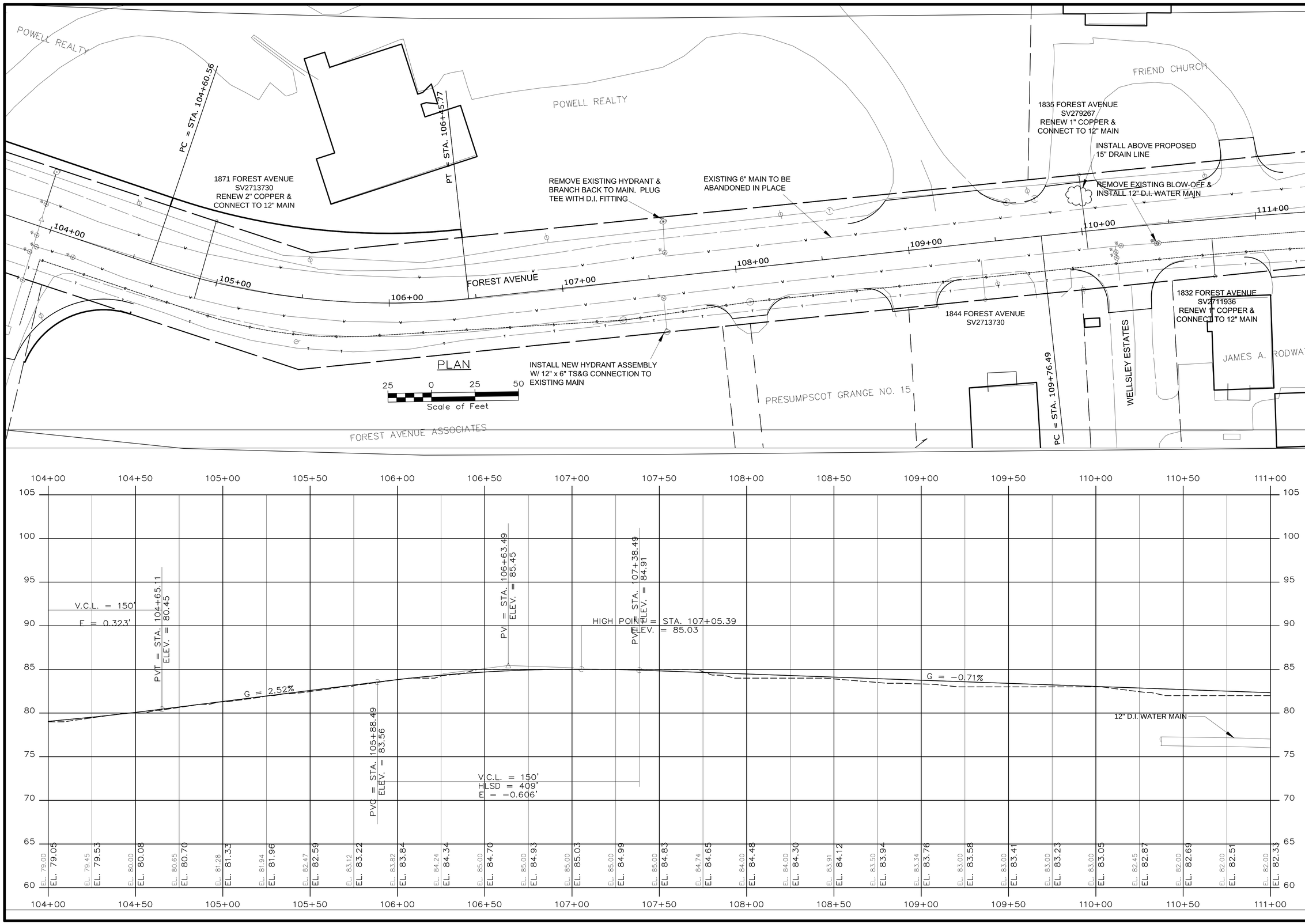
Portland Water District
ASSET MANAGEMENT & PLANNING DEPT.
225 DOUGLASS STREET P.O. 3553 PORTLAND, MAINE 04104-3553

STATE OF MAINE
MALCOLM E. PEARCE
3832
PROFESSIONAL ENGINEER

DESIGN: FHM
DRAWN: DPW
CHECK: WEP
APPROVED: WEP
DATE: 4-1-2010
SCALE: HORIZONTAL 1" = 25'
VERTICAL 1" = 5'

FOREST AVENUE WATER MAIN REPLACEMENT

SHEET
W1 OF W6



Portland Water District
ASSET MANAGEMENT & PLANNING DEPT.
225 DOUGLASS STREET P.O. 3553 PORTLAND, MAINE 04104-3553

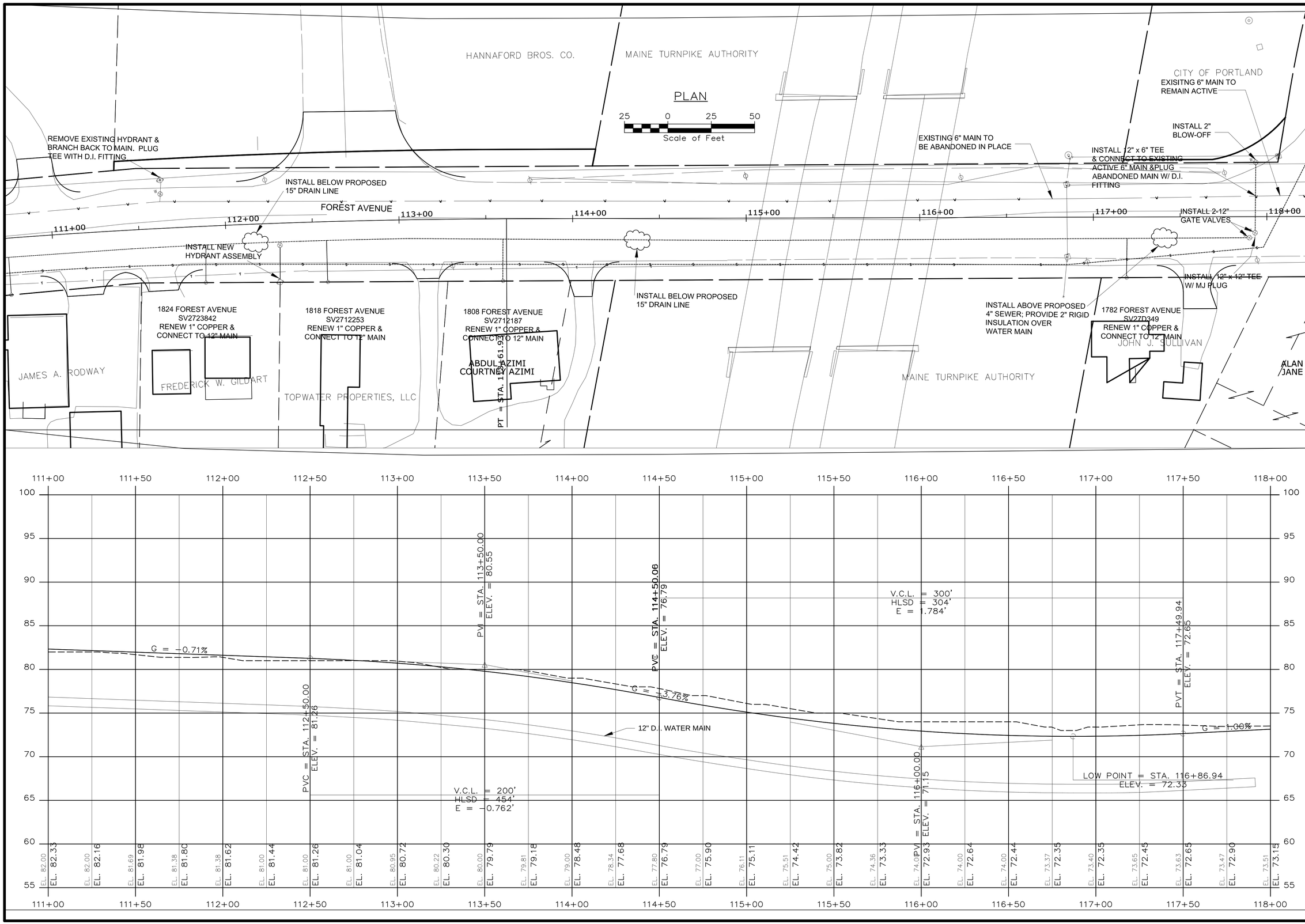
STATE OF MAINE
WALTON
3832
PROFESSIONAL ENGINEER

DESIGN: FNM
DRAWN: DPW
CHECK: WEP
APPROVED: WEP
DATE: 4-1-2019
SCALE: HORIZONTAL 1" = 25'
VERTICAL 1" = 5'

FOREST AVENUE

WATER MAIN REPLACEMENT

SHEET
W2 OF W6



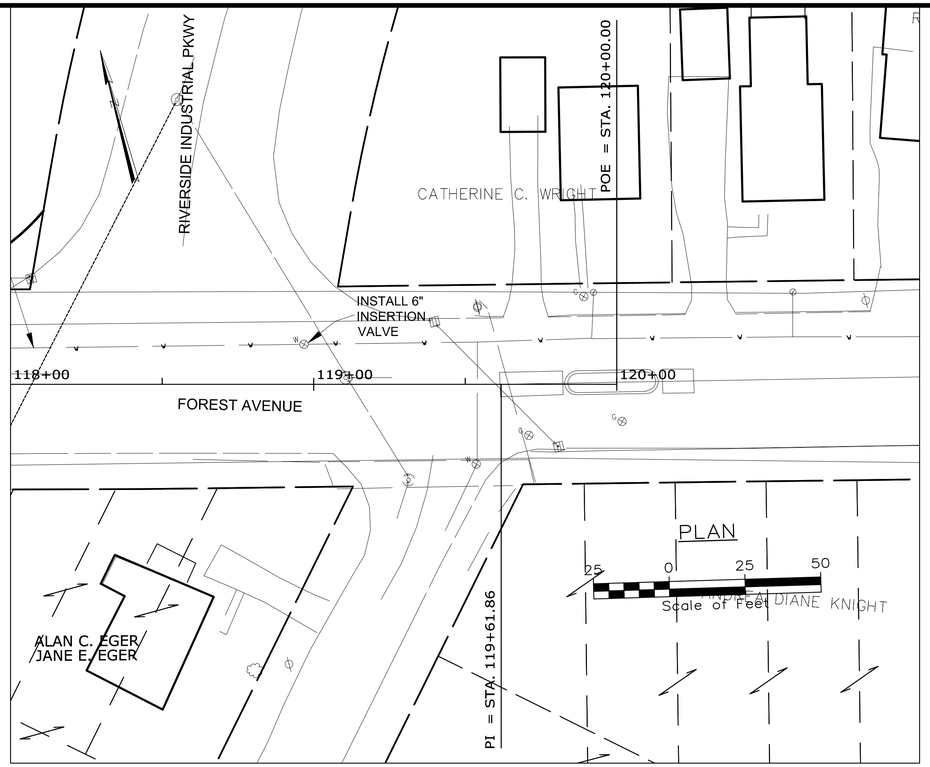
Portland Water District
ASSET MANAGEMENT & PLANNING DEPT.
225 DOUGLASS STREET P.O. 3553 PORTLAND, MAINE 04104-3553

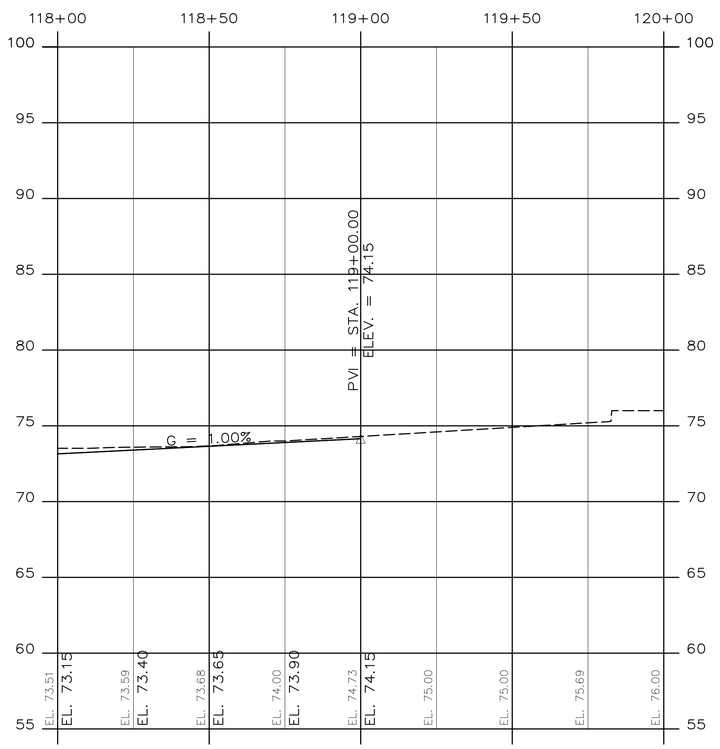
STATE OF MAINE
MALCOLM PEREZ
3832
PROFESSIONAL ENGINEER

DESIGN: FHM
DRAWN: DPM
CHECK: WEP
APPROVED: WEP
DATE: 4-1-2010
SCALE: HORIZONTAL 1" = 25'
VERTICAL 1" = 5'

FOREST AVENUE
WATER MAIN REPLACEMENT

SHEET
W3 OF W6





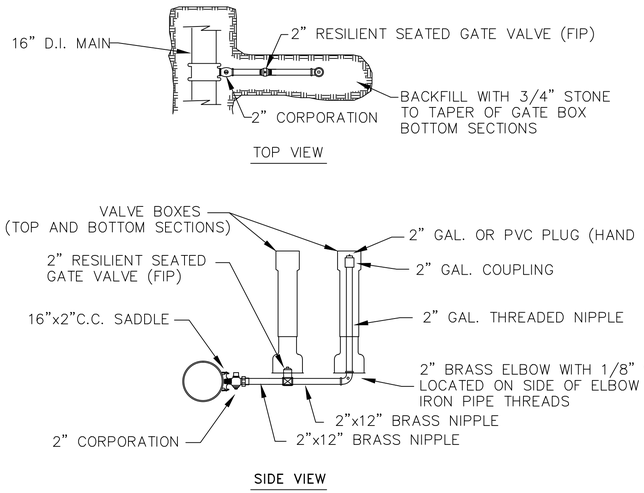
Portland Water District
ASSET MANAGEMENT & PLANNING DEPT.
225 DOUGLASS STREET P.O. 3553 PORTLAND, MAINE 04104-3553

STATE OF MAINE
WILLIAM PEARCE
2862
PROFESSIONAL ENGINEER

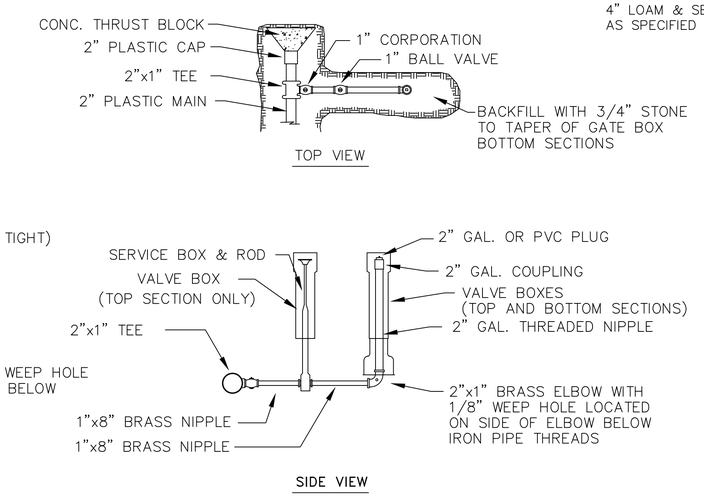
DESIGN: FHM
DRAWN: DPW
CHECK: WEP
APPROVED: WEP
DATE: 4-1-2010
SCALE: HORIZONTAL 1" = 25'
VERTICAL 1" = 5'

FOREST AVENUE
WATER MAIN REPLACEMENT

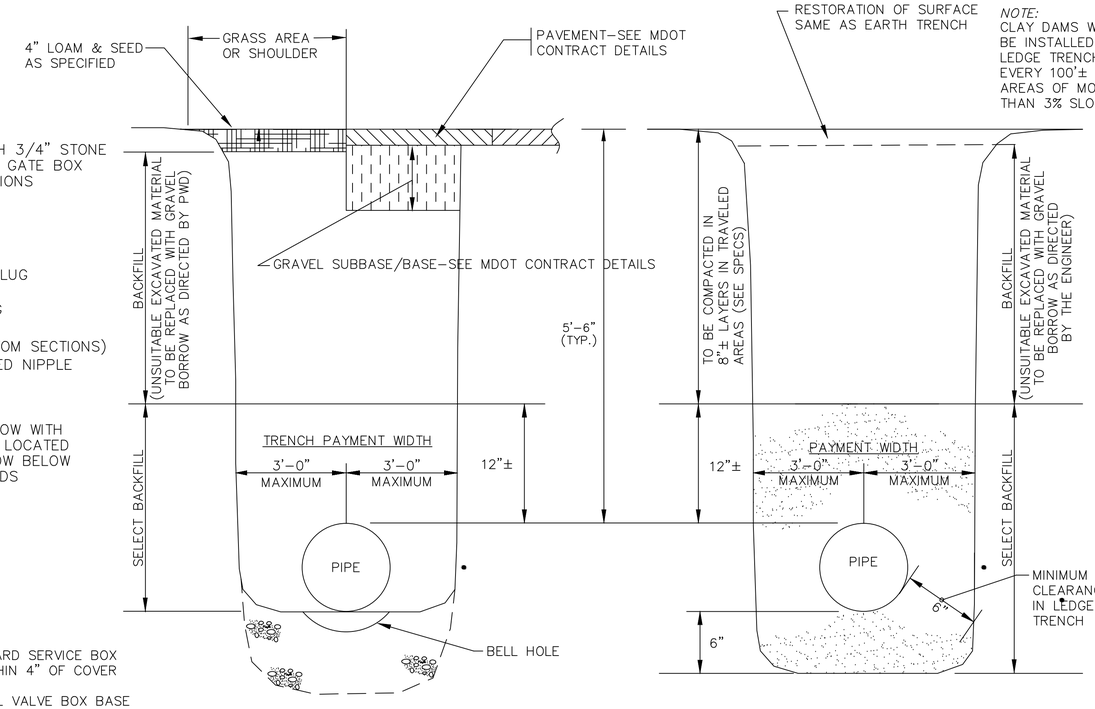
SHEET
W4 OF W6



SIDE-ARM BLOW-OFF 4" & LARGER MAINS

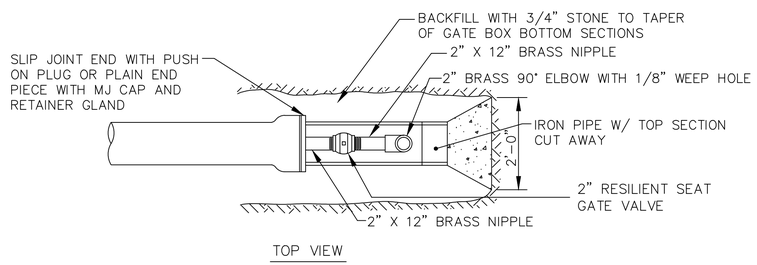


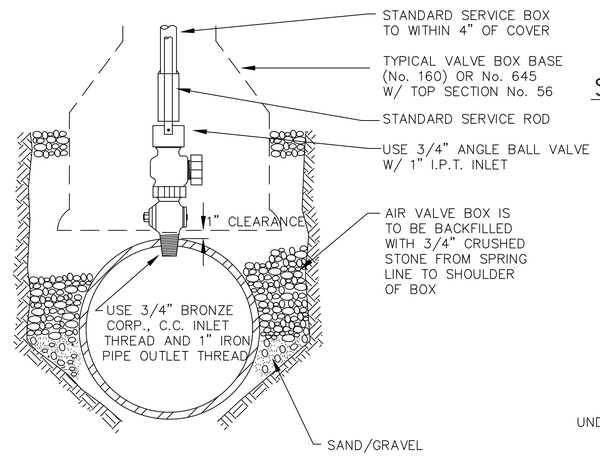
SIDE-ARM BLOW-OFF 2" MAIN



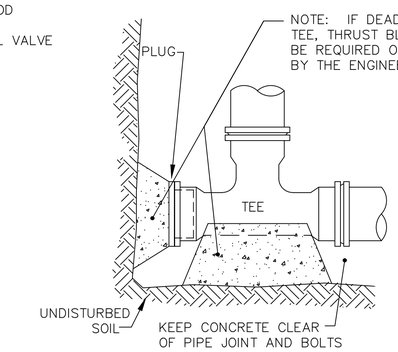
SECTION THRU EARTH TRENCH

SECTION THRU LEDGE TRENCH

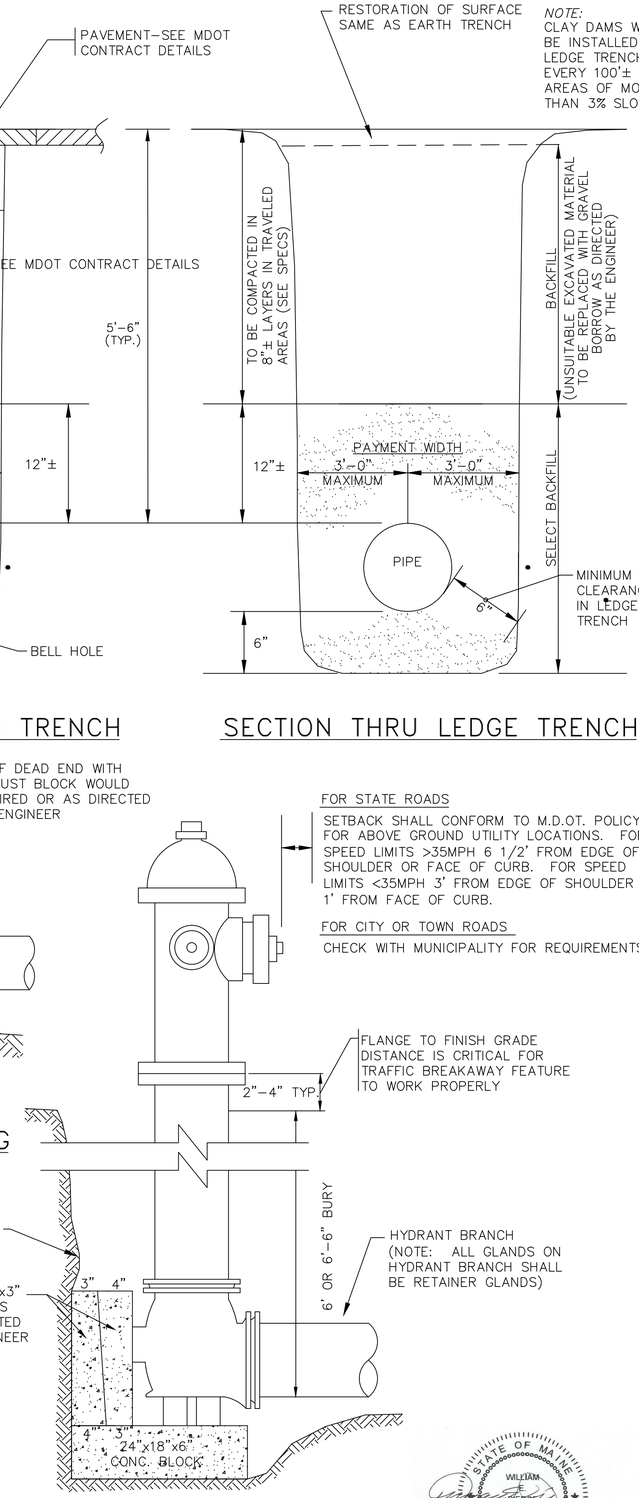




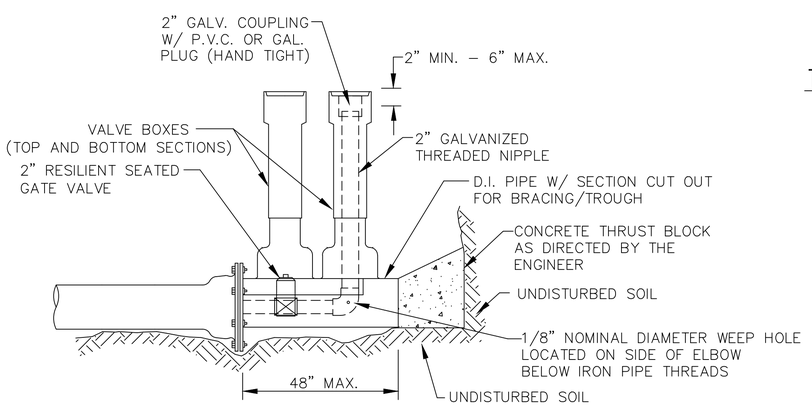
TYPICAL AIR VALVE (1")



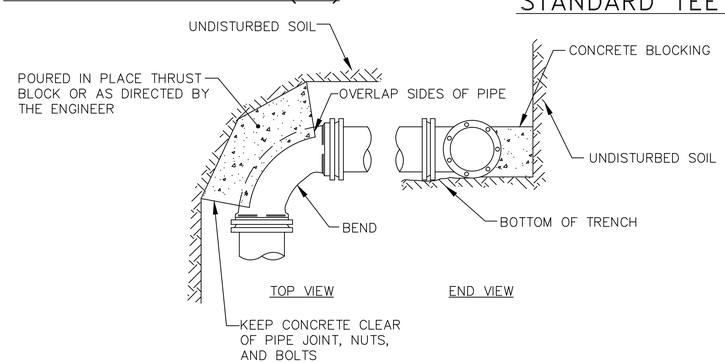
STANDARD TEE BLOCKING



TYPICAL HYDRANT INSTALLATION DETAIL



STANDARD 2" BLOW OFF



STANDARD BEND BLOCKING

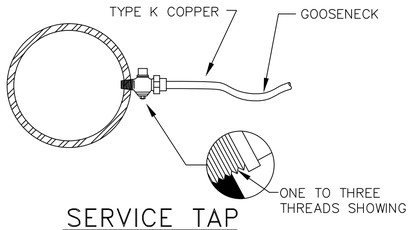
PROJECT NO.:
CAD FILE:
FIELD BOOK:
SHEET W5 OF W6

FOREST AVENUE
WATER MAIN REPLACEMENT
STANDARD WATER DETAILS

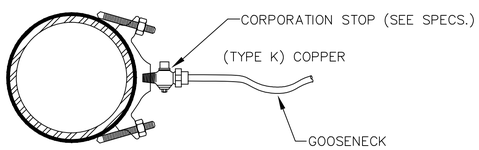
Portland Water District
ASSET MANAGEMENT & PLANNING DEPT.
225 DOUGLASS STREET P.O. 3553 PORTLAND, MAINE 04104-3553

DESIGN:
DRAWN: DZW
CHECK: WEP
APPROVED: WEP
DATE: 1-1-2009
SCALE: NTS

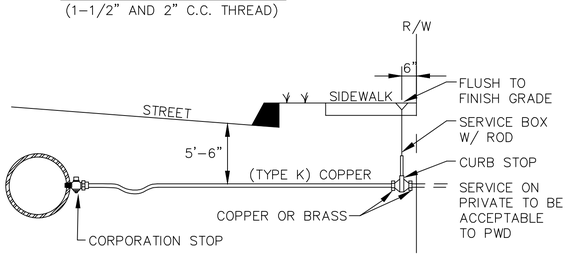
REV. NO.	DATE	DRWN	CHKD	REMARKS
3	JUL 06	JRS	JRS	ADDED BLOCKING PLANE NOTE TO HYDRANT BASE
2	MAY 06	JRS	JRS	REVISED TRENCH DETAIL
1	DEC 03	RS	TM	SIDE ARE BLOWOFF DETAILS ADDED



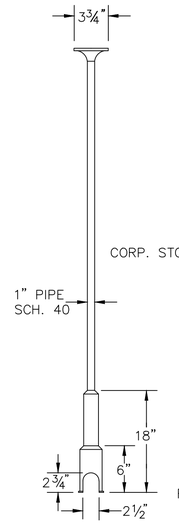
SERVICE TAP
(3/4" AND 1" C.C. THREAD)



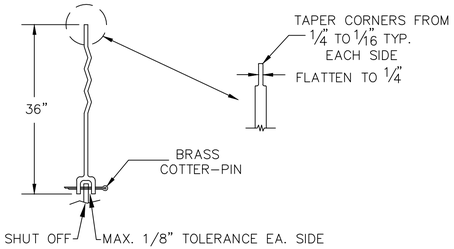
SERVICE SADDLE
(1-1/2" AND 2" C.C. THREAD)



TYPICAL SERVICE CONNECTION



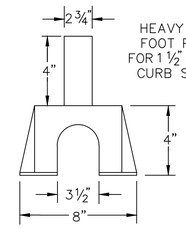
SERVICE BOX



SERVICE ROD

COVER

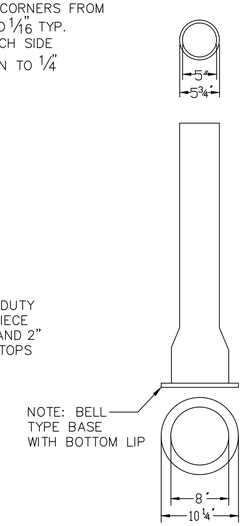
STANDARD FOOT, PIECE FOR ¾" AND 1" CURB STOPS



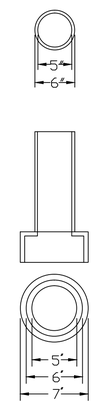
FOOT PIECE

NOTE : ANY EXTENSION OF SERVICE BOX REQUIRES:
1) 1" FEMALE IRON PIPE COUPLING
2) 1" THREADED PIPE

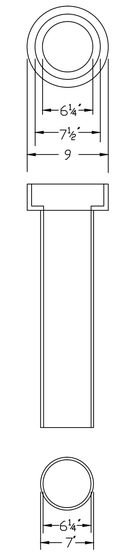
(THIS IS TO BE A NON-WELDED, TWO PIECE ARRANGEMENT. SLIP ON ADAPTERS ARE NOT PERMISSIBLE.)



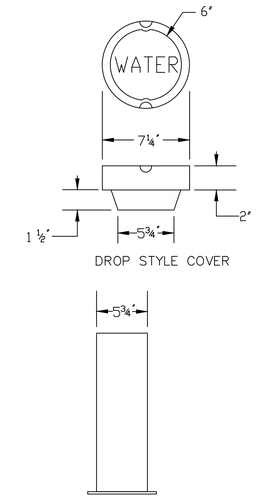
BASE SECTION NO. 645



INTERMEDIATE SECTION NO.58

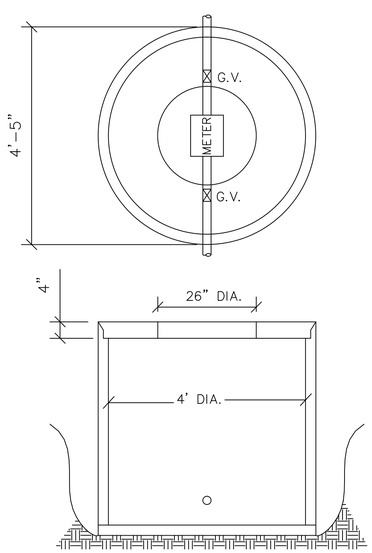


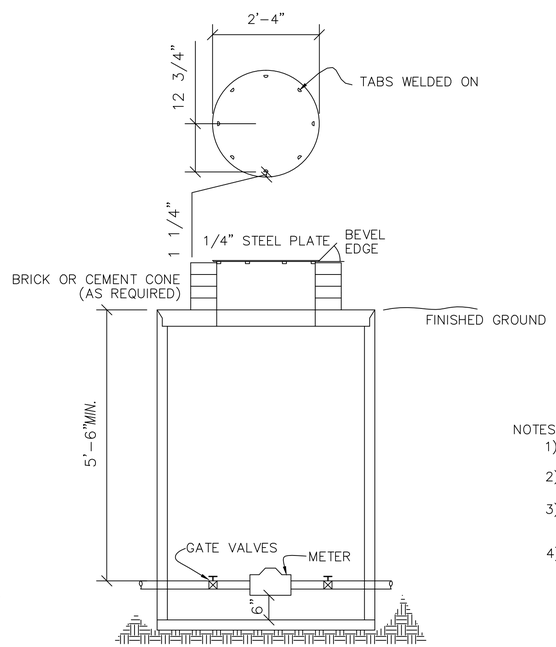
TOP SECTION NO.56



(NUMBERS ARE FOR 5 1/4" BUFFALO VALVE BOXES)
(BASE SECTION MAY BE USED AS INTERMEDIATE SECTION)

VALVE BOX & COVER





TYPICAL METER PIT

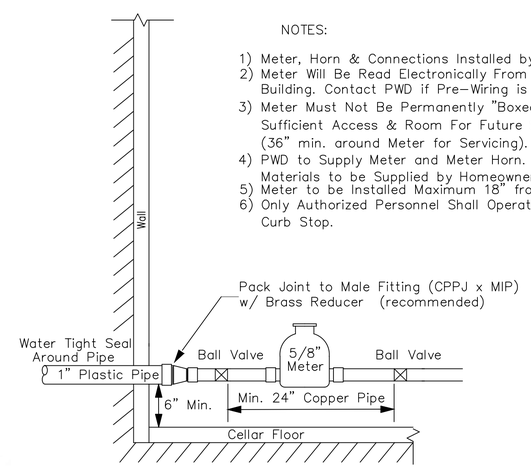
5/8" TO 2" METERS

METER BOX
1) TO BE INSTALLED AND SUPPLIED BY OWNER
2) MINIMUM 4'-0" DIAMETER CONC. M.H. W/ CEMENT BASE
3) WATER METER TO HAVE 5'-6" OF COVER AND IS TO BE SUPPLIED BY P.W.D.
4) OWNER IS TO SUPPLY 2 VALVES INSIDE OF PIT (MINIMUM SEPARATION OF 2'-0")
5) COPPER PIPE REQUIRED THRU METER PIT

COVER PLATE
1) COVER MUST WEIGH LESS THAN 60 lbs.
2) MINIMUM SIZE OF COVER WILL BE 28" DIAMETER.
3) IF STEEL PLATE IS USED, TREAT WITH A COAT OF RUST INHIBITING PAINT.

NOTES
1) THIS PIT IS TO BE PLACED ON PRIVATE PROPERTY NEAR THE STREET LINE.
2) THIS TYPICAL PIT WAS NOT DESIGNED FOR ANY TRAFFIC LOAD
3) THE PIT CAN BE ORDERED THRU OTHERS WITH SPECIAL DETAILS SUCH AS LARGER M.H. COVERS, ETC.
4) THIS PIT WILL HOUSE UP TO TWO 5/8", 3/4", OR 1" METERS

NOTES:
1) Meter, Horn & Connections Installed by PWD
2) Meter Will Be Read Electronically From Outside of Building. Contact PWD if Pre-Wiring is Required.
3) Meter Must Not Be Permanently "Boxed" Without Sufficient Access & Room For Future Servicing (36" min. around Meter for Servicing).
4) PWD to Supply Meter and Meter Horn. All Other Materials to be Supplied by Homeowner.
5) Meter to be Installed Maximum 18" from Entrance.
6) Only Authorized Personnel Shall Operate Service Curb Stop.



TYP. HORIZONTAL METER SET

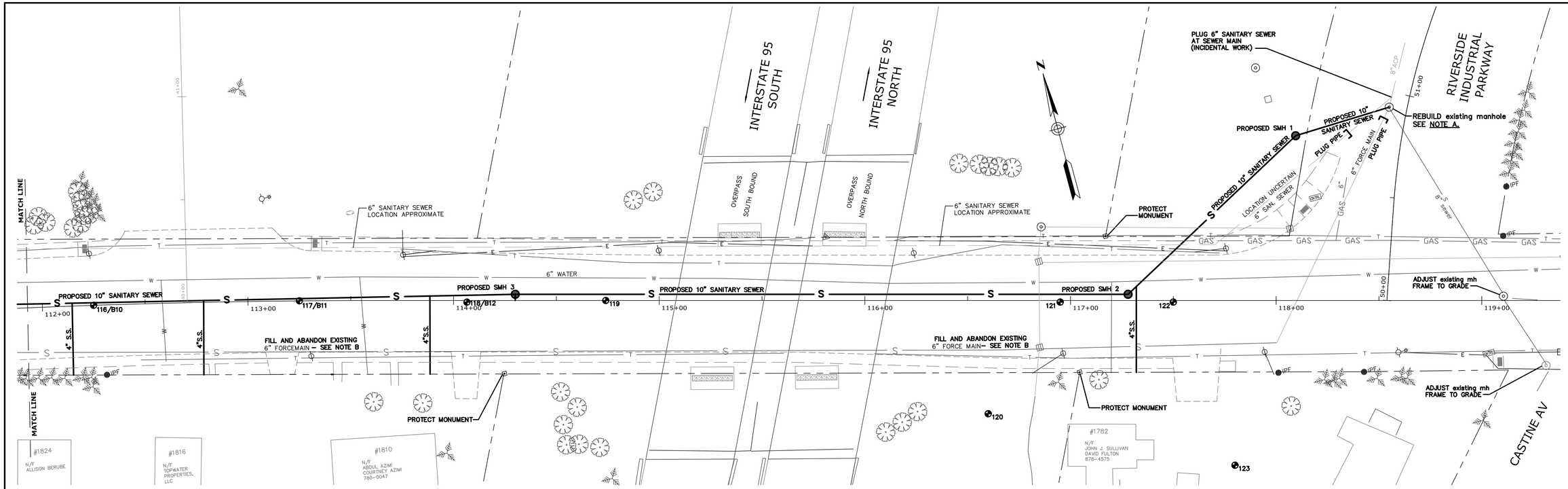
PROJECT NO.:
CAD FILE:
FIELD BOOK:
SHEET W6 OF W6

FOREST AVENUE
WATER MAIN REPLACEMENT
STANDARD WATER DETAILS

Portland Water District
ASSET MANAGEMENT & PLANNING DEPT.
225 DOUGLASS STREET P.O. 3553 PORTLAND, MAINE 04104-3553

DESIGN: ___ DRAWN: NMM CHECK: WEP APPROVED: WEP DATE: 1-1-2009 SCALE: NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS
2	OCT 07	DW	DW	DELETED NOTES FOR BYPASS AND PIT BACKFLOW DELETED BYPASS DRAWING
1	JAN 07	RS	RS	NOTE REQUIRING LIP ON VALVE BOX BOTTOM SECTION



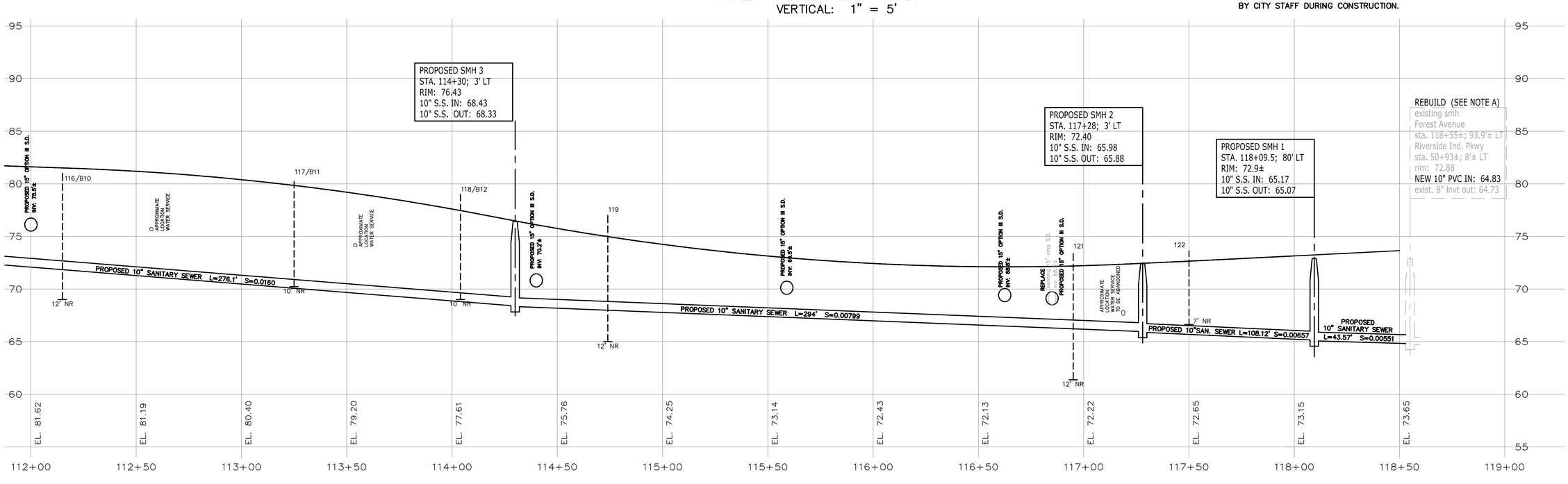
NOTE A: REBUILD EXISTING MANHOLE TO ACCEPT NEW 10" SANITARY SEWER. REMOVE 6" FORCE MAIN FROM MANHOLE. PLUG FORCE MAIN OUTSIDE OF MANHOLE AND ABANDON IN PLACE AFTER NEW SEWER AND NEW FORCE MAIN CONNECTIONS ARE ACTIVATED. REMOVE AND REBUILD MANHOLE CHANNEL.

NOTE B: FILL EXISTING FORCEMAIN WITH FLOWABLE DIGGABLE CONCRETE FILL, CAP ENDS OF PIPE AND ABANDON FORCEMAIN IN PLACE WITHIN LIMITS SHOWN.

NOTE C: THE LOCATIONS OF PROPOSED SEWER LATERALS MAY BE CHANGED BY CITY STAFF DURING CONSTRUCTION.

PROFILE: FOREST AVENUE

SCALE: HORIZONTAL: 1" = 25'
VERTICAL: 1" = 5'



VAULT PLANS: 945/1 SHT 25

REFERENCES:
LDT PROJECT NAME: ForestAvMDOT
DRAWING NAME: ForestAvMDOT2010sewer.dwg
MDOT BASE DRAWING: HDPLAN_LKS.DWG
EXTERNAL REFERENCE DRAWINGS:
Alignments_50 scale_LKS.dwg
Highway_LKS.dwg
Profile_LKS.dwg
RWPLAN_LKS.dwg
Text_LKS.dwg
Topo_LKS.dwg & Topo_lks_Utilities.dwg

DESIGNED BY: M. FARMER	
DRAWN BY: L. K. SCELZA	
CHECKED BY: D.MARGOLIS-PINEO	
SCALE: AS NOTED	
DATE: 06/20/2011	

STATE OF MAINE MICHAEL D. MARGOLIS No. 4172 LICENSED PROFESSIONAL ENGINEER

FOREST AVENUE SEWER EXTENSION

#1810 TO #1871 FOREST AV

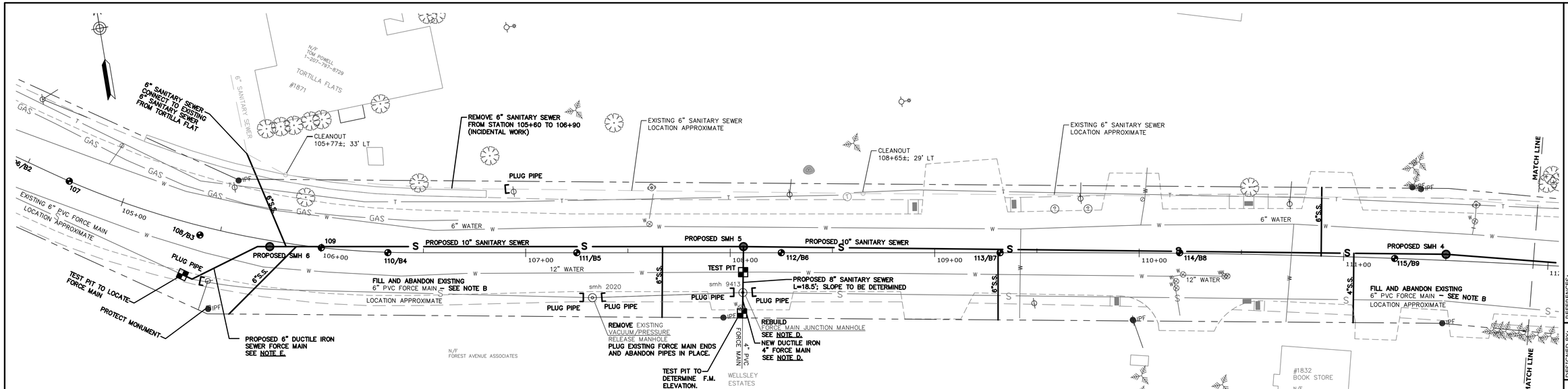
PLAN AND PROFILE

STATION 112+00 TO STATION 119+00

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING DIVISION

RESURGAM CITY OF PORTLAND, MAINE

SHEET #
S1

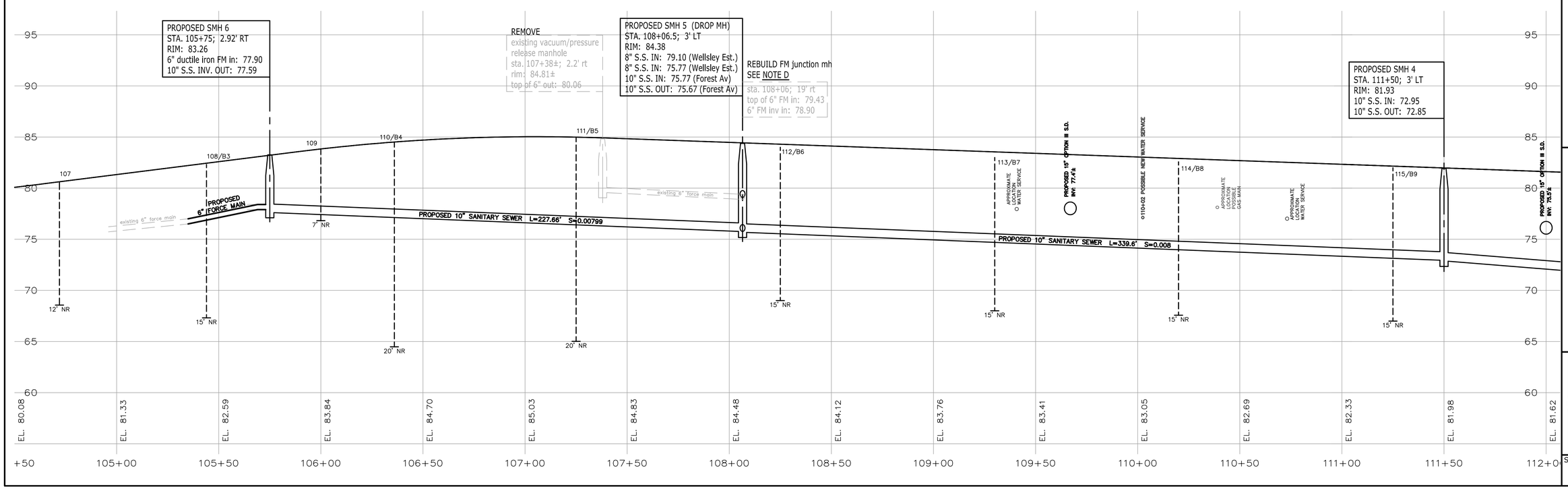


NOTE D: REBUILD FORCE MAIN JUNCTION MANHOLE AND CONVERT TO FORCE MAIN TERMINUS MANHOLE WITH GRAVITY FLOW CHANNEL. REMOVE 6" FORCE MAINS FROM EAST AND WEST FROM MANHOLE, PLUG PIPES AND ABANDON FORCE MAINS IN PLACE. EXCAVATE TEST PIT AT WATER MAIN TO DETERMINE ELEVATION OF TOP OF WATER MAIN. USE THIS INFORMATION TO SELECT ELEVATION FOR NEW 8" SANITARY SEWER LEAVING MANHOLE, SUCH THAT THE 8" PIPE CLEARS THE WATER MAIN AND HAS A SLOPE OF AT LEAST 0.01. REMOVE FORCE MAIN FROM WELLSLEY ESTATES FROM MANHOLE AND RECONNECT FORCE MAIN TO MANHOLE AT NEW ELEVATION, SUCH THAT THE FORCE MAIN INVERT ELEVATION IN MANHOLE IS 0.14 FEET HIGHER THAN THE 8" PIPE INVERT ELEVATION IN MANHOLE. THE FORCE MAIN FROM WELLSLEY ESTATES ADJACENT TO THE MANHOLE, SHALL BE RE-LAID AS NECESSARY, WITH NEW DUCTILE IRON MECHANICAL JOINT PIPE AND FITTINGS. ALL DUCTILE IRON FITTINGS SHALL BE INSTALLED WITH MECHANICAL JOINT RETRAINTS. USE 1/8, 1/16 AND 1/32 BENDS AS REQUIRED; NO 1/4 BENDS SHALL BE USED. CONNECT NEW DUCTILE IRON PIPE TO EXISTING FORCE MAIN WITH STRAIGHT DUCTILE IRON PIPE COUPLING.

NOTE E: CONNECT EXISTING FORCE MAIN TO PROPOSED SMH 6 WITH NEW DUCTILE IRON MECHANICAL JOINT PIPE AND FITTINGS. ALL DUCTILE IRON FITTINGS SHALL BE INSTALLED WITH MECHANICAL JOINT RESTRAINTS. USE 1/8, 1/16, AND 1/32 BENDS AS REQUIRED; NO 1/4 BENDS SHALL BE USED. CONNECT NEW DUCTILE IRON PIPE TO EXISTING FORCE MAIN WITH STRAIGHT DUCTILE IRON PIPE COUPLING.

PROFILE: FOREST AVENUE

SCALE: HORIZONTAL: 1" = 25'
VERTICAL: 1" = 5'



VAULT PLANS: 945/1 SHT 25

REFERENCES:
LDT PROJECT NAME: ForestAvMDOT
DRAWING NAME: ForestAvMDOT2010sewer.dwg
MDOT BASE DRAWING: HDPLAN_LKS.DWG
EXTERNAL REFERENCE DRAWINGS:
Alignments_50 scale_LKS.dwg
Highway_LKS.dwg
Profile_LKS.dwg
RWPLAN_LKS.dwg
Text_LKS.dwg
Topo_LKS.dwg & Topo_lks_Utilities.dwg

DESIGNED BY: M. FARMER
DRAWN BY: L. K. SCELZA
CHECKED BY: D.MARGOLIS-PINEO
SCALE: AS NOTED
DATE: 06/20/2011

STATE OF MAINE
MICHAEL D. MARGOLIS
No. 4172
LICENSED PROFESSIONAL ENGINEER

FOREST AVENUE SEWER EXTENSION

#1810 TO #1871 FOREST AV

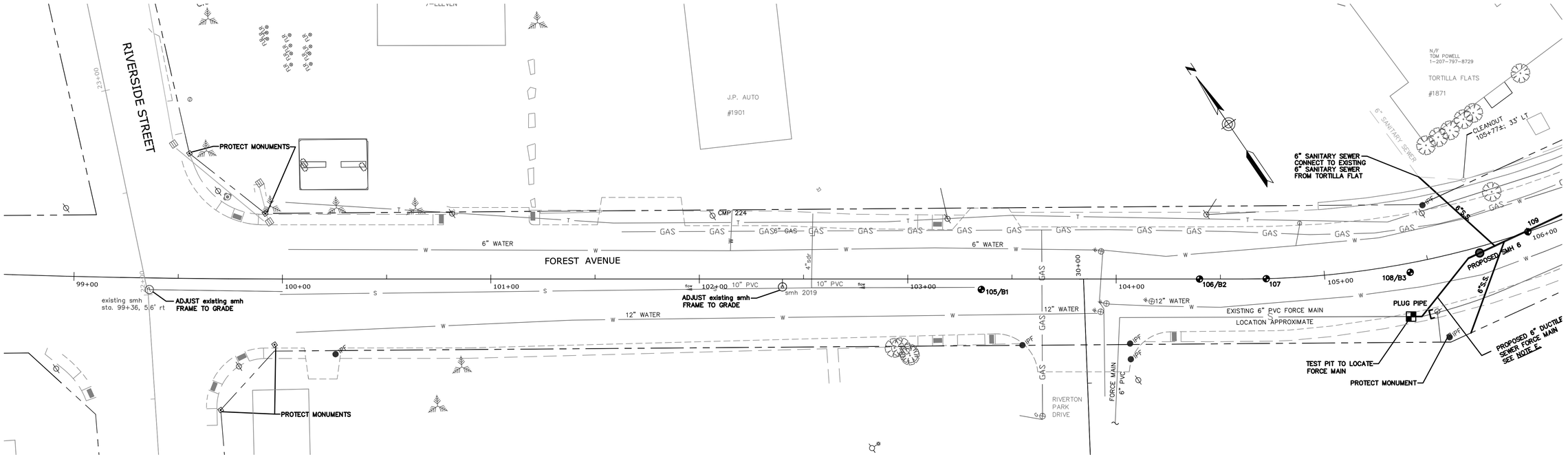
PLAN AND PROFILE

STATION 104+50 TO STATION 112+00

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING DIVISION

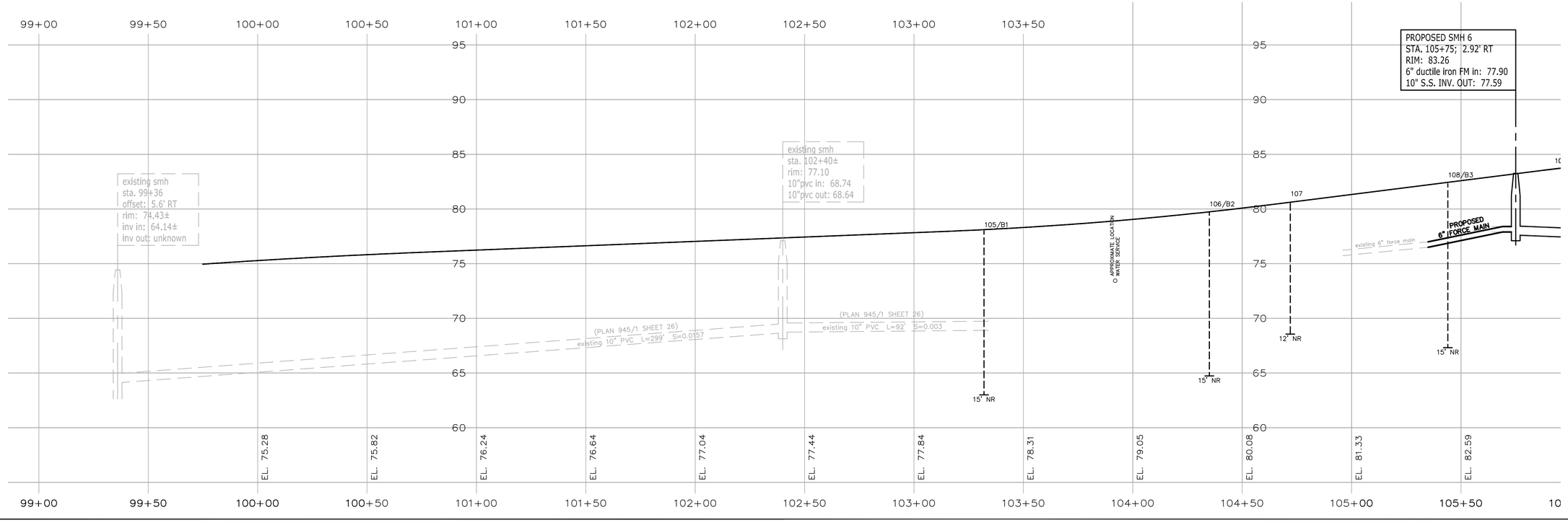
CITY OF PORTLAND, MAINE — RESURGAM

SHEET #
S2



PROFILE: FOREST AVENUE

SCALE: HORIZONTAL: 1" = 25'
VERTICAL: 1" = 5'



VAULT PLANS: 945/1 SHT 25

REFERENCES:
LDT PROJECT NAME: ForestAvMDOT
DRAWING NAME: ForestAvMDOT2011sewer.dwg
MDOT BASE DRAWING: HDPLAN_LKS.DWG
EXTERNAL REFERENCE DRAWINGS:
Alignments_50 scale_LKS.dwg
Highway_LKS.dwg
Profile_LKS.dwg
RWPLAN_LKS.dwg
Text_LKS.dwg
Topo_LKS.dwg & Topo_lks_Utilities.dwg

DESIGNED BY:	M. FARMER
DRAWN BY:	L. K. SCELZA
CHECKED BY:	D.MARGOLIS-PINEO
SCALE:	AS NOTED
DATE:	06/20/2011

STATE OF MAINE
MICHAEL E. FARMER
No. 4172
LICENSED
PROFESSIONAL ENGINEER

FOREST AVENUE SEWER EXTENSION

#1810 TO #1871 FOREST AV

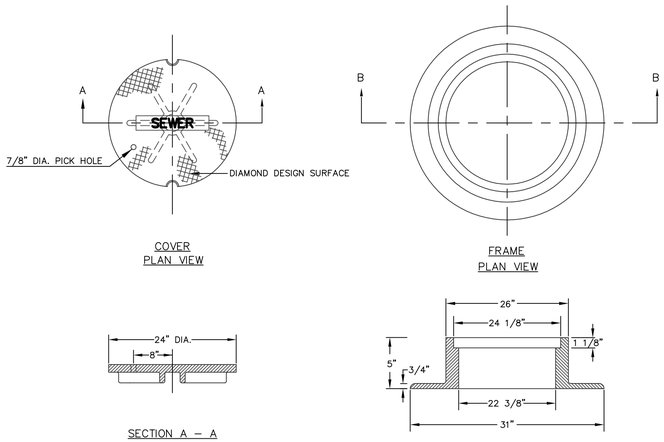
PLAN AND PROFILE

STATION 99+00 TO STATION 104+50

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING DIVISION

CITY OF PORTLAND, MAINE
RESURGAM

SHEET #
S3

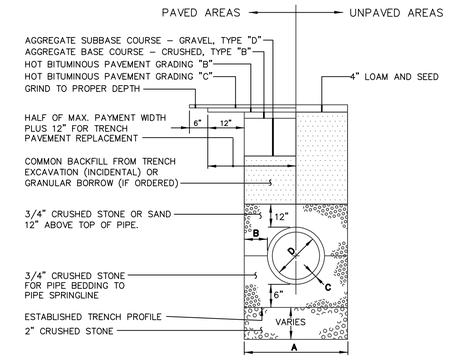


CAST IRON MANHOLE COVER AND FRAME

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..



TYPICAL PIPE TRENCH INSTALLATION

NOT TO SCALE

NOTES

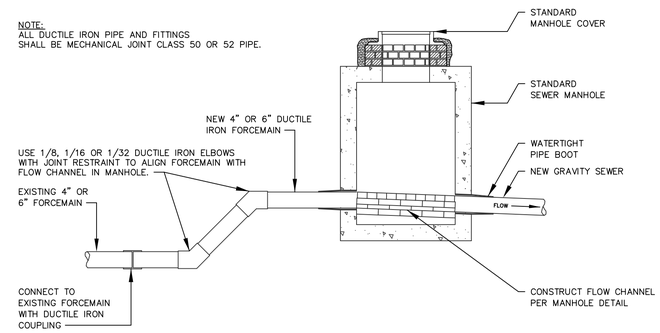
1. ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
3. DIMENSION **B** SHALL BE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

NOT TO SCALE

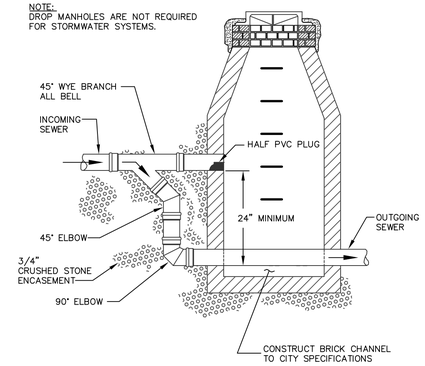
NOTE:
ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE MECHANICAL JOINT CLASS 50 OR 52 PIPE.



FORCEMAIN TERMINUS DETAIL

NOT TO SCALE

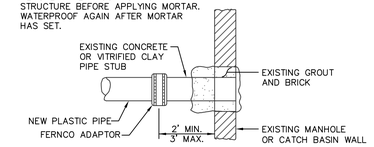
NOTE:
DROP MANHOLES ARE NOT REQUIRED FOR STORMWATER SYSTEMS.



TYPICAL OUTSIDE DROP MANHOLE

NOT TO SCALE

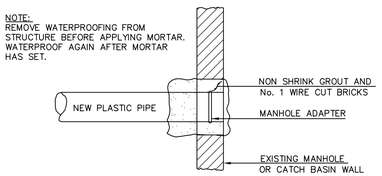
NOTE:
REMOVE WATERPROOFING FROM STRUCTURE BEFORE APPLYING MORTAR. WATERPROOF AGAIN AFTER MORTAR HAS SET.



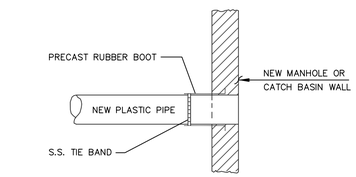
METHOD 4 – NEW PIPE TO EXISTING STRUCTURE STUB

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

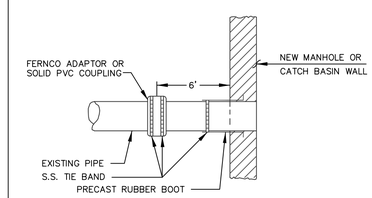
NOTE:
REMOVE WATERPROOFING FROM STRUCTURE BEFORE APPLYING MORTAR. WATERPROOF AGAIN AFTER MORTAR HAS SET.



METHOD 3 – NEW PIPE INTO EXISTING STRUCTURE



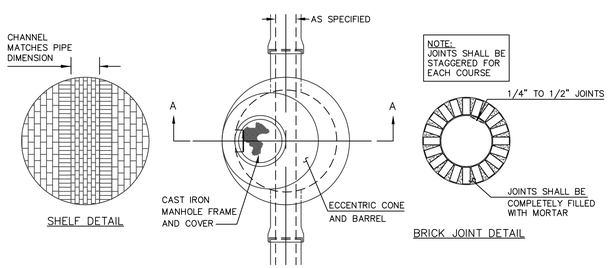
METHOD 2 – NEW CONSTRUCTION

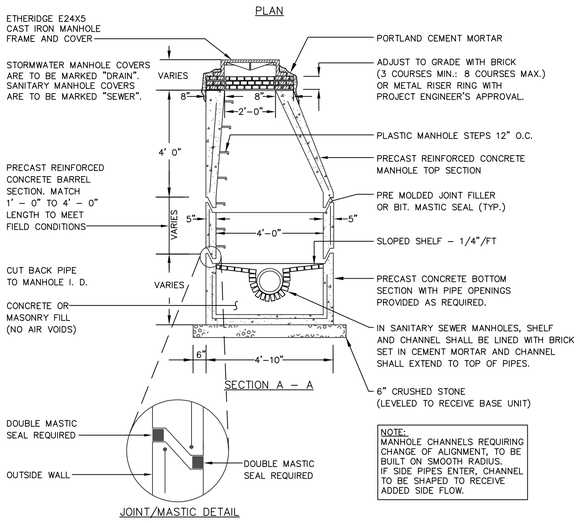


METHOD 1 – EXISTING PIPE INTO NEW STRUCTURE

PLASTIC PIPE CONNECTIONS

NOT TO SCALE





NOTE:
MANHOLE CHANNELS REQUIRING CHANGE OF ALIGNMENT, TO BE BUILT ON SMOOTH RADIUS. IF SIDE PIPES ENTER, CHANNEL TO BE SHAPED TO RECEIVE ADDED SIDE FLOW.

PRECAST CONCRETE MANHOLE

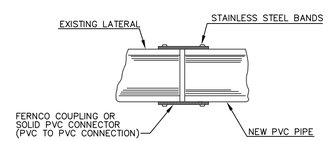
NOT TO SCALE

GENERAL NOTES FOR MANHOLES AND CATCH BASINS

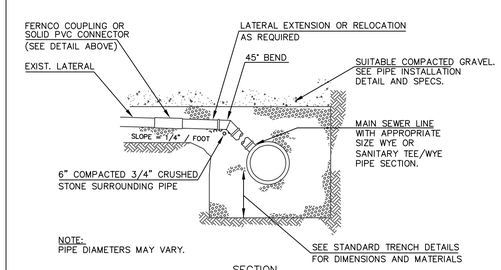
1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C–478.
4. ALL STORM AND SEWER MANHOLE 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. SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C–32–63, GRADE MA AND SA.
7. ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE.
8. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48–CLASS 35.
9. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
10. ALL CATCH BASIN OUTLETS SHALL BE INSTALLED WITH A CASCO TRAP.

NOTE:
LOCATIONS AND ELEVATIONS OF STUBS SHOWN ON THE PLANS ARE TO BE CONSIDERED AS APPROXIMATE AND MAY BE ADJUSTED AS DIRECTED TO SUIT FIELD CONDITIONS.

HOUSE CONNECTIONS AND CATCH BASINS CONNECTIONS TO THE MAIN LINE OF THE SEWER, SHALL CONSIST OF AN APPROPRIATE "Y" BRANCH CONNECTION AS SHOWN ON THE PLANS, OR AS DIRECTED. ACTUAL "Y" LOCATIONS FOR HOUSE CONNECTIONS AND CATCH BASIN CONNECTIONS SHALL BE DETERMINED DURING CONSTRUCTION. THE CONTRACTOR SHALL KEEP A COMPLETE RECORD OF "Y" LOCATIONS WHICH SHALL BE GIVEN TO THE CITY OF PORTLAND UPON COMPLETION OF THE CONTRACT.
ALL PVC TO PVC COUPLING SHALL BE "SOLID PVC COUPLINGS".



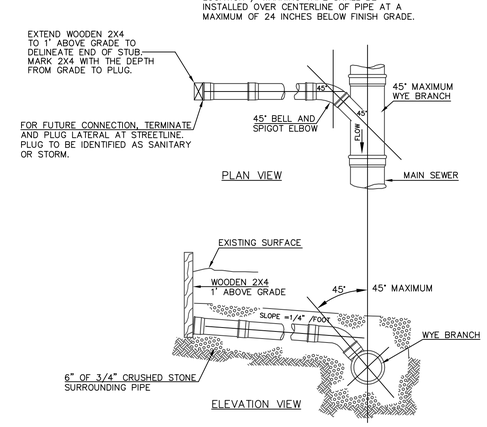
FERNCO COUPLING FOR REPAIR OR REPLACEMENT



TYPICAL EXISTING LATERAL CONNECTION

NOT TO SCALE

NOTE:
LOCATION / WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.



TYPICAL HOUSE LATERAL TEE/WYE CONNECTION

NOT TO SCALE

VAULT PLANS: 945/1 SHT 25

REFERENCES:
LDT PROJECT NAME: ForestAv\MDOT
DRAWING NAME: ForestAv\MDOT2011_SewerDETAILS.dwg
MDOT BASE DRAWING: HDPLAN_LKS.DWG
EXTERNAL REFERENCE DRAWINGS:
Alignments_50 scale_LKS.dwg
Highway_LKS.dwg
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RWPLAN_LKS.dwg
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DESIGNED BY:	M. FARMER
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SCALE:	AS NOTED
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STATE OF MAINE – MICHAEL E. MARGOLIS No. 4172 – LICENSED PROFESSIONAL ENGINEER

FOREST AVENUE
SEWER EXTENSION
#1810 TO #1871 FOREST AV

TYPICAL SEWER
CONSTRUCTION DETAILS

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING DIVISION

CITY OF PORTLAND, MAINE – RESURGAM

SHEET #
S4