STATE OF VERMONT
AGENCY OF TRANSPORTATION

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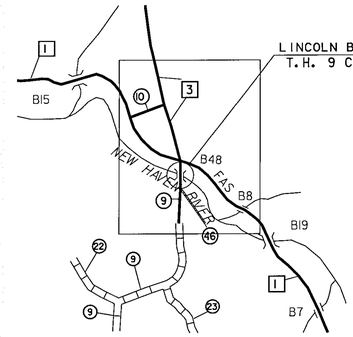


LOCATION MAP

0 50 100

SCALE 1:2000

PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF LINCOLN

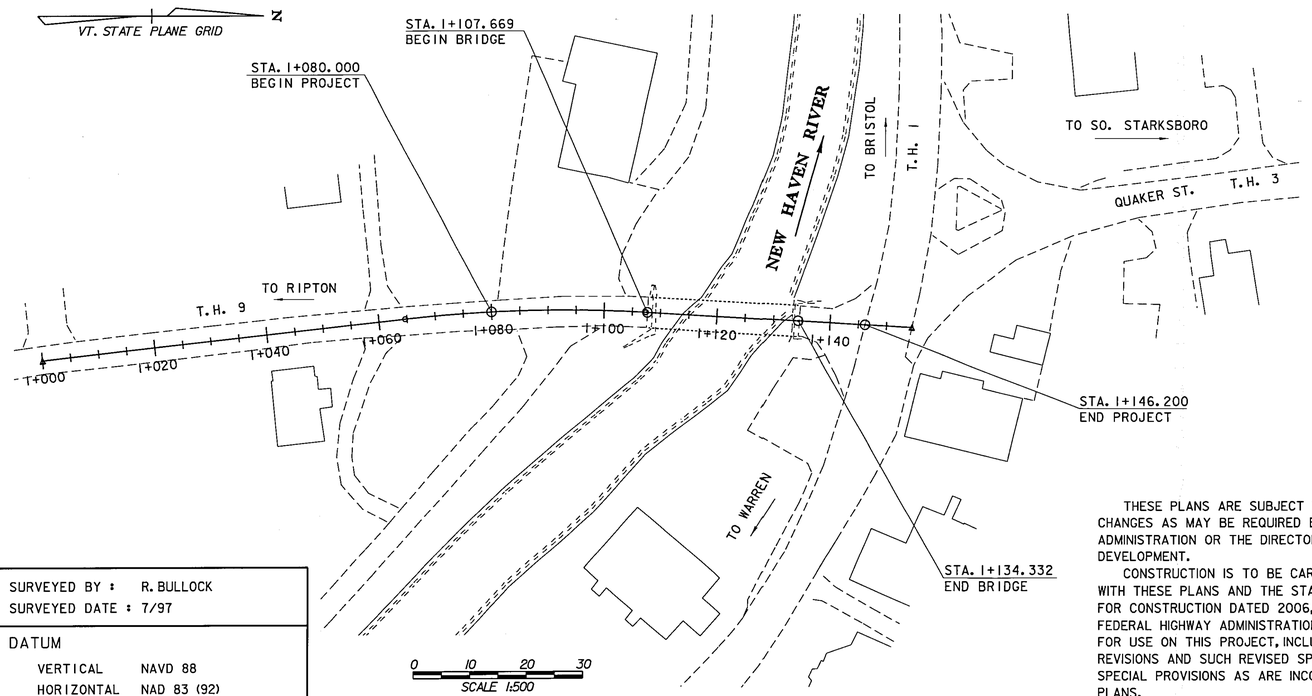
COUNTY OF ADDISON

ROUTE NO : T.H. 9 CL 3 (LOCAL ROAD) BRIDGE NO : 48

PROJECT LOCATION : BEGINNING FROM A POINT ON T.H. 9 APPROXIMATELY 0.066 KM FROM THE INTERSECTION OF T.H. I AND T.H. 9 PROCEEDING NORTHERLY APPROXIMATELY 0.066 KM ALONG T.H. 9.

PROJECT DESCRIPTION : BRIDGE REPLACEMENT WITH ROADWAY APPROACH AND CHANNEL WORK.

LENGTH OF STRUCTURE :	26.663 METERS.
LENGTH OF ROADWAY :	39.537 METERS.
LENGTH OF PROJECT :	66.200 METERS.



CONVENTIONAL SYMBOLS

COUNTY LINE	COUNTY LINE
TOWN LINE	TOWN LINE
LIMITS OF ACCESS	
POINT OF ACCESS	X
FENCE LINE	
STONE WALL	
TRAVELED WAY	
GUARD RAIL	
RAILROAD	
SURVEY LINE	
CULVERT	
POWER POLE	
TELEPHONE POLE	
TREES	
CONTROL OF ACCESS	
PROPERTY LINE	
R.O.W. TAKING LINE	
SLOPE RIGHTS	SR SR SR
TOP OF CUT	
TOE OF SLOPE	

SURVEYED BY : R. BULLOCK
SURVEYED DATE : 7/97

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

29-JAN-2009

RECORD PLANS

CONTRACTOR: PARENT CONSTRUCTION INC.- HINESBURG, VT
RESIDENT ENGINEER: JOE KNIPES
CONSTRUCTION BEGAN: MAY 4, 2009
CONSTRUCTION COMPLETE: NOVEMBER 13, 2009
RECORD PLANS BY: JOE KNIPES & NICK GARBACIK

I HEREBY CERTIFY THAT ALL THE CONSTUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY _____ RESIDENT ENGINEER

DATE 6-12-11

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

VAOT Metric

UNLESS NOTED OTHERWISE
STATIONS ARE IN KILOMETERS
ELEVATIONS ARE IN METERS
DIMENSIONS ARE IN MILLIMETERS

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 1-29-09

PROJECT MANAGER : R. WHITCOMB

PROJECT NAME : LINCOLN
PROJECT NUMBER : BRO 1445 (25)

SHEET 1 OF 58 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

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FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 09/19/01

DRAINAGE AREA : 77 sq. km
CHARACTER OF TERRAIN : wooded, mountainous, rural
STREAM CHARACTERISTICS : semi-alluvial, straight, not braided or anabranched
NATURE OF STREAMBED : mostly cobbles

PEAK FLOW DATA

Q 2.33 =	45 cms	Q 50 =	130 cms
Q 10 =	85 cms	Q 100 =	150 cms
Q 25 =	110 cms	Q 500 =	200 cms

DATE OF FLOOD RECORD : unknown
ESTIMATED DISCHARGE: unknown
WATER SURFACE ELEV.: unknown
NATURAL STREAM VELOCITY : @ Q25 = 3.2 mps
ICE CONDITIONS : light to moderate
DEBRIS: moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? yes
IS ORDINARY RISE RAPID? yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? no
IF YES, DESCRIBE:

WATERSHED STORAGE: 1%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Steel beam bridge
YEAR BUILT: 1939 (recon. 1973)
CLEAR SPAN(NORMAL TO STREAM): 17.6 m
VERTICAL CLEARANCE ABOVE STREAMBED: 3.9 m (ave. low bm. el. = 296.3m)
WATERWAY OF FULL OPENING: 62.2 sq. m
DISPOSITION OF STRUCTURE: removal
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Refer to borings if available.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	294.0 m	VELOCITY =	2.4 mps
Q10 =	294.6 m	"	2.9 mps
Q25 =	295.0 m	"	3.2 mps
Q50 =	295.2 m	"	3.6 mps
Q100 =	295.5 m	"	3.8 mps

LONG TERM STREAMBED CHANGES: none noted

IS THE ROADWAY OVERTOPPED BELOW Q100: no
FREQUENCY: greater than Q100
RELIEF ELEVATION: approx. 295.7 m
DISCHARGE OVER ROAD @Q100: none

UPSTREAM STRUCTURE

TOWN: Lincoln — DISTANCE: 800 m
HIGHWAY# : TH 1 (SA - 1) — STRUCTURE#: BR 19
CLEAR SPAN: 35 m — CLEAR HEIGHT: 4.3 m
YEAR BUILT: 1934 — FULL WATERWAY: unknown
STRUCTURE TYPE: 2 - span steel beam bridge

DOWNSTREAM STRUCTURE

TOWN: Lincoln — DISTANCE: 2600 m
HIGHWAY# : TH 6 — STRUCTURE#: BR 46
CLEAR SPAN: 18 m — CLEAR HEIGHT: 4.8 m
YEAR BUILT: 1899 — FULL WATERWAY: unknown
STRUCTURE TYPE: Pony truss bridge

LOAD FACTOR - LOAD RATING (METRIC TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	47	64					
POSTED	66	90	107		83	85	98
OPERATING		108	128	153	99	101	

COMMENTS:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2003	410	55	59	<1	5
2023	540	75	59	<1	10

20 year ESAL for flexible pavement from 2003 to 2023 : 53,000
40 year ESAL for flexible pavement from 2003 to 2043 : 121,000
Design Speed : 30 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: steel beam bridge

CLEAR SPAN(NORMAL TO STREAM): 20.7 m
VERTICAL CLEARANCE ABOVE STREAMBED: 3.2 m
WATERWAY OF FULL OPENING: 55.1 sq. m

WATER SURFACE ELEVATIONS AT:

Q2.33 =	294.0 m	VELOCITY =	2.7 mps
Q10 =	294.6 m	"	2.9 mps
Q25 =	294.9 m	"	3.0 mps
Q50 =	295.1 m	"	3.3 mps
Q100 =	295.3 m	"	3.6 mps

IS THE ROADWAY OVERTOPPED BELOW Q100: no
FREQUENCY: greater than Q100
RELIEF ELEVATION: approx. 296.0 m
DISCHARGE OVER ROAD @Q100: none

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 295.6 m
VERTICAL CLEARANCE: @ Q25 = 0.7 m

SCOUR: 0.1 m contraction scour at Q500

REQUIRED CHANNEL PROTECTION: Type III Stone Fill

PERMIT INFORMATION

		DEPTH OR ELEVATION:
AVERAGE DAILY FLOW:	1.7 cms	
ORDINARY LOW WATER:	0.8 cms	0.3 m
ORDINARY HIGH WATER:	19.3 cms	1.0 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: single span bridge (to be removed before winter)
CLEAR SPAN (NORMAL TO STREAM): 14 m min.
VERTICAL CLEARANCE ABOVE STREAMBED: Low beam el. = 295.2 m min.
WATERWAY AREA OF FULL OPENING: 35.5 sq. m min.

ADDITIONAL INFORMATION

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 26m CENTER TO CENTER OF BEARINGS
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 190 kPa
   ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING N/A
   TYPE N/A
   ESTIMATED LENGTH N/A
5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE 345W
6. REINFORCING STEEL GRADE 420
7. CONCRETE, HIGH PERFORMANCE CLASS A f'c: 30 Mpa
   CONCRETE, HIGH PERFORMANCE CLASS B f'c: 25 Mpa
8. DESIGN SOIL UNIT WEIGHT 22.00 kN/m³
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL 177 kPa

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? YES
   IF YES, ON EXISTING STRUCTURE? NO
   OR ON TEMPORARY BRIDGE? YES
   ONE OR TWO-LANE TRAVEL? ONE WAY WITH PAVED APPROACHES
2. TRAFFIC CONTROL SIGNALS REQUIRED? NO
3. ARE SIDEWALKS REQUIRED? NO
   IF SO, ON WHAT SIDE? N/A

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266pi.xls
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PRELIMINARY INFORMATION SHEET

PLOT DATE: 2/5/2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 2 OF 58

Metric

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO: THE STATE OF VERMONT AGENCY OF TRANSPORTATION 2006 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND ITS LATEST REVISIONS; AND THE 2002 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION AND ITS LATEST INTERIM REVISIONS.

2. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AT 68 °F (20 °C).

CONSTRUCTION

1. WATER QUALITY. PREVENT POLLUTION, AND DISCHARGE OF SILT OR RAW CONCRETE INTO THE WATERWAY AS DIRECTED BY THE RESIDENT ENGINEER.

2. IN-STREAM CONSTRUCTION. PERMITS DESIGNATE AND LIMIT THE PERIOD FOR IN-STREAM CONSTRUCTION. THE AGENCY OF NATURAL RESOURCES MUST APPROVE ANY DEVIATION FROM THIS PERIOD IN WRITING.

TRAFFIC CONTROL

1. ITEM 528.10 "ONE-WAY TEMPORARY BRIDGE".
MAINTAIN TRAFFIC DURING CONSTRUCTION ON A ONE-WAY TEMPORARY BRIDGE WITH PAVED APPROACHES CONSTRUCTED UPSTREAM OF THE EXISTING STRUCTURE.
PAYMENT FOR THIS ITEM SHALL INCLUDE THE DESIGN, DETAIL, AND IMPLEMENTATION OF THE METHOD OF SEPARATING THE TRAVELING PUBLIC FROM THE NEW BRIDGE CONSTRUCTION.

2. ITEM 641.10 "TRAFFIC CONTROL".
ERECT AND MAINTAIN ALL TEMPORARY ON AND OFF-PROJECT SIGNS AND BARRICADES AS SHOWN IN THE PLANS AND AS DIRECTED BY THE RESIDENT ENGINEER.
MAINTAIN FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS AT ALL TIMES.

UTILITIES

1. THE TELEPHONE LINES IN CONDUIT ON THE BRIDGE ARE NO LONGER IN SERVICE.

PARTIAL REMOVAL OF STRUCTURE

1. ITEM 529.20 "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE THE REMOVAL OF THE EXISTING SUPERSTRUCTURE AND ANY PORTION OF THE EXISTING SUBSTRUCTURES NOT REMOVED UNDER OTHER CONTRACT ITEMS.

2. ITEM 529.20 "PARTIAL REMOVAL OF STRUCTURE". EXISTING BEAMS WILL REMAIN THE PROPERTY OF THE TOWN OF LINCOLN. THE CONTRACTOR SHALL REMOVE THE BEAMS AND PLACE THEM ON TRANSPORT EQUIPMENT PROVIDED BY THE TOWN. CONTACT ART PIXLEY, LINCOLN ROAD COMMISSIONER AT (802) 453-3703. COSTS ASSOCIATED WITH THIS WORK SHALL BE INCIDENTAL TO ITEM 529.20.

REINFORCED CONCRETE

1. ITEM 501.33 "CONCRETE, HIGH PERFORMANCE CLASS A". USE THIS CONCRETE FOR THE BACK WALLS, DECK, CURB, AND SIDEWALK.

2. ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B". USE THIS CONCRETE FOR THE APPROACH SLABS, AND SUBSTRUCTURES. PAYMENT FOR THIS ITEM SHALL INCLUDE INSTALLING THE BRIDGE PLAQUE PROVIDED BY THE AGENCY.

3. CONCRETE JOINTS. CONSTRUCT CONCRETE JOINTS AS INDICATED ON THE PLANS OR DIRECTED BY THE RESIDENT ENGINEER. CONSTRUCT SHEAR KEYS MONOLITHICALLY AND CONTINUOUSLY UNLESS OTHERWISE INDICATED. TERMINATE SHEAR KEYS 6" (150 MM) FROM ENDS OF JOINTS. IN HORIZONTAL JOINTS, PLACE SHEAR KEYS UPWARD.

4. CHAMFERS. CHAMFER ALL EXPOSED EDGES OF CONCRETE WITH 1" X 1" (25 MM BY 25 MM) CHAMFERS, UNLESS OTHERWISE NOTED. ROUND THE TOP INSIDE CORNER OF CURBS WITH A ½" (15 MM) RADIUS.

5. SCORE MARKS. CONSTRUCT SCORE MARKS AS INDICATED ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.

6. SUPPLEMENTAL SPECIFICATION 514.10 "WATER REPELLENT, SILANE". APPLY REPELLENT TO ALL EXPOSED SURFACES OF CONCRETE ON THE BRIDGE, EXCEPT THE BOTTOM OF THE DECK BETWEEN THE DRIP NOTCHES.

STRUCTURAL STEEL

1. NEW STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 50W (AASHTO M270M, GRADE 345W) UNLESS OTHERWISE NOTED.

2. ITEM 506.55 "STRUCTURAL STEEL, PLATE GIRDER". PAYMENT FOR THIS ITEM SHALL INCLUDE ALL COMPONENTS OF PLATE GIRDERS, AND CROSS FRAMES.

3. CHARPY V-NOTCH TEST. TEST STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS IN ACCORDANCE WITH SUBSECTION 714.01.

4. BOLTS FOR ALL BOLTED FIELD CONNECTIONS SHALL BE 7/8" (22 MM) DIAMETER HIGH STRENGTH BOLTS IN 15/16" (24 MM) DIAMETER HOLES UNLESS OTHERWISE NOTED.

5. CONNECTIONS NOT SHOWN IN THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE RESIDENT ENGINEER FOR APPROVAL.

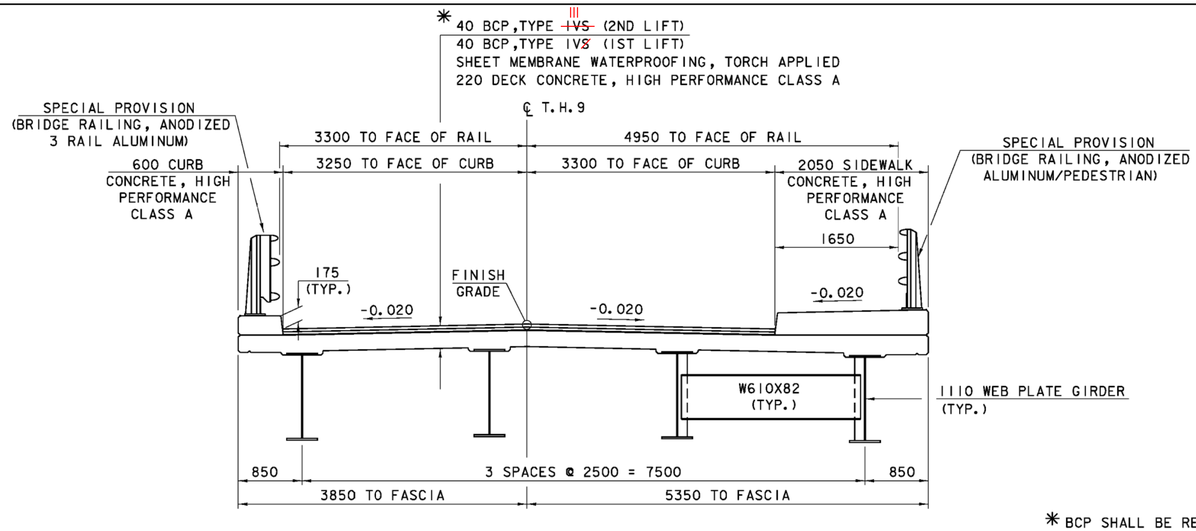
6. GIRDER PROFILES. AFTER THE SUPERSTRUCTURE STEEL HAS BEEN SET ON THE ANCHOR BOLTS, TAKE ELEVATIONS ALONG THE TOP OF THE GIRDERS AS DIRECTED BY THE RESIDENT ENGINEER FOR DETERMINING HAUNCH DEPTHS.

7. FLEMING BRACKETS OR SIMILAR FALSEWORK. SPACE FLEMING BRACKETS OR SIMILAR FALSEWORK AS REQUIRED BY DESIGN WITH A MAXIMUM SPACING OF 4' (1200 MM). THE DESIGN OF FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

GENERAL NOTES

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)

FILE NAME: s96j266gen.dgn	PLOT DATE: 29-JAN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: T. LACKEY	CHECKED BY: R. WHITCOMB
GENERAL NOTES	SHEET 3 OF 58

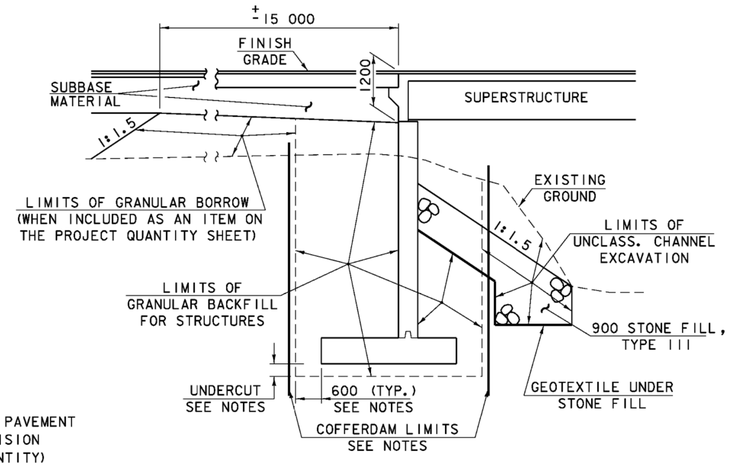


BRIDGE TYPICAL SECTION

0 1 2 3 4

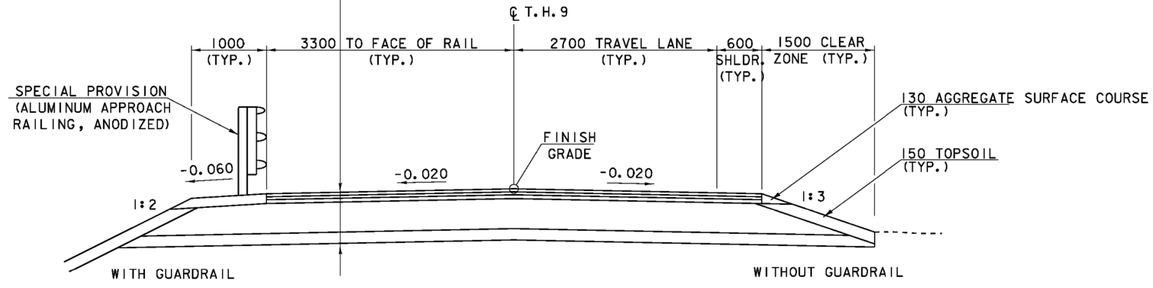
SCALE = 1:40

* BCP SHALL BE READ AS BITUMINOUS CONCRETE PAVEMENT AND SHALL BE PAID FOR UNDER SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)



TYPICAL ABUTMENT SECTION

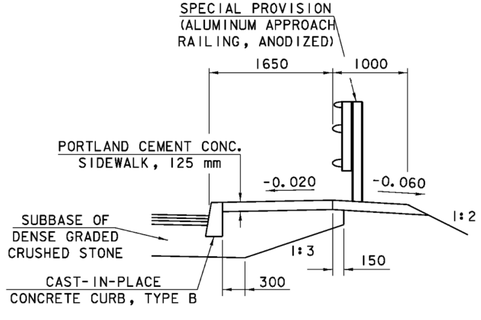
(NOT TO SCALE)



ROADWAY TYPICAL SECTION

0 1 2 3 4

SCALE = 1:40



SIDEWALK TYPICAL SECTION

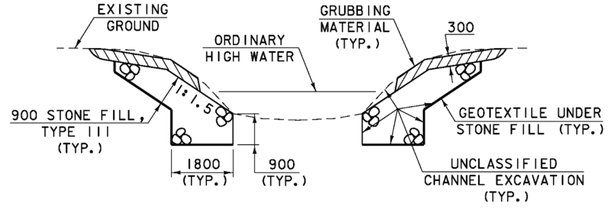
0 1 2 3 4

SCALE = 1:40

MATERIAL ITEM	TOLERANCE
PAVEMENT	±5 mm TOTAL THICKNESS
AGGREGATE SURFACE COURSE	±10 mm
BASE COURSE	±10 mm
SUBBASE	±30 mm
SAND BORROW	±30 mm

NOTES

1. COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 600 OUTSIDE THE PERIMETER OF THE FOOTING.
3. UNDERCUT AS DETERMINED NECESSARY BY THE RESIDENT ENGINEER.
4. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.



TYPICAL CHANNEL SECTION

(NOT TO SCALE)

GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

TYPICAL CROSS SECTIONS

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266typ.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
TYPICAL CROSS SECTIONS

PLOT DATE: 29-JAN-2009
DRAWN BY: S. SCRIBNER
CHECKED BY: R. WHITCOMB

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND
1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
380				380		CM	COMMON EXCAVATION	203.15	
		270		270		CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
20				20		CM	SAND BORROW	203.31	
90				90		CM	GRANULAR BORROW	203.32	
	10			10		CM	TRENCH EXCAVATION OF EARTH	204.20	
1				1		CM	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
		550		550		CM	GRANULAR BACKFILL FOR STRUCTURES	204.30	
		680		680		CM	COFFERDAM EXCAVATION, EARTH	208.30	
		90		90		CM	COFFERDAM EXCAVATION, ROCK	208.35	
		1		1		LS	COFFERDAM (STA. 1+108.000)	208.40	
		1		1		LS	COFFERDAM (STA. 1+134.000)	208.40	
680				680		SM	COLD PLANING, BITUMINOUS PAVEMENT	210.10	
380	30			410		CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	
10				10		CM	AGGREGATE SURFACE COURSE	401.10	
220				220		KG	EMULSIFIED ASPHALT	404.65	
1				1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	
		101		101		CM	CONCRETE, HIGH PERFORMANCE CLASS A	501.33	
		203		203		CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
		34310		34310		KG	STRUCTURAL STEEL, PLATE GIRDER	506.55	
		15058		15058		KG	REINFORCING STEEL	507.15	
		10830		10830		KG	EPOXY COATED REINFORCING STEEL	507.17	
		1		1		LS	SHEAR CONNECTORS (960 - 22 X 180)	508.15	
		29		29		L	WATER REPELLENT, SILANE	514.10	
		15		15		M	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	
		224		224		SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	
17				17		M	JOINT SEALER, HOT POURED	524.11	
1				1		LS	ONE-WAY TEMPORARY BRIDGE (123 SM - EST.)	528.10	
1				1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20	
		8		8		EACH	BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD	531.10	
	1			1		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	
1				1		CM	DUST CONTROL WITH WATER	609.10	
1				1		T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	
	10	10		20		CM	STONE FILL, TYPE I	613.10	
		410		410		CM	STONE FILL, TYPE III	613.12	
26				26		M	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28	
2				2		EACH	RELOCATE MAILBOX, SINGLE SUPPORT	617.10	
2				2		EACH	RELOCATE MAILBOX, MULTIPLE SUPPORT	617.12	
41				41		SM	PORTLAND CEMENT CONCRETE SIDEWALK, 125 MM	618.10	
2				2		SM	DETECTABLE WARNING SURFACE	618.30	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORKS SUMMARY
		FILL REQUIRED
58	CM	COMMON FILL (1.15*50 CM)
		FILL AVAILABLE
304	CM	203.15 COMMON EXCAVATION (0.8*380 CM)
3	CM	204.20 TRENCH EXCAVATION OF EARTH (0.3*10 CM)
204	CM	208.30 COFFERDAM EXCAVATION, EARTH (0.3*680 CM)
81	CM	203.27 UNCLASSIFIED CHANNEL EXCAVATION (0.3*270 CM)

592	CM	TOTAL
58	CM	FILL REQUIRED
592	CM	FILL AVAILABLE

534	CM	WASTE
		TEMPORARY EROSION CONTROL ITEMS
10	CM	204.20 TRENCH EXCAVATION OF EARTH
30	CM	301.35 SUBBASE OF DENSE GRADED CRUSHED STONE
1	HR	608.25 ALL PURPOSE EXCAVATOR RENTAL, TYPE I
10	CM	613.10 STONE FILL, TYPE I
10	SM	649.51 GEOTEXTILE FOR SILT FENCE
100	SM	649.515 GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCI
130	SM	649.61 GEOTEXTILE FOR FILTER CURTAIN
10	KG	651.17 SEED, WINTER RYE
1	LS	652.10 EPSC PLAN
100	HR	652.20 MONITORING EPSC PLAN
1	LU	652.30 MAINTENANCE OF EPSC PLAN (N.A.B.I.)
150	SM	653.20 TEMPORARY EROSION MATTING
30	CM	653.35 VEHICLE TRACKING PAD
91	M	653.50 BARRIER FENCE

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266qty.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: T. LACKEY
QUANTITY SHEET #1

PLOT DATE: 02/03/2009
DRAWN BY: C. MOONEY
CHECKED BY: R. WHITCOMB

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

Metric

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						23.2				23.2		M	REMOVE AND RESET GUARDRAIL	621.75				
						23				23		M	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
						100				100		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
						600				600		HR	FLAGGERS	630.15				
									1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
									1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
									1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
									1	1		LU	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.25				
						1				1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
						1				1		LS	TRAFFIC CONTROL	641.10				
						236				236		M	100 MM YELLOW LINE	646.21				
						6				6		M	600 MM STOP BAR	646.26				
						4				4		EACH	LETTER OR SYMBOL	646.30				
						100				100		EACH	LINE STRIPING TARGETS	646.76				
								330		330		SM	GEOTEXTILE UNDER STONE FILL	649.31				
							10			10		SM	GEOTEXTILE FOR SILT FENCE	649.51				
							100			100		SM	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515				
							130			130		SM	GEOTEXTILE FOR FILTER CURTAIN	649.61				
							10			10		KG	SEED	651.15				
							10			10		KG	SEED, WINTER RYE	651.17				
							100			100		KG	FERTILIZER	651.18				
							1			1		T	AGRICULTURAL LIMESTONE	651.20				
							1			1		T	HAYMULCH	651.25				
							10			10		CM	TOPSOIL	651.35				
								160		160		SM	GRUBBING MATERIAL	651.40				
							1			1		LS	EPSC PLAN	652.10				
							100			100		HR	MONITORING EPSC PLAN	652.20				
							1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
							150			150		SM	TEMPORARY EROSION MATTING	653.20				
							30			30		CM	VEHICLE TRACKING PAD	653.35				
							91			91		M	BARRIER FENCE	653.50				
						2.4				2.4		SM	TRAFFIC SIGNS, TYPE A	675.20				
						36				36		M	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
						5				5		EACH	REMOVING SIGNS	675.50				
						2				2		EACH	ERECTING SALVAGED SIGNS	675.60				
						42				42		M	SPECIAL PROVISION (ALUMINUM APPROACH RAILING, ANODIZED)	900.640				
								27		27		M	SPECIAL PROVISION (BRIDGE RAILING, ANODIZED 3 RAIL ALUMINUM)	900.640				
								27		27		M	SPECIAL PROVISION (BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)	900.640				
						1				1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY) (N.A.B.I.)	900.650				
						1				1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT) (N.A.B.I.)	900.650				

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266qty.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: T. LACKEY
QUANTITY SHEET #2

PLOT DATE: 02/03/2009
DRAWN BY: C. MOONEY
CHECKED BY: R. WHITCOMB

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

Metric

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						285		35		320		T	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266qty.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
QUANTITY SHEET #3

PLOT DATE: 02/04/2009
DRAWN BY: C. MOONEY
CHECKED BY: R. WHITCOMB
SHEET 7 OF 58

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 4

Metric

SUMMARY OF BRIDGE QUANTITIES										TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
						DECK	APP SLAB 1	APP SLAB 2	ABUT 1	ABUT 2	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
									130	140	270	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
									330	220	550	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30			
									360	320	680	CM	COFFERDAM EXCAVATION, EARTH	208.30			
									50	40	90	CM	COFFERDAM EXCAVATION, ROCK	208.35			
									1		1	LS	COFFERDAM (STA. 1+108.000)	208.40			
										1	1	LS	COFFERDAM (STA. 1+134.000)	208.40			
						101					101	CM	CONCRETE, HIGH PERFORMANCE CLASS A	501.33			
							15	17	85	86	203	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
						34310					34310	KG	STRUCTURAL STEEL, PLATE GIRDER	506.55			
							1586	1817	5955	5700	15058	KG	REINFORCING STEEL	507.15			
						10830					10830	KG	EPOXY COATED REINFORCING STEEL	507.17			
						1					1	LS	SHEAR CONNECTORS (960 - 22 X 180)	508.15			
						27			1	1	29	L	WATER REPELLENT, SILANE	514.10			
							7.5	7.5			15	M	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10			
						224					224	SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20			
									4	4	8	EACH	BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD	531.10			
										10	10	CM	STONE FILL, TYPE I	613.10			
									205	205	410	CM	STONE FILL, TYPE III	613.12			
									170	160	330	SM	GEOTEXTILE UNDER STONE FILL	649.31			
									70	90	160	SM	GRUBBING MATERIAL	651.40			
						27					27	M	SPECIAL PROVISION (BRIDGE RAILING, ANODIZED 3 RAIL ALUMINUM)	900.640			
						27					27	M	SPECIAL PROVISION (BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)	900.640			
						35					35	T	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680			

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266qty.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: T. LACKEY
QUANTITY SHEET #4

PLOT DATE: 02/03/2009
DRAWN BY: C. MOONEY
CHECKED BY: R. WHITCOMB
SHEET 8 OF 58

GPS CONTROL POINTS

LINCOLN AZ MK
STATION MARK IS A SURVEY DISK SET INTO THE TOP OF A METAL PIPE EMBEDDED IN THE GROUND. THE MARK IS STAMPED LINCOLN AZ MK 1997.

APPROX. LATITUDE: 440602 N
APPROX. LONGITUDE: 0725947 W
APPROX. ELEVATION: 325 M

LOCATION: LINCOLN, VT

FROM THE INTERSECTION OF NORTH AND SOUTH STREETS AT THE TRAFFIC LIGHT IN BRISTOL VILLAGE, GO EAST ALONG VT ROUTES 17 AND 116 FOR 1.6 MI (2.6 KM). TURN LEFT AND GO SOUTHEAST ALONG WEST RIVER ROAD FOR 3.4 MI (5.5 KM) TO THE INTERSECTION OF QUAKER STREET LEFT, EAST RIVER ROAD STRAIGHT, AND GOVE HILL ROAD RIGHT IN LINCOLN VILLAGE. TURN RIGHT AND GO SOUTH ALONG GOVE HILL ROAD FOR 0.4 MI (0.6 KM) TO THE SITE OF THE MARK ON THE RIGHT ON THE EAST EDGE OF A FIELD, JUST SOUTH OF A 1½ STORY HOUSE WITH GAMBREL ROOF ON THE LEFT. THE MARK IS A STATE OF VERMONT SURVEY MARK SET 3 CM BELOW GROUND SURFACE IN THE TOP OF A CAST ALUMINUM MONUMENT. IT IS 7.1 M (23.3 FT) WEST OF AND ABOUT 0.5 M (1.6 FT) HIGHER THAN THE CENTERLINE OF GOVE HILL ROAD, 37.5 M (123.0 FT) WEST SOUTHWEST OF THE SOUTHWEST CORNER OF THE GAMBREL ROOFED HOUSE, 44.8 M (147.0 FT) NORTH OF POLE NO. 5X, AND 11.8 M (38.7 FT) SOUTH OF POLE NO. 7/104/7 AND A FIBERGLASS WITNESS POST.

LINCOLN
STATION MARK IS A SURVEY DISK SET INTO THE TOP OF A METAL PIPE EMBEDDED IN THE GROUND. THE MARK IS STAMPED LINCOLN 1997.

APPROX. LATITUDE: 440636 N
APPROX. LONGITUDE: 0725952 W
APPROX. ELEVATION: 310 M

LOCATION: LINCOLN, VT

FROM THE INTERSECTION OF NORTH AND SOUTH STREETS AT THE TRAFFIC LIGHT IN BRISTOL VILLAGE, GO EAST ALONG VT ROUTES 17 AND 116 FOR 1.6 MI (2.6 KM). TURN LEFT AND GO SOUTHEAST ALONG WEST RIVER ROAD FOR 3.4 MI (5.5 KM) TO THE INTERSECTION OF QUAKER STREET LEFT, EAST RIVER ROAD STRAIGHT, AND GOVE HILL ROAD RIGHT IN LINCOLN VILLAGE. TURN LEFT AND GO NORTH ALONG QUAKER STREET FOR 0.2 MI (0.3 KM) TO THE LEE CEMETERY AND THE SITE OF THE MARK ON THE LEFT IN A GRASS STRIP BETWEEN THE CEMETERY AND THE ROAD. THE MARK IS A STATE OF VERMONT SURVEY MARK SET 3 CM BELOW GROUND SURFACE IN THE TOP OF A CAST ALUMINUM MONUMENT. IT IS 6.5 M (21.3 FT) WEST OF AND ABOUT 1 M (3.3 FT) HIGHER THAN THE CENTERLINE OF QUAKER STREET, 6.4 M (21.0 FT) SOUTH OF THE CENTER OF A GATE LEADING INTO THE CEMETERY, 0.5 M (1.6 FT) EAST OF THE CEMETERY FENCE, AND 21.9 M (71.9 FT) NORTH OF POLE NO. 7/90/81 AND A FIBERGLASS WITNESS POST.

971
STATION MARK IS A BENCH MARK DISK SET INTO AN ABUTMENT. THE MARK IS STAMPED 971 MONTPELIER.

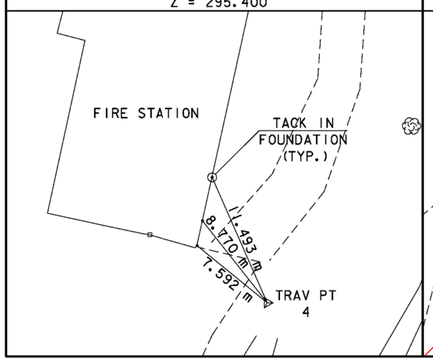
APPROX. LATITUDE: 440620 N
APPROX. LONGITUDE: 0725948 W
APPROX. ELEVATION: 296 M

LOCATION: LINCOLN, VT

FROM THE INTERSECTION OF NORTH AND SOUTH STREETS AT THE TRAFFIC LIGHT IN BRISTOL VILLAGE, GO EAST ALONG VT ROUTES 17 AND 116 FOR 1.6 MI (2.6 KM). TURN LEFT AND GO SOUTHEAST ALONG WEST RIVER ROAD FOR 3.4 MI (5.5 KM) TO THE INTERSECTION OF QUAKER STREET LEFT, EAST RIVER ROAD STRAIGHT, AND GOVE HILL ROAD RIGHT IN LINCOLN VILLAGE. TURN RIGHT AND GO SOUTH ALONG GOVE HILL ROAD FOR ABOUT 15 M (49.2 FT) TO THE NORTH END OF THE GOVE HILL ROAD BRIDGE OVER THE NEW HAVEN RIVER AND THE MARK ON THE LEFT IN THE TOP OF THE ABUTMENT AT THE NORTHEAST CORNER OF THE BRIDGE. THE MARK IS SET IN THE TOP OF THE ABUTMENT DIRECTLY UNDER A L-SHAPED CUTOUT IN THE SOUTH END OF THE NORTHEAST CONCRETE WINGWALL. THE CUTOUT IN THE WINGWALL WAS CONSTRUCTED SPECIFICALLY TO PRESERVE THE MARK. IT IS 3.1 M (10.2 FT) EAST OF AND ABOUT 1.2 M (3.9 FT) LOWER THAN THE CENTERLINE OF GOVE HILL ROAD, 16.0 M (52.5 FT) SOUTH OF THE CENTERLINE OF EAST RIVER ROAD, 3.6 M (11.8 FT) SOUTH OF A GOVE HILL ROAD AND STOP SIGN, 0.3 M (1.0 FT) NORTH OF THE SOUTH FACE OF THE ABUTMENT, AND 0.3 M (1.0 FT) WEST OF THE EAST EDGE OF THE ABUTMENT.

TRAVERSE TIES

TRAV. PT. 4
N = 178463.4383
E = 460198.7050
Z = 295.400



TRAV. PT. 5
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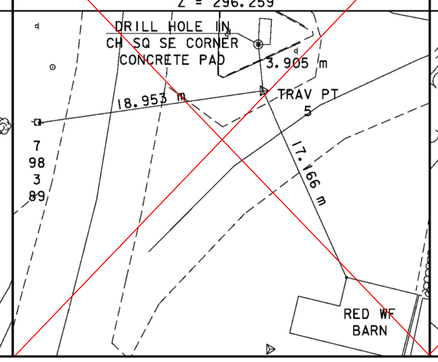
Z = 296.259



TRAV. PT. 6
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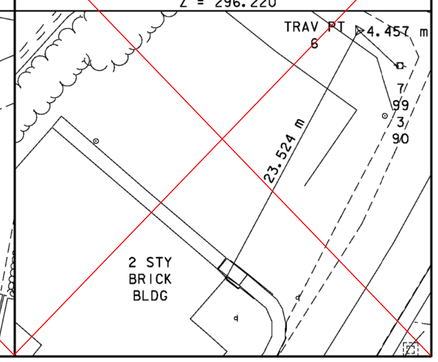
Z = 296.220



ALIGNMENT TIES

POB 1+00.00
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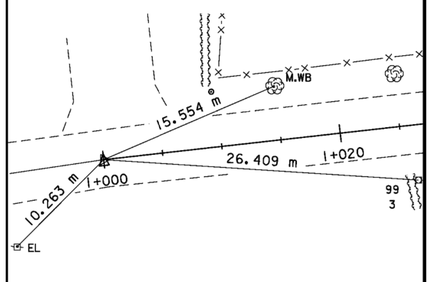
E = 460225.2564



PC 1+064.656
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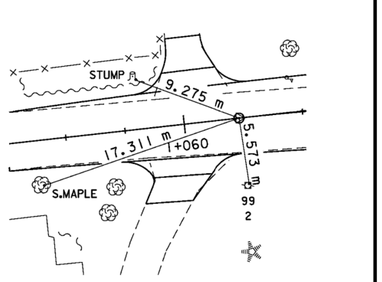
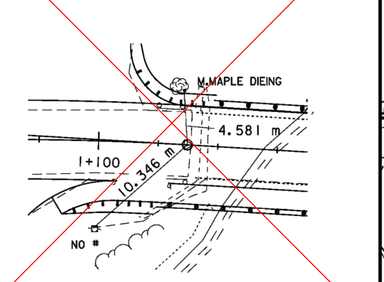
E = 460218.0870



PT 1+107.449
N = 178460.6900
E = 460216.9970



POE 1+154.504
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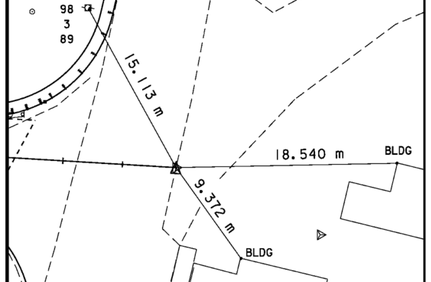
E = 460219.8230



DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

SURVEY TIES

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266tie.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
SURVEY TIES

PLOT DATE: 29-JAN-2009
DRAWN BY: S. SCRIBNER
CHECKED BY: R. WHITCOMB
SHEET 9 OF 58

CONSTRUCT GRAVEL DRIVE
W/ 1.5m WIDE PAVED APRON
1+060 RT
1+061 LT

CONSTRUCT GRAVEL ROAD
W/ 3.0m WIDE PAVED APRON
1+090 RT

CONSTRUCT PAVED DRIVE
1+093 LT

REPAVE PAVED DRIVE
1+135 RT

PORTLAND CEMENT CONCRETE
SIDEWALK, 125mm
1+096.14 RT - 1+106.11 RT
1+132.02 RT - 1+143.23 RT

CAST-IN-PLACE
CONCRETE CURB, TYPE B
1+096.14 RT - 1+106.11 RT
1+132.79 RT - 1+143.23 RT

SIDEWALK RAMP, TYPE I
1+096.60 RT - 1+098.70 RT
1+140.90 RT - 1+142.40 RT

SPECIAL PROVISION
(BRIDGE RAILING, ANODIZED 3 RAIL ALUMINUM)
1+109.54 LT - 1+136.06 LT

SPECIAL PROVISION
(BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)
1+105.20 RT - 1+131.76 RT

SPECIAL PROVISION
(ALUMINUM APPROACH RAILING, ANODIZED)
1+103.12 LT - 1+109.54 LT
1+097.63 RT - 1+105.20 RT
1+136.05 LT - 1+148.07 LT
1+131.76 RT - 1+138.38 RT

RELOCATE MAILBOX, SINGLE SUPPORT
1+068.8 LT TO 1+070.0 LT
1+081.0 LT TO 1+081.0 LT

RELOCATE MAILBOX, MULTIPLE SUPPORT
1+079.5 RT TO 1+079.5 RT
1+080.0 RT TO 1+080.0 RT

REMOVE AND RESET GUARDRAIL
1+120.65 RT - 1+135.66 RT (2-CABLE)

REMOVAL AND DISPOSAL OF GUARDRAIL
1+104.70 LT - 1+107.70 LT
1+101.30 RT - 1+107.70 RT
1+134.60 LT - 1+141.50 LT
1+134.40 RT - 1+137.60 RT

~~COLD PLANING, BITUMINOUS PAVEMENT~~
1+040.00 - 1+050.00
1+080 LT - 1+110 LT
1+146.20 - 1+154.50

VT. STATE PLANE GRID

CURVE DATA
Δ = 9°48'27"
R = 250.000
T = 21.449
L = 42.793
E = 0.918
2T-L = 0.105
BANKING = N.C.

~~COLD~~ PLANE AND PAVE WITH TYPE IVS AS NEEDED TO MATCH EXISTING

PI STA. 1+086.105 AH=
STA. 1+086.000 BK
Δ = 9°48'27 RT.

STA. 1+080.000
BEGIN PROJECT

PC STA. 1+064.656

~~COLD PLANE AND PAVE~~

STA. 1+040.000
BEGIN APPROACH

RELOCATED
MAIL BOX

STONE WALL

ASSUMED 3-ROD R.O.W.

N6°21'52.3"W

N3°26'34.7"E

T.H. 9 (PAVED)

TO RIPTON

TO BRISTOL

FIRE STATION

STA. 1+107.669
BEGIN BRIDGE
F.G.= 297.353

N61°33'47.1"W

ELIMINATE
STONE FILL

NEW HAVEN RIVER

STONE FILL,
TYPE III

PAVED DR.

ML POST STA. 1+105.000=
CHAN. STA. 5+050.000
Δ = 65° LT.

STA. 1+082.700
14.10 LT

T.H. 3 QUAKER ST (PAVED)
TO SO. STARKSBORO

STA. 1+146.200
END PROJECT

STA. 1+154.504
END APPROACH

STA. 1+108.000
CL BRG. ABUT. NO. 1
F.G.= 297.362
(EXP.)

TEMPORARY
DETOUR

PT STA.
1+107.449

REMOVE AND
RESET GUARDRAIL

STA. 1+134.332
END BRIDGE
F.G.= 296.991

STA. 1+134.000
CL BRG. ABUT. NO. 2
F.G.= 297.009
(FIXED)

~~COLD PLANE AND~~ PAVE
WITH TYPE IVS
AS NEEDED TO
MATCH EXISTING

LINCOLN
GENERAL
STORE

RED WF
BARN

CONSTRUCTION
LIMITS (TYP.)

LIMITS
OF PAVED
APRON

TEMPORARY
CONSTRUCTION
LIMITS
(TYP.)

T.H. 46
CLARK RD
(GRAVEL)

CHANNEL LINE

AVOID THIS
ARCHAEOLOGICALLY
ART SENSITIVE AREA

2 STY
BRICK
BLDG

1 STY
WF HO

SEPTIC
SYSTEM

LPG TANK

S. APPLE

LIGHT
STA. 1+143.000
27.60 RT

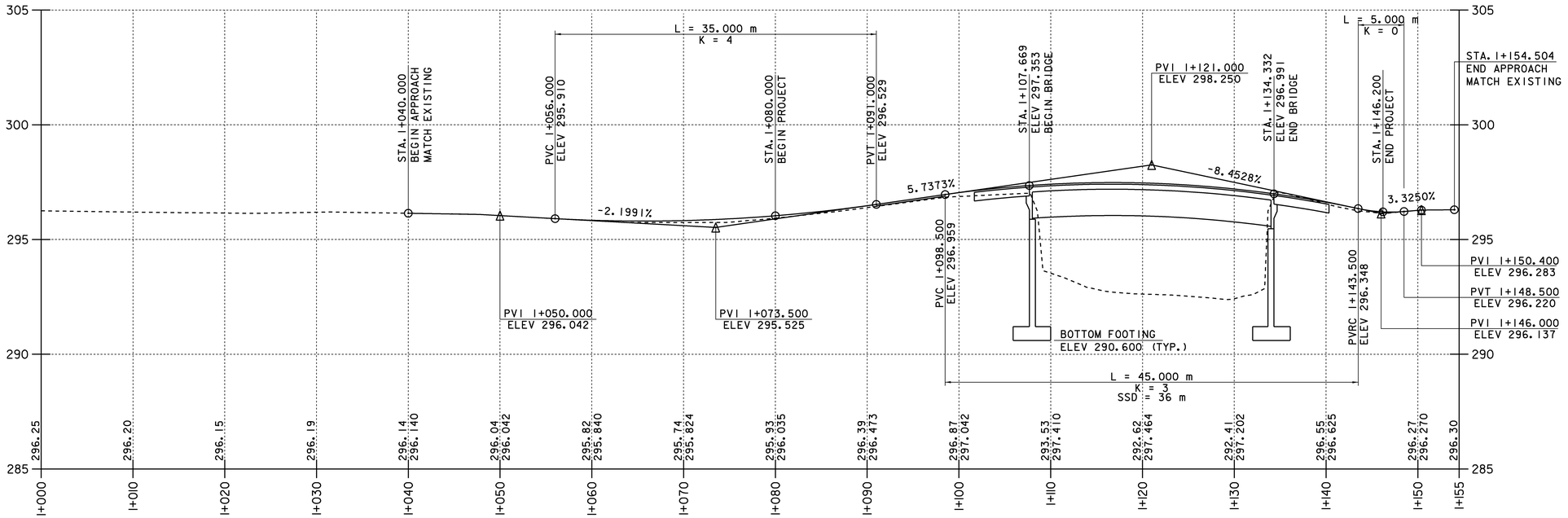
T.H. 1
TO WARREN
T.H. 1 (PAVED)

0 10 20
SCALE 1:250

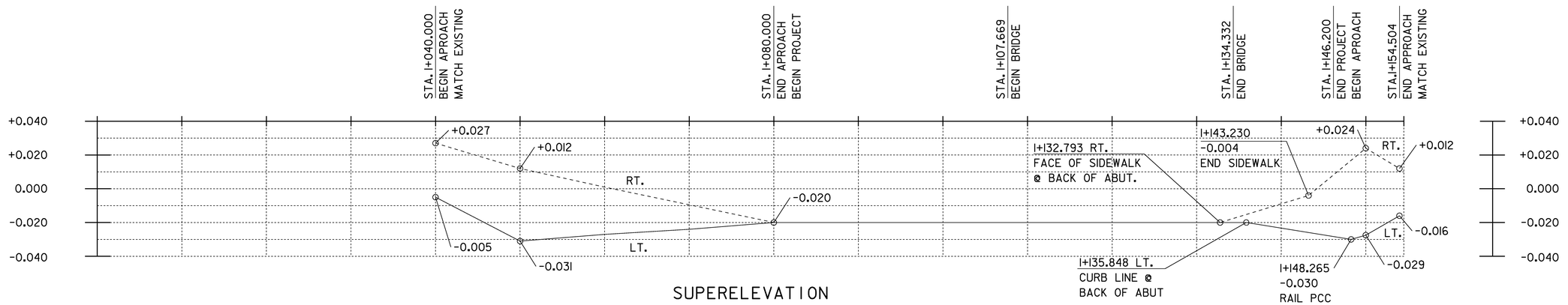
LAYOUT PLAN

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)

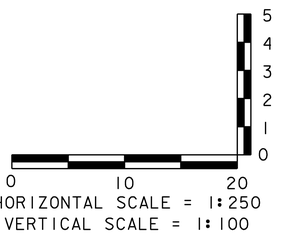
FILE NAME: s96j266bdr.dgn	PLOT DATE: 03-FEB-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: T. LACKEY	CHECKED BY: C. CARLSON
LAYOUT PLAN	SHEET 10 OF 58



PROFILE



SUPERELEVATION



HORIZONTAL SCALE = 1:250
VERTICAL SCALE = 1:100

NOTES:

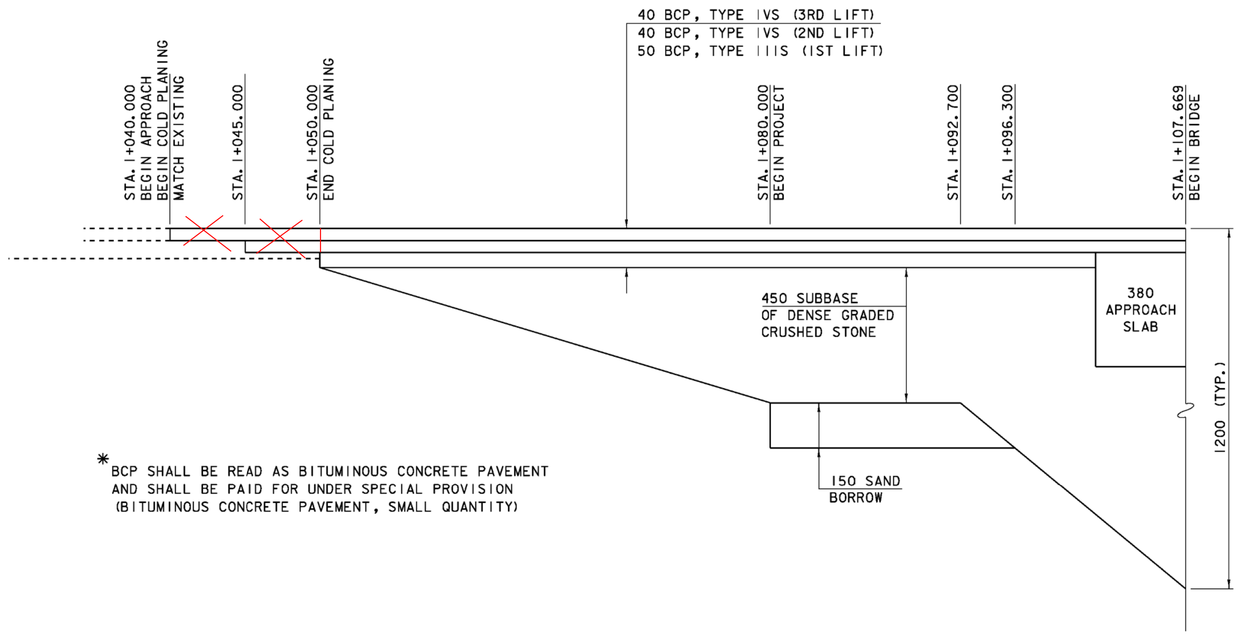
1. ELEVATIONS TO THE NEAREST 0.01 ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.
2. ELEVATIONS TO THE NEAREST 0.001 ARE FINISH GRADE ALONG PROPOSED CENTERLINE.

PROFILE

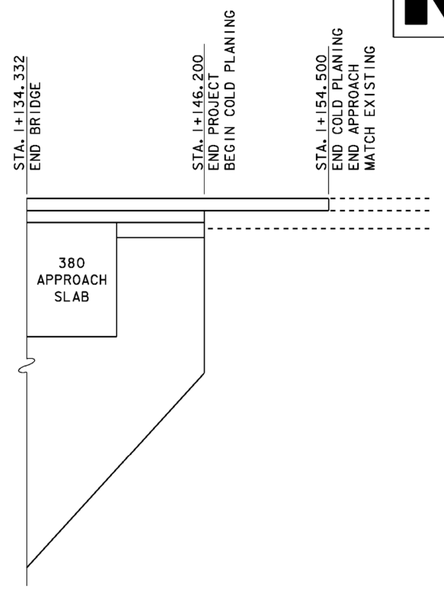
PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266xs.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PROFILE

PLOT DATE: 29-JAN-2009
DRAWN BY: S. SCRIBNER
CHECKED BY: C. CARLSON
SHEET 11 OF 58



* BCP SHALL BE READ AS BITUMINOUS CONCRETE PAVEMENT AND SHALL BE PAID FOR UNDER SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)



MATERIAL TRANSITION DETAIL

HORIZ.: 0 4 8 12 16 20
SCALE = 1:200

VERT.: 0 0.5 1
SCALE = 1:10

NOTES

1. SEE ROADWAY CROSS SECTIONS TO DETERMINE CUT OR FILL.

2. SEE PROJECT TYPICAL SECTIONS SHEET FOR ADDITIONAL ABUTMENT EARTHWORK DETAILS.

MATERIAL TRANSITION DETAILS

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445(25)

FILE NAME: s96j266xs.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
MATERIAL TRANSITION DETAILS

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 12 OF 58

VAOT Metric

N
VT. STATE PLANE GRID

LEGEND

- ARCH — ARCHEOLOGICAL RESOURCE
- HISTORIC DIST — HISTORIC DISTRICT
- ORDINARY HIGH WATER LINE

IMPACT AREAS

RESOURCE	TEMPORARY	PERMANENT
OHW FILL	10.7 m2	126.7 m2
WETLANDS	0 m2	0 m2

HISTORIC DIST

CONSTRUCTION LIMITS (TYP.)

BEGIN PROJECT
STA. 1+080.000

BEGIN BRIDGE
STA. 1+107.669
F.G. = 297.353

FIRE STATION

PAVED DR.

GR DR

WELL

ART WELL

HEDGE

WOOD FENCE

GARDEN

L. STEMP

S. WB

STONE WALL

MB

CZ

ASSUMED 3-ROD R.O.W.

T.H. 9 (PAVED)

TO RIPTON

1+000 1+020 1+040 1+060 1+080 1+100 1+120 1+140

FLOWERS

LILLIES

ROSE

LILAC

STUMP

GUY WIRE

M.S

I STY WF HO

SEPTIC SYSTEM

GCMP PLUGGED

WOODS

T.H. 46 CLARK RD (GRAVEL)

CHANNEL LINE

5+000 5+020 5+040 5+060 5+080 5+100

OHW

NEW HAVEN RIVER

L.M

TRAV PT 4

DI

33 m2

64 m2

NO #

3 m2

TEMPORARY ℄ DETOUR

TEMP. DETOUR CONSTRUCTION LIMITS (TYP.)

7 m2

61 OCGMP

LPG TANK

TRAV PT 6

AVOID THIS ARCHAEOLOGICALLY ART SENSITIVE AREA

WELL

2 STY BRICK BLDG

ARCH

UE

WALK

SW

TO WARREN T.H. 1 (PAVED)

44 MB

US PS SIGN

GUY W

TRAV PT 5

QUAKER ST (PAVED) TO SO. STARKSBORO

END PROJECT
STA. 1+146.184

ASSUMED 3-ROD R.O.W.

TO BRISTOL

GR DR

RED WF BARN

END BRIDGE
STA. 1+134.832
F.G. = 296.991

PAVED DR

LINCOLN GENERAL STORE

S. APPLE

LIGHT

0 10 20
SCALE 1:250

RESOURCE PLAN

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)

FILE NAME: s96j266rsc.dgn	PLOT DATE: 29-JAN-2009
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: S. SCRIBNER	CHECKED BY: R. WHITCOMB
RESOURCE PLAN	SHEET 13 OF 58

1. EROSION PREVENTION & SEDIMENT CONTROL NARRATIVE

1.1. PROJECT DESCRIPTION

1.1.1. Scope of Work. Lincoln BRO 1445(25) will replace Bridge 48 on Town Highway 9 over the New Haven River in the Town of Lincoln on existing alignment. The new bridge will be a two lane, single span, concrete deck and steel girder bridge. The project will maintain traffic during construction on a temporary bridge 15 m upstream of the existing bridge.

1.1.2. Length. The total length of roadway work, including both approaches, drives and existing roadway is approximately 100 m.

1.1.3. Area. The total disturbed area (excluding waste, borrow and staging areas) is approx. 0.17 ha (0.42 ac.). The disturbed area for the temporary bridge is approx. 0.02 hectares (0.05 ac.).

1.1.4. Duration. This project should last one construction season. This Erosion Prevention and Sediment Control Plan is intended for use during the construction season. A separate winter plan shall be submitted for approval if work is to occur from Oct 15th to April 15th, or if vegetation has not been sufficiently established after the completion of construction and by Oct 15th.

1.2. SITE INVENTORY & ANALYSIS

1.2.1. Off Site Drainage Characteristics (Up And Down Gradient). The project site lies within the village of Lincoln. Much of the surrounding area consists of paved roads and buildings. The area is relatively flat with little vegetation except along the river banks.

1.2.2. Drainage, Waterways, Bodies of Water. The New Haven River is located within the project area. The New Haven River is described as semi-alluvial, straight and not braided or anabranched. The streambed is made up primarily of cobblestones. The banks along both sides of the river both upstream and downstream are high and appear to be stable. They are well protected with vegetation consisting of grass, ferns, low growing shrubbery and some small deciduous trees and boulders. The watershed area is 77 sq km.

1.2.3. Topography, Existing Roads, Buildings, Utilities.

1.2.3.1. Topography. The project site is a quiet village center. It has clapboarded cape buildings from the 1800s on a relatively level land.

1.2.3.2. Existing Roads. The project site is on TH 9, a paved Class III town highway, leading to the intersection of TH 1 & 3, paved Class II town highways.

1.2.3.3. Buildings. Four homes, a store, fire station, and town hall are near the project.

1.2.3.4. Utilities. Power and Utility poles run along the mainline from 1+050 to 1+045 right.

1.2.4. Vegetation. The vegetation along T.H. 9 is a mix of grass, small shrubs and a few small deciduous trees. The majority of the vegetation present on the site is grass and ferns mixed in with small shrubs.

1.2.5. Soils. The USDA Natural Resources Conservation Service identifies two soil types in the project site.

1.2.5.1. Adams loamy fine sand. This soil is on the north side of the river. It is described as very deep, strongly sloping,0-70%, and excessively drained soil. The soil profile is typically: 0-100 mm black humus in a mat of soil; 100-200 mm pinkish gray sand; 200-350 mm brown loamy sand; 350-1800 mm brown sand. Its erodiblilty rating is low (kw = 0.17) suggesting low erodiblilty.

1.2.5.2. Limerick silt loam. This soil is on the south side of the river. It is described as very deep, poorly drained soils on flood plains with a slope from 0-3%. The soil profile is typically: 0-200 mm dark grayish brown silt loam; 200 -900 mm olive gray silt loam; 900-1625 mm dark greenish gray silt loam. Its erodiblilty rating is high (kw = 0.49) suggesting high erodiblilty.

1.2.6. Sensitive Resource Areas

1.2.6.1. Waterways. The New Haven River runs through the project area. The project impacts it at the existing bridge and eastern detour. A Stream Alteration Permit (#HD-1-0296) dated 06/25/01 has been issued for this project.

1.2.6.2. Wetlands. Not Present

1.2.6.3. Archaeological Sites. A terrace near Sta 1+120 Right 30 on the northeast side of the bridge is Archaeologically Sensitive. The project will avoid this area. BARRIER FENCE & SPECIAL PROVISION (GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED) protect this area.

1.2.6.4. Historic Features. The project is located centrally in the Lincoln Village Historic District. The project will avoid historic features.

1.2.6.5. Critical Habitat. Not Present

1.2.6.6. Threatened & Endangered Species. Not Present

1.2.6.7. Prime Agricultural Land. Not Present

1.3. RISK EVALUATION

1.3.1. The project area is less than 1 acre. Therefore the project does not fall under the jurisdiction of Construction General Permit 3-9020.

1.3.2. Should changes prior to or during construction result in one or more acres of earth disturbance or should the project become part of a larger plan of development then the selected contractor will be responsible for additional permitting with VANR via filing of the appropriate Notice Of Intent under the Construction General Permit process.

1.4. EROSION PREVENTION & SEDIMENT CONTROL

1.4.1. Mark Site Boundaries

1.4.1.1. BARRIER FENCE will delineate the construction area for construction equipment. This measure limits the area that can be disturbed and exposed to erosion.

1.4.2. Limit Disturbance Area

1.4.2.1. BARRIER FENCE will delineate the construction area for construction equipment. These measures limit the area that can be disturbed and exposed to erosion. Use BARRIER FENCE within 30 m upslope of receiving waters and to protect sensitive areas.

1.4.3. Stabilize Construction Entrance

1.4.3.1. VEHICLE TRACKING PAD will control tracking of sediment transport on to public roads. The entrance is a stabilized pad of crushed stone located wherever construction vehicles leave construction areas. The sites include: the project site; staging areas; and waste and borrow areas. The minimum area is 3700 x 15 000 (12' x 50'). Pipe all surface water flowing to or diverted towards a construction entrance under the stone. Size pipes for their watersheds. The minimum pipe diameter is 150 mm.

1.4.4. Install Silt Fence

1.4.4.1. SILT FENCE and GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED placed level on slopes will control sheet flow sediment transport. Place silt fences level and 1500 to 3000 mm (5'-10') from the toe of slopes. Turn the ends of silt fence slightly uphill to stop concentrated water from flowing around the ends. The maximum slope length between separate runs of silt fence is 30 000 (100'). Place silt fence before beginning upslope earthwork. Use GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED for silt fence within 30 m upslope of receiving waters.

1.4.5. Divert Upland Runoff

1.4.6. Slow Down Channelized Runoff

1.4.6.1. GEOTEXTILE FOR FILTER CURTAIN will control concentrated flow sediment transport around abutments and piers.

1.4.7. Construct Permanent Controls

1.4.7.1. Roadway Typical Section

1.4.7.1.1. SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) on the road surface will prevent erosion.

1.4.7.1.2. AGGREGATE SURFACE COURSE on the shoulder will allow runoff to infiltrate and prevent erosion.

1.4.7.2. Channel Typical Section

1.4.7.2.1. STONE FILL, TYPE I at the ends of the wing walls will prevent erosion and control sediment transport.

1.4.7.2.2. STONE FILL, TYPE III around the abutments on slopes greater than 66% will prevent erosion and control sediment transport.

1.4.7.2.3. GEOTEXTILE UNDER STONE FILL will prevent erosion and control sediment transport.

1.4.8. Stabilize Exposed Soils

1.4.8.1. TRACKING & MULCHING will temporarily stabilize slopes. Use tracking for short term (two weeks) exposed slopes. Drive heavy equipment up and down slopes to leave level tracks (small check dams) that will catch water flow. Stabilize slopes within 48 hours or sooner considering rain.

1.4.8.2. SEEDING & MULCHING will establish vegetation on side slopes less than 66% that will prevent erosion and control sediment transport. Add TEMPORARY EROSION MATTING (with 100% natural fibers) to slopes ranging from 33% to 66%.

1.4.9. Winter Stabilization

1.4.10. Stabilize Soil at Final Grade

1.4.10.1. SEEDING & MULCHING will stabilize slopes ranging from 0% to 66%. Add TEMPORARY EROSION MATTING (with 100% natural fibers) to slopes ranging from 33% to 66%. Use seeding for long term exposed slopes. Allow Grass 2 weeks to establish itself. Stabilize slopes within 48 hours or sooner considering rain.

1.4.11. Dewatering Activities

1.4.11.1. COFFERDAMS will separate exposed earth and the waterway.

1.4.11.2. A Sediment Basin at Sta 1+110 Left will intercept, trap and retain sediment laden runoff from cofferdams.

1.4.12. Inspect your Site

1.4.12.1. Inspect all control measures weekly and after each rainfall event. Repair measures promptly once damage is discovered.

1.4.12.2. Note any changes on the plans, in the weekly inspection report, and report them to the appropriate authority in a timely manner.

1.4.12.3. Check temporary measures regularly for accumulation of sediment. Remove sediment build-up when the level of sediment reaches one-half the height of the control measure. Dispose of sediments in an approved area where they will not be subject to erosion.

VTrans Metric

EPSC NARRATIVE

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266ero.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
EPSC NARRATIVE

PLOT DATE: 03-FEB-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 14 OF 58

RESOURCE LEGEND

—ARCH———ARCH—	ARCHEOLOGICAL RESOURCES
—HISTORIC DIST—	HISTORIC DISTRICT
—OHW———OHW—	ORDINARY HIGH WATER
——→——→——→—	EXISTING DRAINAGE

VT. STATE PLANE GRID

VTrans Metric

HISTORIC DIST

LINCOLN VOLUNTEER FIRE COMPANY INC.

EDDY, ELIZABETH

UNITED CHURCH OF LINCOLN

NEW HAVEN RIVER

RIPARIAN BUFFER

OHW 5+100

OHW 5+080

OHW 5+060

OHW 5+040

OHW 5+020

OHW 5+000

ASSUMED 3-ROD R.O.W.

3 ROD STATUTORY RIGHT-OF-WAY

TO BRISTOL

TO RIPTON

TO WARREN T.H. 1 (PAVED)

QUAKER ST (PAVED) TO SO. STARKSBORO

STA. 1+040.000
BEGIN APPROACH

STA. 1+080.000
BEGIN PROJECT

STA. 1+107.669
BEGIN BRIDGE

STA. 1+146.200
END PROJECT

STA. 1+154.504
END APPROACH

STA. 1+134.332
END BRIDGE

N/F ACKERT-SMITH, GERALD C. & ALISON A.

WASSMANN, PATRICE L.T.
AKA MOYER, PATRICE W.

T.H. 46
CLARK RD
(GRAVEL)

HARDWOOD TREES AND BRUSH

CHANNEL LINE

AVOID THIS ARCHAEOLOGICALLY SENSITIVE AREA

BURNHAM FOUNDATION

N/F WEATHERVANE UNITED INC.

LAWN

PARKING

P L

1+000 1+020 1+040 1+060 1+080 1+100 1+120 1+140

SOIL LEGEND

1 — LIMERICK SILT LOAM:
HIGH ERODABILITY
K FACT = 0.49

2 — ADAMS LOAMY FINE SAND:
LOW ERODABILITY
K FACT = 0.17

* SEE EROSION CONTROL NARRATIVE FOR COMPLETE DESCRIPTION OF SOILS WITHIN THE PROJECT AREA.

0 10 20
SCALE 1:250

EPSC
EXISTING SITE PLAN

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)

FILE NAME: s96j266ero.dgn	PLOT DATE: 29-JAN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: T. LACKEY	CHECKED BY: R. WHITCOMB
EPSC EXISTING SITE PLAN	SHEET 15 OF 58

NOTES:

SILT FENCE INSTALLATION MAY REQUIRE PHASING TO MAXIMIZE EFFECTIVENESS. INSTALL AND/OR MOVE SILT FENCE AS CONSTRUCTION PROGRESSES TO OBTAIN THE GREATEST PREVENTION OF SEDIMENT TRANSPORT. ALL SILT FENCE INSTALLATION SHALL BE PROPERLY KEYED INTO THE GROUND AND SUPPORTED AS DETAILED ON THE EPSC DETAILS SHEET. SILT FENCE SHOULD BE INSTALLED ALONG THE CONTOURS TO PREVENT CONCENTRATION OF RUNOFF. THE ENDS OF EACH RUN OF SILT FENCE SHOULD BE TURNED UPHILL TO PROVIDE A SMALL POOL FOR SILT SHOULD WATER TRY TO RUN AROUND THE END OF THE SILT FENCE.

SURFACE ROUGHENING HELPS REDUCE RUNOFF VELOCITIES AND INCREASES INFILTRATION RATES. ROUGHENING MAY BE ACCOMPLISHED BY A NUMBER OF METHODS SUCH AS TRACKING UP AND DOWN THE SLOPE WITH A BULLDOZER, TRACKING ACROSS THE SLOPE WITH A WHEELED VEHICLE OR ANY METHOD OF SCARIFYING THE SLOPE SUCH THAT THE GROOVES CREATED RUN PERPENDICULAR TO THE DIRECTION OF WATER RUNOFF.

FOR CLARITY, AREAS TO BE SEEDED AND MULCHED HAVE NOT BEEN INDICATED, HOWEVER, ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS APPLICABLE.

VT. STATE PLANE GRID

N

VAOT Metric

HISTORIC DIST

LINCOLN VOLUNTEER FIRE COMPANY INC.

APPROXIMATE LOCATION OF SEDIMENT BASIN

STA. 1+040.000
BEGIN APPROACH

STA. 1+080.000
BEGIN PROJECT

STA. 1+107.669
BEGIN BRIDGE

N/F ACKERT-SMITH, GERALD C. & ALISON A.

ASSUMED 3-ROD R.O.W.

3 ROD STATUTORY RIGHT-OF-WAY

TO RIPTON

WASSMANN, PATRICE L.T.
AKA MOYER, PATRICE W.

RIPARIAN BUFFER

T.H. 46
CLARK RD
(GRAVEL)

CHANNEL LINE

TEMPORARY DETOUR

AVOID THIS ARCHAEOLOGICALLY SENSITIVE AREA

BURNHAM FOUNDATION

NEW HAVEN RIVER

EDDY, ELIZABETH

ASSUMED 4-ROD R.O.W.

TO BRISTOL

UNITED CHURCH OF LINCOLN

QUAKER ST (PAVED)
TO SO. STARKSBORO

STA. 1+146.200
END PROJECT

STA. 1+154.504
END APPROACH

STA. 1+134.332
END BRIDGE

TO WARREN
T.H. 1 (PAVED)

N/F
WEATHERVANE
UNITED INC.

EPSC LEGEND

- TEMPORARY EROSION MATTING
- SEED AND HAY MULCH
- PDF — BARRIER FENCE
- SILT FENCE
- GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
- SEDIMENT BASIN
- GEOTEXTILE FOR FILTER CURTAIN
- SURFACE ROUGHENING
- STABILIZED CONSTRUCTION ENTRANCE

0 10 20
SCALE 1:250

EPSC CONSTRUCTION SITE PLAN

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266ero.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
EPSC CONSTRUCTION SITE PLAN

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 16 OF 58

VT. STATE PLANE GRID

N

VTrans Metric

HISTORIC DIST

LINCOLN VOLUNTEER FIRE COMPANY INC.

EDDY, ELIZABETH

UNITED CHURCH OF LINCOLN

TO BRISTOL

NEW HAVEN RIVER

RIPARIAN BUFFER

OHW

ASSUMED ROD R.O.W.

STA. 1+040.000
BEGIN APPROACH

N/F ACKERT-SMITH, GERALD C. & ALISON A.

STA. 1+080.000
BEGIN PROJECT

STA. 1+107.669
BEGIN BRIDGE

QUAKER ST (PAVED) TO SO. STARKSBORO

STA. 1+146.200
END PROJECT

STA. 1+154.504
END APPROACH

STA. 1+134.332
END BRIDGE

ASSUMED 3-ROD R.O.W.

3 ROD STATUTORY RIGHT-OF-WAY

TO RIPTON

WASSMANN, PATRICE L.T.
AKA MOYER, PATRICE W.

T.H. 46
CLARK RD
(GRAVEL)

CHANNEL LINE

BURNHAM FOUNDATION

TO WARREN
T.H. 1 (PAVED)

N/F
WEATHERVANE
UNITED INC.

EPSC LEGEND

TEMPORARY EROSION MATTING

SEED AND HAY MULCH

0 10 20

SCALE 1:250

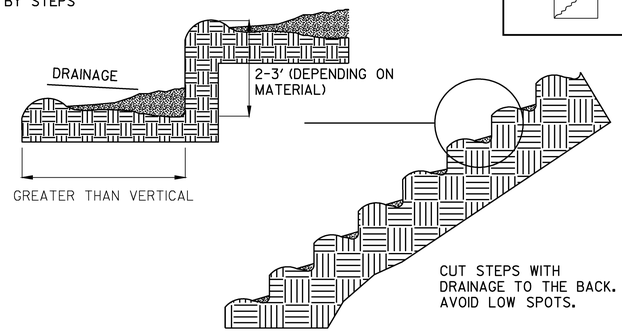
EPSC FINAL SITE PLAN

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)

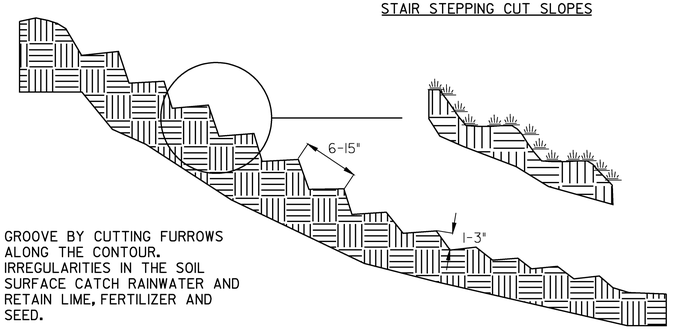
FILE NAME: s96j266ero.dgn	PLOT DATE: 29-JAN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: T. LACKEY	CHECKED BY: R. WHITCOMB
EPSC FINAL SITE PLAN	SHEET 17 OF 58

SYMBOL

DEBRIS FROM SLOPE ABOVE IS CAUGHT BY STEPS



STAIR STEPPING CUT SLOPES



GROOVE BY CUTTING FURROWS ALONG THE CONTOUR. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER AND RETAIN LIME, FERTILIZER AND SEED.

GROOVING SLOPES

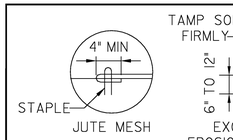
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SURFACE ROUGHENING DETAILS

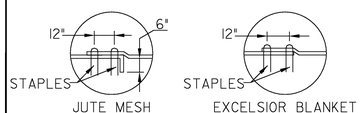
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE CONSIIDERED INCIDENTAL TO THE MATERIAL ITEM SPECIFIED

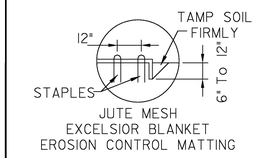
SYMBOL



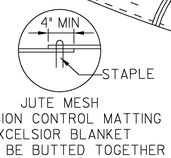
DETAIL 1 TERMINAL FOLD



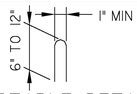
DETAIL 2 JUNCTION SLOT



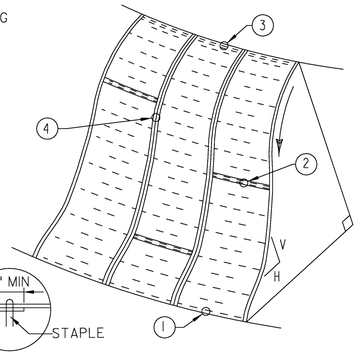
DETAIL 3 ANCHOR SLOT



DETAIL 4 LAP JOINT



STAPLE DETAIL



CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.

2. APPLY FERTILIZER, LIME AND SEED PRIOR TO PLACING MATTING.

3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.

4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.

5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

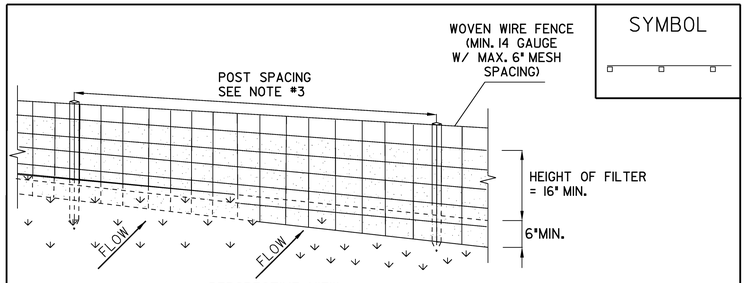
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE PAID FOR UNDER ITEM
653.20 TEMPORARY EROSION MATTING

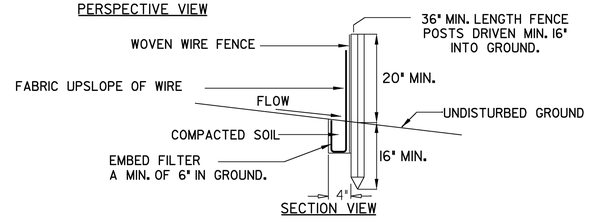
USE ONLY MATTING WITH 100% NATURAL FIBERS.

NEW	
APRIL 16, 2007	WHF
REVISIONS	

SYMBOL



PERSPECTIVE VIEW



SECTION VIEW

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE REINFORCEMENT IS ONLY REQUIRED WITHIN 100 FT UPSLOPE OF RECEIVING WATERS.

2. WHERE REQUIRED FENCE SHALL BE WOVEN WIRE, MIN. 14 GAUGE WITH A 6" MAXIMUM MESH OPENING. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.

3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4'. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.

4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.

5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.

6. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.

7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE PAID FOR UNDER ITEM
649.51 GEOTEXTILE FOR SILT FENCE OR
649.515 GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED

SEEDING FORMULA
URBAN AREAS

% WT.	LBS./AC.	NAME	PUR %	GERM %
42.5	34.0	CREEPING RED FESCUE	98	85
10.0	8.0	PERENNIAL RYE GRASS	95	90
42.5	34.0	KENTUCKY BLUE GRASS	85	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.00	80.0			

SEEDING NOTES

SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.

SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

NOTE: DETAILS NOT TO SCALE

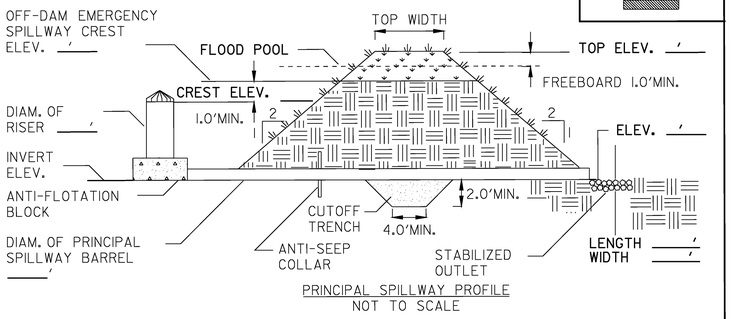
EPSC
DETAILS 1

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266ero.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
EPSC DETAILS 1

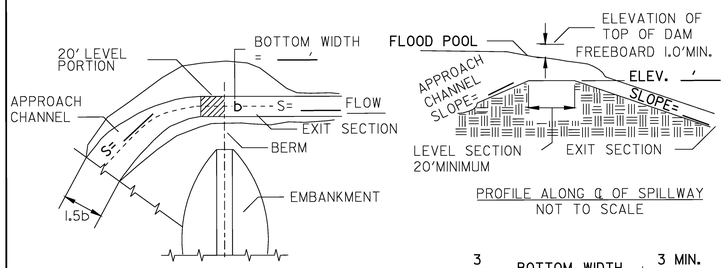
PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 18 OF 58

SYMBOL



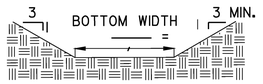
PRINCIPAL SPILLWAY PROFILE
NOT TO SCALE

MAXIMUM DRAINAGE AREA = 100 ACRES



EMERGENCY SPILLWAY PLAN VIEW
NOT TO SCALE

PROFILE ALONG ℄ OF SPILLWAY
NOT TO SCALE



CROSS SECTION AT CONTROL SECTION
NOT TO SCALE

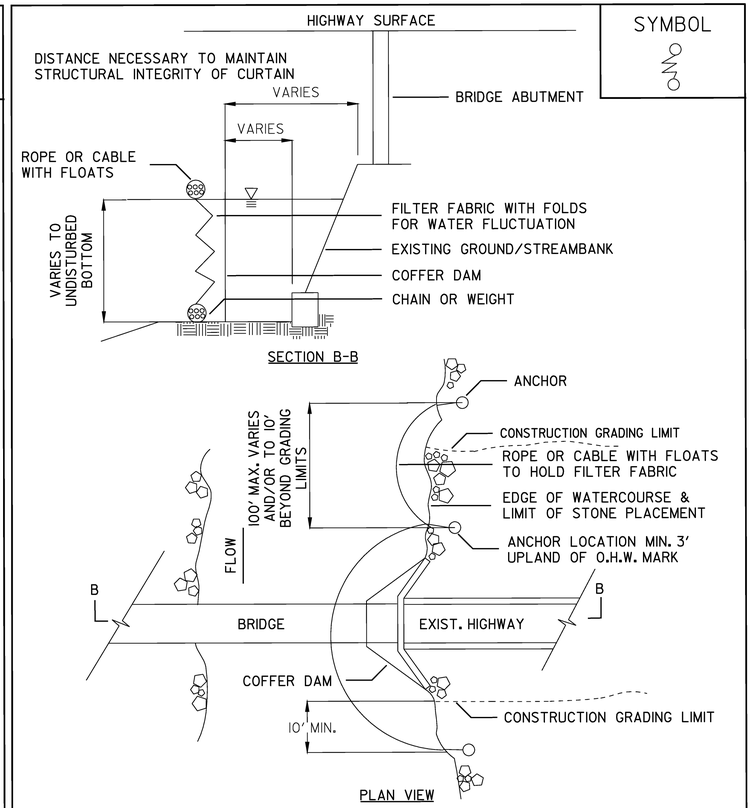
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SEDIMENT BASIN DETAILS

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE PAID FOR UNDER ITEM
208.40 COFFERDAM, IF IT IS USED AS A DEWATERING DEVICE FOR A COFFERDAM. IF THIS ITEM IS NOT USED AS A DEWATERING DEVICE IT SHALL BE PAID FOR UNDER A 900 SERIES SPECIAL PROVISION.

SYMBOL



SECTION B-B

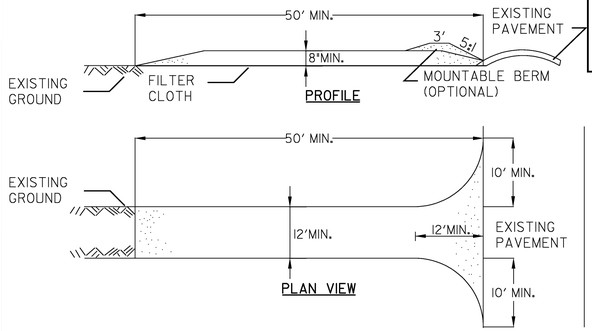
PLAN VIEW

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT AGENCY OF TRANSPORTATION

TURBIDITY CURTAIN

NOTES:
THIS ITEM SHALL BE PAID FOR UNDER ITEM
649.61 GEOTEXTILE FOR FILTER CURTAIN

SYMBOL



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH APPLIES).
3. THICKNESS - NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STABILIZED CONSTRUCTION ENTRANCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE PAID FOR UNDER ITEM
653.35 VEHICLE TRACKING PAD

REVISIONS	
FEBRUARY 9, 2007	WHF
MARCH 8, 2007	JMF

SEDIMENT SETTLING BASIN SIZING CRITERIA

PUMP FLOW RATE		REQUIRED SURFACE AREA		LENGTH / WIDTH = 2:1			
Q (gpm)	Q (m^3/s)	(ft^2)	(m^2)	L (ft)	W (ft)	L (m)	W (m)
50	0.0032	595	55	35.0	17.0	10.6	5.3
100	0.0063	1200	111	49.0	24.5	15.0	7.5
150	0.0095	1776	165	59.6	29.8	18.2	9.1
200	0.0126	2368	220	68.8	34.4	21.0	10.5
250	0.0158	2970	276	77.0	38.5	23.4	11.7
300	0.0189	3560	330	84.4	42.2	25.8	12.9
350	0.0221	4155	386	91.2	45.6	27.8	13.9

Target Particle Size is 0.01 mm

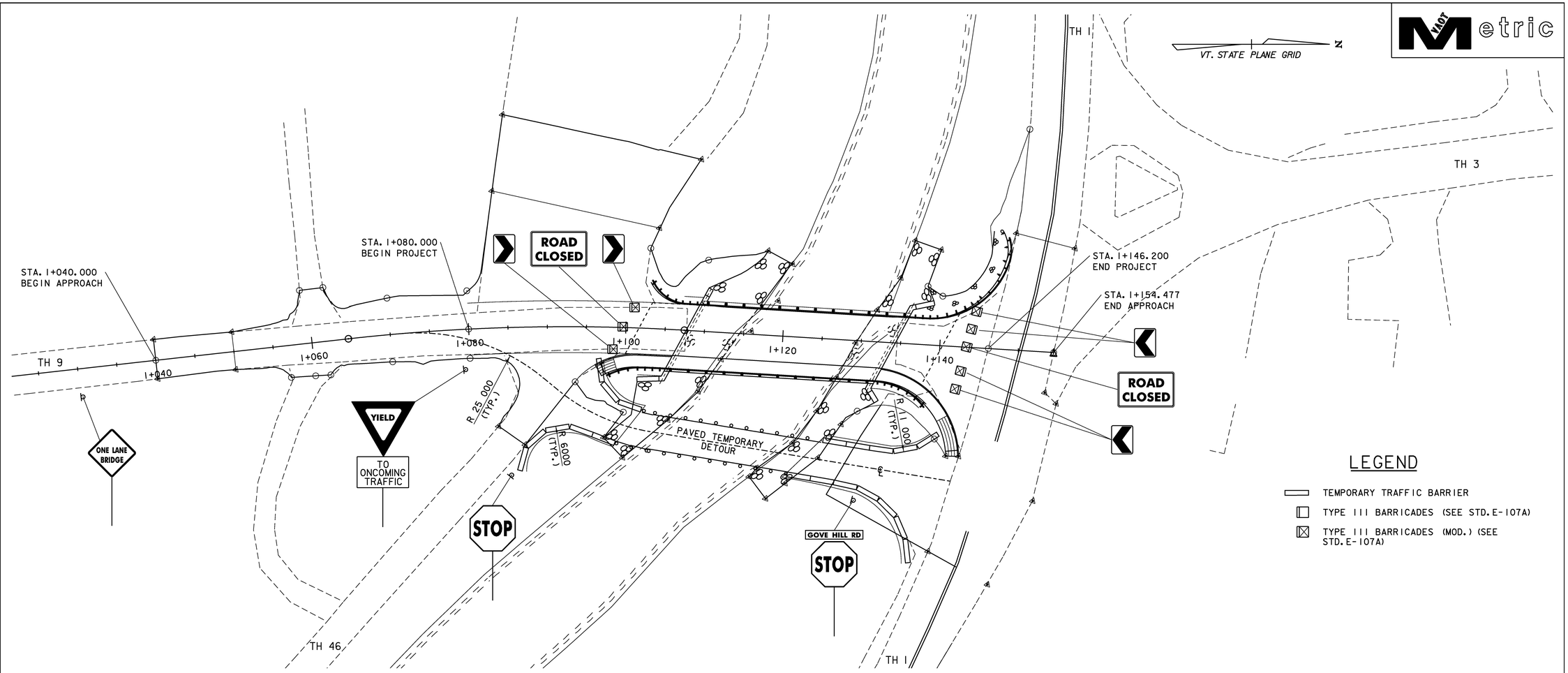
NOTE: DETAILS NOT TO SCALE

EPSC DETAILS 2

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266ero.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
EPSC DETAILS 2

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 19 OF 58



LEGEND

- TEMPORARY TRAFFIC BARRIER
- TYPE III BARRICADES (SEE STD. E-107A)
- TYPE III BARRICADES (MOD.) (SEE STD. E-107A)

TRAFFIC CONTROL NOTES

1. THIS TRAFFIC CONTROL SHEET IS TO BE USED AS AN EXAMPLE OF THE MINIMUM REQUIREMENTS FOR ONE-WAY TRAFFIC WITHOUT TRAFFIC SIGNAL CONTROL. MODIFICATION OF, OR ADDITIONS TO, THE TRAFFIC CONTROL DEVICES SHOWN HERE MAY BE REQUIRED BY THE RESIDENT ENGINEER BASED ON FIELD CONDITIONS.

2. THE CONTRACTOR SHALL FURNISH FLAG PERSONS AT THE DIRECTION OF THE ENGINEER AND PROVIDE THE APPROPRIATE SIGNING FOR THEIR PROTECTION, REFER TO STANDARD E-102 "CONSTRUCTION SIGN DETAILS" FOR DETAILS. ANY SUCH SIGNING SHALL BE COVERED OR REMOVED WHEN FLAG PEOPLE ARE NO LONGER CONTROLLING TRAFFIC. PAYMENT SHALL BE INCIDENTAL TO ITEM 630.15.

3. FOR ADDITIONAL DETAILS OF SIGNING AND TRAFFIC CONTROL DEVICES, SEE THE CURRENT MUTCD SECTION 6 AND STANDARD SHEETS:

E-100 "CONSTRUCTION APPROACH SIGNS"
E-100A "SIDE ROAD CONSTRUCTION - APPROACH SIGNS"
E-101 "CONSTRUCTION SIGN DETAILS"
E-102 "CONSTRUCTION SIGN DETAILS"
E-102A CONSTRUCTION SIGN DETAILS"
E-106 "TRAFFIC CONTROL - MISCELLANEOUS DETAILS"
E-107 "DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS"
E-107A "BREAKAWAY BARRICADE DETAILS"

4. WHERE EXISTING PAVEMENT MARKINGS ARE NOT APPROPRIATE TO THE MOVEMENT OF TRAFFIC THROUGH THE CONSTRUCTION AREA, THEY SHALL BE REMOVED IN AN APPROVED MANNER. TEMPORARY PAVEMENT MARKINGS SHALL BE APPLIED AS CALLED FOR ON THE PLANS OR DIRECTED BY THE ENGINEER. ALL WORK ASSOCIATED WITH REMOVING PAVEMENT MARKINGS AND PLACING TEMPORARY MARKINGS WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 528.10.

5. ANY FILL REQUIRED TO EXTEND THE TEMPORARY TRAFFIC BARRIER OUTSIDE THE CLEAR ZONE SHALL BE NEATLY PLACED AND COMPACTED FOR THE SUPPORT OF THE BARRIER AND SHALL BE PROVIDED WITH ADEQUATE COVER TO PREVENT EROSION. THE RESIDENT ENGINEER SHALL APPROVE THE FILL MATERIAL PRIOR TO PLACEMENT. SIDE SLOPES OF THE FILL SHALL BE NO STEEPER THAN 1:4.

6. ANY EXCAVATION REQUIRED TO EXTEND THE TEMPORARY TRAFFIC BARRIER SHALL BE LIMITED TO THE POINT AT WHICH THE END OF BARRIER IS FULLY BURIED OR THE CLEAR ZONE LIMIT, WHICHEVER IS SHORTER. ONCE THE BARRIER HAS BEEN PLACED, IT SHALL BE PROPERLY BACKFILLED TO PROVIDE A SMOOTH CONTINUOUS TRANSITION FROM THE EMBANKMENT TO THE BARRIER.

7. ALL TEMPORARY FILL OR EXCAVATION REQUIRED TO INSTALL TEMPORARY BARRIER SHALL BE REMOVED OR REPLACED TO THE PRE-CONSTRUCTION CONDITION AFTER THE BARRIER IS NO LONGER REQUIRED FOR A PARTICULAR PHASE OF CONSTRUCTION.

8. THE EXPOSED END OF THE TEMPORARY BARRIER SHALL BE PLACED BEYOND THE "CLEAR ZONE" OR PROTECTED BY AN APPROPRIATE CRASH CUSHION OR IMPACT ATTENUATOR AS OUTLINED IN THE AASHTO "ROAD SIDE DESIGN GUIDE". THE MINIMUM CLEAR ZONE IS 1.500 m FROM THE EDGE OF TRAVELLED WAY.

9. TEMPORARY TRAFFIC BARRIER AND PROTECTIVE END DEVICES SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 621. PAYMENT FOR TEMPORARY TRAFFIC BARRIER AND FOR ALL WORK ASSOCIATED WITH BARRIER AS DESCRIBED ON THIS SHEET, INCLUDING PROTECTIVE DEVICES, WILL BE INCLUDED IN THE UNIT PRICE FOR CONTRACT ITEM 528.10.

0 10 20
SCALE 1:250

TRAFFIC CONSTRUCTION SITE PLAN

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266trf.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
TRAFFIC CONSTRUCTION SITE PLAN

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 20 OF 58

VTrans Metric

100 MM YELLOW LINE

1+040 - 1+086 CL DOUBLE
1+098 - 1+140 CL DOUBLE
5+041 - 5+063 CL DOUBLE
5+075 - 5+083 CL DOUBLE

600 MM STOP BAR

1+139 RT - 1+140 RT

LETTER OR SYMBOL

1+135 - 1+138 RT (STOP)

DETECTABLE WARNING SURFACE

1+097 RT (YELLOW)
1+142 RT (YELLOW)

REMOVING SIGNS

1+084 RT (1)
1+102 RT (1)
1+106 RT (1)
1+137 RT (2)

TRAFFIC SIGNS, TYPE A

1+094 RT (1)
1+098 RT (1)
1+138 RT (1)
1+140 LT (1)

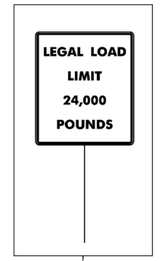
ERECTING SALVAGED SIGNS

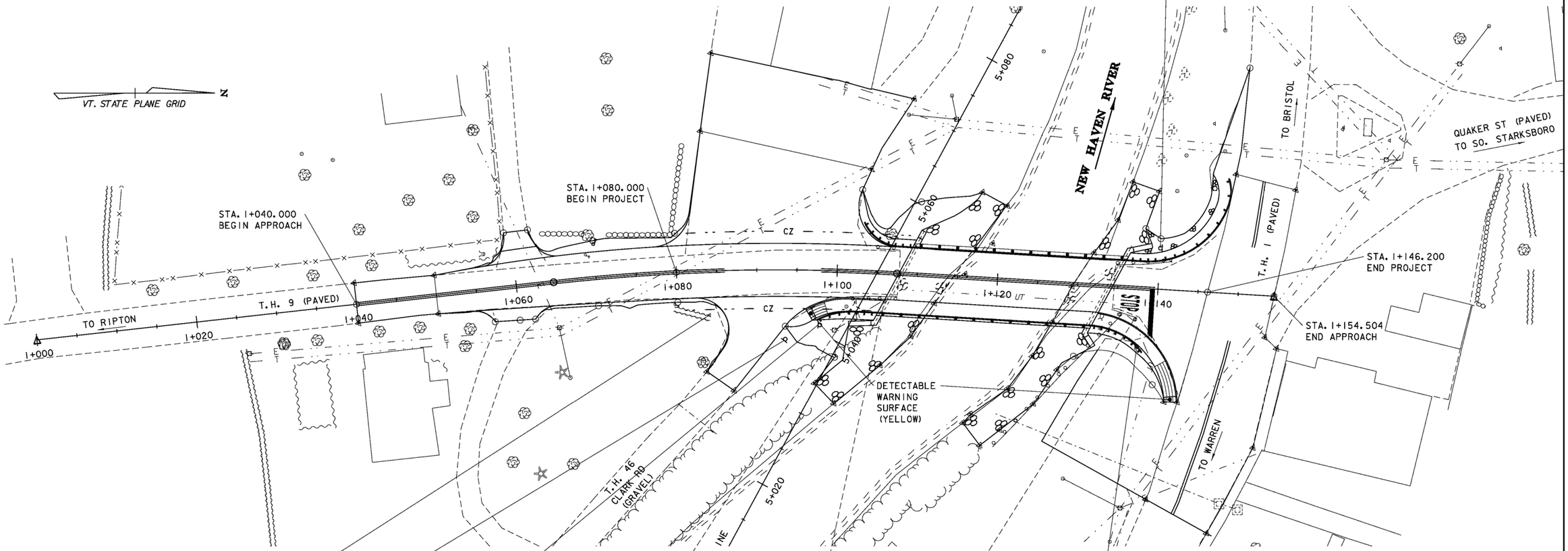
1+084 RT (1)
1+138 RT (1)

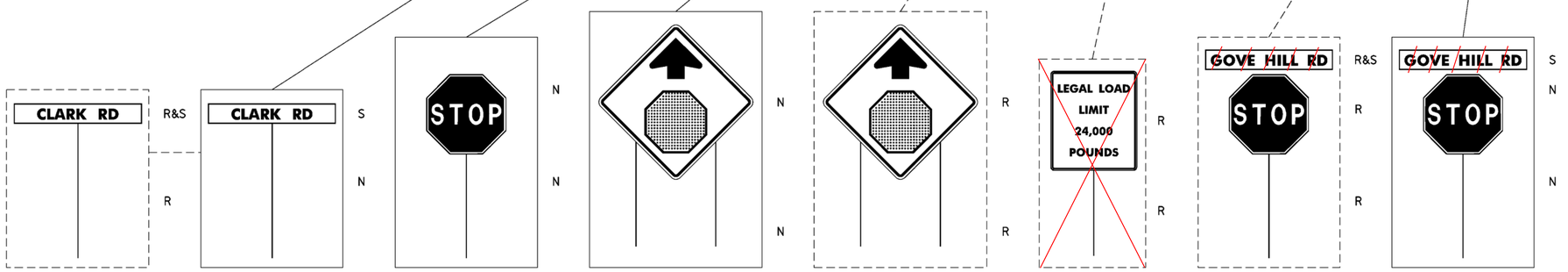
LEGEND

- EXISTING SIGNS
- NEW SIGNS
- R — REMOVE
- R&S — REMOVE AND SALVAGE
- N — NEW
- S — SALVAGE

VR-017
600 X 750
1+140 LT







1+084 RT | R1-1 750 1+084 RT | R1-1 750 1+094 RT | W3-1 900 1+098 RT | 1+102 RT | 1+106 RT | 1+137 RT | R1-1 750 1+138 RT

0 10 20
SCALE 1:250

TRAFFIC FINAL SITE PLAN

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96J266trf.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: T. LACKEY
TRAFFIC FINAL SITE PLAN

PLOT DATE: 03-FEB-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 21 OF 58

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY

MILE MARKER, STATION OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																					REMARKS	SIGN DETAIL	
		EACH	WIDTH (mm)	HEIGHT (mm)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	NO. OF POST	FLANGED CHANNEL (kg/m)			SQUARE STEEL (mm) (kg/m)			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) (kg/m)			FOUNDATION	TUBULAR STEEL Ø (mm) (kg/m)				W-SHAPE STEEL						DETAIL ON SHEET NUMBER	STANDARD SHEET NUMBER
															44	50	63			75	100	100 MOD		75	89	100	125	FTG. SIZE (mm) 600	FTG. SIZE (mm) 750	WEIGHT	POST SIZE	SIGN FRAME REQUIRED			
												1.7	3.0	4.5	3.4	3.9	5.0			1.9	2.5	2.5		11.3	13.4	16.1	21.7								
OPTION ITEMS																																			
1+084 RT	CLARK RD						X				1					X		X															SALVAGE SIGN FROM 1+083.9		
1+094 RT	STOP	1	750	750	0.563						1					X		X															MUTCD R1-1		
1+098 RT		1	900	900	0.810						2					X		X															MUTCD W3-1		
1+138 RT	~~GOVE HILL RD~~						X				2					X		X															~~SALVAGE SIGN FROM 1+137.3~~		
1+138 RT	STOP	1	750	750	0.563																												MUTCD R1-1		
1+140 LT	LEGAL LOAD LIMIT 24,000 POUNDS	1	600	750	0.450						1					X		X															VR-017		E-141
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."												m .	m .	m .	m .	m 35.93	m .	XXXXX XXXXX XXXXX XXXXX	EA .	kg .	kg .	kg .		kg .	kg .	kg .	kg .								
	TOTALS			m^2 2.385	m^2 .	m^2 .	EA. 2	m^2 .	XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX			m .			m 35.93					kg .			EA.	kg .				EA. .	EA. .	kg .					

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)
FILE NAME: s96j266trf.dgn	PLOT DATE: 5/12/2006
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: S. SCRIBNER	CHECKED BY: R. WHITCOMB
TRAFFIC SIGN SUMMARY	SHEET 22 OF 58

SOIL CLASSIFICATION

AASHTO	
A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN kPa	CONSISTENCY
<12	Very Soft
12-24	Soft
24-48	Med. Stiff
48-96	Stiff
96-192	Very Stiff
>192	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS) N	DESCRIPTIVE TERM	CONSISTENCY (COHESIVE SOILS) N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊗	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per 300 mm For: 50.8 mm O.D. Sampler 35.0 mm I.D. Sampler Hammer Weight Of 63.5 kg. Hammer Fall Of 762 mm
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 30.1 mm
BX	Core Size 42.0 mm
NX	Core Size 54.7 mm
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)

COLOR			
blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		

DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.

BOULDER - A rock fragment with an average dimension > 304.8 mm.

COBBLE - Rock fragments with an average dimension between 76.2 and 304.8 mm.

GRAVEL - Rounded particles of rock < 76.2 mm and > 2 mm (#10 sieve).

SAND - Particles of rock < 2 mm (#10 sieve) and > 75 μm (#200 sieve).

SILT - Soil < 75 μm (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

HARDPAN - Extremely dense soil, cemented layer, not softened when wet.

MUCK - Soft organic soil (containing > 10% organic material.

MOISTURE CONTENT - Weight of water divided by dry weight of soil.

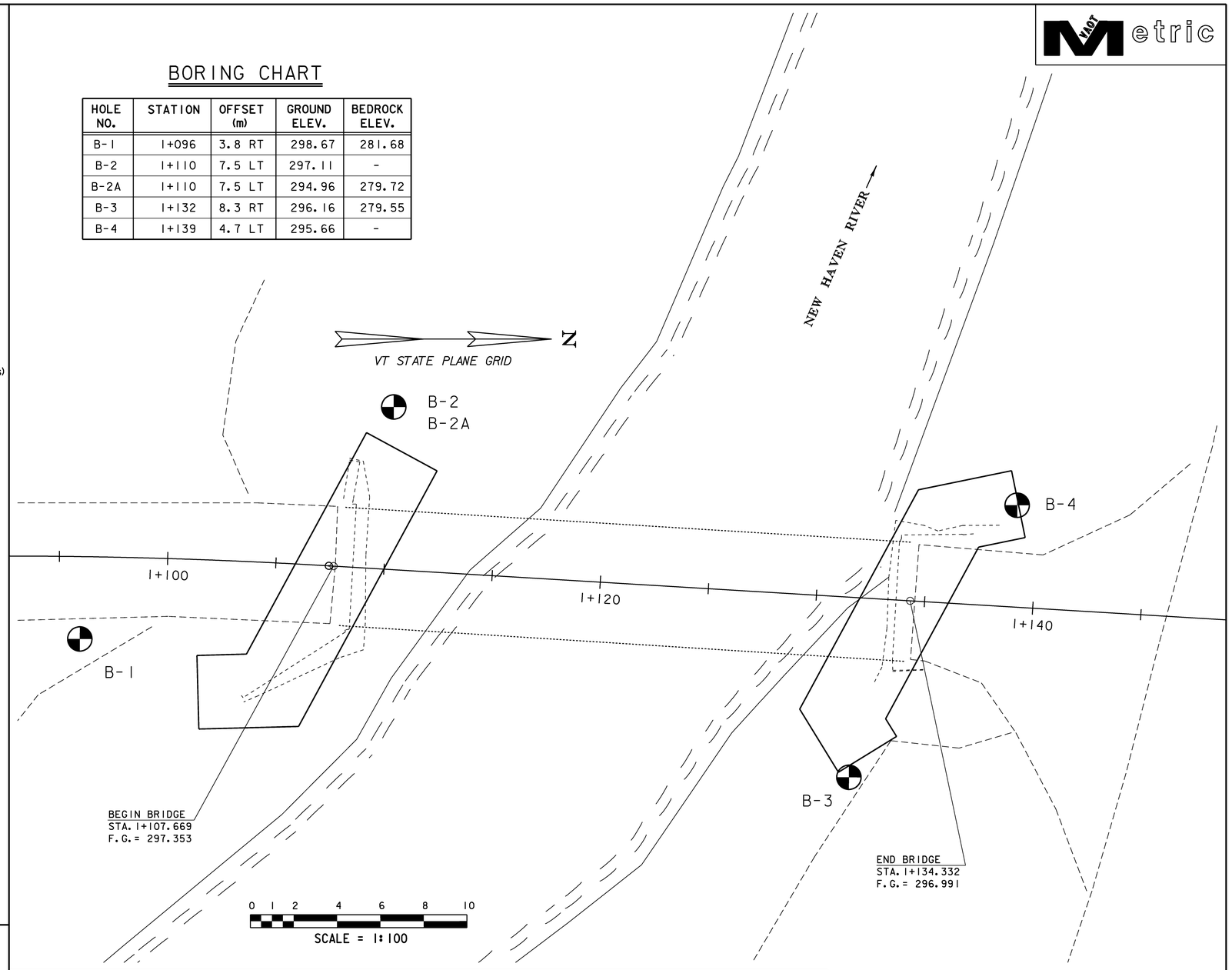
FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.

DIP - Inclination of bed with a horizontal plane.

BORING CHART

HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.	BEDROCK ELEV.
B-1	1+096	3.8 RT	298.67	281.68
B-2	1+110	7.5 LT	297.11	-
B-2A	1+110	7.5 LT	294.96	279.72
B-3	1+132	8.3 RT	296.16	279.55
B-4	1+139	4.7 LT	295.66	-



GENERAL NOTES

1. The subsurface explorations shown herein were made between 09-12-2000 and 09-19-2000 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

GEOTECHNICAL PLAN

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266bor.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
GEOTECHNICAL PLAN

PLOT DATE: 29-JAN-2009
DRAWN BY: S. SCRIBNER
CHECKED BY: R. WHITCOMB
SHEET 23 OF 58

B-1

EXIST. GROUND
EL. 298.67

BOTTOM FTG.
ABUT. 1
EL. 290.60

BEDROCK
EL. 281.68

GEODESIGN INCORPORATED
Geotechnical Engineers and Environmental Consultants

PROJECT NAME AND LOCATION: Lincoln BRO 1445 (25), Lincoln, Vermont

GEODESIGN, INC. SOIL BORING LOG

BORING NO. B-1 | PAGE NO. 1 OF 3 | FILE NO. 750-03.1 | REVIEWER JEL

BORING CO.	M & W Soils Engineering	CASING		SAMPLER	GROUNDWATER READINGS		
FOREMAN	Myron Domingue	H.S.A.	TYPE	S.S.	DATE/TIME	DEPTH	STAB. TIME
INSPECTOR	Robert Marshall	83/115 mm	I.D./O.D.	35/51 mm	09/18 - 1000	4.27 m	During Drilling
DATE START	09/18/2000	-	HAMMER	63.5 Kg			
DATE END	09/19/2000	-	FALL	0.76 m			
GROUND EL.	298.67 m	-	OTHER	-			

DEPTH	CASING BLOWS	SAMPLE INFORMATION NO.	PEN./REC.	BLOWS PER 0.15 m	CORING (min/0.3m)	SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAV.	% SAND	% FINES	LQ. LIM.	PL. LIM.	REMARKS
						Augered through gravelly cobbles to 0.91 m before first sample.								
		S-1	0.61 / 0.30	2 / 3		**S-1 (0.91-1.52m):** Loose, brown fine to coarse SAND, little fine to coarse Gravel, trace Silt.**(A-1-b)**	FILL							
1.5				4 / 8			+/- 1.52 m							
		S-2	0.61 / 0.41	8 / 12		**S-2 (1.52-2.13m):** Medium Dense, brown fine to coarse SAND, little fine to coarse Gravel, little Silt.**(A-1-b)**								
				10 / 9										
		S-3	0.61 / 0.38	15 / 13		**S-3 (2.13-2.74m):** Dense, brown fine to coarse SAND, some fine to coarse Gravel, little Silt.**(A-1-b)**								
				17 / 17										
3.0														
		S-4	0.61 / 0.45	18 / 21		**S-4 (3.05-3.66m):** Similar to above except gray brown.**(A-1-b)**								
				19 / 39										
4.6														1.
		S-5	0.61 / 0.36	15 / 19		**S-5 (4.57-5.18m):** Very Dense, brown fine to coarse SAND, little Silt, little fine to coarse Gravel.**(A-1-b)**	SILTY GRAVELLY SANDS							2.
				36 / 15										
6.1								7.4	18.5	31.0	50.5			
		S-6	0.61 / 0.43	9 / 8		**S-6 (6.10-6.71m):** Medium Dense, brown fine to coarse SAND, little Silt.**(A-1-b)**								
				7 / 8										
7.6														
		S-7	0.61 / 0.30	6 / 4		**S-7 (7.62-8.23m):** Medium Dense, some brown fine to coarse SAND, some fine to coarse Gravel, little Silt.								
				9 / 12										
9.1							+/- 8.54 m							

REMARKS
1. Augers deflecting off inferred cobbles and boulders between 1.52 and 4.57 m depths.
2. Hydraulic head maintained in augers below 4.57 m depth to minimize potential blowing sands.
3. Spoon sampler and auger refusal at 16.99 m depth.
4. Roller bit advanced 0.076 m to 17.07 m depth into probable bedrock prior to rock coring.

NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

GEODESIGN, Inc. 54 Main Street Windsor, VT 05089 TEL: (802) 674-2033 FAX: (802) 674-5943 BORING NO. B-1

GEODESIGN INCORPORATED
Geotechnical Engineers and Environmental Consultants

PROJECT NAME AND LOCATION: Lincoln BRO 1445 (25), Lincoln, Vermont

GEODESIGN, INC. SOIL BORING LOG

BORING NO. B-1 | PAGE NO. 2 OF 3 | FILE NO. 750-03.1 | REVIEWER JEL

BORING CO.	M & W Soils Engineering	CASING		SAMPLER	GROUNDWATER READINGS		
FOREMAN	Myron Domingue	H.S.A.	TYPE	S.S.	DATE/TIME	DEPTH	STAB. TIME
INSPECTOR	Robert Marshall	83/115 mm	I.D./O.D.	35/51 mm	(SEE PAGE 1)		
DATE START	09/18/2000	-	HAMMER	63.5 Kg			
DATE END	09/19/2000	-	FALL	0.76 m			
GROUND EL.	298.67 m	-	OTHER	-			

DEPTH	CASING BLOWS	SAMPLE INFORMATION NO.	PEN./REC.	BLOWS PER 0.15 m	CORING (min/0.3m)	SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAV.	% SAND	% FINES	LQ. LIM.	PL. LIM.	REMARKS
		S-8	0.61 / 0.41	8 / 9		**S-8 (9.15-9.76m):** Medium Dense, brown fine SAND, some Silt.**(A-2-4)**								
				12 / 10										
10.7														
		S-9	0.61 / 0.45	8 / 12		**S-9 (10.67-11.28):** Similar to above except dense.**(A-2-4)**								
				14 / 18										
12.2							FINE SAND							
		S-10	0.61 / 0.45	12 / 16		**S-10 (12.20-12.81m):** Similar to above.**(A-2-4)**								
				16 / 19										
13.7														
		S-11	0.61 / 0.56	11 / 16		**S-11 (13.72-14.33m):** Similar to above.**(A-4)**								
				24 / 28										
15.2														
		S-12	0.61 / 0.51	16 / 26		**S-12 (15.24-15.85m):** Very Dense, gray brown fine SAND, little Silt. **(A-2-4)**								
				28 / 31										
							+/- 16.46m							3.
16.8														4.
		S-13	0.23 / 0.23	18 / 75/1mm		**S-13 (16.77-16.99m):** Very Dense (spoon refusal), gray brown fine to coarse SAND, some Silt, some fine to coarse Gravel.**(A-2-4)**	+/- 16.99m							
		C-1	1.52 / 1.32		11	**C-1 (17.07-18.60m):** Moderately fractured, light to dark gray micaceous Gneiss.	BEDROCK							
					8									
18.3					8									

REC: 1.32 / 1.54 = 87%
RQD: 0.84 / 1.54 = 55%

REMARKS

NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

GEODESIGN, Inc. 54 Main Street Windsor, VT 05089 TEL: (802) 674-2033 FAX: (802) 674-5943 BORING NO. B-1

GEODESIGN INCORPORATED
Geotechnical Engineers and Environmental Consultants

PROJECT NAME AND LOCATION: Lincoln BRO 1445 (25), Lincoln, Vermont

GEODESIGN, INC. SOIL BORING LOG

BORING NO. B-1 | PAGE NO. 3 OF 3 | FILE NO. 750-03.1 | REVIEWER JEL

BORING CO.	M & W Soils Engineering	CASING		SAMPLER	GROUNDWATER READINGS		
FOREMAN	Myron Domingue	H.S.A.	TYPE	S.S.	DATE/TIME	DEPTH	STAB. TIME
INSPECTOR	Robert Marshall	83/115 mm	I.D./O.D.	35/51 mm	(SEE PAGE 1)		
DATE START	09/18/2000	-	HAMMER	63.5 Kg			
DATE END	09/19/2000	-	FALL	0.76 m			
GROUND EL.	298.67 m	-	OTHER	-			

DEPTH	CASING BLOWS	SAMPLE INFORMATION NO.	PEN./REC.	BLOWS PER 0.15 m	CORING (min/0.3m)	SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAV.	% SAND	% FINES	LQ. LIM.	PL. LIM.	REMARKS
					25									
					48									
		C-2	1.52 / 1.30		5	**C-2 (18.60-20.12m):** Moderately fractured, light to dark gray micaceous Gneiss.	BEDROCK							
					7									
19.8					7									
					8									
					11									
							END OF BORING (20.12 m)							
21.3														
22.9														
24.4														
25.9														
27.4														

REMARKS

NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

GEODESIGN, Inc. 54 Main Street Windsor, VT 05089 TEL: (802) 674-2033 FAX: (802) 674-5943 BORING NO. B-1

GEOTECHNICAL BORING LOGS I

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266bor.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
GEOTECHNICAL BORING LOGS I

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 24 OF 58

B-2

GEODESIGN INCORPORATED
Geotechnical Engineers and Environmental Consultants

PROJECT NAME AND LOCATION	GEODESIGN, INC. SOIL BORING LOG
Lincoln BRO 1445 (25) Lincoln, Vermont	BORING NO. B-2 PAGE NO. 1 OF 1 FILE NO. 750-03.1 REVIEWER JEL

BORING CO.	M & W Soils Engineering	CASING		SAMPLER	GROUNDWATER READINGS		
FOREMAN	Myron Domingue	H.S.A.	TYPE	S.S.	DATE/TIME	DEPTH	STAB. TIME
INSPECTOR	Jason Gaudette	83/115 mm	I.D./O.D.	35/51 mm	09/12 -1135	3.05 m	(See Note 3.)
DATE START	09/12/2000	-	HAMMER	63.5 Kg			
DATE END	SAME	-	FALL	0.76 m			
GROUND EL.	297.11 m	-	OTHER	-			

EXIST. GROUND
EL. 297.11

DEPTH	CASING BLOWS	SAMPLE INFORMATION NO.	PEN./REC.	BLOWS PER 0.15 m	CORING	SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAV.	% SAND	% FINES	LQ. LIM.	PL. LIM.	REMARK
		S-1	0.61	0.10	2 8	**S-1 (0-0.61m):** Medium Dense, dark TOPSOIL with trace roots.	TOPSOIL							1.
					4 2									
		S-2	0.61	0.10	2 1	**S-2 (0.61-1.22m):** Loose, light to dark brown fine to medium SAND, little Gravel, trace Silt dry(A-1-b)	SAND AND GRAVEL FILL WITH BOULDERS							2.
					1 4									
1.5		S-3	0.41	0.20	18 26	**S-3 (1.22-1.63m):** Very Dense, light gray to orange brown fine to medium SAND, little Gravel, trace Silt, dry. Contained small pieces of fractured rock(A-1-b)								
					67/100mm									
														3.
3.0														
		S-4	0.61	0.30	7 11	**S-4 (3.05-3.66m):** Medium Dense, orange to dark brown, micaceous fine to coarse SAND, some Gravel, trace Silt, wet(A-1-b)	END OF BORING (3.66 m)							
					7 9									
4.6														
6.1														
7.6														
9.1														

BOTTOM FTG.
ABUT. I
EL. 290.60

REMARKS
1. Boring Location - Station 1+110 m, 8.0 m left.
2. High drilling and grinding resistance on inferred boulders through 1.22 - 2.44 m depth during SSA advance. Boulders estimated to be > 0.30 m nominal diameter.
3. HSA and SSA refusal at 2.44 m depth prior to removing casing. Hole abandoned and moved 0.91 m left.

NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

B-2A

GEODESIGN INCORPORATED
Geotechnical Engineers and Environmental Consultants

PROJECT NAME AND LOCATION	GEODESIGN, INC. SOIL BORING LOG
Lincoln BRO 1445 (25) Lincoln, Vermont	BORING NO. B-2A PAGE NO. 1 OF 2 FILE NO. 750-03.1 REVIEWER JEL

BORING CO.	M & W Soils Engineering	CASING		SAMPLER	GROUNDWATER READINGS		
FOREMAN	Myron Domingue	H.S.A.	TYPE	S.S.	DATE/TIME	DEPTH	STAB. TIME
INSPECTOR	Jason Gaudette	83/115 mm	I.D./O.D.	35/51 mm			
DATE START	09/12/2000	-	HAMMER	63.5 Kg			
DATE END	Same	-	FALL	0.76 m			
GROUND EL.	297.11 m	-	OTHER	-			

EXIST. GROUND
EL. 294.96

DEPTH	CASING BLOWS	SAMPLE INFORMATION NO.	PEN./REC.	BLOWS PER 0.15 m	CORING	SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAV.	% SAND	% FINES	LQ. LIM.	PL. LIM.	REMARK
1.5		S-1				**S-1 (1.52-3.05m):** Dark brown, fine to coarse SAND, little Silt, trace Gravel with root fibers, moist. (Sample obtained from Solid Stem auger flights.)								
3.0														
4.6		S-2	0.61	0.46	5 7	**S-2 (3.66-4.27m):** Medium Dense, TOP 0.30m orange brown fine to coarse SAND, trace Silt and Gravel, BOT 0.15m brown fine to coarse SAND, little Silt and Gravel, wet.								
					7 6									
		S-3	0.61	0.30	11 9	**S-3 (4.27-4.88m):** Medium Dense, TOP 0.25m orange brown fine to coarse SAND, little Gravel, little Silt (generally grading from fine to coarse), BOT 0.05m brown fine SAND, little Silt, wet.								
					10 8									
6.1														
7.6		S-4	0.61	0.36	8 13									
					12 13									
9.1		S-5	0.61	0.46	6 25									
					32 29									
		S-6	0.61	0.30	5 8									

BOTTOM FTG.
ABUT. I
EL. 290.60

REMARKS
1.
2.
3.

NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

GEODESIGN INCORPORATED
Geotechnical Engineers and Environmental Consultants

PROJECT NAME AND LOCATION	GEODESIGN, INC. SOIL BORING LOG
Lincoln BRO 1445 (25) Lincoln, Vermont	BORING NO. B-2A PAGE NO. 2 OF 2 FILE NO. 750-03.1 REVIEWER JEL

BORING CO.	M & W Soils Engineering	CASING		SAMPLER	GROUNDWATER READINGS		
FOREMAN	Myron Domingue	H.S.A.	TYPE	S.S.	DATE/TIME	DEPTH	STAB. TIME
INSPECTOR	Robert Marshall	83/115 mm	I.D./O.D.	35/51 mm	(SEE PAGE 1)		
DATE START	9/12/00	-	HAMMER	63.5 Kg			
DATE END	9/12/00	-	FALL	0.76 m			
GROUND EL.	294.964 m	-	OTHER	-			

BEDROCK
EL. 279.72

DEPTH	CASING BLOWS	SAMPLE INFORMATION NO.	PEN./REC.	BLOWS PER 0.15 m	CORING (min/0.3m)	SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAV.	% SAND	% FINES	LQ. LIM.	PL. LIM.	REMARK
				10	16	**S-6 (8.84-9.45m):** Medium dense, layered fine to coarse SAND, trace Silt with brown beige fine Sand, some Silt, wet (A-4).								5.
														6.
10.7		S-7	24	12 8	23	**S-7 (10.37-10.98m):** Dense, TOP 0.15m: Dense brown fine to coarse SAND, little Gravel, trace Silt. BOT 0.15m: Brown micaceous completely weathered Rock (mica schist?) wet (A-1-a)	SANDY GRAVEL WITH SILTY SAND	10.8	50.5	40.4	9.1			
				23	17									
12.2		S-8	24	18 10	13	**S-8 (11.89-12.50m):** Dense, TOP 0.30m Light to dark brown fine to coarse SAND, trace Silt and Gravel, BOT 0.15m Brown beige fine Sand, some Silt, wet (A-4).								
				16	18									
13.7		S-9	24	10 8	5	**S-9 (13.41-14.02m):** Medium dense, TOP 0.15m Similar to top of S-8, BOT 0.10m Similar to bottom of S-8 (A-2-4)		18.6	8.1	57.6	34.3			
				6	12									
15.2		S-10	8.00	8.00 10	70/2	**S-10 (14.94-15.15m):** Very dense, orange brown to green gray, fine to coarse SAND, little Silt and Gravel, fractured Rock in spoon tip, wet (A-2-4).	+/- 15.24 m ROCK 15.85 m							7.
16.8							END OF BORING							8.
18.3														

REMARKS
5. Difficulty retrieving drill rods/plug at 8.84m depth prior to sampling. Sample not attempted - hole flushed out with water due to flowing fine Sands.
6. Drilling resistance increased at approximately 10.06m depth (Gravel, possible Cobbles).
7. Drilling resistance increased at approx 15.24m depth, possible bedrock. HSA used to slowly penetrate 0.76m of probale rock, refusal at 15.86m.

NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

GEOTECHNICAL BORING LOGS 2

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266bor.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
GEOTECHNICAL BORING LOGS 2

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB

B-3

GEODESIGN INCORPORATED
Geotechnical Engineers and Environmental Consultants

PROJECT NAME AND LOCATION	GEODESIGN, INC. SOIL BORING LOG
Lincoln BRO 1445 (25) Lincoln, Vermont	BORING NO. B-3 PAGE NO. 1 OF 3 FILE NO. 750-03.1 REVIEWER JEL

BORING CO.	M & W Soils Engineering	CASING		SAMPLER	GROUNDWATER READINGS		
FOREMAN	Myron Domingue	H.S.A.	TYPE	S.S.	DATE/TIME	DEPTH	STAB. TIME
INSPECTOR	Robert Marshall	83/115 mm	I.D./O.D.	35/51 mm	9/13/00 1645	4.27 m	5 Minutes
DATE START	9/13/00	-	HAMMER	63.5 Kg			
DATE END	9/14/00	-	FALL	0.76 m			
GROUND EL.	296.165 m	-	OTHER	-			

DEPTH	CASING BLOWS	SAMPLE NO.	SAMPLE PEN./REC.	SAMPLE BLOWS PER 0.15 m	SAMPLE CORING (min/0.3m)	SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAV.	% SAND	% FINES	LQ. LIM.	PL. LIM.	REMARK
		S-1	0.61	11	1	**S-1 (0-0.61m):** TOP 0.05m ASPHALT. BOT 0.15m Very loose brown fine to coarse SAND, some fine to coarse Gravel, little Silt **(A-1-b)**.	0.05m ASPHAL							1.
				2	3		0.2m GRAVEL BASE							
		S-2	0.61	3	2	**S-2 (0.61-1.22m):** Very loose, brown fine to coarse SAND, little fine to coarse Gravel, little Silt **(A-1-b)**.								
				1	5		FILL							
1.5		S-3	.61	3	2		W/ COBBLES							
				2	8	**S-3 (1.22-1.83m):** Similar to above **(A-1-b)**.	AND BOULDERS							
						Augered through Cobbles and Boulders from 1.83 to 2.44m.	+/- 2.44 m							
		S-4	.61	.41	12	17								
3.0					14	17	**S-4 (2.44-3.05m):** Dense brown, fine to coarse SAND, little fine to coarse Gravel, little Silt, trace possible Concrete fragments **(A-1-b)**.	7.8	43.6	37.0	19.4			
		S-5	0.61	0.41	11	17								
					16	14	**S-5 (3.05-3.66m):** Dense, brown fine to coarse SAND, little fine to coarse Gravel, little Silt **(A-1-b)**.							
								SILTY						
4.6								SANDY						
		S-6	.61	.23	12	11	**S-6 (4.57-5.18m):** Similar to above except medium dense **(A-1-b)**.	GRAVEL	16.4	42.8	43.5	13.7		2.
					8	7								
6.1														
		S-7	.61	.38	17	44	**S-7 (6.10-6.71m):** Very dense, gray brown fine to coarse SAND, some fine to coarse Gravel, little Silt **(A-1-b)**.							
					24	26								
								+/- 7.01 m						
7.6														
		S-8	.61	.61	12	12	**S-8 (7.62-8.23m):** Dense, brown fine SAND, some Silt with lower bottom gray brown SILT, trace fine Sand **(A-4)**.	SILTY	28.7	1.7	8.4	89.9		
					13	17		SAND						
9.1														

EXIST. GROUND
EL. 296.16

BOTTOM FTG.
ABUT. 2
EL. 290.60

REMARKS
1. Boring advanced open hole through boulder fill using 0.10m solid stem augers from zero to 3.05m depth.
2. Hydraulic head supplemented with polymer drilling fluid maintained inside augers below 4.57m depth in effort to minimize potential of running sands.

NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

GEODESIGN INCORPORATED
Geotechnical Engineers and Environmental Consultants

PROJECT NAME AND LOCATION	GEODESIGN, INC. SOIL BORING LOG
Lincoln BRO 1445 (25) Lincoln, Vermont	BORING NO. B-3 PAGE NO. 2 OF 3 FILE NO. 750-03.1 REVIEWER JEL

BORING CO.	M & W Soils Engineering	CASING		SAMPLER	GROUNDWATER READINGS		
FOREMAN	Myron Domingue	H.S.A.	TYPE	S.S.	DATE/TIME	DEPTH	STAB. TIME
INSPECTOR	Robert Marshall	83/115 mm	I.D./O.D.	35/51 mm	(SEE PAGE 1)		
DATE START	9/13/00	-	HAMMER	63.5 Kg			
DATE END	9/14/00	-	FALL	0.76 m			
GROUND EL.	296.165 m	-	OTHER	-			

DEPTH	CASING BLOWS	SAMPLE NO.	SAMPLE PEN./REC.	SAMPLE BLOWS PER 0.15 m	SAMPLE CORING (min/0.3m)	SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAV.	% SAND	% FINES	LQ. LIM.	PL. LIM.	REMARK
		S-9	0.61	0.41	9	12	**S-9 (9.15-9.76m):** Dense, gray brown fine to coarse SAND, some fine to coarse Gravel, little Silt **(A-1-b)**.							
					14	12								
								GRAVELLY						
10.7								SAND						
		S-10	0.61	0.45	17	21	**S-10 (10.67-11.28m)** Similar to above **(A-1-b)**		11.1	36.0	46.4	17.6		
					19	27								
								+/- 11.59 m						
12.2														
		S-11	0.61	0.43	5	7	**S-11 (12.20-12.81m):** Medium dense brown fine SAND, trace Silt, trace (-) fine Gravel **(A-4)**.	SILTY						3.
					12	24		SAND						
								+/- 13.41 m						
13.7														
		S-12	0.61	0.30	16	17	**S-12 (13.72-14.33m):** Dense, brown fine to coarse SAND, some (+) fine to coarse Gravel, trace (+) Silt **(A-2-4)**.							
					18	21								
								GRAVELLY						
15.2								SILTY						
		S-13	0.30	0.30	17	30	**S-13 (15.24-15.85m):** Very dense (spoon refusal) brown fine SAND, little fine to coarse Gravel, little Silt **(A-2-4)**	SAND	13.4	23.0	53.7	23.3		
				60/0										
								+/- 15.62 m						4.
16.8														
		C-1	1.52	1.34	16	77	18	**C-1 (16.77-18.29m):** Moderately fractured gray GNEISS with near vertical fracture between 18.00 and 18.29m depth.						
					18	29	13							
							12	REC = 1.32/1.52 = 87%						
							13	RQD = 0.97/1.52 = 64%	BEDROCK					
18.3							14							

REMARKS
3. Sands "blew" 1.2m into HSA during plug withdrawal from 12.20m depth: Sands washed out prior to sampling with the possibility that blow counts are erroneously low.
4. Difficult advance of augers approximately 0.76m into probable rock to auger refusal at 16.62m depth, then advanced roller bit 0.15m to 16.77m depth into probable bedrock prior to rock coring.

NOTES
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2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BEDROCK
EL. 279.55

GEODESIGN INCORPORATED
Geotechnical Engineers and Environmental Consultants

PROJECT NAME AND LOCATION	GEODESIGN, INC. SOIL BORING LOG
Lincoln BRO 1445 (25) Lincoln, Vermont	BORING NO. B-3 PAGE NO. 3 OF 3 FILE NO. 750-03.1 REVIEWER JEL

BORING CO.	M & W Soils Engineering	CASING		SAMPLER	GROUNDWATER READINGS		
FOREMAN	Myron Domingue	H.S.A.	TYPE	S.S.	DATE/TIME	DEPTH	STAB. TIME
INSPECTOR	Robert Marshall	83/115 mm	I.D./O.D.	35/51 mm	(SEE PAGE 1)		
DATE START	9/13/00	-	HAMMER	63.5 Kg			
DATE END	9/14/00	-	FALL	0.76 m			
GROUND EL.	296.165 m	-	OTHER	-			

DEPTH	CASING BLOWS	SAMPLE NO.	SAMPLE PEN./REC.	SAMPLE BLOWS PER 0.15 m	SAMPLE CORING (min/0.3m)	SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAV.	% SAND	% FINES	LQ. LIM.	PL. LIM.	REMARK
		C-2	1.52	1.37	18	29	16	C-2 (18.29-19.82m): Intact gray GNEISS.						
					19	82	12	REC = 1.37/1.52 = 90%						
							10							
							8							
19.8							8	RQD = 1.37/1.52 = 90%	BEDROCK					
									19.82 m					
									END OF					
									BORING					
21.3														
22.9														
24.4														
25.9														
27.4														

REMARKS

NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

GEOTECHNICAL BORING LOGS 3

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96J266bor.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
GEOTECHNICAL BORING LOGS 3

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 26 OF 58

B-4

EXIST. GROUND
EL. 295.66

BOTTOM FTG.
ABUT. 2
EL. 290.60

GEODESIGN INCORPORATED
Geotechnical Engineers and Environmental Consultants

PROJECT NAME AND LOCATION: Lincoln BRO 1445 (25), Lincoln, Vermont

GEODESIGN, INC SOIL BORING LOG

BORING NO. B-4 | PAGE NO. 1 OF 3 | FILE NO. 750-03.1 | REVIEWER JEL

BORING CO.	M & W Soils Engineering	CASING		SAMPLER	GROUNDWATER READINGS		
FOREMAN	Myron Domingue	H.S.A.	TYPE	S.S.	DATE/TIME	DEPTH	STAB. TIME
INSPECTOR	Robert Marshall	83/115 mm	I.D./O.D.	35/51 mm	9/13/00 0930	3.66 m	5 Minutes
DATE START	9/13/00	-	HAMMER	63.5 Kg			
DATE END	SAME	-	FALL	0.76 m			
GROUND EL.	295.665 m	-	OTHER	-			

DEPTH	CASING BLOWS	NO.	PEN./REC.	BLOWS PER 0.15 m	CORING (min/0.3m)	SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAV.	% SAND	% FINES	LQ. LIM.	PL. LIM.	REMARK
		S-1	0.61	0.2	1 1	**S-1 (0-0.61m):** TOP 0.10m Loose dark brown TOPSOIL. BOT 0.10m Loose brown fine to coarse SAND, little Silt, trace fine Gravel (A-	0.1m TOPSOIL							1.
					3 2									
		S-2	0.61	0	5 7	**S-2 (0.61-1.22m):** No Recovery	SANDY							
					3 5									
1.5		S-3	.03	0	50/0.03	**S-3 (1.22-1.25m):** Refusal and no recovery	GRAVEL							
		S-4	.36	.13	7 17	**S-4 (1.52-2.13m):** Very dense (refusal) brown	WITH	4.7	47.4	42.6	9.9			
					60/0.06	fine to coarse SAND, little fine to coarse Gravel, trace Silt (A-1-b).	BOULDERS							
3.0							+/- 3.05 m							2.
		S-5	0.61	0.28	17 12	**S-5 (3.05-3.66m):** Medium dense gray brown								
					14 21	fine to coarse SAND, little Silt, trace fine to coarse Gravel (A-2-4).								
4.6														
		S-6	0.61	0.25	12 14	**S-6 (4.57-5.18m):** Dense brown fine to coarse angular GRAVEL, some coarse to fine Sand, some Silt (A-2-4).	SILTY							
					16 19		SANDY							
							GRAVEL							
6.1														3.
		S-7	0.61	0.43	17 24	**S-7 (6.10-6.71m):** Very dense brown fine to medium SAND, some fine to coarse Gravel, some Silt (A-2-4).		10.6	37.0	36.2	26.9			
					32 62									
7.6														
		S-8	0.61	0.25	26 31	**S-8 (7.62-8.23m):** Similar to above (A-2-4).								
					22 28		+/- 8.53 m							
							SAND							
9.1														4.

REMARKS
1. Boring advanced open hole with significant difficulty through boulder fill using 0.10m solid stem augers from zero to 3.05m depth.
2. Hydraulic head maintained in augers below 3.05m depth in effort to prevent sample disturbance.
3. Petroleum odor observed in auger cuttings below 6.10m depth. Odor not noticed in spoon samples.
4. Sands blew 1m into augers following plug removal from 9.15m depth: Sands washed out prior to S-9.

NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

GEODESIGN INCORPORATED
Geotechnical Engineers and Environmental Consultants

PROJECT NAME AND LOCATION: Lincoln BRO 1445 (25), Lincoln, Vermont

GEODESIGN, INC SOIL BORING LOG

BORING NO. B-4 | PAGE NO. 2 OF 3 | FILE NO. 750-03.1 | REVIEWER JEL

BORING CO.	M & W Soils Engineering	CASING		SAMPLER	GROUNDWATER READINGS		
FOREMAN	Myron Domingue	H.S.A.	TYPE	S.S.	DATE/TIME	DEPTH	STAB. TIME
INSPECTOR	Robert Marshall	83/115 mm	I.D./O.D.	35/51 mm	(SEE PAGE 1)		
DATE START	9/13/00	-	HAMMER	63.5 Kg			
DATE END	SAME	-	FALL	0.76 m			
GROUND EL.	295.665 m	-	OTHER	-			

DEPTH	CASING BLOWS	NO.	PEN./REC.	BLOWS PER 0.15 m	CORING (min/0.3m)	SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAV.	% SAND	% FINES	LQ. LIM.	PL. LIM.	REMARK
		S-9	0.61	0.56	17 24	**S-9 (9.15-9.76m):** Very dense brown fine SAND, trace Silt (**A-3**).		23.4	0	96.0	4.0			
					32 38									
10.7						Sands blew 1.3m into augers following plug removal from 10.67m depth: Flushed sands out, then sands blew 1.1m into auger while lowering sampler. No sample taken and augers advanced to 12.20m interval	SAND							
							+/- 11.28 m							
12.2							GRAVELLY							
		S-10	0.46	0.20	30 32	**S-10 (12.20-12.66m):** Very dense brown fine to coarse SAND, trace Silt (**A-1-b**).	SAND	12.5	30.6	63.2	6.2			
					36									
							+/- 13.26 m							
13.7														5.
		S-11	0.61	0.48	18 13	**S-11 (13.72-14.33m):** Dense, brown fine to coarse SAND, some (-) fine to coarse Gravel, trace Silt (A-2-4).								
					20 19									
15.2														
		S-12	0.61	0.31	17 21	**S-12 (15.24-15.85m):** Very dense, brown fine to coarse SAND, little (-) fine to coarse Gravel, little (-) Silt (**A-2-4**).	GRAVELLY	16.4	20.2	52.0	27.8			
					38 63		SILTY							
							SAND							
16.8														
		S-13	0.31	0.31	48 170	**S-13 (16.77-17.08m):** Very dense (spoon refusal) brown fine to coarse SAND, trace fine to coarse Gravel, trace Silt (**A-2-4**).								
18.3														

REMARKS
5. Advanced sampler through 0.15m of sands in auger at start of S-10 sample interval.

NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

GEODESIGN INCORPORATED
Geotechnical Engineers and Environmental Consultants

PROJECT NAME AND LOCATION: Lincoln BRO 1445 (25), Lincoln, Vermont

GEODESIGN, INC SOIL BORING LOG

BORING NO. B-4 | PAGE NO. 3 OF 3 | FILE NO. 750-03.1 | REVIEWER JEL

BORING CO.	M & W Soils Engineering	CASING		SAMPLER	GROUNDWATER READINGS		
FOREMAN	Myron Domingue	H.S.A.	TYPE	S.S.	DATE/TIME	DEPTH	STAB. TIME
INSPECTOR	Robert Marshall	83/115 mm	I.D./O.D.	35/51 mm	(SEE PAGE 1)		
DATE START	9/13/00	-	HAMMER	63.5 Kg			
DATE END	SAME	-	FALL	0.76 m			
GROUND EL.	295.665 m	-	OTHER	-			

DEPTH	CASING BLOWS	NO.	PEN./REC.	BLOWS PER 0.15 m	CORING (min/0.3m)	SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAV.	% SAND	% FINES	LQ. LIM.	PL. LIM.	REMARK
		S-14	0.08	0.08	60/0.08	**S-14 (18.29-18.38m):** Very dense (spoon refusal) gray-brown fine to coarse SAND, little fine to coarse Gravel, little Silt (**A-2-4**).	18.38 m							
							END OF							
							BORING							
19.8														
21.3														
22.9														
24.4														
25.9														
27.4														

REMARKS

NOTES
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

MDOT Metric

GEOTECHNICAL
BORING LOGS 4

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96J266bor.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
GEOTECHNICAL BORING LOGS 4

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 27 OF 58

VAOT Metric

PI
STA. 1+086.105 AH=
STA. 1+086.000 BK
Δ = 9°48'27 RT.

ML POST STA. 1+105.000=
CHAN. STA. 5+050.000
Δ = 65° LT.

STA. 1+107.669
BEGIN BRIDGE
F.G.= 297.353

CHANNEL LINE

VT. STATE PLANE GRID

N

NEW HAVEN RIVER

900 STONE FILL,
TYPE III (TYP.)

~~300 STONE FILL,~~
~~TYPE I~~

R 4000

R 10500

R 9500

T.H. 1

STA. 1+134.000
℄ BRG. ABUT. NO. 2
F.G.= 297.009
(FIXED)

STA. 1+101.671
BEGIN APPROACH SLAB

PAVED APRON

STA. 1+140.332
END APPROACH SLAB

STA. 1+154.504
END APPROACH
MATCH EXISTING

65°
(TYP.)

℄ T.H. 9

1+100

1+120

1+140

1+155

2700 TRAVEL
LANE (TYP.)

EDGE OF
PAVEMENT (TYP.)

STA. 1+146.200
END PROJECT
BEGIN APPROACH

PAVED APRON

R 4000

R 10000

R 8358

PT
STA. 1+107.449

CLARK RD

STA. 1+108.000
℄ BRG. ABUT. NO. 1
F.G.= 297.362
(EXP.)

MEASUREMENT ALONG FASCIA
TO CENTER OF RAIL POST

R 9850

STA. 1+134.332
END BRIDGE
F.G.= 296.991

R 11500

WW 1
WW 2
WW 3
WW 4

810*

1:2

1:1.5

1:3

5+040

5+060

PLAN

BEGIN TO END BRIDGE = 26 663

PAY LIMITS
SPECIAL PROVISION
(ALUMINUM APPROACH RAILING, ANODIZED)
WW1 & WW2 = 7 610

PAY LIMITS
SPECIAL PROVISION (BRIDGE RAILING, ANODIZED 3 RAIL ALUMINUM) = 26 513 LT.
SPECIAL PROVISION (BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN) = 26 513 RT.

PAY LIMITS
SPECIAL PROVISION
(ALUMINUM APPROACH RAILING, ANODIZED)
WW3 = 7 610
WW4 = 19 040

810 TO END
OF FASCIA
(TYP.)

620 (TYP.)

735 (TYP.)

305
300
295
290

E

F

FINISH
GRADE

Q_{100} EL. 295.3

Q_{OHW} EL. 293.5

EXISTING
GROUND

900 STONE FILL,
TYPE III (TYP.)

ELEVATION

PLAN & ELEVATION

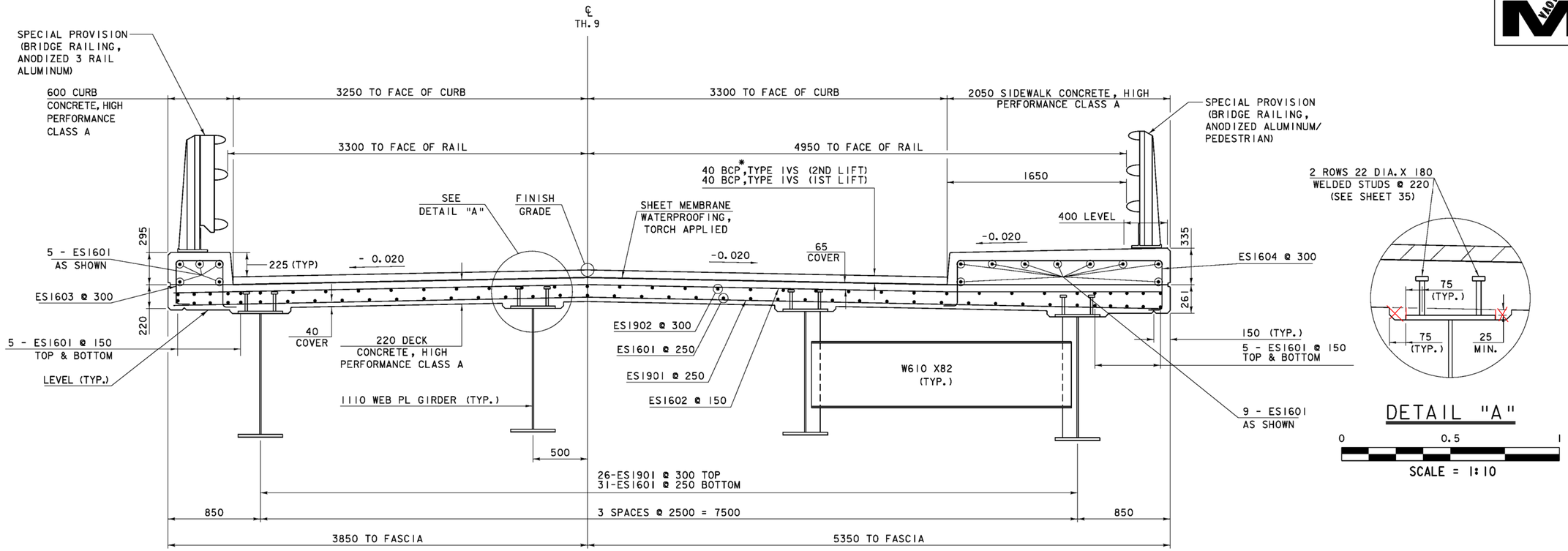
0 1 2 4 6 8 10

SCALE = 1:100

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s961266pe.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLAN & ELEVATION

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 28 OF 58

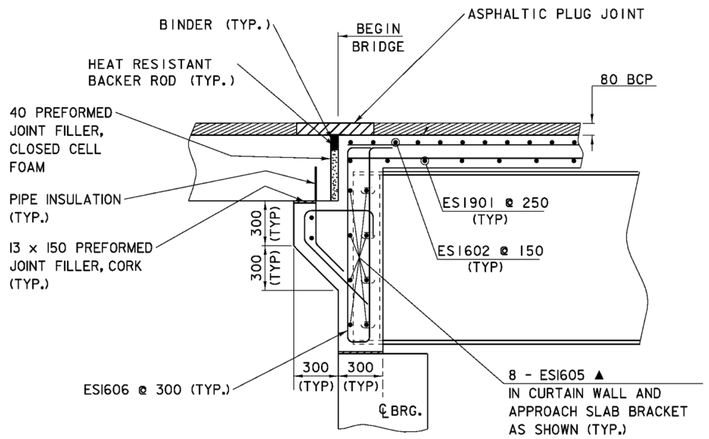


BRIDGE TYPICAL SECTION

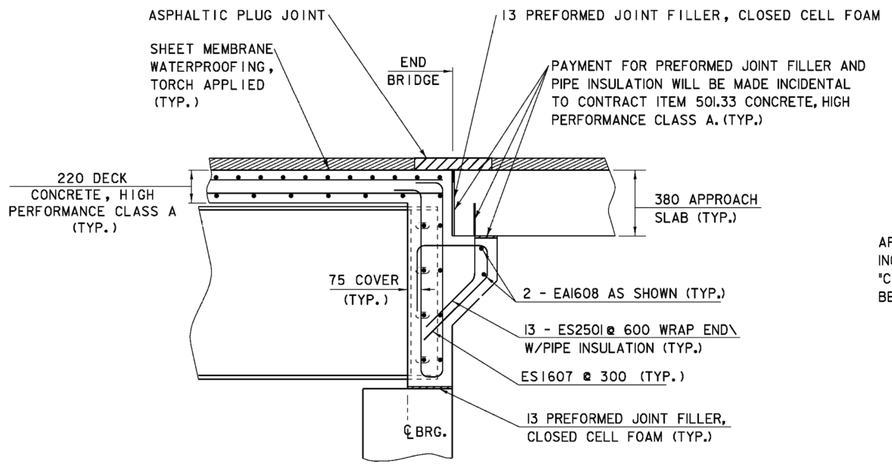
0 1 2

SCALE = 1:20

*BCP = SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)



ABUTMENT NO. 1



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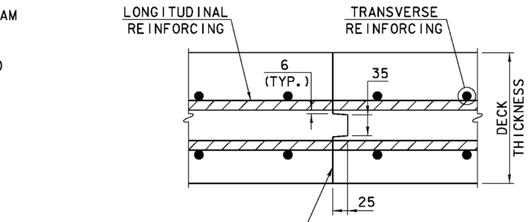


TRANSVERSE BRIDGE DECK CONSTRUCTION JOINT DETAILS

0 0.25 0.5

SCALE = 1:5

ABUTMENT END DETAILS

0 1 2

SCALE = 1:20

NOTES:

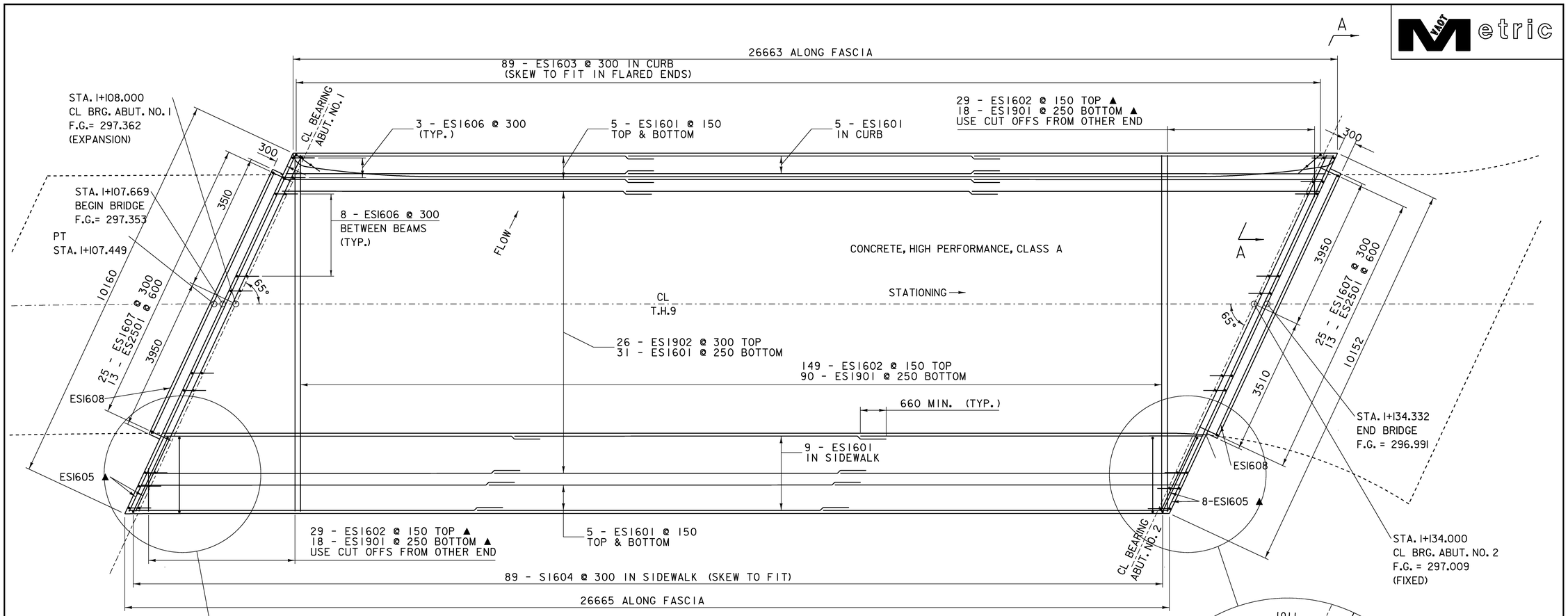
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS.
660 MIN. LAP SPLICE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SUPERSTRUCTURE TYPICAL SECTIONS

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445(25)

FILE NAME: s96j266str.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
SUPERSTRUCTURE TYPICAL SECTIONS

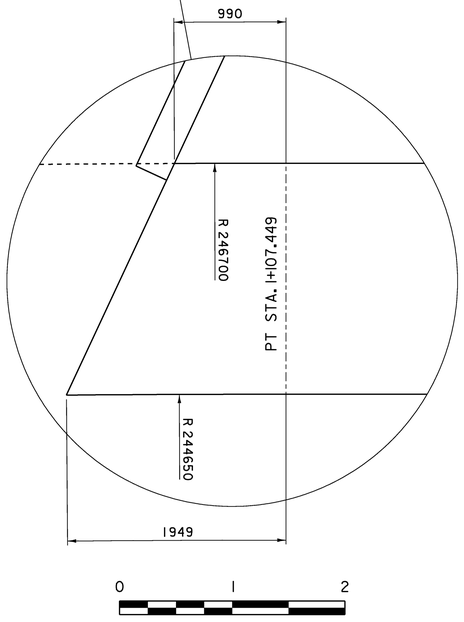
PLOT DATE: 03-FEB-2009
DRAWN BY: C. MOONEY
CHECKED BY: R. WHITCOMB
SHEET 29 OF 58



DECK REINFORCING PLAN

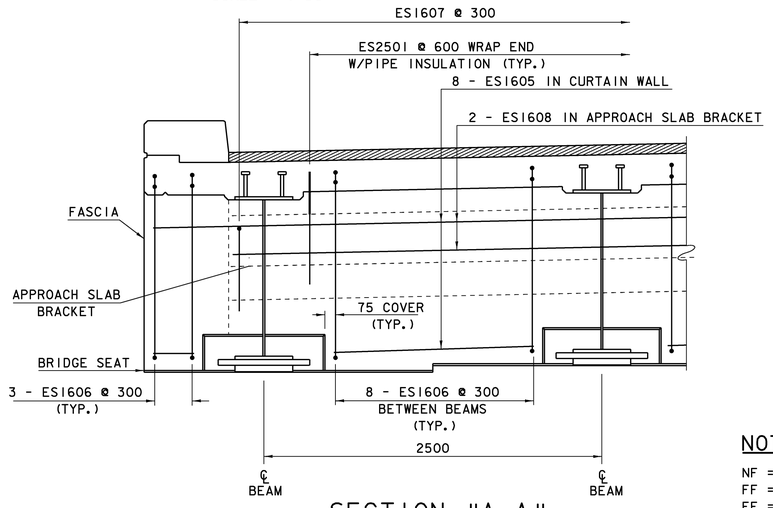
0 1 2 3 4 5

SCALE = 1:50



0 1 2

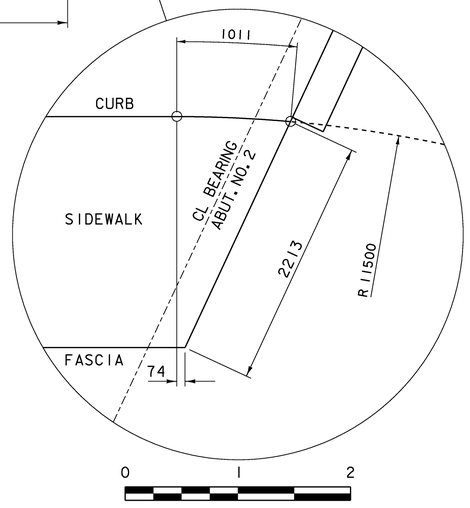
SCALE = 1:25



SECTION "A-A"

0 1 2

SCALE = 1:20



0 1 2

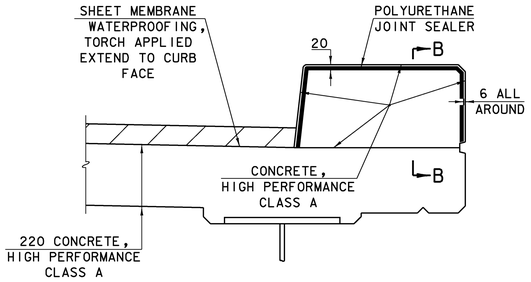
SCALE = 1:25

SUPERSTRUCTURE PLAN

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 COVER UNLESS
OTHERWISE SPECIFIED ON THE PLANS.
660 MIN. LAP SPLICE UNLESS
OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445(25)
FILE NAME: s96j266str.dgn	PLOT DATE: 29-JAN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: S. SCRIBNER	CHECKED BY: R. WHITCOMB
SUPERSTRUCTURE PLAN	SHEET 30 OF 58



TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

NOT TO SCALE

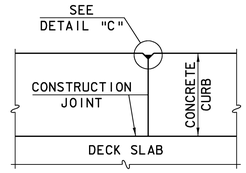
NOTES

1. CONCRETE CURBS AND SIDEWALK MAY BE POURED IN ONE CONTINUOUS POUR IF ONE OF THE APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED. PAYMENT FOR ADMIXTURE WILL BE INCIDENTAL TO PAY ITEM 501.33 CONCRETE, HIGH PERFORMANCE CLASS A.

2. IF CONTRACTOR CHOOSES TO USE CONSTRUCTION JOINTS IN CURB, THE JOINTS SHALL BE SPACED AT A MAXIMUM OF 4500 CENTER TO CENTER AND 550 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. PLACE CONCRETE CURBS IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.

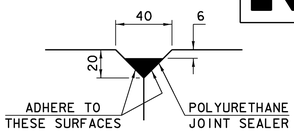
3. PASS LONGITUDINAL REINFORCING THROUGH CONCRETE CONSTRUCTION JOINTS.

4. TURN CURB REINFORCING STIRRUP BARS AS NECESSARY TO FIT FLARED ENDS.



SECTION B-B

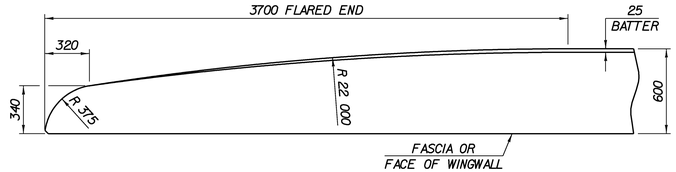
NOT TO SCALE



DETAIL "C"

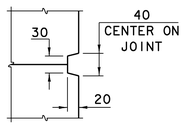
NOT TO SCALE

POLYURETHANE JOINT SEALER PER SUBSECTION 524.06(d). COLOR TO MATCH CONCRETE. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".



FLARED END FOR 600 CURB

BARS SHALL BE TURNED AS REQUIRED TO FIT FLARED ENDS



SCORE MARK DETAIL

0 0.25 0.5

SCALE = 1:5

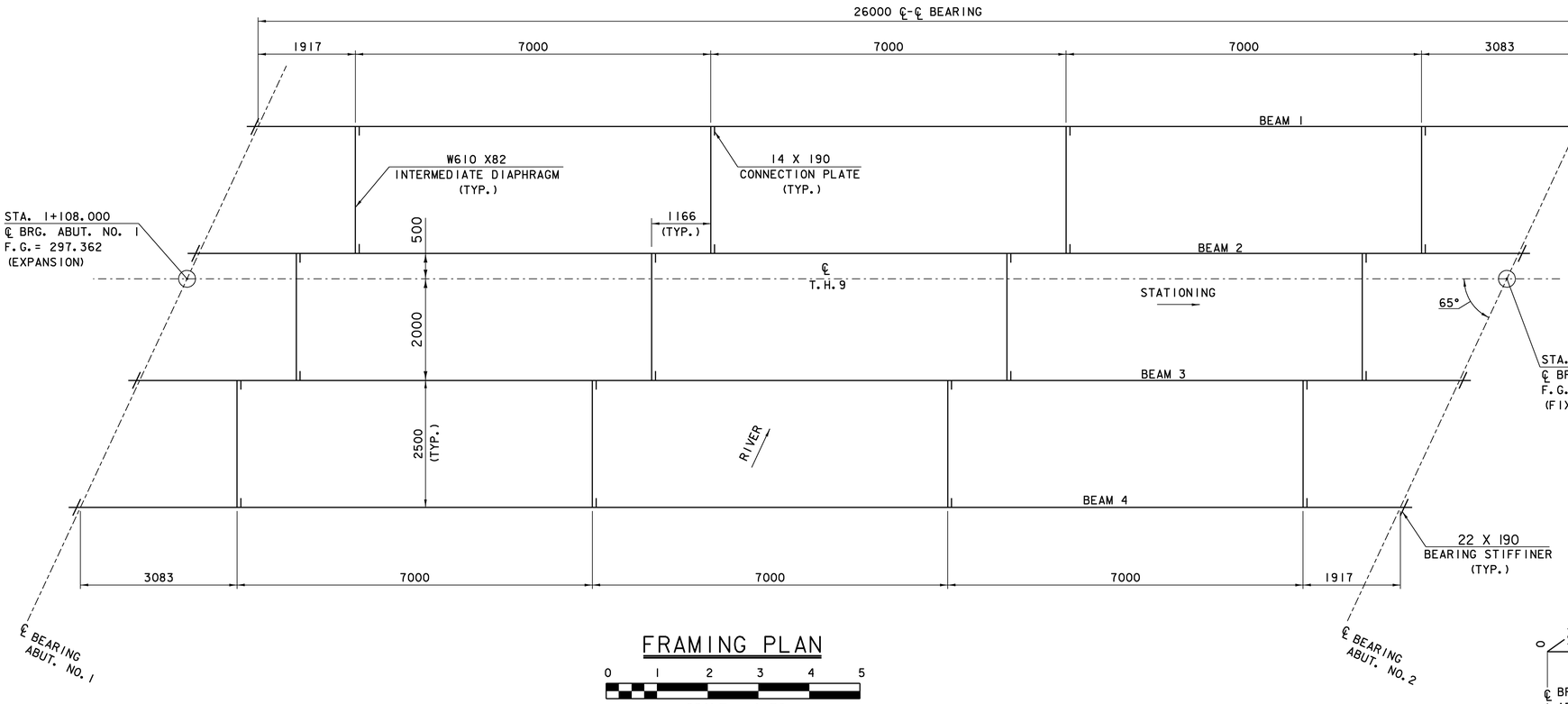
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS.
660 MIN. LAP SPLICE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SUPERSTRUCTURE CURB DETAILS

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445(25)

FILE NAME: s96j266str.dgn	PLOT DATE: 29-JAN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: S. SCRIBNER	CHECKED BY: R. WHITCOMB
SUPERSTRUCTURE CURB DETAILS	SHEET 31 OF 58



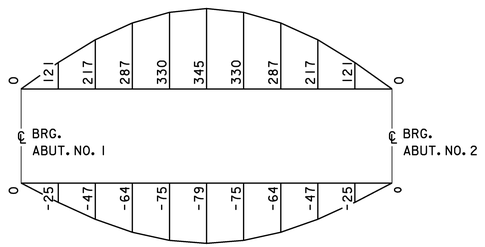
FRAMING PLAN

0 1 2 3 4 5

SCALE = 1:50

CAMBER DIAGRAM

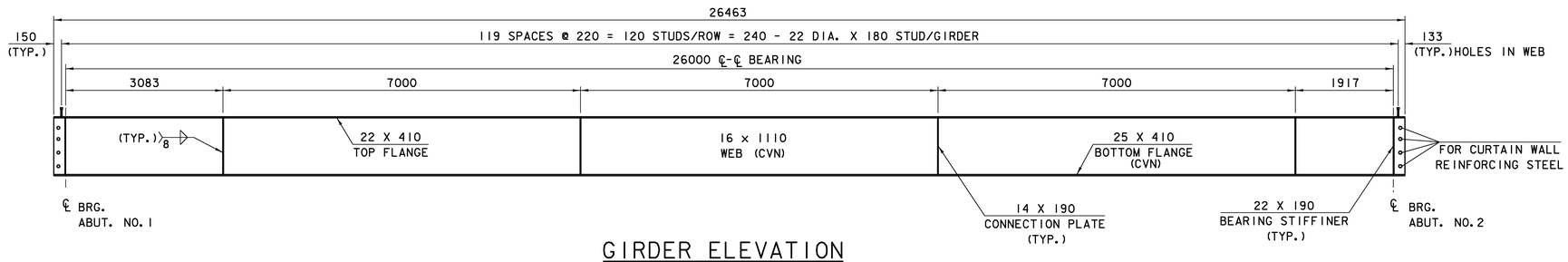
NTS



DEAD LOAD DEFLECTION DIAGRAM

NTS

NOTE: CAMBER AND DEFLECTION MEASUREMENTS ARE GIVEN IN MILLIMETERS AT TENTH POINTS. MEASUREMENTS INCLUDE GIRDER SELF-WEIGHT.



GIRDER ELEVATION

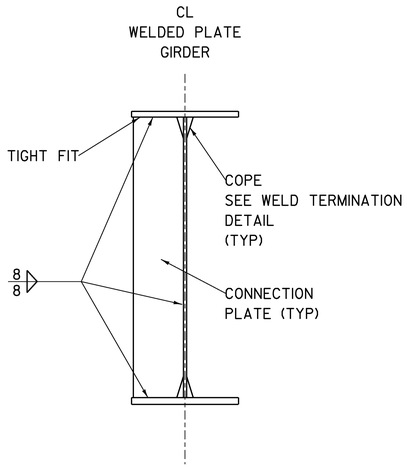
0 1 2 3 4 5

SCALE = 1:50

SUPERSTRUCTURE FRAMING PLAN

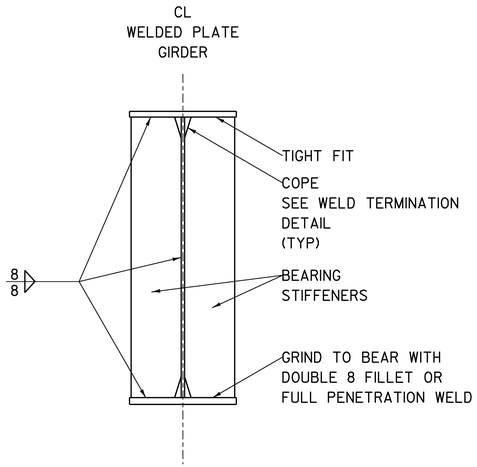
PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445(25)

FILE NAME: s96j266str.dgn	PLOT DATE: 29-JAN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: S. SCRIBNER	CHECKED BY: R. WHITCOMB
SUPERSTRUCTURE FRAMING PLAN	SHEET 32 OF 58



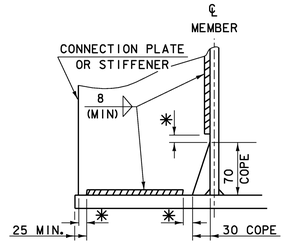
INTERMEDIATE CONNECTION PLATES FOR WELDED PLATE GIRDERS

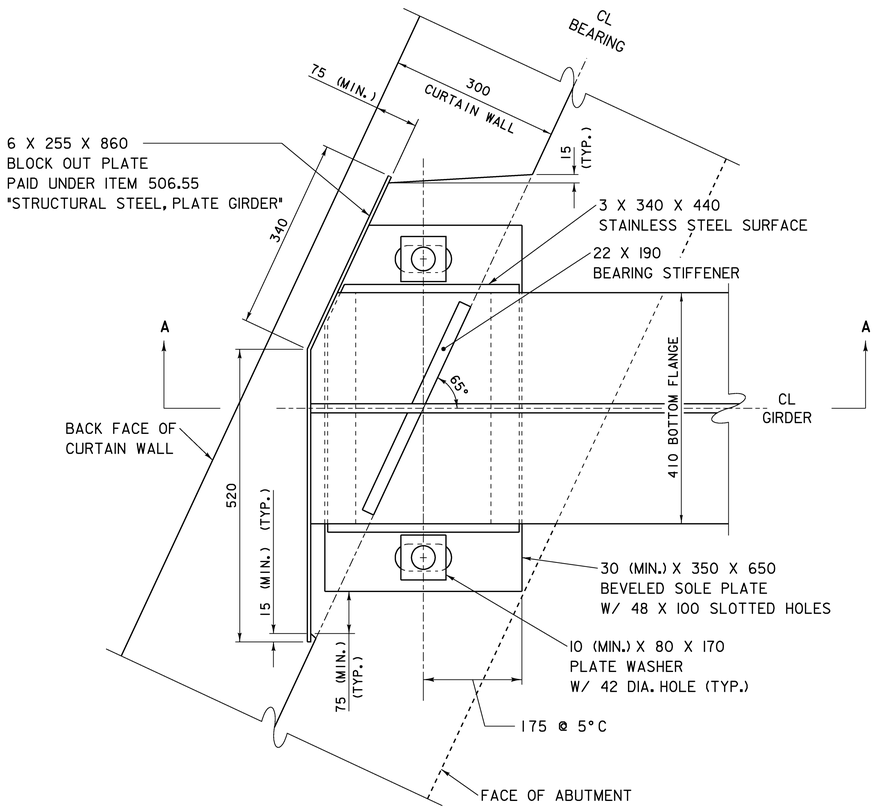
NOT TO SCALE



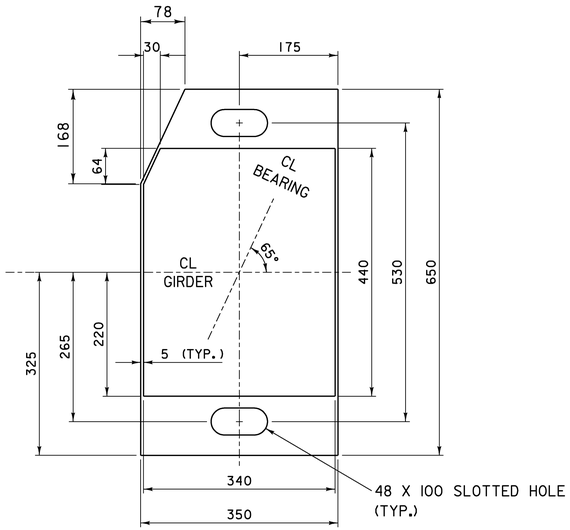
ABUTMENT BEARING STIFFENERS FOR WELDED PLATE GIRDERS

NOT TO SCALE

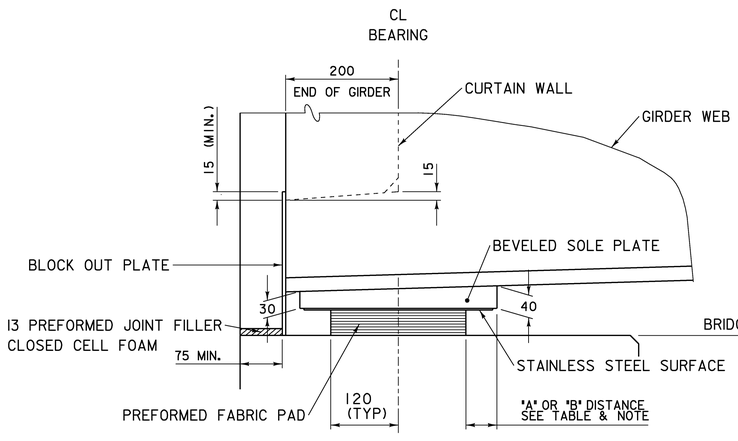

℄
MEMBER
CONNECTION PLATE
OR STIFFENER
8
(MIN)
*
*
*



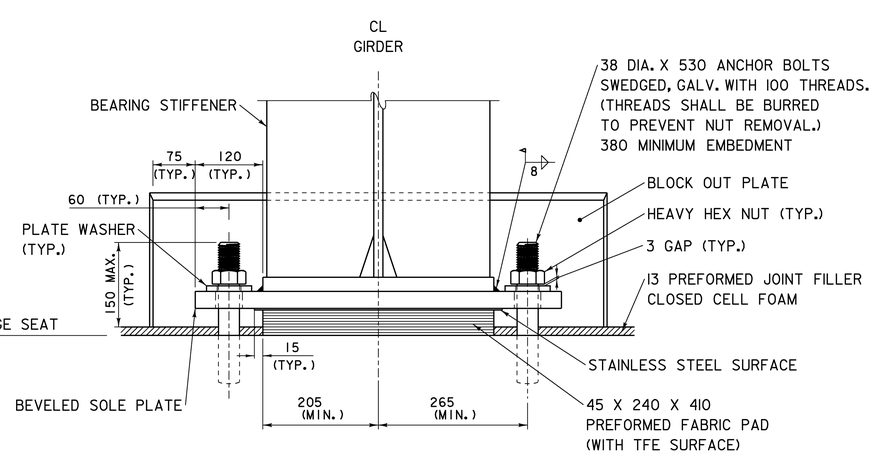
PLAN VIEW



SOLE PLATE & STAINLESS STEEL SURFACE DETAIL



SECTION A-A



FRONT ELEVATION

EXPANSION BEARING @ ABUTMENT NO. 1

0 0.25 0.5

SCALE = 1:5

ABUTMENT BEARING NOTES

1. BEARINGS SHALL CONFORM TO THE APPLICABLE PROVISIONS OF SECTIONS 531 AND 731.
2. BEARINGS AT ABUTMENTS SHALL BE PAID FOR UNDER ITEM 531.10 "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD".
3. FABRICATION DRAWINGS SHALL BE SUBMITTED AS PER SUBSECTION 531.03. THE SUBMITTAL SHALL INCLUDE ASSOCIATED WELDING AND BONDING PROCEDURES.
4. DESIGN CRITERIA:
   - A. DESIGN FABRIC PAD TO CONCRETE PRESSURE: 7 MPa MAXIMUM
   - B. DESIGN ROTATION: 0.015 RADIANS MINIMUM
   - C. DESIGN VERTICAL LOAD: 672 kN
   - D. DESIGN HORIZONTAL LOAD: MINIMUM 10% OF VERTICAL LOAD
5. THE "B" DISTANCE IS THE FINAL SETTING FOR THE BEARING PAD AFTER THE CONCRETE SLAB, CURB, PAVEMENT, AND BRIDGE RAIL HAVE BEEN PLACED. THE "A" DISTANCE IS FOR SETTING THE BEARING AFTER THE STRUCTURAL STEEL IS ERECTED AND BEFORE THE CONCRETE DECK IS POURED. THE DIFFERENCE IS THE THEORETICAL ELONGATION OF THE BOTTOM FLANGE DUE TO DEAD LOAD DEFLECTION. THE FINAL "B" DISTANCE SHOWN IN THE TABLE MUST BE ATTAINED WITHIN 3 mm.
6. THE CONCRETE SURFACE UNDER BEARING DEVICES SHALL BE LEVEL.
7. ANCHOR BOLTS SHALL HAVE A MINIMUM 380 mm EMBEDMENT INTO THE CONCRETE AND SHALL CONFORM TO SUBSECTION 714.08. IF ANCHORBOLTS ARE NOT CAST INTO CONCRETE, DRILLED HOLES SHALL ME A MINIMUM OF 25mm DIAMETER LARGER THAN BOLT DIAMETER.
8. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER SUBSECTION 506.15 AND 531.04 (b). IF THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN SUBSECTION 506.15. AREAS OF GALVANIZING OR METALIZING DAMAGED BY FIELD WELDING OR HANDLING SHALL BE REPAIRED IN CONFORMANCE WITH SECTION 513.
9. ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. ALL WASHERS SHALL BE 10 mm PLATE (MINIMUM). PAYMENT FOR ANCHOR BOLTS, NUTS, WASHERS, AND THEIR INSTALLATIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 531.10, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD".

TEMPERATURE SETTING TABLE

	TEMP.		"B" DIST.	"A" DIST.
	-13°F	-25°C	64	78
	5°F	-15°C	61	75
	23°F	-5°C	58	72
*	41°F	5°C	55	69
	59°F	15°C	52	66
	77°F	25°C	49	63
	95°F	35°C	46	60
	113°F	45°C	43	57

* DENOTES THEORETICAL NEUTRAL POSITION

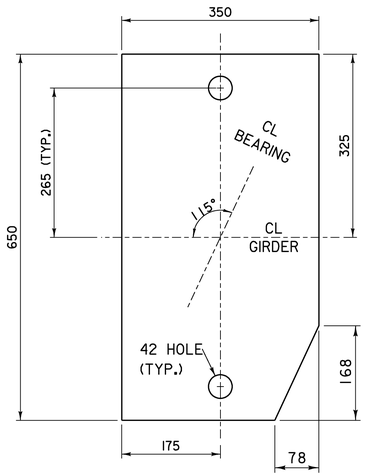
SUPERSTRUCTURE BEARING DETAILS 1

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445(25)

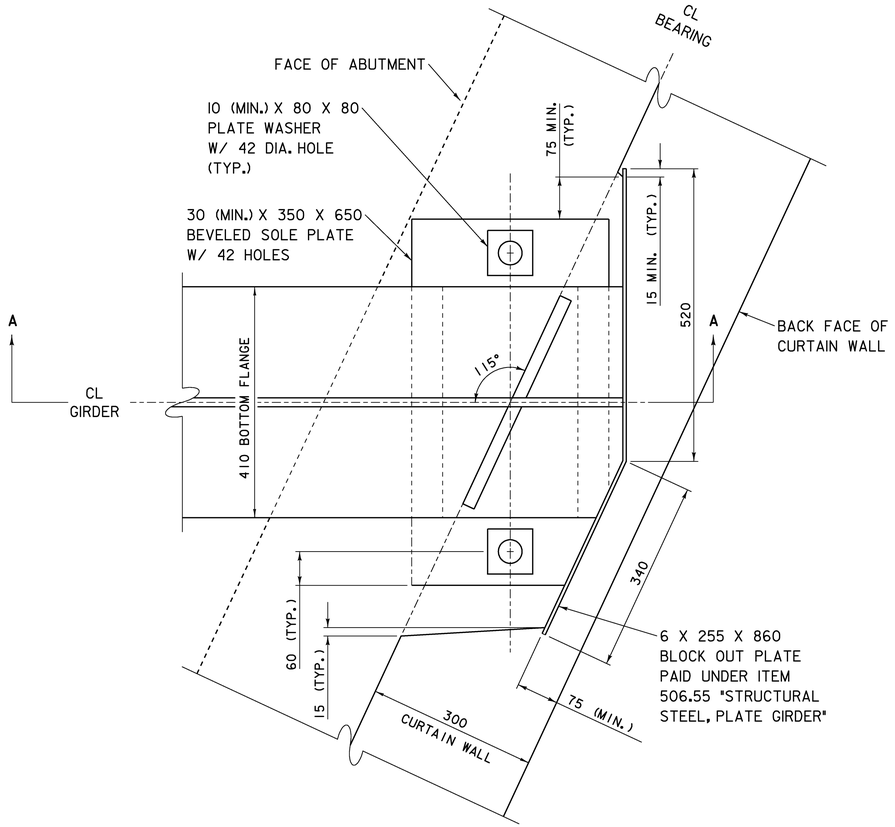
FILE NAME: s96J266str.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
SUPERSTRUCTURE BEARING DETAILS 1

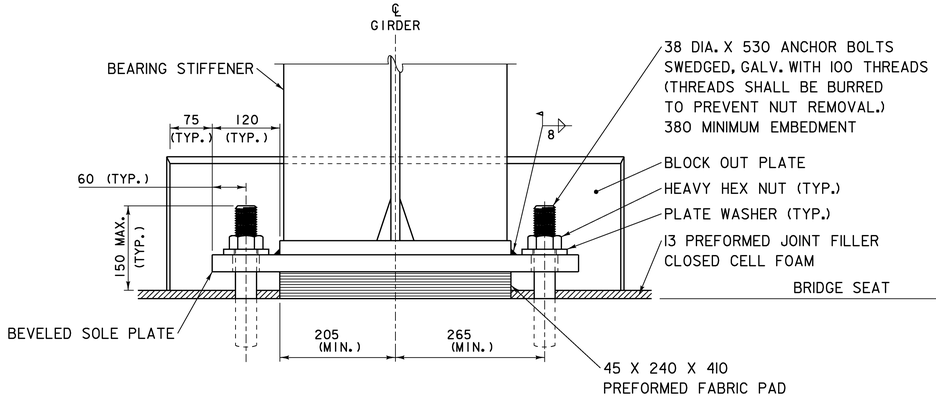
PLOT DATE: 03-FEB-2009
DRAWN BY: C. MOONEY
CHECKED BY: R. WHITCOMB
SHEET 34 OF 58

Metric

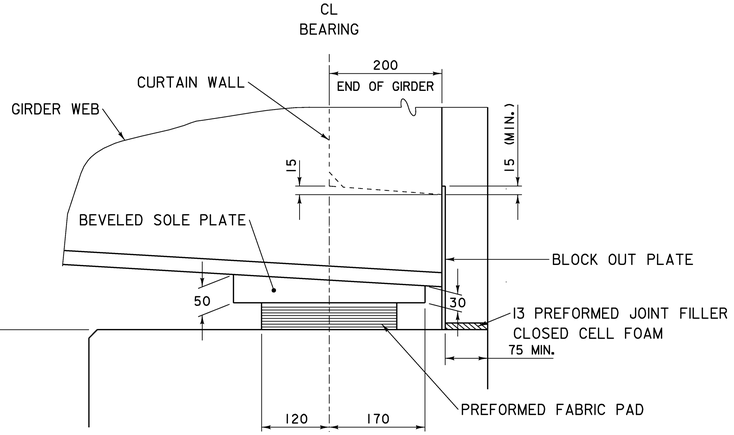


SOLE PLATE DETAIL





FRONT ELEVATION



SECTION A-A

PLAN VIEW

0 0.25 0.5

SCALE = 1:5

FIXED BEARING @ ABUTMENT NO. 2

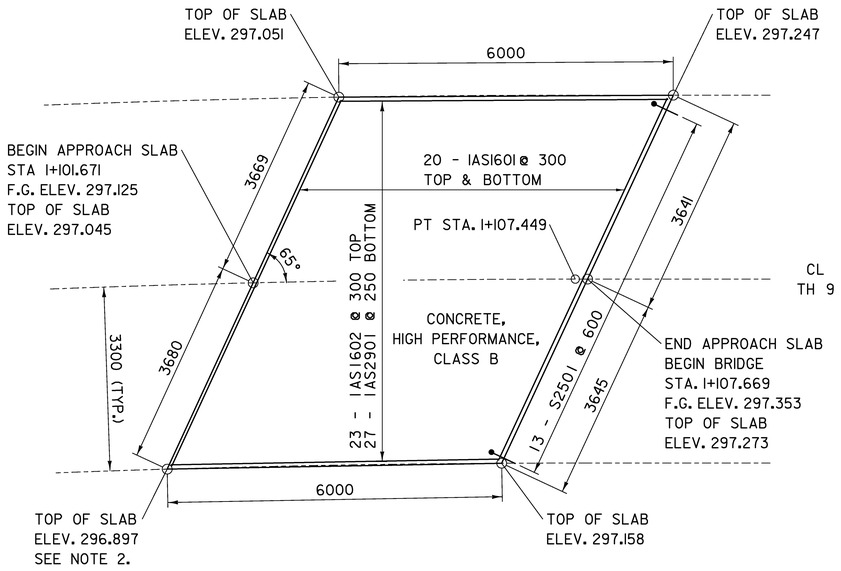
0 0.25 0.5

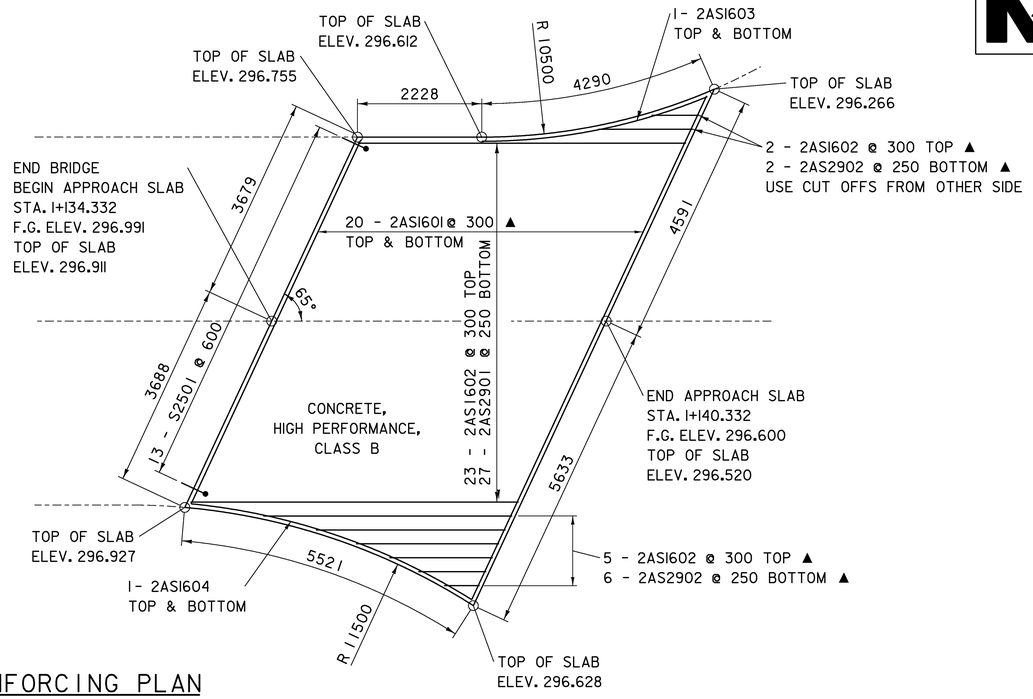
SCALE = 1:5

SUPERSTRUCTURE BEARING DETAILS 2

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445(25)

FILE NAME: s96j266str.dgn	PLOT DATE: 03-FEB-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: S. SCRIBNER	CHECKED BY: R. WHITCOMB
SUPERSTRUCTURE BEARING DETAILS 2	SHEET 35 OF 58

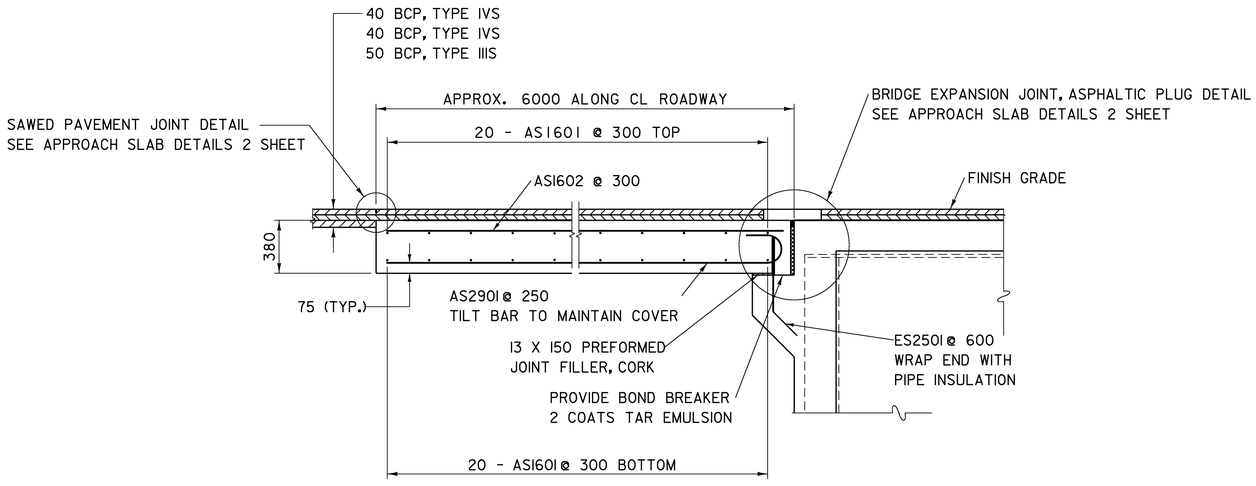




APPROACH SLAB REINFORCING PLAN

0 1 2 3 4 5

SCALE = 1:50



APPROACH SLAB DETAIL

0 1 2

SCALE = 1:20

NOTES:

1. ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS ASSOCIATED WITH THE INSTALLATION OF THE ASPHALTIC PLUG -TYPE JOINT, INCLUDING THE FOAM AND STRUCTURAL ADHESIVE, SHALL BE PAID FOR UNDER THE UNIT PRICE BID FOR ITEM 516.10, "BRIDGE EXPANSION JOINT, ASPHALTIC PLUG".

2. SEE THE APPROACH SLAB DETAILS 2 SHEET FOR NOTES ABOUT THE INSTALLATION OF THE ASPHALTIC PLUG JOINT.

3. "TOP OF SLAB" ELEVATIONS ARE AT THE TOP OF CONCRETE, NOT FINISH GRADE.

4. PAYMENT FOR PREFORMED JOINT FILLERS AND PIPE INSULATION WILL BE MADE INCIDENTAL TO CONTRACT ITEM 501.33.

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 COVER UNLESS
OTHERWISE SPECIFIED ON THE PLANS.
660 MIN. LAP SPLICE UNLESS
OTHERWISE SPECIFIED ON THE PLANS.

APPROACH SLAB DETAILS 1

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445(25)

FILE NAME: s96j266str.dgn	PLOT DATE: 29-JAN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: S. SCRIBNER	CHECKED BY: R. WHITCOMB
APPROACH SLAB DETAILS 1	SHEET 36 OF 58

ASPHALTIC PLUG BRIDGE JOINT

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.

2. EXCAVATE THE JOINT AS SHOWN ON THE PLANS WITH SAWS AND PNEUMATIC HAMMER OR A HAMMER AND CHISEL.

3. BLAST CLEAN THE JOINT AREA OF DEBRIS AND ASPHALT. THOROUGHLY DRY THE JOINT AREA WITH HOT COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.

4. REPAIR SPALLED AND DEFECTIVE CONCRETE WITH AN APPROVED MATERIAL AS AGREED UPON BY THE ENGINEER.

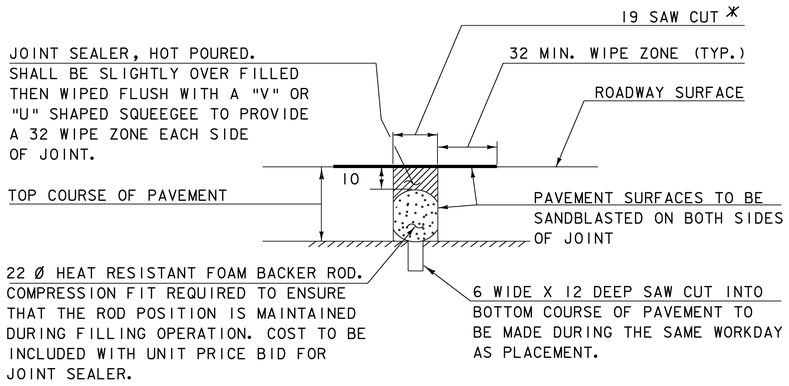
5. HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.

6. INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

7. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

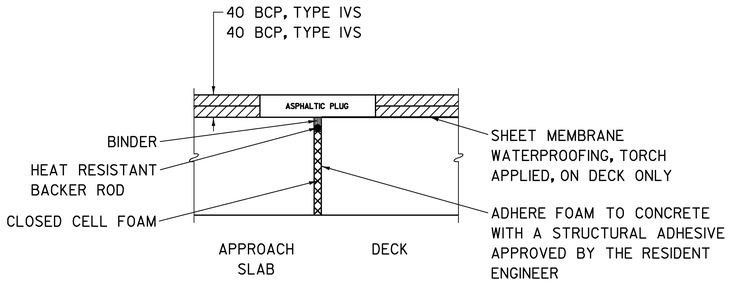
8. PROTECT JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 125 ° F (51 ° C) +/-.

9. WEATHER LIMITATIONS. APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL:
THE AMBIENT AIR TEMPERATURE IS AT LEAST 50 °F (10 ° C) AND RISING;
THE ROAD SURFACE IS SUFFICIENTLY DRY; AND
WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.



SAWED PAVEMENT JOINT DETAIL
(NOT TO SCALE)

*JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF APPROACH SLABS. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER.



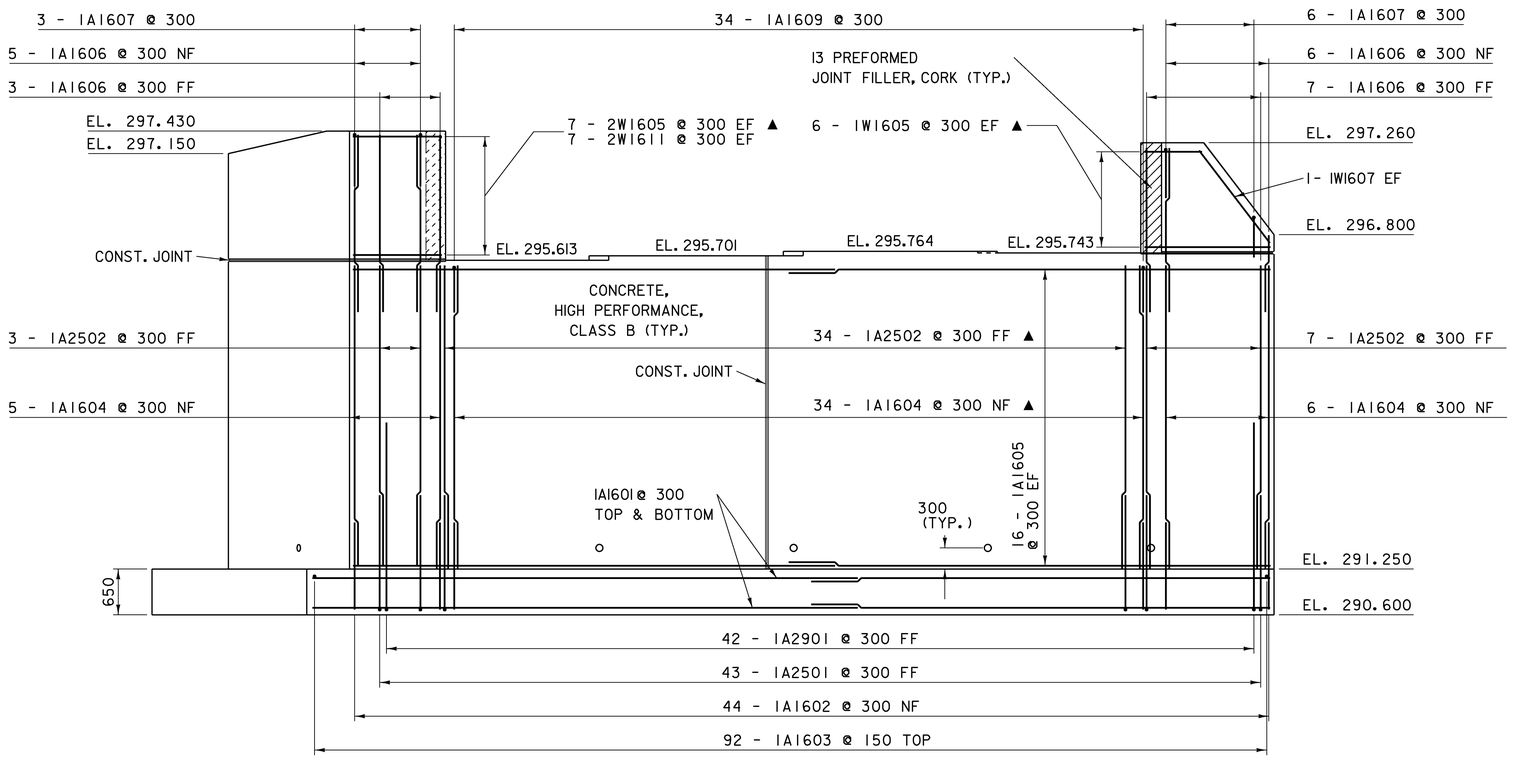
BRIDGE EXPANSION JOINT,
ASPHALTIC PLUG DETAIL

0 0.5 1
SCALE = 1:10

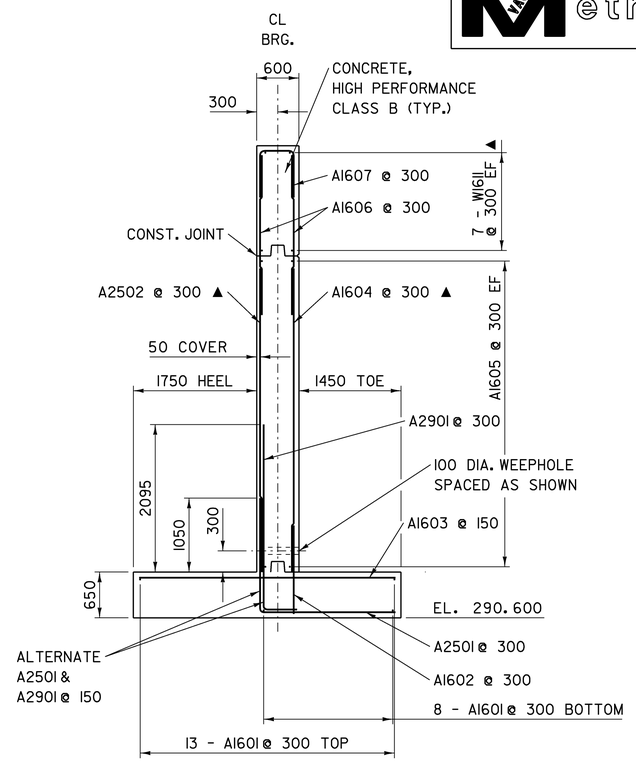
APPROACH SLAB DETAILS 2

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445(25)

FILE NAME: s96J266str.dgn	PLOT DATE: 29-JAN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: S. SCRIBNER	CHECKED BY: R. WHITCOMB
APPROACH SLAB DETAILS 2	SHEET 37 OF 58



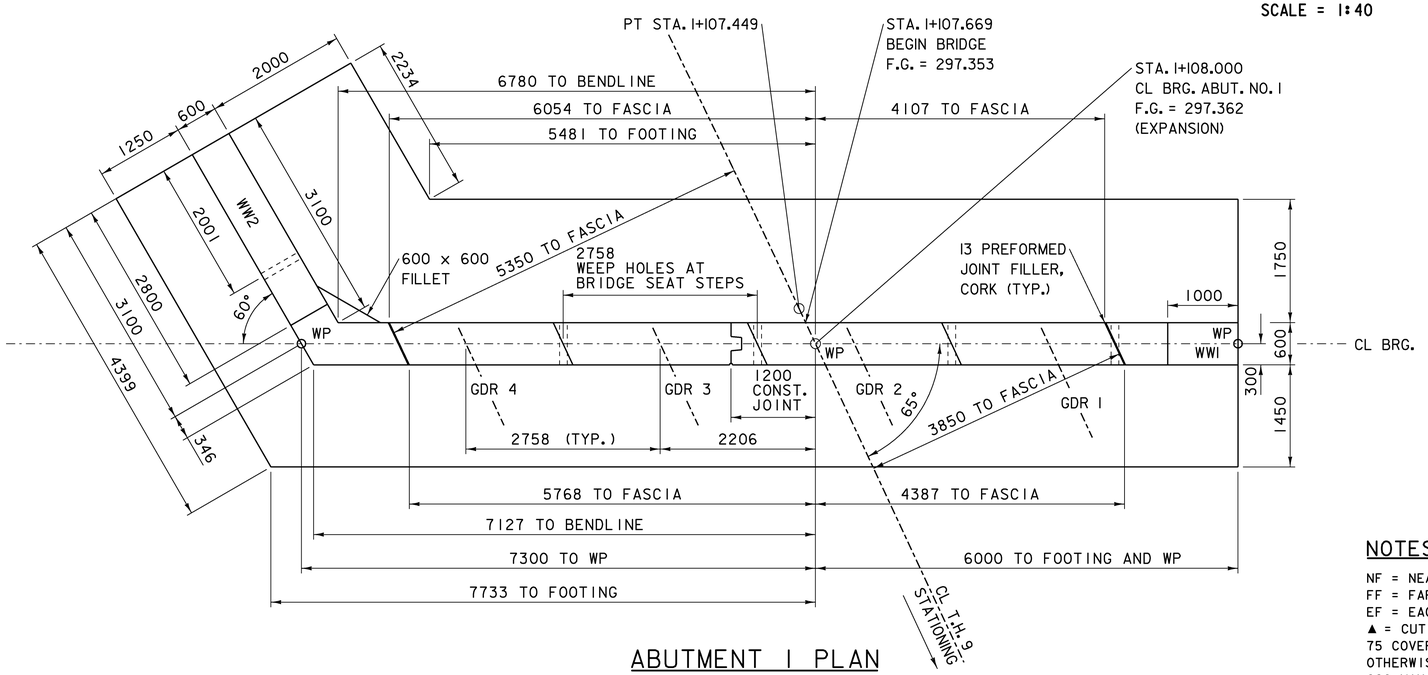
ABUTMENT 1 ELEVATION



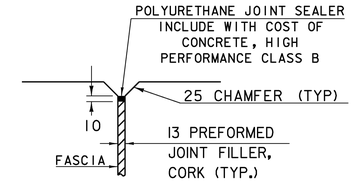
ABUTMENT TYPICAL SECTION

0 1 2 3 4

SCALE = 1:40



ABUTMENT 1 PLAN



JOINT BETWEEN FASCIA AND WINGWALL

NOT TO SCALE

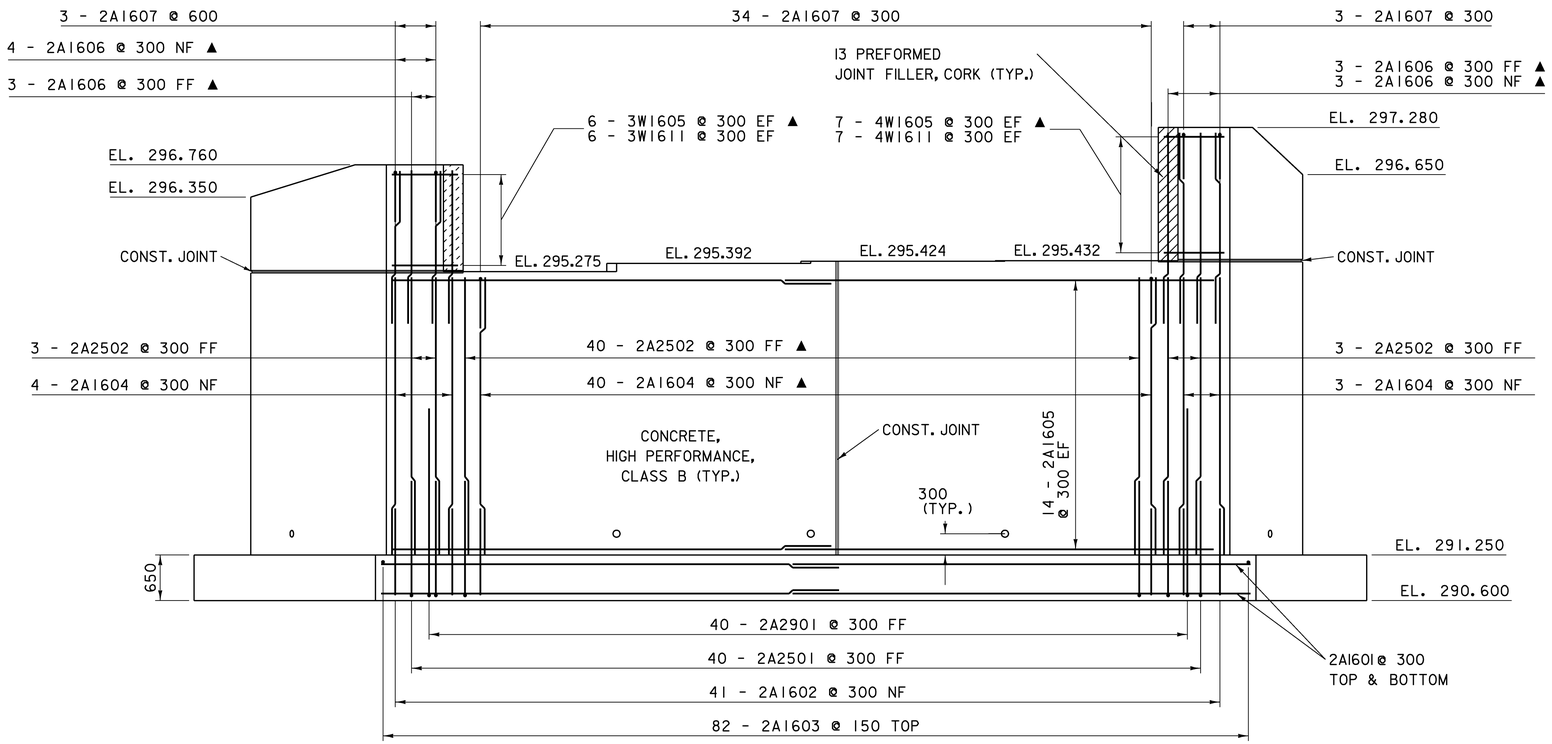
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 COVER UNLESS
OTHERWISE SPECIFIED ON THE PLANS.
660 MIN. LAP SPLICE UNLESS
OTHERWISE SPECIFIED ON THE PLANS.

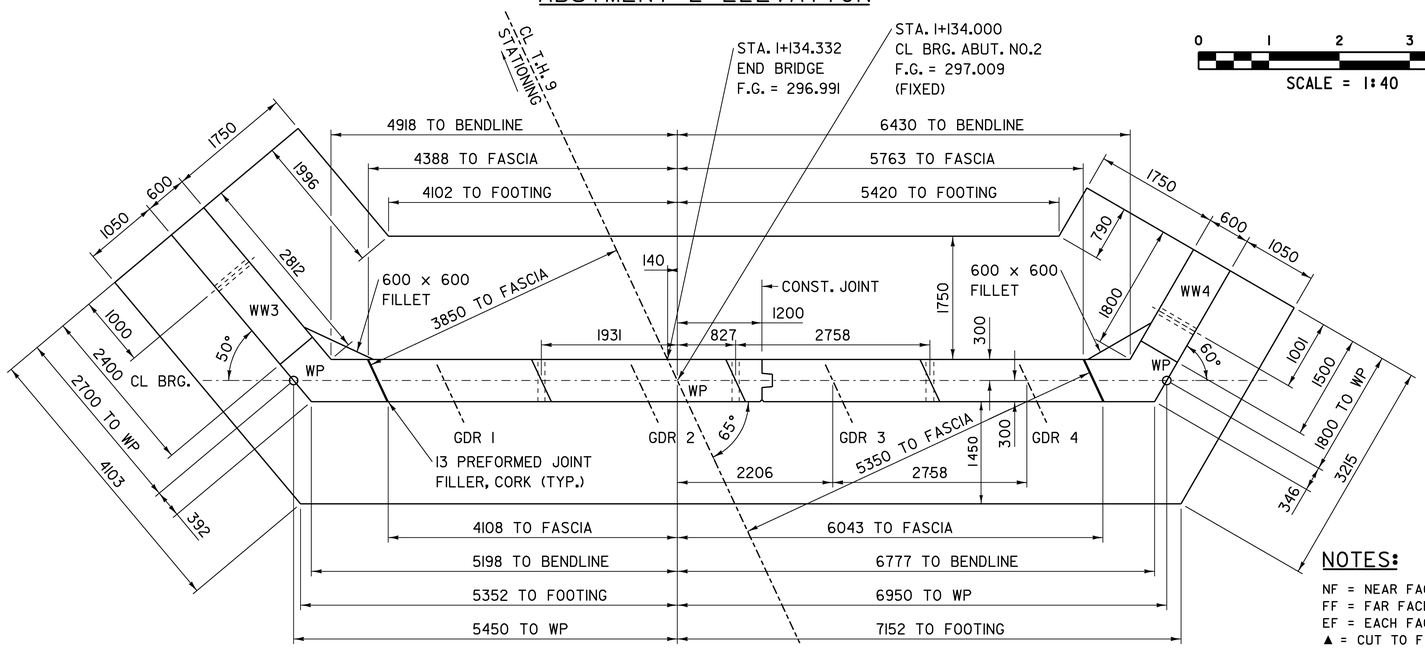
SUBSTRUCTURE ABUTMENT 1 DETAILS

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445(25)
FILE NAME: s96j266str.dgn	PLOT DATE: 29-JAN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: S. SCRIBNER	CHECKED BY: R. WHITCOMB
SUBSTRUCTURE ABUTMENT 1 DETAILS	SHEET 38 OF 58

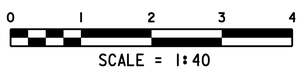
Metric



ABUTMENT 2 ELEVATION



ABUTMENT 2 PLAN



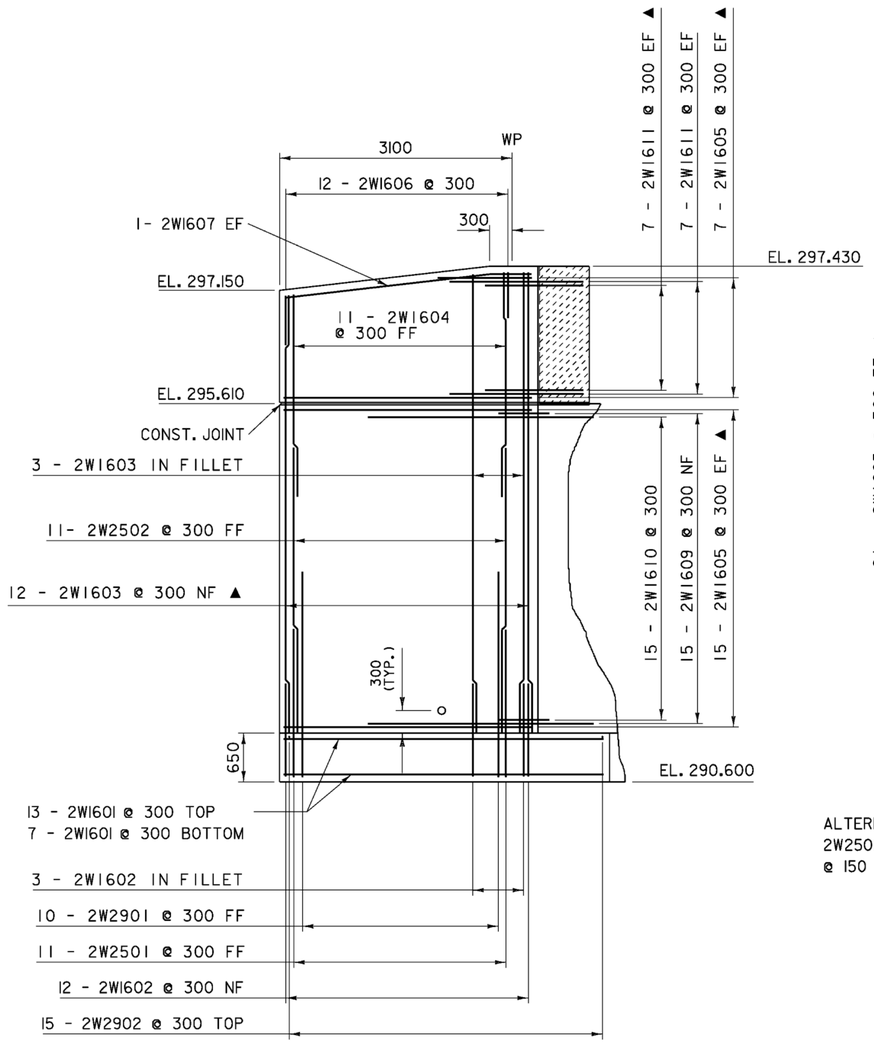
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 COVER UNLESS
OTHERWISE SPECIFIED ON THE PLANS.
660 MIN. LAP SPLICE UNLESS
OTHERWISE SPECIFIED ON THE PLANS.

SUBSTRUCTURE
ABUTMENT 2 DETAILS

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445(25)

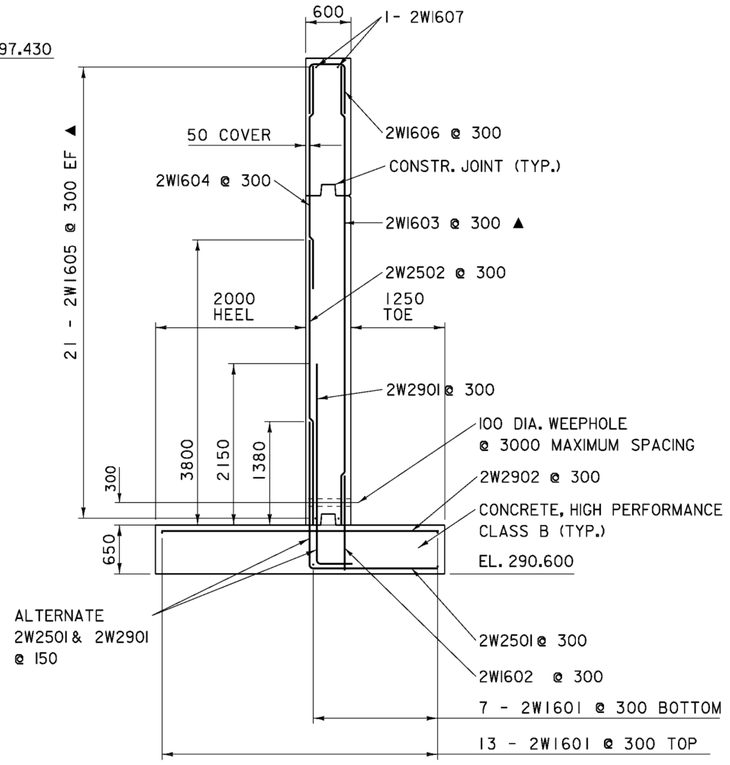
FILE NAME: s96J266str.dgn	PLOT DATE: 29-JAN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: S. SCRIBNER	CHECKED BY: R. WHITCOMB
SUBSTRUCTURE ABUTMENT 2 DETAILS	SHEET 39 OF 58



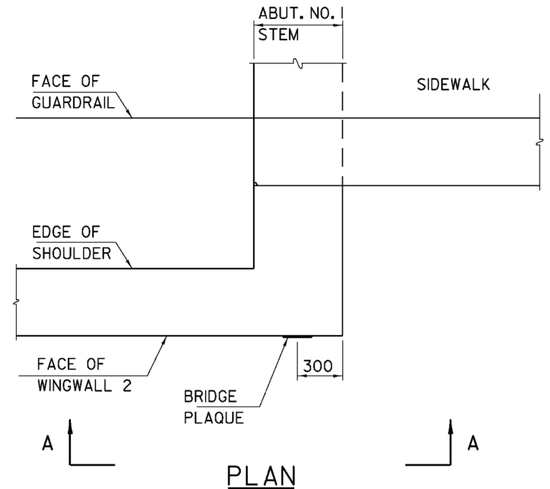
WINGWALL 2 ELEVATION

0 1 2 3 4

SCALE = 1:40

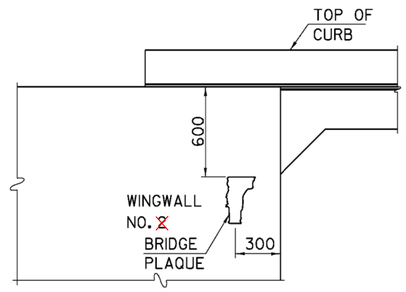


WINGWALL 2 TYPICAL



PLAN

NOT TO SCALE



VIEW "A-A"
LOCATE BENCH MARK AND BRIDGE PLAQUE

NOT TO SCALE

THE BRIDGE PLAQUE WILL BE SUPPLIED BY
THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY
THE CONTRACTOR AS SHOWN OR AS DIRECTED BY THE ENGINEER.

NOTES:

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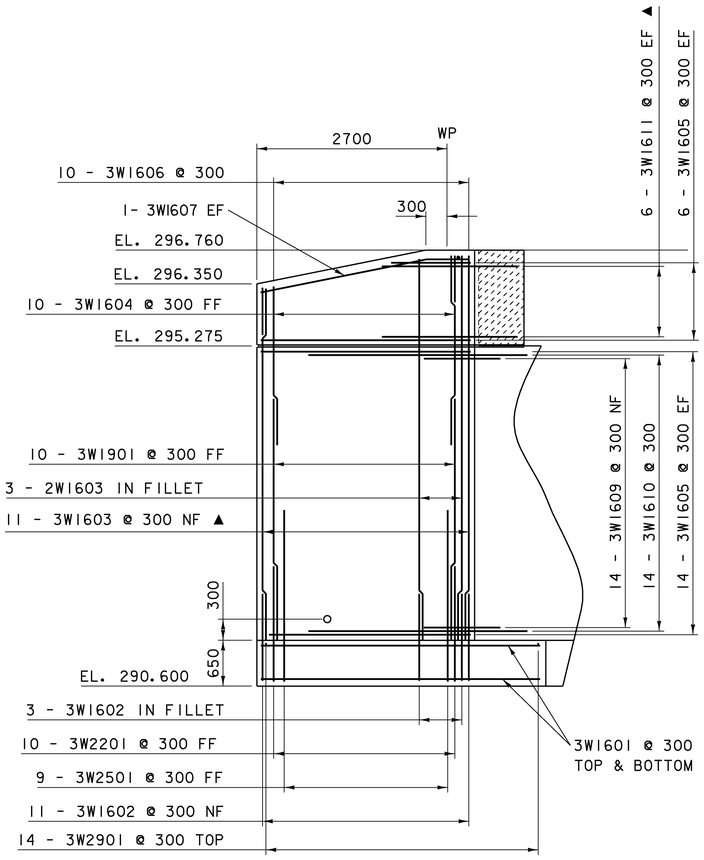
SUBSTRUCTURE
WINGWALL 2 DETAILS

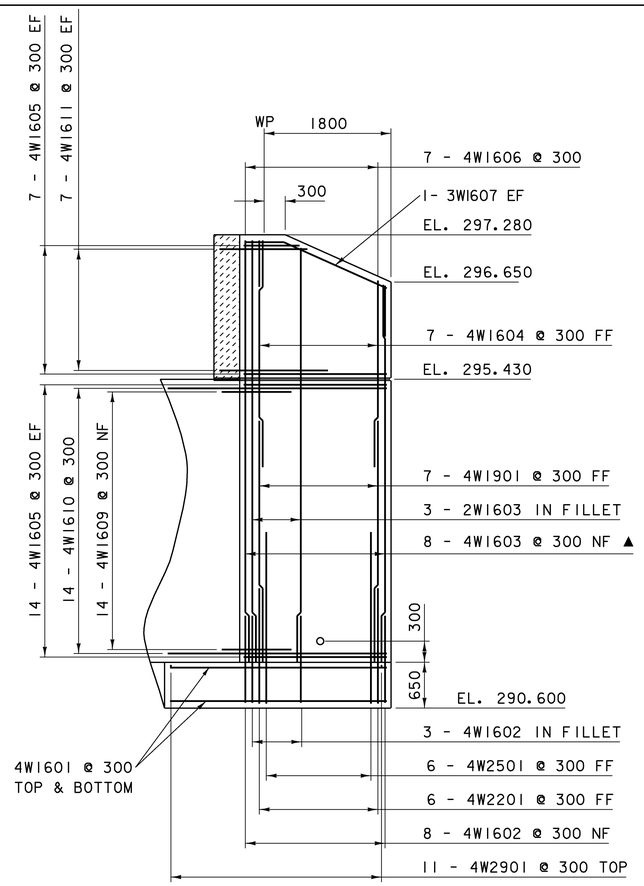
PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445(25)

FILE NAME: s96j266str.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
SUBSTRUCTURE WINGWALL 2 DETAILS

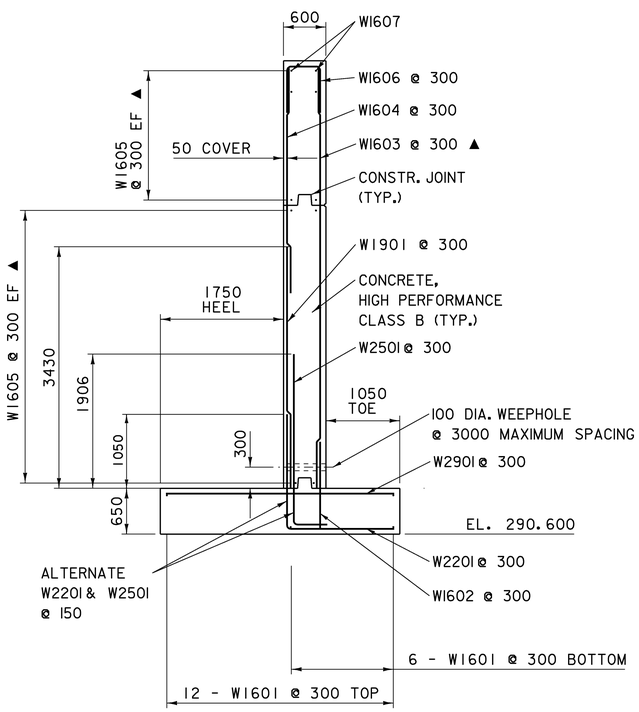
PLOT DATE: 29-JAN-2009
DRAWN BY: C. MOONEY
CHECKED BY: R. WHITCOMB
SHEET 40 OF 58



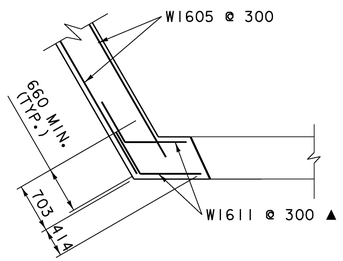
WINGWALL 3 ELEVATION



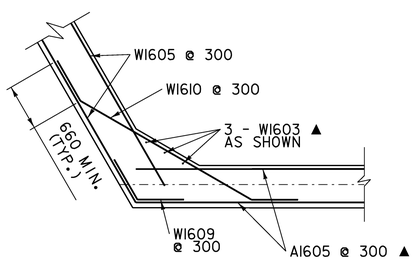
WINGWALL 4 ELEVATION



WINGWALLS 3 & 4
TYPICAL SECTION



WINGWALL
CORNER REINFORCING
ABOVE BRIDGE SEAT



WINGWALL
CORNER REINFORCING
BELOW BRIDGE SEAT

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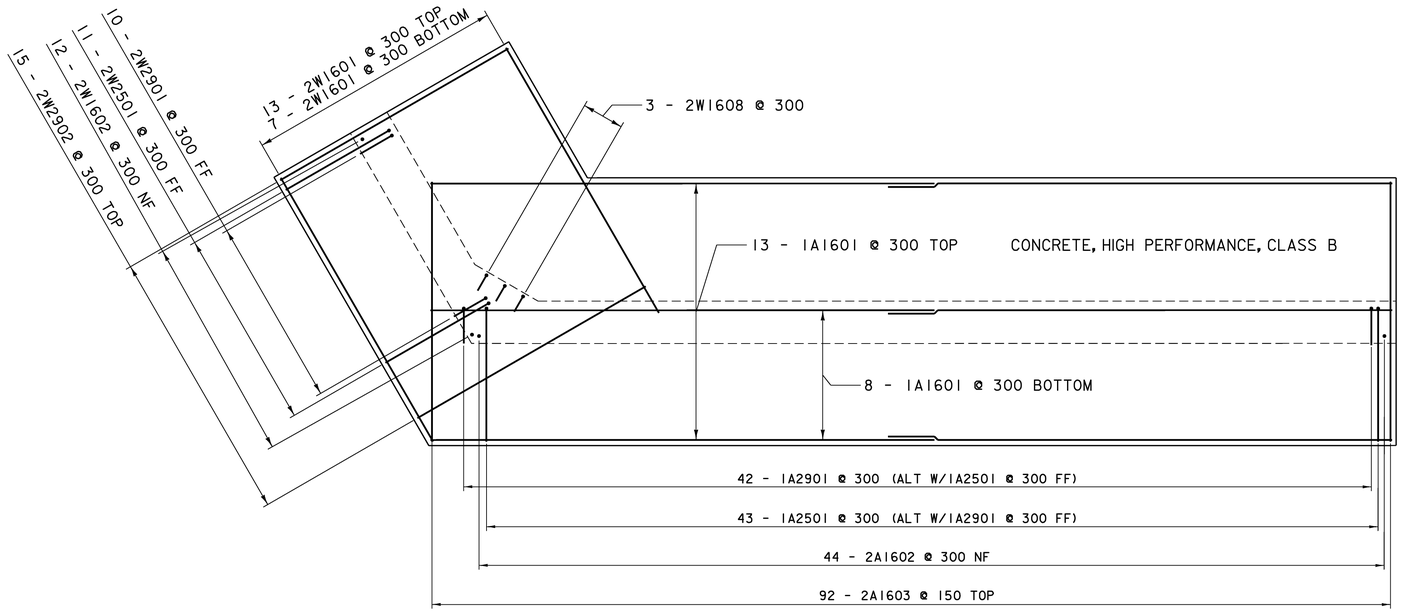
660 MIN. LAP SPLICE UNLESS
OTHERWISE SPECIFIED ON THE PLANS.

SUBSTRUCTURE
WINGWALLS 3 & 4 DETAILS

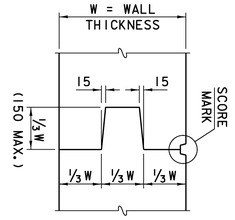
PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445(25)

FILE NAME: s96j266str.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
SUBSTRUCTURE WINGWALLS 3&4 DETAILS

PLOT DATE: 29-JAN-2009
DRAWN BY: C. MOONEY
CHECKED BY: R. WHITCOMB
SHEET 41 OF 58

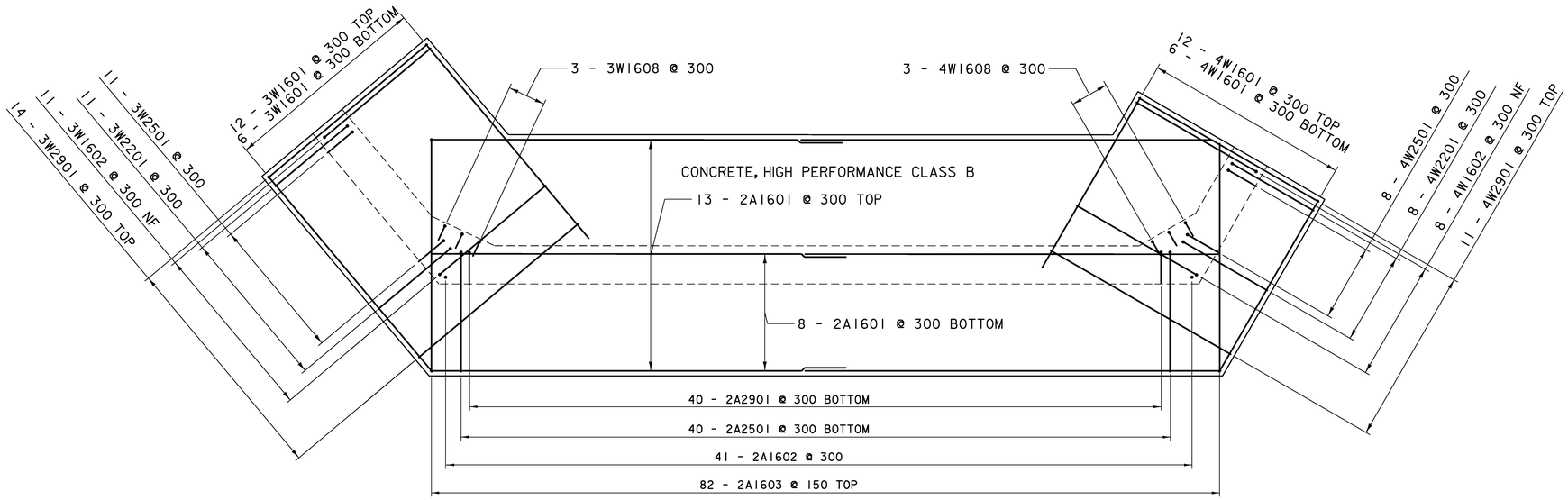


ABUTMENT 1 FOOTING REINFORCING PLAN



TYPICAL CONCRETE CONSTRUCTION JOINT

NOT TO SCALE



ABUTMENT 2 FOOTING REINFORCING PLAN

0 1 2 3 4

SCALE = 1:40

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660 MIN. LAP SPLICE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SUBSTRUCTURE FOOTING PLAN

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445(25)

FILE NAME: s96J266str.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
SUBSTRUCTURE FOOTING PLAN

PLOT DATE: 29-JAN-2009
DRAWN BY: C. MOONEY
CHECKED BY: R. WHITCOMB
SHEET 42 OF 58

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

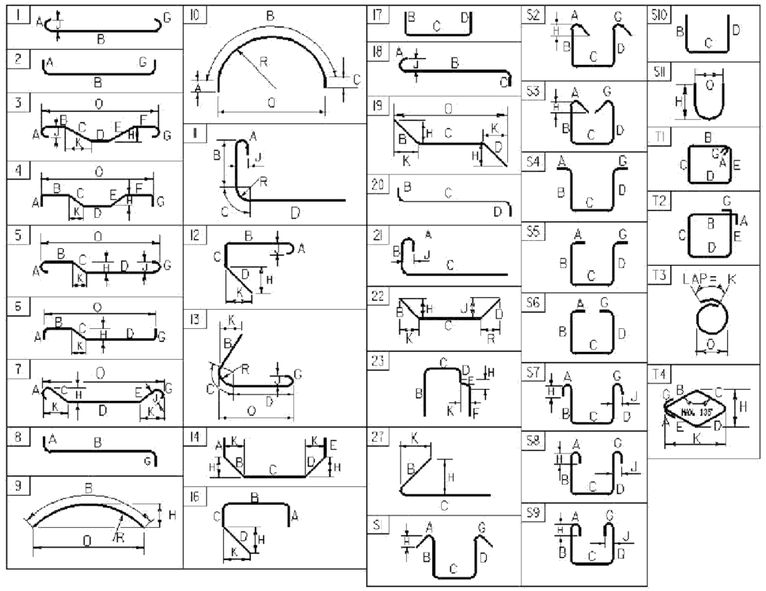
Metric

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	DECK																
	195	16	9280	ES1601	STR												
▲	178	16	9050	ES1602	STR												
	178	16	1560	ES1603	S5	155	410	430	410			155					
✳	90	16	3060	ES1604	S5	155	455	1880	415			155					
▲	16	16	10000	ES1605	STR												
	60	16	3240	ES1606	S5	155	1390	150	1390			155					
	50	16	1430	ES1607	16	175	450	205	600				425		425		
✳	5	16	7310	ES1608	STR												
+	79	19	9280	ES1902	STR												
✳ ▲	109	19	9050	ES1901	STR												
△	28	25	920	ES2501	22		460	460	-				325	-	325	-	
	APPROACH SLAB NO.1																
✳	41	16	7140	1AS1601	STR												
+	24	16	5850	1AS1602	STR												
△	29	29	6225	1AS2901	1	375	5850					-		300			
	APPROACH SLAB NO.2																
▲	40	16	9690	2AS1601	STR												
▲	27	16	5850	2AS1602	STR												
✳	3	16	4790	2AS1603	9		4790						270			10575	4745
+	3	16	5450	2AS1604	9		5450						335			11075	5395
△ ▲	29	29	6225	2AS2901	1	375	5850					-					
▲	4	29	450	2AS2902	STR												
	ABUTMENT NO 1																
	42	16	6905	1A1601	STR												
+	45	16	1235	1A1602	STR												
	92	16	3650	1A1603	STR												
▲	45	16	4440	1A1604	STR												
	64	16	6820	1A1605	STR												
✳	22	16	2450	1A1606	STR												
	43	16	1795	1A1607	S10		660	475	660								
+	44	25	3550	1A2501	17		1625	1925	-								
+ ▲	45	25	4440	1A2502	STR												
△	44	29	3145	1A2901	2	475	2670					-					
	WING WALL NO.1																
▲	12	16	1745	1W1605	STR												
	2	16	1580	1W1607	STR												
	WING WALL NO.2																
	20	16	4325	2W1601	STR												
	12	16	1235	2W1602	STR												
▲	15	16	6145	2W1603	STR												
▲	11	16	3005	2W1604	STR												
▲	44	16	3370	2W1605	STR												
	12	16	1795	2W1606	S10		660	475	660								
	2	16	2750	2W1607	STR												
	3	16	1485	2W1608	2	250	1235					-					
	15	16	1320	2W1609	22		660	660	-				570	-	330	-	
	15	16	4200	2W1610	22		660	2880	660				570	570	330	330	
	14	16	1260	2W1611	22		370	890	-				320	-	185	-	
	11	25	3650	2W2501	17		1725	1925	-								

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	11	25	3800	2W2502	STR												
	10	29	3200	2W2901	2	475	2725					-					
	15	29	3700	2W2902	STR												
	ABUTMENT NO. 2																
	42	16	6410	2A1601	STR												
+	42	16	1235	2A1602	STR												
	82	16	3650	2A1603	STR												
▲	47	16	4030	2A1604	STR												
	56	16	6250	2A1605	STR												
+	14	16	2475	2A1606	STR												
	40	16	1795	2A1607	S10		660	475	660								
✳	41	25	3550	2A2501	17		1625	1925	-								
+ ▲	47	25	3950	2A2502	STR												
△	42	29	3145	2A2901	2	475	2670					-					
	WING WALL NO. 3																
	18	16	3950	3W1601	STR												
	14	16	1235	3W1602	STR												
▲	14	16	5465	3W1603	STR												
	10	16	2635	3W1604	STR												
	40	16	2940	3W1605	STR												
	10	16	1795	3W1606	S10		660	475	660								
	2	16	2380	3W1607	STR												
	3	16	1485	3W1608	2	250	1235					-					
	14	16	1320	3W1609	22		660	660	-				505	-	425	-	
	14	16	4570	3W1610	22		660	3250	660				505	505	425	425	
	12	16	1850	3W1611	22		925	925	-				710	-	595	-	
	10	19	3430	3W1901	STR												
+	11	22	3150	3W2201	17		1625	1525	-								
	9	25	2905	3W2501	2	425	2480					-					
	14	29	3250	3W2901	STR												
	WING WALL NO.4																
	18	16	3065	4W1601	STR												
	11	16	1235	4W1602	STR												
▲	11	16	5995	4W1603	STR												
	7	16	3165	4W1604	STR												
	42	16	1995	4W1605	STR												
	7	16	7775	4W1606	S10		660	475	6640								
	2	16	1580	4W1607	STR												
	3	16	1485	4W1608	2	250	1235					-					
	14	16	1320	4W1609	22		660	660					570	-	330	-	
	14	16	3905	4W1610	22		660	2880	365				570	315	330	185	
	14	16	1260	4W1611	22		630	630	-				545	-	315	-	
	7	19	3430	4W1901	STR												
	6	22	3150	4W2201	17		1625	1525	-								
	6	25	2905	4W2501	2	425	2480					-					
	11	29	3250	4W2901	STR												

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



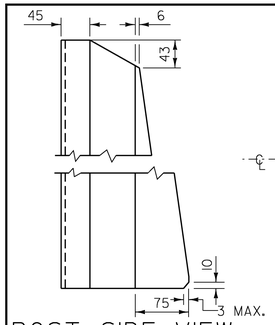
ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL MASS (Kg/m)	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER (mm)	CROSS SECTIONAL AREA (mm²)	PERIMETER (mm)
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	15.9	199	49.95
#19	2.235	19.1	284	60.00
#22	3.042	22.2	387	69.74
#25	3.973	25.4	510	79.80
#29	5.060	28.7	645	90.16
#32	6.404	32.3	819	101.47
#36	7.907	35.8	1006	112.47
#43	11.380	43.0	1452	135.09
#57	20.240	57.3	2581	180.01

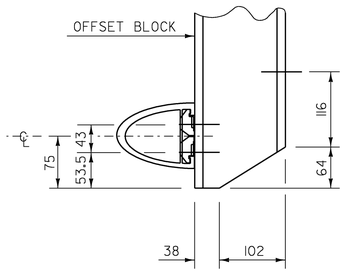
PROJECT NAME: **Lincoln**
PROJECT NUMBER: **BRO1445(25)**

FILE NAME: s96j266rss.xls
PROJECT MANAGER: R. Whitcomb
DESIGNED BY: S. Scribner
REINFORCING STEEL SCHEDULE SHEET

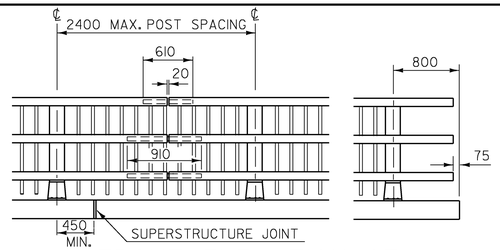
PLOT DATE: 1/16/2009
DRAWN BY: T. Lackey
CHECKED BY: R. Whitcomb
SHEET 43 OF 58



POST SIDE VIEW

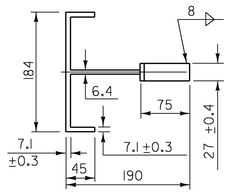


COPING DETAIL

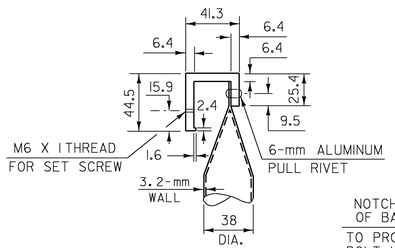


FRONT ELEVATION OF THREE RAIL WITH SPINDLES

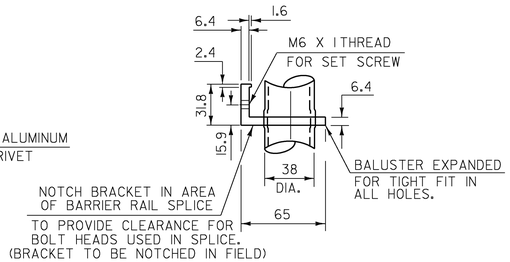
NOTE : RAIL POSTS ARE TO BE SET NORMAL TO GRADE UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS. ALL DIMENSIONS ARE TYPICAL UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS.



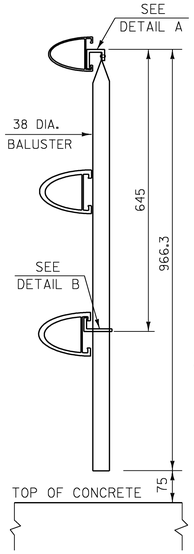
POST PLAN VIEW



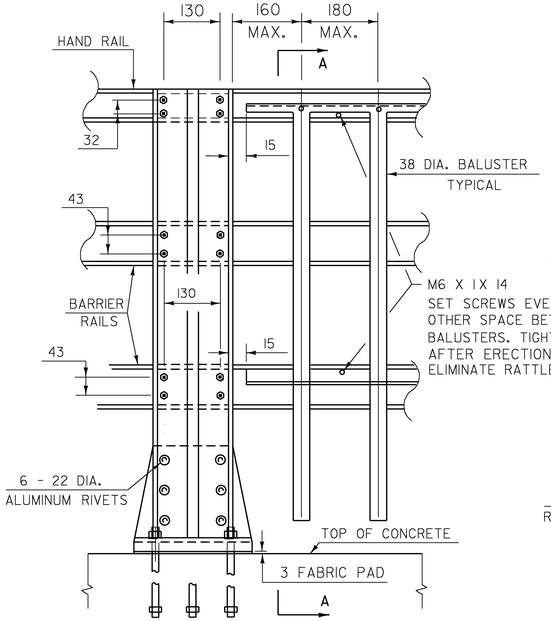
DETAIL A



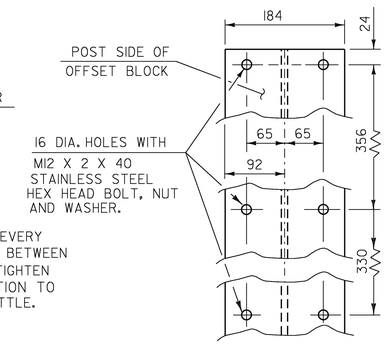
DETAIL B



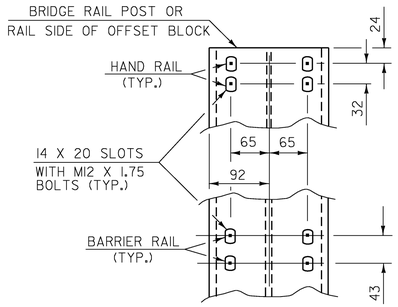
SECTION AA



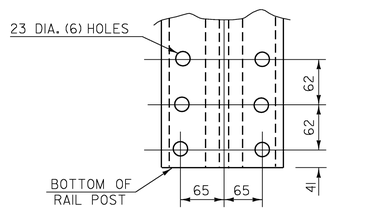
OUTSIDE ELEVATION OF THREE RAIL POST & SPINDLES



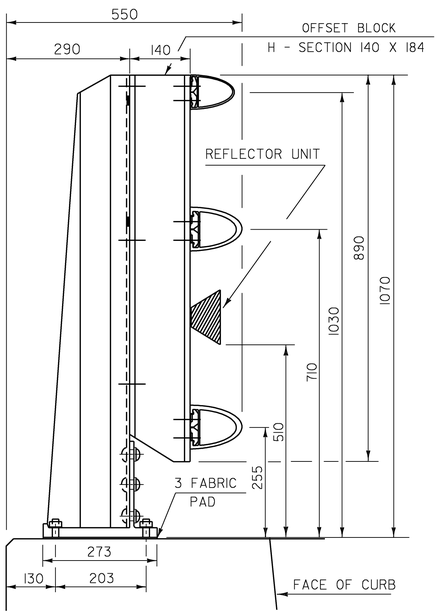
OFFSET BLOCK CONNECTION



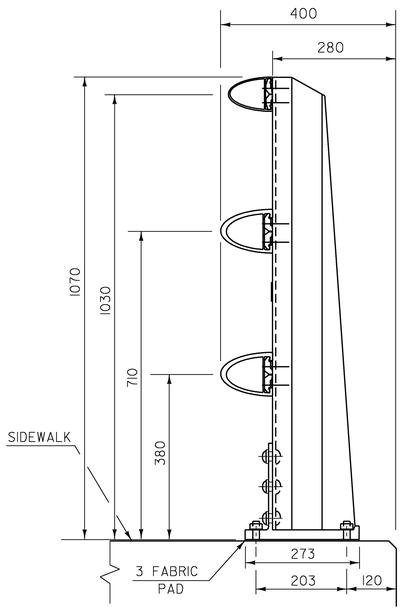
RAIL CONNECTION



POST BASE
BOLT HOLE DETAILS



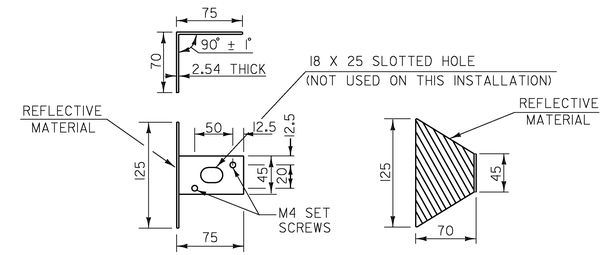
SIDE ELEVATION OF THREE RAIL TO BE USED ON CURB SIDE



SIDE ELEVATION OF THREE RAIL TO BE USED ON SIDEWALK SIDE

RAIL POST DETAILS ON SUPERSTRUCTURE

DETAILS OF SPINDLES FOR ALUMINUM RAILING



REFLECTOR DETAILS

NOTES

1. THIS REFLECTORIZED ALUMINUM DELINEATOR IS TO BE ERECTED EVERY 9 m (OR CLOSEST POST) WITH 2-M4 X 0.7 X 20 SET SCREWS.

2. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B 209M ALLOY 5052-H32.

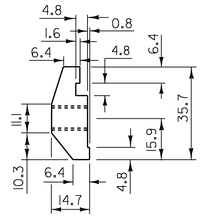
3. RETROREFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER.

4. ON BRIDGES WITH A SIDEWALK, DELINEATORS ARE NOT TO BE INSTALLED ON THE SIDEWALK SIDE OF THE BRIDGE (IE. DELINEATORS INSTALLED ONLY ON THE CURB SIDE AND ON THE APPROACH RAIL ON THE CURB SIDE).

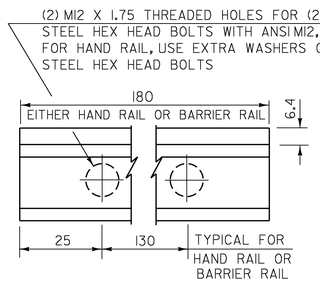
5. PAYMENT SHALL BE INCIDENTAL TO APPLICABLE 900.640 SPECIAL PROVISION ITEMS.

ALUMINUM BRIDGE RAILING DETAILS 1

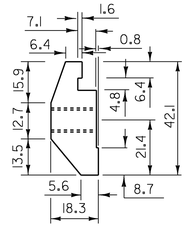
PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)
FILE NAME: s96j266rail.dgn	PLOT DATE: 29-JAN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: T.LACKEY
ALUMINUM BRIDGE RAILING DETAILS 1	SHEET 44 OF 58



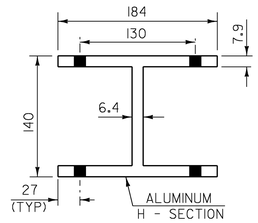
POST CONNECTION HAND RAIL SECTION



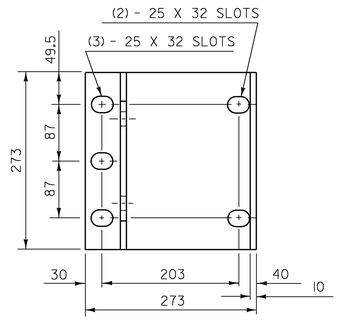
POST CONNECTION ELEVATION



POST CONNECTION BARRIER RAIL SECTION



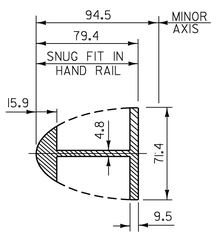
PLAN VIEW OF OFFSET BLOCK (TO BE USED ON SUPERSTRUCTURE ON CURB SIDE)



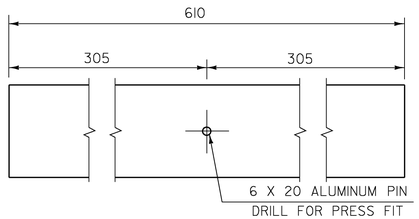
POST BASE PLAN

NOTES

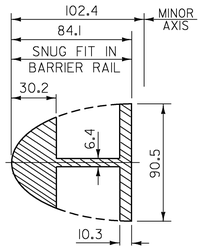
1. ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO SUBSECTION 714.07.
2. ALUMINUM POSTS, POST BASES, SPLICE BARS, OFFSET BLOCKS, CONNECTION BARS, RAILS, AND BALUSTER FRAMES SHALL CONFORM TO ASTM B 221M ALLOY 6061-T6 OR ALLOY 6351-T5. MINIMUM YIELD STRNGTH Fy = 240 MPa.
3. ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B 210M ALLOY 6061-T4 OR 6063-T4.
4. ALUMINUM RAIL END CAPS SHALL CONFORM TO ASTM B 26/B 26M ALLOY 356-T6.
5. THE POST, RAIL, AND OFFSET BLOCK CONNECTION BOLTS AND SET SCREWS SHALL CONFORM TO SUBSECTION 732.02 (b).
6. THE ANCHOR PLATE FOR THE POST ANCHOR ASSEMBLY SHALL BE AASHTO M 270M/M 270 GRADE 250 OR HIGHER STRUCTURAL STEEL.
7. WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10.
8. UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS SHALL BE CAST INTO THE CONCRETE AS DETAILED.
9. WHENEVER FEASIBLE, BARRIER RAIL AND HAND RAIL SECTIONS SHALL BE FULL LENGTH SECTIONS (12 m +) AND WHEN PRACTICAL SHALL BE ATTACHED TO THREE POSTS. RAILS SHALL BE SPLICED AT EACH DECK JOINT AND INTERMITTENTLY AS REQUIRED. SPLICES SHALL OCCUR WITHIN THE SAME PANEL.
10. ENDS OF RAILS SHALL BE CUT SQUARE AND GROUND FREE OF BURRS OR RAGGED EDGES. EXPOSED ENDS SHALL BE CAPPED.
11. THE CONCRETE CONTACT SURFACE AT THE POST BASE SHALL BE BUSH HAMMERED AND/OR SHIMMED AS REQUIRED FOR PROPER POST ALIGNMENT. POST HEIGHT ADJUSTMENTS LESS THAN 6 mm SHALL BE WITH 2-mm AND 3-mm SHIMS. CORRECTIONS EXCEEDING 6 mm SHALL BE WITH EPOXY MORTAR. FABRIC BEARING PADS AND ANY REQUIRED SHIMS OR EPOXY MORTAR ARE INCIDENTAL TO THE UNIT PRICE BID FOR THE RAILING.
12. SHIMS AND 3-mm FABRIC BEARING PADS SHALL BE 273 mm SQUARE WITH SLOTTED HOLES SIZED AND LOCATED THE SAME AS THE POST BASE DETAIL. FABRIC BEARING PADS SHALL CONFORM TO SUBSECTION 731.01 OR 731.02, SHIM MATERIAL SHALL BE ASTM B 209M ALLOY 1100-0.
13. EXTRUDED SECTIONS ARE DETAILED TO COMPLY WITH CURRENT AASHTO-AGC-ARTBA STANDARDS. MINOR VARIATIONS OF THE DETAILS SHOWN MAY BE CONSIDERED PROVIDING THEY DO NOT REDUCE THE STRENGTH CAPACITY OF THE RAIL SYSTEM.
14. ALUMINUM WASHERS SHALL BE ASTM B209M ALLOY ACLAD 2024-T4.
15. THE RAILING SYSTEM AND ASSOCIATED HARDWARE SHALL BE ANODIZED TO A BLACK SATIN FINISH, SEE SPECIAL PROVISIONS.



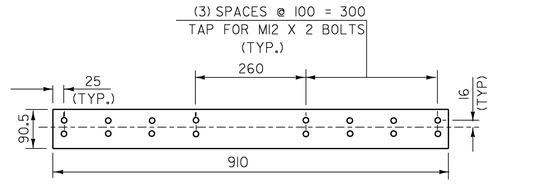
HAND RAIL SPLICE SECTION



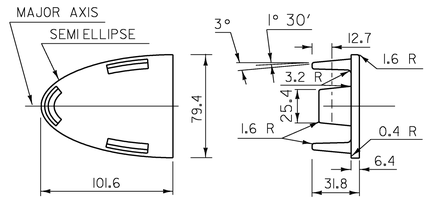
ELEVATION OF HAND RAIL SPLICE BAR



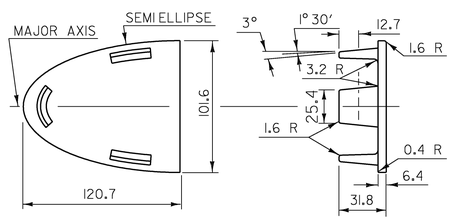
BARRIER RAIL SPLICE SECTION



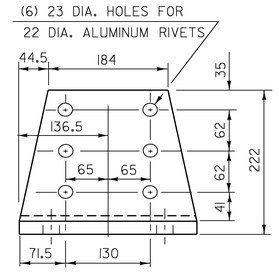
ELEVATION OF STD. BARRIER RAIL SPLICE BAR (FROM BACK)



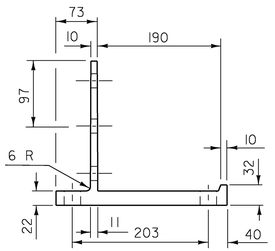
HAND RAIL END CAP



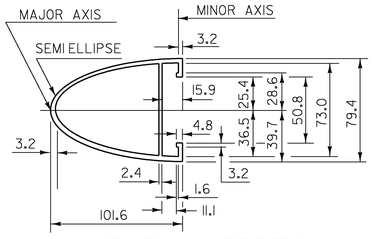
BARRIER RAIL END CAP



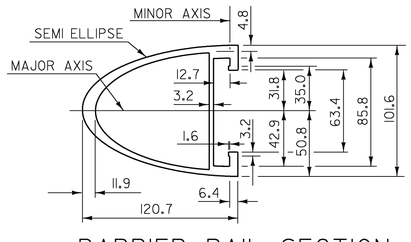
POST BASE FRONT ELEVATION



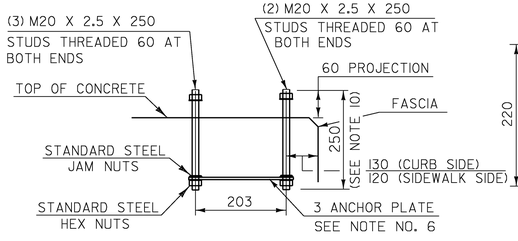
POST BASE SECTION



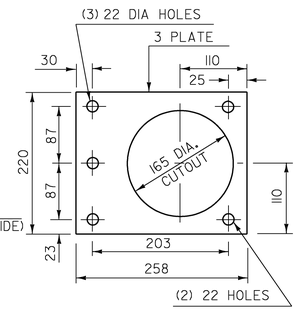
HAND RAIL SECTION



BARRIER RAIL SECTION
(SEE NEXT SHEET FOR ELEVATION OF BARRIER RAIL)



POST ANCHOR ASSEMBLY

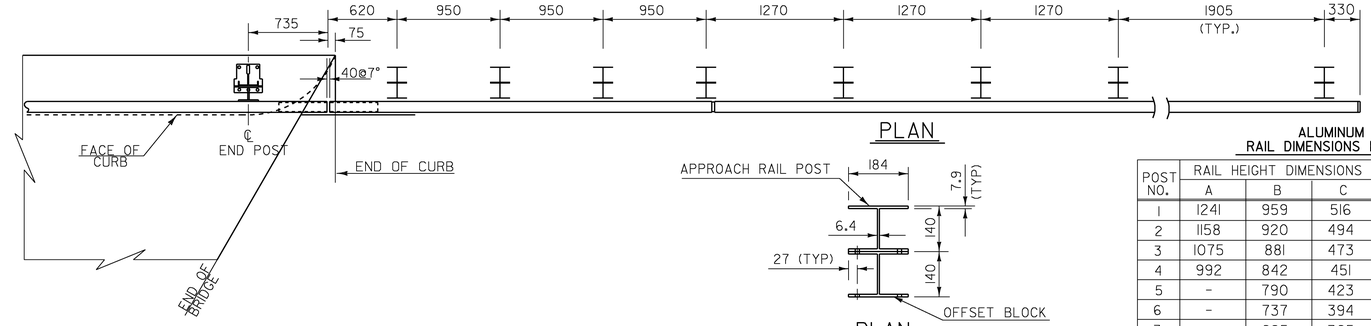


ANCHOR PLATE

ALUMINUM BRIDGE RAILING DETAILS 2

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)

FILE NAME: s96j266rail.dgn	PLOT DATE: 29-JAN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: T. LACKEY
ALUMINUM BRIDGE RAILING DETAILS 2	SHEET 45 OF 58



PLAN

PLAN

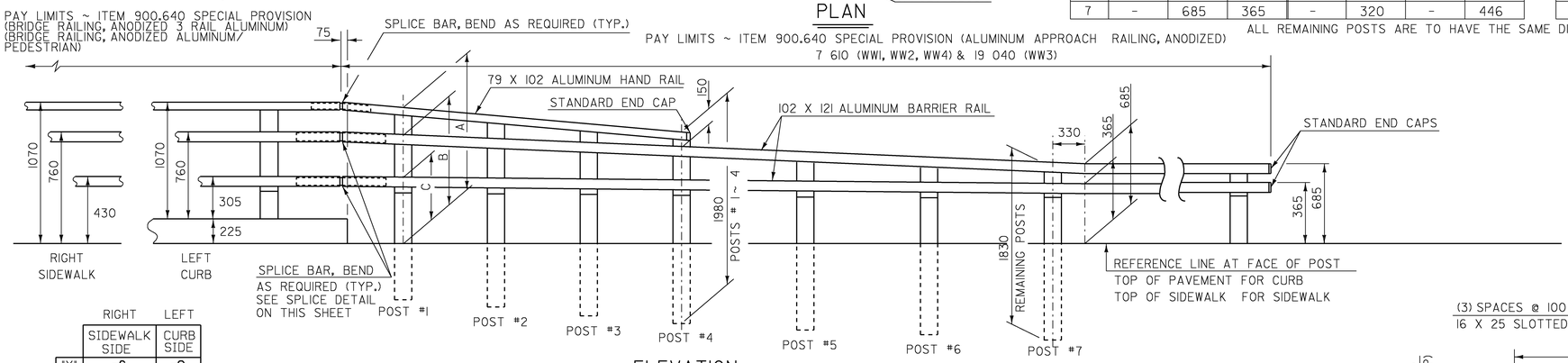
ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A CURB CONDITION

POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	1241	959	516	293	444	851	-
2	1158	920	494	249	426	789	-
3	1075	881	473	205	408	728	-
4	992	842	451	162	391	667	-
5	-	790	423	-	367	-	493
6	-	737	394	-	344	-	470
7	-	685	365	-	320	-	446

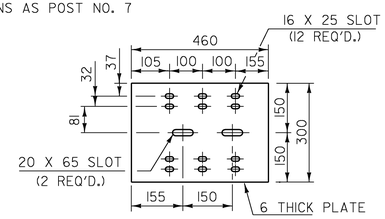
ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A SIDEWALK CONDITION

POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	1035	754	424	293	329	737	-
2	981	744	416	249	328	691	-
3	928	734	408	205	327	646	-
4	874	724	399	162	325	601	-
5	-	711	388	-	323	-	449
6	-	698	376	-	322	-	448
7	-	685	365	-	320	-	446

ALL REMAINING POSTS ARE TO HAVE THE SAME DIMENSIONS AS POST NO. 7

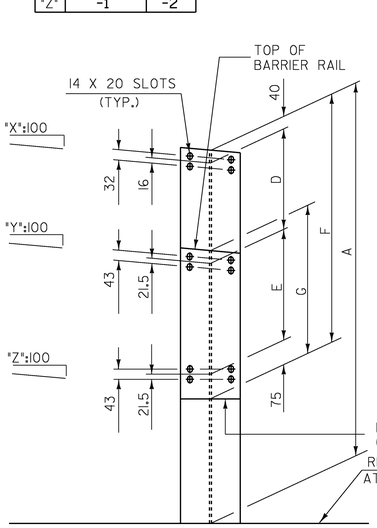


ELEVATION



BACK-UP PLATE DETAILS

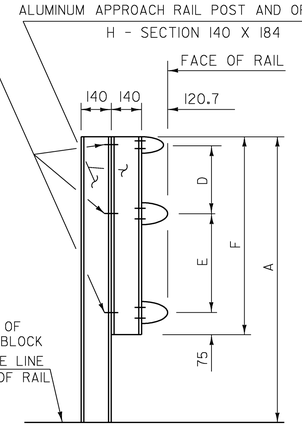
	RIGHT SIDEWALK SIDE	LEFT CURB SIDE
"X"	-6	-9
"Y"	-1	-4
"Z"	-1	-2



FRONT ELEVATION

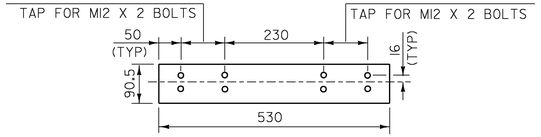
ATTACH OFFSET BLOCK TO POST WITH
M12 X 2 X 40 STAINLESS STEEL
HEX HEAD BOLTS, NUTS AND WASHERS.
6 BOLTS PER POST, POST 1 THRU 4;
4 BOLTS PER POST, POST 5 THRU 7.

ALUMINUM APPROACH RAIL POST AND OFFSET BLOCK
H - SECTION 140 X 184

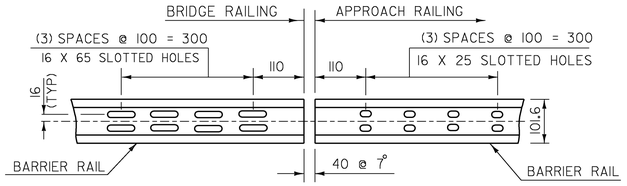


SIDE ELEVATION

APPROACH RAIL DETAILS



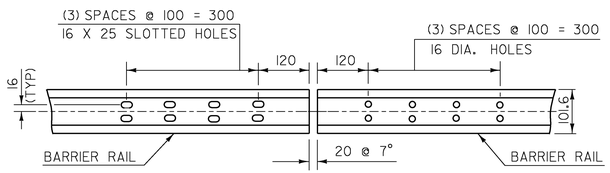
ELEVATION OF BARRIER RAIL SPLICE BAR TO BE USED AT TRANSITION BETWEEN APPROACH RAIL & GUARD RAIL (FROM BACK)



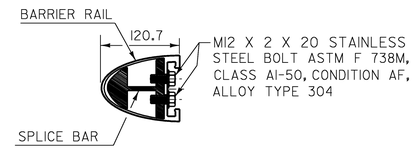
ELEVATION OF BARRIER RAIL (FROM BACK)

NOTES

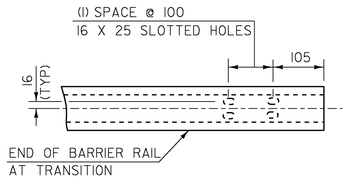
1. POST 1 THROUGH 7 SHALL BE EXTRUDED ALUMINUM.
2. DETAILS ARE SHOWN FOR TRANSITION TO A 3 RAIL ALUMINUM BRIDGE RAILING.
3. DIMENSIONS SHOWN ARE FROM A REFERENCE LINE AT THE FACE OF POST FOR A NORMAL CROWNED SECTION. APPROPRIATE CORRECTIONS SHALL BE MADE FOR CROSS SLOPES OTHER THAN A NORMAL SECTION.



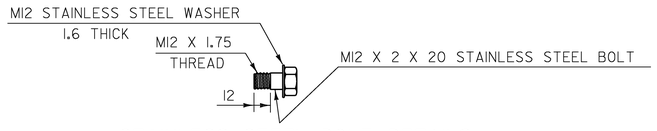
ELEVATION OF BARRIER RAIL (FROM BACK) AT ALL INTERMEDIATE RAIL SPLICES



TYPICAL SECTION THROUGH BARRIER RAIL SPLICE



ELEVATION OF BARRIER RAIL (FROM FRONT) AT TRANSITION

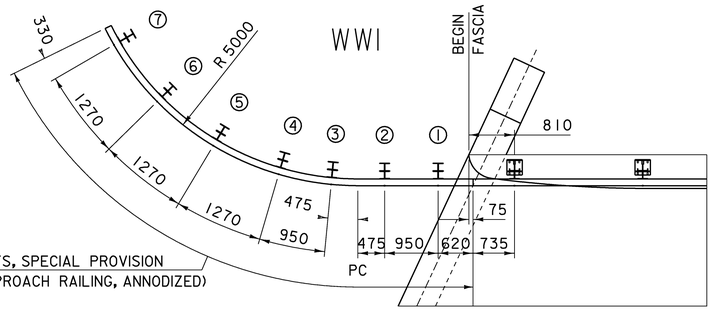


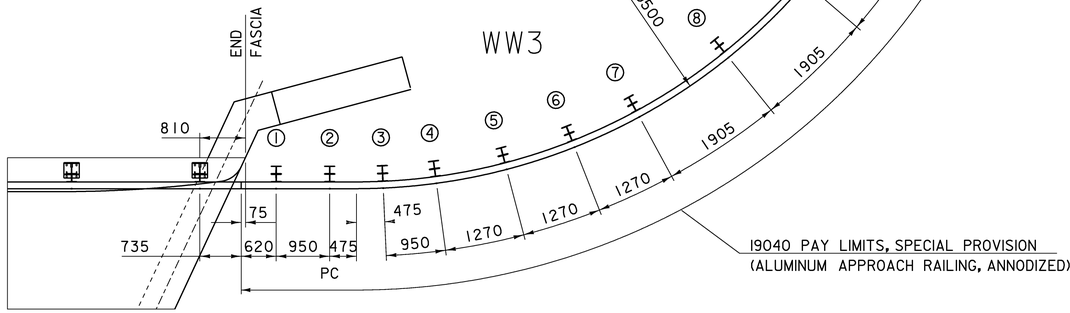
STAINLESS STEEL BOLT DETAILS
(FOR SPLICE BARS)

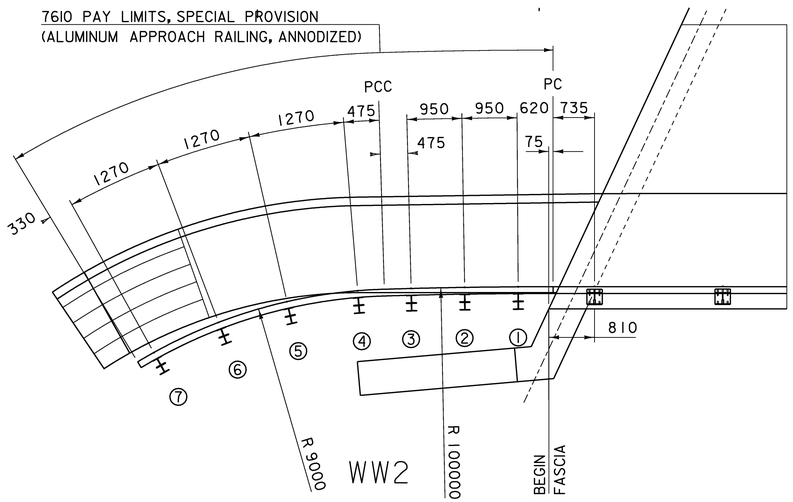
ALUMINUM BRIDGE RAILING DETAILS 3

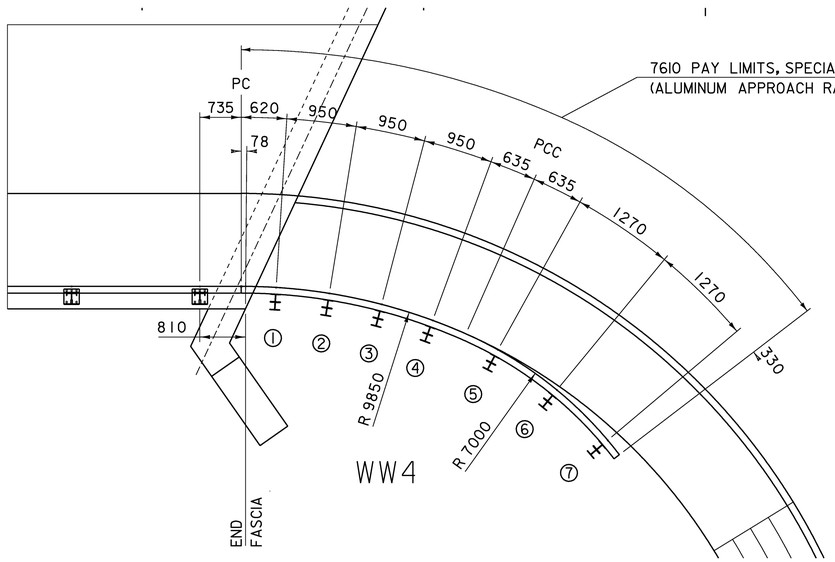
PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)
FILE NAME: s96j266rail.dgn	PLOT DATE: 29-JAN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: T. LACKEY
ALUMINUM BRIDGE RAILING DETAILS 3	SHEET 46 OF 58

Metric









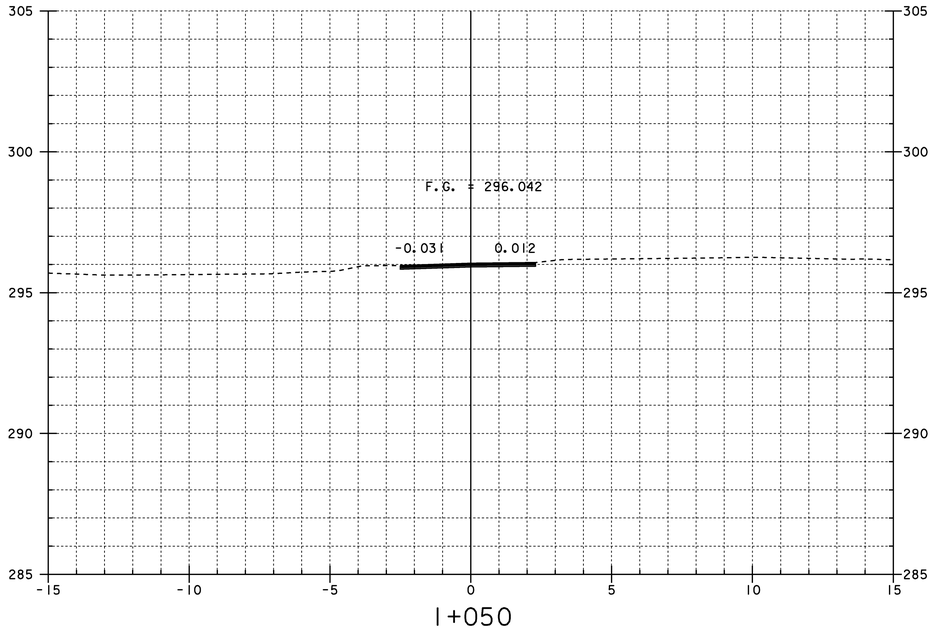
APPROACH RAILING LAYOUT PLAN

0 1 2 3 4 5
SCALE = 1:50

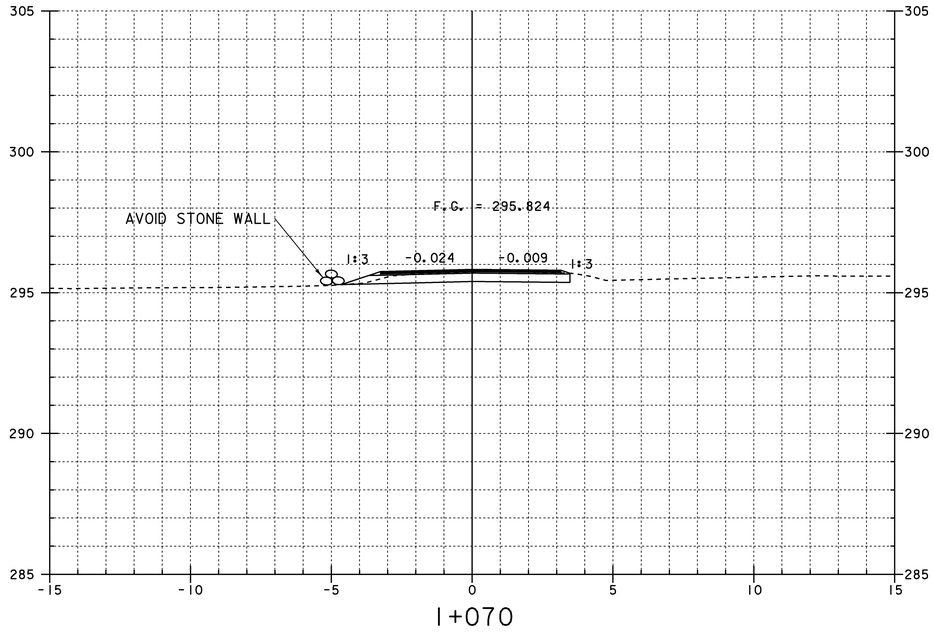
PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266rail.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T.LACKEY
APPROACH RAILING LAYOUT PLAN

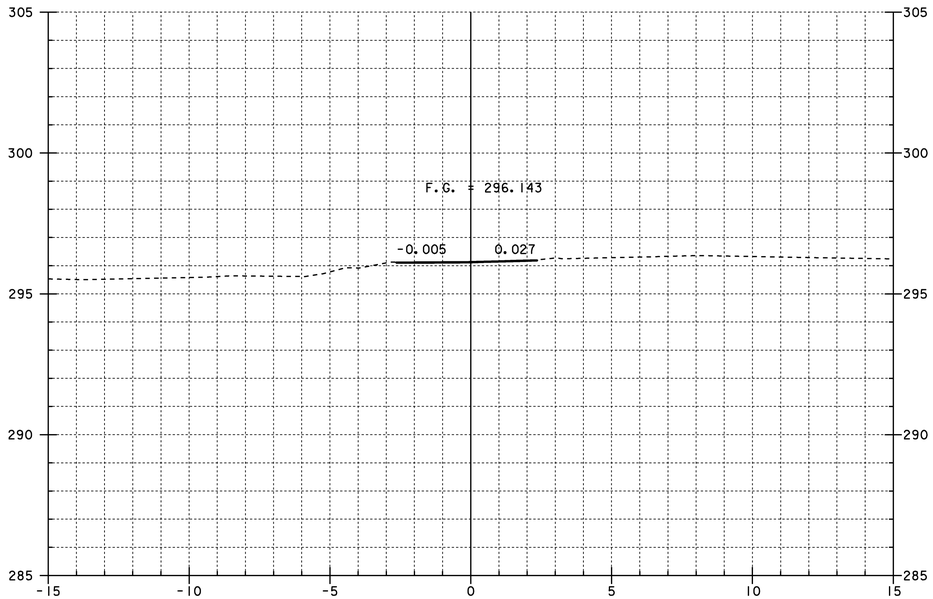
PLOT DATE: 29-JAN-2009
DRAWN BY: C.MOONEY
CHECKED BY: T. LACKEY
SHEET 47 OF 58



1+050

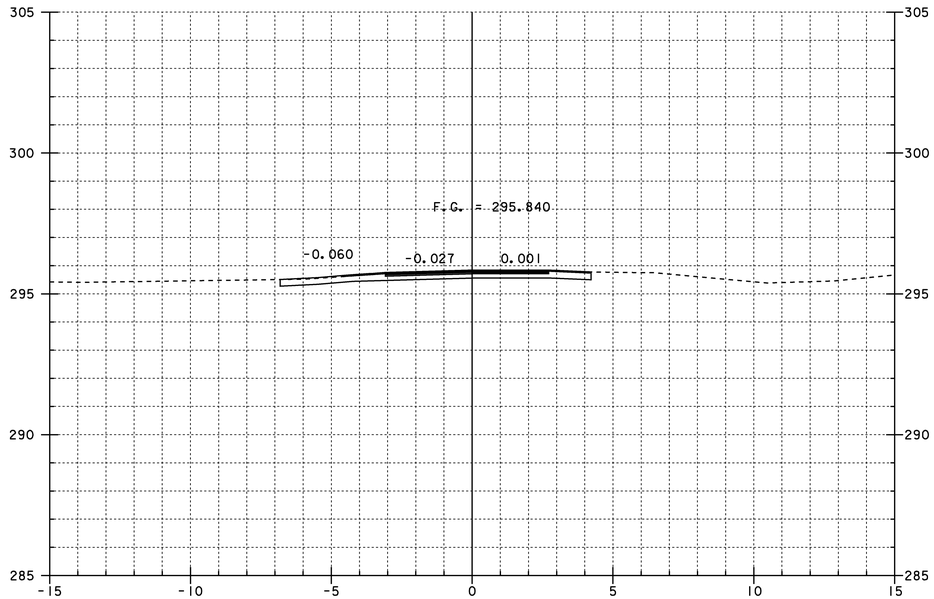


1+070



1+040

STA. 1+040.000
BEGIN APPROACH
MATCH EXISTING



1+060

0 1 2 4 6 8 10

SCALE = 1:100

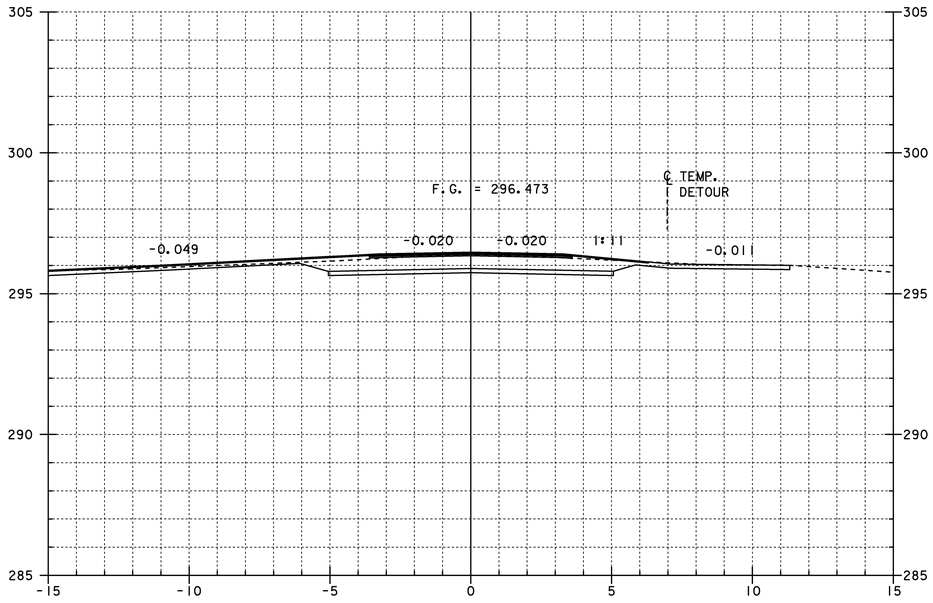
ROADWAY CROSS SECTIONS 1

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96J266xs.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
ROADWAY CROSS SECTIONS 1

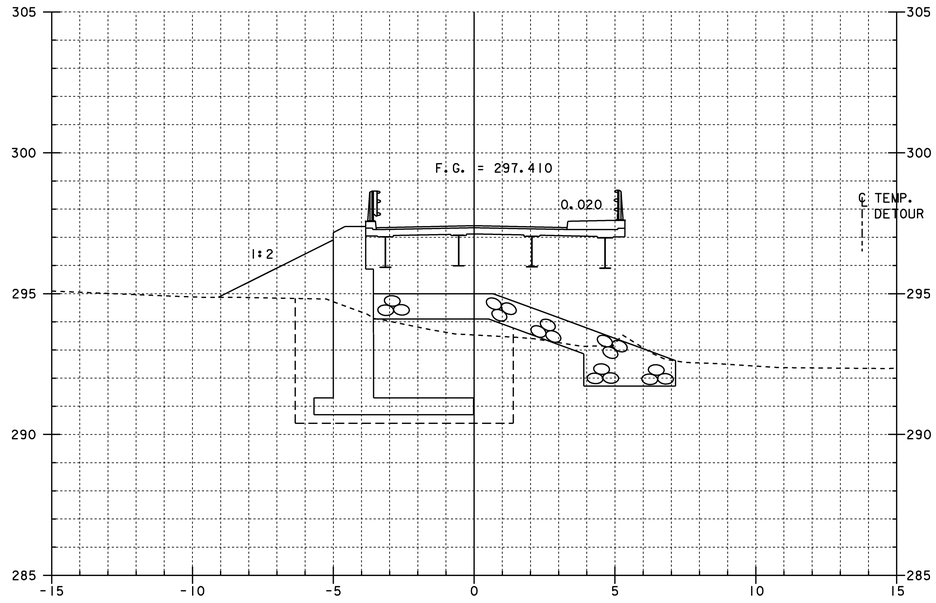
PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 48 OF 58

MDOT Metric



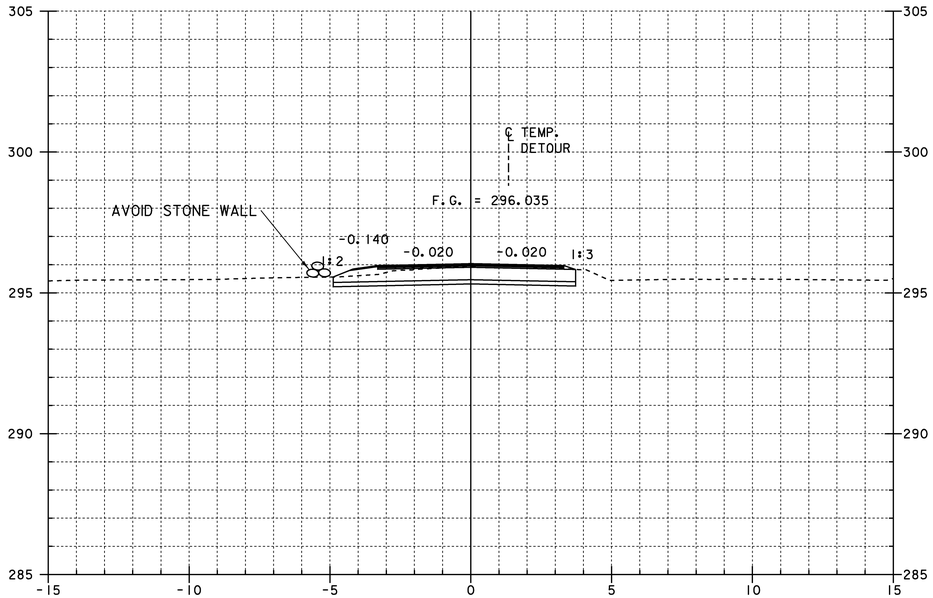
1+090

STA. 1+090 RT. PAVE
2 LIFTS OF TYPE
IVS TO LIMITS SHOWN
ON LAYOUT PLAN SHEET



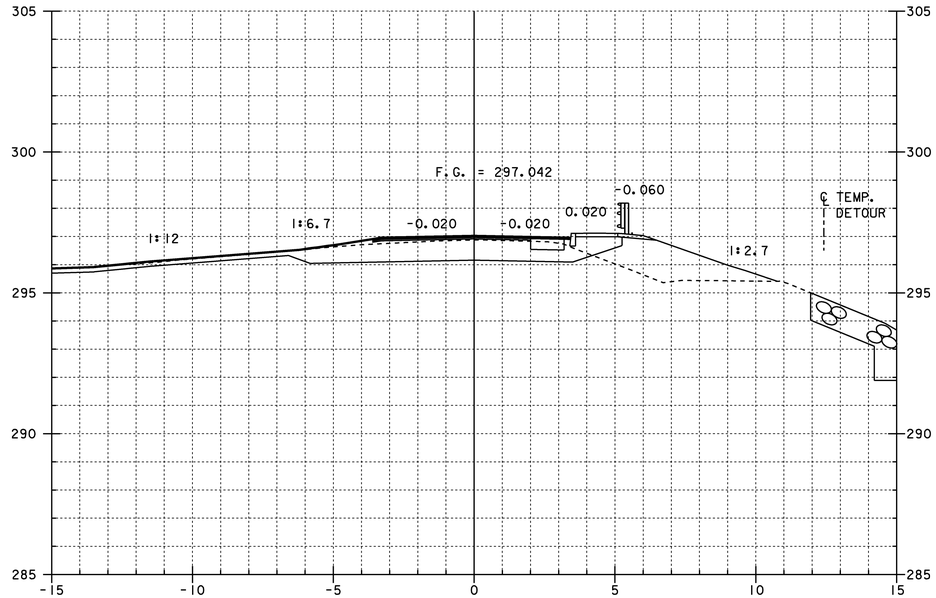
1+110

STA. 1+107.669
END ROADWAY
BEGIN BRIDGE



1+080

BEGIN PROJECT



1+100

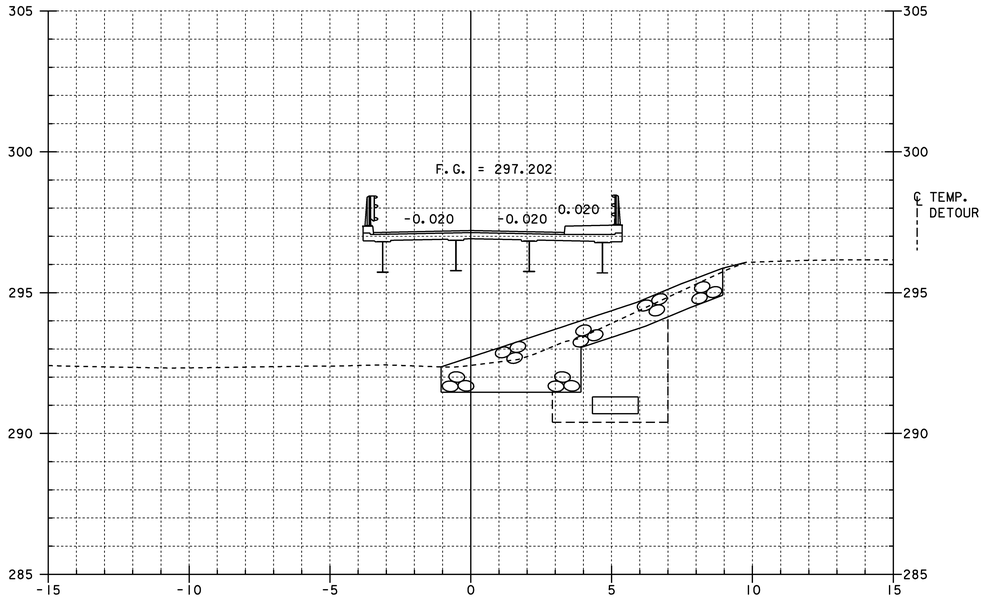
0 1 2 4 6 8 10
SCALE = 1:100

ROADWAY CROSS SECTIONS 2

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

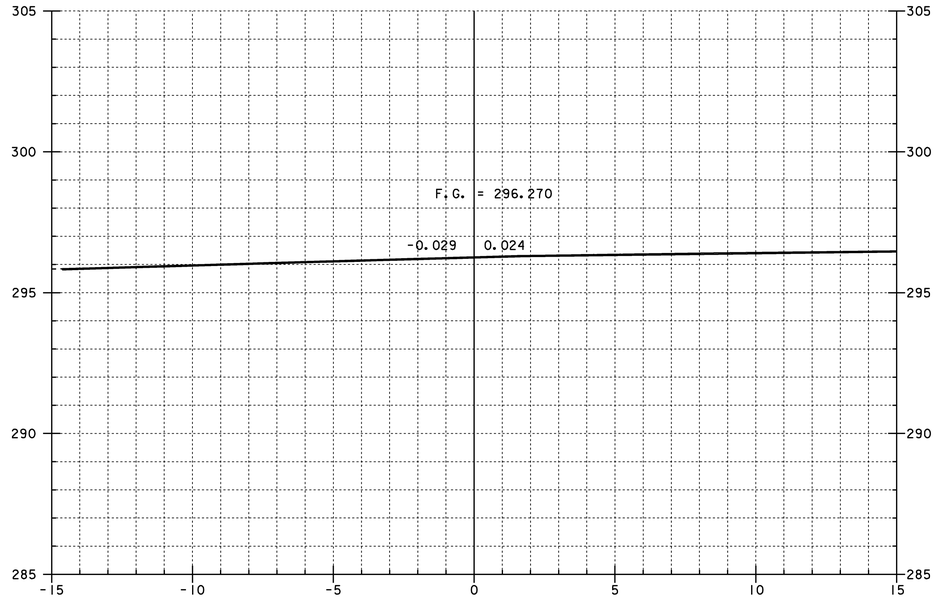
FILE NAME: s96j266xs.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
ROADWAY CROSS SECTIONS 2

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 49 OF 58



1+130

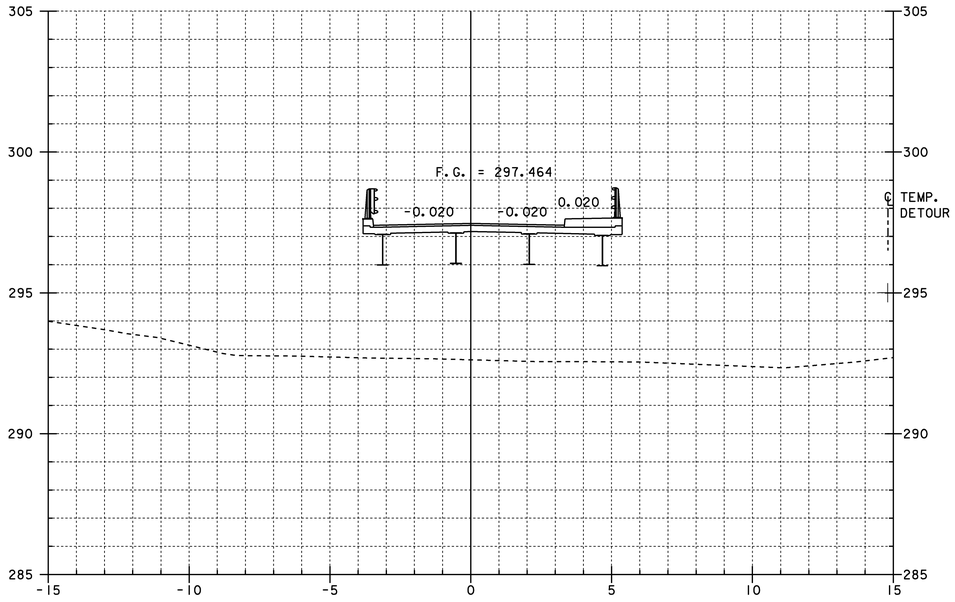
STA. 1+134.332
END BRIDGE
BEGIN ROADWAY



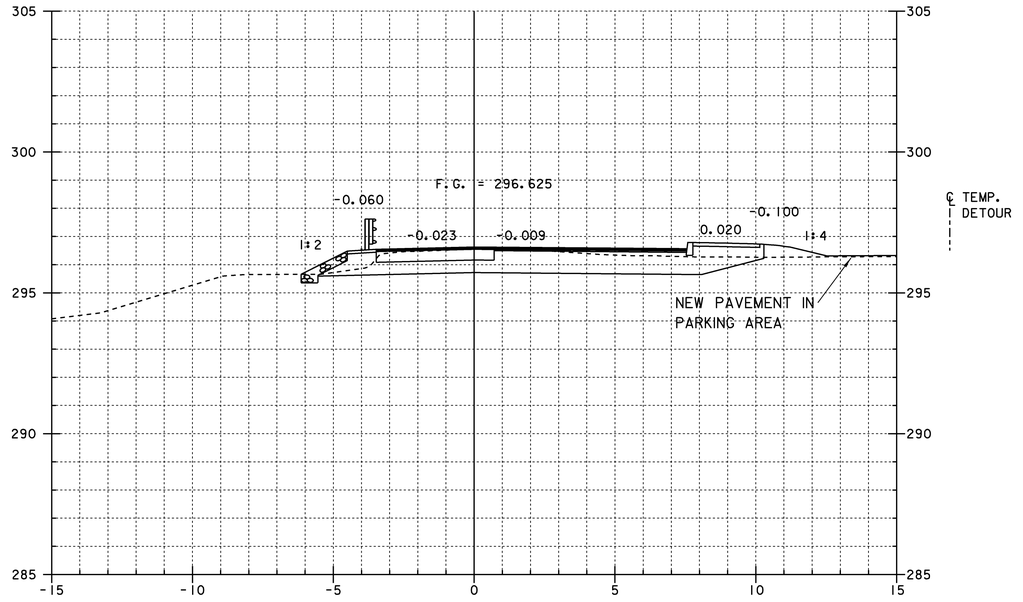
STA. 1+146.200
END PROJECT
BEGIN APPROACH

1+150

STA. 1+154.504
END APPROACH
MATCH EXISTING



1+120



1+140

0 1 2 4 6 8 10

SCALE = 1:100

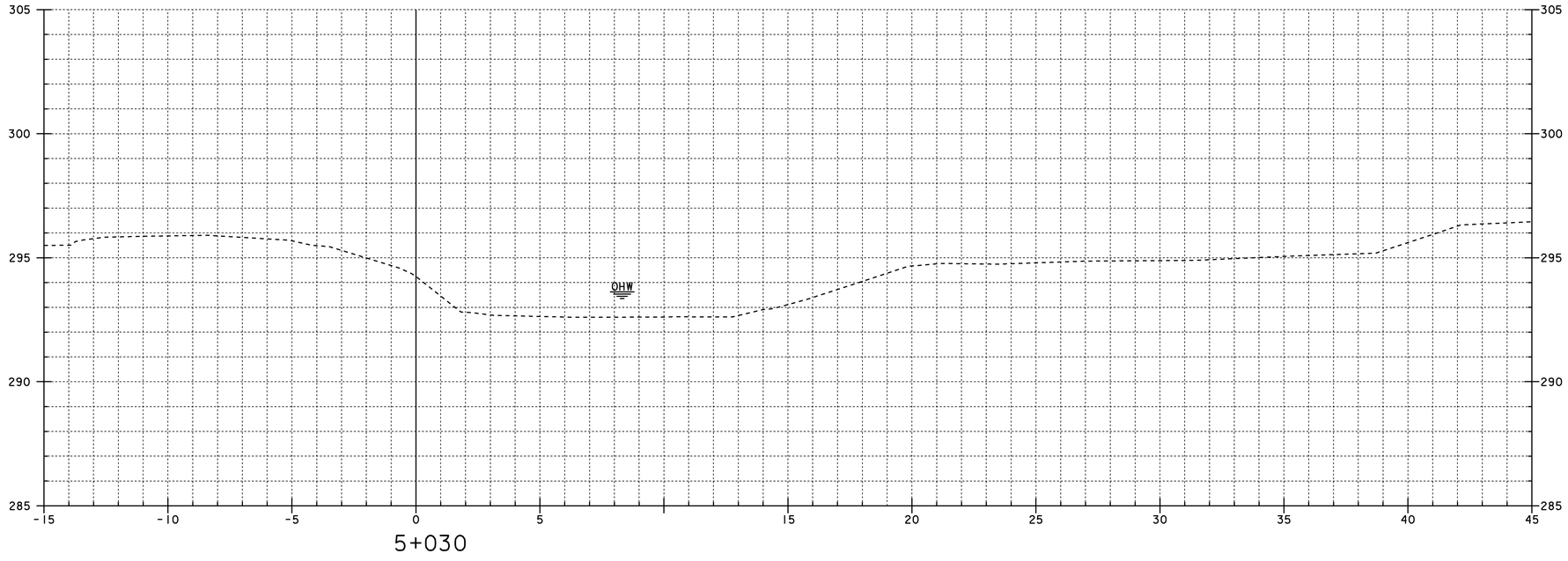
ROADWAY CROSS SECTIONS 3

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

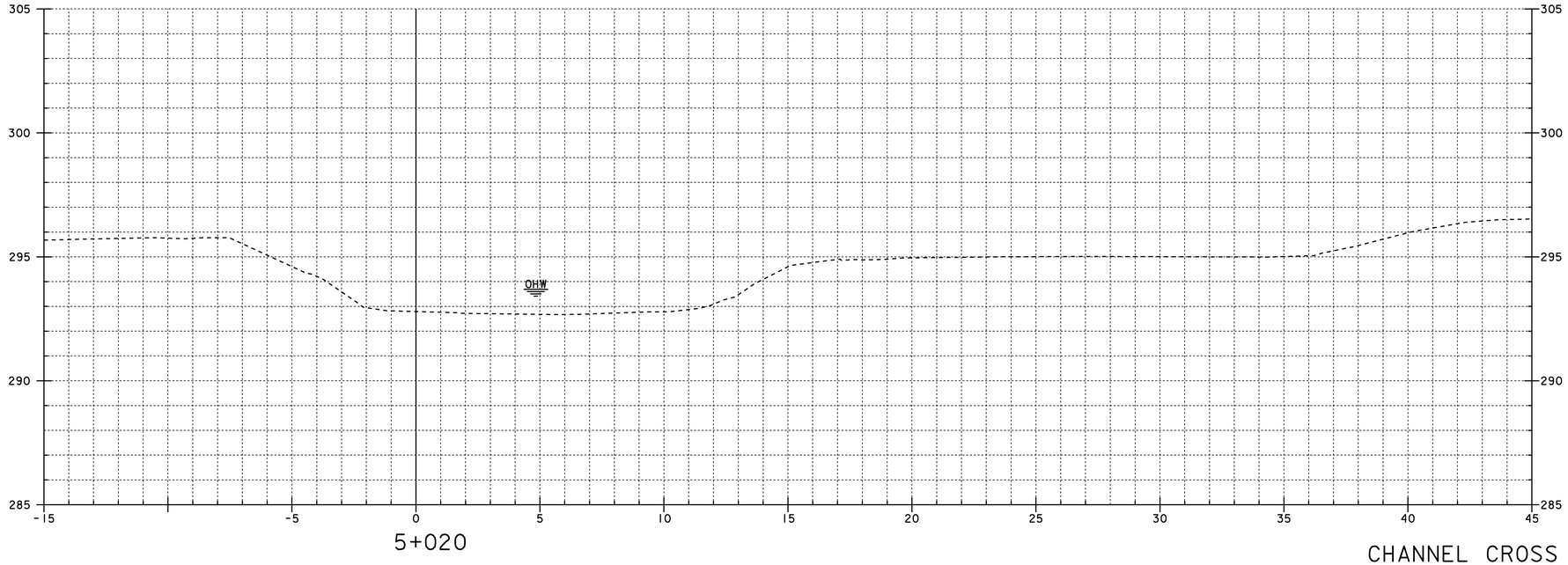
FILE NAME: s96j266xs.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
ROADWAY CROSS SECTIONS 3

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 50 OF 58

Metric



5+030



5+020

0 1 2 4 6 8 10

SCALE = 1:100

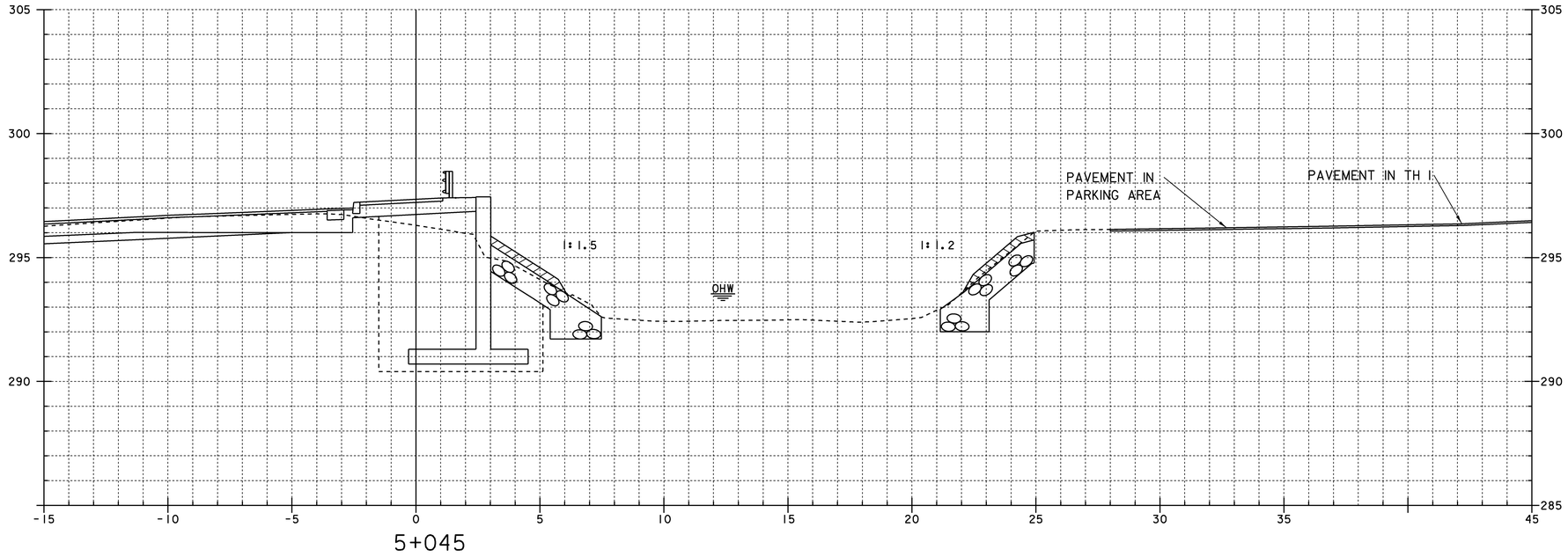
CHANNEL CROSS SECTIONS 1

PROJECT NAME: LINCOLN

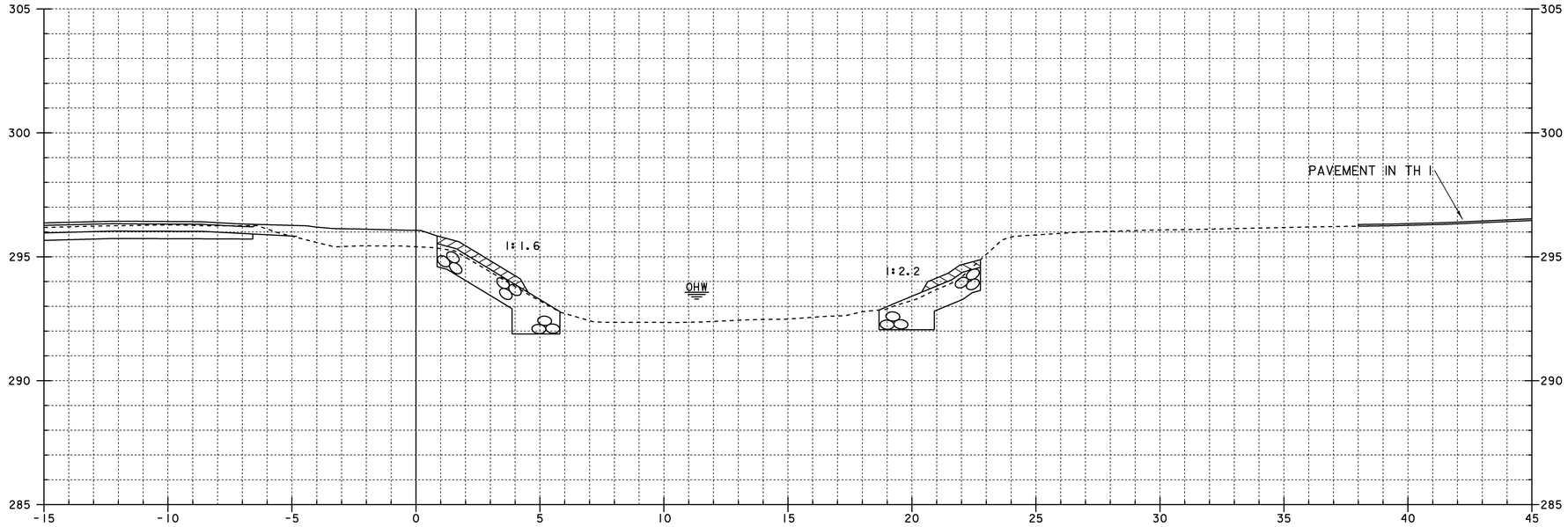
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266xs.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
CHANNEL CROSS SECTIONS 1

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 51 OF 58



5+045



5+040

STA. 5+033.0 RT. (RIVER LEFT)
BEGIN UNCLASS. CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL

STA. 5+037.1 RT. (RIVER RIGHT)
BEGIN UNCLASS. CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL

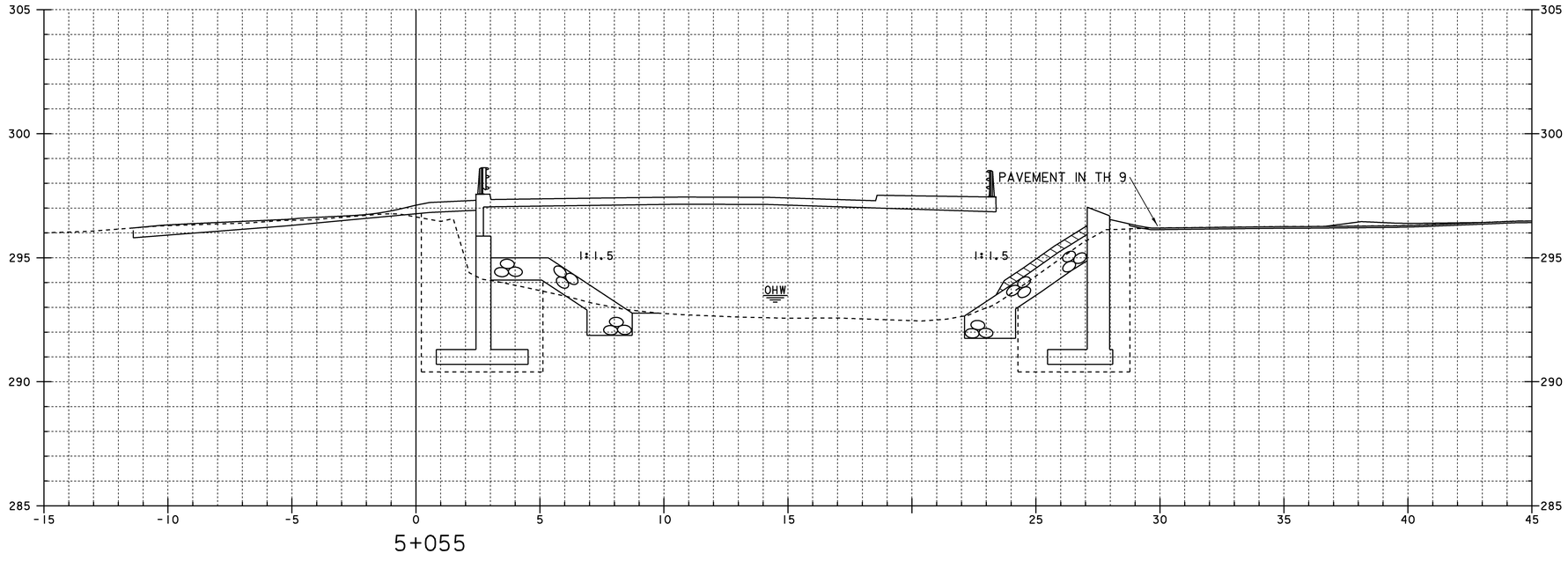
0 1 2 4 6 8 10
SCALE = 1:100

CHANNEL CROSS SECTIONS 2

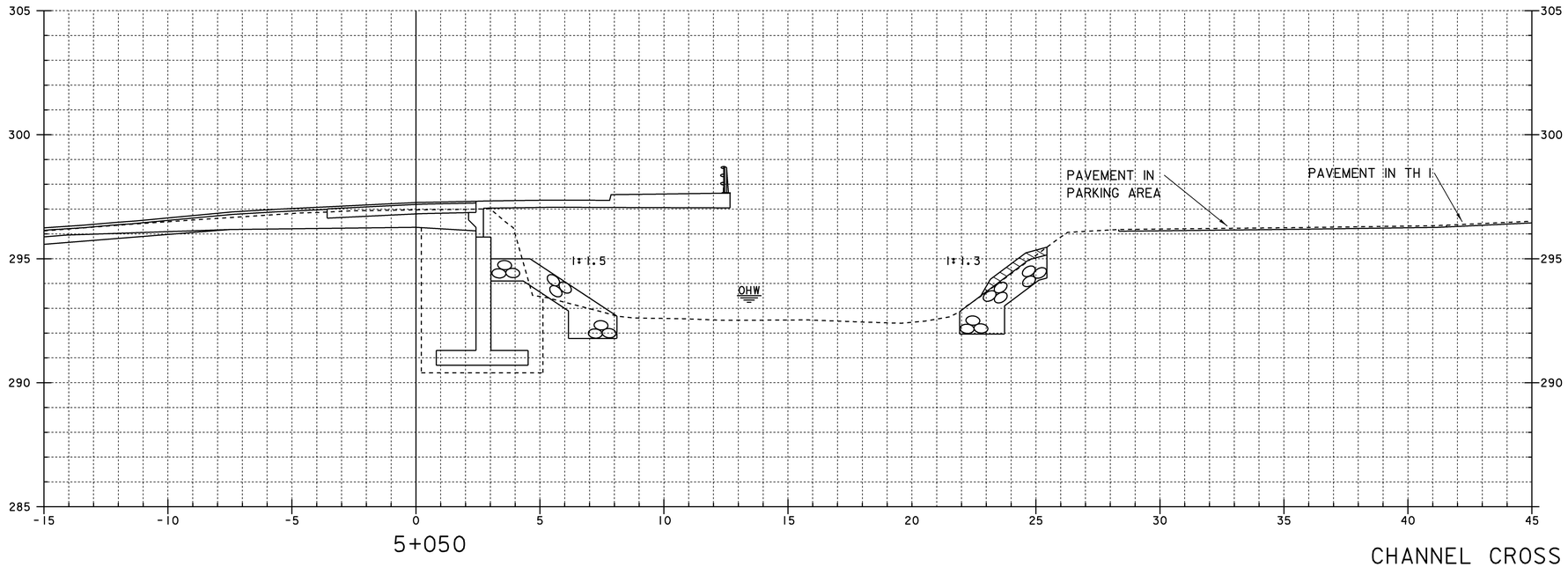
PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96J266xs.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
CHANNEL CROSS SECTIONS 2

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 52 OF 58



5+055



5+050

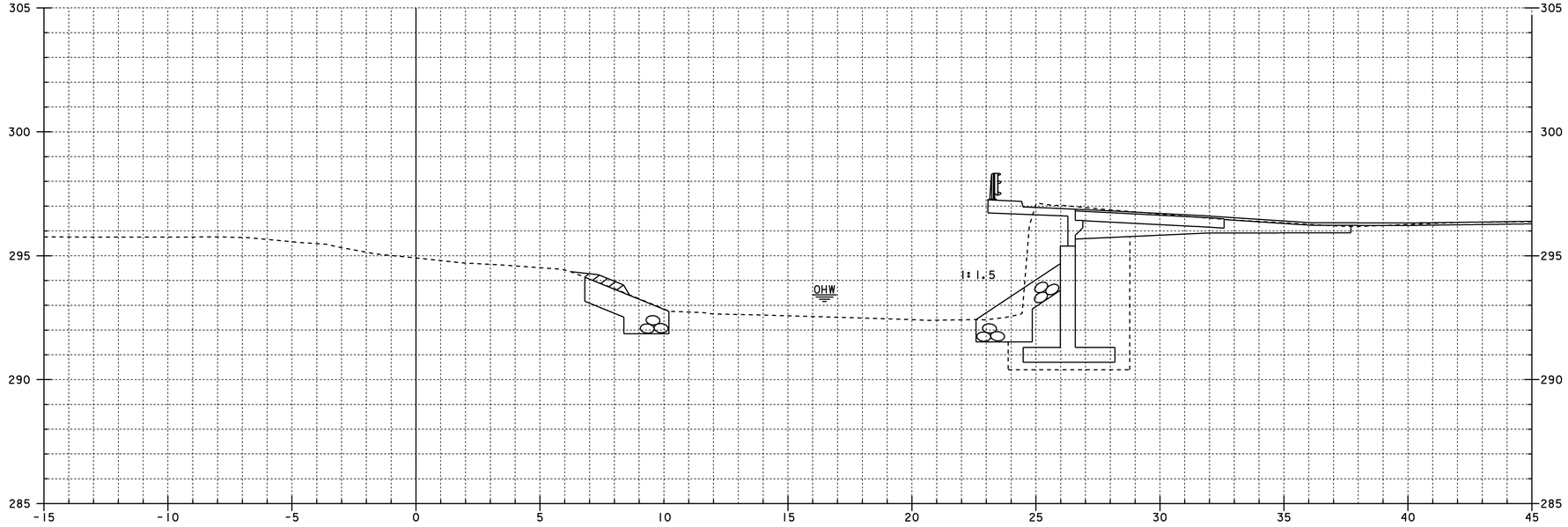
0 1 2 4 6 8 10

SCALE = 1:100

CHANNEL CROSS SECTIONS 3

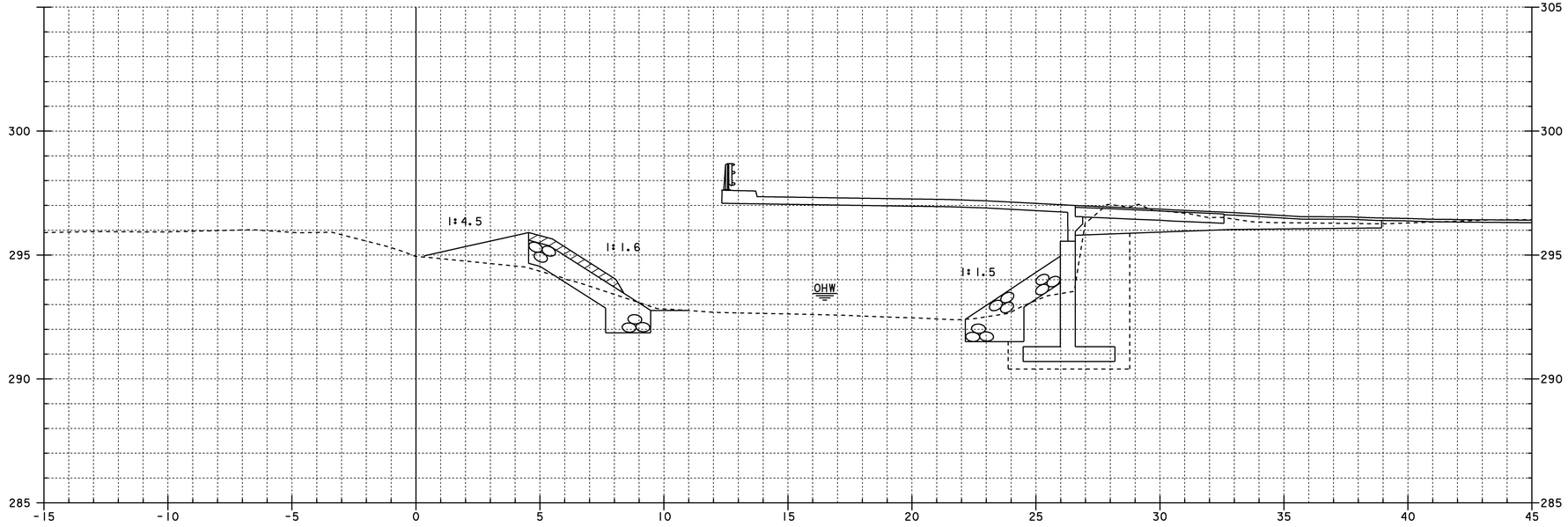
PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)

FILE NAME: s96J266xs.dgn	PLOT DATE: 29-JAN-2009
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: S. SCRIBNER	CHECKED BY: R. WHITCOMB
CHANNEL CROSS SECTIONS 3	SHEET 53 OF 58



5+065

STA. 5+065RT. (RIVER LEFT)
END UNCLASS. CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL



5+060

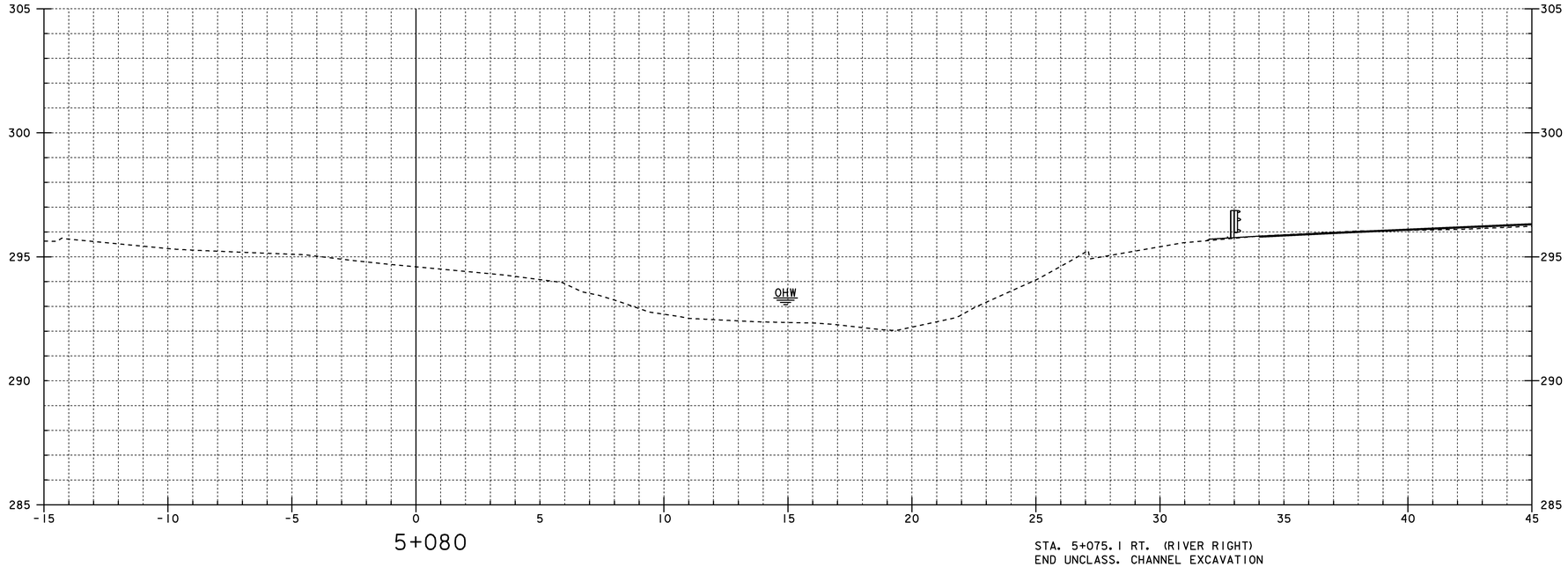
0 1 2 4 6 8 10
SCALE = 1:100

CHANNEL CROSS SECTIONS 4

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

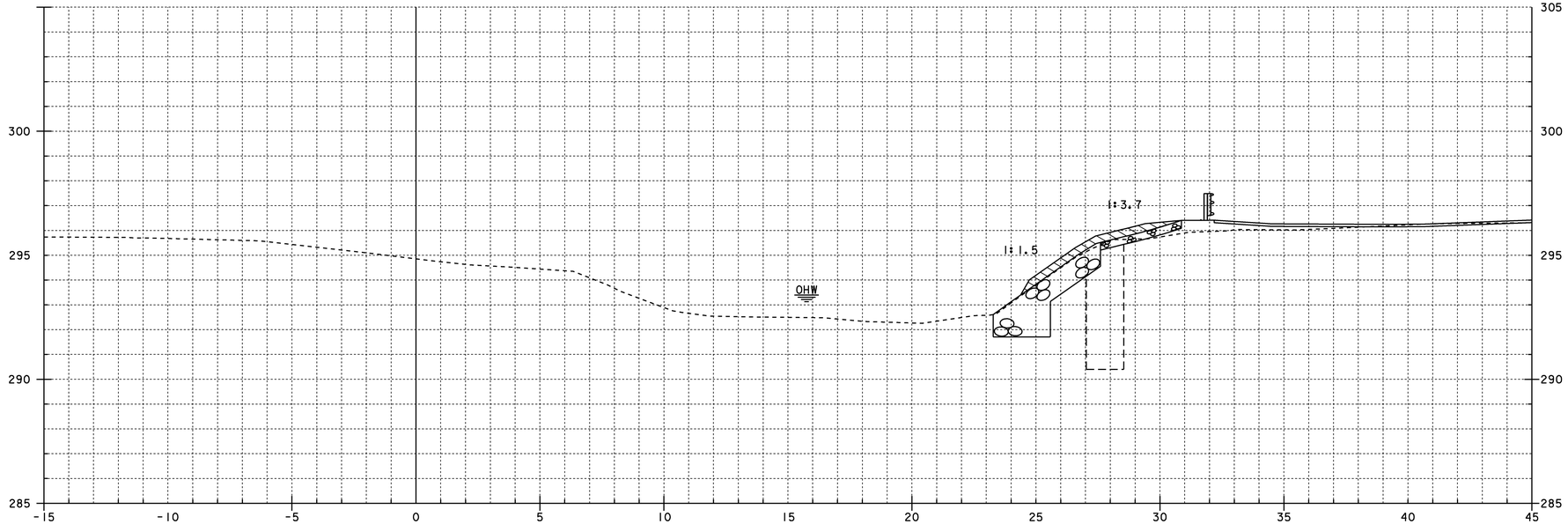
FILE NAME: s96j266xs.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
CHANNEL CROSS SECTIONS 4

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 54 OF 58



5+080

STA. 5+075.1 RT. (RIVER RIGHT)
END UNCLASS. CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL



5+070

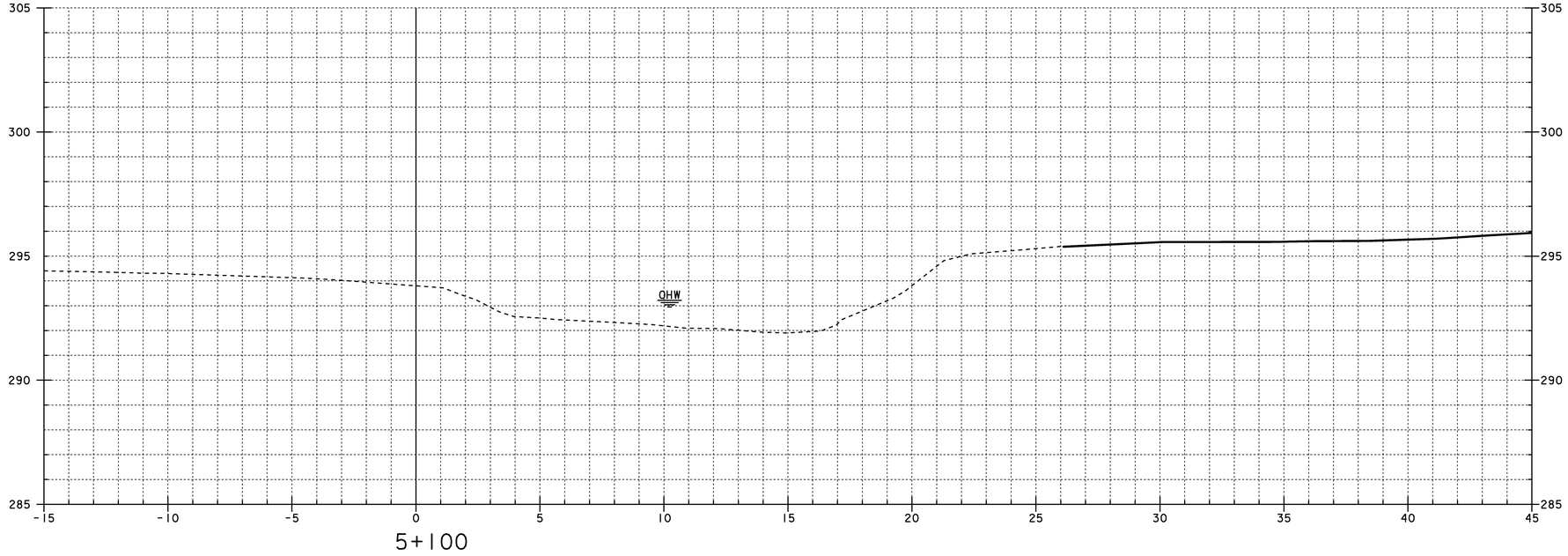
0 1 2 4 6 8 10
SCALE = 1:100

CHANNEL CROSS SECTIONS 5

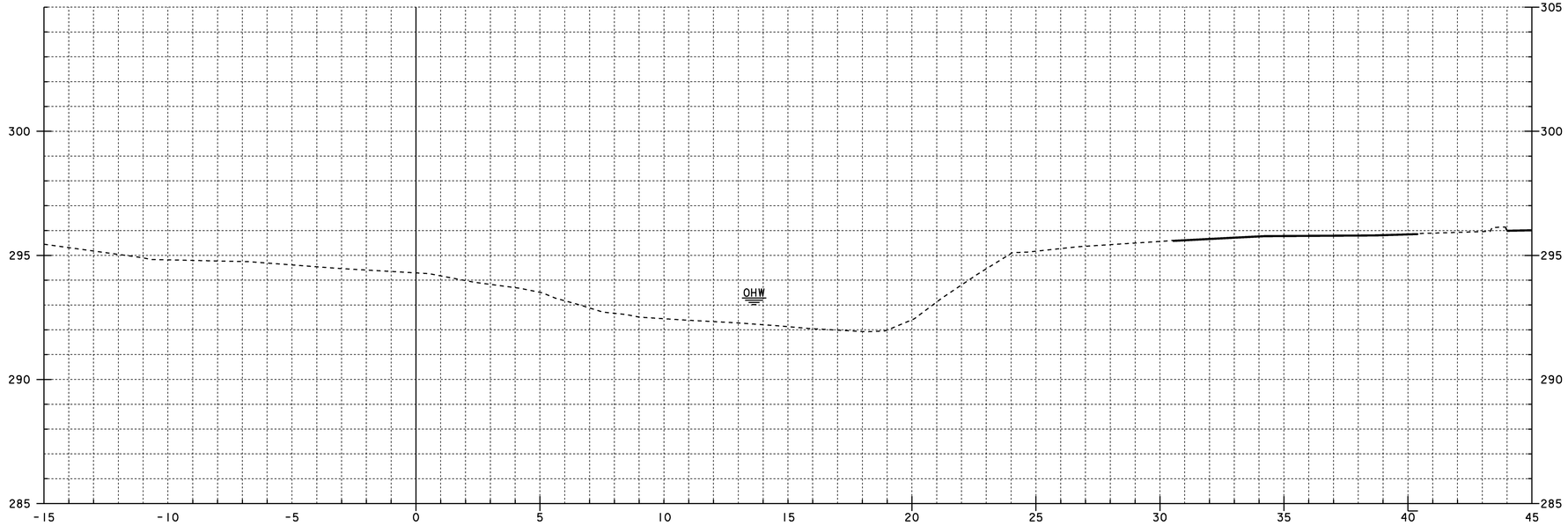
PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96J266xs.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
CHANNEL CROSS SECTIONS 5

PLOT DATE: 29-JAN-2009
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 55 OF 58



5+100



5+090

0 1 2 4 6 8 10

SCALE = 1:100

CHANNEL CROSS SECTIONS 6

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)

FILE NAME: s96J266xs.dgn	PLOT DATE: 29-JAN-2009
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: S. SCRIBNER	CHECKED BY: R. WHITCOMB
CHANNEL CROSS SECTIONS 6	SHEET 56 OF 58

CONSTRUCT GRAVEL DRIVE
W/ 1.5m WIDE PAVED APRON
1+060 RT
1+061 LT

CONSTRUCT GRAVEL ROAD
W/ 3.0m WIDE PAVED APRON
1+090 RT

CONSTRUCT PAVED DRIVE
1+093 LT

REPAVE PAVED DRIVE
1+135 RT

PORTLAND CEMENT CONCRETE
SIDEWALK, 125mm
1+096.14 RT - 1+106.11 RT
1+132.02 RT - 1+143.23 RT

CAST-IN-PLACE
CONCRETE CURB, TYPE B
1+096.14 RT - 1+106.11 RT
1+132.79 RT - 1+143.23 RT

SIDEWALK RAMP, TYPE I
1+096.60 RT - 1+098.70 RT
1+140.90 RT - 1+142.40 RT

SPECIAL PROVISION
(BRIDGE RAILING, ANODIZED 3 RAIL ALUMINUM)
1+109.54 LT - 1+136.06 LT

SPECIAL PROVISION
(BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)
1+105.20 RT - 1+131.76 RT

SPECIAL PROVISION
(ALUMINUM APPROACH RAILING, ANODIZED)
1+103.12 LT - 1+109.54 LT
1+097.63 RT - 1+105.20 RT
1+136.05 LT - 1+148.07 LT
1+131.76 RT - 1+138.38 RT

ANCHOR FOR STEEL BEAM RAIL
1+147.92 LT

RELOCATE MAILBOX, SINGLE SUPPORT
1+068.8 LT TO 1+070.0 LT
1+081.0 LT TO 1+081.0 LT

RELOCATE MAILBOX, MULTIPLE SUPPORT
1+079.5 RT TO 1+079.5 RT
1+080.0 RT TO 1+080.0 RT

REMOVE AND RESET GUARDRAIL
1+120.65 RT - 1+135.66 RT (2-CABLE)

REMOVAL AND DISPOSAL OF GUARDRAIL
1+104.70 LT - 1+107.70 LT
1+101.30 RT - 1+107.70 RT
1+134.60 LT - 1+141.50 LT
1+134.40 RT - 1+137.60 RT

COLD PLANING, BITUMINOUS PAVEMENT
1+040.00 - 1+050.00
1+080 LT - 1+110 LT
1+146.20 - 1+154.50

VT. STATE PLANE GRID

CURVE DATA
Δ = 9°48'27"
R = 250.000
T = 21.449
L = 42.793
E = 0.918
2T-L = 0.105
BANKING = N.C.

END R.O.W. PROJECT
BRO 1445(25)
STA 1+145.8
21.1M (69') LT.

BEGIN R.O.W. PROJECT
BRO 1445(25)
STA. 1+082.8
7.0M (23.0') LT.

EROSION CONTROL LEGEND
- FILTER CURTAIN
- SILT FENCE
- HAY BALES
- DITCH W/ CHECK DAMS

EXISTING BRIDGE DATA

DECK IS A CONCRETE FILLED STEEL GRID WITH ASPHALT OVERLAY

SUPERSTRUCTURE CONSISTS OF 6 (W27 X 106) ROLLED BEAMS WITH 2 DIAPHRAMS PER BAY

ABUTMENTS AND WINGWALLS ARE LAID UP STONE WITH CONCRETE CAPS AND BACKWALLS

BRIDGE LENGTH: 26.52m
BRIDGE WIDTH: 5.70m
VERTICAL CLEARANCE UNDER BRIDGE: 3.5m

FOR R.O.W. USE ONLY

LINCOLN VOLUNTEER FIRE COMPANY INC.
FIRE STATION
APPROXIMATE AREA OF EXCAVATED SETTLING BASIN OR HAY BALES STACKED TWO HIGH SURROUNDING SILT FENCE.
N/F ACKERT-SMITH, GERALD C. & ALISON A.
WASSMANN, PATRICE L.T. AKA MOYER, PATRICE W.
N/F WEATHERVANE UNITED INC.
BURNHAM FOUNDATION
EDDY, ELIZABETH
UNITED CHURCH OF LINCOLN
GENERAL STORE
RED WF BARN
T.H. 1
T.H. 3
TH#3
T.H. 9 (PAVED)
NEW HAVEN RIVER
RIPARIAN BUFFER
3 ROD STATUTORY RIGHT-OF-WAY
CHANNEL LINE
CONSTRUCTION LIMITS (TYP.)
LIMITS OF PAVED APRON
TEMPORARY CONSTRUCTION LIMITS (TYP.)
TEMPORARY DETOUR
DETOUR (T)
CONST (T)
CONST (L)
SR (T)
UE (P)
REMOVE & RESET (T)
REMOVE AND RESET GUARDRAIL
CHANNEL (P)
STONE FILL, TYPE III
1.5m x 1.5m INLET PAD STONE FILL, TYPE I
COLD PLANE AND PAVE WITH TYPE IVS AS NEEDED TO MATCH EXISTING
RELOCATED MAIL BOX
PAVED DR.
DRIVE (T)
BM NO.1 CH SQ IN SE CORNER OF WAR MONUMENT EL. 296.292
BM NO.2 USGS DISK STAMPED "MONTPELIER 97 I" EL. 295.356

STA. 1+040.000 BEGIN APPROACH
PC STA. 1+064.656
PI STA. 1+086.105 AH= STA. 1+086.000 BK
Δ = 9°48'27" RT.
STA. 1+080.000 BEGIN PROJECT
ML POST STA. 1+105.000= CHAN. STA. 5+050.000
Δ = 65° LT.
STA. 1+107.669 BEGIN BRIDGE F.G.= 297.353
STA. 1+107.669 BEGIN BRIDGE
PT STA. 1+107.449
STA. 1+108.000 CL BRG. ABUT. NO. 1 F.G.= 297.362 (EXP.)
STA. 1+125.90 7.54M (24.7') RT
STA. 1+134.332 END BRIDGE
STA. 1+134.000 CL BRG. ABUT. NO. 2 F.G.= 297.009 (FIXED)
STA. 1+138.96 15.00M (49.2') RT
STA. 1+140.92 7.61M (24.9') RT
STA. 1+143.000 27.60 RT
STA. 1+146.200 END PROJECT
STA. 1+152.700 14.10 LT
STA. 1+154.504 END APPROACH
7.62M (25.0') RT
15.00M (49.2')
15.04M (49.3')

0 10 20
SCALE 1:250

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE TOWN OF LINCOLN'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

R.O.W. LAYOUT SHEET

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)
FILE NAME: 96J266\Structures\sJ266101.1	PLOT DATE: 29-JAN-2009
PROJECT MANAGER:	DRAWN BY:
DESIGNED BY:	CHECKED BY:
R.O.W. SHEET 7 OF 7 SHEETS	SHEET 57 OF 58

Not Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RIGHT OF WAY PLANS
DETAIL SHEET

TABLE OF PROJECT PROPERTY ACQUISITION

ALL STATIONS ARE FROM THE REVISED ℄

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
. 1	WASSMANN, PATRICE L.T.	7	1+091.8 RT.	1+097.28 RT.			CONST. (T) 15.11 SM±	WDOE	06-07-05	LINCOLN	62	161	163 S.F.±
.	AKA MOYER, PATRICE W.												INCLUDES EROSION CONTROL
.													& PDF
.			1+095.2 RT.	1+098.1 RT.			DETOUR (T) 67.1 SM±						722 S.F.±
.			1+097.5 RT.	1+109.8 RT.			CHANNEL (P) 45.7 SM±						492 S.F.±
2	BURNHAM FOUNDATION	7	1+125.90 RT.	1+140.92 RT.	55.4 SM±			WDOE	04-03-06	LINCOLN	63	470-471	596 S.F.±
			1+113.0 RT.	1+138.96 RT.			DETOUR (T) 263.9 SM±						2,841 S.F.±
			1+110.9 RT.	1+135.7 RT.			CONST. (T) 45.0 SM±						484 S.F.±
													INCLUDES EROSION CONTROL
													& PDF
			1+116.8 RT.	1+129.4 RT.			CHANNEL (P) 51.9 SM±						559 S.F.±
			1+120.65 RT.	1+129.97 RT.			REMOVE & RESET (T)						GUARDRAIL
3	EDDY, ELIZABETH	7	1+134.4 LT.	1+139.5 LT.			CHANNEL (P) 19.0 SM±	WDOE	01-21-05	LINCOLN	61	498	205 S.F.±
			1+135.0 LT.	1+145.6 LT.			UTILITY (P) 81.5 SM±						877 S.F±
			1+136.1 LT.	1+145.8 LT.			CONST. (T) 99.5 SM±						INCLUDES EROSION CONTROL
													& PDF
													1,071 S.F.±
			1+143.3 LT.	1+144.2 LT.			SLOPE (P) 0.3 SM±						3 S.F.±
4	LINCOLN VOLUNTEER FIRE COMPANY, INC.	7	1+093 LT.				DRIVE (T)	WDOE	07-28-05	LINCOLN	62	364-	21M (69') PAVED
			1+102.8 LT.	1+123.0 LT.			CONST. (T) 42.6 SM±					365	459 S.F.±
													INCLUDES EROSION CONTROL
													& PDF
			1+114.2 LT.	1+120.6 LT.			CHANNEL (P) 11.0 SM±						118 S.F.±
			1+102.8 LT.	1+120.6 LT.			SLOPE (T) 99.9 SM±						1,075 S.F.±
													INCLUDES EROSION CONTROL
5	CENTRAL VERMONT PUBLIC SERVICE CORPORATION												UTILITY
6	CHAMPLAIN VALLEY TELECOM												UTILITY

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
.					
1	6, 7	PARCEL NO. 3 EDDY. CHANGED PARCEL NAME FROM EDDY, ROBERT O. & ELIZABETH TO EDDY, ELIZABETH. PER C.O. 9268.	01-23-03	P. J. H.	R. P. D.
2	6, 7	PARCEL NO. 1 WASSMANN. PARCEL NO. 2 BURNHAM FOUNDATION. PARCEL NO. 3 EDDY. PARCEL NO. 4 LINCOLN FIRE COMPANY, INC. ADD PDF DESIGN TO LAYOUTS. REFER TO PDF IN THE REMARKS COLUMN FOR ALL CONSTRUCTION EASEMENTS THAT HAVE EROSION CONTROL. PER C.O. 9386.	09-20-04	M. J. R.	R. P. D.
3	7	PARCEL NO. 4 VOLUNTEER FIRE COMPANY, INC. EXTEND PAVING LIMITS FOR DRIVE AT STA. 1+093 LT. PER C.O. 9407.	01-31-05	M. J. R.	R. P. D.
		ELECTRONIC FILES TO STRUCTURES	01-29-09		

FOR R.O.W. USE ONLY

ACCT. tlackey
M:\Projects\96J266\RightOfWay\rJ266d.dgn
DATE PLOTTED 29-JAN-2009

DR. (P)- DRAINAGE RIGHT
DIT. (P)- DITCHING RIGHT
CH. (P)- CHANNEL RT.
DRIVE (T)- DRIVE RIGHT
CUL. (P)- CULVERT RIGHT
[W]- WATER SOURCES

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
PERMANENT EASEMENT
TEMPORARY EASEMENT

LEGEND
C&T (P) CLEARING & TRIMMING
CZ (P) CLEAR ZONE
CONST. (T) CONSTRUCTION EASEMENT
SR SR SLOPE RIGHTS
P L PROPERTY LINE
TOP OF CUT
TOE OF SLOPE
UE (P) PERMANENT UTILITY EASEMENT

APPROVED: ROGER P. DUMAS DATE: 10-01-02
CHIEF, PLANS & TITLES

R. O. W. PLANS

LINCOLN
BRO 1445(25)
ROW SHEET 6 OF 7
SHEET 58 OF 58

DSBROWN

Production Joint Welding Procedure Specification (D1.5-02)

Procedure No A-GTF-01 Date Issued 1-9-04 Revision No 0 Rev Date _____

Contractor (Fabricator) D S Brown Company Prepared by James R Connor, Quality Assurance Manager

1 Non-Fracture Critical [X] Fracture Critical [ ] WPS Expiration Date _____

2 Qualified in accordance with AWS D1 5- 2002 , AWS D1 6-99

Referenced PQR No(s) PQR-GTAW-01-(03) __ , __ , ____

Referenced FWST No(s) PQR-GTAW-01(03) , _____ , __ , ____

3 Material specification(s) ASTM A709 Gr 36, 50, 50W, 304SS, 316SS

4 Material Thickness (es) Unlimited

5 Welding process GTAW

6 Manual [X] , machine [ ] , or semiautomatic [ ]

7 Position(s) of welding 1F, 2F

8 Filler metal specification AWS A5 9

9 Filler metal class and brand name ER309L (Murrex)

10 Flux class & brand N/A , Type N/A

11 Shielding gas 100% Argon Flow rate 20 CFH

12 Single pass [X] Or multiple pass [ ]

13 Single arc [X] Or multiple arc [ ]

14 Welding Current DCEN

15 Polarity Straight

16 Welding progression stringers

17 Root treatment Clean to bright sound metal or per AWS D1 5 (3 2 1 & 3 11)

18 Postheat treatment N/A

19 Calculated Heat Input (KJ/In) Min 10 9 KJ Max 20 4 KJ

20 Electrode extension (electrical stickout) N/A

For DOT Approval

VTRANS
RECEIVED
MAY 0 4 2009

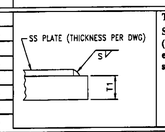
OK'D BY _____ OK'D BY JWC

APPROVED ✓

BY RRC DATE 5/10/09

Weld size (In)	Pass No(s)	Electrode Size (In)	Welding Process Variables AMPS/WFS*	VOLTS	Travel Speed (IPM)
20 ga	1	1/8"	170-200	15-17	10-14
16 ga	1	1/8"	170-200	15-17	10-14
14 ga	1	1/8"	170-200	15-17	10-14
12 ga	1	1/8"	170-200	15-17	10-14
11 ga	1	1/8"	170-200	15-17	10-14
10 ga	1	1/8"	170-200	15-17	10-14
8 ga	1	1/8"	170-200	15-17	10-14
3/16"	1	1/8"	170-200	15-17	10-14

Joint Detail (Flare Bevel)
Show all dimensions, weld sizes, passes, and AWS symbols



T_1 = Varies
S = Fillet Weld Size (Fillet weld must not exceed thickness of stainless steel)

* Wire feed speed may be used along with amperage (include chart)

Prepared By James R Connor DSB QA Manager

Project _____

DSB Job 26169-1106-VT

Preheat and Interpass Temperature Chart

Base Metal Thickness range	Minimum Preheat (°F)	Max Preheat & Interpass (°F)
≤3/4"	50°F	450°F
>3/4" to ≤ 1 5"	70°F	450°F
>1 5" to ≤ 2 5"	150°F	450°F
>2 5"	225°F	450°F

Note When this procedure is used for A709Gr50W materials, it shall be limited to 5/16" single pass or material be coated

D.S. BROWN
The D S Brown Company • 300 East Cherry Street • North Baltimore Ohio 45872-0156
Phone (419) 257-3561 • General Fax (419) 257-2200 • Engineering Fax. (419) 257-0332

The D S Brown Company
300 E Cherry Street
North Baltimore Ohio 45872
419.257.3561
Fax 419 257 2200
e-mail dsb@dsbrown.com
www dsbrown.com

Lawes Engineering Company
4201 Nortex Drive
Chaska Minnesota 55318
952 368 3000
Fax 952 448 7000

International Division
57 Pioneer Road
Singapore 628508
65.862.6295
Fax. +65 862 6255
e-mail
dsbrown@mbox2 singnet.com sg

Bonding Procedure

The bonding process for laminating PTFE to the fabnc pad is as follows

The fabnc pad surface to be bonded is prepared for lamination A two-part structural grade epoxy is then applied per the manufacture's instructions The PTFE is cut slightly oversize to account for the possible dnft The PTFE is then applied to the fabnc pad and put into a vacuum press at the appropnate pressure for the necessary time penod

Once the fabnc pad PTFE is removed from the press, the PTFE is trimmed to plan size and the pads are submitted for quality control review

VT RAWS
RECEIVED
CK'D BY _____ OK'D BY JWC
MAY 04 2009
APPROVED
BY RRL DATE 5/18/09

Equal Opportunity Employer

TOLERANCE TABLE	
SOLE PL. PLAN DIMENSIONS	±1.6
SOLE PL. THICKNESS	±1.6
HOLE LOCATION	±1.6
PTFE THICKNESS	±1.6
PTFE PLAN DIMENSION, TOTAL DESIGN AREA	±1.6
STAINLESS STEEL FINISH	≤20μ' RMS #8 MIRROR

TOLERANCE NOTES

BEARING SURFACES SHALL BE FLAT WITH A MAXIMUM PERMISSIBLE VARIATION OF 0.25mm FROM A PLANE DETERMINED BY ANY THREE CORNERS OF THE PLATE

FOR STAINLESS STEEL MATING TO PTFE BONDED TO FABRIC BEARING PAD MATERIAL THE TOLERANCE SHALL BE 0.25mm FROM A PLANE DETERMINED BY ANY THREE CORNERS OF THE PLATE.

GENERAL NOTES

1 MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE VERMONT AGENCY OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2006 EDITION", SPECIAL PROVISIONS, SUPPLEMENTAL SPECIFICATIONS, THE CONTRACT PLANS AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2002 AND ITS LATEST REVISIONS. GENERAL SHOP PRACTICES, STRUCTURAL FABRICATION, WELDING AND ASSEMBLY SHALL BE GOVERNED BY ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE

2. THESE SHOP DRAWINGS WERE PREPARED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS THE D.S. BROWN COMPANY DOES NOT ACCEPT LIABILITY FOR THE DESIGN OF THE PRODUCTS DETAILED IN THESE SHOP DRAWINGS.

3 THE D.S. BROWN COMPANY TO SUPPLY ONLY THE PARTS SHOWN ON THIS DRAWING

4 ALL STEEL SHALL BE PRODUCED IN THE UNITED STATES OF AMERICA.

5. PTFE (TEFLON) SHALL BE VIRGIN, UNFILLED POLYTETRAFLUOROETHYLENE SATISFYING THE REQUIREMENTS OF ASTM D4894

6 PTFE IS TO BE PURCHASED ETCHED ON ONE SIDE FOR BONDING THE BONDING PROCESS FOR LAMINATING PTFE TO THE FABRIC PAD IS AS FOLLOWS THE FABRIC PAD SURFACE TO BE BONDED IS PREPARED FOR LAMINATION. A TWO-PART STRUCTURAL GRADE EPOXY IS THEN APPLIED PER THE MANUFACTURE'S INSTRUCTIONS. THE PTFE IS CUT SLIGHTLY OVERSIZE TO ACCOUNT FOR POSSIBLE DRIFT THE PTFE IS THEN APPLIED TO THE FABRIC PAD AND PUT INTO A VACUUM PRESS AT THE APPROPRIATE PRESSURE FOR THE NECESSARY TIME PERIOD. ONCE THE FABRIC PAD AND PTFE IS REMOVED *FROM THE* PRESS, THE PTFE IS TRIMMED TO PLAN SIZE AND THE PADS ARE SUBMITTED FOR QUALITY CONTROL REVIEW.

7. STAINLESS STEEL SHALL CONFORM TO ASTM A240 – TYPE 304 AND SHALL BE 11GA. (3.0 mm). STAINLESS STEEL SLIDING SURFACES IN CONTACT WITH PTFE SHALL HAVE A NO 8 MIRROR FINISH AND ALL OTHERS SHALL HAVE A 2B FINFISH

8 ALL CORNERS AND EDGES OF STEEL PLATES SHALL BE GROUND TO A 1.6mm RADIUS FOR GALVANIZING

9. THE TEMPERATURE OF THE STEEL SHALL NOT EXCEED 250°F (121°C) FOR SURFACES IN CONTACT WITH THE PTFE, WHERE APPLICABLE TEMPERATURE SHALL BE CONTROLLED BY THE USE OF TEMPERATURE INDICATING CRAYON OR OTHER DEVICES APPROVED BY THE ENGINEERS.

PROTECTIVE COATING NOTES:

1. ALL STRUCTURAL STEEL SURFACES TO BE GALVANIZED SHALL BE CLEANED IN ACCORDANCE WITH SSPC-SP10.

2. ALL EXTERNAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123. GALVANIZATION LIFTING DEVICES MAY BE WELDED TO PARTS IF NECESSARY. WHEN THEIR USE IS COMPLETE, REMOVE AND GRIND FLUSH ALL CONNECTION LOCATIONS. REPAIR ALL GALVANIZATION IN ACCORDANCE WITH ASTM A780. GALVANIZING REPAIR PAINTS CONTAINING ALUMINUM SHALL NOT BE USED ON SURFACES TO BE IN CONTACT WITH FRESH CONCRETE.

3 ALL SURFACES DAMAGED BY FIELD WELDING OR HANDLING SHALL BE REPAIRED IN CONFORMANCE WITH SUBSECTION 513.06 (f)

RECEIVED
CK'D BY ____ OK'D BY ____
MAY 04 2009
APPROVED
BY RRW DATE 5/19/09

Structures Copy

REV	DESCRIPTION	DATE	DET	CKD

D.S. BROWN
THE D S BROWN COMPANY
300 E CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419 257 3561
FAX 419 257 0332
WWW DSBROWN COM

LOCATION — T.H 9 CL 3 (LOCAL ROAD)
BRIDGE — 48
PROJECT — BRO 1445 (25)
—
—
DESIGNER — VTDOT
CUSTOMER — PARENT CONSTRUCTION INC

ITEM	QUANTITY
–	–
–	–
–	–
–	–
–	–
–	–
–	–
–	–
–	–

DESCRIPTION
GENERAL NOTES
ADDISON CO., VT

SCALE	DRAWN BY	CHECKED BY	DATE	
N T S	NRA	DAE	4/24/09	–
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET	
26169	1106	1	GN1	

MK	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	REV
1A	4	EXPANSION FABRIC BEARING				-
1a1	4	44.5 X 410.0	VT 731.01	240.0		-
1a2	4	1.6 X 410.0	PTFE	240.0	PURE VIRGIN UNFILLED	-
1a3	4	11 GA. X 440.0	A240 T304, #8 & 2B	340.0	PLAIN	-
1sp1	4	40.0 X 650.0	A709 GR 345W	350.0	A123-HDG	-
1B	8	SWEDGED ROD				-
1b1	8	Ø38.1 X 533.4 SWEDGED ROD	F1554 GR 250		100.0 THREADS, 358.0 SWEDGE, A153-HDG	-
1C	8	HEAVY HEX NUT				-
1c1	8	Ø38.1 HEX NUT	A563-DH OR A194-2H		A153-HDG	-
1D	8	WASHER PLATE				-
1d1	8	9.5 X 170.0	A36	80.0	42.9 DIA HOLE CENTERED, A123-HDG	-
					4/27/2009 9:03:21 AM	

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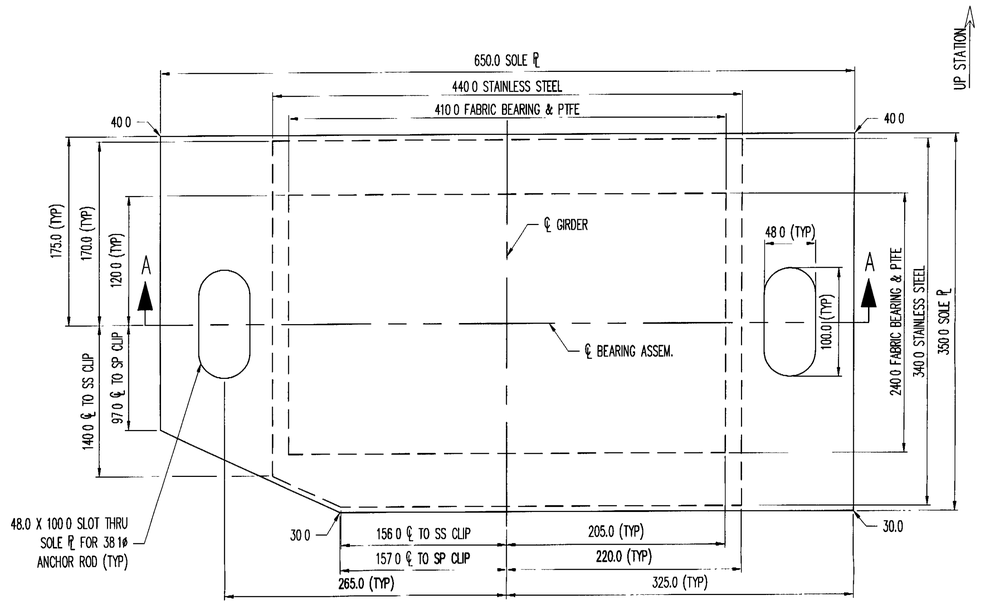
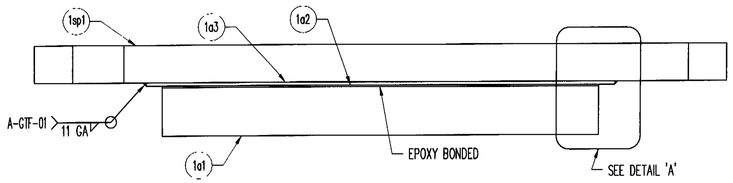
VERTICAL DESIGN LOAD	672.0 kN



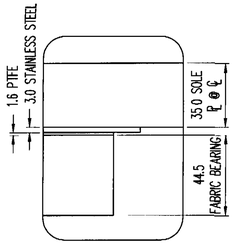
PLAN VIEW

EXPANSION FABRIC BEARING

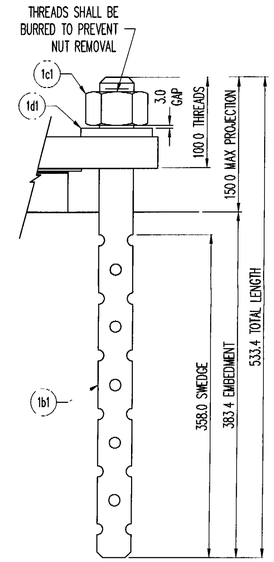
(4) REQ'D @ ABUTMENT 1



SECTION 'A-A'



DETAIL 'A'



ANCHOR ROD DETAIL

RECEIVED
OK'D BY ____ OK'D BY ____
MAY 04 20[illegible]
BY ____ APPROVED
BY RLW DATE 5/19/09

SEE SHEET GN1 FOR GENERAL NOTES

REV	DESCRIPTION	DATE	DFT	CHD

D.S. BROWN

THE D.S. BROWN COMPANY
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX 419.257.0332
WWW.DSBROWN.COM

LOCATION — T.H. 9 CL 3 (LOCAL ROAD)
BRIDGE — 48
PROJECT — BRO 1445 (25)
—
—
DESIGNER — VTDOT
CUSTOMER — PARENT CONSTRUCTION INC

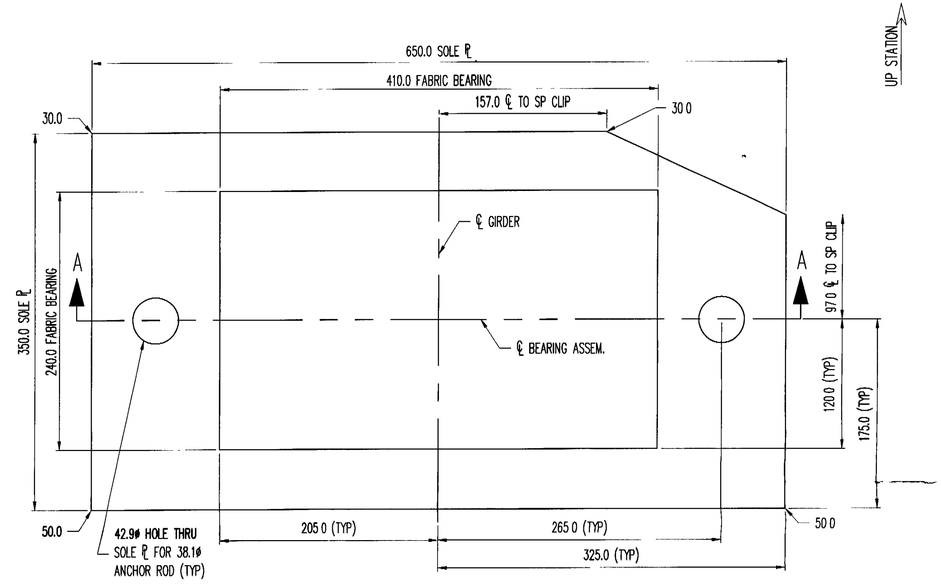
ITEM	QUANTITY
26169-1106-1	4 OF 4
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

DESCRIPTION: EXPANSION FABRIC BEARING
ADDISON CO., VT

SCALE	DRAWN BY	CHECKED BY	DATE	
N.T.S.	NRA	DAE	4/24/09	-

PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
26169	1106	1	01

MK	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	REV
2A	4	FIXED FABRIC BEARING				-
2a1	4	44.5 X 410.0	VT 731.01	240.0		-
2sp1	4	50.0 X 650.0	A709 GR 345W	350.0	A123-HDG	-
2B	8	SWEDGED ROD				-
2b1	8	Ø38.1 X 533.4 SWEDGED ROD	F1554 GR 250		100.0 THREADS, 358.0 SWEDGE, A153-HDG	-
2C	8	HEAVY HEX NUT				-
2c1	8	Ø38.1 HEX NUT	A563-DH OR A194-2H		A153-HDG	-
2D	8	WASHER PLATE				-
2d1	8	9.5 X 80.0	A36	80.0	42.9 DIA HOLE CENTERED, A123-HDG	-
					4/27/2009 9:03:21 AM	



PLAN VIEW

FIXED FABRIC BEARING

(4) REQ'D @ ABUTMENT 2

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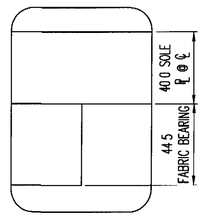
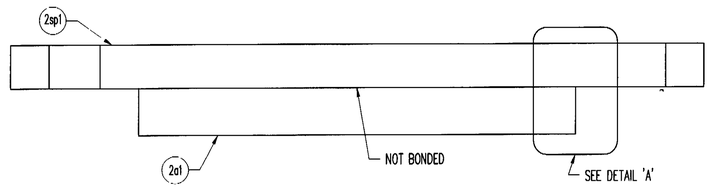
VERTICAL DESIGN LOAD	672.0 kN



DETAIL 'A'



SECTION 'A-A'

ANCHOR ROD DETAIL

RECEIVED
CK'D BY WPL CK'D BY
MAY 04 2009
APPROVED
BY RLW DATE 5/9/09

SEE SHEET GN1 FOR GENERAL NOTES

REV	DESCRIPTION	DATE	DET	CK'D

D.S. BROWN

THE D S BROWN COMPANY
300 E CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419 257 3561
FAX 419 257 0332
WWW.DSBROWN.COM

LOCATION — TH 9 CL 3 (LOCAL ROAD)
BRIDGE — 48
PROJECT — BRO 1445 (25)
—
—
DESIGNER — VTDOT
CUSTOMER — PARENT CONSTRUCTION INC.

ITEM	QUANTITY
26169-1106-2	4 OF 4
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

DESCRIPTION
FIXED FABRIC BEARING
ADDISON CO., VT

SCALE	DRAWN BY	CHECKED BY	DATE	
NTS	NRA	DAE	4/24/09	-

PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
26169	1106	1	02

VERMONT

State of Vermont
Program Development
One National Life Drive
Montpelier, VT 05633-5001
www.aot.state.vt.us

Agency of Transportation

[phone] 802-828-2621
[fax] 802-828-3566
[ttd] 800-253-0191

August 26, 2009

Auciello Iron Works Inc.
560 Main St.
Hudson, MA 01749

Re: Lincoln BRO 1445(25) - BR 48 on TH 9 over New Haven River
Auciello Iron Works Job No. AB97048-1001

Dear Auciello Iron Works Inc;

Thank you for sending us your Fabrication Drawings and Welding Procedures for this project. We received them by mail from F.R. Lafayette, Inc. on August 20, 2009.

The drawings are for Contract Items:
Item 900.640 SPECIAL PROVISION (ALUMINUM APPROACH RAILING, ANODIZED)
Item 900.640 SPECIAL PROVISION (BRIDGE RAILING, ANODIZED 3 RAIL ALUMINUM)
Item 900.640 SPECIAL PROVISION (BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)

Please find enclosed Approved As Noted Fabrication Drawings. Please revise the drawings as noted and submit white prints for our record plans.

Please find enclosed Approved Welding Procedures.

Please notify our Fabrication Inspector, Jeff Clark, at least seven days in advance of fabrication. You may contact him by phone at (802)828-0044 or email at jeff.clark@state.vt.us. He will acknowledge your notice. Any material fabricated prior to the notification date is subject to rejection without further cause. See VTRANS Standard Specification 506.03.

Please contact Tom Lackey, Project Engineer at (802) 828-0505 if you have any questions.

Sincerely,

Carolyn Carlson, P.E.
Structures Project Manager

cc:	[X] Resident Engineer	Joe Knipes	Letter & Plans
	[X] Shop Inspector	Jeff Clark	Letter & Plans
	[X] Contractor	Parent Construction	Letter & Plans
	[X] Subcontractor	F.R. Lafayette	Letter & Plans
	[X] Materials & Research	(C&IA Unit)	Letter
	[X] Construction Division		Letter
	[X] Files (CC)		

VTrans Working to Get You There
Vermont Agency of Transportation

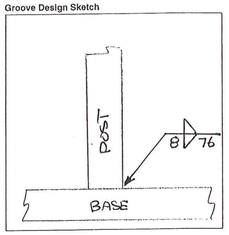
WELDING PROCEDURE SPECIFICATION (WPS)

Welding Procedure Specification No. 2009-01 Date 8/13/2009 Approved Philippe Lefebure
Revisions _____ Date _____ Approved _____

Supporting PQR Numbers 40

Joints

Groove Design Sketch



Backing

Type N/A
Permanent --
Removed --
Other --

Base Metals

M No. 23 Thickness 3mm to 25mm
Alloy and Temper 6061-T6

Filler Metal

F-No. 23 AWS No. (Class) ER 5356
Size of electrode 3/64"
Type of electrode ALUMINUM
Other _____

Shielding Gas

Shielding gas(es) HELIUM - ARGON
Percent composition 75% - 25%
Flow rate 40 TO 75 C.F.H
Other _____

Position

Position of ~~groove~~ FILLET: 2F
Welding progression FOREHAND
Other _____

Preheat

Preheat temperature 150° F
Interpass temperature --

Form E(a)

VTRANS RECEIVED
CK'D BY _____ OK'D BY JWL
AUG 24 2009
APPROVED
BY AWL DATE 8/25/09

AUCIELLO IRON WORKS INC. | *MISCELLANEOUS METALS FABRICATOR*

WELDING PROCEDURE SPECIFICATION (WPS) 2009-01

Cleaning

Initial cleaning oxide SS WIREBRUSH

Initial cleaning oil and dirt SOLVENT

Interpass cleaning —

Postweld Heat Treatment

Original temper _____

Final temper _____

Temperature _____

Time _____

Quench _____

Process(es)

Process GMAW Type* SEMI-AUTO

Process _____ Type* _____

Electrode (GTAW) _____

Technique

Stringer or weave bead STRINGER

Orifice or gas cup size 5/8"

Oscillation _____

Contact tube to work distance 1/2"

Single pass or multipass SINGLE per side

Tungsten extension _____

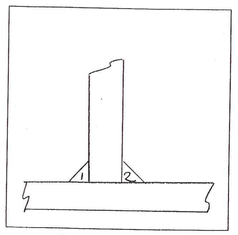
Method of backgouging _____

Other _____

*Manual, automatic, polarity, pulse, etc.

Pass No.	Welding Process	Amps	Volts	Travel Speed
ALL	GMAW	148-200	22-30	24-36

TRANS
RECEIVED
CK'D BY _____ OK'D BY JLVC
AUG 24 2009
RECEIVED APPROVED ✓
BY _____ DATE 8/25/09



Sketch of Welding Sequence

Form E(a) (Continued)

560 MAIN ST. HUDSON, MA 01749 TEL. 978-568-8382 FAX 978-562-9982 WEBSITE: www.aiw-inc.com

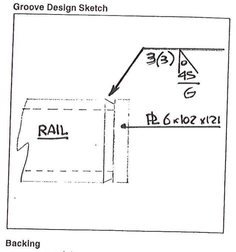
WELDING PROCEDURE SPECIFICATION (WPS)

Welding Procedure Specification No. 2009-02 Date 8/13/2009 Approved Philippe Lefebvre
Revisions _____ Date _____ Approved _____

Supporting PQR Numbers 40

Joints

Groove Design Sketch



Backing

Type N/A
Permanent –
Removed –
Other –

Base Metals

M No. 23 Thickness 3mmm to 25mmm
Alloy and Temper 6061-T6

Filler Metal

F-No. 23 AWS No. (Class) ER 5356
Size of electrode 3/64"
Type of electrode ALUMINUM
Other

Shielding Gas

Shielding gas(es) HELIUM - ARGON
Percent composition 75% - 25%
Flow rate 40 TO 75 CFH
Other

Position

Position of groove = 6G
Welding progression FOREHAND
Other

Preheat

Preheat temperature 150° F
Interpass temperature –

VTRANS
RECEIVED
CK'D BY _____ OK'D BY JWC
AUG 24 2009
REQUEST _____ APPROVED ✓
BY _____ DATE 8/24/09

Form E(a)

AUCIELLO IRON WORKS INC.

MISCELLANEOUS METALS FABRICATOR

WELDING PROCEDURE SPECIFICATION (WPS) 2009-02

Cleaning

Initial cleaning oxide SS. WIREBRUSH

Initial cleaning oil and dirt SOLVENT

Interpass cleaning SS. WIRE BRUSH

Postweld Heat Treatment

Original temper

Final temper

Temperature

Time

Quench

Process(es)

Process GMAW Type* SEMI. AUTO

Process Type*

Electrode (GTAW)

Technique

Stringer or weave bead STRINGER

Orifice or gas cup size 5/8"

Oscillation

Contact tube to work distance 1/2"

Single pass or multipass MULTIPASS per side

Tungsten extension

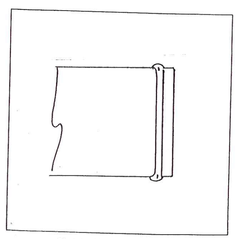
Method of backgouging

Other

*Manual, automatic, polarity, pulse, etc.

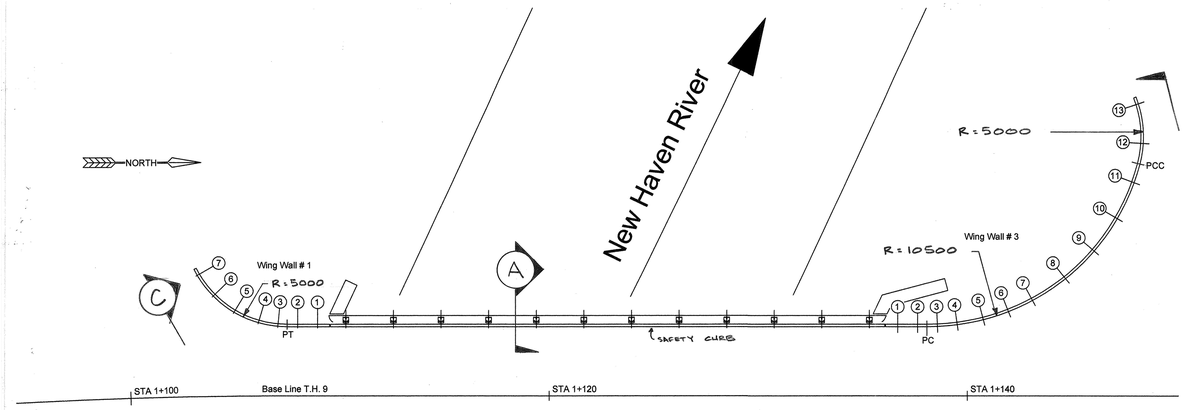
Pass No.	Welding Process	Amps	Volts	Travel Speed
ALL	GMAW	148.200	22-30	24-36

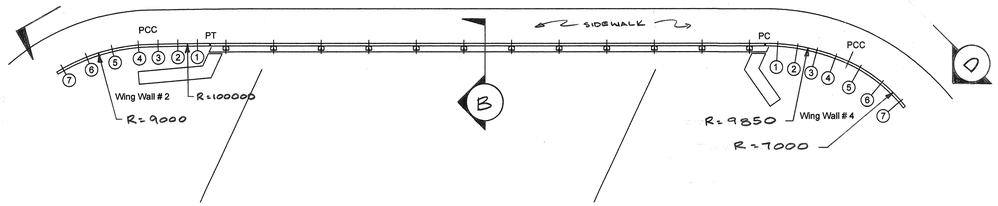
VT RAWS
RECEIVED
OK'D BY OK'D BY JCW
AUG 26 2009
REQUEST APPROVED
BY CWC DATE 8/25/09



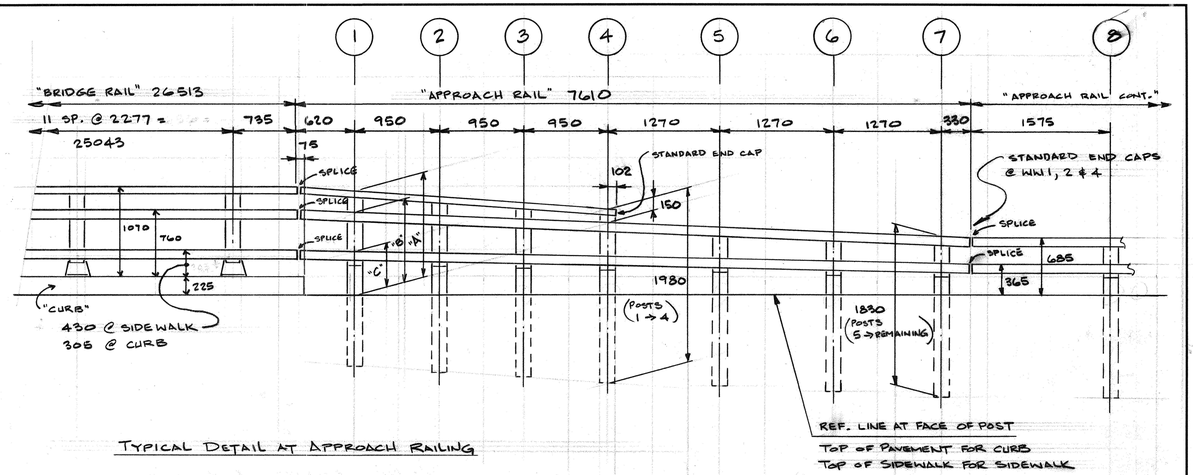
Sketch of Welding Sequence

560 MAIN ST. HUDSON, MA 01749 TEL. 978-568-8382 FAX 978-562-9982 WEBSITE: www.aiw-inc.com





PLAN - BRIDGE 48



TYPICAL DETAIL AT APPROACH RAILING

ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A CURB CONDITION

POST NO.	RAIL HEIGHT DIMENSIONS A	B	C	OFFSET BLOCK DIMENSIONS D	E	F	G
1	1241	959	516	293	444	851	-
2	1158	920	494	249	426	789	-
3	1075	881	473	205	408	728	-
4	992	842	451	162	391	667	-
5	-	790	423	-	367	-	493
6	-	737	394	-	344	-	470
7	-	685	365	-	320	-	446

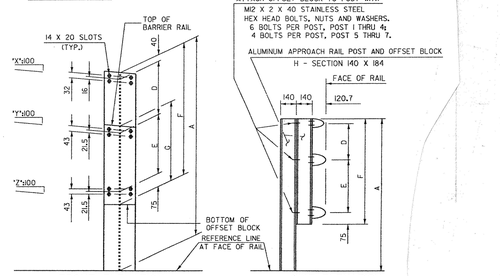
ALL REMAINING POSTS ARE TO HAVE THE SAME DIMENSIONS AS POST NO. 7

ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A SIDEWALK CONDITION

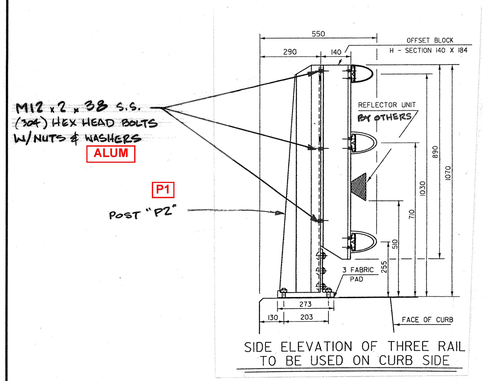
POST NO.	RAIL HEIGHT DIMENSIONS A	B	C	OFFSET BLOCK DIMENSIONS D	E	F	G
1	1035	754	424	293	329	737	-
2	981	744	416	249	328	691	-
3	928	734	408	205	327	646	-
4	874	724	399	162	325	601	-
5	-	711	388	-	323	-	449
6	-	698	376	-	322	-	448
7	-	685	365	-	320	-	446

ALL REMAINING POSTS ARE TO HAVE THE SAME DIMENSIONS AS POST NO. 7

	RIGHT SIDEWALK SIDE	LEFT CURB SIDE
"X"	-6	-9
"Y"	-1	-4
"Z"	-1	-2

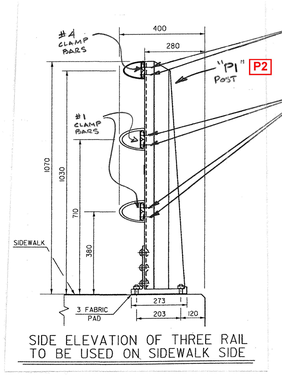


APPROACH RAIL DETAILS



SIDE ELEVATION OF THREE RAIL TO BE USED ON CURB SIDE

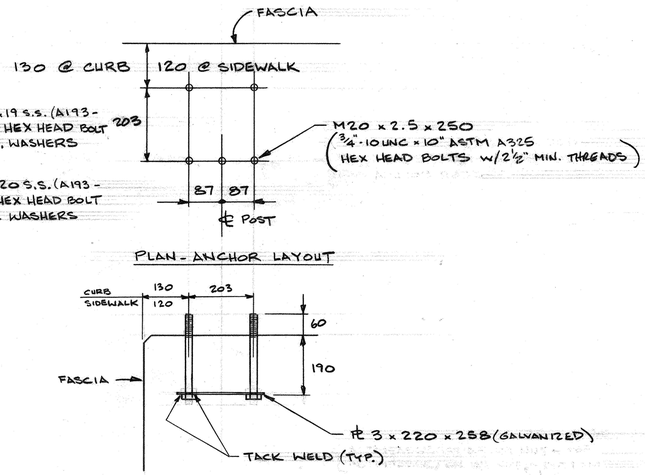
SECTION (A)



SIDE ELEVATION OF THREE RAIL TO BE USED ON SIDEWALK SIDE

SECTION (B)

(SPINDLE PANEL NOT SHOWN FOR CLARITY)



PLAN - ANCHOR LAYOUT

SECTION - ANCHOR ASSEMBLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RECIEVED 08/20/2009
CK BY THL OK BY WDL
ACTION APPROVED AS NOTED
BY CWC DATE 08/26/2009

ALL DIMENSIONS ARE IN MILLIMETRES

ISSUE	DATE	DESCRIPTION	BY
1	8-13-09	FOR APPROVAL	

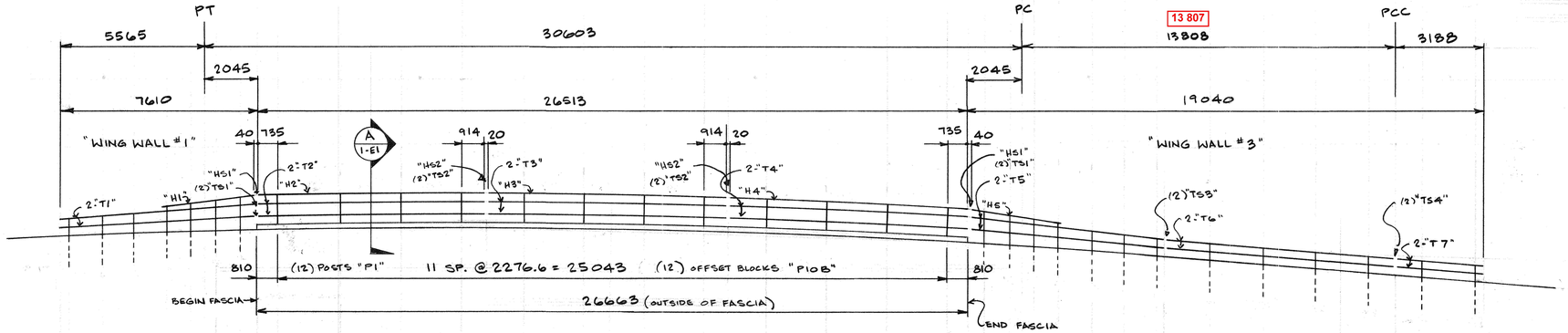
AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VERMONT AGENCY OF TRANSPORTATION
TOWN OF LINCOLN
COUNTY OF ADDISON
ROUTE NO.: T.H. 9 CL 3 BRIDGE No.: 48
PROJECT No.: BRO 1445 (25)

ALUMINUM BRIDGE RAILING w/APPR'H.

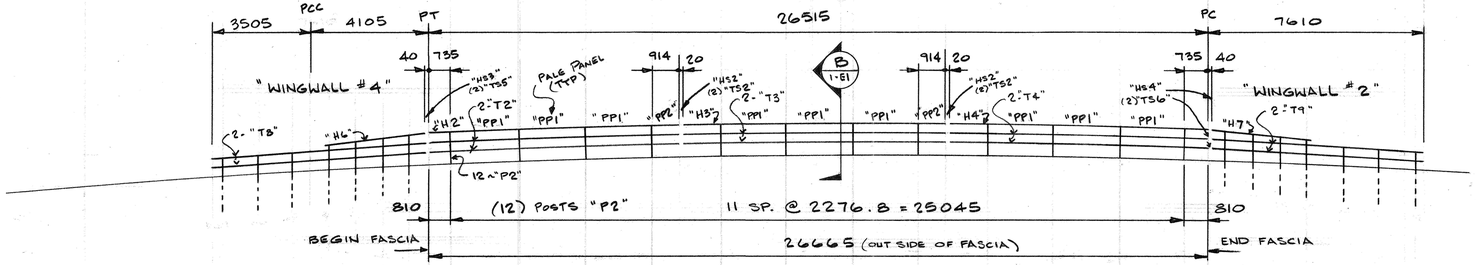
SURFACE PREP: NONE
FINISH: ANODIZED w/ BLACK SATIN FINISH
FOR: F.R. LAFAYETTE, INC.
DR: RDD 5/16/09
CHK: WM 6/12/09
DWG. NO. BR-2959
JOB NO. AB97048-1001
SHEET 1-E1 OF 4

BL MAKEPEACE INC. 100819

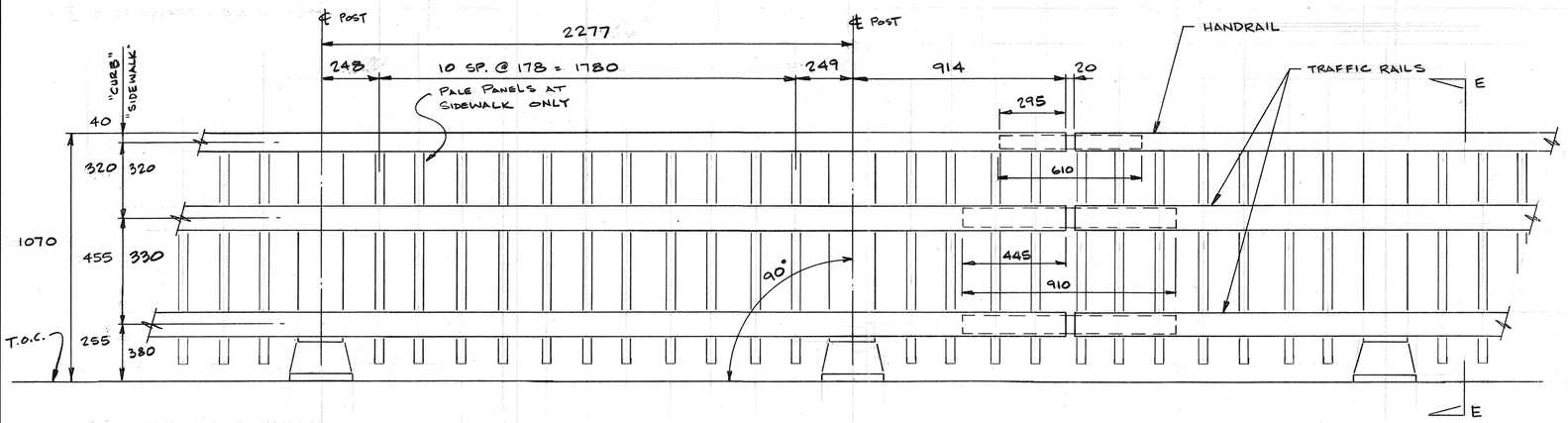


13 807

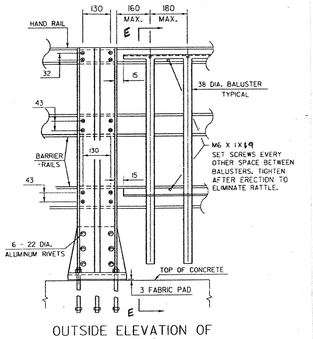
ELEVATION C-C (CURB)



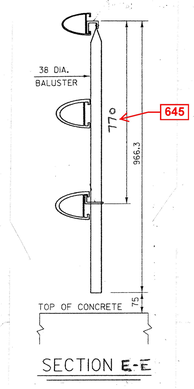
ELEVATION D-D (SIDEWALK)



TYPICAL DETAILS AT BRIDGE RAILING



OUTSIDE ELEVATION OF THREE RAIL POST & SPINDLES AT "SIDEWALK"



SECTION E-E

OFFSET BLOCKS		JOB No. AB97048					
QTY.	Pc.Mk.	QTY.	Pc.Mk.	DESCRIPTION	101.6 x 79.4 HANDRAIL		
12	P10B	12	P1	BRIDGE RAIL POSTS	QTY.	Pc.Mk.	LENGTH *
1	A1-1	12	P2	"	1	H1	3567
1	A1-2	1	1-1	APPROACH RAIL POSTS	2	H2	8482
1	A1-3	1	1-2		2	H3	9086
1	A1-4	1	1-3		2	H4	9097
1	A1-5	1	1-4		1	H5	3583
1	A1-6	1	1-5		1	H6	3557
1	A1-7	1	1-6		1	H7	3555
1	A3-1	1	1-7				
1	A3-2	1	3-1		120.7 x 101.6 TRAFFIC RAIL		
1	A3-3	1	3-2		QTY.	Pc.Mk.	LENGTH *
1	A3-4	1	3-3		2	T1	7601
1	A3-5	1	3-4		4	T2	8482
1	A3-6	1	3-5		4	T3	9086
1	A3-7	1	3-6		4	T4	9097
6	A3-8	1	3-7		2	T5	7642
1	A4-1	6	3-8		2	T6	8272
1	A4-2	1	4-1		2	T7	3201
1	A4-3	1	4-2		2	T8	7600
1	A4-4	1	4-3		2	T9	7583
1	A4-5	1	4-4		*: ADJUSTED FOR SLOPE		
1	A4-6	1	4-5				
1	A4-7	1	4-6				
1	A2-1	1	4-7		QTY.	Pc.Mk.	DESCRIPTION
1	A2-2	1	2-1		80	#4	CLAMP BARS
1	A2-3	1	2-2		232	#1	CLAMP BARS
1	A2-4	1	2-3		2	HS1	HANDRAIL SPLICE
1	A2-5	1	2-4		4	HS2	"
1	A2-6	1	2-5		4	TS1	TRAFFIC RAIL SPL.
1	A2-7	1	2-6		8	TS2	
		1	2-7	⌄	2	TS3	
		9	PP1	PALE PANEL ASSEM.	2	TS4	⌄
		2	PP2	"			
		24		POST PADS			
		24		ANCHOR BOLT ASSEMBLIES	2	TS5	TRAFFIC RAIL SPL.
240	M12 x 2 x 38 S.S. HEX HEAD BOLTS				2	TS6	TRAFFIC RAIL SPL.
160	M12 x 2 x 19 do				1	HS4	HANDRAIL SPLICE
464	M12 x 2 x 25 do				1	HS3	HANDRAIL SPLICE
560	M12 S.S. FLAT WASHER						
624	M12 ALUM. FLAT WASHERS						
240	M12 x 2 S.S. HEX NUTS						
320	"C" BOLTS						
24	GALV. ANCHOR PLATE						
120	M20 x 2.5 x 254 GALV. BOLT (A325 STL)						
120	M20 x 2.5 GALV. HEX NUT (A563)						
120	M20 GALV. WASHER (F436)						

ALL DIMENSIONS ARE IN MILLIMETRES

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RECIEVED 08/20/2009
CK BY THL OK BY WDL
ACTION APPROVED AS NOTED
BY CWC DATE 08/26/2009

ISSUE	DATE	DESCRIPTION	BY
1	8-13-09	FOR APPROVAL	B

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

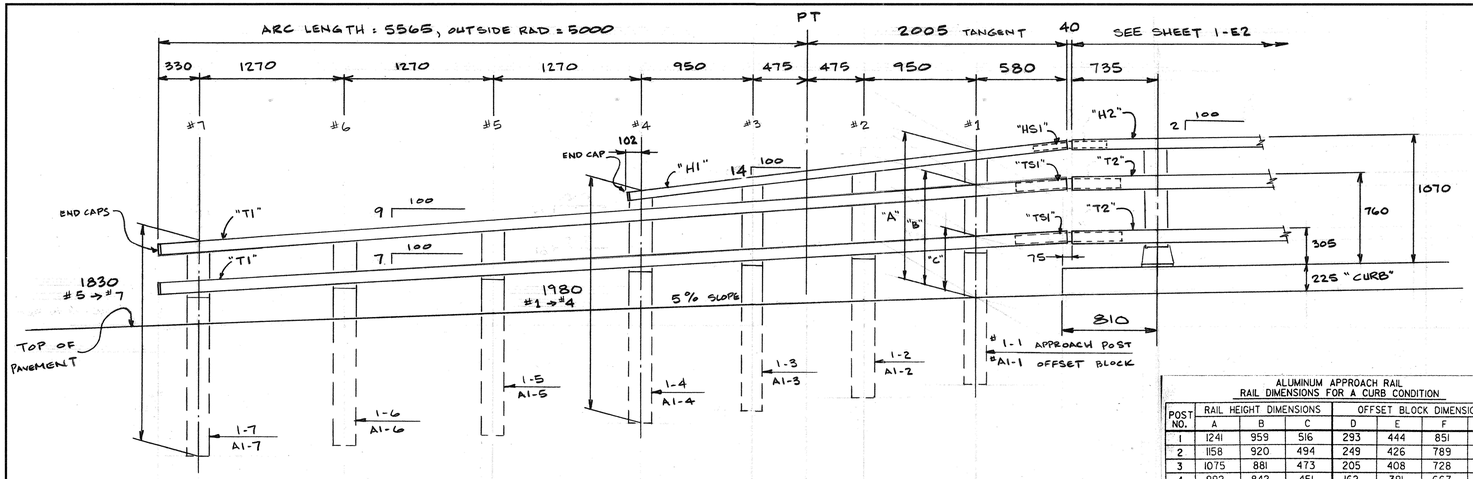
VERMONT AGENCY OF TRANSPORTATION
TOWN OF LINCOLN
COUNTY OF ADDISON
ROUTE NO.: T.H.9 CL 3 BRIDGE NO.: 43
PROJECT NO.: BRO 1445 (25)

ALUMINUM BRIDGE RAILING w/APPROACH

SURFACE PREP: NONE
FINISH: ANODIZED BLACK SATIN FINISH

FOR: F.R. LAFAYETTE, INC.
DR: 5/16/09
CHK:
JOB NO. AB97048-1001
DWG. NO. BR-2959
SHEET 1-E2 OF 4

BL MAKEPEACE INC. 1988/8

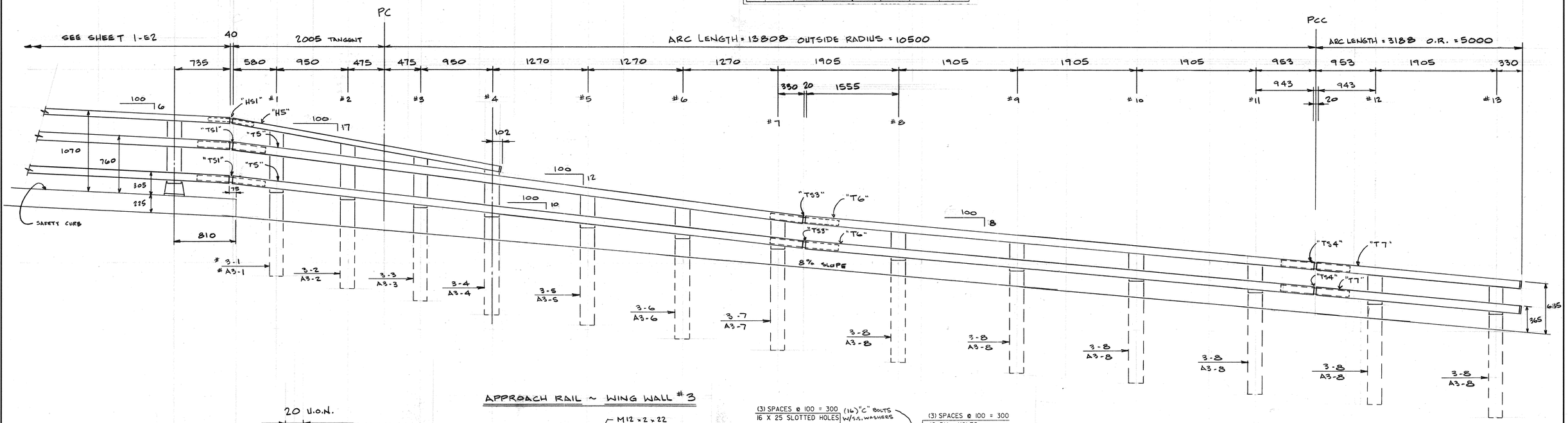


APPROACH RAIL ~ WING WALL #1

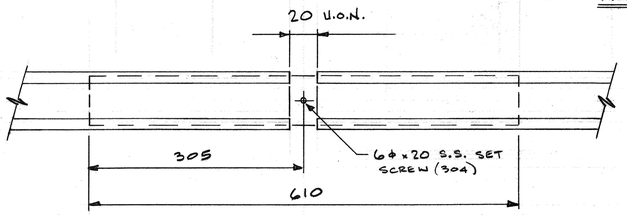
ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A CURB CONDITION

POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	1241	959	516	293	444	851	-
2	1158	920	494	249	426	789	-
3	1075	881	473	205	408	728	-
4	992	842	451	162	391	667	-
5	-	790	423	-	367	-	493
6	-	737	394	-	344	-	470
7	-	685	365	-	320	-	446

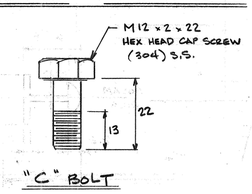
NOTE:
POST SPACINGS & RADII ARE GIVEN AT NOSE OF TRAFFIC RAIL.

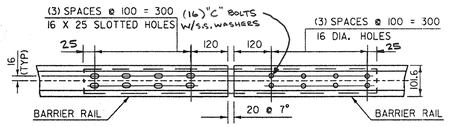


APPROACH RAIL ~ WING WALL #3

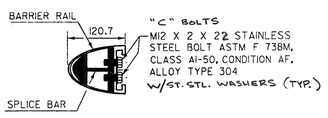


"HS2" HANDRAIL SPLICE (OUTBOARD VIEW)
SCALE: 3"=1'-0





ELEVATION OF BARRIER RAIL (FROM BACK) AT ALL INTERMEDIATE RAIL SPLICES



TYPICAL SECTION THROUGH BARRIER RAIL SPLICE

ALL DIMENSIONS ARE IN MILLIMETRES

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RECIEVED 08/20/2009
CK BY THL OK BY WDL
ACTION APPROVED
BY CWC DATE 08/26/2009

ISSUE	DATE	DESCRIPTION	BY
1	5-13-09	FOR APPROVAL	JS

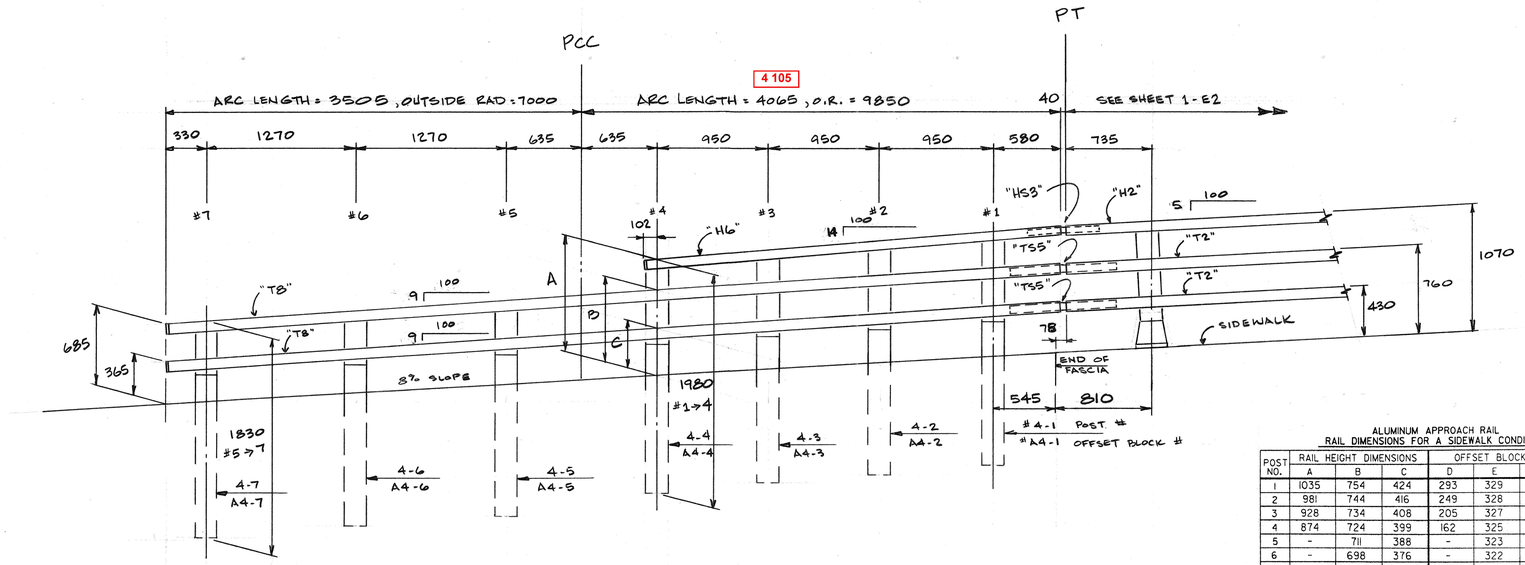
AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VERMONT AGENCY OF TRANSPORTATION
TOWN OF LINCOLN
COUNTY OF ADDISON
ROUTE NO: T.H.9 CL 3 BRIDGE NO. 48
PROJECT NO. BRO 1445 (25)

ALUMINUM APPROACH RAILING

SURFACE PREP: NONE
FINISH: ANODIZED BLACK SATIN FINISH
FOR: F.R. LAFAYETTE, INC.
DR: KAP 5/16/09
CHK:
DWG. NO. BR-2959
JOB NO. AB97048-1001
SHEET 1-E3 OF 4

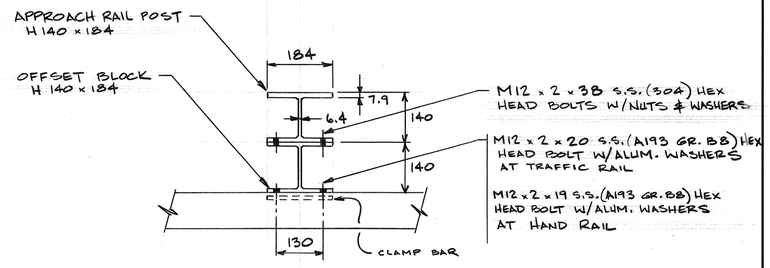
EL MASTERPIECE INC. 108618



APPROACH RAIL ~ WING WALL #4

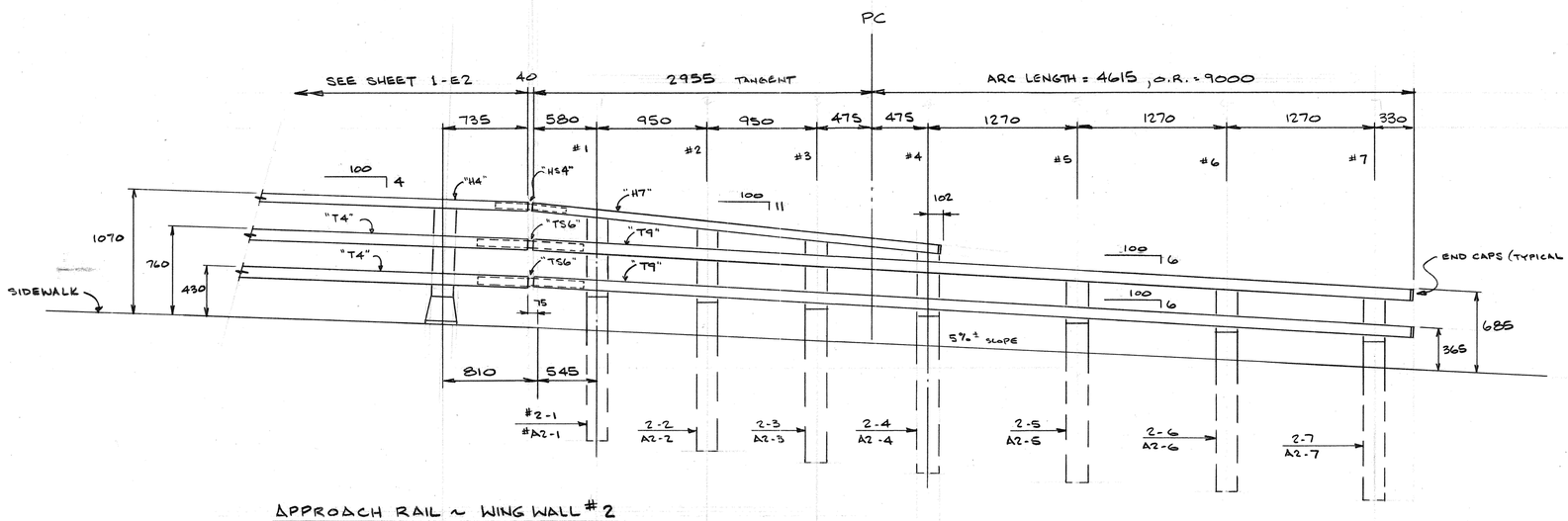
ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A SIDEWALK CONDITION

POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	1035	754	424	293	329	737	-
2	981	744	416	249	328	691	-
3	928	734	408	205	327	646	-
4	874	724	399	162	325	601	-
5	-	711	388	-	323	-	449
6	-	698	376	-	322	-	448
7	-	685	365	-	320	-	446



PLAN - APPROACH POST

NOTE:
POST SPACINGS & RADII ARE
GIVEN AT NOSE OF TRAFFIC RAIL



APPROACH RAIL ~ WING WALL #2

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RECIEVED 08/20/2009
CK BY THL OK BY WDL
ACTION APPROVED AS NOTED
BY CWC DATE 08/26/2009

ALL DIMENSIONS ARE IN MILLIMETRES

ISSUE	DATE	DESCRIPTION	BY
1	8-13-09	FOR APPROVAL	B

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

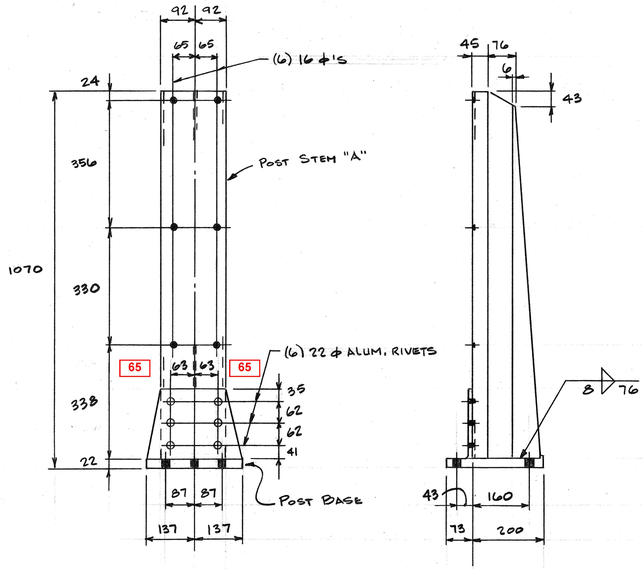
VERMONT AGENCY OF TRANSPORTATION
TOWN OF LINCOLN
COUNTY OF ADDISON
ROUTE NO.: T.H. 9 CL 3 BRIDGE No 48
PROJECT No. BRO 1445(25)

ALUMINUM APPROACH RAIL

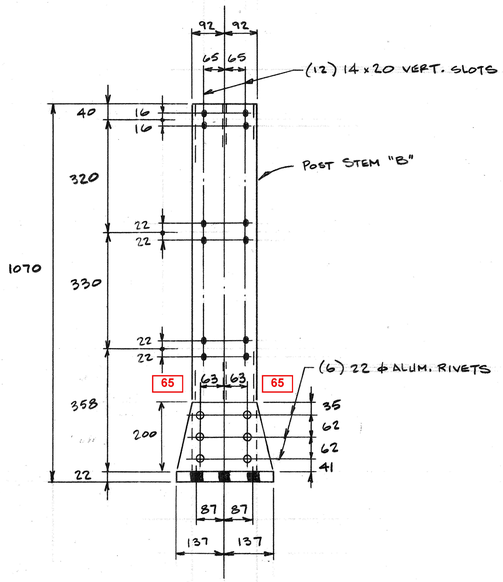
SURFACE PREP: NONE
FINISH: ANODIZED BLACK SATIN FINISH

FOR: F.R. LAFAYETTE, INC.
DR: 5/16/09
CHK:
DWG. NO. BR-2959
JOB NO. AB97048-1001
SHEET 1-E4 OF 4

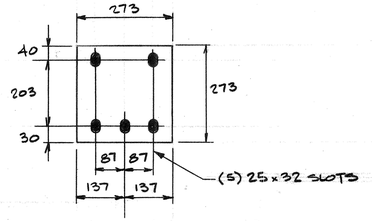
EL MARKERSPACE INC. - 100618



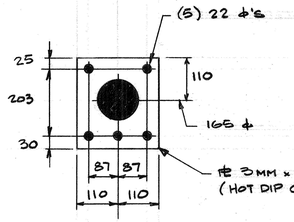
BRIDGE RAIL POST ~ "P1" (12 REQ'D.)



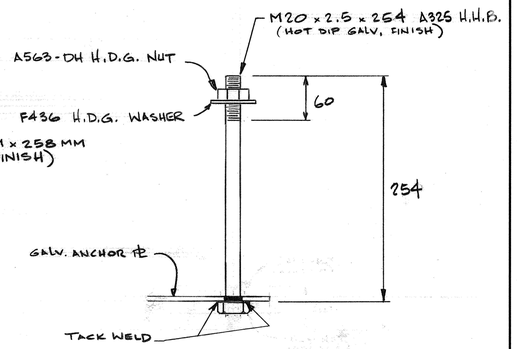
BRIDGE RAIL POST ~ "P2" (12 REQ'D.)



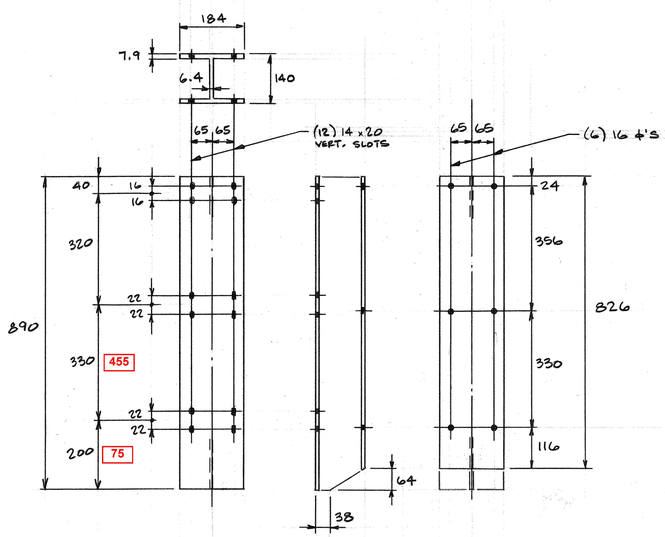
POST PAD (24 REQ'D.)
FABREKA SA-47 (3 MM THK.)



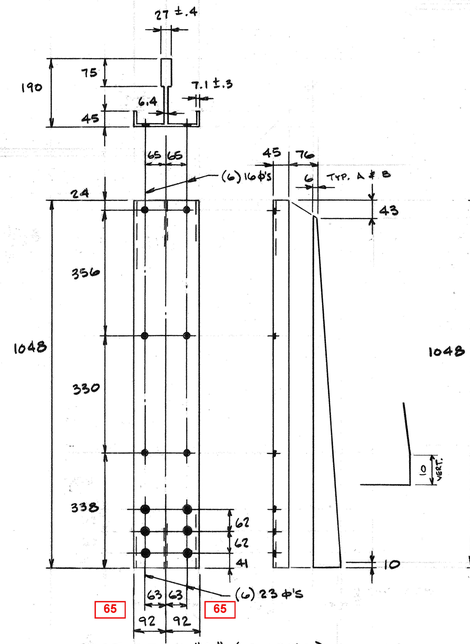
ANCHOR PLATE (24 REQ'D.)
AASHTO M 270M GR. 250



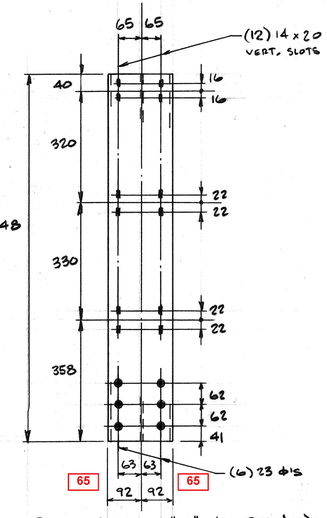
ANCHOR BOLT (120 REQ'D.)
AASHTO M164M (ASTM A449)



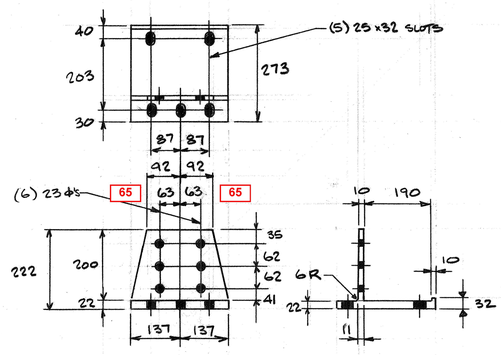
OFFSET BLOCKS ~ "P10S" (12 REQ'D.)
"H" SECTION 140 x 184 ALLOY 6061-T6



POST STEM ~ "A" (12 REQ'D.)
ALLOY 6061-T6



POST STEM ~ "B" (12 REQ'D.)
ALLOY 6061-T6



POST BASE (24 REQ'D.)
ALLOY 6061-T6

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RECIEVED 08/20/2009
CK BY THL OK BY WDL
ACTION APPROVED AS NOTED
BY CWC DATE 08/26/2009

ALL DIMENSIONS ARE IN MILLIMETRES

ISSUE	DATE	DESCRIPTION	BY
1	8-13-09	FOR APPROVAL	D

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

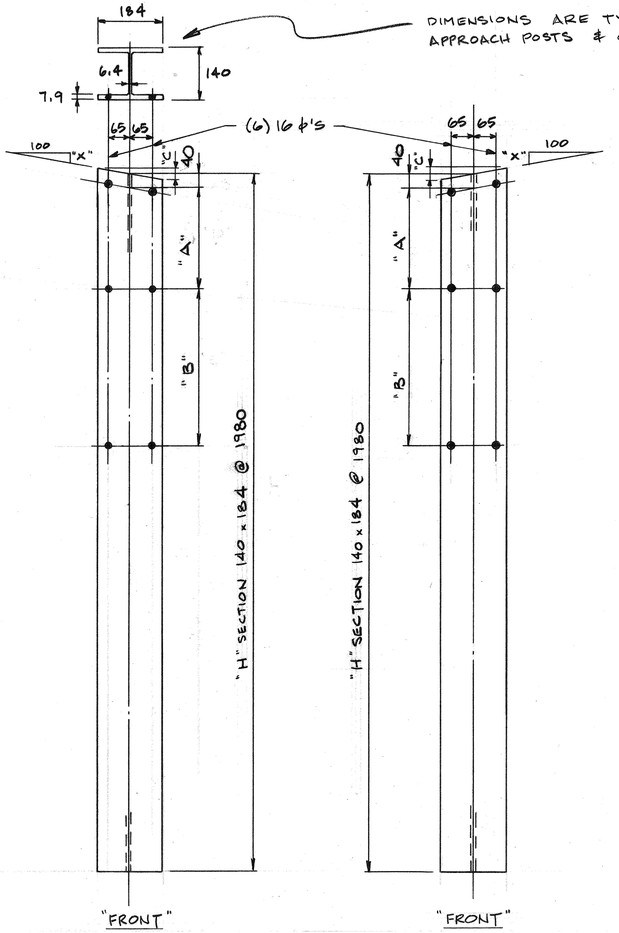
VERMONT AGENCY OF TRANSPORTATION
TOWN OF LINCOLN
COUNTY OF ADDISON
ROUTE NO. T.H.9 CL 3 BRIDGE NO. 48
PROJECT NO. BRO 1445 (25)

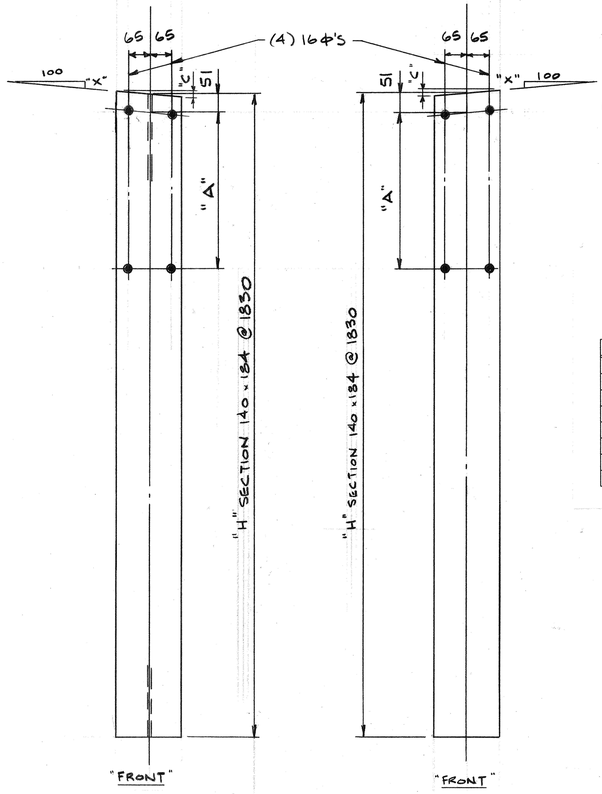
ALUM. BRIDGE RAILING POSTS

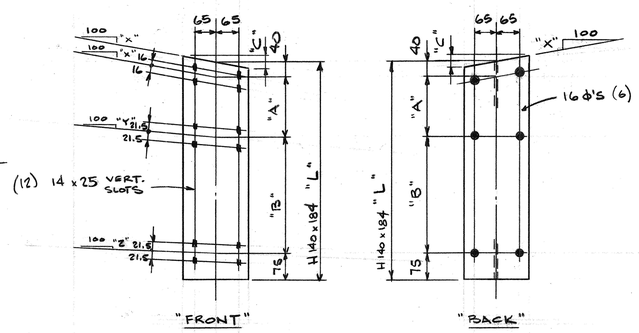
SURFACE PREP: NONE
FINISH: ANODIZED ~ BLACK, SATIN FINISH

FOR: F.R. LAFAYETTE, INC.
DR: APP 5/19/09
CHK:
DWG. NO. BR-2959
JOB NO. AB97048-1001
SHEET 1-F1 OF 4

ELI MAKESPACE INC. 190618







Approach Rail Posts #1 thru #4 — 14 ?

QTY.	Pc. Mk.	"X"	"A"	"B"	"C"
1	2-1	11	293	329	21
1	2-2	11	249	328	21
1	2-3	11	205	327	21
1	2-4	11	162	325	21
1	3-1	17	293	444	32
1	3-2	17	249	426	32
1	3-3	17	205	408	32
1	3-4	17	162	391	32

QTY.	Pc. Mk.	"X"	"A"	"B"	"C"
1	1-1	15	293	444	28
1	1-2	15	249	426	28
1	1-3	15	205	408	28
1	1-4	15	162	391	28
1	4-1	14	293	329	26
1	4-2	14	249	328	26
1	4-3	14	205	327	26
1	4-4	14	162	325	26

Approach Rail Posts #5 thru #7

QTY.	Pc. Mk.	"X"	"A"	"C"
1	2-5	6	323	11
1	2-6	6	322	11
1	2-7	6	320	11
1	3-5	12	367	22
1	3-6	12	344	22
1	3-7	12	320	22
6	3-8	8	320	15

QTY.	Pc. Mk.	"X"	"A"	"C"
1	1-5	9	367	17
1	1-6	9	344	17
1	1-7	9	320	17
1	4-5	9	323	17
1	4-6	9	322	17
1	4-7	9	320	17

Offset Blocks - Posts #1 thru #4

"As Detailed"

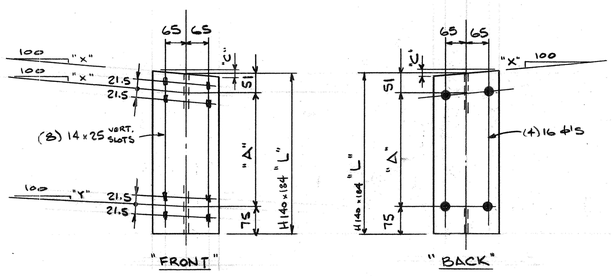
QTY.	Pc. Mk.	"L"	"X"	"Y"	"Z"	"A"	"B"	"C"
1	A2-1	737	11	6	6	293	329	21
1	A2-2	691	11	6	6	249	328	21
1	A2-3	646	11	6	6	205	327	21
1	A2-4	601	11	6	6	162	325	21
1	A3-1	851	17	10	8	293	444	32
1	A3-2	789	17	10	8	249	426	32
1	A3-3	728	17	10	8	205	408	32
1	A3-4	667	17	10	8	162	391	32

12 ? 10 ?

14 ?

"Opposite Hand"

QTY.	Pc. Mk.	"L"	"X"	"Y"	"Z"	"A"	"B"	"C"
1	A1-1	851	15	9	7	293	444	28
1	A1-2	789	15	9	7	249	426	28
1	A1-3	728	15	9	7	205	408	28
1	A1-4	667	15	9	7	162	391	28
1	A4-1	737	14	9	9	293	329	26
1	A4-2	691	14	9	9	249	328	26
1	A4-3	646	14	9	9	205	327	26
1	A4-4	601	14	9	9	162	325	26



Offset Blocks - Posts #5 thru #7

"As Detailed"

QTY.	Pc. Mk.	"L"	"X"	"Y"	"A"	"C"
1	A2-5	449	6	6	323	11
1	A2-6	448	6	6	322	11
1	A2-7	446	6	6	320	11
1	A3-5	493	12	10	367	22
1	A3-6	470	12	10	344	22
1	A3-7	446	12	10	320	22
6	A3-8	446	8	8	320	15

"Opposite Hand"

QTY.	Pc. Mk.	"L"	"X"	"Y"	"A"	"C"
1	A1-5	449	9	7	367	17
1	A1-6	448	9	7	344	17
1	A1-7	446	9	7	320	17
1	A4-5	493	9	9	323	17
1	A4-6	448	9	9	322	17
1	A4-7	446	9	9	320	17

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RECIEVED 08/20/2009
CK BY THL OK BY WDL
ACTION APPROVED AS NOTED
BY CWC DATE 08/26/2009

ALL DIMENSIONS ARE IN MILLIMETRES

ISSUE	DATE	DESCRIPTION	BY
1	8.13.09	FOR APPROVAL	TJ

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

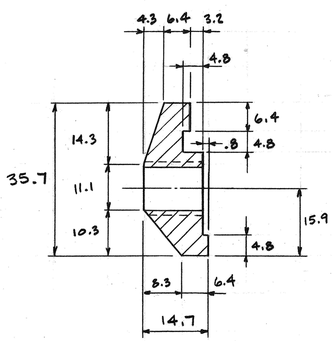
VERMONT AGENCY OF TRANSPORTATION
TOWN OF LINCOLN
COUNTY OF ADDISON
ROUTE NO. T.H.9 CL3 BRIDGE NO. 48
PROJECT NO. BRO 1445(28)

ALUM. APPROACH RAIL POSTS

SURFACE PREP: NONE
FINISH: ANODIZED BLACK SATIN FINISH

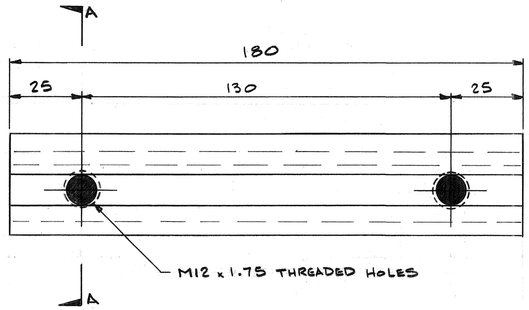
FOR: F.R. LAFAYETTE, INC.
DR: KAP 5/20/09
CHK:
DWG. NO. BR-2959
JOB NO. AB97048-1001
SHEET 1-F2 OF 4

BL MAXSPACE INC. 108816

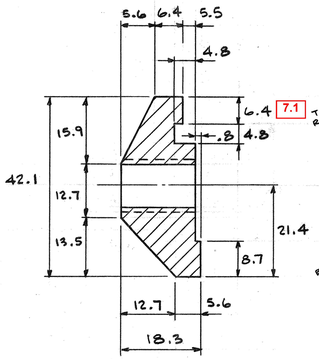


CLAMP BAR #4 (80 REQ'D.)

SECT. A-A

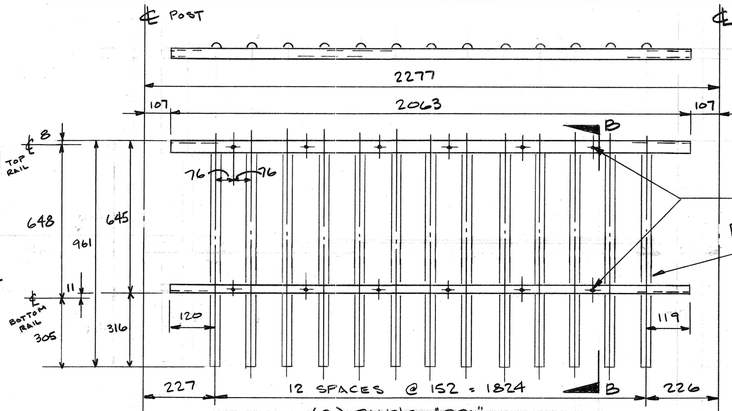


"CLAMP BAR"
ALLOY 6061-T6

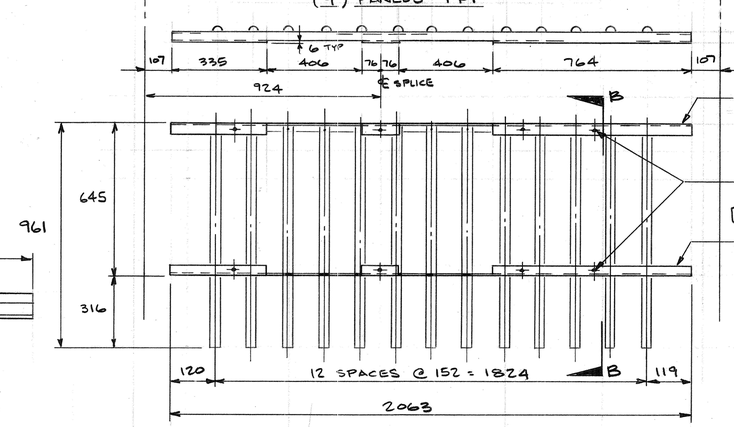


CLAMP BAR #1 (232 REQ'D.)

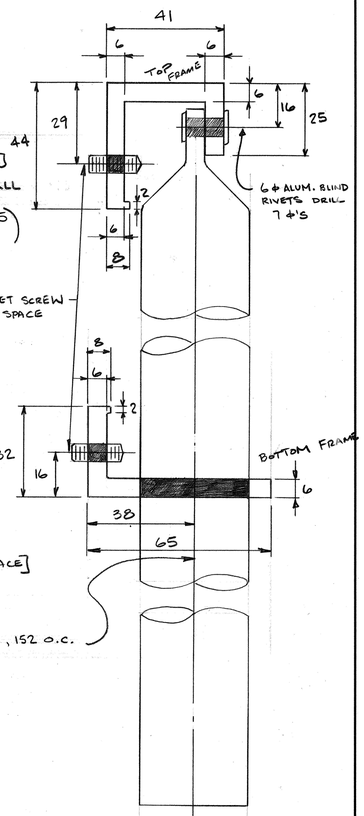
SECT. A-A



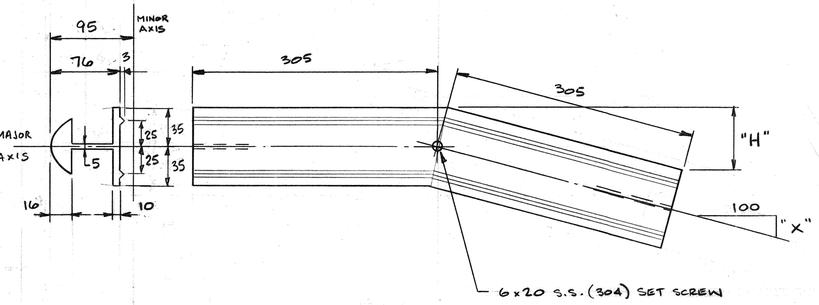
(9) PANELS "PP1"



(3) PANELS "PP2"

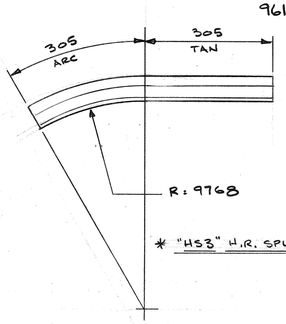


SECT. B-B



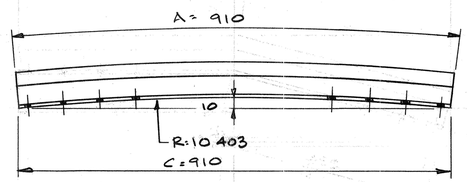
HANDRAIL SPLICE
ALLOY 6061-T6

QTY	Pc. MK.	"X"	"H"
2	HS1	9	27
4	HS2	0	0
1	HS3 *	6	18
1	HS4	7	21



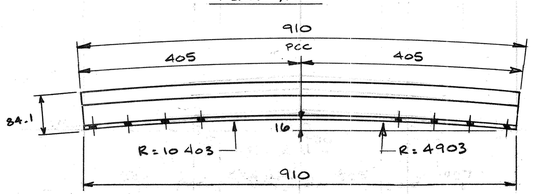
* "HS3" H.R. SPLICE (1) REQ'D.

"PLAN VIEW"



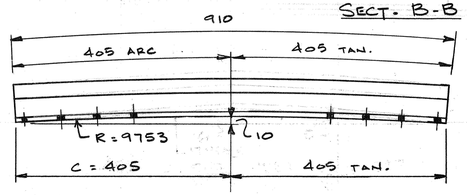
TRAFFIC RAIL SPLICE ~"TS3" (2 REQ'D.)
ALLOY 6061-T6

PLAN X-X



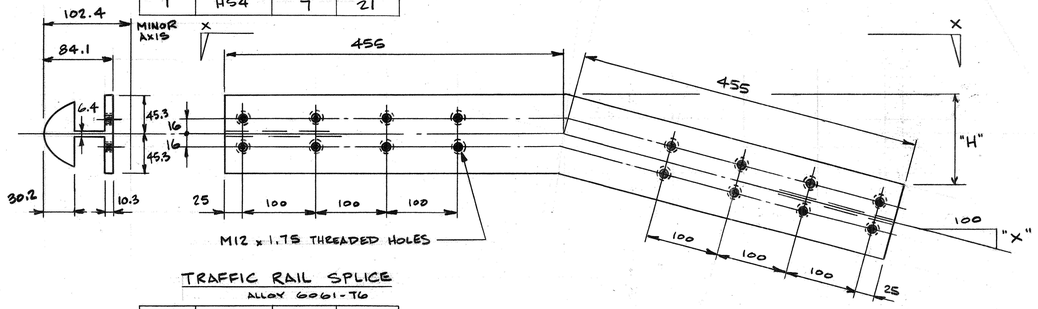
TRAFFIC RAIL SPLICE ~ "TS4" (2 REQ'D.)
ALLOY 6061-T6

PLAN X-X



TRAFFIC RAIL SPLICE ~ "TS5" (2 REQ'D.)
ALLOY 6061-T6

PLAN X-X



TRAFFIC RAIL SPLICE
ALLOY 6061-T6

QTY.	Pc. MK.	"X"	"H"
4	TS1	9	41
8	TS2	0	0
2	TS3 *	3	14
2	TS4 *	0	0
2	TS5 *	1	5
2	TS6	1	5

* = DOUBLE BEND

ALL DIMENSIONS ARE IN MILLIMETRES

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RECIEVED 08/20/2009

CK BY THL OK BY WDL

ACTION APPROVED AS NOTED

BY CWC DATE 08/26/2009

ISSUE	DATE	DESCRIPTION	BY
1	8-13-09	FOR APPROVAL	TB

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VERMONT AGENCY OF TRANSPORTATION
TOWN OF LINCOLN
COUNTY OF ADDISON
ROUTE NO. T.H. 9 CL3 BRIDGE NO. 48
PROJECT NO. BRO 1445 (25)

ALUMINUM BRIDGE RAILING COMPONENTS

SURFACE PREP: NONE
FINISH: ANODIZE BLACK SATIN FINISH

FOR: F.R. LAFAYETTE, INC.

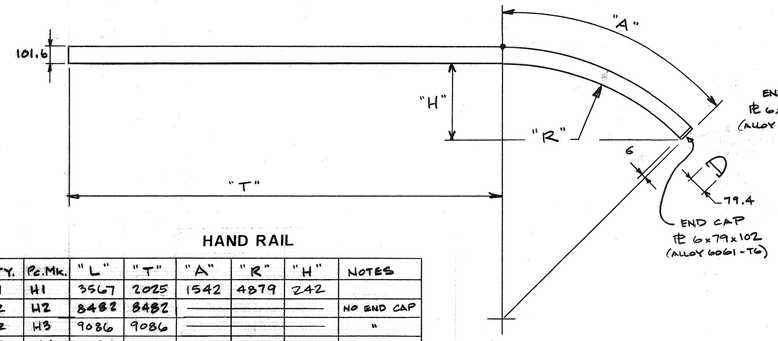
DR: [illegible] 5/22/09
CHK:

JOB NO. AB97048-1001

DWG. NO. BR-2959

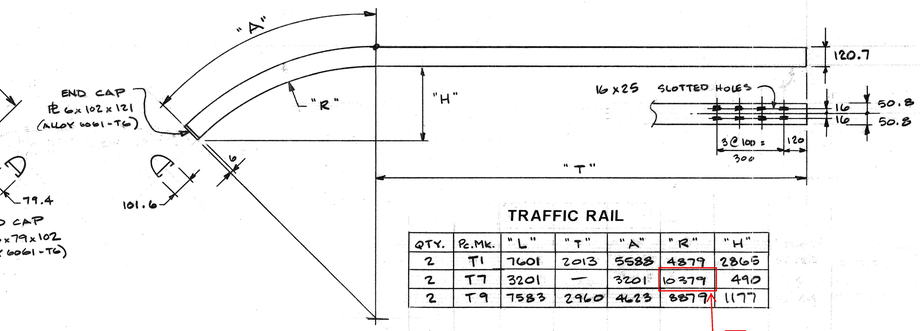
SHEET 1-F3 OF 4

B:_MAKEPIECES INC - 100519



HAND RAIL

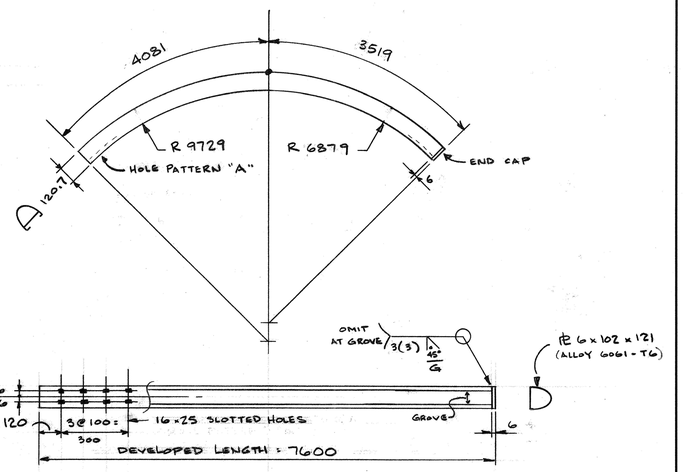
QTY.	Pc.Mk.	"L"	"T"	"A"	"R"	"H"	NOTES
1	H1	3567	2025	1542	4879	242	
2	H2	8482	8482	—	—	—	NO END CAP
2	H3	9086	9086	—	—	—	"
2	H4	9097	9097	—	—	—	"
1	H5	3583	2034	1549	10379	115	"
1	H6	3587	—	3557	9729	643	"
1	H7	3555	2974	581	8879	19	



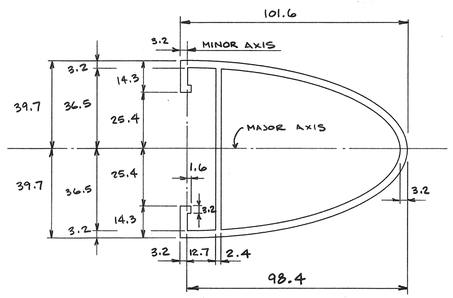
TRAFFIC RAIL

QTY.	Pc.Mk.	"L"	"T"	"A"	"R"	"H"
2	T1	7601	2013	5588	4879	2865
2	T7	3201	—	3201	10379	490
2	T9	7583	2960	4623	8879	1177

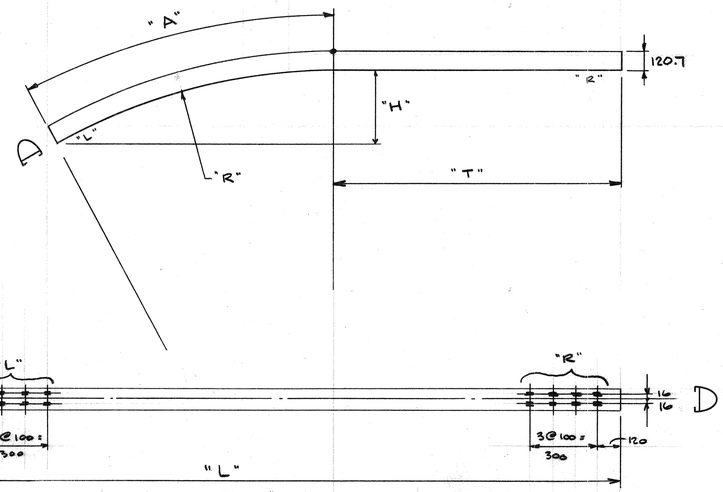
?



TRAFFIC RAIL ~ "T8" (2 REQ'D.)

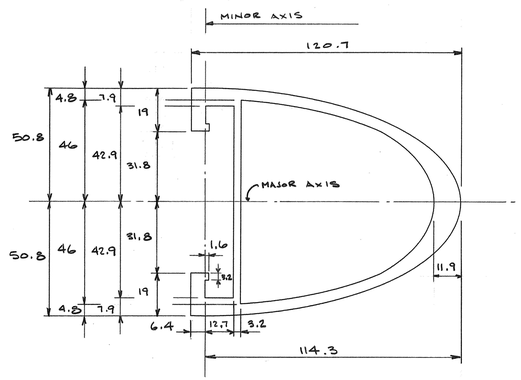


HAND RAIL



"TRAFFIC RAIL"

QTY.	R.Mk.	"L"	"T"	"A"	"R"	"H"	HOLES "L"	HOLES "R"
4	T3	9086	—	—	—	—	16x25	16
2	T5	7624	2019	5605	10379	1477	16	16x25
2	T6	8272	—	8272	10379	3126	16	16x25
4	T2	8482	—	—	—	—	16x25	16x65
4	T4	9097	—	—	—	—	16	16x65



TRAFFIC RAIL

MATERIAL:

- HAND RAIL & TRAFFIC RAIL EXTRUSIONS SHALL BE ALUMINUM ALLOY 6061-T6 (ASTM B221)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RECIEVED 08/20/2009

CK BY THL OK BY WDL

ACTION APPROVED AS NOTED

BY CWC DATE 08/26/2009

ALL DIMENSIONS ARE IN MILLIMETRES

ISSUE	DATE	DESCRIPTION	BY
1	8-13-09	FOR APPROVAL	

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VERMONT AGENCY OF TRANSPORTATION
TOWN OF LINCOLN
COUNTY OF ADDISON
ROUTE No. T.H. 9 CL3 BRIDGE No. 48
PROJECT No. BRO 1445 (25)

ALUMINUM BRIDGE RAILING

SURFACE PREP: NONE
FINISH: ANODIZED BLACK SATIN FINISH

FOR: F.R. LAFAYETTE, INC.

DR: 5/29/09
CHK:

DWG. NO. BR-2959

JOB NO. AB97048-1001

SHEET 1-F4 OF 4

BL-MASSPEACE INC. 100818