STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PLAN LEGEND

Town, County, State
Property Lines
R/W Lines-Existing
R/W Lines-Proposed
Culvert-Existing
Culvert Proposed
Curbing — Existing — Proposed
Type 1
Type 3
Type 5
Outline of Bodies of Water
Ledge
Buildings
Trees — Conifer — Deciduous
Tree Line
Clearing Limit Line — CLL

Centerline-Existing
Centerline-Proposed — 10+00
Travelway-Existing
Travelway-Proposed
Railroad
Catch Basins — Existing — Proposed
Manholes — Existing — Proposed
Proposed Underdrain
Proposed Ditch
Existing Ditch
Utlity Poles — Existing — Proposed
Fire Hydrants — Existing — Proposed
Existing Water Line — W
Existing San. Sewer
Existing San. Sewer Manhole
Guardrail-Existing
Guardrail-Proposed
Guardrail-Cable, Other

FALMOUTH

Cumberland

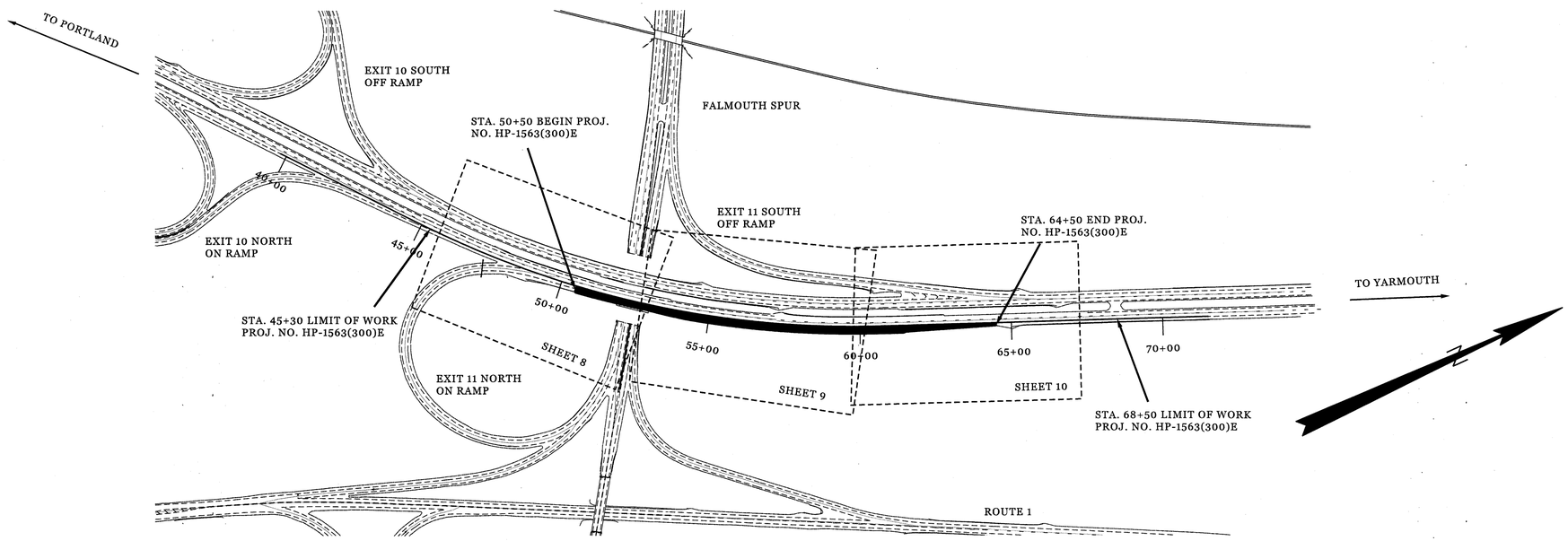
I-295 SPUR RAMP

HP-1563(300)E

PROJECT LENGTH : 0.265 MILES

INDEX OF SHEETS

Description	Sheet No.
Title Sheet	1
Typical Sections	2
Estimated Quantities	3
Drainage Sheet	4
General Notes	5
Traffic Sheets	6-7
Plan	8-10
Cross - Sections	11-20
Lighting Plans	21-23



TRAFFIC DATA

	Falmouth I-295 NB	Falmouth Spur On-Ramp
Current (2011) AADT	23390	3500
Future (2031) AADT	25730	4200
DHV - % of AADT	12%	16%
Design Hour Volume	3219	664
% Heavy Trucks (AADT)	8%	8%
% Heavy Trucks (DHV)	7%	7%
Directional Distribution (DHV)	100%	100%
18 kip Equivalent P 2.0	2005	406
18 kip Equivalent P 2.5	1910	387
Design Speed (mph)	65	40

Functional Class: Principal Arterial Interstate

LAYOUT SCALE

225 0 225 450

Scale in Feet

PROJECT LOCATION:	INTERSTATE I-295 NORTHBOUND AT THE FALMOUTH SPUR ON-RAMP
PROGRAM AREA:	HIGHWAY PROGRAM
OUTLINE OF WORK:	LENGTHEN THE ACCELERATION LANE ON I-295 NORTHBOUND AT THE FALMOUTH SPUR RAMP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED — DATE
COMMISSIONER: 7/6/11
CHIEF ENGINEER: 7-6-11

STATE OF MAINE — PROFESSIONAL ENGINEER — 9701

SIGNATURE
P.E. NUMBER 9701
DATE 7/6/11

PROJECT INFORMATION

PROGRAM	HIGHWAY
PROJECT MANAGER	ERNEST MARTIN
DESIGNER	BRIAN KITTREDGE
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

FALMOUTH
I-295 SPUR RAMP

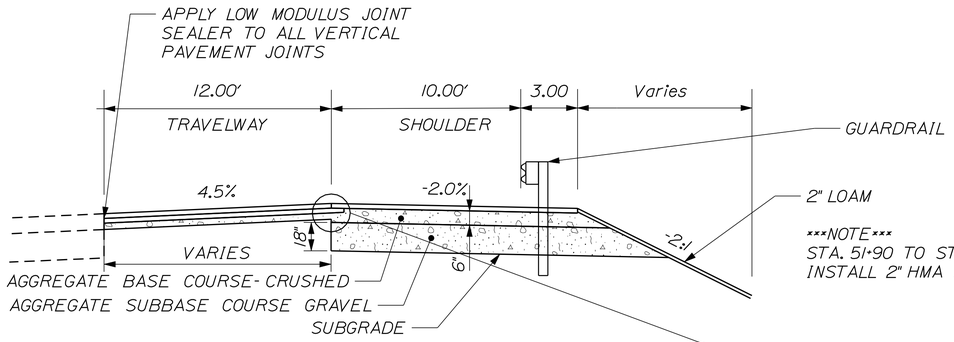
TITLE SHEET

HP-1563(300)E

WIN 15633.00

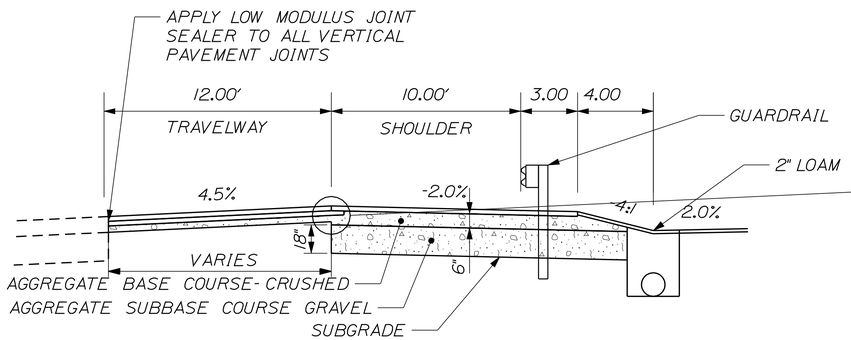
SHEET NUMBER
1
OF 23

Filename: ...\00\HIGHWAY\MSTA\001_Title.dgn Division: HIGHWAY Username: mike.barden Date:7/6/2011

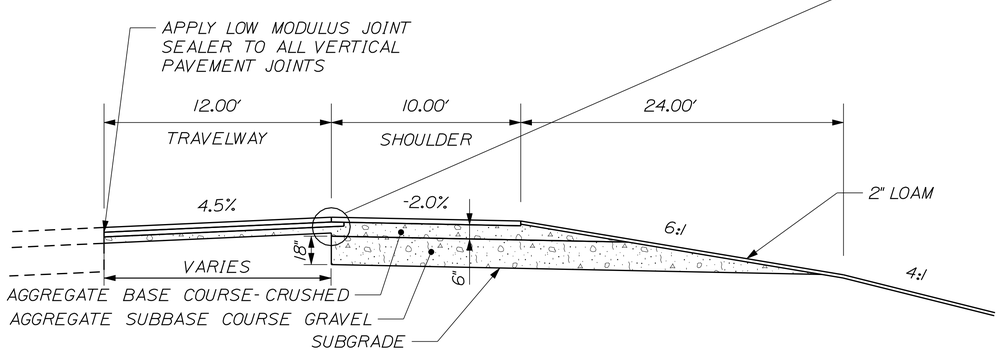


NOTE
STA. 51+90 TO STA. 53+05
INSTALL 2" HMA 9.5mm (ITEM 403.209)

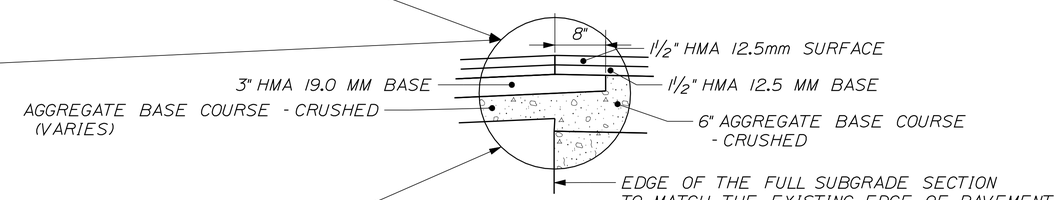
ACCELERATION LANE W/ GUARDRAIL & 2:1 INSLOPE
STATION 50+50 TO 54+60
STATION 58+70 TO 61+50



ACCELERATION LANE W/ SWALE & UD
STATION 54+60.00 TO 58+70



ACCELERATION LANE W/ 1:6 to 1:4 INSLOPE
STATION 61+50 TO 64+50



PAVEMENT DETAILS

NOTE:

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 GRAVEL QUANTITY CALCULATION IS BASED ON A 2" LOAM OR DIRTY BORROW DEPTH. THE ACTUAL DEPTH MAY VARY. SEE THE GENERAL NOTES.

5. THE ALGEBRAIC DIFFERENCE BETWEEN THE SHOULDER AND TRAVEWAY CROSS SLOPES "ROLLOVER" SHALL NOT EXCEED 8%.

6. THE STATIONING SHOWN UNDER EACH TYPICAL IS APPROXIMATE.

STATION	RT TRAVELWAY	RT. SHOULDER
START		
50+50.00	+4.5%	-2.0%
59+66.57	+4.5%	-2.0%
60+52.44		-4.0%
62+45.64	-2.0%	-4.0%

NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN 15633.00

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	E. MARTIN	
DESIGN-DETAILED	B.KITTRIDGE	T. WOLFEL
CHECKED-REVIEWED		
DESIGN2-DETAILED2	M.BARDEN	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

FALMOUTH
I-295 SPUR RAMP

TYPICAL SECTIONS

SHEET NUMBER
2
OF 23

Filename: ...\highway\msta\002_Typical.dgn Division: HIGHWAY Username: brian.kittridge Date:7/19/2011

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.205	RUMBLE STRIPS - SHOULDER	2415	LF
203.20	COMMON EXCAVATION	1020	CY
203.24	COMMON BORROW	1259	CY
206.07	STRUCTURAL ROCK EXCAVATION - DRAINAGE AND MINOR STRUCTURES	25	CY
304.09	AGGREGATE BASE COURSE - CRUSHED	695	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	1200	CY
403.102	HOT MIX ASPHALT PAVEMENT - SPECIAL AREAS	4	T
403.207	HOT MIX ASPHALT 19.0 MM HMA	300	T
403.208	HOT MIX ASPHALT 12.5 MM HMA SURFACE	290	T
403.209	HOT MIX ASPHALT 9.5 MM HMA (SIDEWALKS, DRIVES, INCIDENTALS)	15	T
403.213	HOT MIX ASPHALT 12.5 MM BASE	290	T
409.15	BITUMINOUS TACK COAT - APPLIED	115	G
424.3333	LOW MODULUS JOINT SEALER, APPLIED	1432	LF
526.301	TEMPORARY CONCRETE BARRIER TYPE I	1570	LF
527.34	WORK ZONE CRASH CUSHIONS	1	UN
604.247	CATCH BASIN TYPE F5-C	1	EA
605.12	15 INCH UNDERDRAIN TYPE C	410	LF
606.24	GUARDRAIL TYPE 3D - SINGLE RAIL	963	LF
606.2602	TERMINAL END - TRAILING END	1	EA
606.355	GUARDRAIL MOWING DELINEATORS	2	EA
606.356	UNDERDRAIN DELINEATOR POST	2	EA
606.3651	GUARDRAIL-REMOVE, MODIFY, AND RESET EXISTING TO 3D	125	LF
606.65	GUARDRAIL THRIE BEAM - SINGLE RAIL	125	LF
606.70	TRANSITION SECTION THRIE BEAM	2	EA
610.08	PLAIN RIPRAP	6	CY
613.319	EROSION CONTROL BLANKET	600	SY
615.07	LOAM	145	CY
618.1401	SEEDING METHOD NUMBER 2 - PLAN QUANTITY	17	UN
618.1411	SEEDING METHOD NUMBER 3 - PLAN QUANTITY	14	UN
619.12	MULCH	30	UN
620.58	EROSION CONTROL GEOTEXTILE	11	SY
626.23	PREWIRED CONDUIT SECONDARY WIRING	1450	LF
626.32	24 INCH FOUNDATION	10	EA
627.51	6" TEMPORARY PAVEMENT TAPE, YELLOW OR WHITE	7300	LF
627.57	12" REMOVABLE BLACK LINE MASKING TAPE	5600	LF
627.744	6" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	6800	LF
627.811	TEMPORARY BI-DIRECTIONAL YELLOW DELINEATORS	500	EA
629.05	HAND LABOR, STRAIGHT TIME	10	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	10	HR
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	20	HR
631.22	FRONT END LOADER (INCLUDING OPERATOR)	5	HR
634.16	HIGHWAY LIGHTING	1	LS
634.2041	LUMINAIRES	10	EA
634.21	CONVENTIONAL LIGHT STANDARD	10	EA
639.18	FIELD OFFICE TYPE A	1	EA
652.30	FLASHING ARROW BOARD	1	EA
652.31	TYPE I BARRICADE	15	EA
652.311	TYPE II BARRICADE	10	EA
652.33	DRUM	60	EA
652.34	CONE	50	EA
652.35	CONSTRUCTION SIGNS	800	SF
652.36	MAINTENANCE OF TRAFFIC CONTROL DEVICES	100	CD
652.38	FLAGGER	2000	HR
652.381	TRAFFIC OFFICERS	100	HR
652.41	PORTABLE CHANGEABLE MESSAGE SIGN	2	EA
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	1	LS
658.20	ACRYLIC LATEX COLOR FINISH, GREEN	7	SY
659.10	MOBILIZATION	1	LS

COMMON EXCAVATION FOR ESTIMATE

COMMON EXCAVATION (FROM CROSS SECTIONS) 892
GRUBBING IN FILL 128
TOTAL COMMON EXCAVATION 1,020

FILL FOR BORROW CALCULATIONS

COMMON FILL (FROM CROSS SECTIONS) 1,092
GRUBBING IN FILL 128
TOTAL FILL 1,220

ROCK EXCAVATION FOR ESTIMATE

ROCK EXCAVATION (FROM CROSS SECTIONS)
ROCK EXCAVATION (BOULDERS)
TOTAL ROCK EXCAVATION 0

UNCLASSIFIED EXCAVATION FOR ESTIMATE

TOTAL COMMON EXCAVATION 1,020
TOTAL ROCK EXCAVATION 0
TOTAL UNCLASSIFIED EXCAVATION 1,020

AVAILABLE COMMON EXCAVATION FOR BORROW CALCULATIONS

(1) TOTAL COMMON EXCAVATION 1,020
DEDUCTIONS:
GRUBBING IN CUT 215
GRUBBING IN FILL 128
PAVEMENT SALVAGE (CUT & FILL) 529
(2) TOTAL DEDUCTIONS 872
TOTAL AVAILABLE COMMON EXCAVATION (1) MINUS (2) 148
TOTAL AVAILABLE STRUCT. EXCAVATIONS (USUALLY UNDERDRAIN ONLY)
TOTAL AVAILABLE NON-ROCK EXCAVATION 148

COMPUTATION OF WASTE STORAGE & WASTE MATERIAL

TOTAL AVAIL. WASTE STORAGE AREA (FROM CROSS SECTIONS)
GRUBBING IN CUT
GRUBBING IN FILL
UNDERCUT
MUCK EXCAVATION
TOTAL WASTE MATERIAL TO BE UTILIZED (LOWER OF TOTAL AVAILABLE WASTE STORAGE AREA OR TOTAL WASTE MATERIAL) 0

TOTAL WASTE MATERIAL TO BE WASTED (TOTAL WASTE MATERIAL MINUS TOTAL WASTE MATERIAL TO BE UTILIZED) 0

COMPUTATION OF GRANULAR BORROW FOR ESTIMATE

GRANULAR BORROW TO REPLACE MUCK
GRANULAR BORROW IN LOW WET AREAS
GRANULAR BORROW TO UPGRADE EXCAVATION
GRANULAR BORROW TO MAINTAIN TRAFFIC
GRANULAR BORROW FOR UNDERCUTTING
GRANULAR BORROW = 0 x 1.15= 0

COMPUTATION FOR COMMON BORROW FOR ESTIMATE

(3)TOTAL FILL 1,220

TOTAL AVAIL. NON-ROCK EXCAV. 148 x 0.85 = 125
TOTAL AVAIL. ROCK EXCAV. 0 x 1.33 = 0
TOTAL AVAIL. STR. ROCK EXCAV. 0 x 1.33 = 0
TOTAL WASTE MATERIAL TO BE UTILIZED 0 x 1 = 0
(4)TOTAL AVAILABLE EXCAVATION = 125
BORROW NEEDED = TOTAL FILL - TOTAL AVAIL. EX. 1,095

IF NO BORROW IS NEEDED, SURPLUS MATERIAL = AVAILABLE EXCAVATION MINUS TOTAL FILL, PLUS TOTAL WASTE MATERIAL TO BE WASTED -1,095

GRANULAR BORROW IN LOW WET AREAS 0
GRANULAR BORROW TO UPGRADE EXCAVATION 0
GRANULAR BORROW TO MAINTAIN TRAFFIC 0
TOTAL FILL MINUS REQUIRED GRAN. BORR. WITHIN FILL 1,095
COMMON BORROW = 1,095 x 1.15 = 1,259

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN 15633.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	E. MARTIN		
DESIGN-DETAILED	B.KITTRIDGE	T. WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

FALMOUTH
I-295 SPUR RAMP

ESTIMATED QUANTITIES

SHEET NUMBER
3
OF 23

Filename: ...\highway\rmsta\003_Estimate.dgn Division: HIGHWAY Username: brian.kittridge Date:7/19/2011

STATION	CULVERT PIPE											CATCH BASIN					PIPE ARCH				MH	UNDERDRAIN						ELBOWS, TEES, WYES AND INLET GRATE UNITS	REMARKS
	RCP			CMP		OPTION I		OPTION III														TYPE B		TYPE C					
								SMOOTHLINED		CORRUGATED										GAGE OR WALL THICKNESS		TYPE B	OUTLET	SMOOTHLINED		CORRUGATED		DESCRIPTIONS	
	SIZE	LENGTH	CLASS	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	A1-C	B1-C	F5-C	E	F	SPAN	RISE	LENGTH			LENGTH	LENGTH	SIZE	LENGTH	SIZE	LENGTH		
STA 56+60 Rt.														1															
STA 54+59 to STA 56+59 Rt.																										15"	200'		
STA 56+61 to STA 58+71 Rt.																										15"	200'		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN
15633.00

HIGHWAY PLANS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T. WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

FALMOUTH
I-295 SPUR RAMP

DRAINAGE SHEET

SHEET NUMBER

4

OF 23

Filename: ...\highway\rnsta\004_Drainage.dgn Division: HIGHWAY Username: brian.kittridge Date:7/19/2011

GENERAL NOTES

1. NO UTILITY INVOLVEMENT IS ANTICIPATED.

2. 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.

3. CLEARING LIMITS SHALL BE 15' BEYOND AND PARALLEL TO THE CONSTRUCTION SLOPE LINE IN NON-GUARDRAIL FILL AREAS AND 10' ELSEWHERE.

4. GRUBBING IN FILL AREAS HAS BEEN SHOWN ON THE CROSS SECTIONS AND THE QUANTITIES NOTED. THESE LIMITS ARE APPROXIMATE AND HAVE BEEN USED FOR ESTIMATING PURPOSES ONLY. ACTUAL GRUBBING LIMITS MAY VARY BASED ON FIELD CONDITIONS AS DIRECTED BY THE RESIDENT. ESTIMATED GRUBBING DEPTHS ARE 6 INCHES IN FIELD AREAS AND12 INCHES IN WOODED AREAS.

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

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

7. 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.

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

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

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

11. INLETS AND OUTLETS OF ALL CULVERTS SHALL BE RIPRAPPED UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE RESIDENT.

12. A 3 FT. X 3 FT. SQUARE RIPRAP PAD SHALL BE CONSTRUCTED AT U.D. OUTLETS.

13. GUARDRAIL END TREATMENTS SHALL BE INSTALLED CONCURRENTLY WITH THE PLACEMENT OF EACH SECTION OF BEAM GUARDRAIL.

14. HOLES CREATED BY GUARDRAIL REMOVAL WILL BE FILLED AND COMPACTED WITH APPROVED MATERIALS AS DIRECTED BY THE RESIDENT. PAYMENT TO BE CONSIDERED INCIDENTAL TO THE GUARDRAIL ITEMS.

15. ALL EXISTING GUARDRAIL TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR. REMOVAL AND DISPOSAL SHALL BE CONSIDERED INCIDENTAL TO THE GUARDRAIL ITEMS.

16. TWO REFLECTORIZED FLEXIBLE G.R. MARKERS (ITEM 606.353) WILL BE INSTALLED AT EACH GUARDRAIL END. A DELINEATOR POST (ITEM 606.356) WILL BE INSTALLED AT EACH UNDERDRAIN OUTLET.

17. CONNECTIONS FOR PROPOSED GUARDRAIL TO EXISTING GUARDRAIL WILL BE CONSIDERED INCIDENTAL TO ITEM 606.

18. UNLESS OTHERWISE NOTED SEEDING METHOD NO. 2 SHALL BE UTILIZED ON ALL NON-GUARDRAIL SLOPES. SEEDING METHOD NO. 3 SHALL BE UTILIZED ON ALL GUARDRAIL FILL SLOPES. ON LONG NON-GUARDRAIL BACKSLOPES, SEEDING METHOD NO. 3 MAY BE USED INSTEAD OF METHOD NO. 2 IF NOTED OR DIRECTED BY THE RESIDENT.

19. LOAM SHALL BE PLACED TO A NOMINAL DEPTH OF 2 INCHES IN ALL AREAS UNLESS OTHERWISE NOTED OR DIRECTED.

20. 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.

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

22. 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.

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

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

25. MAINEDOT WILL FINAL STRIPE THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR TRANSFERRING THE EXISTING STRIPING PATTERN TO THE SURFACE COURSE.

26. ALL DITCH ELEVATIONS SHOWN ON THE CROSS SECTIONS ARE FOR THE FINISH DITCH FLOW LINE.

27. LOAM HAS BEEN ESTIMATED FOR 100% OF THE DISTURBED SLOPE AREA. ACTUAL PLACEMENT OF THE LOAM SHALL BE AS DESIGNATED BY THE RESIDENT.

28. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED AS SPECIFIED IN THE SOIL EROSION AND WATER POLLUTION CONTROL PLAN. PAYMENT WILL BE MADE UNDER 656.75, TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL, LUMP SUM.

29. MULCH SHALL BE APPLIED IN AREAS SEEDED BY SEEDING METHOD NO. 3, AND SEEDING METHOD NO. 2.

30. STATIONS REFERENCED ARE APPROXIMATE.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN
15633.00

HIGHWAY PLANS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T.WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

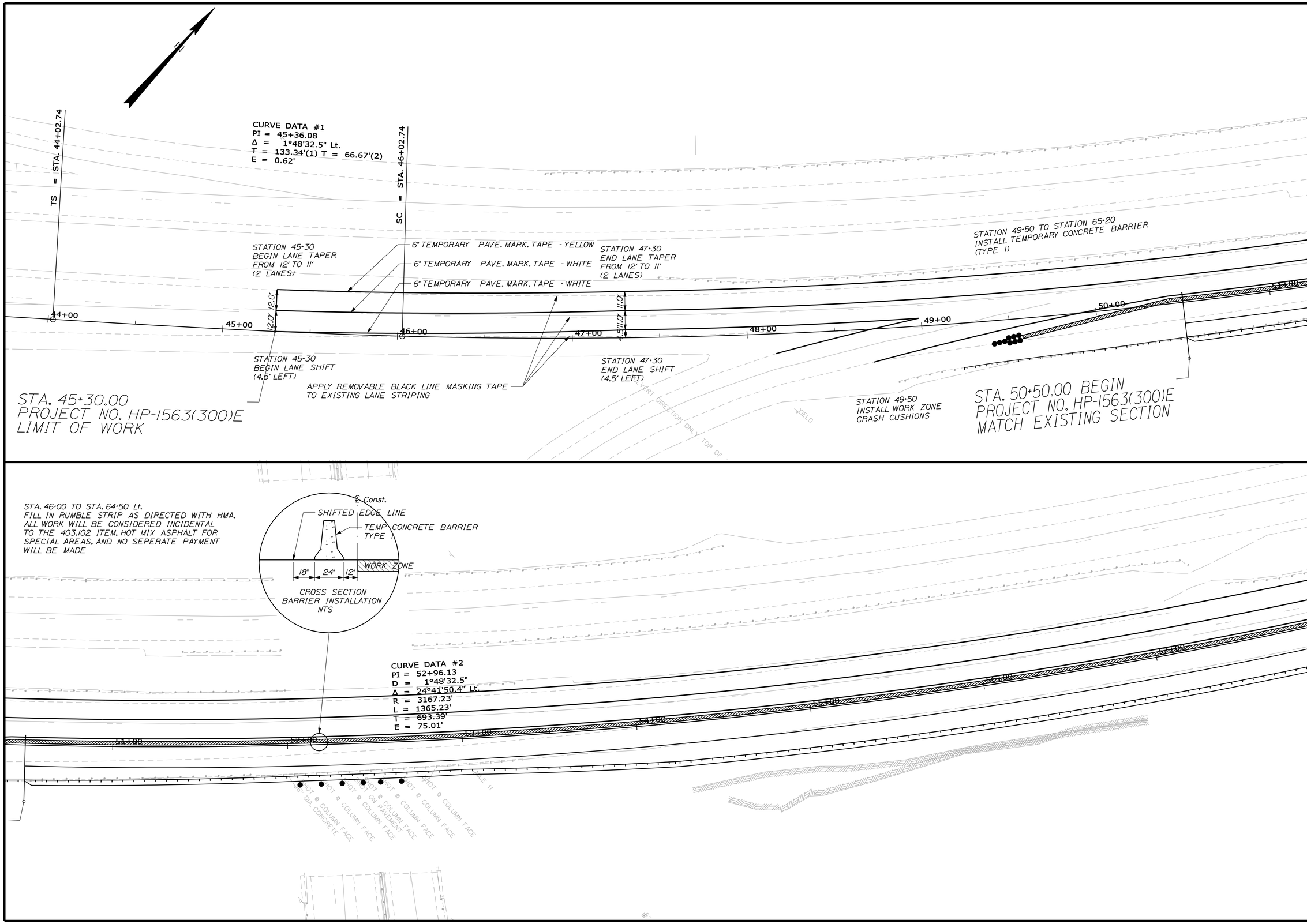
DATE

FALMOUTH
I-295 SPUR RAMP

GENERAL NOTES

SHEET NUMBER
5
OF 23

Filename: ...\msta\005_GeneralNotes.dgn Division: HIGHWAY Username: brian.kittridge Date:7/19/2011



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN
15633.00

HIGHWAY PLANS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T.WOLFEL	
CHECKED-REVIEWED	M.BARDEN		
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

FALMOUTH
I-295 SPUR RAMP

TRAFFIC PLANS

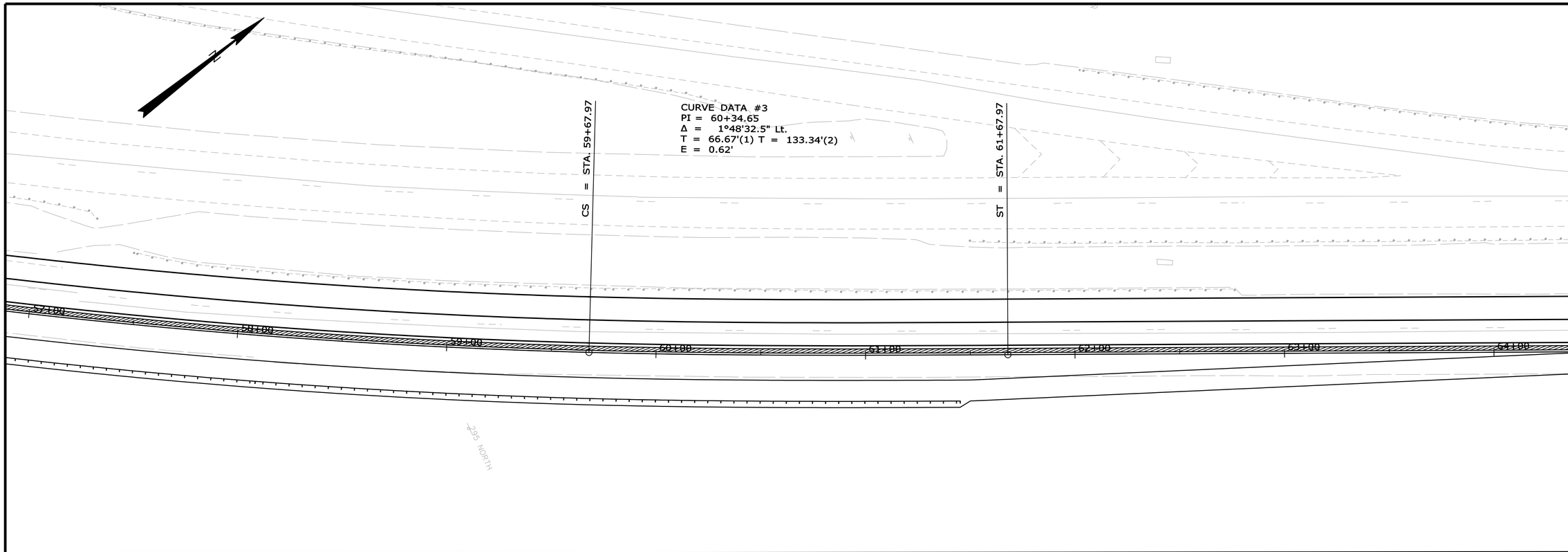
SHEET NUMBER

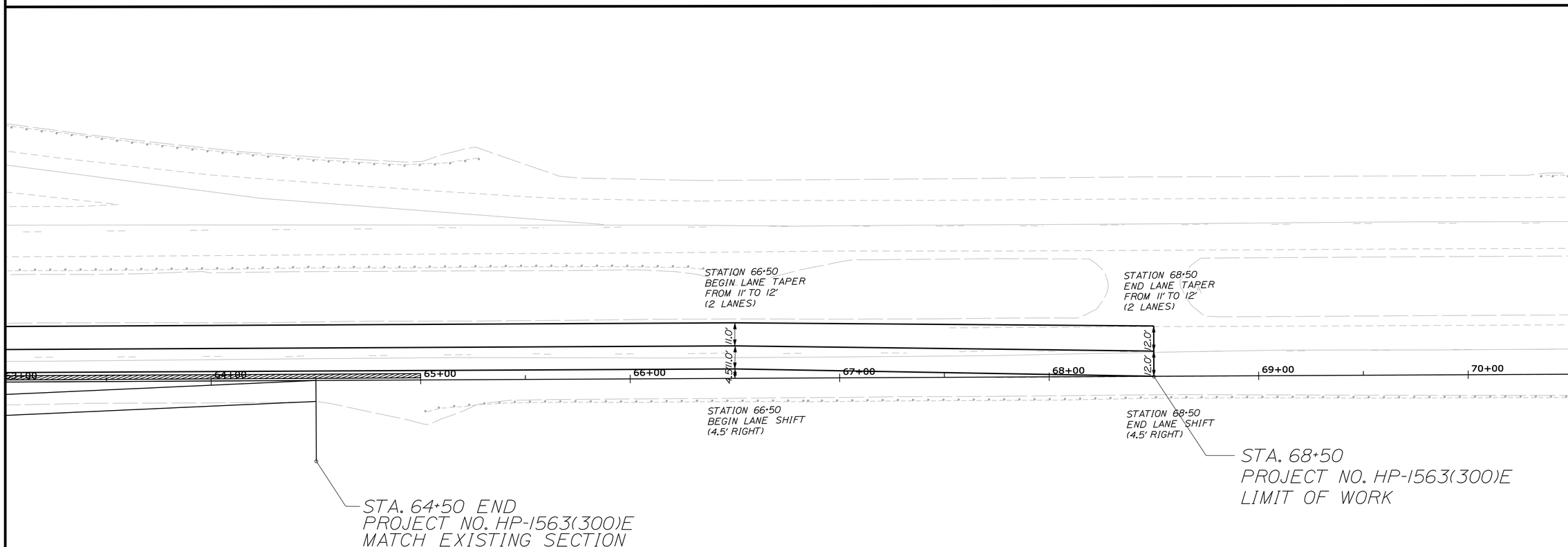
6

OF 23

STA. 44+00.00 TO STA. 57+00.00

Filename: ...\msta\006_TRAFFICPLAN1.dgn Division: HIGHWAY Username: brian.kittridge Date:7/19/2011





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN
15633.00

HIGHWAY PLANS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T. WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

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DATE

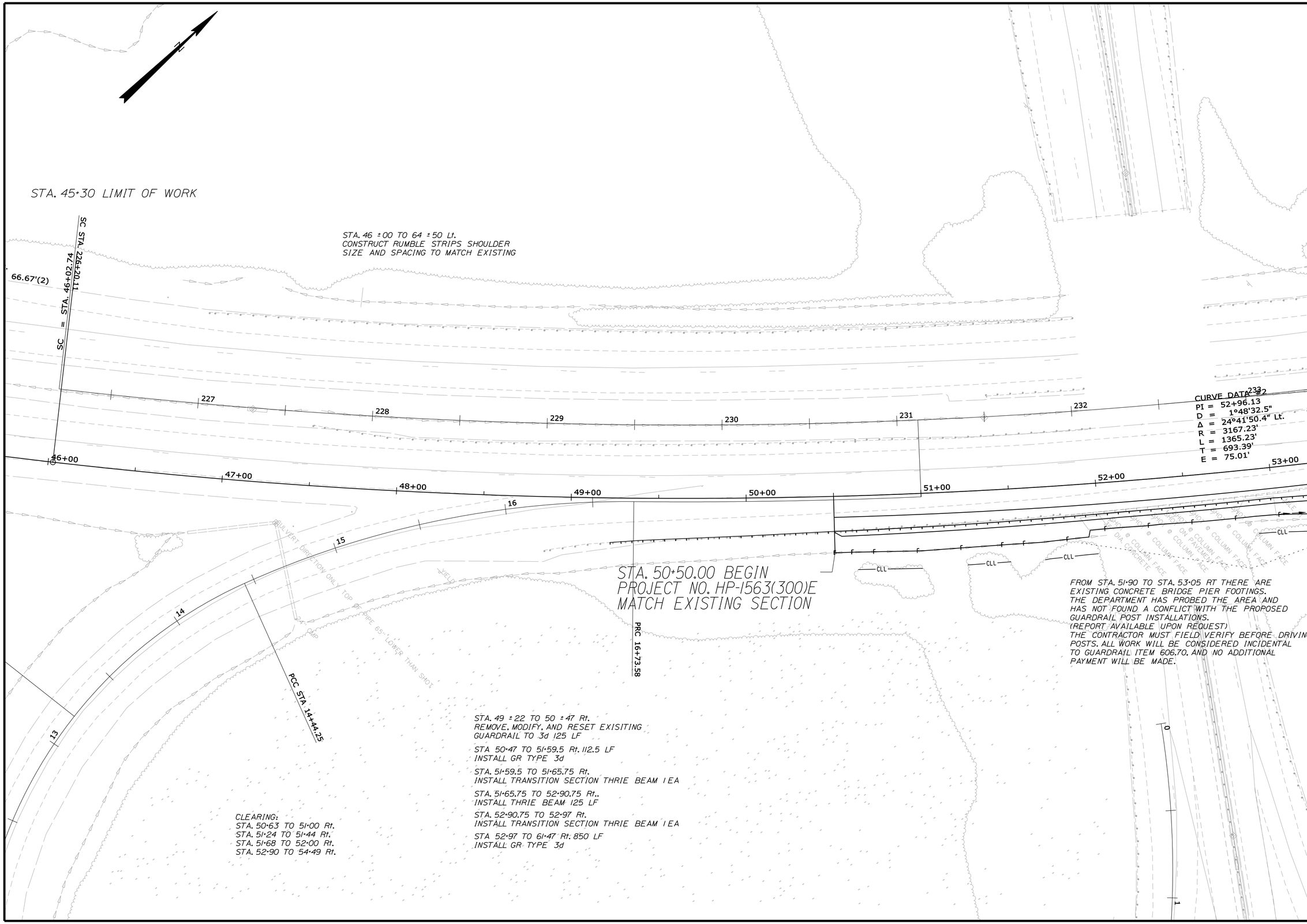
FALMOUTH
I-295 SPUR RAMP

TRAFFIC PLANS

SHEET NUMBER
7
OF 23

STA. 57+00.00 TO STA. 70+00.00

Filename: ...\msta\007_TRAFFICPLAN2.dgn Division: HIGHWAY Username: brian.kittridge Date:7/19/2011



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN 15633.00

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	E. MARTIN	
DESIGN-DETAILED	B.KITTRIDGE	
CHECKED-REVIEWED	T.WOLFEL	
DESIGN2-DETAILED2	M.BARDEN	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

FALMOUTH
I-295 SPUR RAMP

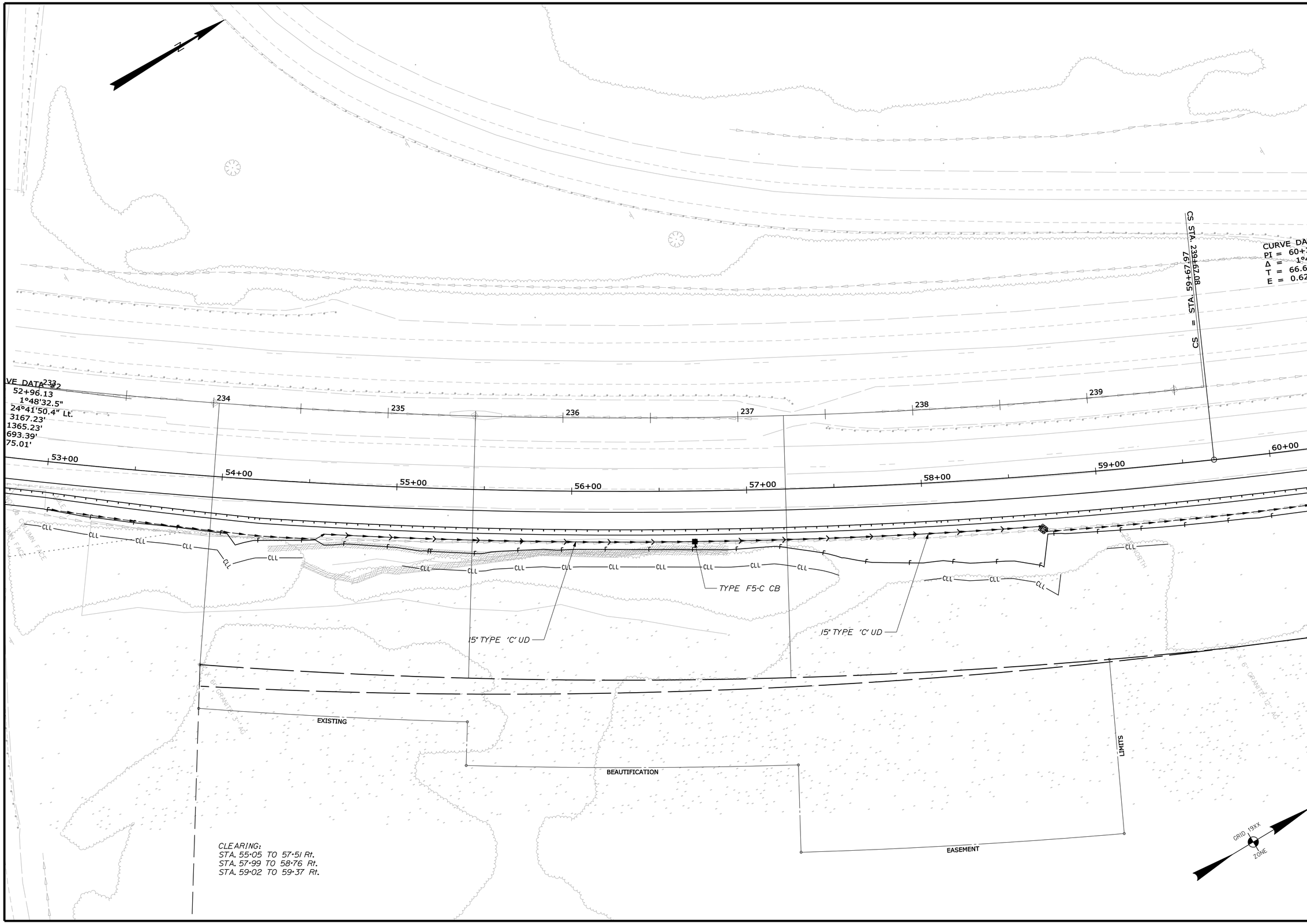
PLANS

SHEET NUMBER

8

OF 23

Filename: ...\highway\msta\008_HDPLAN1.DGN Division: HIGHWAY Username: brian.kittridge Date:7/19/2011



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN
15633.00

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	E. MARTIN	
DESIGN-DETAILED	B. KITTRIDGE	T. WOLFEL
CHECKED-REVIEWED		
DESIGN2-DETAILED2	M. BARDEN	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

FALMOUTH
I-295 SPUR RAMP

PLANS

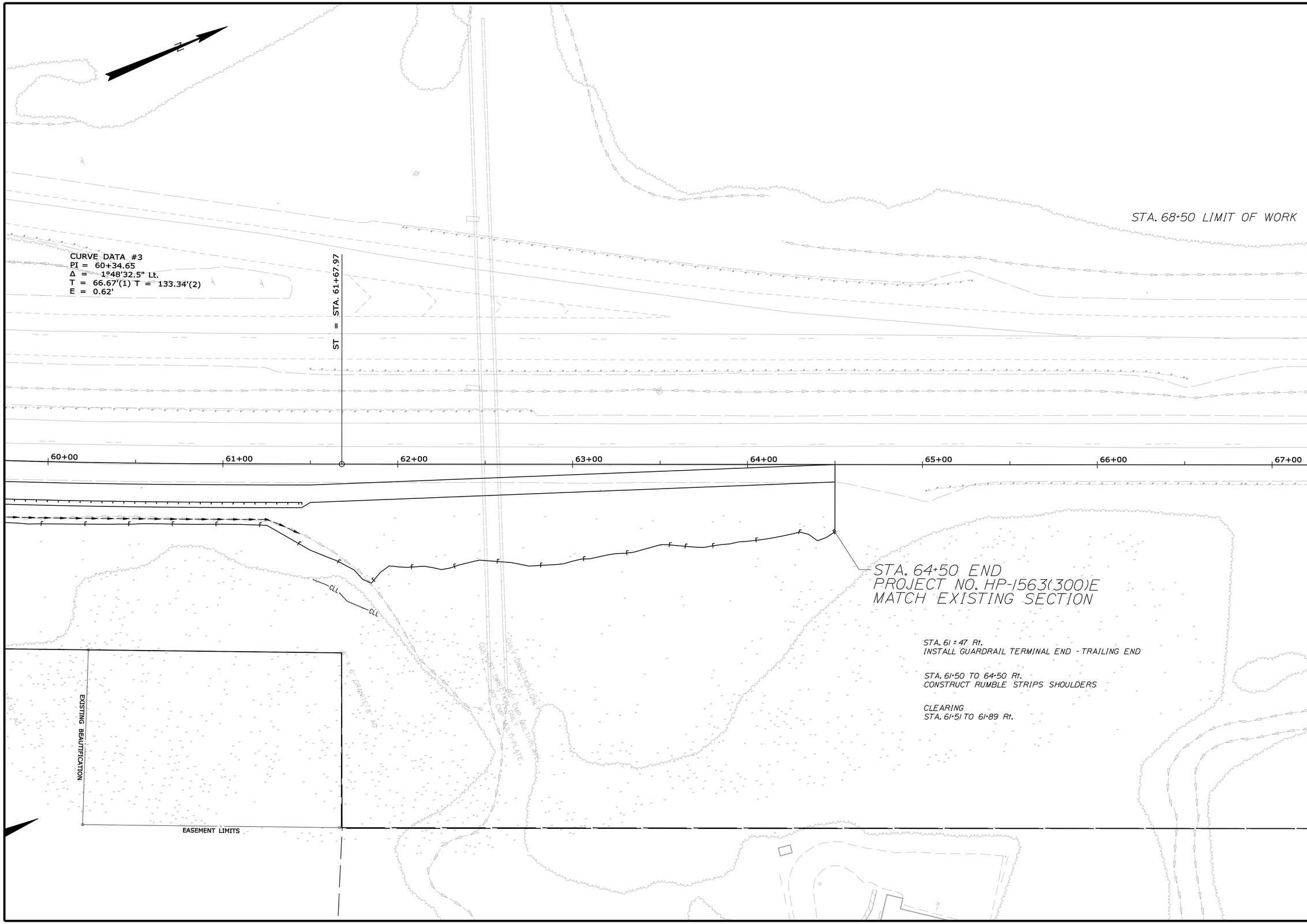
SHEET NUMBER

9

OF 23

STA. 53+00.00 TO STA. 60+00.00

Filename: ...\highway\msta\009_HDPLAN2.DGN Division: HIGHWAY Username: brian.kittridge Date:7/19/2011



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN
15633.00

HIGHWAY PLANS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T. WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

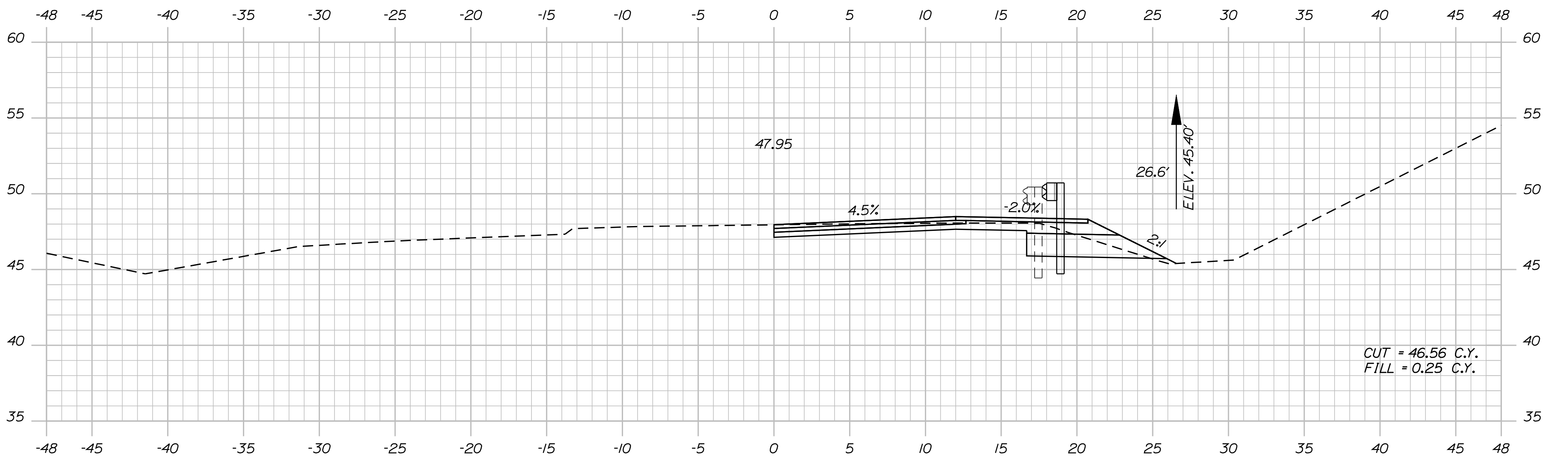
FALMOUTH
I-295 SPUR RAMP

PLANS

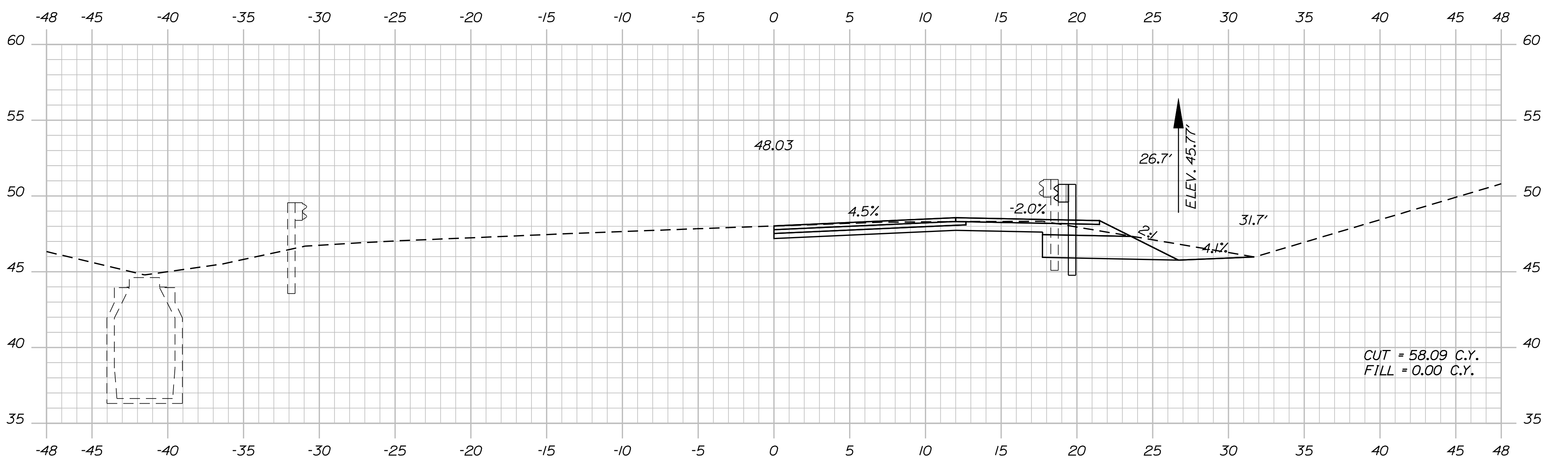
SHEET NUMBER
10
OF 23

Filename: ...\highway\msla\010_HDPLAN3.DGN Division: HIGHWAY Username: brian.kittridge Date:7/19/2011

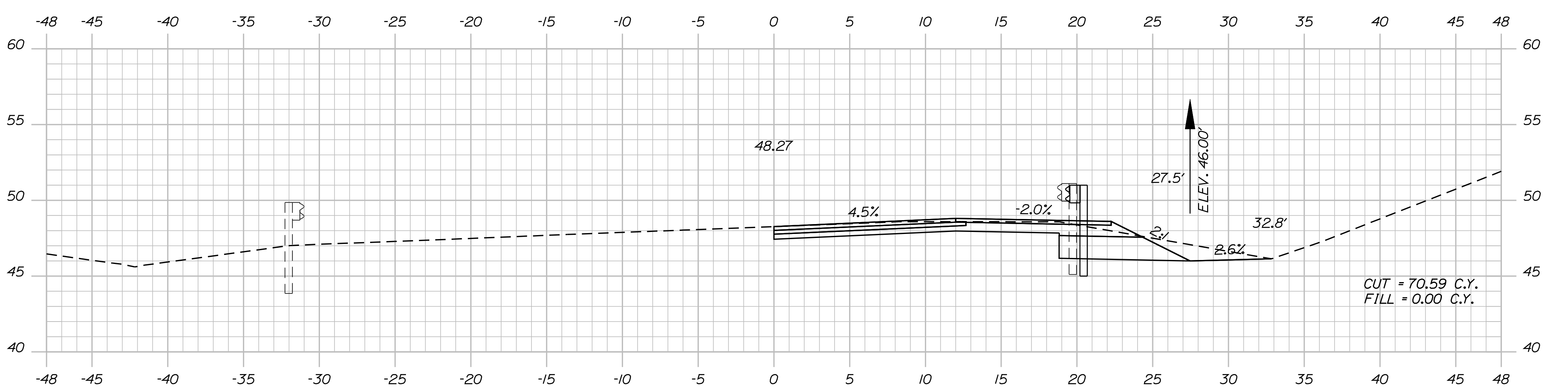
STA. 60+00.00 TO STA. 67+00.00



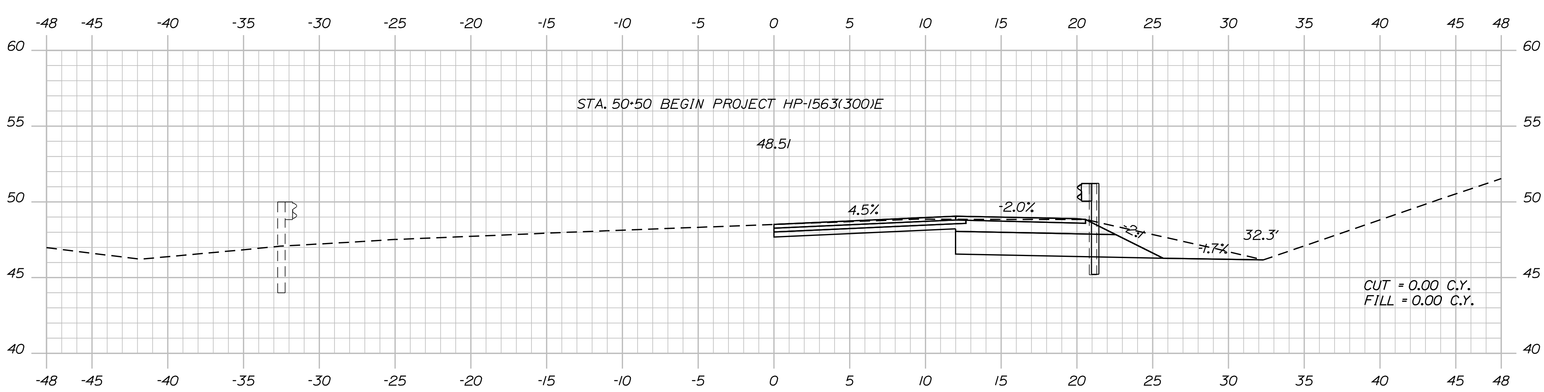
52+00.00



51+50.00



51+00.00



50+50.00

STA. 45+30 LIMIT OF WORK

Sta. 50+50.00 to Sta. 52+00.00

SHEET NUMBER 11 OF 23

FALMOUTH
I-295 SPUR RAMP

CROSS SECTIONS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T.WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

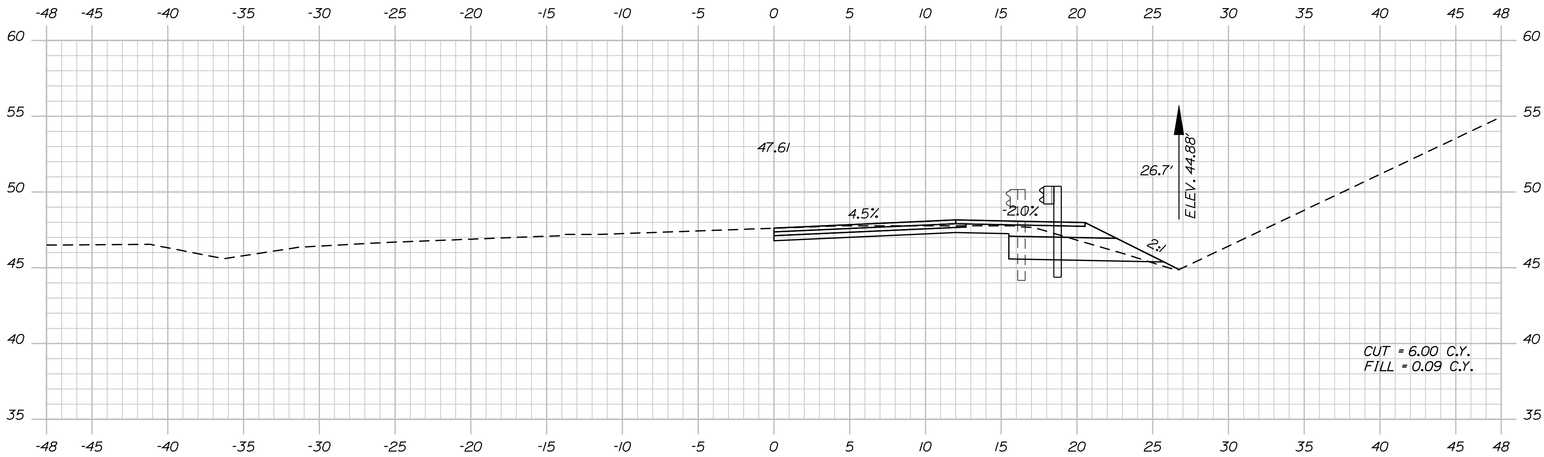
DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN
15633.00

HIGHWAY PLANS



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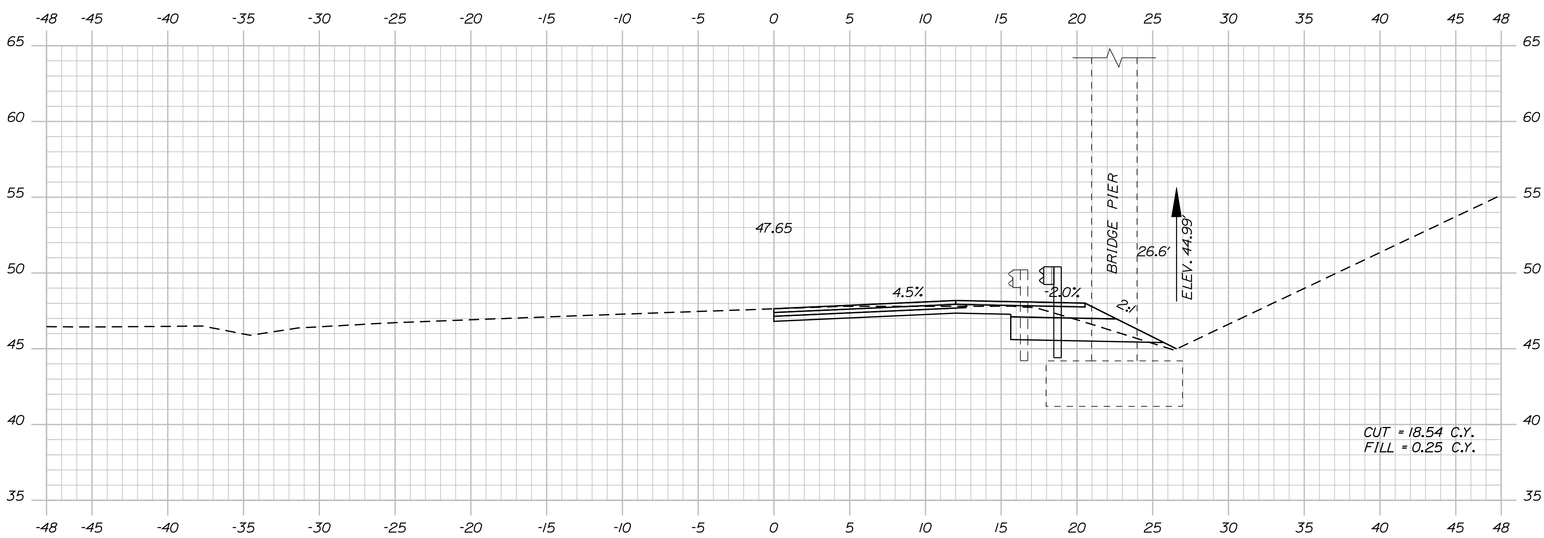

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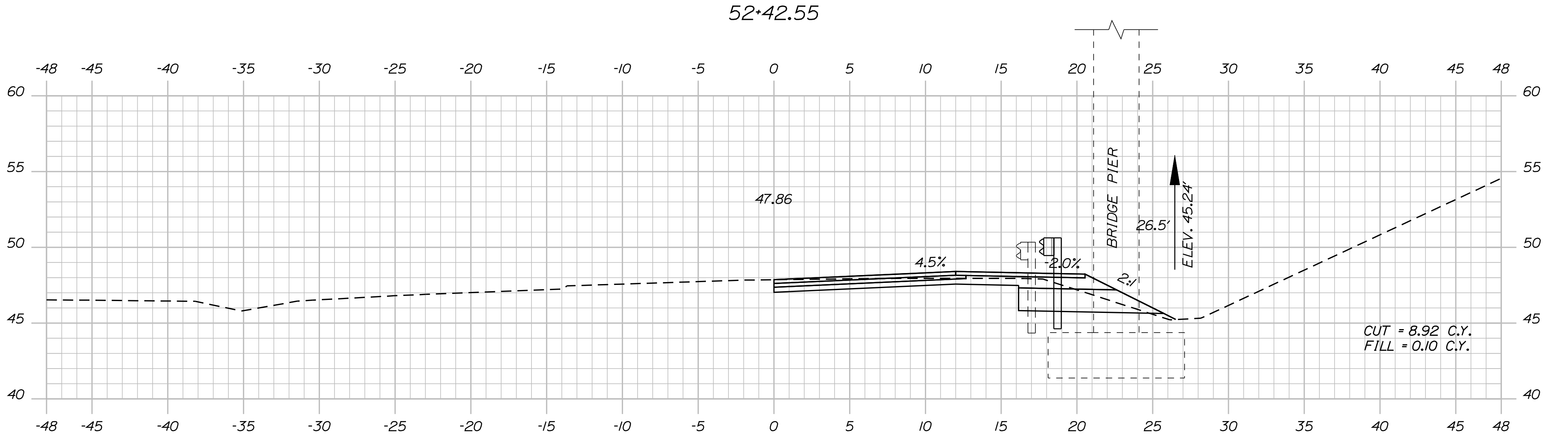

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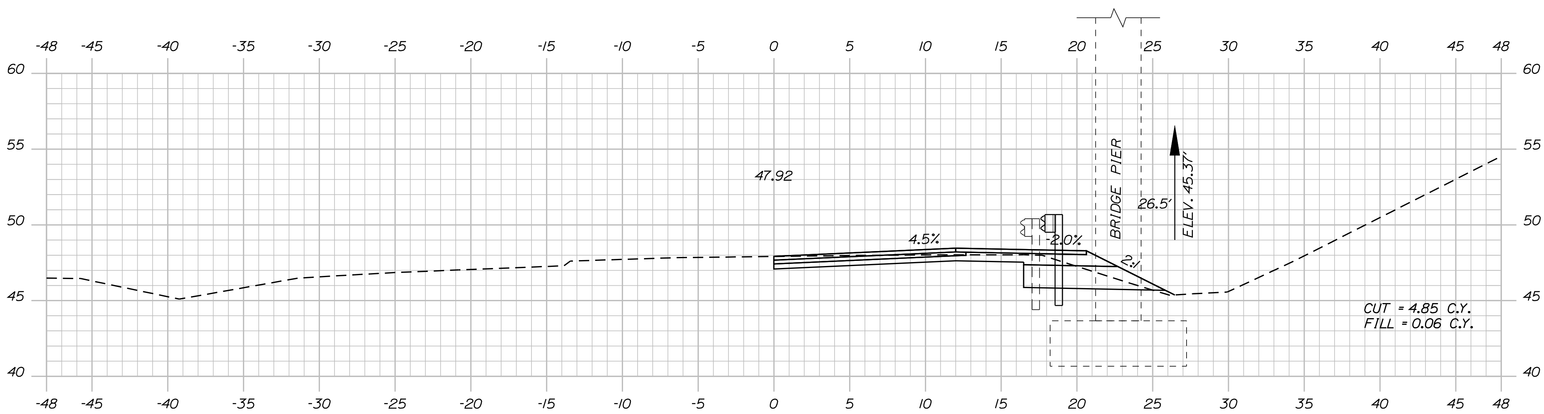


52+06.66

Sta. 52+06.66 to Sta. 52+50.00

SHEET NUMBER 12 OF 23

FALMOUTH
I-295 SPUR RAMP

CROSS SECTIONS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T.WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

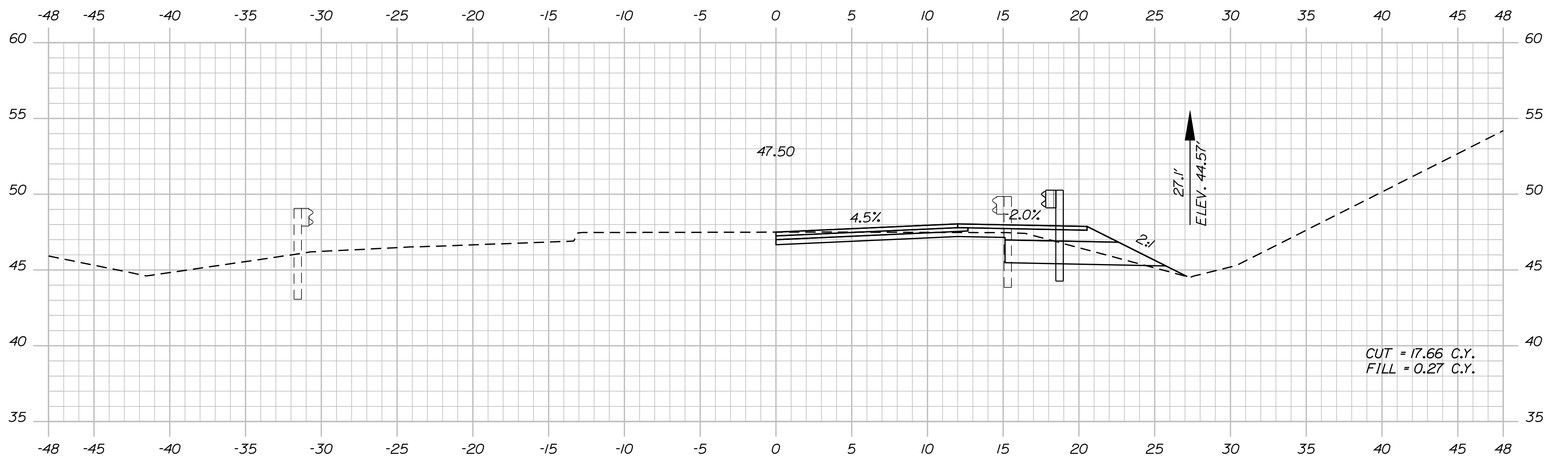
DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN 15633.00

HIGHWAY PLANS



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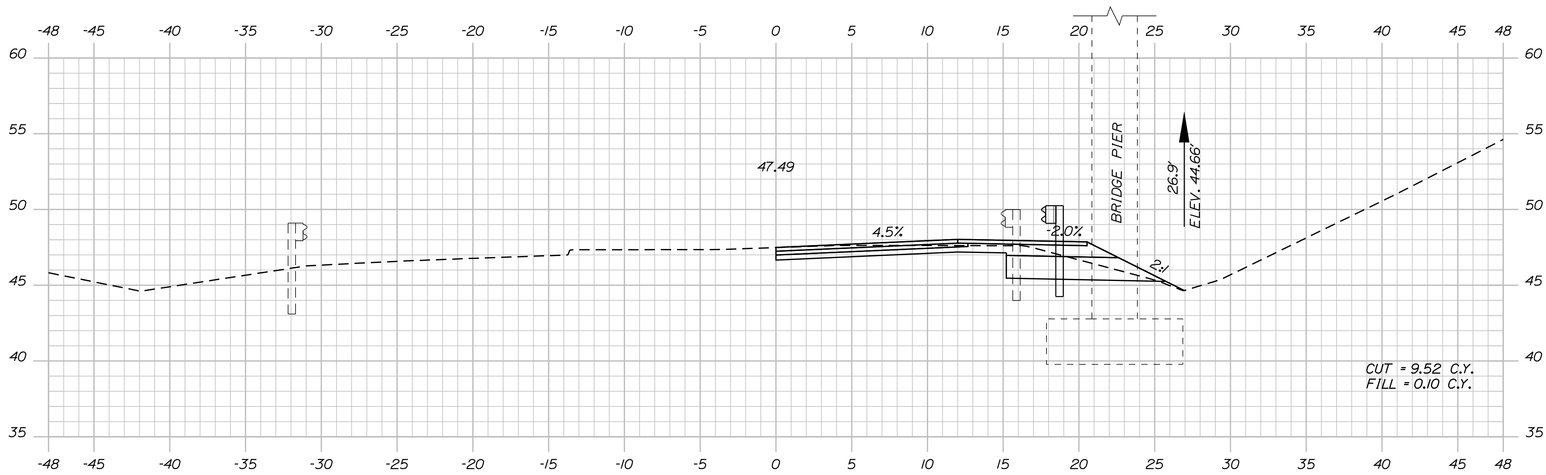

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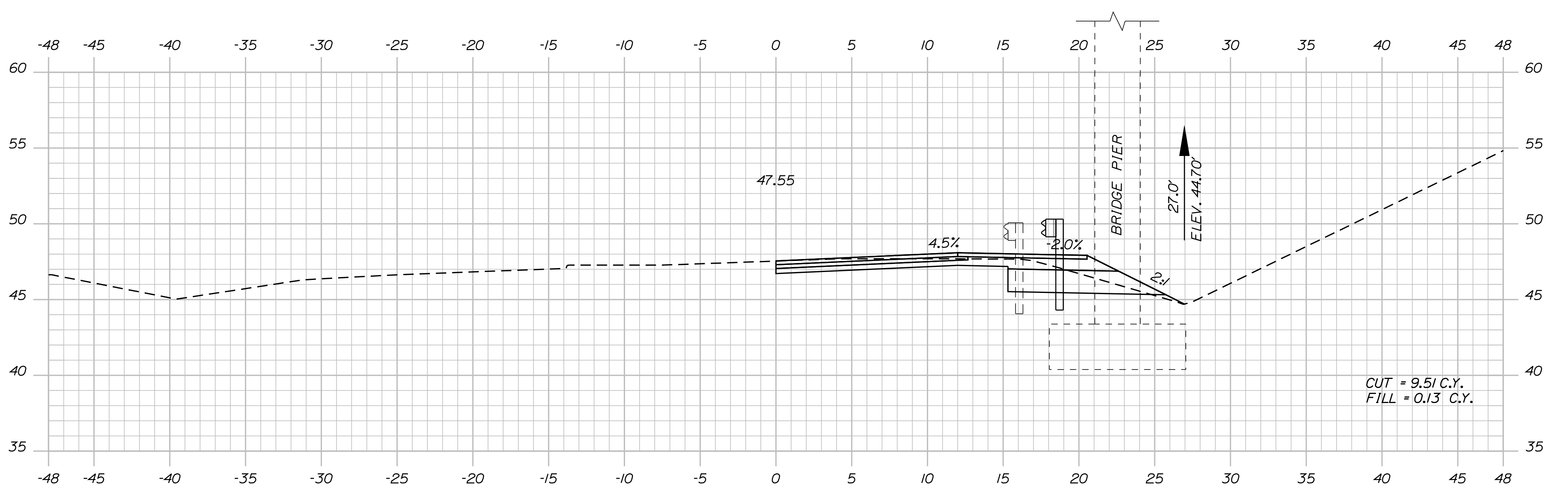

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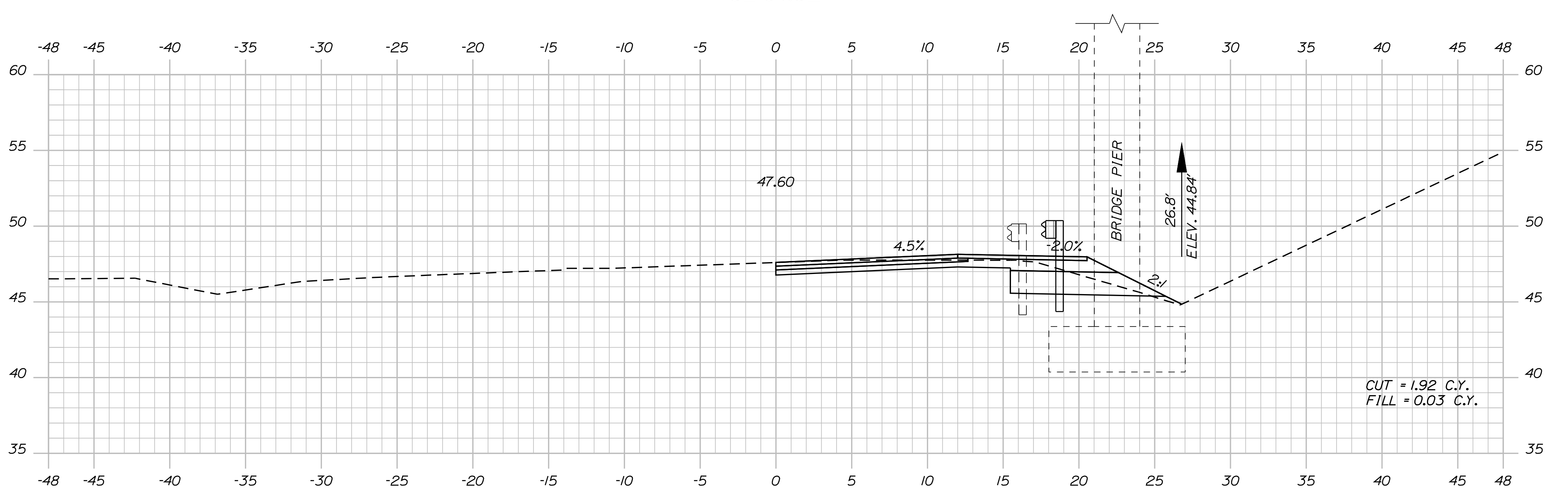


52+52.40

Sta. 52+52.40 to Sta. 53+00.00

SHEET NUMBER 13 OF 23

FALMOUTH
I-295 SPUR RAMP

CROSS SECTIONS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T.WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

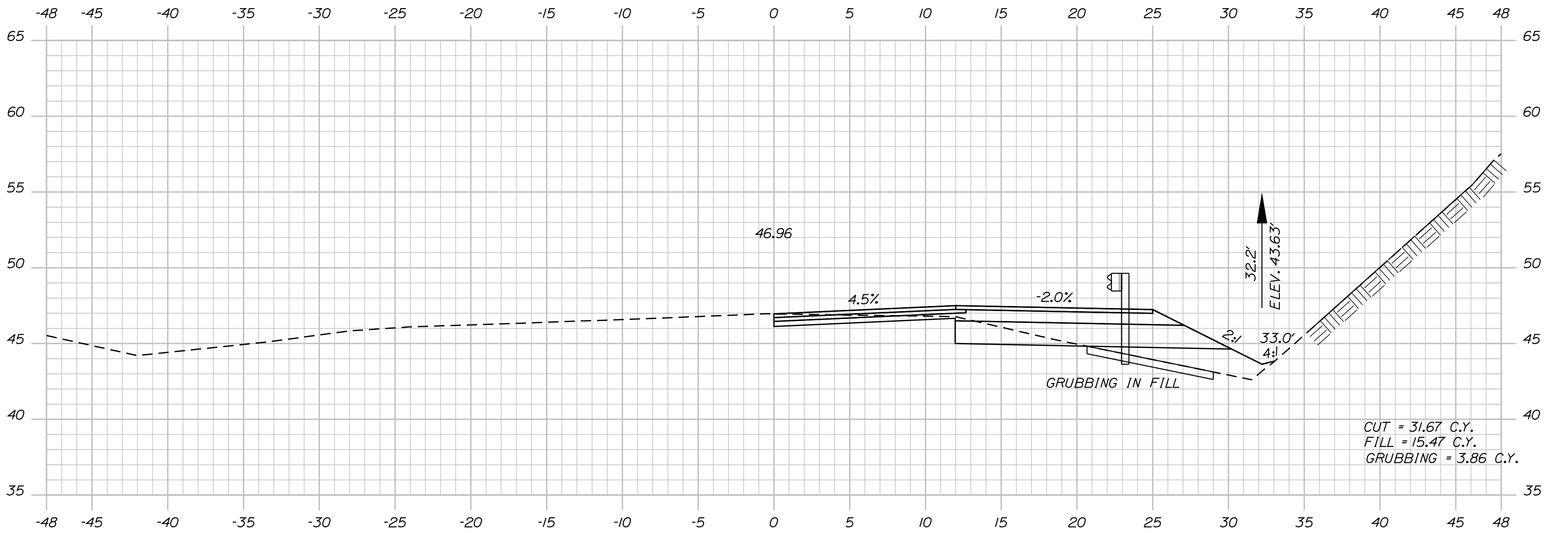
DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN 15633.00

HIGHWAY PLANS



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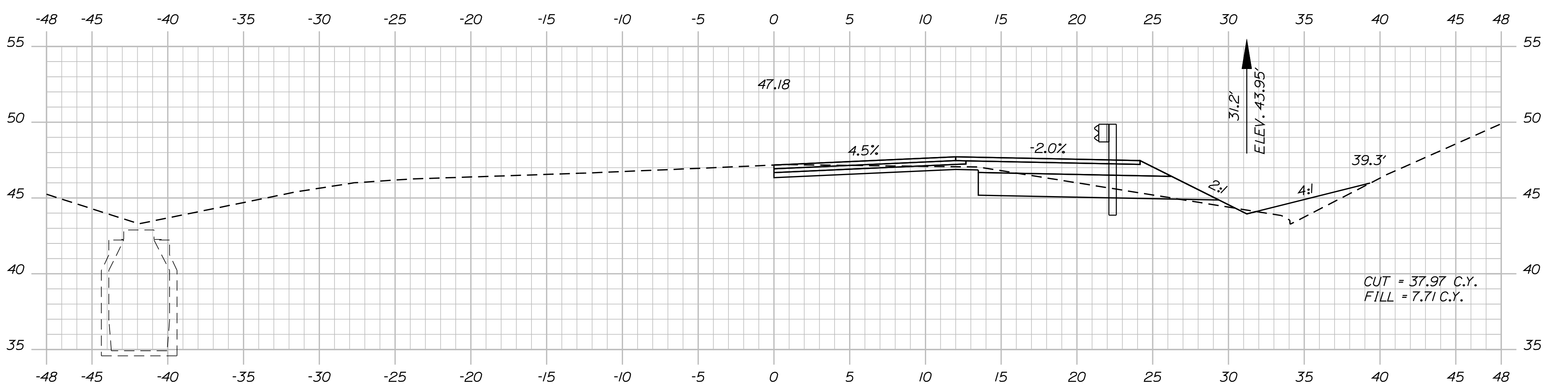

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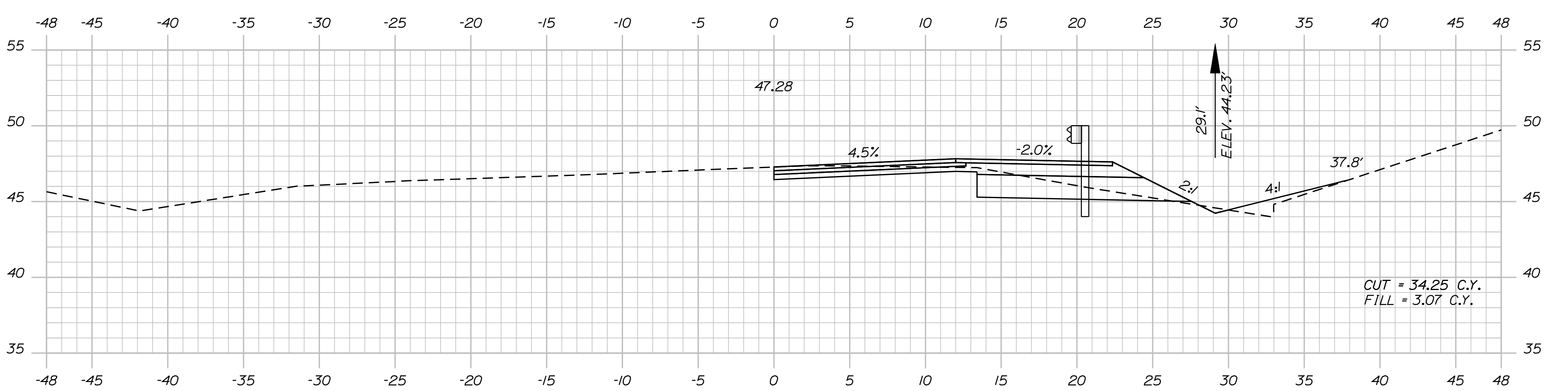

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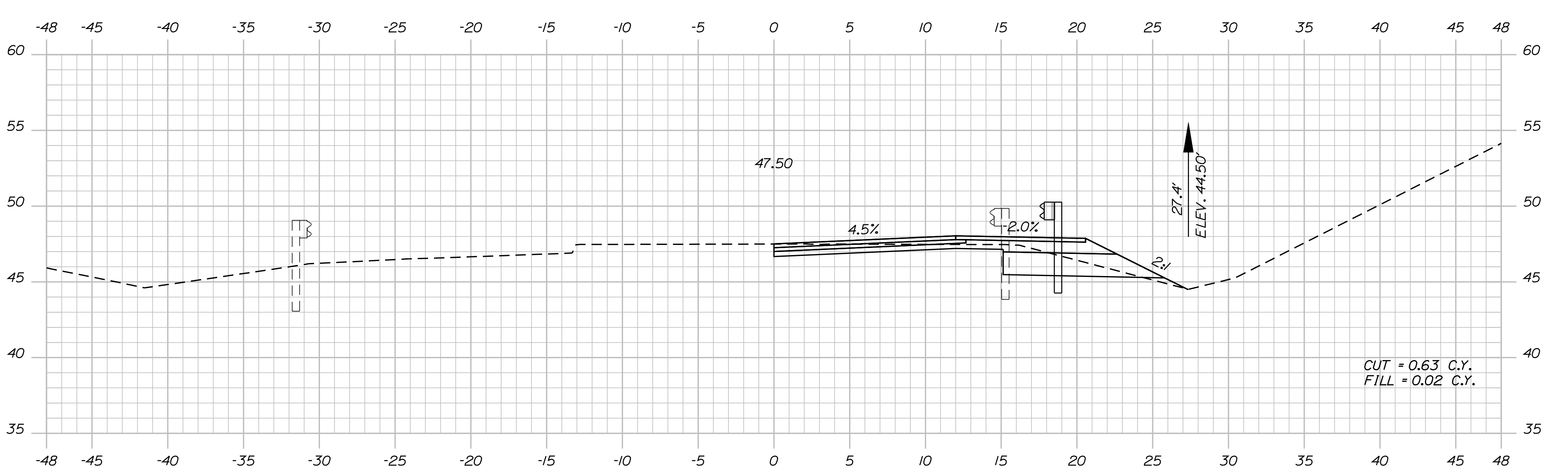


53+00.95

Sta. 53+00.95 to Sta. 54+50.00

SHEET NUMBER 14 OF 23

FALMOUTH
I-295 SPUR RAMP

CROSS SECTIONS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T.WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

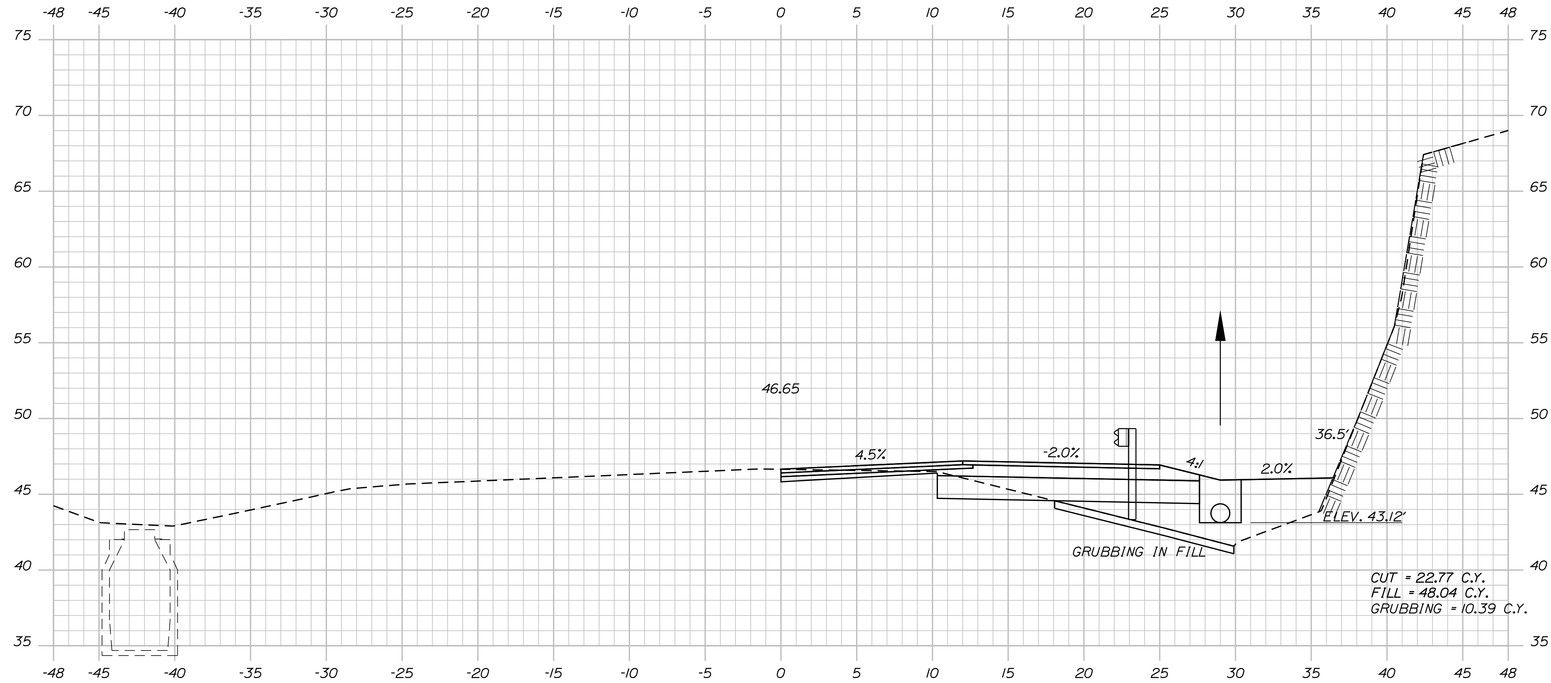
DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

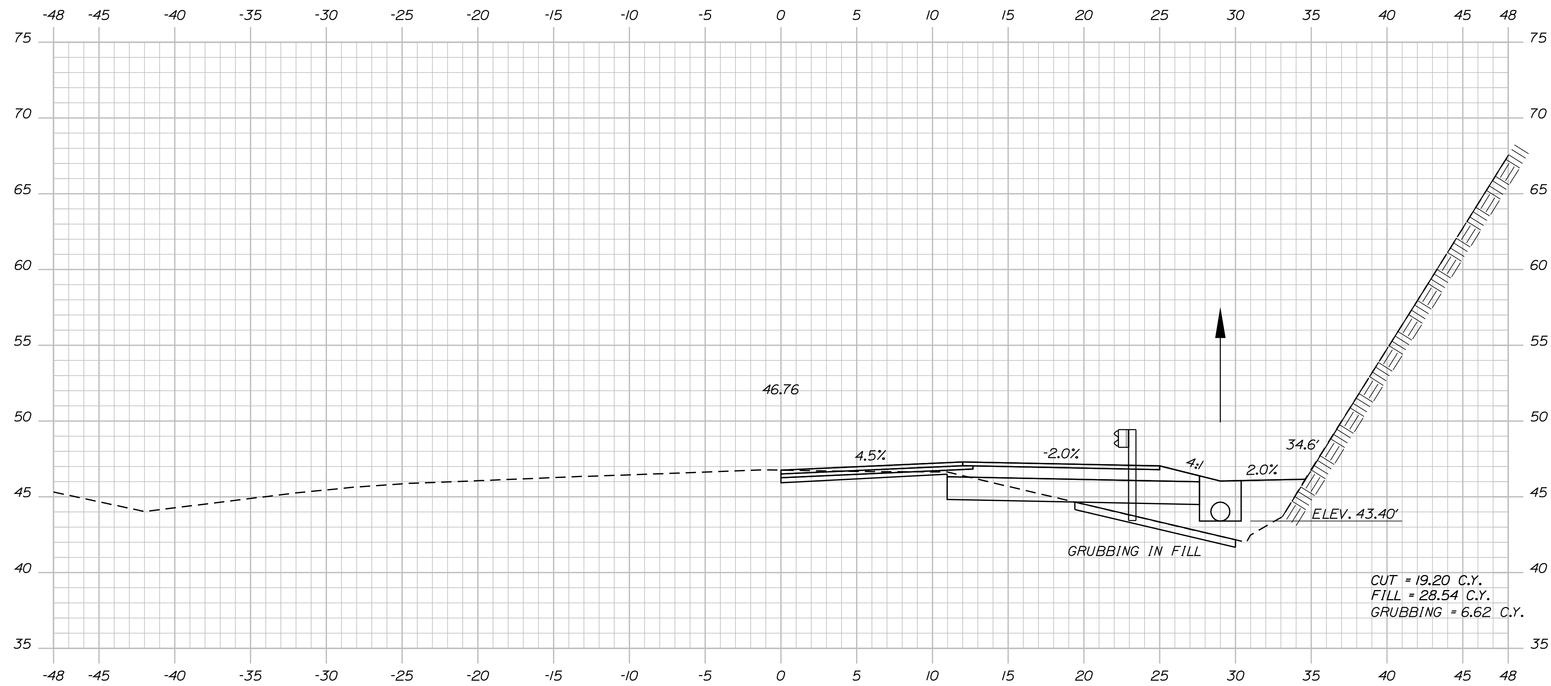
HP-1563(300)E

PIN 15633.00

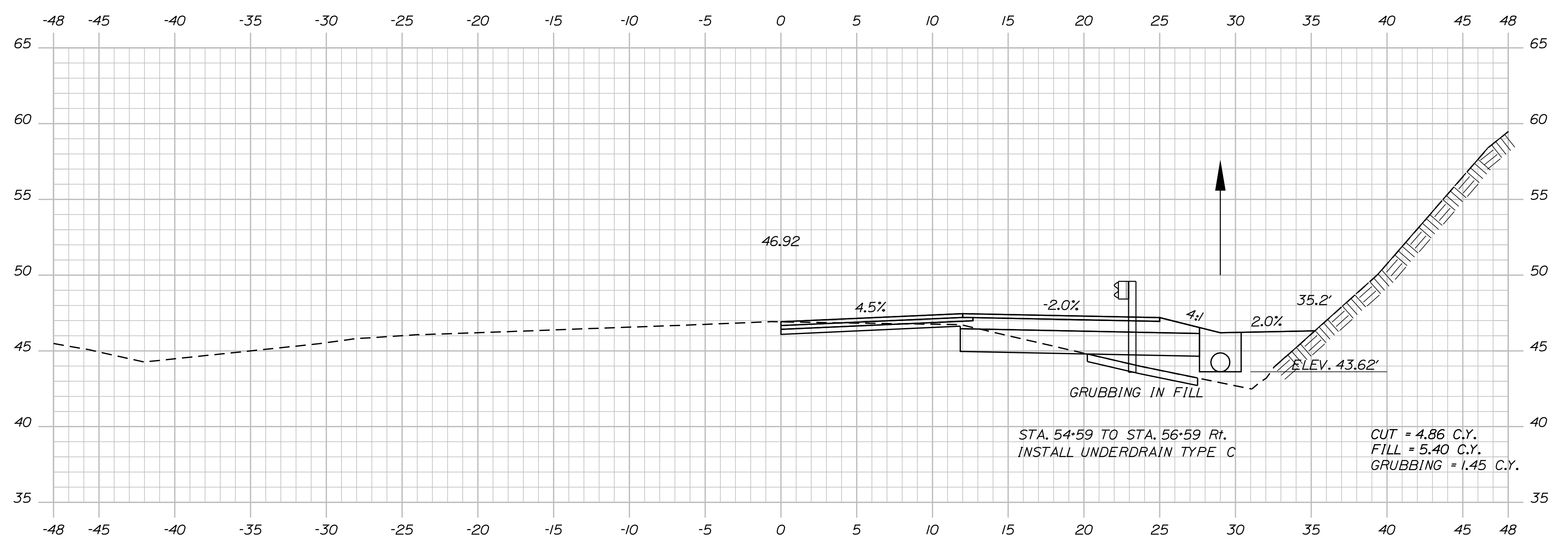
HIGHWAY PLANS



55+50.00



55+00.00



54+60.00

Sta. 54+60.00 to Sta. 55+50.00

SHEET NUMBER 15 OF 23

FALMOUTH
I-295 SPUR RAMP

CROSS SECTIONS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T.WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

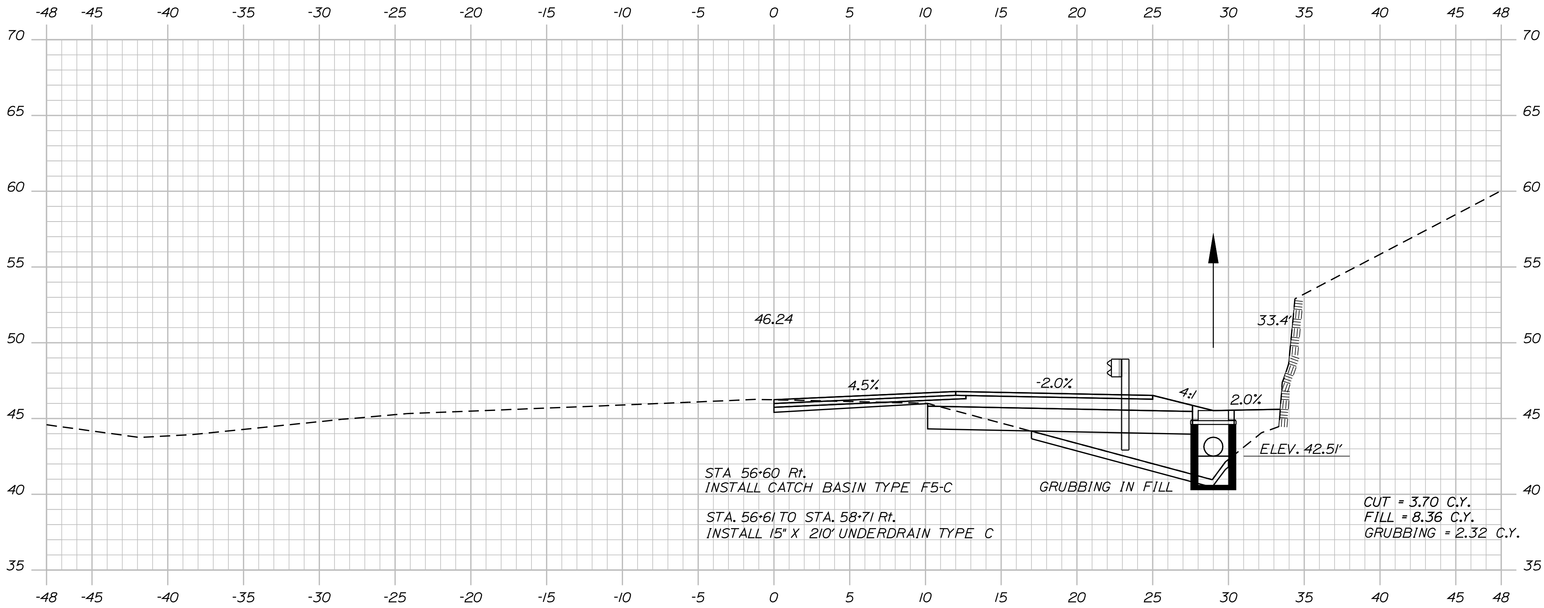
DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

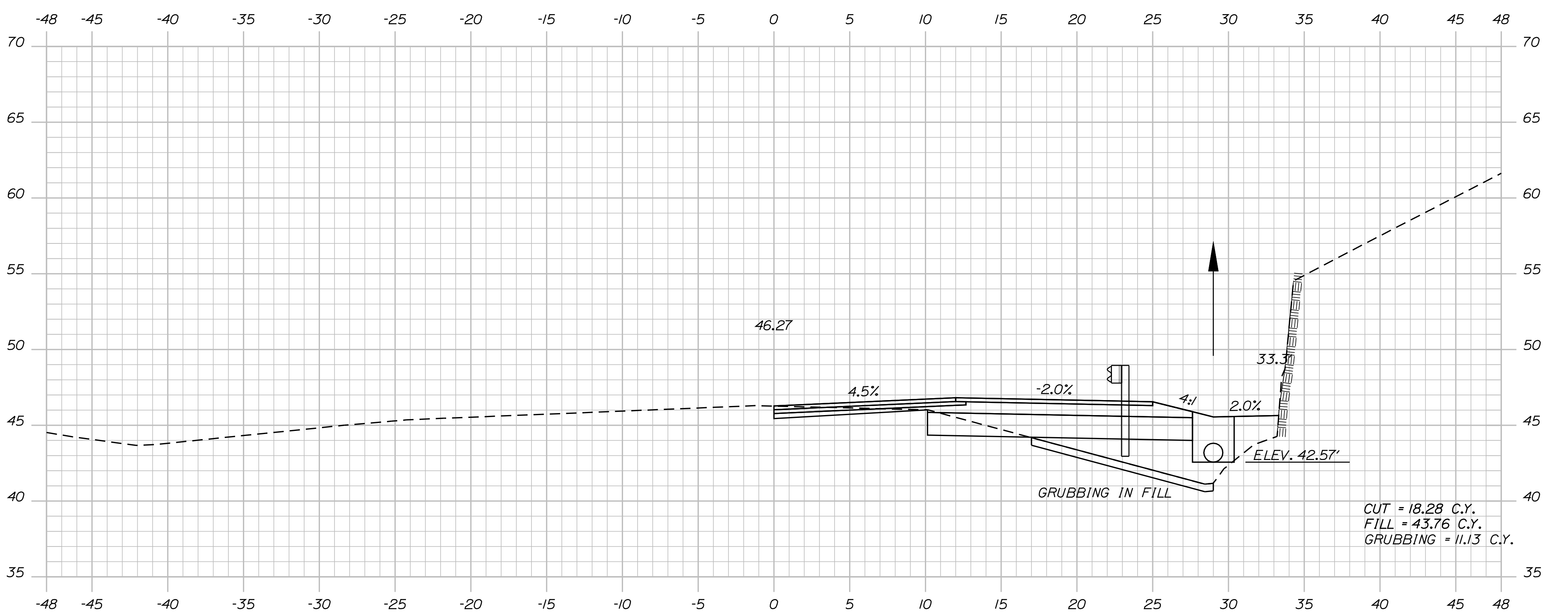
HP-1563(300)E

PIN 15633.00

HIGHWAY PLANS



56+60.00



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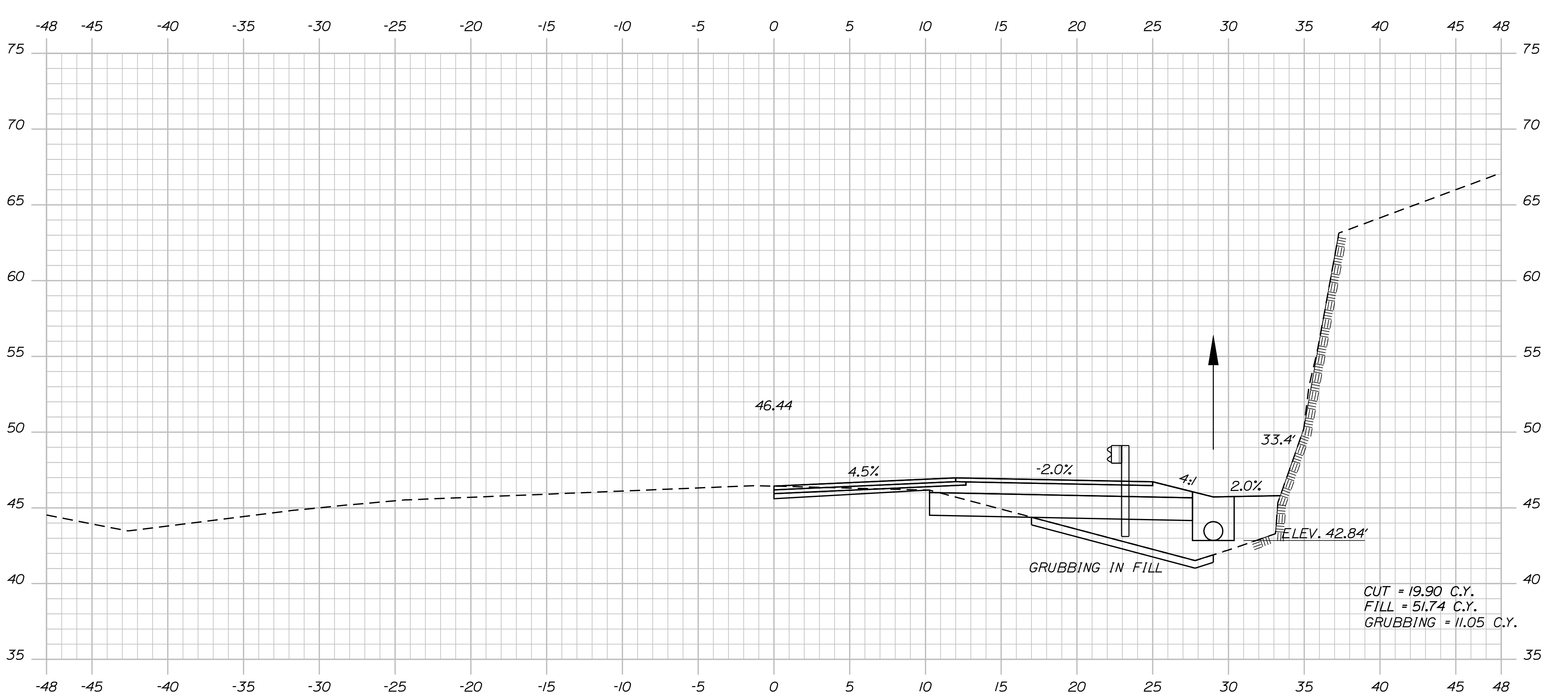


56+00.00

Sta. 56+00.00 to Sta. 56+60.00

SHEET NUMBER 16 OF 23

FALMOUTH
I-295 SPUR RAMP

CROSS SECTIONS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T.WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

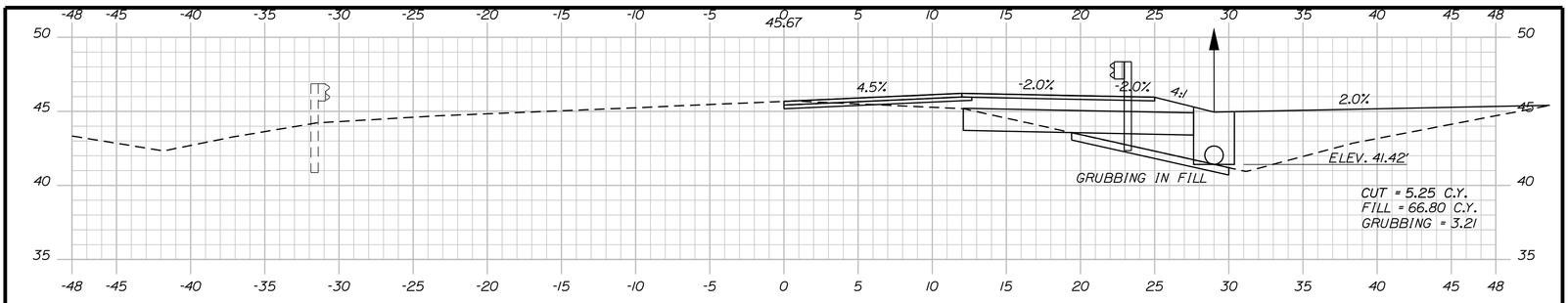
DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

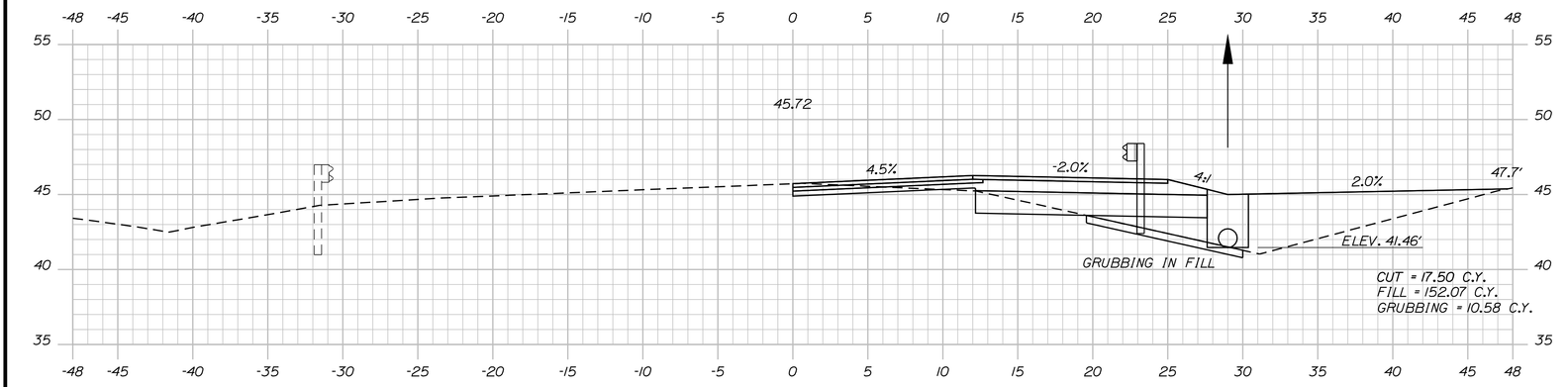
HP-1563(300)E

PIN 15633.00

HIGHWAY PLANS



58+66.43



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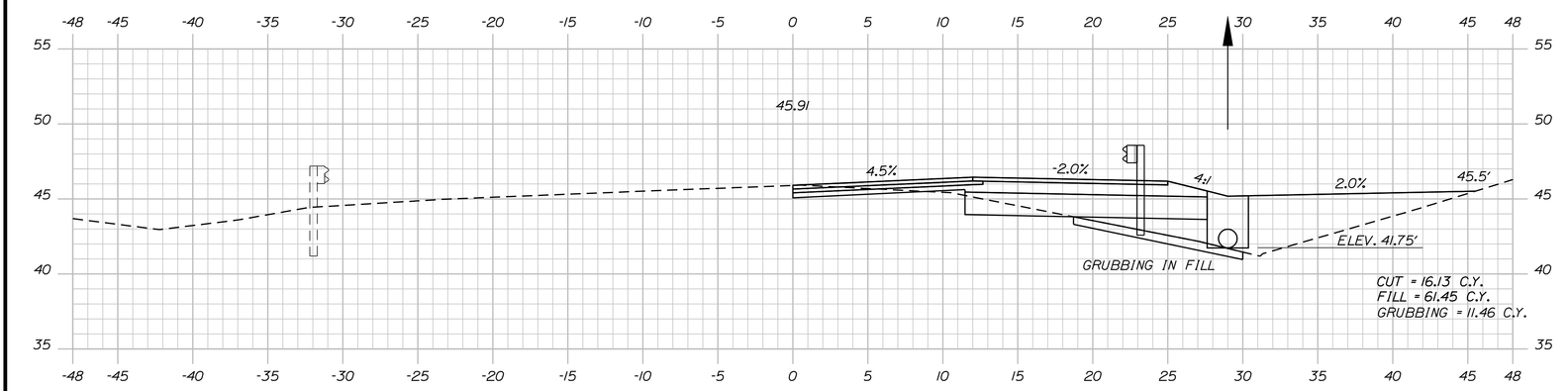

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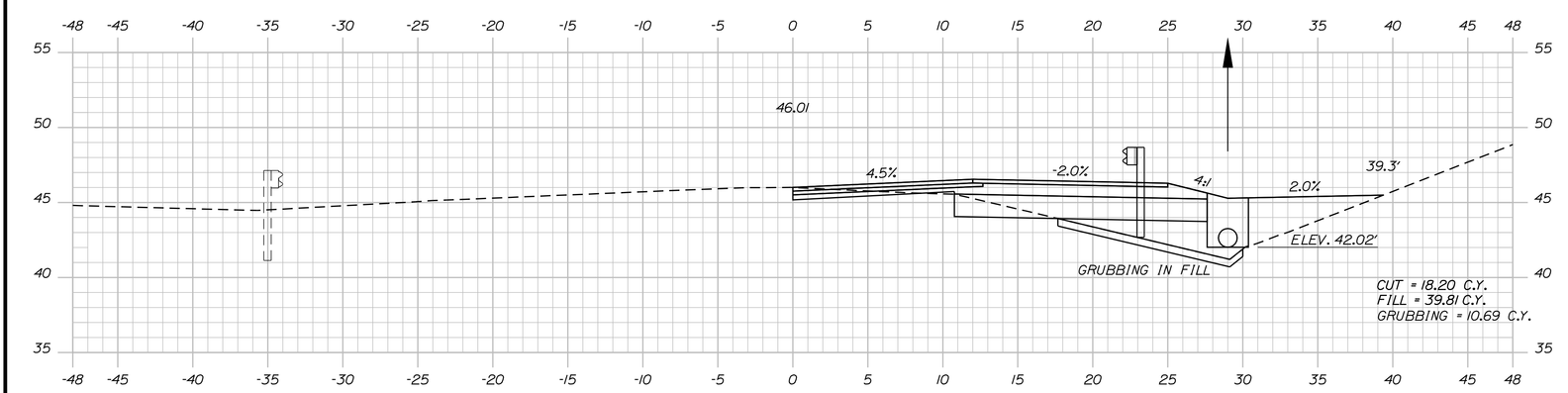

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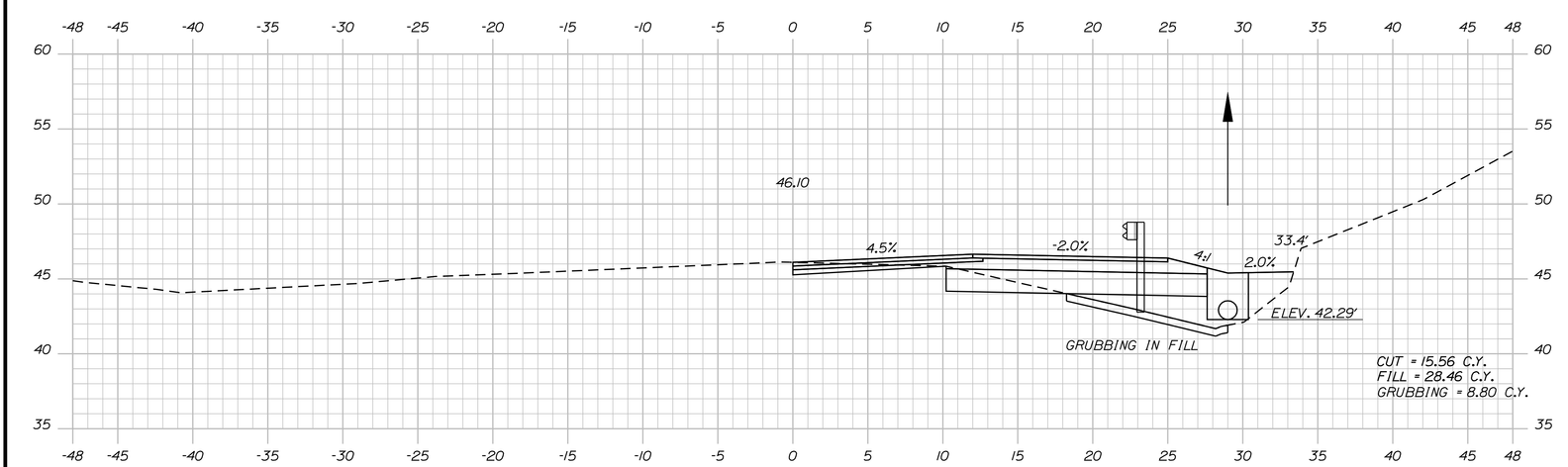


57+00.00

Sta. 57+00.00 to Sta. 58+66.43

SHEET NUMBER 17 OF 23

FALMOUTH
I-295 SPUR RAMP

CROSS SECTIONS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T.WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

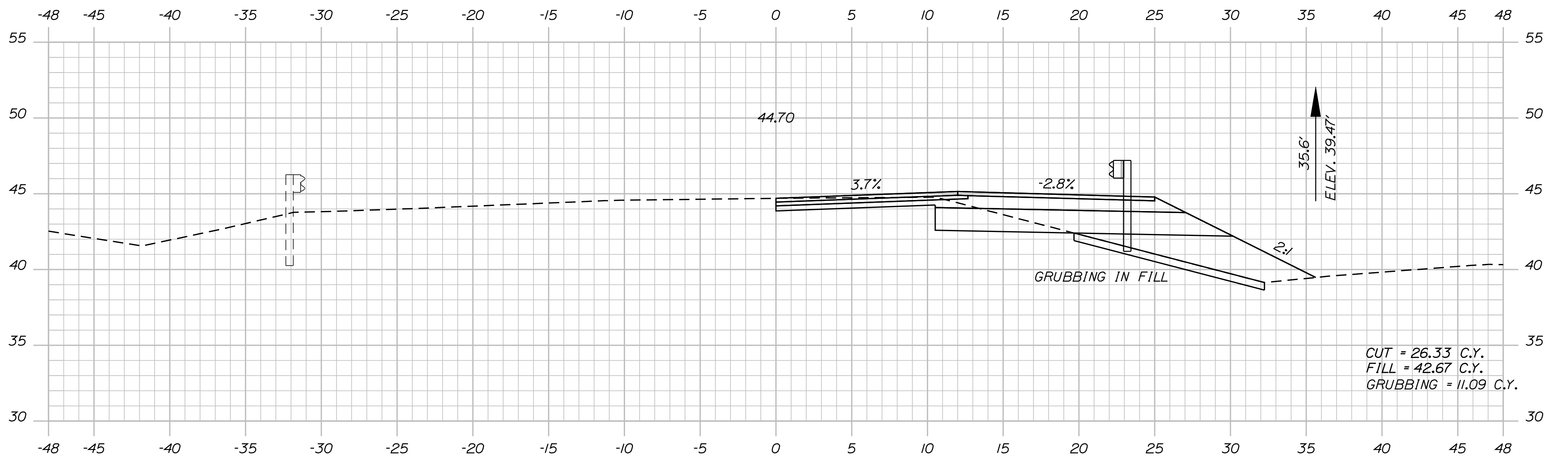
DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN 15633.00

HIGHWAY PLANS



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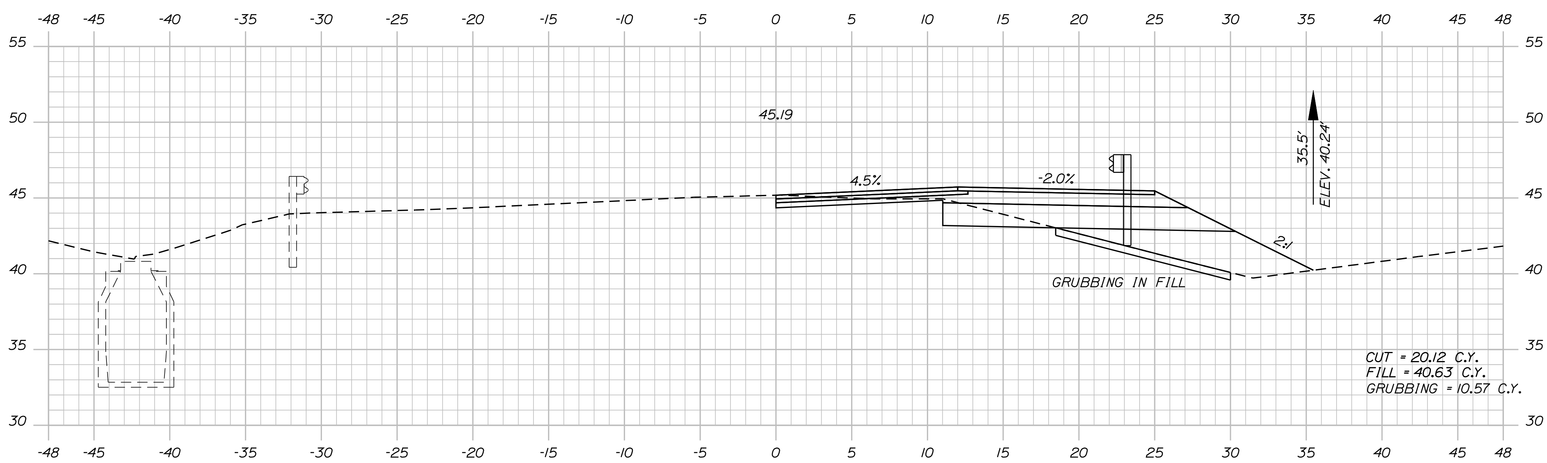
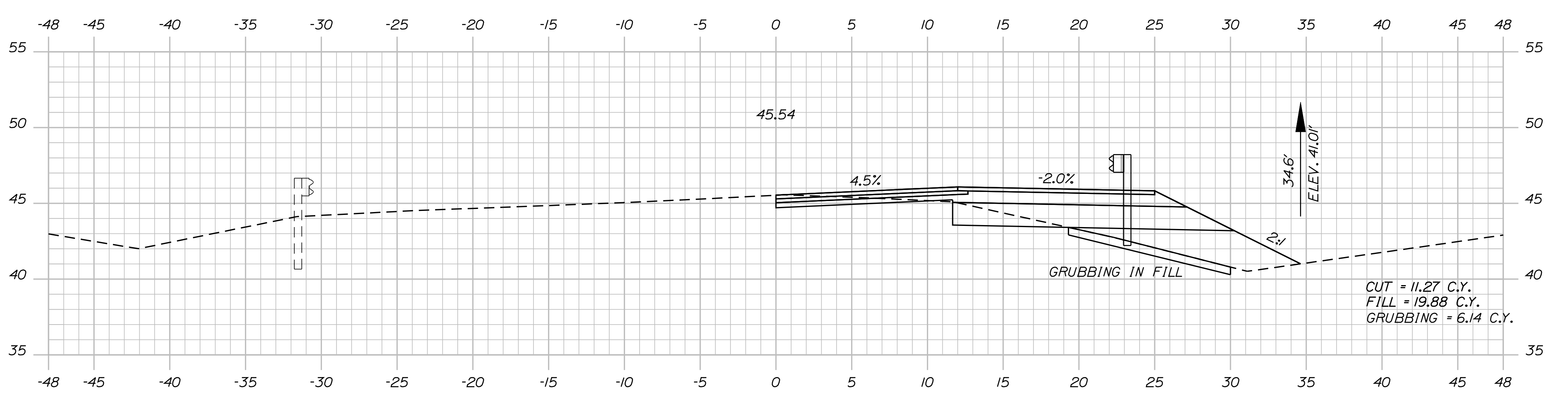


59+50.00



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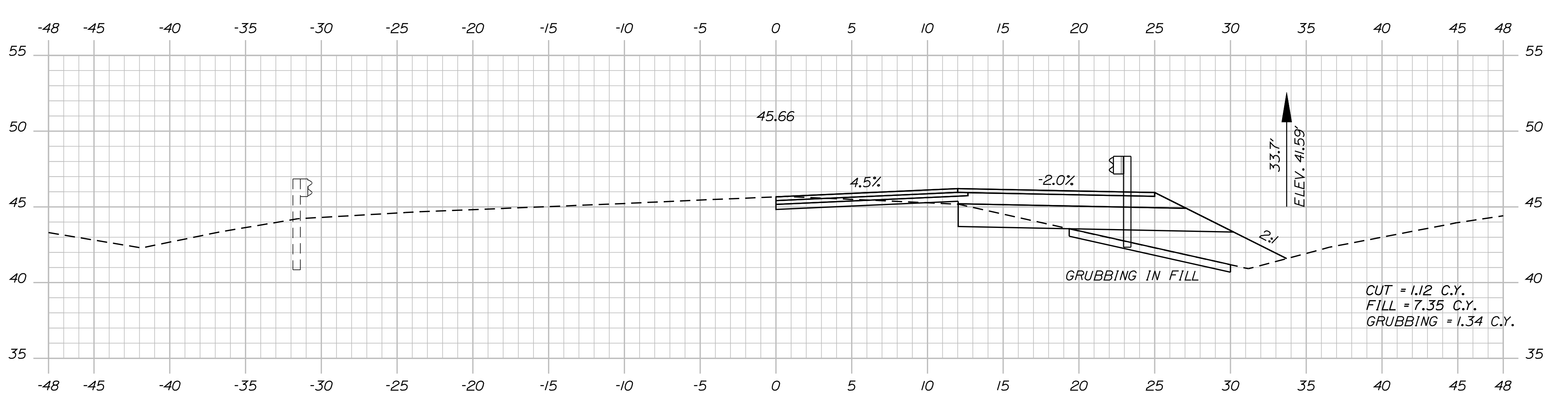


58+70.00

Sta. 58+70.00 to Sta. 60+00.00

SHEET NUMBER 18 OF 23

FALMOUTH
I-295 SPUR RAMP

CROSS SECTIONS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T.WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

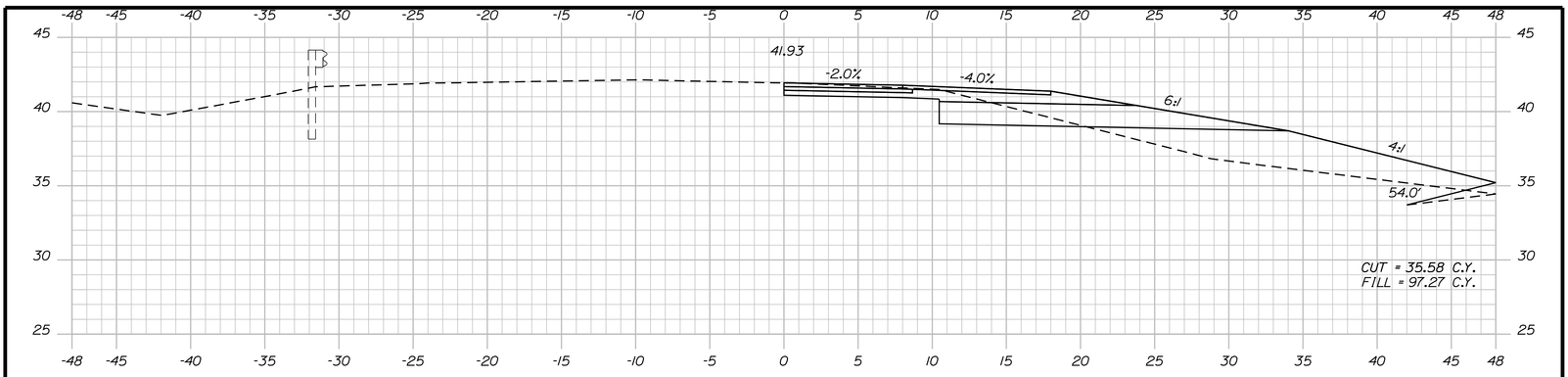
DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

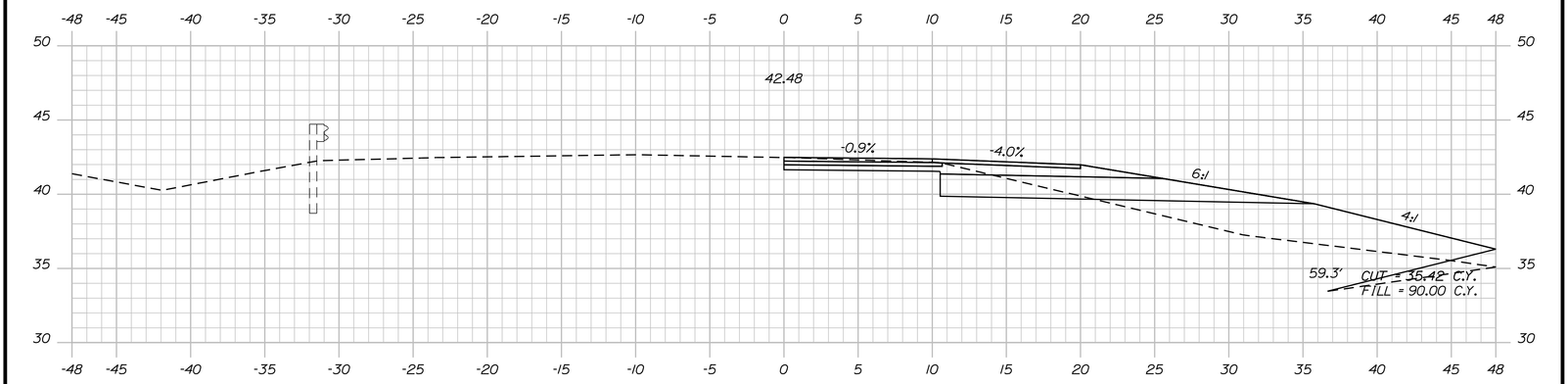
HP-1563(300)E

PIN 15633.00

HIGHWAY PLANS



62+50.00



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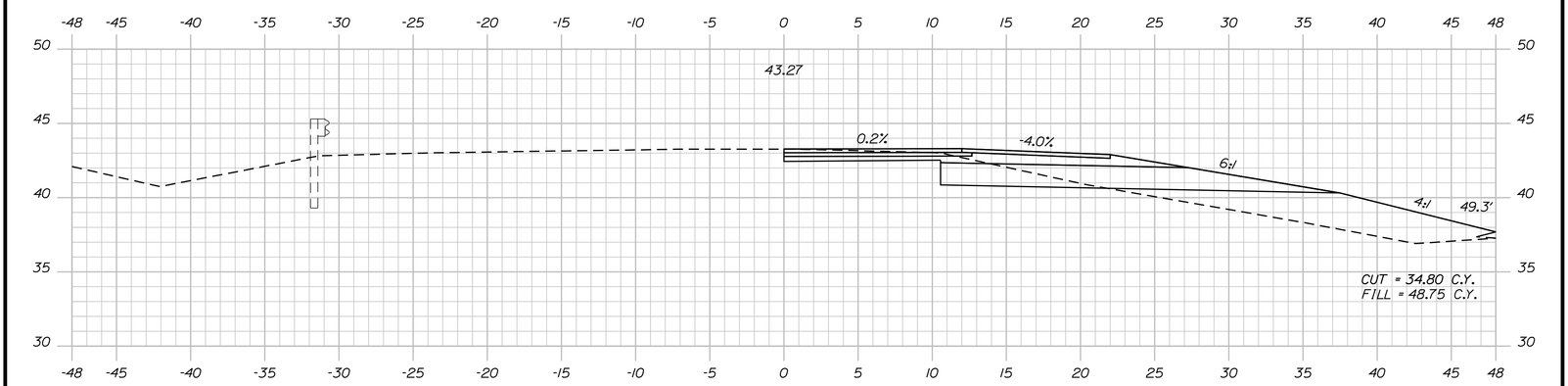
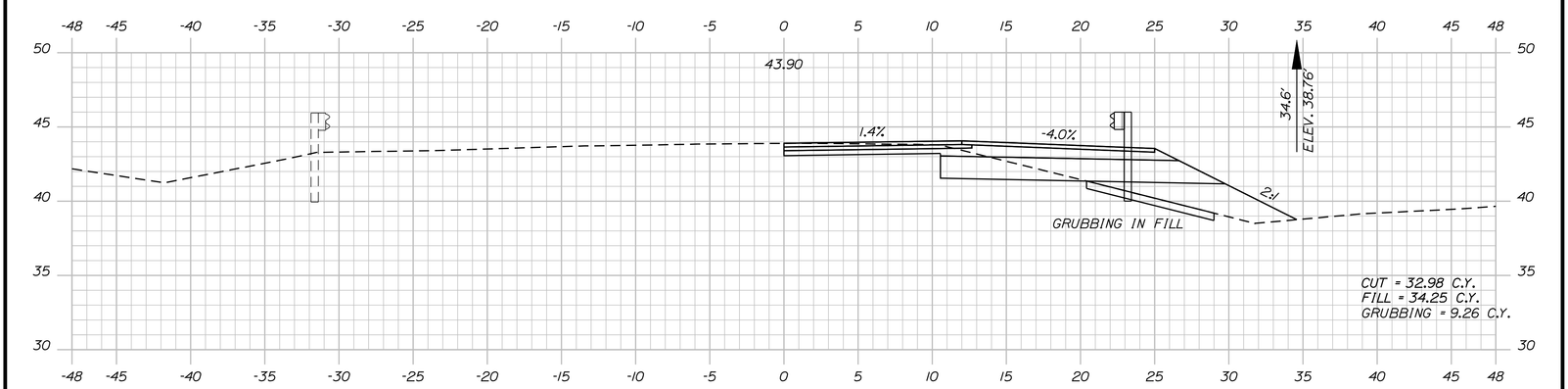
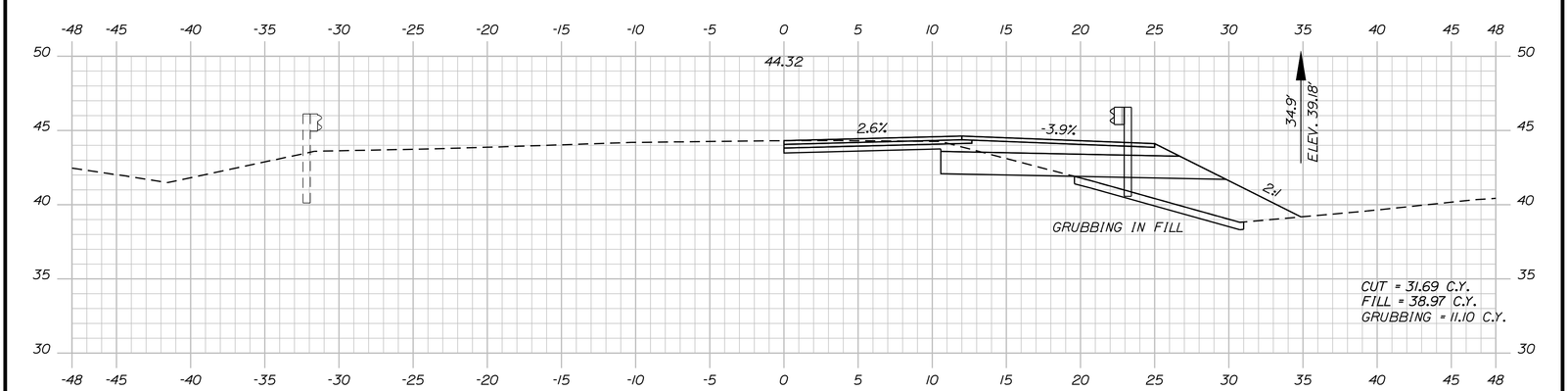


61+50.00



61+00.00



60+50.00

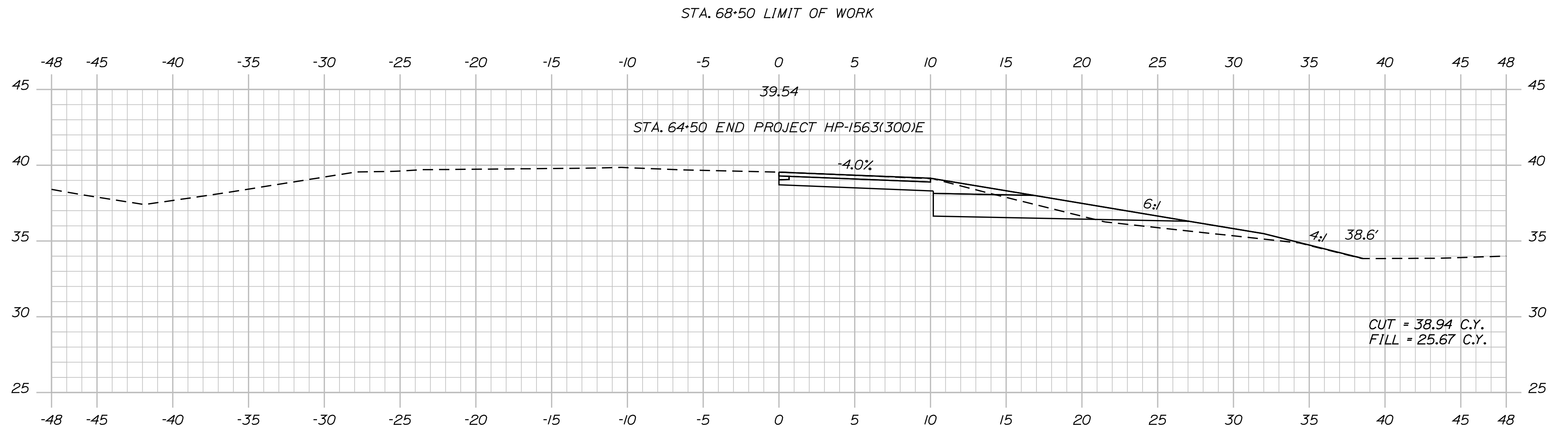
Sta. 60+50.00 to Sta. 62+50.00

SHEET NUMBER 19 OF 23	FALMOUTH I-295 SPUR RAMP	PROJ. MANAGER	E. MARTIN	BY	DATE
		DESIGN-DETAILED	B.KITTRIDGE	T.WOLFEL	
		CHECKED-REVIEWED			
		DESIGN2-DETAILED2	M.BARDEN		
		DESIGN3-DETAILED3			
		REVISIONS 1			
		REVISIONS 2			
		REVISIONS 3			
		REVISIONS 4			
		FIELD CHANGES			
	CROSS SECTIONS	SIGNATURE			
		P.E. NUMBER			
		DATE			

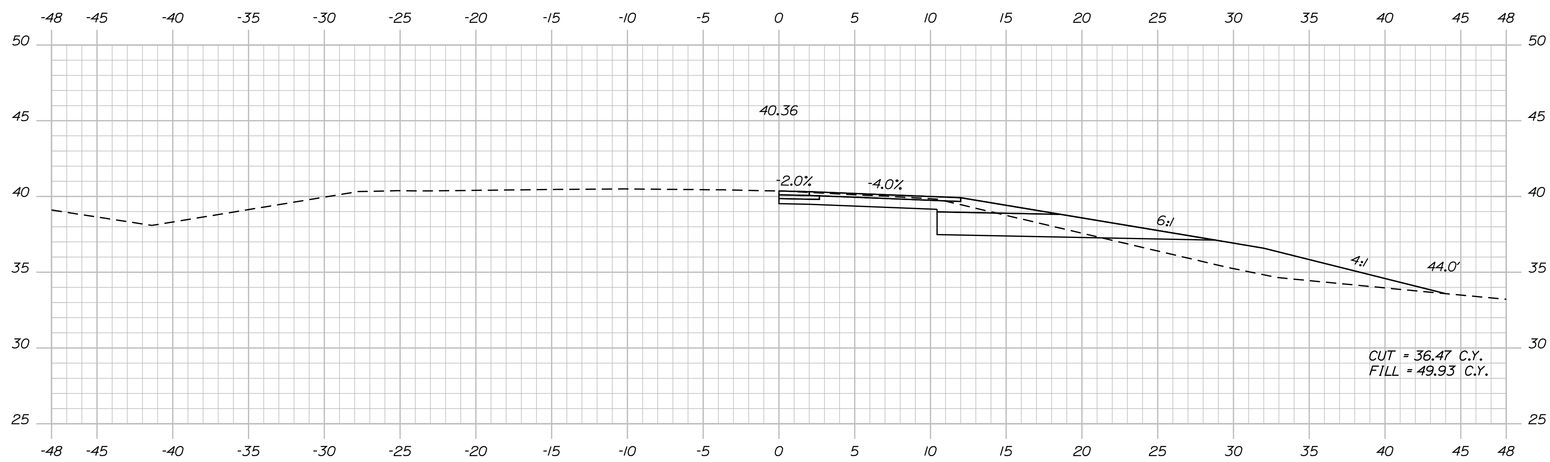
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN 15633.00 HIGHWAY PLANS



64+50.00



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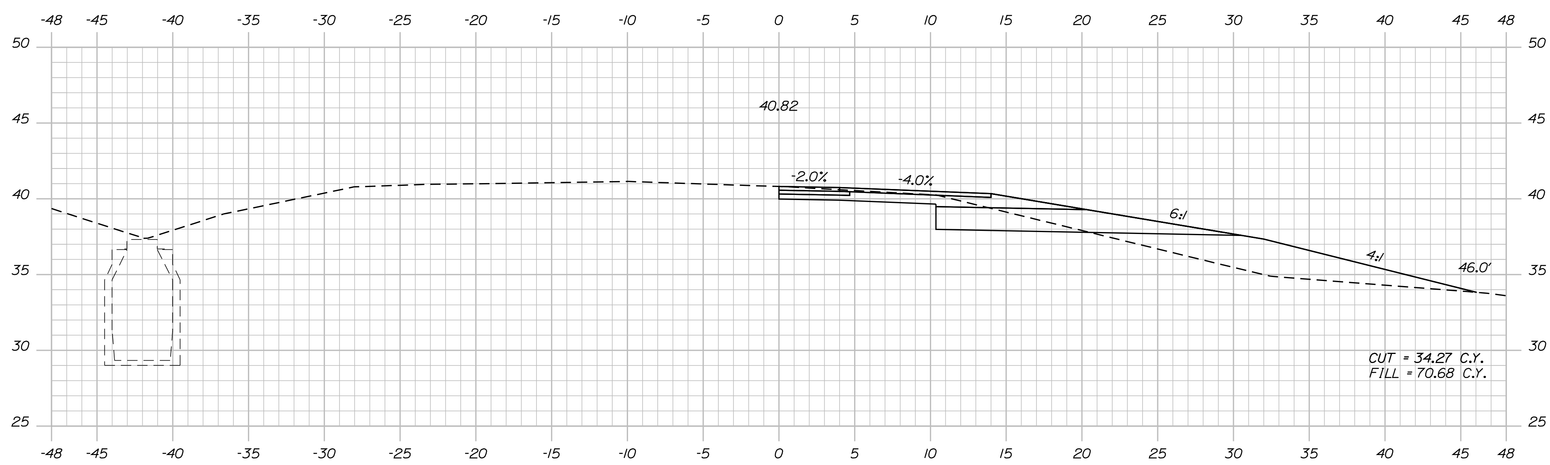

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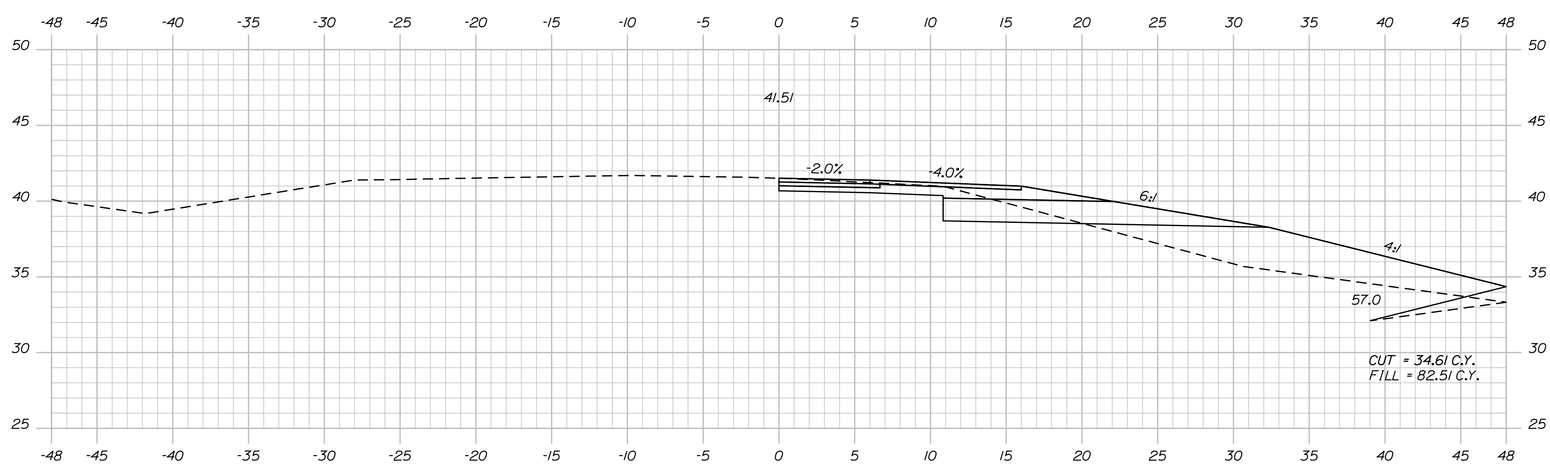


63+00.00

Sta. 63+00.00 to Sta. 64+50.00

SHEET NUMBER 20 OF 23

FALMOUTH
I-295 SPUR RAMP

CROSS SECTIONS

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	B.KITTRIDGE	T.WOLFEL	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	M.BARDEN		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

PIN 15633.00

HIGHWAY PLANS

GENERAL NOTES - HIGHWAY LIGHTING

1. SCOPE OF WORK - INSTALL HIGHWAY LIGHTING AS SHOWN ON THIS PLAN. INSTALL CONDUIT, FOUNDATIONS, POLES AND LUMINAIRES.

2. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO APPLICABLE PROVISIONS OF THE MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND STANDARD DETAILS, NATIONAL ELECTRICAL CODE AND REQUIREMENTS OF CENTRAL MAINE POWER COMPANY.

3. THE CONTRACTOR SHALL FIELD VERIFY POLE LOCATIONS TO AVOID NATURAL AND BUILT SITE FEATURES THAT WOULD CONFLICT WITH PROPER INSTALLATION OF POLE FOUNDATIONS.

4. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO ENSURE AWARENESS OF SITE CONDITIONS THAT COULD AFFECT THE BID.

5. STATIONING SHOWN FOR LIGHTING RELATED ITEMS IS APPROXIMATE AND MAY BE ADJUSTED BY THE RESIDENT IN THE FIELD.

6. FIXTURES SHALL BE IES FULL CUTOFF, HIGH PRESSURE SODIUM FIXTURES WITH TEMPERED FLAT GLASS LENS AND NEMA TWIST-LOCK PHOTOELECTRIC TIMER CONTROL. IES DISTRIBUTION TYPE SHALL BE AS SHOWN ON PLANS. FIXTURE VOLTAGE SHALL BE 480 VOLTS. INSTALL THE FIXTURES ON 40-FOOT POLES AT LOCATIONS SHOWN. POLES MAY BE EITHER ALUMINUM OR GALVANIZED STEEL.

7. ALL FIXTURES SHALL BE GASKETED AND SHALL HAVE A PROTECTED STARTER, A DOUBLE FUSE KIT, A TERMINAL BLOCK AND NEMA DECAL. ALL FIXTURES SHALL BE GRAY.

8. THE LIGHTING LAYOUT WAS DONE USING HOLOPHANE MONGOOSE LUMINAIRES, CATALOG NUMBERS:

   G15AHP48LWF - 9 IES TYPE 3 FIXTURES
   G15AHP48LNF - 1 IES TYPE 2 FIXTURE

   IF DIFFERENT FIXTURES ARE PROPOSED, THEY SHALL BE IES FULL CUTOFF, TYPE 2 AND 3 IES DISTRIBUTION. THE CONTRACTOR MUST DEMONSTRATE THAT THE PROPOSED FIXTURES WILL MEET OR EXCEED THE LIGHT LEVELS ON THE PLANS.

9. CONDUIT SHALL BE 2" PVC SCHEDULE 40 OR PREWIRED CONDUIT.

10. WIRE SIZE SHALL BE THE SAME AS THE WIRE IN THE EXISTING CIRCUIT FROM WHICH THE NEW FIXTURES WILL BE POWERED.

11. THERE SHALL BE NO SPLICES OR JUNCTION BOXES BETWEEN POLES. THE WIRE IN CONDUITS SHALL BE CONTINUOUS BETWEEN POLES.

12. THE LENGTH OF PREWIRED CONDUIT IS FOR ESTIMATING PURPOSES. THE CONTRACTOR SHALL DETERMINE ACTUAL LENGTH BY FIELD MEASUREMENT BEFORE ORDERING.

13. MINIMUM BURIAL DEPTH FOR CONDUIT SHALL BE 36".

14. IF STRUCTURAL ROCK IS ENCOUNTERED DURING INSTALLATION OF FOUNDATIONS, PAYMENT FOR EXCAVATION AND DOWELING REINFORCING INTO ROCK SHALL BE CONSIDERED INCIDENTAL TO FOUNDATION ITEMS.

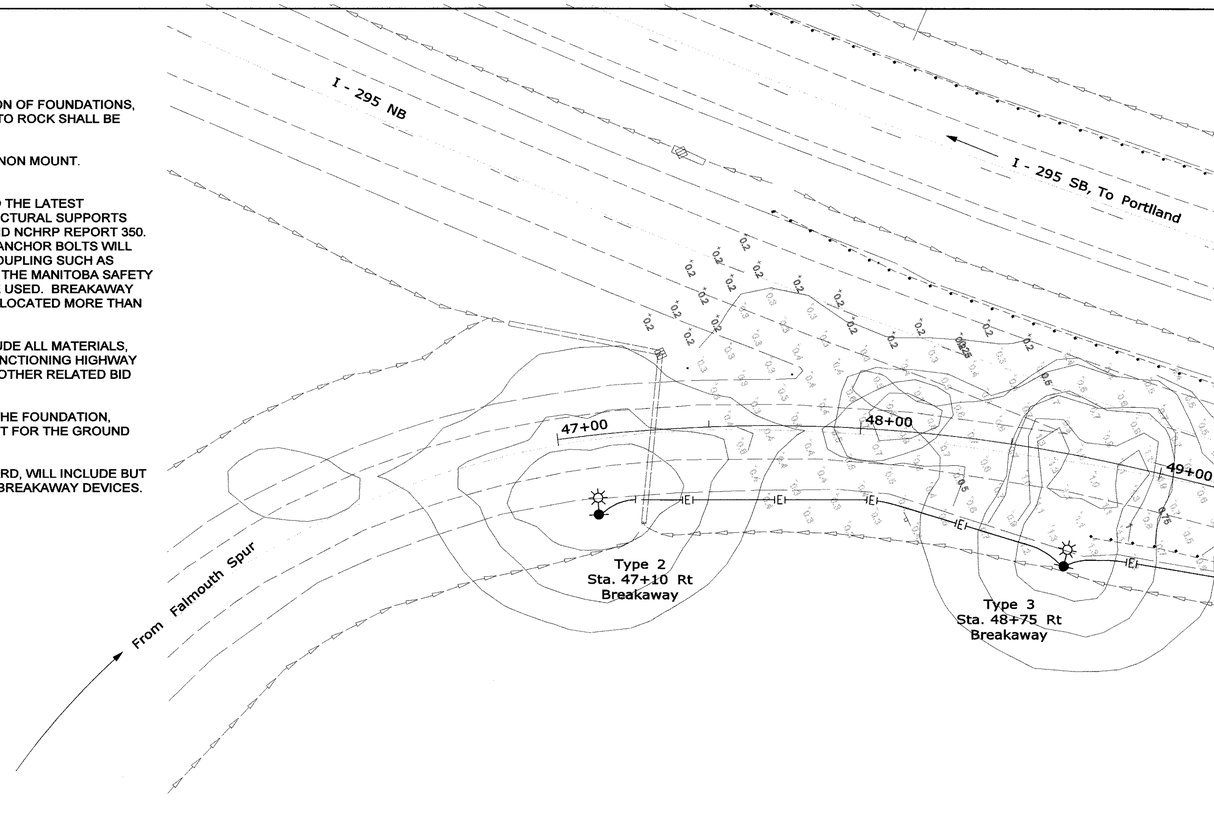
15. LUMINAIRES SHALL BE ATTACHED TO POLES BY VERTICAL TENON MOUNT. BRACKET ARMS WILL NOT BE ALLOWED.

16. BREAKAWAY DEVICES FOR LIGHT POLES SHALL CONFORM TO THE LATEST VERSION OF "AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" AND NCHRP REPORT 350. THE BREAKAWAY DEVICE SHALL BE DESIGNED SO THAT THE ANCHOR BOLTS WILL NOT BEND WHEN A VEHICLE HITS THE POLE. A FRANGIBLE COUPLING SUCH AS TRANSPO POLE-SAFE 5000 SERIES (WITH A FEMALE ANCHOR), THE MANITOBA SAFETY BASE WITH REACTION PLATE, OR APPROVED EQUAL SHALL BE USED. BREAKAWAY DEVICES SHALL BE INSTALLED ON ALL POLES EXCEPT THOSE LOCATED MORE THAN 4' BEHIND GUARDRAIL.

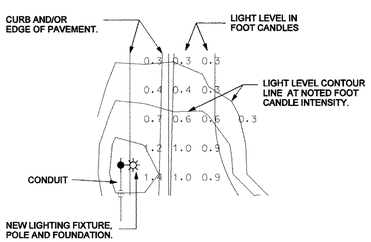
17. PAYMENT UNDER ITEM 634.16, HIGHWAY LIGHTING, WILL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO PROVIDE A FULLY FUNCTIONING HIGHWAY LIGHTING SYSTEM, EXCEPT THOSE ITEMS TO BE PAID UNDER OTHER RELATED BID ITEMS IN THE CONTRACT.

18. ALL LIGHT BASES SHALL HAVE A GROUND ROD, LOCATED IN THE FOUNDATION, THAT IS BONDED TO THE GROUNDING CONDUCTOR. PAYMENT FOR THE GROUND ROD SHALL BE INCLUDED IN ITEM 634.16, HIGHWAY LIGHTING.

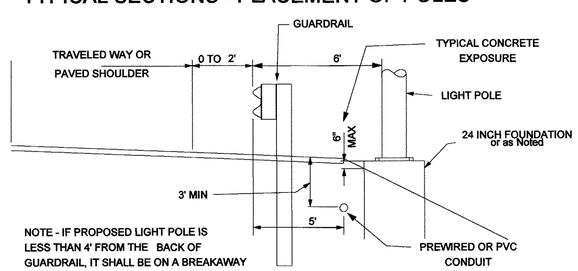
19. PAYMENT UNDER ITEM 634.21, CONVENTIONAL LIGHT STANDARD, WILL INCLUDE BUT NOT BE LIMITED TO NEW POLES, TRANSFORMER BASES AND BREAKAWAY DEVICES.



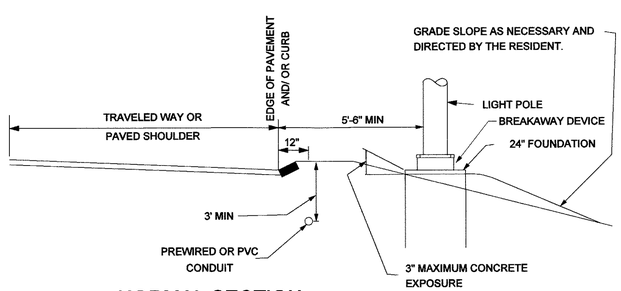
TYPICAL SECTIONS - PLACEMENT OF POLES



KEY TO PLAN



GUARDRAIL



NORMAL SECTION

LEGEND for LIGHTING

Light Fixture on a 40 Foot Pole and Foundation

Lighting Conduit

LUMINAIRE SCHEDULE

Symbol	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	9	G15AHP00LWFXXX	MONGOOSE	150W CLEAR HPS	G15AHP00LW FXXX.ies	16000	0.81	188
	1	G15AHP00LNFXXX	MONGOOSE	150W CLEAR HPS	G15AHP00LNF XXX.ies	16000	0.81	188

STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Accel Lane	+	0.7 fc	1.8 fc	0.2 fc	9.0:1	3.5:1

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

WIN 15633.00

HIGHWAY PLANS

STATE OF MAINE ALBERT L. GODFREY No. 4226 LICENSED PROFESSIONAL ENGINEER

SIGNATURE 4226 P.E. NUMBER 5-17-11 DATE

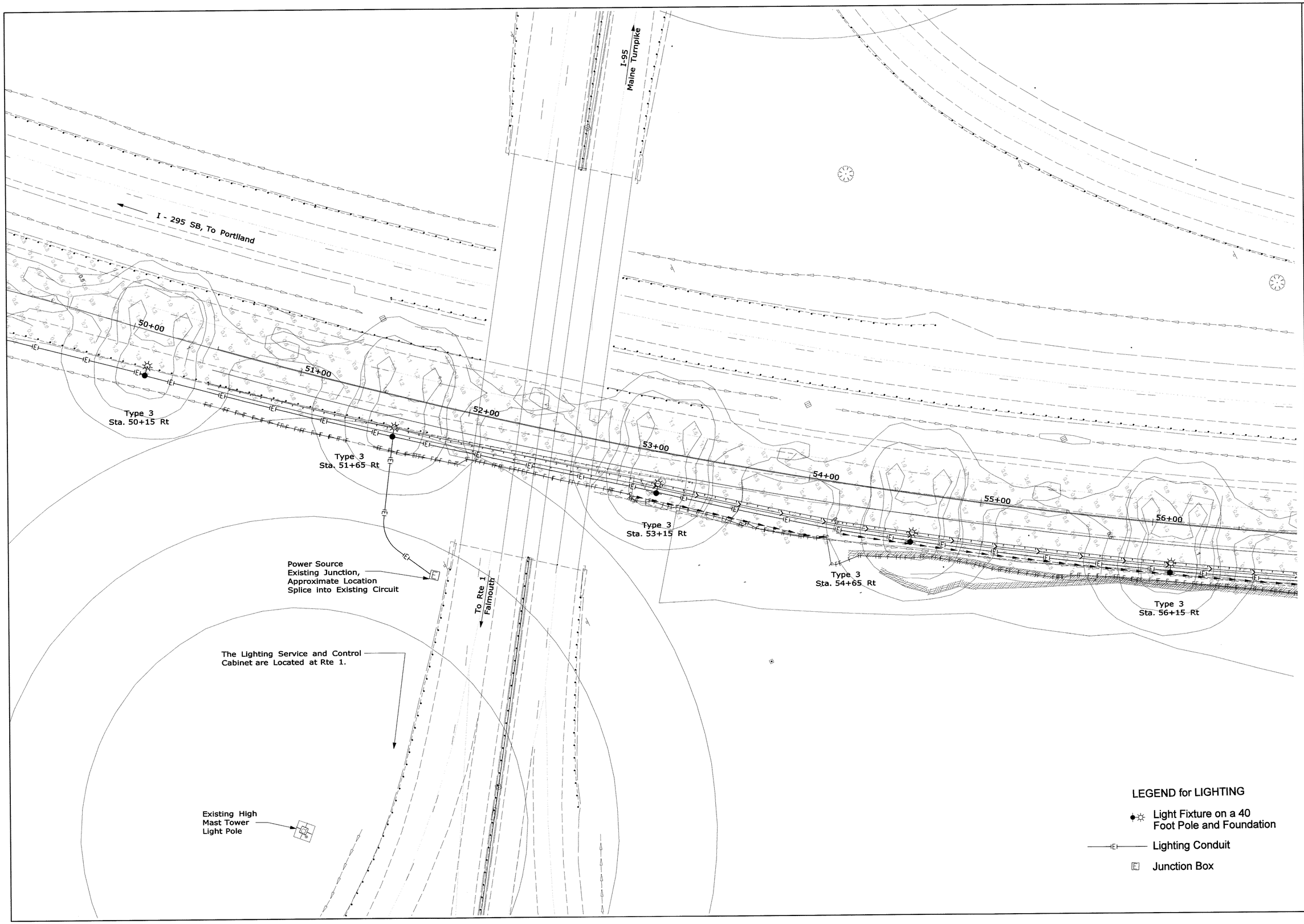
	BY	DATE
PROJ. MANAGER	E. MARTIN	
DESIGN-DETAILED	RAL	4-11
CHECKED-REVIEWED	ALG	5-11
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FALMOUTH
I-295

HIGHWAY LIGHTING PLAN

SHEET NUMBER
21
OF 23

Filename: $file$ Division: $wkgroup$ Username: $user$ Date:$date$



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

WIN
15633.00

HIGHWAY PLANS

STATE OF MAINE
ALBERT L. GODFREY
No. 4226
PROFESSIONAL ENGINEER
LICENSED

SIGNATURE		
4226		
P.E. NUMBER		
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DATE		

PROJ. MANAGER	E. MARTIN		
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REVISIONS 3			
REVISIONS 4			
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FALMOUTH
I-295

HIGHWAY LIGHTING PLAN

SHEET NUMBER
22
OF 23

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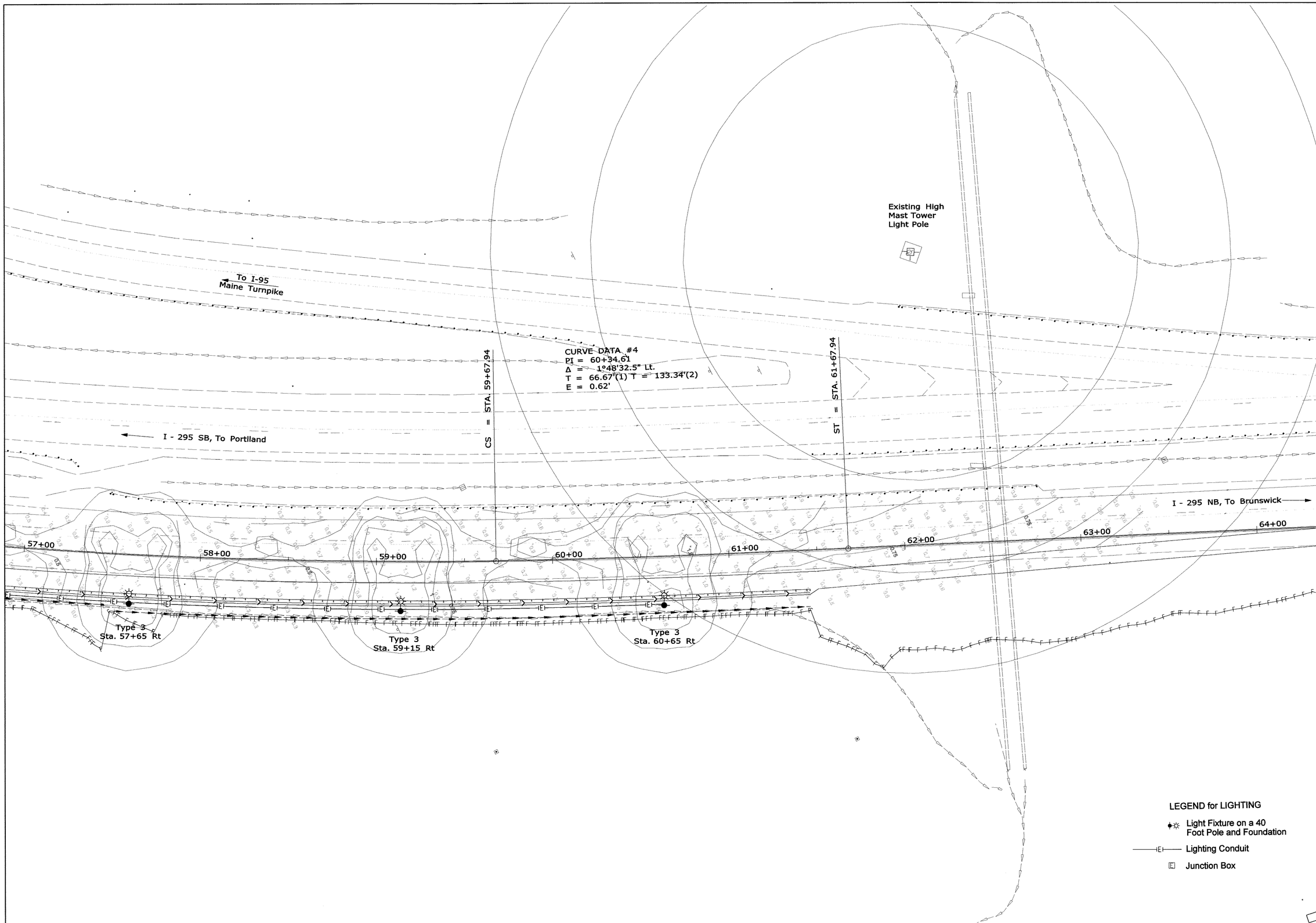

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(300)E

WIN 16533.00

HIGHWAY PLANS

STATE OF MAINE
ALBERT L. GODFREY
No. 4226
LICENSED
PROFESSIONAL ENGINEER

SIGNATURE

4226
P.E. NUMBER

5 - 17 - 11
DATE

PROJ. MANAGER	E. MARTIN	BY	DATE
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FALMOUTH
I-295

HIGHWAY LIGHTING PLAN

SHEET NUMBER
23
OF 23

Filename: $file$ Division: $wkgroup$ Username: $user$ Date:$date$