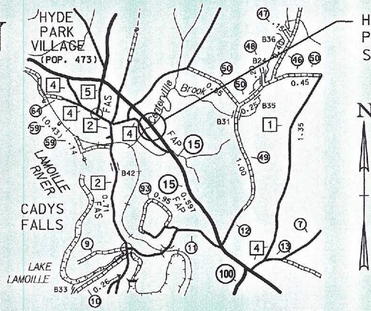
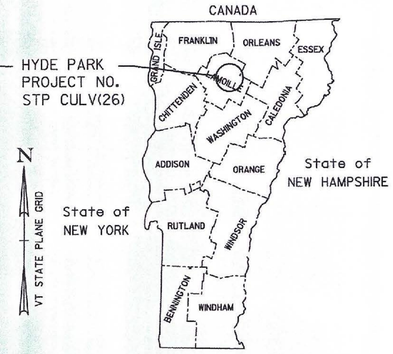
STATE OF VERMONT
AGENCY OF TRANSPORTATION

SEE SHEET 2 FOR INDEX OF SHEETS AND STANDARDS LIST.



HYDE PARK PROJECT NO. STP CULV(26)

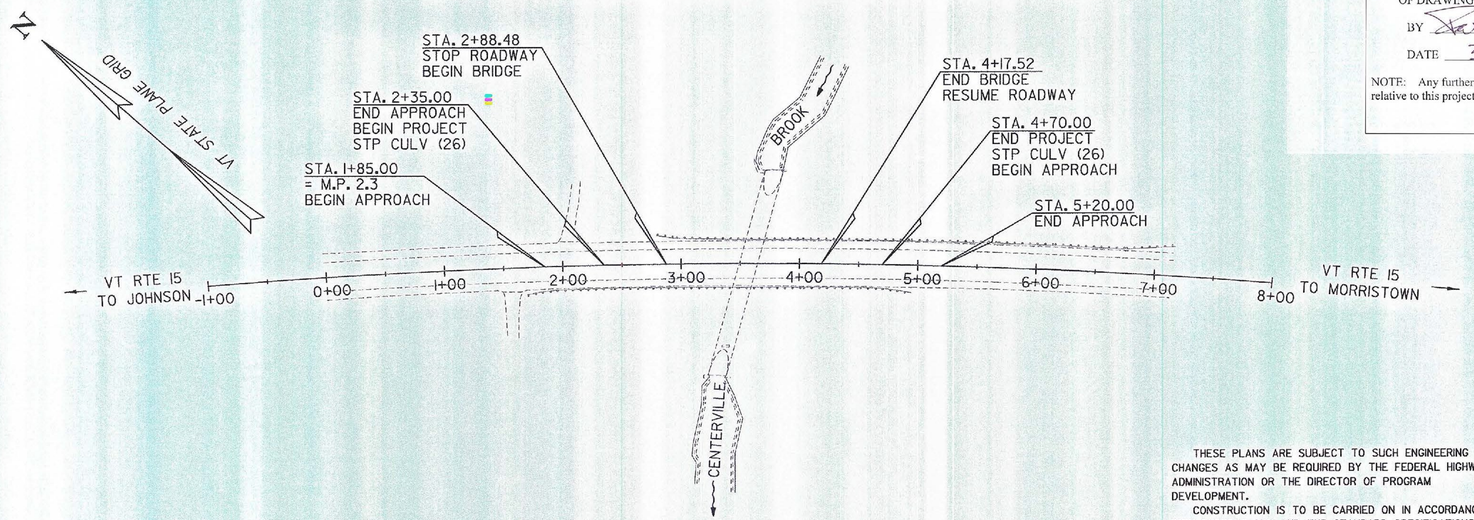


PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF HYDE PARK
COUNTY OF LAMOILLE
VT. ROUTE 15 (MINOR ARTERIAL) BRIDGE NO. 42

BEGINNING AT A POINT, ON VT ROUTE 15, IN THE TOWN OF HYDE PARK APPROXIMATELY 2959 FEET (0.560 MILES) WESTERLY OF HYDE PARK/MORRISTOWN TOWN LINE AND EXTENDING EASTERLY ALONG VT ROUTE 15 APPROXIMATELY 235 FEET (0.045 MILES).

STRUCTURE LENGTH:	129.04	FEET = 0.024 MILES
ROADWAY LENGTH:	105.96	FEET = 0.020 MILES
PROJECT LENGTH:	235.00	FEET = 0.045 MILES

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REPLACEMENT OF BRIDGE #42 WITH A NEW BRIDGE ON EXISTING ALIGNMENT WITH CHANNEL WORK AND OTHER RELATED HIGHWAY ITEMS.



QUALITY ASSURANCE PROGRAM: LEVEL 2

CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
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
TOP OF CUT
TOE OF SLOPE

SURVEYED BY : R. GAUVIN PC & T. YEFCHAK

SURVEYED DATE : 4/23/2012

DATUM
VERTICAL NAVD 88 (GEOID09) FT
HORIZONTAL NAD 83 (CORS) sFT

60 0 60
SCALE IN FEET

RECORD PLANS

CONTRACTOR: A.L. ST. ONGE CONTRACTOR, INC. – MONTGOMERY, VT

RESIDENT ENGINEER: ROBERT SUCKERT

CONSTRUCTION BEGAN: APRIL 23, 2014

CONSTRUCTION COMPLETE: NOVEMBER 14, 2014

RECORD PLANS BY: ROBERT SUCKERT & KEVIN KING

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

BY _____ RESIDENT ENGINEER

DATE 3-2-17

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.

BUILT AS DESIGNED

STATE OF VERMONT
RICHARD M. HEBERT
No. 17761
REGISTERED
PROFESSIONAL ENGINEER

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 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

T·Y·LIN INTERNATIONAL

DIRECTOR OF PROGRAM DEVELOPMENT

APPROVED _____ DATE 11-12-13

PROJECT MANAGER : DANNY LANDRY, P.E.

PROJECT NAME : HYDE PARK

PROJECT NUMBER : STP CULV(26)

SHEET 1 OF 60 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version 12.01.01c

LRFD

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STANDARDS LIST

B-5	SLOPE GRADING, EMBANKMENTS, MUCK	06-01-1994
C-10	CURBING	02-11-2008
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-134	BRIDGE NUMBER PLAQUE	08-08-1995
E-142	REGULATORY SIGN DETAILS	09-20-1995
E-193	PAVEMENT MARKING DETAILS	08-18-1995
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	01-03-2000
G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN)	01-03-2000
G-4	PLANK RAIL, GUIDE POSTS, MARKER POSTS	06-01-1994
G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	11-15-2002
S-360a	BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM	04-23-2012
S-360b	GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM	04-23-2012
T-1	TRAFFIC CONTROL GENERAL NOTES	08-06-2012
T-17	TRAFFIC CONTROL MISCELLANEOUS DETAILS	08-06-2012
T-24	TRAFFIC CONTROL FOR MAINTENANCE PAVEMENT MARKING OPERATION	08-06-2012
T-28	CONSTRUCTION SIGN DETAILS	08-06-2012
T-29	CONSTRUCTION SIGN DETAILS	08-06-2012
T-30	CONSTRUCTION SIGN DETAILS	08-06-2012
T-35	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS	08-06-2012
T-36	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS FOR PAVING	08-06-2012
T-40	DELINEATORS AND MILEPOSTS	01-02-2013
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013

STRUCTURES DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES	05-07-2010
SD-502.00	CONCRETE DETAILS AND NOTES	10-10-2012
SD-516.10	BRIDGE JOINT, ASPHALTIC PLUG	05-07-2010
SD-601.00	STRUCTURAL STEEL, DETAILS & NOTES	06-05-2010
SD-602.00	STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES	05-02-2011

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

DATE: 4/17/2013

DRAINAGE AREA: 8.0 sq. mi.
CHARACTER OF TERRAIN: HILLY TO MOUNTAINOUS VALLEY SETTING
STREAM CHARACTERISTICS: CHANNELIZED SINUOUS, LITTLE TO NO FLOODPLAIN
NATURE OF STREAMBED: SAND AND GRAVEL

Q 2.33 =	400 CFS	Q50 =	1450 CFS
Q 10 =	900 CFS	Q 100 =	1700 CFS
Q 25 =	1170 CFS	Q 500 =	2280 CFS

DATE OF FLOOD OF RECORD: UNKNOWN
ESTIMATED DISCHARGE: UNKNOWN
WATER SURFACE ELEVATION: UNKNOWN
NATURAL STREAM VELOCITY: 6.9 FPS AT Q50 = 1450 CFS
ICE CONDITIONS: LOW
DEBRIS: LOW TO MODERATE
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? NO
IS ORDINARY RISE RAPID? NO
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO
IF YES, DESCRIBE N/A

WATERSHED STORAGE: 7%
HEADWATERS: -
UNIFORM: X
IMMEDIATELY ABOVE SITE: -

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: 15 FT DIAMETER CMPP
YEAR BUILT: 1959
CLEAR SPAN (NORMAL TO STREAM): 15 FT
VERTICAL CLEARANCE ABOVE STREAMBED: 15 FT
WATERWAY OF FULL OPENING: 177 SQ FT
DISPOSITION OF STRUCTURE: COMPLETE REMOVAL
TYPE OF MATERIAL UNDER SUBSTRUCTURE: SAND AND GRAVEL

WATER SURFACE ELEVATIONS AT: UPSTREAM END OF CULVERT

Q 2.33 =	609.2 FT	VELOCITY =	20.8 FT/SEC
Q 10 =	613.0 FT	"	24.8 FT/SEC
Q 25 =	614.8 FT	"	26.2 FT/SEC
Q50 =	616.4 FT	"	27.3 FT/SEC
Q 100 =	617.8 FT	"	28.1 FT/SEC

LONG TERM STREAMBED CHANGES: END OF EXISTING PIPE HANGING APPROX. 2 FT

IS THE ROADWAY OVERTOPPED BELOW Q100? No
FREQUENCY: >Q500
RELIEF ELEVATION: 632.0 +/-
DISCHARGE OVER ROAD @ Q100: N/A

UPSTREAM STRUCTURE

TOWN: HYDE PARK — DISTANCE: 1 MI
HIGHWAY #: SILVER RIDGE ROAD — STRUCTURE #: N/A
CLEAR SPAN: UNKNOWN — CLEAR HEIGHT: UNKNOWN
YEAR BUILT: UNKNOWN — FULL WATERWAY: UNKNOWN
STRUCTURE TYPE: CULVERT

DOWNSTRUCTURE STRUCTURE

TOWN: HYDE PARK — DISTANCE: 900 FT
HIGHWAY #: EAST MAIN STREET — STRUCTURE #: 41
CLEAR SPAN: UNKNOWN — CLEAR HEIGHT: UNKNOWN
YEAR BUILT: UNKNOWN — FULL WATERWAY: UNKNOWN
STRUCTURE TYPE: UNKNOWN

PROPOSED STRUCTURE

STRUCTURE TYPE: SINGLE SPAN STEEL GIRDER

CLEAR SPAN (NORMAL TO STREAM): 122.0 FT
VERTICAL CLEARANCE ABOVE STREAMBED: 29.3 FT
WATERWAY OF FULL OPENING: 2364 SQ FT

WATER SURFACE ELEVATIONS AT: ONE BRIDGE LENGTH UPSTREAM

Q 2.33 =	607.0 FT	VELOCITY =	8.7 FT/SEC
Q 10 =	608.4 FT	"	11.8 FT/SEC
Q 25 =	608.9 FT	"	13.1 FT/SEC
Q50 =	609.5 FT	"	14.3 FT/SEC
Q 100 =	609.9 FT	"	15.1 FT/SEC

IS THE ROADWAY OVERTOPPED BELOW Q100? No
FREQUENCY: >Q500
RELIEF ELEVATION: 632.0 +/-
DISCHARGE OVER ROAD @ Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 628.9 FT
VERTICAL CLEARANCE: 19.4 FT @ Q50

SCOUR: CONTRACTION SCOUR FOR Q100 IS 2.3 FT (Q500 IS 3.3 FT)

REQUIRED CHANNEL PROTECTION: 4 FT THICK, STONE FILL, TYPE IV

PERMIT INFORMATION

AVERAGE DAILY FLOW:	20 CFS	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	10 CFS	603.9 FT
ORDINARY HIGH WATER:	180 CFS	606.9 FT

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: N/A
CLEAR SPAN (NORMAL TO STREAM): N/A
VERTICAL CLEARANCE ABOVE STREAMBED: N/A
WATERWAY AREA OF FULL OPENING: N/A

ADDITIONAL INFORMATION

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A.STR.	4A.STR.	5A.SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY	2.83	1.20					
POSTING							
OPERATING	3.68	1.56	1.98	1.17	1.96	1.75	1.77
COMMENTS:							

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TWO-WAY TRAFFIC USING TEMPORARY ROADWAY AND EXISTING AND PROPOSED STRUCTURES.
2. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

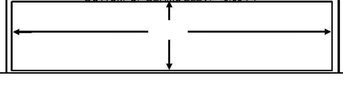
1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	2.5 INCH
3. DESIGN SPAN	L:	128.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	0.00 INCH
5. PRESTRESSING STRAND (0.375 INCH DIAMETER - LOW RELAX)	f_y:	270 KSI
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	5.0 KSI
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	4.0 KSI
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	---
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	3.5 KSI
11. CONCRETE, CLASS C	f'_c:	---
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270 (WEATHERING)	f_y:	50 KSI
14. SOIL UNIT WEIGHT	γ:	0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	---
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
17. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	---
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
19. NOMINAL AXIAL PILE RESISTANCE	q_p:	585.0 KIPS
20. PILE YIELD STRENGTH ASTM A572	f_y:	50 KSI
21. PILE SIZE		HP 12X74
22. EST. PILE LENGTHS (TWO SUBSTRUCTURES) (ABUTMENT 1 = 27 AND ABUTMENT 2 = 21) FT	L_p:	
23. PILE RESISTANCE FACTOR	ϕ:	0.65
24. LATERAL PILE DEFLECTION	Δ:	0.50 INCH
25. BASIC WIND SPEED	V_{3s}:	100 MPH
26. MINIMUM GROUND SNOW LOAD	p_g:	---
27. SEISMIC DATA PGA: 9 %g	S_s:	19 %g
	S_1:	6 %g

AS BUILT "REBAR" DETAILS

LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

TEMPORARY BRIDGE PROFILE ALONG TEMP CL

BOTTOM OF BEAMS ELEV. = 0.00 FT



TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2014	9900	1100	59	6.8	740
2034	10500	1200	59	11	1300

20 year ESAL for flexible pavement from 2015 to 2035 : 3856000
40 year ESAL for flexible pavement from 2015 to 2055 : 8904000
Design Speed : 50 mph

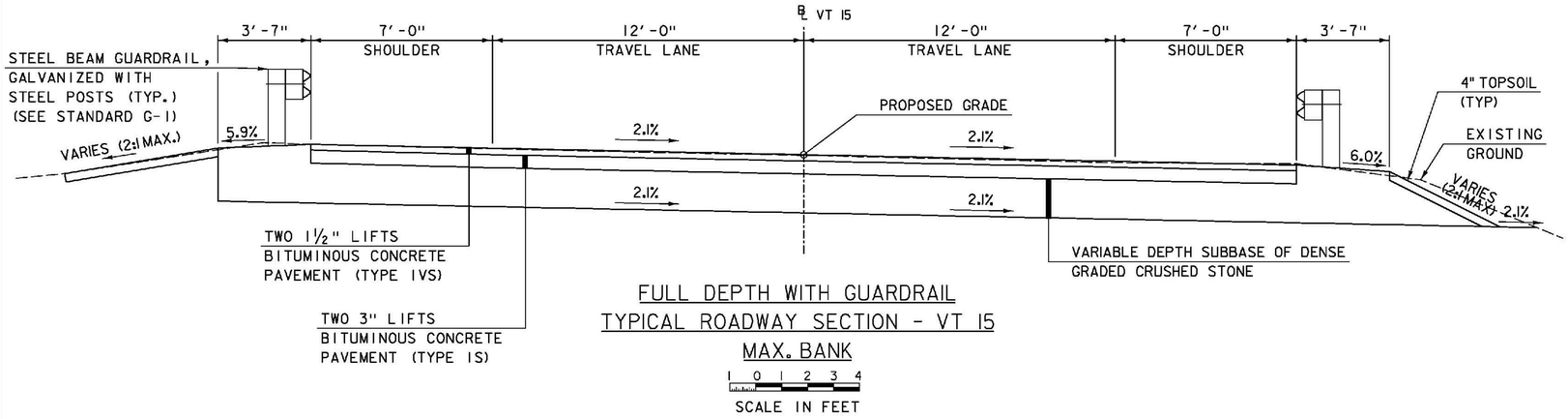
PILE DRIVING AND TESTING REQUIREMENTS

1. NOMINAL PILE DRIVING CAPACITY — R_{ndr}: 585.00 KIP
2. PILE TEST RESISTANCE FACTOR — ϕ: 0.65
3. MAXIMUM PILE TIP ELEVATION — See Below
4. PILES SHALL BE DRIVEN A MINIMUM OF 18 FT BELOW BOTTOM OF ABUTMENT ELEVATIONS, REGARDLESS IF REQUIRED DRIVING RESISTANCE HAS BEEN MET.

PROJECT NAME: **HYDE PARK**
PROJECT NUMBER: **STP CULV(26)**

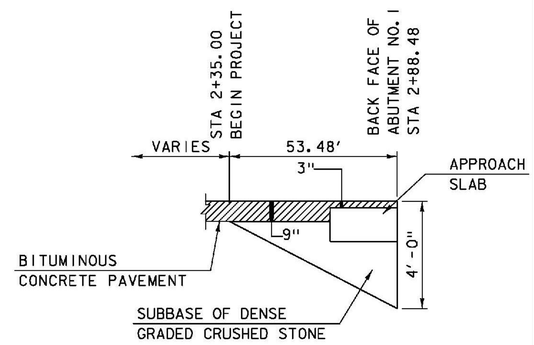
FILE NAME: **z11b292bdrpi.dgn**
PROJECT LEADER: **R. HEBERT**
DESIGNED BY: **J. OLUND**
PRELIMINARY INFORMATION SHEET

PLOT DATE: 11/5/2013
DRAWN BY: **T. KELLEY**
CHECKED BY: **R. HEBERT**

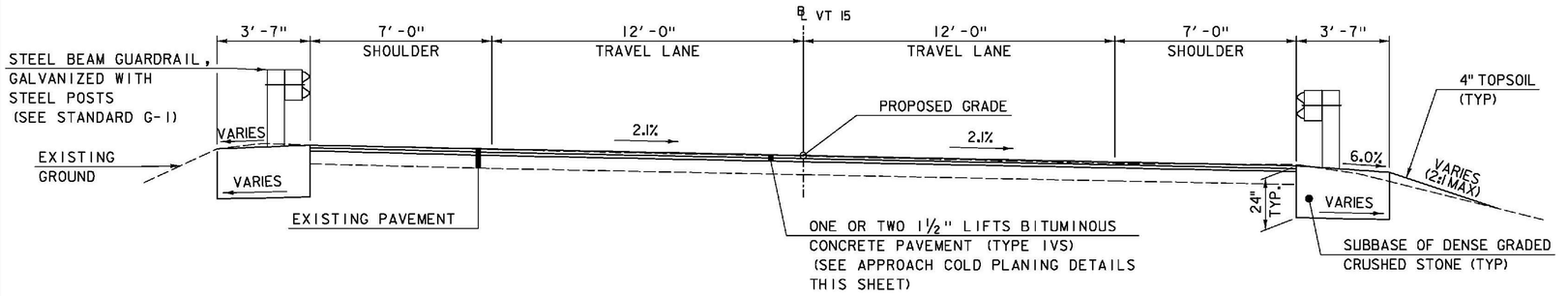


FULL DEPTH WITH GUARDRAIL
TYPICAL ROADWAY SECTION - VT 15
MAX. BANK

SCALE IN FEET

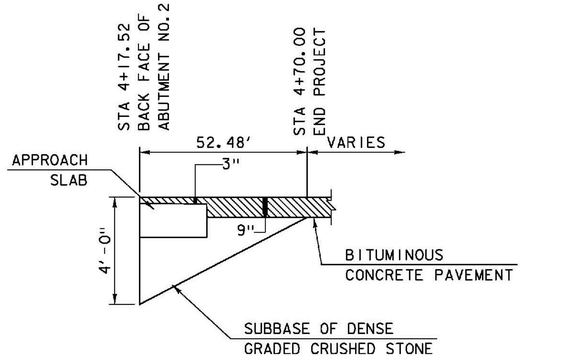


SUBBASE TAPER - WEST APPROACH
ALONG ℄ VT 15
NOT TO SCALE



COLD PLANE
TYPICAL APPROACH SECTION - VT 15

SCALE IN FEET



SUBBASE TAPER - EAST APPROACH
ALONG ℄ VT 15
NOT TO SCALE

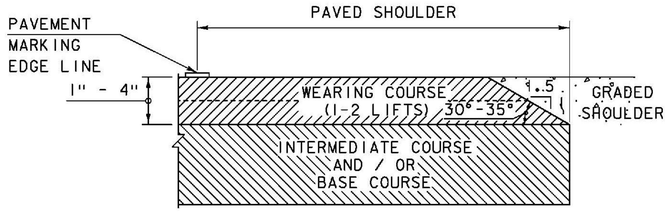
NOTES:

1. DELINEATOR POSTS: TO BE PLACED IN ACCORDANCE WITH STANDARD SHEET T-40.
2. SLOPE ROUNDING: ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B-5.
3. TACK COAT: EMULSIFIED ASPHALT SHALL BE APPLIED TO THE COLD PLANED BITUMINOUS CONCRETE PAVEMENT SURFACE AT THE RATE OF 0.040 GAL./SY. OR AS DIRECTED BY THE ENGINEER. EMULSIFIED ASPHALT SHALL ALSO BE APPLIED BETWEEN ALL LIFTS OF PAVEMENT. THE COST SHALL BE PAID UNDER ITEM 404.65, "EMULSIFIED ASPHALT".

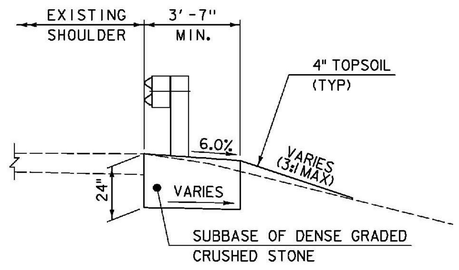
MATERIAL TOLERANCES

(IF USED ON PROJECT)

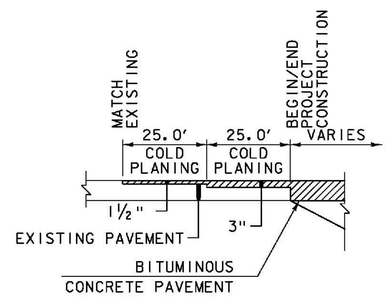
	TOTAL DEPTH
SURFACE - PAVEMENT	+/- ¼"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"



SAFETY EDGE DETAIL
NOT TO SCALE



TYPICAL
GUARDRAIL SECTION - VT 15
STA -0+60.33, RT TO STA 1+50.63, RT
STA 1+62.51, RT TO STA 1+85.00, RT
STA 5+20.00, RT TO STA 6+15.51, RT



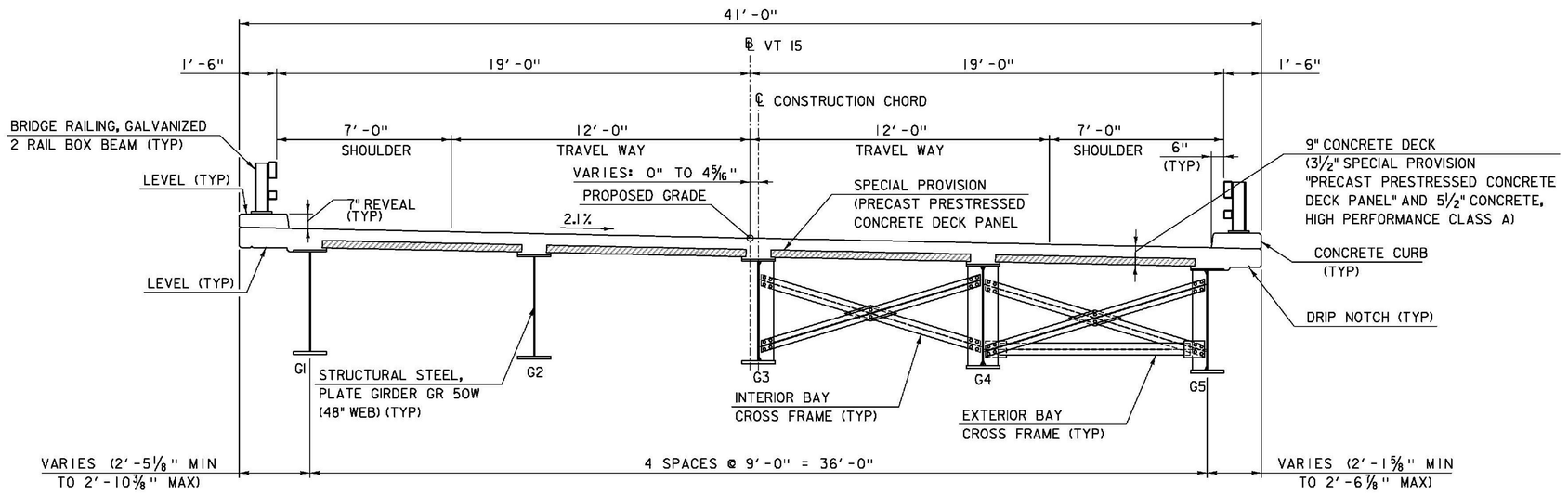
APPROACH COLD PLANING
ALONG ℄ VT 15
NOT TO SCALE

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

T.Y.LIN INTERNATIONAL

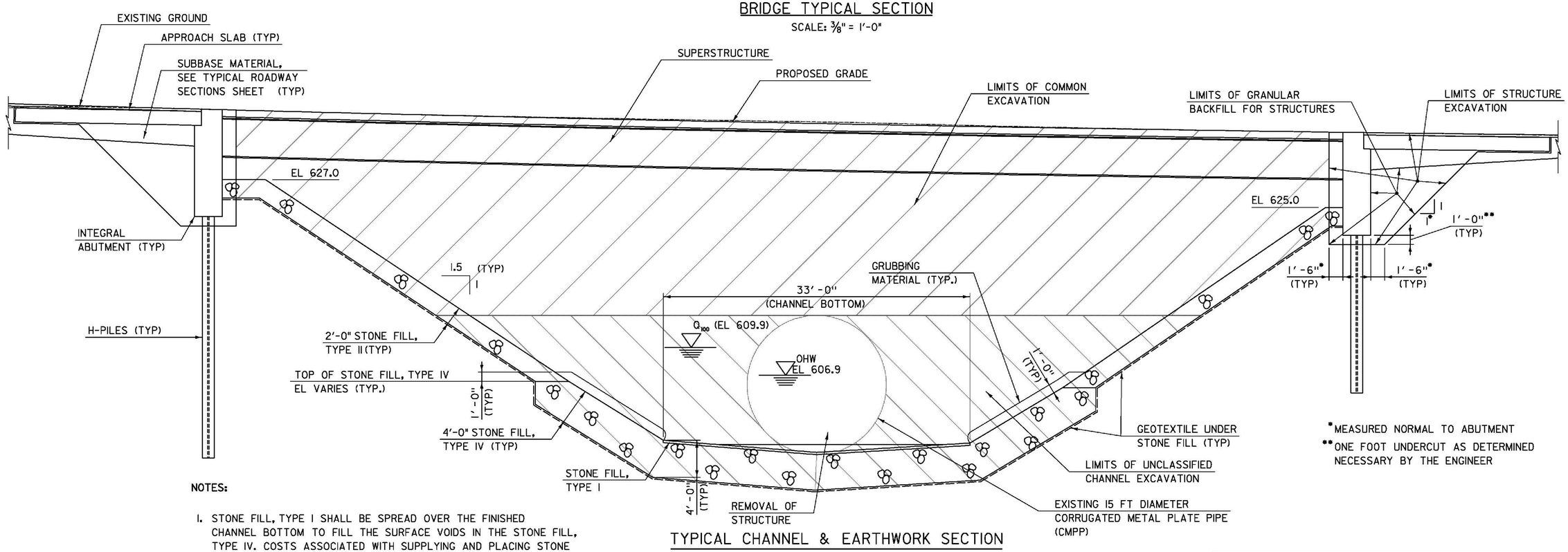
FILE NAME: z11b292bdr_typ.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: T. KELLEY
TYPICAL ROADWAY SECTIONS

PLOT DATE: 11/6/2013
DRAWN BY: T. KELLEY
CHECKED BY: D. BURHANS
SHEET 3 OF 60



BRIDGE TYPICAL SECTION

SCALE: 3/8" = 1'-0"



TYPICAL CHANNEL & EARTHWORK SECTION

SCALE: 3/16" = 1'-0"
(VIEW NORMAL TO CHANNEL ALIGNMENT)

*MEASURED NORMAL TO ABUTMENT

**ONE FOOT UNDERCUT AS DETERMINED NECESSARY BY THE ENGINEER

NOTES:

1. STONE FILL, TYPE I SHALL BE SPREAD OVER THE FINISHED CHANNEL BOTTOM TO FILL THE SURFACE VOIDS IN THE STONE FILL, TYPE IV. COSTS ASSOCIATED WITH SUPPLYING AND PLACING STONE FILL, TYPE I AT THIS LOCATION SHALL BE INCIDENTAL TO ITEM 613.13, "STONE FILL, TYPE IV."

2. WATER SURFACE ELEVATIONS VARY SIGNIFICANTLY THROUGH THE REACH DUE TO THE BROOK GRADIENT. SEE CHANNEL SECTIONS FOR OHW AND STONE FILL TRANSITION ELEVATIONS.

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

T.Y.LIN INTERNATIONAL

FILE NAME: z11b292bdrtypicals.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: J. OLUND
BRIDGE & EARTHWORK TYPICAL SECTIONS

PLOT DATE: 11/6/2013
DRAWN BY: S. MORGAN
CHECKED BY: R. HEBERT
SHEET 4 OF 60

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, WITH ITS LATEST REVISIONS AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION WITH INTERIMS THROUGH 2012.

2. THE BRIDGE IS DESIGNED FOR HL-93 LIVE LOADING.

3. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AT 70°F, UNLESS NOTED OTHERWISE.

4. NO PROVISIONS HAVE BEEN MADE FOR THE CONTRACTOR TO PERFORM WORK OR SET UP STAGING OUTSIDE THE EXISTING RIGHT-OF-WAY.

5. EXISTING AERIAL ELECTRIC AND TELEPHONE LINES AND POLES SHALL BE REMOVED AND PERMANENTLY RELOCATED BY OTHERS. CONTRACTOR SHALL COORDINATE ALL BRIDGE REPLACEMENT AND APPROACH RECONSTRUCTION WORK WITH UTILITY RELOCATION WORK AS REQUIRED. SEE UTILITY SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

EARTHWORK AND RELATED ITEMS

6. ITEMS 613.11 "STONE FILL, TYPE II", AND 613.13 "STONE FILL, TYPE IV" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE SUPERSTRUCTURE IS SET.

7. TEMPORARY CONSTRUCTION FILLS USED FOR ANY PURPOSE WITHIN THE WATERCOURSE SHALL CONSIST OF CLEAN STONE FILL ONLY. NO OTHER FILLING IN THE STREAM SHALL OCCUR WITHOUT THE APPROVAL OF THE STREAM ALTERATION ENGINEER.

8. EXCAVATION OUTSIDE OF LIMITS SHOWN ON THE LAYOUT SHEET AND THE BRIDGE AND EARTHWORKS TYPICAL SECTIONS SHEET SHALL BE PAID UNDER ITEM 900.645 "SPECIAL PROVISION (TEMPORARY ROADWAY)".

9. ITEM 613.10, "STONE FILL, TYPE I" SHALL BE USED TO REPAIR AREAS OF EMBANKMENT AND SLOPE EROSION AS ORDERED BY THE ENGINEER AND TO CONSTRUCT STONE PAD AS DETAILED IN THE PLANS.

CONCRETE

10. ALL PORTIONS OF THE SUPERSTRUCTURE AND THE INTEGRAL ABUTMENT ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT, EXCEPT GROUT BEDDING FOR PRECAST PRESTRESSED DECK PANELS, SHALL BE "CONCRETE, HIGH PERFORMANCE CLASS A". BEDDING FOR PRECAST PRESTRESSED DECK PANELS SHALL BE "MORTAR, TYPE IV" MEETING THE REQUIREMENTS OF SUBSECTION 707.03 AND SHALL BE PAID UNDER ITEM 900.620 "SPECIAL PROVISION (PRECAST PRESTRESSED CONCRETE DECK PANEL)".

11. THE ABUTMENT BELOW THE BRIDGE SEAT CONSTRUCTION JOINT, PEDESTALS, AND APPROACH SLABS SHALL BE ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B".

12. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1"X1", UNLESS NOTED OTHERWISE.

13. WATER REPELLENT, SILANE, SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES.

14. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".

15. ALL REINFORCING STEEL SHALL BE LEVEL I OR LEVEL II IN ACCORDANCE WITH SECTION 507. PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:

SPACING	+/- 1 INCH
CLEARANCE	+/- ¼ INCH

16. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

ALONG TOP SURFACE OF DECK SLAB	3.0 INCH
ALONG BOTTOM SURFACE OF DECK SLAB	1.5 INCH
SURFACES CAST AGAINST EARTH	3.0 INCH
CURBS	3.0 INCH
ELSEWHERE, UNLESS NOTED OTHERWISE	2.0 INCH

17. THE BRIDGE DECK CONCRETE SHALL BE PLACED IN ONE CONTINUOUS POUR AND SHALL REMAIN PLASTIC THROUGHOUT THE ENTIRE POUR.

18. THE BRIDGE DECK CONCRETE SHALL BE DEPOSITED PARALLEL TO THE CENTERLINE OF BEARING SO AS TO LOAD THE GIRDERS EQUALLY.

19. ALL REINFORCING STEEL LAP LENGTHS WERE DESIGNED ASSUMING EPOXY-COATED REINFORCING STEEL.

PILE FOUNDATIONS

20. THE PILES SHALL BE HP 12 X 74.

21. PILE SHOES ARE REQUIRED AND SHALL CONFORM TO SUBSECTION 505.04(F) OF THE STANDARD SPECIFICATIONS.

22. THE TOPS OF PILES AFTER DRIVING SHALL NOT VARY FROM THE PLAN POSITION BY MORE THAN 3 INCHES. THE CONTRACTOR SHALL DEMONSTRATE TO THE SATISFACTION OF THE ENGINEER HOW THE TOLERANCES WILL BE MET REGARDLESS OF INSTALLATION METHOD.

23. THE PILES SHALL BE DRIVEN TO A NOMINAL RESISTANCE OF 585 KIPS AS DETERMINED BY THE RESULTS OF DYNAMIC TESTING, AS INTERPRETED BY THE ENGINEER.

24. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED AS SHOWN ON THE BORING LOGS. THE ACTUAL LENGTHS MAY VARY.

25. TO ENSURE THAT THE NOMINAL RESISTANCE HAS BEEN ATTAINED AND TO PREVENT THE OVERSTRESSING OF THE PILES DURING DRIVING OPERATIONS, DYNAMIC TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 505.04(d)-2 OF THE STANDARD SPECIFICATIONS. ONE PILE TEST SHALL BE CONDUCTED ON THE FIRST PILE DRIVEN AT EACH ABUTMENT, FOR A TOTAL OF TWO (2) TESTS. MORE TESTS MAY BE REQUIRED BY THE ENGINEER.

STRUCTURAL STEEL

26. THE WEB AND BOTTOM FLANGE PLATES OF THE GIRDER SHALL BE CHARPY V-NOTCH (CVN) TESTED IN ACCORDANCE WITH SUBSECTION 714.01.

27. BOLTS USED IN FIELD CONNECTIONS SHALL BE TYPE 3, 7/8" DIA., AND MEET THE REQUIREMENTS OF SUBSECTION 714.05. HOLE DIAMETERS SHALL BE 15/16".

28. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED AND BEFORE ANY FORMWORK OR OTHER LOADS ARE ADDED TO THE GIRDERS, ELEVATIONS ALONG THE TOP OF THE GIRDERS SHALL BE TAKEN AS DIRECTED BY THE ENGINEER FOR USE IN DETERMINING FINISHED GRADES.

29. ANY BOLT HOLES IN THE WEBS OF FASCIA GIRDERS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD TYPE 3 BOLTS. THE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS.

30. ENDS OF GIRDERS SHALL BE VERTICAL IN THEIR FINAL POSITION.

PROJECT NAME:	HYDE PARK
PROJECT NUMBER:	STP CULV(26)

TYLIN INTERNATIONAL

FILE NAME: zllb292bdrnotes.dgn	PLOT DATE: 11/6/2013
PROJECT LEADER: R. HEBERT	DRAWN BY: S. MORGAN
DESIGNED BY: D. MYERS	CHECKED BY: J. OLUND
PROJECT NOTES	SHEET 5 OF 60

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	-			
521			6710		7231		CY	COMMON EXCAVATION	203.15	ROUND			
20			230		250		CY	SOLID ROCK EXCAVATION	203.16	EST.			
			5760		5760		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	ROUND			
1					1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	EST.			
			620		620		CY	STRUCTURE EXCAVATION	204.25	ROUND			
			340		340		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	ROUND			
425					425		SY	COLD PLANING-BIT.PAVEMENT	210.10	ROUND			
310					310		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	ROUND			
5.1					5.1		CWT	EMULSIFIED ASPHALT	404.65	ROUND			
1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	-			
			188		188		CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33	ROUND			
			138		138		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	ROUND			
			1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10	-			
			240		240		LF	STEEL PILING, HP 12 X 74	505.16	ROUND			
			2		2		EACH	DYNAMIC PILE LOADING TEST	505.45	-			
			168000		168000		LB	STRUCTURAL STEEL, PLATE GIRDER	506.55	ROUND			
			8120		8120		LB	REINFORCING STEEL, LEVEL I	507.11	ROUND			
			37190		37190		LB	REINFORCING STEEL, LEVEL II	507.12	ROUND			
			1		1		LS	SHEAR CONNECTORS (1630 - 7/8" X 7")	508.15				
			517		517		SY	LONGITUDINAL DECK GROOVING	509.10	ROUND			
			55		55		GAL	WATER REPELLENT, SILANE	514.10	ROUND			
			76		76		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	ROUND			
			76		76		LF	JOINT SEALER, HOT POURED	524.11	ROUND			
			259		259		LF	BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM	525.33	ROUND			
			1		1		EACH	REMOVAL OF STRUCTURE (15' DIAMETER X 182' CMPP)	529.15				
			10		10		EACH	BEARING DEVICE ASSEMBLY, PLAIN ELASTOMERIC PAD	531.16	-			
		20			20		HR	POWER GRADER RENTAL	608.15	EST.			
		20			20		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	EST.			
		20			20		HR	TRUCK RENTAL	608.37	EST.			
		20			20		HR	LOADER RENTAL, TYPE I	608.40	EST.			
45					45		MGAL	DUST CONTROL WITH WATER	609.10	ROUND			
		5			5		CY	STONE FILL, TYPE I	613.10	ROUND			
			750		750		CY	STONE FILL, TYPE II	613.11	ROUND			
			1850		1850		CY	STONE FILL, TYPE IV	613.13	ROUND			
160					160		LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28	-			
476.5					476.5		LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20	-			
2					2		EACH	MANUFACTURED TERMINAL SECTION, FLARED	621.50	-			
3					3		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	-			
4					4		EACH	GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM	621.72	-			

T.Y.LIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292.xls
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. MYERS
QUANTITY SHEET #1

PLOT DATE: 11/06/2013
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
SHEET 6 OF 60

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					595					595		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	ROUND			
					160					160		HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST.			
					600					600		HR	FLAGGERS	630.15	EST.			
									1	1		LS	FIELD OFFICE-ENGINEERS	631.10	-			
									1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16	-			
									1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17	-			
									3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26	EST.			
						520				520		HR	EMPLOYEE TRAINEESHIP	634.10	EST.			
					1					1		LS	MOBILIZATION / DEMOBILIZATION	635.11	-			
					1					1		LS	TRAFFIC CONTROL	641.10	-			
					2					2		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	-			
					2					2		EACH	PORTABLE ARROW BOARD	641.16				
					1070					1070		LF	DURABLE 4 INCH WHITE LINE	646.400	ROUND			
					1390					1390		LF	DURABLE 4 INCH YELLOW LINE	646.410	ROUND			
							9	2650		2659		SY	GEOTEXTILE UNDER STONE FILL	649.31	ROUND			
							255			255		SY	GEOTEXTILE FOR SILT FENCE	649.51	ROUND			
							87			87		SY	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515	ROUND			
							138			138		LB	SEED	651.15	ROUND			
							3			3		LB	SEED, WINTER RYE	651.17	ROUND			
							432			432		LB	FERTILIZER	651.18	ROUND			
							1.7			1.7		TON	AGRICULTURAL LIMESTONE	651.20	ROUND			
							1			1		TON	HAY MULCH	651.25	ROUND			
							465			465		CY	TOPSOIL	651.35	ROUND			
								1250		1250		SY	GRUBBING MATERIAL	651.40	ROUND			
							1			1		LS	EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.10	-			
							80			80		HR	MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.20	EST.			
							1			1		LU	MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN (N.A.B.I.)	652.30	-			
							1900			1900		SY	TEMPORARY EROSION MATTING	653.20	ROUND			
							80			80		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25	ROUND			
							30			30		CY	VEHICLE TRACKING PAD	653.35	ROUND			
							1			1		EACH	FILTER BAG	653.45	-			
							550			550		LF	BARRIER FENCE	653.50	ROUND			
							1330			1330		LF	PROJECT DEMARCATION FENCE	653.55	ROUND			
					1					1		SF	TRAFFIC SIGNS, TYPE A	675.20	ROUND			
					19					19		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341	ROUND			
					1					1		EACH	REMOVING SIGNS	675.50	-			
					1					1		EACH	DELINEATOR WITH STEEL POST	676.10	-			
					1					1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50	-			
					1					1		LS	SPECIAL PROVISION (TEMPORARY ROADWAY)	900.645	-			
					1					1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY) (N.A.B.I.)	900.650	-			

T·Y·LIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292.xls
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. MYERS
QUANTITY SHEET #2

PLOT DATE: 11/06/2013
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
SHEET 7 OF 60

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					1					1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT) (N.A.B.I.)	900.650	-			
								3880		3880		SF	SPECIAL PROVISION (PRECAST PRESTRESSED CONCRETE DECK PANEL) (3 1/2") (FPQ)	900.670	ROUND			
					277					277		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680	ROUND			

T.Y.LIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292.xls
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. MYERS
QUANTITY SHEET #3

PLOT DATE: 11/06/2013
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
SHEET 8 OF 60

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

| SUMMARY OF BRIDGE QUANTITIES | | |

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EARTHWORKS

STATION	DIST FT.	TOTAL EXCAVATION EARTH AND ROCK AREA S.F.	TOTAL EXCAVATION EARTH AND ROCK VOLUME C.Y.	ROCK EXCAVATION AREA S.F.	ROCK EXCAVATION VOLUME C.Y.	EMBANKMENT AREA S.F.	EMBANKMENT VOLUME C.Y.	AREA S.F.	VOLUME C.Y.
ROADWAY QUANTITIES									
WEST APPROACH									
-0+60		0.0							
	60		6						
0+00		5.7				2.0			
	50		12				2		
0+50		6.8							
	50		13						
1+00		6.8							
	50		13					CUT	278
1+50		6.8						ROCK	0
	50		13					R.FAC	.495
2+00		6.7						FILL	2
	35		34					F.FAC	1.15
2+35		45.0						EX. C	275
	15		40				0		
2+50		99.0				0.6			
	27		149				0		
2+77		199.0							
EAST APPROACH									
4+32		186.0							
	18		102						
4+50		120.0							
	20		61						
4+70		45.0							
	30		36					CUT	239
5+00		20.3						ROCK	0
	50		25					R.FAC	.495
5+50		6.7						FILL	0
	50		13					F.FAC	1.15
6+00		7.0						EX. C	239
	16		2						
6+16		0.0							
BRIDGE QUANTITIES									
50+50		0.0							
	25		231						
50+75		498.5							
	25		1007						
51+00		1677.3							
	25		1771						
51+25		2147.1							
	25		2580						
51+50		3426.5						CUT	13090
	25		3064					ROCK	0
51+75		3191.6						R.FAC	.495
	25		2354					FILL	0
52+00		1892.5						F.FAC	1.15
	25		1319					EX. C	13090
52+25		956.9							
	25		604						
52+50		347.3							
	25		161						
52+75		0.0							

STATION	DIST FT.	TOTAL EXCAVATION EARTH AND ROCK AREA S.F.	TOTAL EXCAVATION EARTH AND ROCK VOLUME C.Y.	ROCK EXCAVATION AREA S.F.	ROCK EXCAVATION VOLUME C.Y.	EMBANKMENT AREA S.F.	EMBANKMENT VOLUME C.Y.	AREA S.F.	VOLUME C.Y.

STATION	DIST FT.	TOTAL EXCAVATION EARTH AND ROCK AREA S.F.	TOTAL EXCAVATION EARTH AND ROCK VOLUME C.Y.	ROCK EXCAVATION AREA S.F.	ROCK EXCAVATION VOLUME C.Y.	EMBANKMENT AREA S.F.	EMBANKMENT VOLUME C.Y.	AREA S.F.	VOLUME C.Y.

SUMMARY AND BALANCES

STATION TO STATION		TOT EXC. EARTH & ROCK C.Y.	ROCK EXCAV C.Y.	EMBANK C.Y.	EXCESSES CUT	EXCESSES FILL	ACUMULATIVE EXCESSES CUT	ACUMULATIVE EXCESSES FILL
ROADWAY QUANTITIES								
WEST APPROACH								
-0+60	2+77	278	0	2	275		275	
EAST APPROACH								
4+32	6+16	239	0	0	239		514	
BRIDGE QUANTITIES								
50+50	52+75	13090	0	0	13090		13604	
TOTALS		**13607**	**0**	**2**				

REMARKS

EARTH AND ROCK EXCAVATION	13607
SOLID ROCK EXCAVATION	0
EARTH EXCAVATION	13607
PLANIMETERED FILL	2
LESS FACTORED SOLID ROCK	0
LESS DISPLACEMENT OF ANY LARGE STRUCTURES	0
NET PLANIMETERED FILL	2
FACTOR	1.15
PLANIMETERED FILL INCLUDING FACTOR	2
MATERIALS AVAILABLE FOR FILLS	
EARTH EXCAVATION	7227
CHANNEL EXCAVATION	5760
UNDERDRAIN EXCAVATION	0
STRUCTURE EXCAVATION	620
TOTAL MATERIAL AVAILABLE FOR FILL	13607
TOTAL FILL INCLUDING FACTOR	2
TOTAL MATERIAL FOR FILL	13607
BORROW	
EXCESS EXCAVATION	13605

PROJECT NAME: **HYDE PARK**
PROJECT NUMBER: **STP CULV(26)**

FILE NAME: **z11b292EW**
PROJECT LEADER: **R. HEBERT**
DESIGNED BY: **T. KELLEY**
EARTHWORK SHEET

PLOT DATE: **8/9/2013**
DRAWN BY: **T. KELLEY**
CHECKED BY: **D. BRYANT**
SHEET **10** OF **60**

GPS/NGS CONTROL POINTS

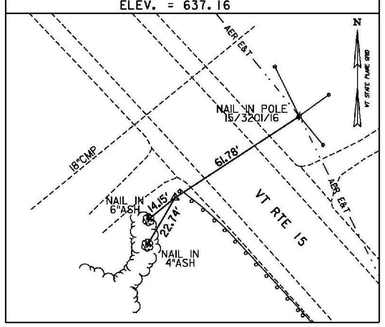
HARDWICK CORS ARP

PID DM7840
N = 732128.65
E = 1675405.58
ELLIP HEIGHT = 842.61

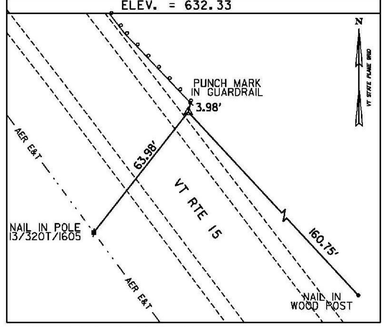
STATION IS A GPS CONTINOUSLY OPERATING REFERENCE STATION. STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA. LOCATED AT THE HARDWICK, VERMONT HAZEN UNION HIGH SCHOOL, THE MONUMENT IS ATTACHED TO A TWO STORY CONCRETE & BRICK BUILDING WITH AN 8 FT CONCRETE FOUNDATION BUILT IN 1970. THE MAST IS A 1.75 INCH DIA. GALV PIPE THAT IS 108 INCHES LONG. THE MAST IS ATTACHED TO A STEEL MOUNTING FRAME WITH THREE ATTACHMENTS CONSISTING OF 3/8 INCH SS THROUGH BOLTS. THE MOUNTING FRAME IS ATTACHED TO THE BUILDING USING 6 ATTACHMENT POINTS. ALL 6 ATTACHMENTS ARE THROUGH BOLTED AND CONSIST OF 1/2 INCH SS THREADED ROD AND NUTS.

TRAVERSE TIES

HVCTRL #1 5/8"REBAR SET FLUSH W/ YELLOW VSE CONTROL CAP
NORTH = 762774.16
EAST = 1612123.37
ELEV. = 637.16



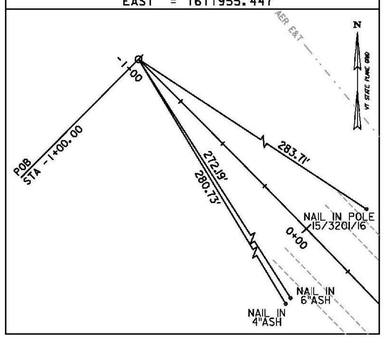
HVCTRL #2 5/8"REBAR SET FLUSH W/ YELLOW VSE CONTROL CAP
NORTH = 762385.66
EAST = 1612509.68
ELEV. = 632.33



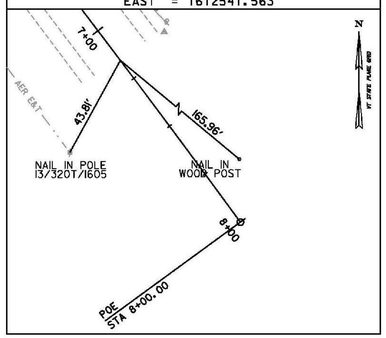
* MAIN TRAVERSE COMPLETED: APRIL 23, 2012 BY VSE, R. GAUVIN-PC, T. YEFCHAK

ALIGNMENT TIES

POB -1+00.00
NORTH = 762987.6750
EAST = 1611955.447



POE 8+00.00
NORTH = 762305.9307
EAST = 1612541.563



SURVEYED BY : R. GAUVIN PC & T. YEFCHAK

SURVEYED DATE : 4/23/2012

DATUM
VERTICAL NAVD 88 (GEOID09) FT
HORIZONTAL NAD 83 (CORS) sFT

VERMONT SURVEY AND ENGINEERING

TYLIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292bdr_ti.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. BRYANT
TIE SHEET

PLOT DATE: 11/6/2013
DRAWN BY: T. KELLEY
CHECKED BY: D. BRYANT
SHEET 11 OF 60

TOPSOIL

-0+48.43, RT - 1+47.03, RT
1+66.21, RT - 2+60.05, RT
1+85.00, LT - 1+98.28, LT
2+11.34, LT - 2+94.00, LT
4+12.52, RT - 6+45.51, RT
4+24.30, LT - 5+25.00, LT

SEED

-0+48.43, RT - 1+47.03, RT
1+66.21, RT - 2+60.05, RT
1+85.00, LT - 1+98.28, LT
2+11.34, LT - 2+94.00, LT
4+12.52, RT - 6+45.51, RT
4+24.30, LT - 5+25.00, LT

REMOVAL AND DISPOSAL OF GUARDRAIL

1+69.52, RT - 4+95.05, RT
2+79.51, LT - 5+40.07, LT

DURABLE 4" YELLOW LINE

1+85.00 - 5+20.00, CL (DBL)

DURABLE 4"WHITE LINE

1+85.00, RT - 5+20.00, RT
1+85.00, LT - 5+20.00, LT

BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM

2+83.14, RT - 4+12.64, RT
2+93.79, LT - 4+22.36, LT

STEEL BEAM GUARDRAIL, GALVANIZED

0+09.33, RT - 1+50.63, RT
1+62.60, RT - 2+53.96, RT
2+15.29, 25.68' LT - 2+64.90, 21.33' LT
4+41.82, RT - 5+29.61, RT
4+51.35, LT - 5+40.07, LT

MANUFACTURED TERMINAL SECTION, FLARED

-0+11.55, RT - 0+09.33, RT
5+29.61, RT - 5+67.00, RT

CAST-IN-PLACE CONCRETE CURB, TYPE B

2+55.06, LT - 2+93.79, LT
2+43.01, RT - 2+83.14, RT
4+22.36, LT - 4+62.23, LT
4+12.64, RT - 4+52.77, RT

REMOVING SIGNS

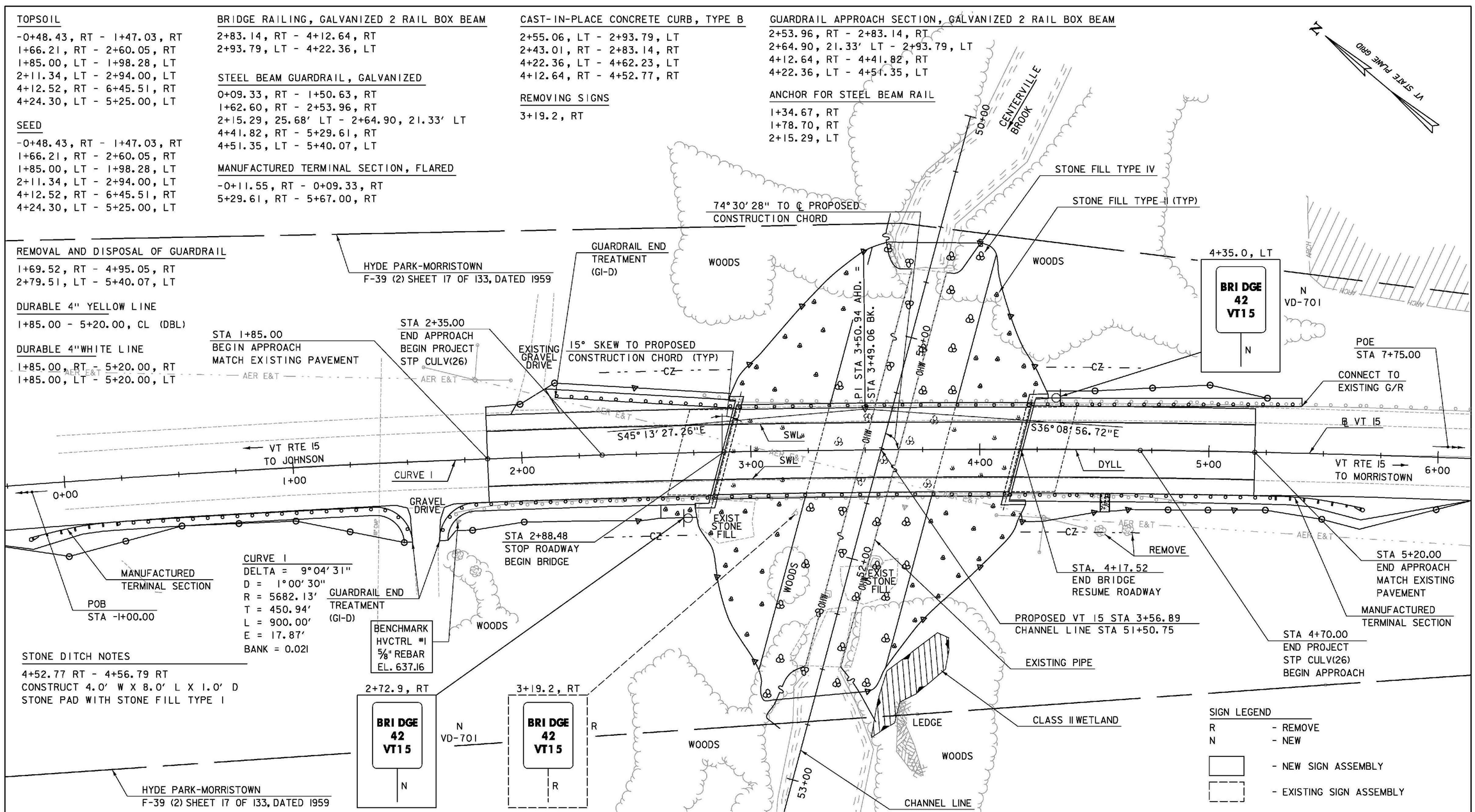
3+19.2, RT

GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM

2+53.96, RT - 2+83.14, RT
2+64.90, 21.33' LT - 2+93.79, LT
4+12.64, RT - 4+41.82, RT
4+22.36, LT - 4+51.35, LT

ANCHOR FOR STEEL BEAM RAIL

1+34.67, RT
1+78.70, RT
2+15.29, LT



SIGN LEGEND

R - REMOVE
N - NEW
- NEW SIGN ASSEMBLY
- EXISTING SIGN ASSEMBLY

STRIPING LEGEND

DYL - DOUBLE YELLOW LINE (4" YELLOW LINE)
SWL - SINGLE WHITE LINE (4" WHITE LINE)

TRAFFIC SIGN SUMMARY

MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				NEW SIGN POSTS						REMARKS	SIGN DETAIL	
		EA	WIDTH (In)	HEIGHT (In)	"A"	"B"	SALV SIGN	SALV TIS	NO. OF POSTS	SQUARE STEEL (In) 1.75 lb/ft 1.88	2.0 2.16	2.5 3.35	ANCHOR	SLEEVE		DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
2+72.9, RT 4+35.0, LT	BRIDGE 42 VT15	2	6	8	0.67				2		"X"		2		BRIDGE NO. PLAQUE VD-701		E-134
					SF	SF	EA.	SF	EA.	FT	FT	FT	EA.	EA.			

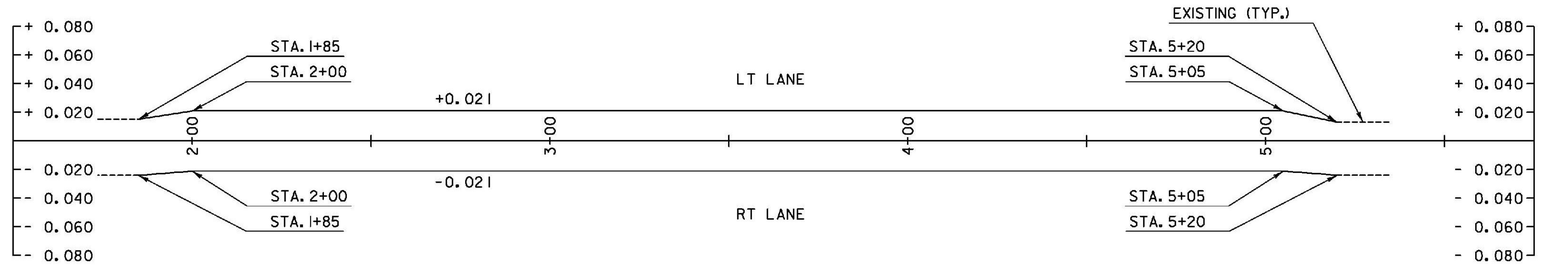
20 0 20
SCALE IN FEET

TYLIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

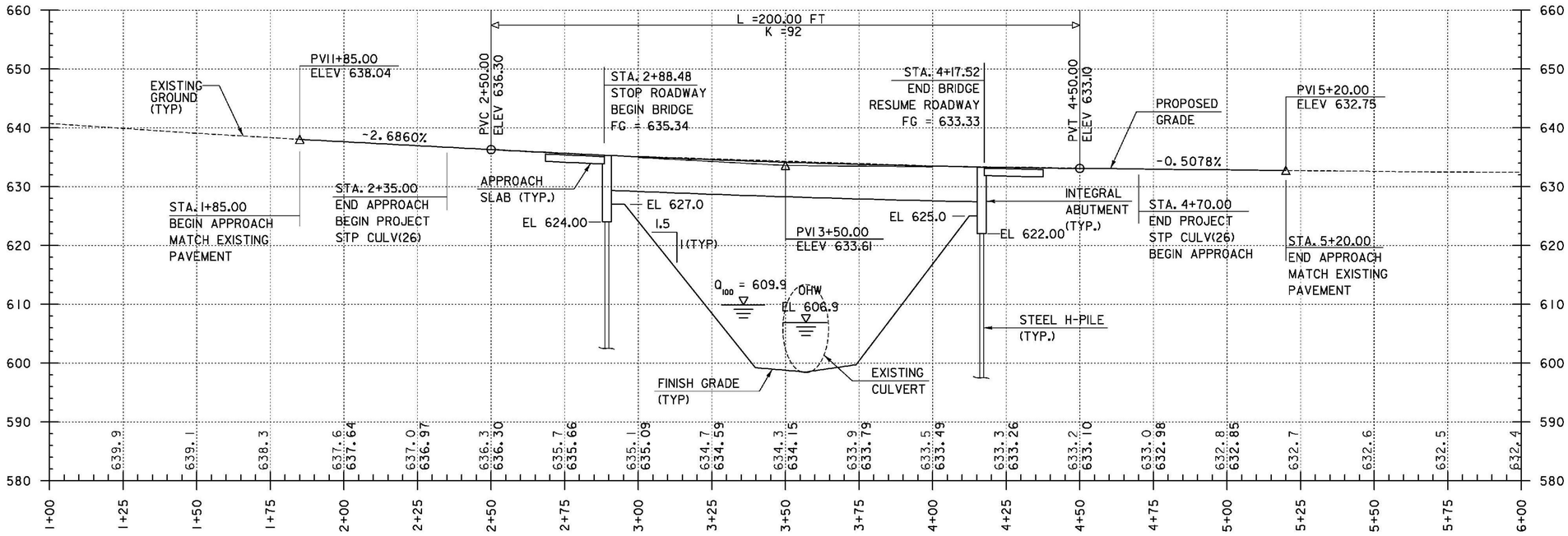
FILE NAME: z11b292bdr_nul.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. BURHANS
LAYOUT SHEET

PLOT DATE: 11/6/2013
DRAWN BY: T. KELLEY
CHECKED BY: D. BRYANT
SHEET 12 OF 60



BANKING DIAGRAM

STATIONS ARE IN FEET AND
SUPERELEVATIONS ARE IN FT/FT



PROFILE - VT 15

STATIONING AND ELEVATIONS ARE IN FEET

NOTE:
WATER SURFACE ELEVATION VARIES SIGNIFICANTLY
THROUGH REACH DUE TO STEEP STREAM GRADIENT.

THE GRADES SHOWN TO THE NEAREST TENTH ARE THE SURVEYED GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT

THE GRADES SHOWN TO THE NEAREST HUNDRETH ARE THE PROPOSED GRADES ALONG THE NEW ALIGNMENT

T.Y.LIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292bdr_pro.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: A. GREENLAW
PROFILE SHEET

PLOT DATE: 11/6/2013
DRAWN BY: A. GREENLAW
CHECKED BY: D. BURHANS
SHEET 13 OF 60

MAINTENANCE OF TRAFFIC

NOTES:

1. THE SUGGESTED SEQUENCE OF CONSTRUCTION DETAILED HEREIN IS PROVIDED AS A GENERAL GUIDE ONLY. THESE PLANS DO NOT ANTICIPATE ALL POSSIBLE CONTRACTOR ACTIVITIES.

2. DURING CONSTRUCTION THE CONTRACTOR MUST MAINTAIN TWO-WAY TRAFFIC THROUGHOUT THE PROJECT SITE WITH THE EXCEPTION OF THOSE TIMES SPECIFICALLY NOTED IN THE PLANS. THESE PLANS SHOW ONE OPTION THE CONTRACTOR CAN USE TO FACILITATE TWO-WAY TRAFFIC DURING CONSTRUCTION WHICH INVOLVES SHIFTING TRAFFIC TO THE NORTH SIDE OF THE PROPOSED BRIDGE LOCATION AND REVISING THE PROFILE SUCH THAT THE TEMPORARY ROADWAY IS AT A LOWER ELEVATION NEAR THE PROPOSED BRIDGE. IF THE CONTRACTOR ELECTS TO USE AN ALTERNATE TEMPORARY ROADWAY SCHEME, THE CONTRACTOR MUST SUBMIT REVISIONS TO THE TEMPORARY ROADWAY DETOUR PLANS FOR APPROVAL. ANY CHANGE THAT ALTERS THE BASIC CONCEPT OF THE PLANS MUST BE SUBMITTED 30 DAYS IN ADVANCE TO THE AGENCY FOR REVIEW AND APPROVAL.

3. MAINTENANCE OF TRAFFIC (MOT) SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 641 OF THE STANDARD SPECIFICATIONS, ITEM 900.645 , "SPECIAL PROVISION (TEMPORARY ROADWAY)", THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), ITS REVISIONS AND AMENDMENTS, ANY PROVISIONS IN THE PLANS AND / OR SPECIFICATIONS OF THIS PROJECT, AND VERMONT AGENCY OF TRANSPORTATION STANDARD DETAILS.

4. CONSTRUCTION AND REMOVAL OF THE TEMPORARY ROADWAY AND RE-ESTABLISHING THE PRE-EXISTING CONDITIONS WITHIN THE LIMITS OF THE TEMPORARY ROADWAY AS SHOWN ON THE MAINTENANCE OF TRAFFIC SHEETS OR OF OTHER VTRANS APPROVED ALTERNATIVE MEANS OF MAINTAINING TRAFFIC DEVELOPED BY THE CONTRACTOR SHALL BE PAID FOR UNDER ITEM 900.645, "SPECIAL PROVISION (TEMPORARY ROADWAY)". ALTERNATE MEANS OF MAINTAINING TRAFFIC MAY BE DEVELOPED AND PROPOSED BY THE CONTRACTOR AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. PAYMENT UNDER ITEM 900.645, "SPECIAL PROVISION (TEMPORARY ROADWAY)" SHALL INCLUDE THE FOLLOWING:

   A) CONSTRUCTION OF THE TEMPORARY ROADWAY SHALL INCLUDE BUT IS NOT LIMITED TO EXCAVATION, EMBANKMENT, SUBBASE, PAVEMENT, PAVEMENT MARKINGS, TEMPORARY SEEDING/MULCHING, TEMPORARY TRAFFIC BARRIER, TEMPORARY STRUCTURES, TEMPORARY SHEETING AND BRACING, AND TEMPORARY SHEETING FOR FLOW DIVERSION. EXCAVATION ALONG THE TEMPORARY ROADWAY WITHIN THE LIMITS OF THE FINAL BUILD EXCAVATION AS SHOWN ON THE LAYOUT SHEET AND THE BRIDGE AND EARTHWORK TYPICAL SECTIONS SHEET SHALL BE PAID UNDER ITEM 203.15 "COMMON EXCAVATION". PAYMENT FOR APPROACH SIGNING AND OTHER MAINTENANCE OF TRAFFIC ITEMS SHALL BE UNDER THE APPROPRIATE MAINTENANCE OF TRAFFIC ITEMS.

   B) AFTER THE NEW BRIDGE IS CONSTRUCTED AND TRAFFIC IS MOVED FROM THE TEMPORARY ROADWAY TO THE NEW BRIDGE, THE CONTRACTOR SHALL REMOVE THE TEMPORARY ROADWAY. PAYMENT FOR REMOVAL OF THE TEMPORARY ROADWAY SHALL INCLUDE BUT IS NOT LIMITED TO REMOVAL OF TEMPORARY OVERBUILD EMBANKMENT, TEMPORARY PAVEMENT, TEMPORARY TRAFFIC BARRIERS, TEMPORARY STRUCTURES, TEMPORARY SHEETING AND BRACING, AND TEMPORARY SHEETING FOR FLOW DIVERSION.

   C) AFTER THE NEW BRIDGE IS CONSTRUCTED AND TRAFFIC IS MOVED FROM THE TEMPORARY ROADWAY TO THE NEW BRIDGE, THE CONTRACTOR SHALL RE-ESTABLISH THE PRE-EXISTING CONDITIONS WITHIN THE LIMITS OF THE TEMPORARY ROADWAY ALONG THE APPROACHES AND OUTSIDE THE LIMITS OF THE FINAL BUILD EXCAVATION AS SHOWN ON THE LAYOUT SHEET AND THE BRIDGE AND EARTHWORK TYPICAL SECTIONS SHEET. PAYMENT FOR RE-ESTABLISHING PRE-EXISTING CONDITIONS WITHIN THESE LIMITS SHALL INCLUDE BUT IS NOT LIMITED TO RECONSTRUCTION OF APPROACH ROADWAY EMBANKMENT, SUBBASE, PAVEMENT, PAVEMENT MARKINGS, GUARDRAIL, DRAINAGE CULVERTS, AND FIELD DRIVES AS SHOWN ON THE MAINTENANCE OF TRAFFIC SHEETS. SEEDING/MULCHING AND ASSOCIATED TURF ESTABLISHMENT ITEMS FOR RE-ESTABLISHING THE PRE-EXISTING CONDITIONS SHALL BE PAID FOR UNDER THE APPROPRIATE SECTION 651 CONTRACT ITEMS.

5. TEMPORARY LANE WIDTHS SHALL BE A MINIMUM OF 12 FEET UNLESS OTHERWISE NOTED. 26' MINIMUM CLEAR WIDTH BETWEEN FACES OF BARRIER SHALL BE STRICTLY ADHERED TO.

6. RE-CONSTRUCTION OF APPROACHES ALONG VT15 FINAL ALIGNMENT ALTERED DUE TO CONSTRUCTION OF THE TEMPORARY ROADWAY ALIGNMENT, SHALL BE PER "TYPICAL ROADWAY RE-CONSTRUCTION SECTION" SHOWN ON MAINTENANCE OF TRAFFIC PLAN, PHASE 2B. PAYMENT FOR RE-CONSTRUCTION OF THESE APPROACHES SHALL BE PAID FOR UNDER ITEM 900.645, "SPECIAL PROVISION (TEMPORARY ROADWAY)".

7. ADVISORY SPEED WILL BE 25 MPH FOR THE TEMPORARY DETOUR ROADWAY.

8. TEMPORARY ROADWAY SHALL BE PAVED TO A MINIMUM DEPTH OF TWO INCHES.

9. ALL DROP OFF AREAS WITHIN CONSTRUCTION AND MAINTENANCE WORK ZONE AREAS SHALL BE PROTECTED FROM ADJACENT TRAVEL LANES IN ACCORDANCE WITH POLICIES FOLLOWED BY THE AGENCY (SEE STANDARD DETAILS T-35 AND T-36).

10. DESIGN OF THE TEMPORARY SHEETING AND BRACING AND/OR TEMPORARY STRUCTURE(S) SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS 505 AND 528, RESPECTIVELY. PAYMENT WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.645 , "SPECIAL PROVISION (TEMPORARY ROADWAY)".

11. BEFORE TRAFFIC CAN UTILIZE CONSTRUCTION ROADWAYS, ALL DRAINAGE STRUCTURES, GUARDRAIL AND BARRIERS SHALL BE IN PLACE.

12. THE CONTRACTOR SHALL SCHEDULE OPERATIONS IN A MANNER THAT REDUCES THE AMOUNT OF TIME THAT NORMAL TRAFFIC FLOWS ARE DISRUPTED.

13. WHEN TEMPORARY TRAFFIC BARRIER IS USED, BARRIER ENDS FACING ONCOMING TRAFFIC SHALL BE TAPERED BEYOND THE CLEAR ZONE OR PROTECTED WITH AN ENERGY ABSORPTION ATTENUATOR OR AN EQUIVALENT APPROVED END TREATMENT DESIGNED FOR THE 85TH PERCENTILE SPEED OR THE POSTED SPEED LIMIT OF THE ROAD WAY.

14. THE ENERGY ABSORPTION ATTENUATORS FOR THIS PROJECT SHALL BE SUITABLE FOR A NARROW WIDTH APPLICATION AND SHALL BE INSTALLED AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLAN SHEETS. THESE ATTENUATORS WILL BE PAID FOR UNDER THE ITEM 900.645 , "SPECIAL PROVISION (TEMPORARY ROADWAY)". THE ATTENUATORS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 621 AND MEET THE REQUIREMENTS OF THE LATEST VERSION OF THE AASHTO "ROADSIDE DESIGN GUIDE," AND SHALL BE DESIGNED FOR A 4500 LB VEHICLE TRAVELING AT 35 MPH.

15. LONGITUDINAL CONSTRUCTION JOINTS WITHIN THE SUPERSTRUCTURE DECK ARE NOT ALLOWED.

16. TRAFFIC CONTROL SIGNS AND DEVICES SHOWN IN THE MAINTENANCE OF TRAFFIC PLANS ARE CONSIDERED THE MINIMUM REQUIREMENTS FOR SAFE OPERATIONS. ADDITIONAL SIGNS AND / OR TRAFFIC CONTROL DEVICES MAY BE REQUIRED AS DETERMINED BY THE ENGINEER.

17. IN ORDER TO MAINTAIN EFFECTIVE TRAFFIC CONTROL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT THE SIGNS AND OTHER TRAFFIC CONTROL DEVICES ARE IN GOOD CONDITION AND ARE PROPERLY PLACED.

18. VEHICLES / EQUIPMENT PARKED WITHIN THE PROJECT LIMITS BELONGING TO THE CONTRACTOR AND / OR THE CONTRACTOR'S EMPLOYEES SHALL BE KEPT TO A MINIMUM AND PARKED IN SUCH A MANNER THAT DOES NOT OBSTRUCT THE VIEW OF SIGNS, BARRIERS, BARRICADES OR ANY OTHER TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL NOT PARK VEHICLES / EQUIPMENT OR STORE MATERIALS IN ANY LOCATION WHERE IT IS DEEMED A SAFETY HAZARD BY THE ENGINEER.

19. WHEN SHORT-DURATION ONE-WAY TRAFFIC IS NECESSARY AND APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL REFER TO THE TYPICAL FLAGGER OPERATION DETAIL IN THE STANDARD DETAILS AND THE MUTCD FOR TYPICAL CHANNELIZATION AND MAINTENANCE OF TRAFFIC.

20. ALL PAVEMENT MARKINGS THAT CONFLICT WITH THE PROPOSED PAVEMENT MARKINGS IN EACH PHASE OF CONSTRUCTION SHALL BE COMPLETELY REMOVED OR COVERED WITH BLACK PAVEMENT MARKING MASKING TAPE IN ACCORDANCE WITH SUBSECTION 646.08(b). PAINTING OUT EXISTING LINES WILL NOT BE ACCEPTABLE. PAYMENT WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.645 , "SPECIAL PROVISION (TEMPORARY ROADWAY)".

21. SIGNS AND SIGN LOCATIONS SHALL BE IN CONFORMANCE WITH THE CURRENT MUTCD, STATE OF VERMONT STANDARDS, AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS AND AS DIRECTED BY THE ENGINEER. SIGN LOCATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD.

22. INSTALL SIGNS AND PAVEMENT MARKINGS AS SHOWN ON THE PLANS PRIOR TO OPENING ANY PORTION OF THE PROJECT TO FINAL AND / OR DETOUR TRAFFIC. CARE MUST BE TAKEN TO INSURE THAT FINAL SIGNS AND PAVEMENT MARKINGS DO NOT CONFLICT WITH PROPOSED TRAFFIC PATTERNS IN ANY ONE STAGE. FINAL SIGNS THAT ARE IN PLACE, BUT NOT IN USE, SHALL BE COVERED.

23. THE COVERING, RELOCATION AND REMOVAL OF EXISTING SIGNS SHALL BE AS ORDERED BY THE ENGINEER. EXISTING SIGNAGE SHALL BE RETURNED TO THE OWNER OF RECORD - STATE OR TOWN. PAYMENT FOR COVERING SIGNS WILL BE INCLUDED IN THE PRICE BID FOR CONTRACT ITEM 641.10. PAYMENT FOR RELOCATION AND REMOVAL OF EXISTING SIGNS SHALL BE INCLUDED UNDER THEIR RESPECTIVE ITEMS.

24. THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITIES TO ELIMINATE OR MINIMIZE DISRUPTIONS TO SERVICE.

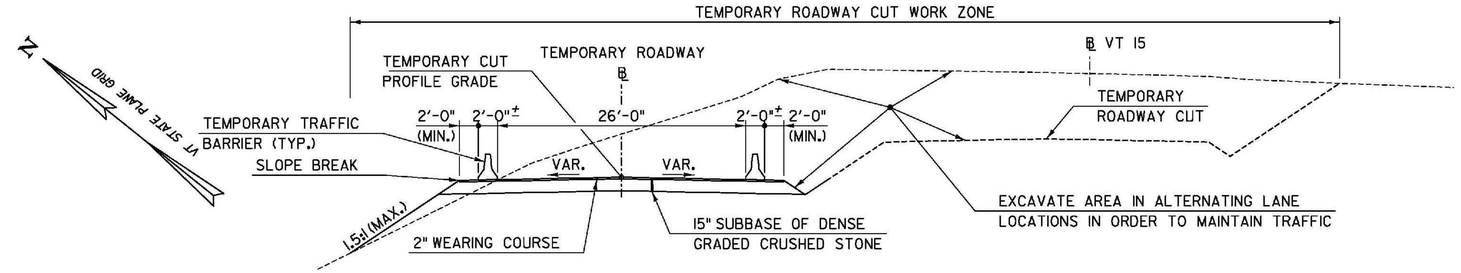
25. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE PLACED AT THE PROJECT LOCATION 14 DAYS PRIOR TO THE START OF CONSTRUCTION TO WARN OF THE IMPENDING DETOUR AND MAY BE REMOVED ONCE CONSTRUCTION HAS BEGUN. THESE SIGNS AND THEIR REMOVAL SHALL BE PAID UNDER ITEM 641.15, "PORTABLE CHANGEABLE MESSAGE SIGN".

26. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL FIELD ENTRANCES.

PROJECT NAME: HYDE PARK	
PROJECT NUMBER: STP CULV(26)	
TYLIN INTERNATIONAL	FILE NAME: z11b292bdr_mot_N.dgn — PLOT DATE: 11/6/2013
	PROJECT LEADER: R. HEBERT — DRAWN BY: T. KELLEY
	DESIGNED BY: D. BRYANT — CHECKED BY: D. BRYANT
	MAINTENANCE OF TRAFFIC - NOTES — SHEET 14 OF 60

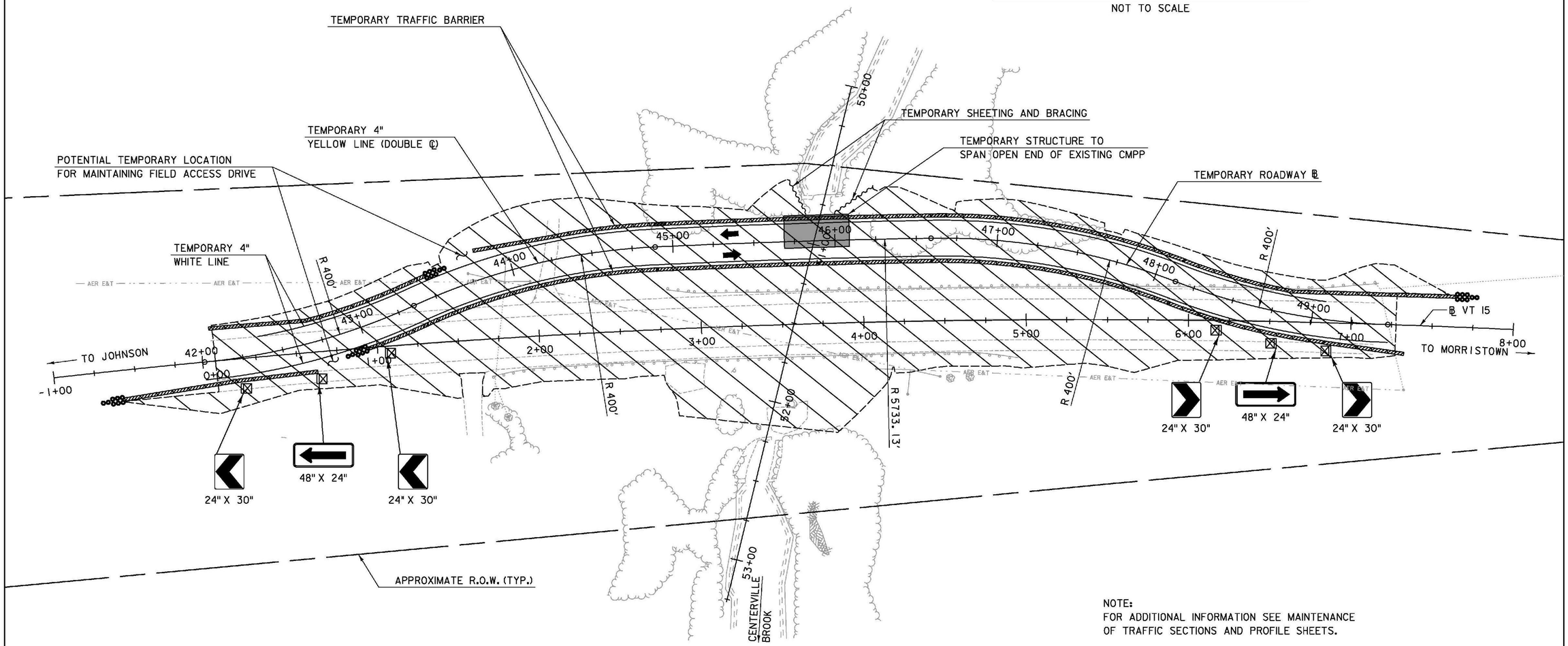
SUGGESTED SEQUENCE OF CONSTRUCTION - PHASE I:

- EXCAVATE EXISTING ROADWAY, ALTERNATING LANE LOCATIONS IN ORDER TO MAINTAIN TWO-WAY CHANNELIZED TRAFFIC, UNTIL THE REQUIRED GRADE IS ACHIEVED AND TEMPORARY STRUCTURE OVER EXISTING CULVERT IS INSTALLED. DURATION OF FLAGGED ONE-WAY TRAFFIC SHALL BE MINIMIZED AND PRE-APPROVED BY THE ENGINEER.
- MAINTAIN CHANNEL FLOW THROUGH EXISTING CMPP.



TEMPORARY ROADWAY TYPICAL SECTION

NOT TO SCALE



NOTE:
FOR ADDITIONAL INFORMATION SEE MAINTENANCE OF TRAFFIC SECTIONS AND PROFILE SHEETS.

LEGEND

- TEMPORARY TRAFFIC BARRIER
- ENERGY ABSORPTION ATTENUATOR
- TYPE III BARRICADE (MOD.)
- REFLECTORIZED PLASTIC DRUM
- WORK ZONE
- TEMPORARY SHEETING AND BRACING
- DIRECTION OF TRAFFIC

30 0 30
SCALE IN FEET

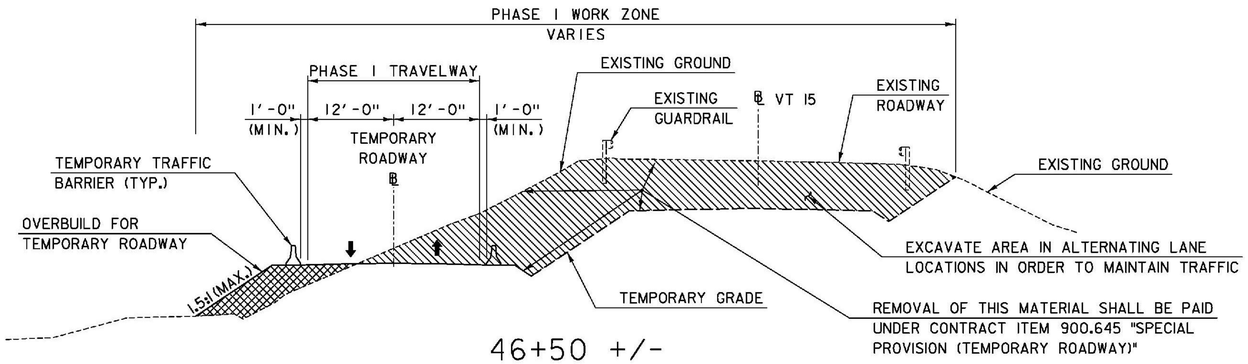
TYLIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

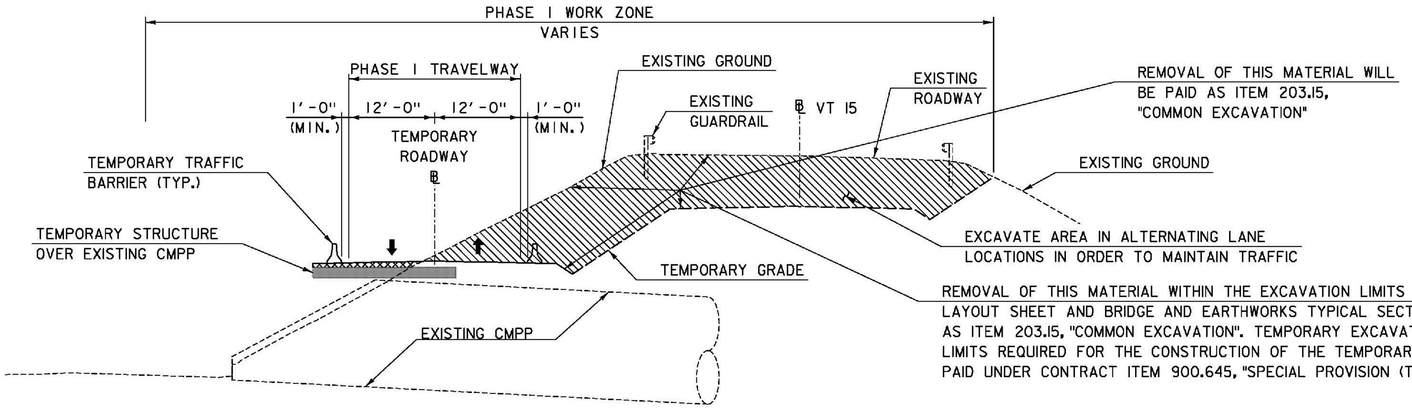
FILE NAME: z11b292bdr_mot_pl.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: T. KELLEY
MAINTENANCE OF TRAFFIC PLAN, PHASE I

PLOT DATE: 11/6/2013
DRAWN BY: T. KELLEY
CHECKED BY: D. BRYANT
SHEET 15 OF 60

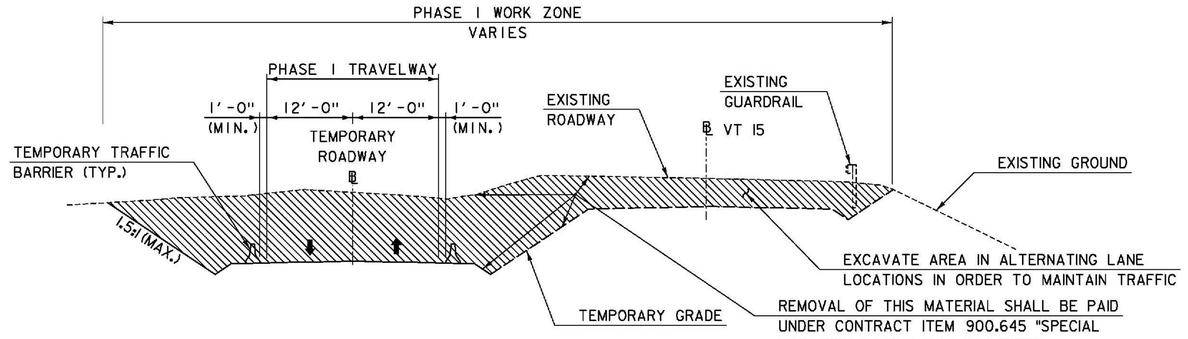
MAINTENANCE OF TRAFFIC SECTIONS - PHASE I



46+50 +/-



46+00 +/-



44+50 +/-

LEGEND

- AREA OF EXCAVATION
- AREA OF TEMPORARY OVERBUILD

PROPOSED TRAFFIC CONTROL PLAN NOTES - PHASE I

EXCAVATE EXISTING ROADWAY, ALTERNATING LANE LOCATIONS IN ORDER TO MAINTAIN TWO-WAY CHANNELIZED TRAFFIC, UNTIL THE REQUIRED GRADE IS ACHIEVED AND TEMPORARY STRUCTURE OVER EXISTING CULVERT IS INSTALLED.

THE FOLLOWING SIGNS WILL BE REQUIRED DURING THIS PHASE:

- BUMP (W8-1)*
- PAVEMENT ENDS (W8-3)*

*REFER TO THE M.U.T.C.D. FOR SIGN DETAILS

NOTE:
FOR ADDITIONAL INFORMATION SEE MAINTENANCE OF TRAFFIC PLANS AND PROFILE SHEETS.

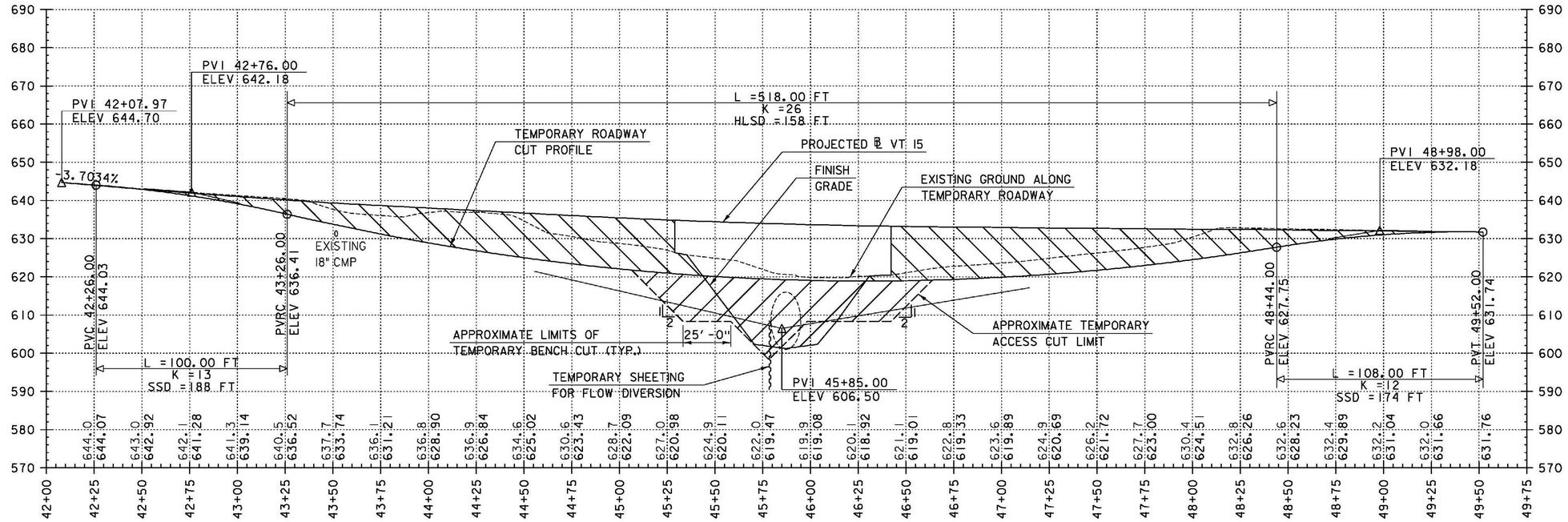
10 0 10
SCALE IN FEET

TYLIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292bdr_mot_CON.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: T. KELLEY
MAINTENANCE OF TRAFFIC SECTIONS, PHASE I

PLOT DATE: 11/19/2013
DRAWN BY: T. KELLEY
CHECKED BY: D. BRYANT
SHEET 16 OF 60



TEMPORARY ROADWAY ℄ PROFILE

STATIONING AND ELEVATIONS ARE IN FEET

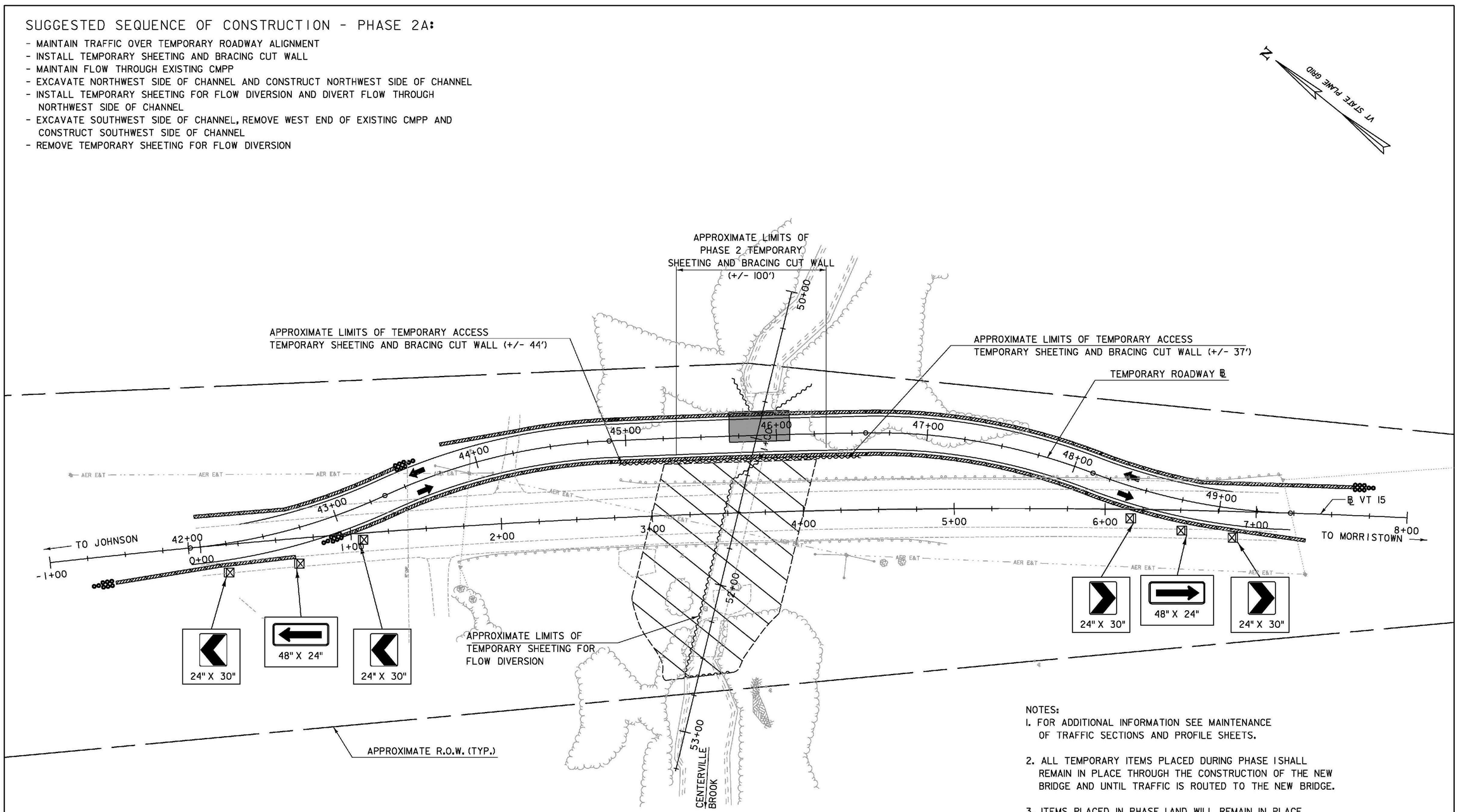
- PHASE 2 CUT WALL SHORING
- PHASE 2 FILL WALL SHORING
- TEMPORARY SHEETING FOR FLOW DIVERSION

NOTE:
FOR ADDITIONAL INFORMATION SEE MAINTENANCE
OF TRAFFIC PLANS AND SECTIONS.

PROJECT NAME: HYDE PARK	
PROJECT NUMBER: STP CULV(26)	
TY·LIN INTERNATIONAL	FILE NAME: z11b292bdr_mot_PR.dgn
	PROJECT LEADER: R. HEBERT
	DESIGNED BY: T. KELLEY
	MAINTENANCE OF TRAFFIC PROFILE
	PLOT DATE: 11/6/2013
	DRAWN BY: T. KELLEY
	CHECKED BY: D. BRYANT
	SHEET 17 OF 60

SUGGESTED SEQUENCE OF CONSTRUCTION - PHASE 2A:

- MAINTAIN TRAFFIC OVER TEMPORARY ROADWAY ALIGNMENT
- INSTALL TEMPORARY SHEETING AND BRACING CUT WALL
- MAINTAIN FLOW THROUGH EXISTING CMPP
- EXCAVATE NORTHWEST SIDE OF CHANNEL AND CONSTRUCT NORTHWEST SIDE OF CHANNEL
- INSTALL TEMPORARY SHEETING FOR FLOW DIVERSION AND DIVERT FLOW THROUGH NORTHWEST SIDE OF CHANNEL
- EXCAVATE SOUTHWEST SIDE OF CHANNEL, REMOVE WEST END OF EXISTING CMPP AND CONSTRUCT SOUTHWEST SIDE OF CHANNEL
- REMOVE TEMPORARY SHEETING FOR FLOW DIVERSION



NOTES:

1. FOR ADDITIONAL INFORMATION SEE MAINTENANCE OF TRAFFIC SECTIONS AND PROFILE SHEETS.
2. ALL TEMPORARY ITEMS PLACED DURING PHASE I SHALL REMAIN IN PLACE THROUGH THE CONSTRUCTION OF THE NEW BRIDGE AND UNTIL TRAFFIC IS ROUTED TO THE NEW BRIDGE.
3. ITEMS PLACED IN PHASE I AND WILL REMAIN IN PLACE FOR THE DURATION OF PHASE 2.

LEGEND

- TEMPORARY TRAFFIC BARRIER
- ENERGY ABSORPTION ATTENUATOR
- TYPE III BARRICADE (MOD.)
- REFLECTORIZED PLASTIC DRUM
- WORK ZONE
- TEMPORARY SHEETING AND BRACING
- DIRECTION OF TRAFFIC
- SIGN FROM PREVIOUS PHASE

30 0 30
SCALE IN FEET

TYLIN INTERNATIONAL

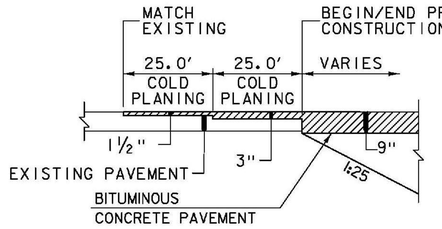
PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292bdr_mot_P2a.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: T. KELLEY
MAINTENANCE OF TRAFFIC PLAN, PHASE 2A

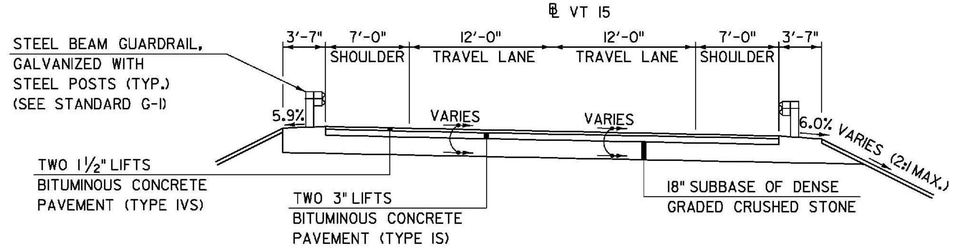
PLOT DATE: 11/6/2013
DRAWN BY: T. KELLEY
CHECKED BY: D. BRYANT
SHEET 18 OF 60

SUGGESTED SEQUENCE OF CONSTRUCTION - PHASE 2B:

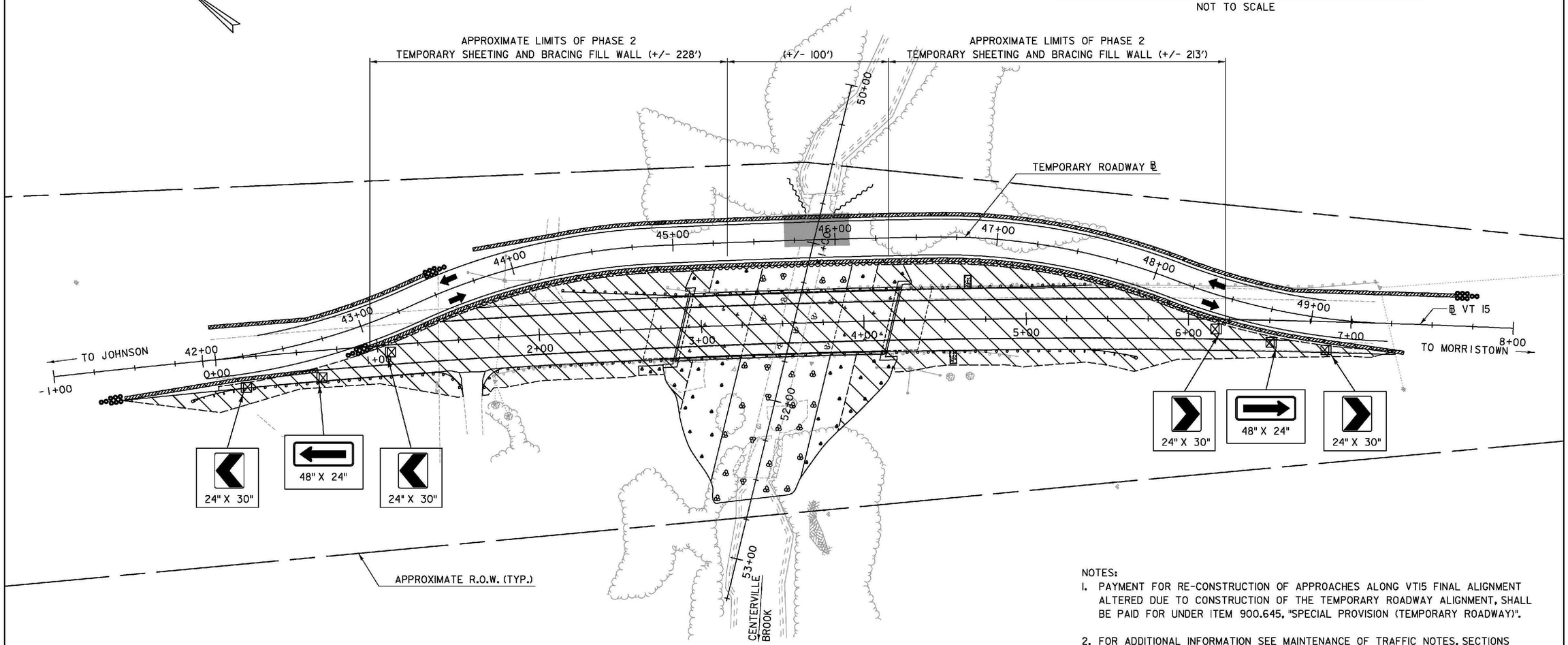
- MAINTAIN TRAFFIC OVER TEMPORARY ROADWAY ALIGNMENT
- INSTALL TEMPORARY SHEETING AND BRACING FILL WALL
- CONSTRUCT APPROACH AND NEW BRIDGE ON FINAL ALIGNMENT



RE-CONSTRUCTION APPROACH COLD PLANING
ALONG TEMPORARY ROADWAY ℄
NOT TO SCALE



TYPICAL ROADWAY RE-CONSTRUCTION SECTION
NOT TO SCALE



NOTES:

1. PAYMENT FOR RE-CONSTRUCTION OF APPROACHES ALONG VT15 FINAL ALIGNMENT ALTERED DUE TO CONSTRUCTION OF THE TEMPORARY ROADWAY ALIGNMENT, SHALL BE PAID FOR UNDER ITEM 900.645, "SPECIAL PROVISION (TEMPORARY ROADWAY)".
2. FOR ADDITIONAL INFORMATION SEE MAINTENANCE OF TRAFFIC NOTES, SECTIONS AND PROFILE SHEETS.
3. ITEMS PLACED IN PHASE I WILL REMAIN IN PLACE FOR THE DURATION OF PHASE 2.

LEGEND

- TEMPORARY TRAFFIC BARRIER
- ENERGY ABSORPTION ATTENUATOR
- TYPE III BARRICADE (MOD.)
- REFLECTORIZED PLASTIC DRUM
- WORK ZONE
- TEMPORARY SHEETING AND BRACING
- DIRECTION OF TRAFFIC
- SIGN FROM PREVIOUS PHASE

30 0 30
SCALE IN FEET

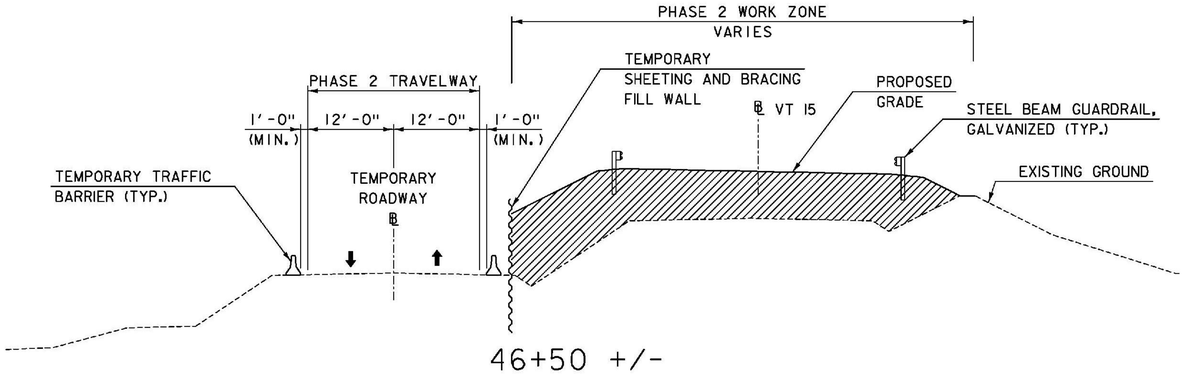
TYLIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

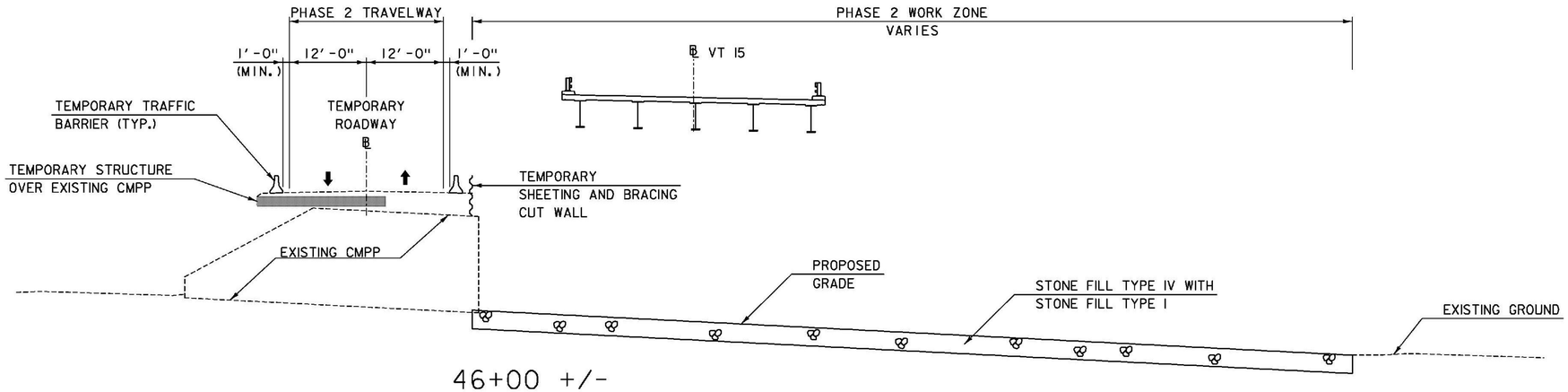
FILE NAME: z11b292bdr_mot_P2b.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: T. KELLEY
MAINTENANCE OF TRAFFIC PLAN, PHASE 2B

PLOT DATE: 11/6/2013
DRAWN BY: T. KELLEY
CHECKED BY: D. BRYANT
SHEET 19 OF 60

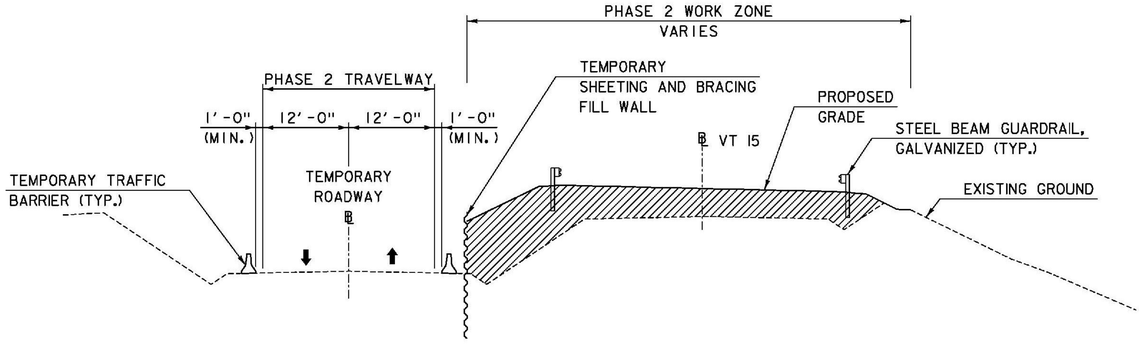
MAINTENANCE OF TRAFFIC SECTIONS - PHASE 2



46+50 +/-



46+00 +/-



44+50 +/-

LEGEND

AREA OF FINAL BUILD

10 0 10

SCALE IN FEET

PROPOSED TRAFFIC CONTROL PLAN NOTES - PHASE 2

PLACE TEMPORARY SHEETING AND BRACING AND BARRIERS AT LOCATIONS SHOWN TO CREATE A TWO-WAY TEMPORARY ROADWAY. DIRECT ALL TRAFFIC ON TO THIS ROADWAY. SEE SPECIAL PROVISION 900.645 FOR DETAILS REGARDING TEMPORARY ROADWAY PAY ITEM.

WITH TRAFFIC MAINTAINED ON TEMPORARY ROADWAY, EXCAVATE WEST SIDE OF CHANNEL, REMOVE WEST END OF EXISTING CMPP, CONSTRUCT WEST END OF NEW CHANNEL AND CONSTRUCT APPROACH AND NEW BRIDGE ON FINAL ALIGNMENT.

NOTE:
FOR ADDITIONAL INFORMATION SEE MAINTENANCE OF TRAFFIC PLANS AND PROFILE SHEETS.

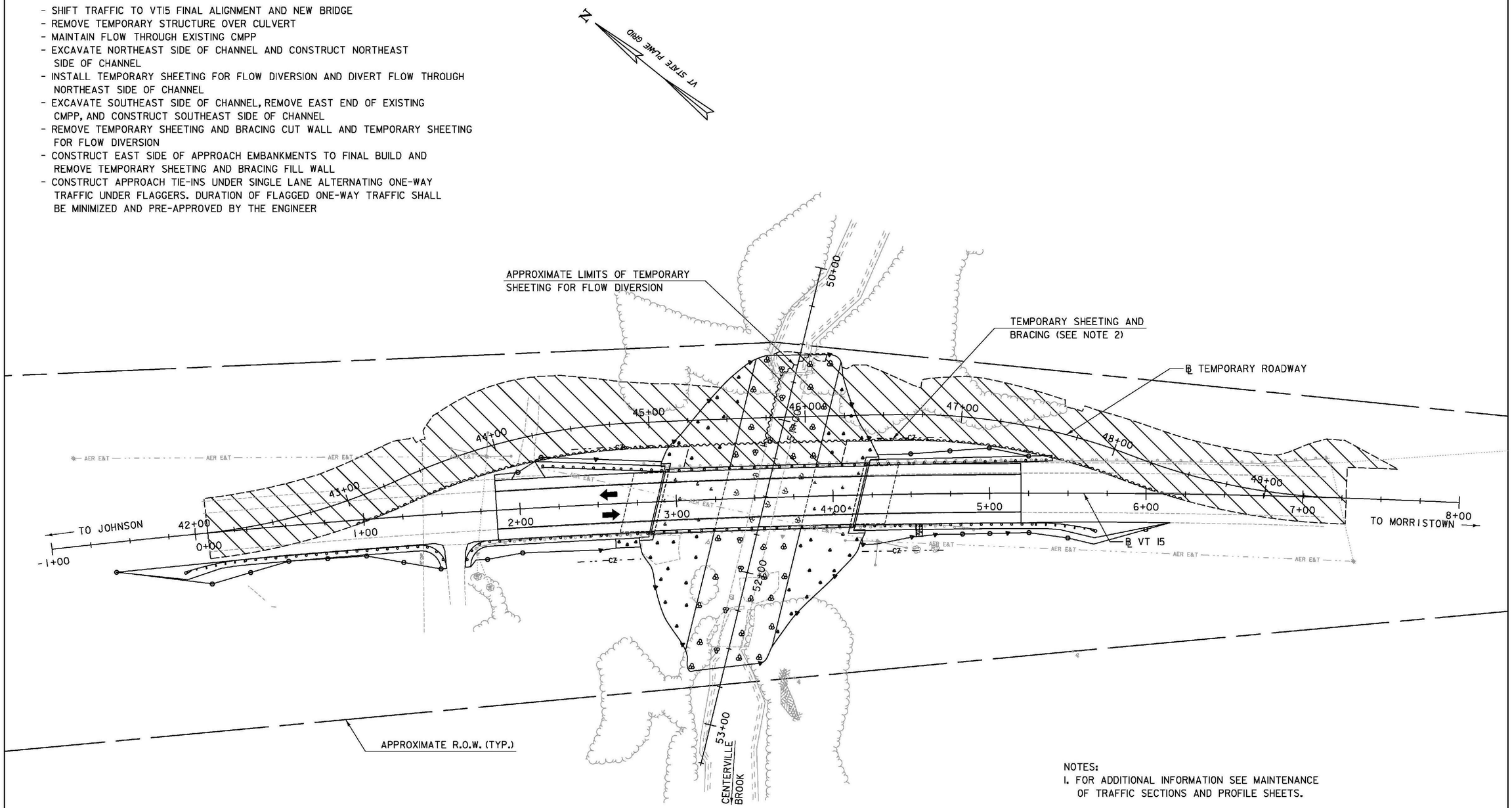
PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

TYLIN INTERNATIONAL

FILE NAME: z11b292bdr_mot_CON.dgn PLOT DATE: 11/6/2013
PROJECT LEADER: R. HEBERT DRAWN BY: T. KELLEY
DESIGNED BY: T. KELLEY CHECKED BY: D. BRYANT
MAINTENANCE OF TRAFFIC SECTIONS, PHASE 2 SHEET 20 OF 60

SUGGESTED SEQUENCE OF CONSTRUCTION - PHASE 3:

- SHIFT TRAFFIC TO VT15 FINAL ALIGNMENT AND NEW BRIDGE
- REMOVE TEMPORARY STRUCTURE OVER CULVERT
- MAINTAIN FLOW THROUGH EXISTING CMPP
- EXCAVATE NORTHEAST SIDE OF CHANNEL AND CONSTRUCT NORTHEAST SIDE OF CHANNEL
- INSTALL TEMPORARY SHEETING FOR FLOW DIVERSION AND DIVERT FLOW THROUGH NORTHEAST SIDE OF CHANNEL
- EXCAVATE SOUTHEAST SIDE OF CHANNEL, REMOVE EAST END OF EXISTING CMPP, AND CONSTRUCT SOUTHEAST SIDE OF CHANNEL
- REMOVE TEMPORARY SHEETING AND BRACING CUT WALL AND TEMPORARY SHEETING FOR FLOW DIVERSION
- CONSTRUCT EAST SIDE OF APPROACH EMBANKMENTS TO FINAL BUILD AND REMOVE TEMPORARY SHEETING AND BRACING FILL WALL
- CONSTRUCT APPROACH TIE-INS UNDER SINGLE LANE ALTERNATING ONE-WAY TRAFFIC UNDER FLAGGERS. DURATION OF FLAGGED ONE-WAY TRAFFIC SHALL BE MINIMIZED AND PRE-APPROVED BY THE ENGINEER



NOTES:
1. FOR ADDITIONAL INFORMATION SEE MAINTENANCE OF TRAFFIC SECTIONS AND PROFILE SHEETS.

2. ITEM PLACED IN PRIOR PHASES AND WILL REMAIN IN PLACE FOR THE DURATION OF PHASE 3.

LEGEND

- TEMPORARY TRAFFIC BARRIER
- ENERGY ABSORPTION ATTENUATOR
- TYPE III BARRICADE (MOD.)
- REFLECTORIZED PLASTIC DRUM
- WORK ZONE
- TEMPORARY SHEETING AND BRACING
- DIRECTION OF TRAFFIC

30 0 30
SCALE IN FEET

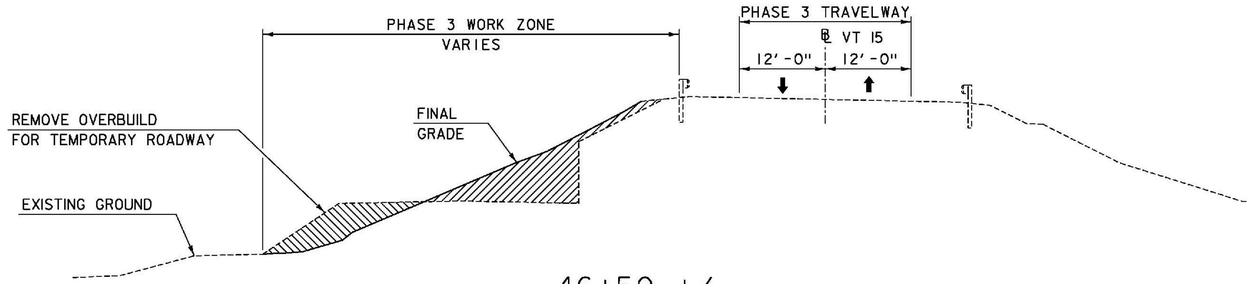
TYLIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

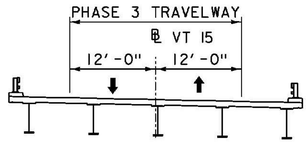
FILE NAME: z11b292bdr_mot_P3.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: T. KELLEY
MAINTENANCE OF TRAFFIC PLAN, PHASE 3

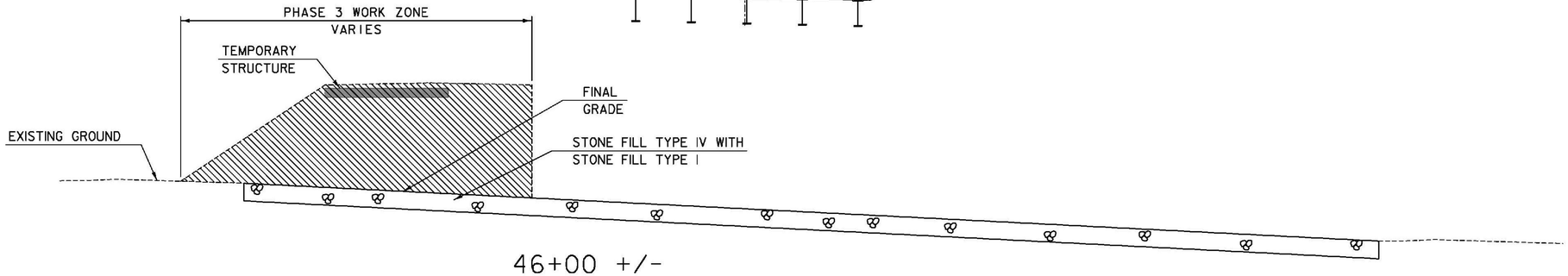
PLOT DATE: 11/6/2013
DRAWN BY: T. KELLEY
CHECKED BY: D. BRYANT
SHEET 21 OF 60

MAINTENANCE OF TRAFFIC SECTIONS - PHASE 3

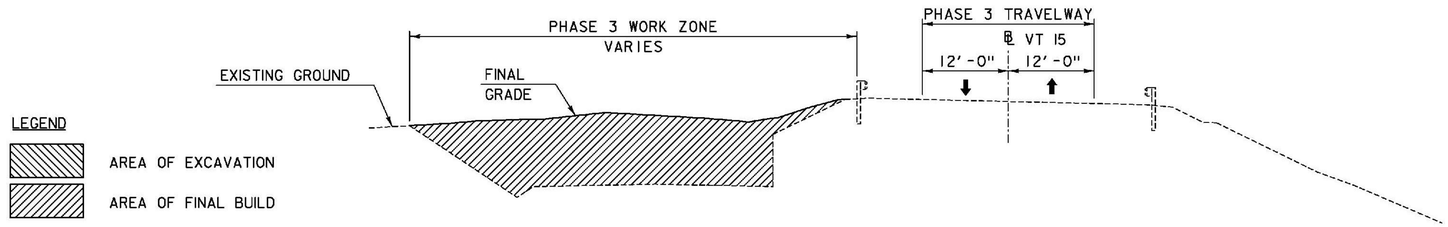


46+50 +/-





46+00 +/-



44+50 +/-

PROPOSED TRAFFIC CONTROL PLAN NOTES - PHASE 3

SHIFT TRAFFIC TO VT15 FINAL ALIGNMENT AND NEW BRIDGE. REMOVE TEMPORARY STRUCTURE (OVER EXISTING CMPP), EXCAVATE EAST SIDE OF CHANNEL, REMOVE EAST END OF EXISTING CMPP, CONSTRUCT EAST END NEW CHANNEL, AND CONSTRUCT REMAINING PORTION OF EAST SIDE OF ROADWAY APPROACH EMBANKMENT.

CONSTRUCT APPROACH TIE-INS UNDER SINGLE LANE ALTERNATING ONE-WAY TRAFFIC UNDER FLAGGERS.

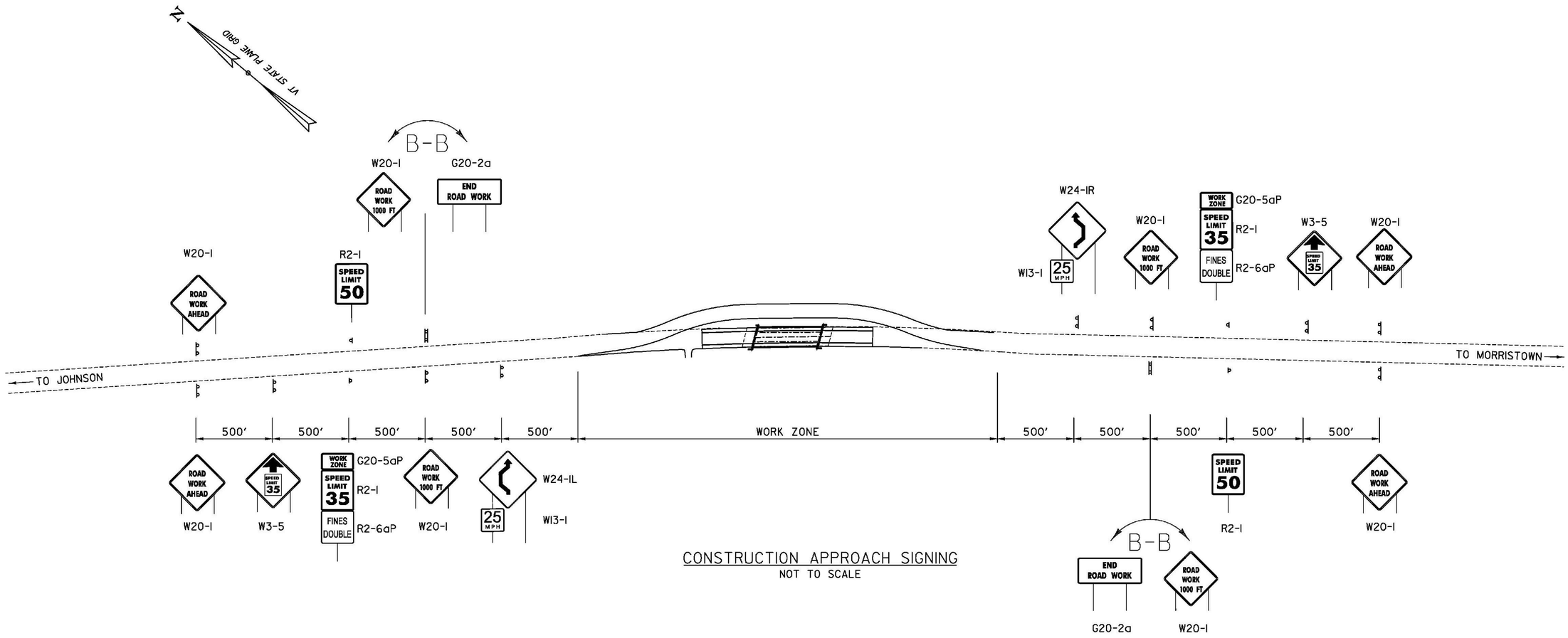
NOTE:
FOR ADDITIONAL INFORMATION SEE MAINTENANCE OF TRAFFIC PLANS AND PROFILE SHEETS.

10 0 10
SCALE IN FEET

TY LIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292bdr_mot_CON.dgn PLOT DATE: 11/6/2013
PROJECT LEADER: R. HEBERT DRAWN BY: T. KELLEY
DESIGNED BY: T. KELLEY CHECKED BY: D. BRYANT
MAINTENANCE OF TRAFFIC SECTIONS, PHASE 3 SHEET 22 OF 60



CONSTRUCTION APPROACH SIGNING
NOT TO SCALE

SIGN #	DESCRIPTION	SIZE	QTY	SUPPORT
G20-2a	END ROAD WORK	48x24	2	4 - POSTS (2/SIGN ASSEMBLY)
W20-1	ROAD WORK 1000 FT	48x48	2	
G20-5a (P)	WORK ZONE	24x18	2	2 - POSTS (1/SIGN ASSEMBLY)
R2-1	SPEED LIMIT 35	24x30	2	
R2-6a (P)	FINES DOUBLE	24x24	2	
R2-1	SPEED LIMIT 50	24x30	2	2 - POSTS (1/SIGN)
W3-5	SPEED LIMIT 35 (SPEED REDUCTION)	48x48	2	4 - POSTS (2/SIGN)
W20-1	ROAD WORK AHEAD	48x48	4	8 - POSTS (2/SIGN)
W20-1	ROAD WORK 1000 FT	48x48	2	4 - POSTS (2/SIGN)
W24-1L	DOUBLE REVERSE CURVE (1LANE)	48x48	1	2 - POSTS (2/SIGN ASSEMBLY)
W13-1	25 MPH	24x24	1	
W24-1R	DOUBLE REVERSE CURVE (1LANE)	48x48	1	2 - POSTS (2/SIGN ASSEMBLY)
W13-1	25 MPH	24x24	1	

(P) = PLAQUE

SQUARE SIGN POSTS	28
POST ANCHORS	28

SIGNING NOTES:
1. INSTALL SIGNS WITH THE FLOW OF TRAFFIC.
2. ADJUST SIGN SPACINGS TO ACCOMODATE EXISTING SIGNS OR OBSTRUCTIONS - TRIM BRANCHES AS NECESSARY.
3. AFTER SIGNS ARE INSTALLED, VERIFY THAT:
   DRIVER CAN SEE ALL DEVICES CLEARLY
   DRIVER KNOWS WHAT TO DO AND WHERE TO GO
   DRIVER HAS TIME/DISTANCE TO SLOW DOWN.
4. COVER CONTRADICTORY EXISTING SIGNING.

LEGEND
- SIGN WITH 1 POST
- SIGN WITH 2 POSTS

CONSTRUCTION NOTE:
PAYMENT FOR CONSTRUCTION SIGNING, AND IT'S MAINTENANCE AND REMOVAL, WILL BE INCLUDED FOR PAYMENT UNDER CONTRACT ITEM 641.10.

TYLIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292bdr_mot_sgn.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. BRYANT
CONSTRUCTION APPROACH SIGNING

PLOT DATE: 11/6/2013
DRAWN BY: P. MCCLURE
CHECKED BY: R. HEBERT
SHEET 23 OF 60

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 P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	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 Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
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 1 1/8"
BX	Core Size 1 5/8"
NX	Core Size 2 1/8"
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 > 12 inches.

COBBLE - Rock fragments with an average dimension between 3 and 12 inches.

GRAVEL - Rounded particles of rock < 3" and > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#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.

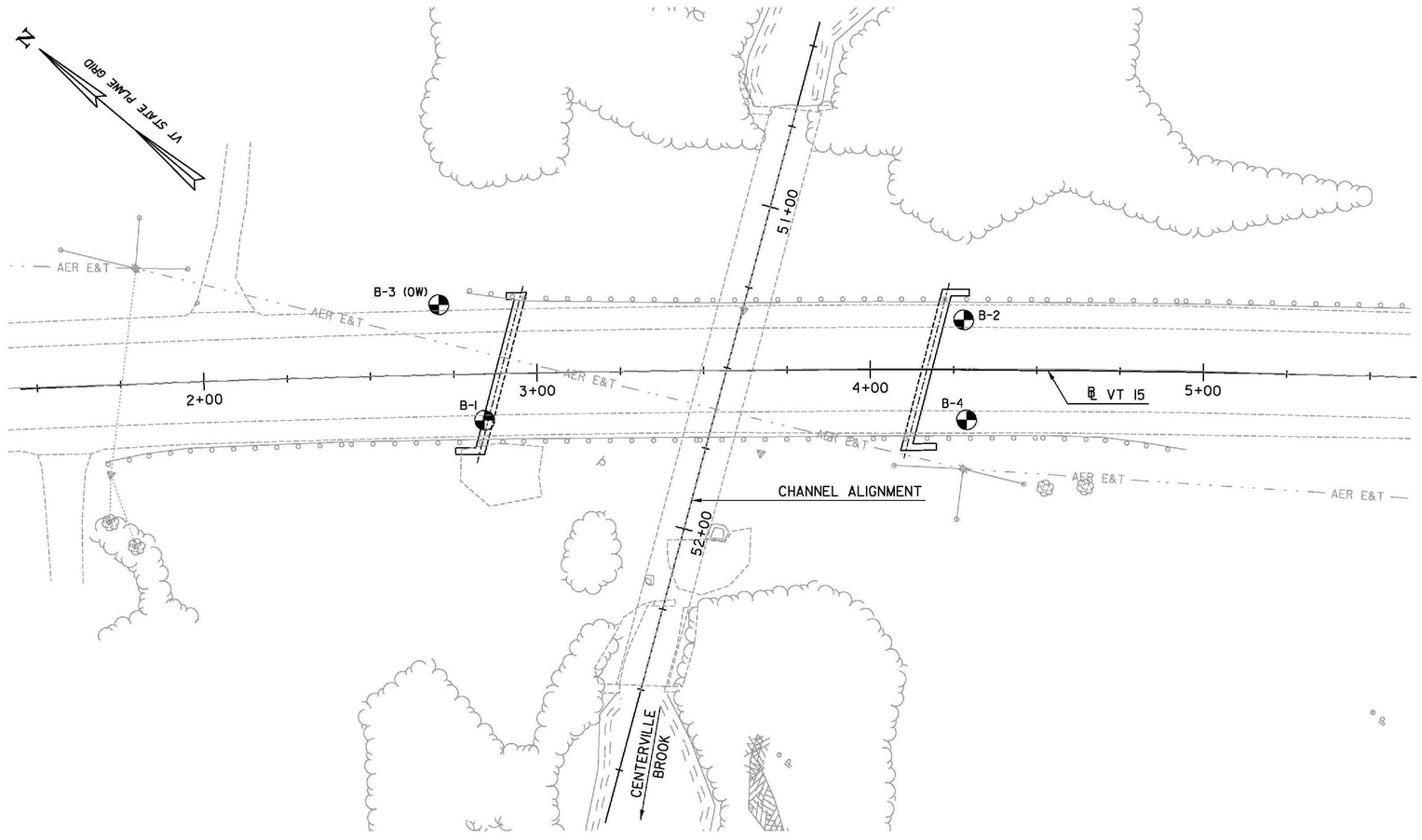
MUCK - Soft organic soil (containing > 10% organic material.

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 LAYOUT

SCALE 1" = 20'-0"

20 0 20

GENERAL NOTES

1. The subsurface explorations shown herein were made between August 13, 2012 and August 16, 2012 by GeoDesign, Inc.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by GeoDesign, Inc. 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.

HOLE NO.	STATION	OFFSET	NORTHING	EASTING	GROUND ELEVATION	ELEVATION TLOB
B-1	2+84.00	14.00' RT	762699.00	1612208.00	635.0 FT.	598.0 FT.
B-2	4+28.00	15.00' LT	762609.00	1612324.00	634.0 FT.	602.0 FT.
B-3 (OW)	2+71.00	21.00' LT	762732.00	1612226.00	636.0 FT.	597.9 FT.
B-4	4+29.00	15.00' RT	762589.00	1612302.00	633.0 FT.	605.8 FT.

PROJECT NAME: HYDE PARK

PROJECT NUMBER: STP CULV(26)

T.Y.LIN INTERNATIONAL

FILE NAME: z11b292bdrborinfo.dgn PLOT DATE: 11/6/2013

PROJECT LEADER: R. HEBERT DRAWN BY: S. MORGAN

DESIGNED BY: J. OLUND CHECKED BY: J. OLUND

BORING INFORMATION & LAYOUT SHEET SHEET 24 OF 60

BOTTOM OF ABUT. #1
ELEV. 624.00

APPROX. PILE TIP @ ABUT #1
ELEV. 598.00

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING LOG

Hyde Park Bridge #42
STP CULV (26)

Boring No.: B-1
Page No.: 1 of 2
Pin No.:
Checked By: DTH

Boring Crew: J. Wimett (GeoDesign), J. Leonhardt (TransTech)
Date Started: 8/13/12 Date Finished: 8/14/12
VTSPG NAD83: N 762699.00 ft E 1612208.00 ft
Station: 2+84 Offset: 14' R
Ground Elevation: 635.0 ft

	Casing	Sampler
Type:	FJ	SS
I.D.:	4 in	1.38 in
Hammer Wt:	140 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig:	CME 75 TRACK	CE = 1.43

Groundwater Observations		
Date	Depth (ft)	Notes
08/13/12	12.0	Wet soil.
08/14/12	21.0	In casing (overnight).

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Asphalt, 0.0 ft – 0.2 ft										
		Visual Description (Burmister), S1 (0.5'–2'): Medium dense, brown fine to coarse SAND, some fine Gravel, little Silt, slightly moist, (AASHTO M145 Classification: A-1-b) Rec. = 1.0 ft				9–12–14 (26)		37.3	39.3	11.6		
						10–10–14–12 (24)	4.1 10.6	25.3 0.9	48.4 61.9	13.8 37.1		
5		Visual Description (Burmister), S2 (2'–4'): Medium dense, S2A – Top 6": Similar to S1, (AASHTO M145 Classification: A-1-b) S2B – Bottom 18": Brown fine SAND and SILT, slightly moist, (AASHTO M145 Classification: A-4), Rec. = 2.0 ft				2–5–4–4 (9)	9.1	0.7	68.0	30.6		
						3–4–5–7 (9)	28.2 25.7		7.3 1.4	92.7 98.6	29	6
10							13.2		43.4	56.6		
						7–8–7–6 (15)	16.5					
		Visual Description (Burmister), S3 (5'–7'): S3A – Top 17": Loose, brown fine SAND, some Silt, slightly moist, (AASHTO M145 Classification: A-2-4) S3B – Bottom 4": Medium, gray finely parted SILT & CLAY, moist, (AASHTO M145 Classification: A-4), Rec. = 1.75 ft A-4				2–3–2–9 (5)	22.7 26.8	0.6	48.7 10.6	50.1 89.4		
15						8–9–5–4 (14)	22.2		30.9	69.1		
		Visual Description (Burmister), S4 (7'–9'): Loose, S4A – Top 17": Gray SILT, trace Clayey Silt, trace fine Sand, moist. S4B – Bottom 3": Brown SILT and fine SAND, slightly moist, Rec. = 1.67 ft, (AASHTO M145 Classification: A-4)				4–4–6–8 (10)	25.9		4.2	95.8		
20						6–4–5–5 (9)	24.7					
		Visual Description (Burmister), S5 (10'–12'): Medium dense, brown fine SAND and SILT, moist, Rec. = 2.0 ft				2–5–6–7 (11)	25.9		6.5	93.5	26	3
25		Visual Description (Burmister), S6 (12'–14'): S6A – Top 6": Loose, brown fine SAND and SILT, wet. S6B – Bottom 12": Medium, gray finely parted Clayey SILT, trace fine Sand, moist, Rec. = 1.5 ft, (AASHTO M145 Classification: A-4)				5–6–6–15 (12)	25.9 16.0	7.5	7.0 36.8	93.0 51.6		
30		Visual Description (Burmister), S7 (15'–17'): Medium dense, alternating 3" to 6" layers of brown fine SAND and gray SILT, trace Clayey Silt, moist (silt layers) to wet (sand layers), Rec. = 1.33 ft, (AASHTO M145 Classification: A-4)				6–4–3–4 (7)	19.7	9.3	23.4	60.2		
35		Visual Description (Burmister), S8 (17'–19'): Medium dense, gray finely parted Clayey SILT, trace fine Sand, trace Organic Fibers, moist to wet, Rec. = 1.33 ft, (AASHTO M145 Classification: A-4)				9–50	11.3	47.7	26.5	20.2		
		Visual Description (Burmister), S9 (20'–22'): Loose, brown and gray with occasional black partings Clayey SILT, some fine Sand, trace Silt & Clay, trace Organic Fibers, slight Organic Odor, wet, Rec. = 1.33 ft	C1	100 (73)		Top of Bedrock @ 37.0 ft						
40		Visual Description (Burmister), S10 (22'–24'): Medium dense, gray finely parted SILT, little Clayey Silt, trace Silty Clay partings, trace fine Sand, trace (–) Organic Fibers, wet, Rec. = 1.33 ft, (AASHTO M145 Classification: A-4)	C2	100	15							
			C3	(100)	7.5							
45		Visual Description (Burmister), S11 (25'–27'): Medium dense, S11A – Top 14": Grayish brown Clayey SILT, little fine Sand, trace Organic Fibers, wet. S11B – Bottom 1": Gray SILT and fine to medium SAND, little (–) fine Gravel, wet, Rec. = 1.25 ft, (AASHTO M145		85 (57)	7.5 7.5 7.5							

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. 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.

BROOK LOG (EDITED) 888-042 HYDE PARK.GPJ VERMONT AOT.GDT 10/22/12

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING LOG

Hyde Park Bridge #42
STP CULV (26)

Boring No.: B-1
Page No.: 2 of 2
Pin No.:
Checked By: DTH

Boring Crew: J. Wimett (GeoDesign), J. Leonhardt (TransTech)
Date Started: 8/13/12 Date Finished: 8/14/12
VTSPG NAD83: N 762699.00 ft E 1612208.00 ft
Station: 2+84 Offset: 14' R
Ground Elevation: 635.0 ft

	Casing	Sampler
Type:	FJ	SS
I.D.:	4 in	1.38 in
Hammer Wt:	140 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig:	CME 75 TRACK	CE = 1.43

Groundwater Observations		
Date	Depth (ft)	Notes
08/13/12	12.0	Wet soil.
08/14/12	21.0	In casing (overnight).

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Classification: A-4)										
55		Visual Description (Burmister), S12 (30'–32'): Loose, gray to grayish brown SILT, some finely parted Clayey Silt, little fine to medium Sand, trace fine Gravel, trace Organic Fibers, wet, Rec. = 0.83 ft, (AASHTO M145 Classification: A-4)										
		Visual Description (Burmister), S13 (35'–36'): Refusal, brownish gray fine to coarse SAND and fine GRAVEL, some Silt, wet, (AASHTO M145 Classification: A-1-b) Rec. = 0.42 ft										
60		Field Note:, Inferred weathered rock.										
		37.0 ft – 42.0 ft, (C1) Fair quality, hard, fresh with occasional decayed abscesses up to 1/4" in diameter in top 12" of core, close to moderately jointed, gray with occasional white intrusions PHYLLITE. Moderate reaction to dilute HCl in white intrusions only. Graphite sheen noticeable on fractured surfaces. Fractured surfaces range widely from horizontal to near vertical.										
65												
		42.0 ft – 43.1 ft, (C2) Excellent quality, slightly weathered with moderately weathered jointing, hard, closely jointed gray with white intrusions PHYLLITE. Moderate reaction to dilute HCl in white portions. Jointing at approximately 70 degrees from horizontal with occasional horizontal seams.										
70												
		43.1 ft – 47.0 ft, (3) Fair quality, slightly to moderately weathered, hard, close to moderately jointed, gray PHYLLITE with white intrusions (Quartz and other minerals). Occasional white intrusions have a moderate reaction to HCl (non-quartz portions). Jointing typically between 70 degrees from horizontal to vertical with occasional horizontal fractures and joints.										
75												
		Hole stopped @ 47.0 ft										
80												
85												
90												
95												

Remarks:
1) Ground surface elevation, coordinates, and stationing are estimated from an electronic site plan provided by TY Lin and taped measurements in the field.
2) Augered to 6" deep prior to sampling S1.
3) Noted a wet layer in at the top of the spoon in sample S6 at 12' deep. Let stabilize for 15 minutes and check water level in borehole. Borehole dry to 14'. Infer wet zone to be perched water within the fill soils.
4) Used 3.25" I.D. hollow stem augers (HSA) to 15' deep. Switch from HSA's to 4" O.D. flush joint casing after sampling S7 at 15' deep.
5) Driller notes loss of water while drilling from 33' deep. Infer due to reaching bottom of clayey silt fill soils.
6) Advance roller bit through inferred weathered rock from 36' to 37' deep.
7) Note black graphite sheen on wash water throughout coring.
8) Core run C2 was stopped after 13" of penetration at 43.1' deep due to core blockage.
9) SPT N-values were performed according to ASTM D1586.
10) Lab testing gradations reported are per AASHTO M145.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. 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.

BROOK LOG (EDITED) 888-042 HYDE PARK.GPJ VERMONT AOT.GDT 10/22/12

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

TYLININTERNATIONAL

FILE NAME: z11b292bdrborlogl.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: J. OLUND
BORING LOGS I

PLOT DATE: 11/6/2013
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
SHEET 25 OF 60

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING LOG

Hyde Park Bridge #42
STP CULV (26)

Boring No.: B-2
Page No.: 1 of 2
Pin No.:
Checked By: DTH

Boring Crew: J. Wimett (GeoDesign), J. Leonhardt (TransTech)
Date Started: 8/14/12 Date Finished: 8/15/12
VTSPG NAD83: N 762609.00 ft E 1612324.00 ft
Station: 4+28 Offset: 15' L
Ground Elevation: 634.0 ft

	Casing	Sampler
Type:	FJ	SS
I.D.:	4 in	1.38 in
Hammer Wt:	140 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig:	CME 75 TRACK	CE = 1.43

Groundwater Observations

Date	Depth (ft)	Notes
08/14/12	16.5	Wet soil.
08/15/12	24.5	In casing overnight.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Asphalt, 0.0 ft – 0.2 ft										
		Visual Description (Burmister), S1 (0.5'–2'): Medium dense, brown fine to coarse SAND and fine to coarse GRAVEL, trace (+) Silt, dry, (AASHTO M145 Classification: A-1-a) Rec. = 1.08 ft				18–11–14 (25)	2.8	42.1	37.2	8.2		
						11–12–15–16 (27)	8.0	5.8	60.9	32.4		
5		Visual Description (Burmister), S2 (2'–4'): Medium dense, light brown fine SAND, some Silt, trace fine Gravel, slightly moist, Rec. = 1.58 ft, (AASHTO M145 Classification: A-2-4)				2–2–2–3 (4)	6.8	1.3	72.4	26.3		
						1–1–2–3 (3)	5.2 30.9	0.4	74.0 4.9	25.6 95.1	31	3
10		Visual Description (Burmister), S3 (5'–7'): Very loose, light brown fine to medium SAND, some Silt, slightly moist, Rec. = 1.5 ft, (AASHTO M145 Classification: A-2-4)				1–2–2–5 (4)	29.1		4.5	95.5	30	5
		Visual Description (Burmister), S4 (7'–9'): Very loose, S4A – Top 7": similar to S3. (AASHTO M145 Classification A-2-4) S4B – Bottom 8": Soft, gray Clayey SILT, trace Clay & Silt partings, moist, (AASHTO M145 Classification A-4), Rec. = 1.25 ft A-4				5–4–4–4 (8)	8.4					
15						1–4–3–6 (7)	28.8		12.5	87.5		
						3–6–4–5 (10)	28.7		6.6	93.4	30	11
20		Visual Description (Burmister), S5 (10'–12'): Very loose, gray SILT, little (–) Clayey Silt, very moist, Rec. = 1.5 ft, (AASHTO M145 Classification: A-4)				9–16–14–50 (30)	21.9 12.6	18.6	13.0 32.6	87.0 37.8		
		Visual Description (Burmister), S6 (12'–14') Loose, light brown fine SAND, some (–) Silt, slightly moist, Rec. = 1.75 ft				19–12–14–16 (26)	11.3					
25		Visual Description (Burmister), S7 (15'–17'): Loose, gray–brown to gray SILT, little Clayey Silt, trace fine Sand, very moist to wet at tip, Rec. = 1.58 ft, (AASHTO M145 Classification: A-4)				24–50/3"	10.5	19.1	33.0	36.7		
		Visual Description (Burmister), S8 (17'–19'): Medium dense gray with occasional brown mottling Clayey Silt, trace (+) fine Sand, trace Silty Clay seams up to 1/2" thick, wet, Rec. = 1.17 ft, (AASHTO M145 Classification: A-6)				12–10–5–50/4" (15)	10.4	31.0 43.8	42.4 26.3	23.3 18.9		
30												
		Visual Description (Burmister), S9 (20'–22'): Dense, S9A – Top 6": Grayish brown finely parted SILT, trace Clayey Silt, trace fine Sand, wet. S9B – Bottom 10": Light brown SILT and fine to medium SAND, little fine to coarse Gravel, wet. Coarse Gravel stuck in tip, Rec. = 1.33 ft, (AASHTO M145 Classification: A-4)	C1	91 (52)		3 4 8						
35			C2	100 (79)		4 4 7						
		Visual Description (Burmister), S10 (22'–24'): Medium dense, grayish brown SILT, some fine to medium Sand, little fine Gravel, wet, Rec. = 1.25 ft	C3	100 (81)		8 8 8						
40		Visual Description (Burmister), S11 (25'–25.75'): Refusal, gray SILT and fine to medium SAND, little fine Gravel, wet, Rec. = 0.5 ft, (AASHTO M145 Classification: A-4)	C4	100 (38)		8 9						
		Visual Description (Burmister), S12 (30'–31.8') Medium dense, S12A – Top 11": Gray fine to medium SAND, some Silt, some fine Gravel, wet, Rec. = 1.25 ft, (AASHTO M145 Classification: A-2-4)										
45		Visual Description (Burmister), S12B – Bottom 4": Gray										

Top of Bedrock @ 32.0 ft

BOTTOM OF ABUT. #2
ELEV. 622.00

APPROX. PILE TIP @ ABUT #2
ELEV. 602.00

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. 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.

BROOKN LOG (EDITED) 888-042 HYDE PARK.GPJ VERMONT AOT.GDT 10/22/12

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING LOG

Hyde Park Bridge #42
STP CULV (26)

Boring No.: B-2
Page No.: 2 of 2
Pin No.:
Checked By: DTH

Boring Crew: J. Wimett (GeoDesign), J. Leonhardt (TransTech)
Date Started: 8/14/12 Date Finished: 8/15/12
VTSPG NAD83: N 762609.00 ft E 1612324.00 ft
Station: 4+28 Offset: 15' L
Ground Elevation: 634.0 ft

Casing / Sampler: Type: FJ / SS; I.D.: 4 in / 1.38 in; Hammer Wt: 140 lb. / 140 lb.; Hammer Fall: 30 in. / 30 in.; Hammer/Rod Type: Auto/NWJ; Rig: CME 75 TRACK CE = 1.43

Groundwater Observations

Date	Depth (ft)	Notes
08/14/12	16.5	Wet soil.
08/15/12	24.5	In casing overnight.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
55		DECOMPOSED ROCK, foliated, (AASHTO M145 Classification: A-1-b)										
		32.0 ft – 34.8 ft, (C1) Fair quality, highly to moderately weathered, moderately hard to hard, fractured (top 10") to close jointed, gray with white intrusions PHYLLITE. Moderate reaction to dilute HCl in white intrusions, jointing near vertical with occasional horizontal beds.										
60		34.8 ft – 38.0 ft, (C2) Fair quality, slightly weathered with moderately weathered jointing, moderately hard to hard,close to moderately jointed, gray with white and occasional green PHYLLITE. With occasional white Quartzite intrusions. Moderate reaction to dilute HCl in white non-quartzite intrusions. Jointing at near vertical with occasional moderately weathered horizontal seams.										
65		38.0 ft – 40.3 ft, (C3) Good quality, slightly to moderately weathered with moderately weathered joints, moderately hard to hard, closely jointed, gray with white and occasional green PHYLLITE. With occasional white Quartzite intrusions. Moderate reaction to dilute HCl in occasional white non-quartzite intrusions. Jointing at near vertical with occasional near horizontal seams (possible driller breaks).										
70		40.3 ft – 42.0 ft, (C4) Poor quality, slighty to moderately weathered, moderately hard to hard, closely jointed, gray with green and white PHYLLITE. Occasional moderate reaction to dilute HCl in white intrusions. Jointing near vertical.										
75		Hole stopped @ 42.0 ft										

Remarks:
1) Ground surface elevation, coordinates, and stationing are estimated from an electronic site plan provided by TY Lin and taped measurements in the field.
2) Augered to 6" deep prior to sampling S1.
3) Auger grinding from 2' to 2.5' on inferred cobble or boulder.
4) Used 3.25" I.D. hollow stem augers (HSA) to 15' deep. Switch from HSA's to 4" O.D. flush joint casing after sampling S7 at 15' deep.
5) Driller attempted to advance boring open hole below 20' deep through dense silt. Noted approximately 12" of heave at 25' deep. Driller drove casing to 25' deep and cleared with the roller bit prior to taking sample S11.
6) Clean hole with roller bit and telescope 3" casing to 32' deep prior to coring.
7) Core run C1 was stopped after 33" of penetration at 34.8' deep due to core block.
8) Ended core run C2 at 38' due to core block. Recovered lost portion of C1 when coring C2 (39" penetration with 42" recovery).
9) Ended core run C3 at 40.3' deep due to core block.
10) SPT N-values were performed according to ASTM D1586.
11) Lab testing gradations reported are per AASHTO M145.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. 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.

BROOKN LOG (EDITED) 888-042 HYDE PARK.GPJ VERMONT AOT.GDT 10/22/12

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

T.Y.LIN INTERNATIONAL

FILE NAME: z:\b292bdr\boring log 2.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: J. OLUND
BORING LOGS 2

PLOT DATE: 11/6/2013
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
SHEET 26 OF 60

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING LOG

Hyde Park Bridge #42
STP CULV (26)

Boring No.: B-3 (OW)
Page No.: 1 of 1
Pin No.:
Checked By: DTH

Boring Crew: J. Wimett (GeoDesign), J. Leonhardt (TransTech)
Date Started: 8/16/12 Date Finished: 8/16/12
VTSPG NAD83: N 762732.00 ft E 1612226.00 ft
Station: 2+71 Offset: 21' L
Ground Elevation: 636.0 ft

	Casing	Sampler
Type:	FJ	SS
I.D.:	4 in	1.38 in
Hammer Wt:	140 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig:	CME 75 TRACK	CE = 1.43

Groundwater Observations

Date	Depth (ft)	Notes
08/16/12	12.0	Wet soil.
08/16/12	19.5	In well (1.5 hr)
08/16/12	19.5	In well (4 hrs).

BOTTOM OF ABUT. #1
ELEV. 624.00

APPROX. PILE TIP @ ABUT #1
ELEV. 597.90

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description) Top of Well Elevation: 636.0 ft	Well Diagram	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Visual Description (Burmister), S1 (0'–2'): Medium dense, brown fine to coarse SAND, some fine to coarse Gravel, little (–) Silt, moist, Rec. = 1.08 ft, (AASHTO M145 Classification: A–1–b)		2–5–6–10 (11)	5.0	44.3	47.0	8.7		
5		Visual Description (Burmister), S2 (5'–7'): Medium dense, brown fine SAND and SILT, moist, Rec. = 0.92 ft, (AASHTO M145 Classification: A–4)		7–6–6–5 (12)	11.7	0.3	61.9	37.8		
10		Visual Description (Burmister), S3 (10'–12') Loose, gray SILT, some Clayey Silt, trace fine Sand, very moist, Rec. = 1.0 ft, (AASHTO M145 Classification: A–4)		3–3–3–4 (6)	28.5	4.8	3.4	91.8	29	4
15		Visual Description (Burmister), S4 (15'–17'): Very loose, gray SILT, little Clayey Silt, trace Silty Clay, trace fine Sand, wet, Rec. = 1.08 ft, (AASHTO M145 Classification: A–4)		3–2–2–2 (4)	30.4	0.9	8.6	90.5	23	2
20		Visual Description (Burmister), S5 (20'–22'): Loose, gray–brown grading to gray with occasional black spots SILT, little fine Sand, trace fine Gravel, trace Organic Fibers, occasional layering towards bottom of sample, very moist, Rec. = 1.33 ft, (AASHTO M145 Classification: A–4)		6–4–5–3 (9)	23.8	4.6	21.8	73.6		
25		Visual Description (Burmister), S6 (25'–27'): Medium dense, gray fine to medium SAND and SILT, some fine Gravel, wet, (AASHTO M145 Classification: A–2–4) Rec. = 1.17 ft		1–5–5–4 (10)	10.7	29.1	38.4	32.5		
30		Visual Description (Burmister), S7 (30'–32'): Medium dense, gray fine to medium SAND and fine to coarse GRAVEL, little Silt, wet, (AASHTO M145 Classification: A–1–b) Rec. = 0.83 ft		18–10–12–16 (22)	8.0	54.5	30.7	14.8		
35		Visual Description (Burmister), S8 (35'–35.8') Refusal, fine to coarse SAND, some fine to coarse Gravel, little (+) Silt, wet, Rec. = 0.83 ft, (AASHTO M145 Classification: A–1–b)		38–50/4"	11.7	36.9	43.0	20.1		
40		Visual Description (Burmister), S9 (38'–38.1'): Refusal, gray WEATHERED ROCK, wet. Rec. = 0.08 ft		50/1"						
45		Hole stopped @ 38.1 ft Roller bit refusal in inferred bedrock.								

Remarks:
1) Ground surface elevation, coordinates, and stationing are estimated from an electronic site plan provided by TY Lin and taped measurements in the field and taped measurements in the field.
2) Infer natural soils at 22' based on slight increase in roller bit resistance.
3) Increase in rig chatter noted beginning at 28' deep through denser soils.
4) Infer cobble or small boulder from 33.5' to 34' deep based on roller bit resistance.
5) Infer top of bedrock at 36.5'. Roller bit into rock to 38' deep.
6) SPT N–values were performed according to ASTM D1586.
7) Lab testing gradations reported are per AASHTO M145.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. 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.

BROWN_LOG (EDITED) 888-042 HYDE PARK.GPJ VERMONT AOT.GDT 10/12/12

PROJECT NAME:	HYDE PARK
PROJECT NUMBER:	STP CULV(26)
FILE NAME:	z11b292bdrborlog3.dgn
PROJECT LEADER:	R. HEBERT
DESIGNED BY:	J. OLUND
BORING LOGS 3	
PLOT DATE:	11/6/2013
DRAWN BY:	S. MORGAN
CHECKED BY:	J. OLUND
SHEET 27 OF 60	

T.Y.LIN INTERNATIONAL

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING LOG

Hyde Park Bridge #42
STP CULV (26)

Boring No.: B-4
Page No.: 1 of 1
Pin No.:
Checked By: DTH

Boring Crew: J. Wimett (GeoDesign), J. Leonhardt (TransTech)
Date Started: 8/16/12 Date Finished: 8/16/12
VTSPG NAD83: N 762589.00 ft E 1612302.00 ft
Station: 4+29 Offset: 15' R
Ground Elevation: 633.0 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	3.25 in	1.38 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 75 TRACK	CE = 1.43

Groundwater Observations		
Date	Depth (ft)	Notes
08/16/12	15.0	Wet soil.
08/16/12	25.7	In augers (30 min)
08/16/12	25.0	In augers (70 min)

BOTTOM OF ABUT. #2
ELEV. 622.00

APPROX. PILE TIP @ ABUT #2
ELEV. 605.80

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Asphalt, 0.0 ft – 0.3 ft							
		Visual Description (Burmister), S1 (0.5'–2'): Medium dense, brown fine to coarse SAND, some (–) fine to coarse Gravel, little (–) Silt, slightly moist, (AASHTO M145 Classification: A-1-b) Rec. = 1.08 ft	11-14-15 (29)	3.5	35.6	51.5	12.9		
5		Visual Description (Burmister), S2 (5'–7'): Very loose, light brown fine SAND, little Silt, slightly moist, Rec. = 1.42 ft, (AASHTO M145 Classification: A-2-4)	3-3-1-2 (4)	6.7	1.6	78.7	19.7		
10		Visual Description (Burmister), S3 (10'–12'): Loose gray SILT, trace brown fine Sand (concentrated in one 3" seam), trace Silty Clay, moist (sand) to very moist (silt/clay), Rec. = 1.58 ft, (AASHTO M145 Classification: A-4)	2-4-5-4 (9)	22.2		4.6	95.4	23	2
15		Visual Description (Burmister), S4 (15'–17'): Loose, gray and brown SILT, trace fine Sand, very moist to wet (perched), Rec. = 1.42 ft, (AASHTO M145 Classification: A-4)	2-2-3-3 (5)	26.5		5.1	94.9		
20		Visual Description (Burmister), S5 (20'–22'): Medium dense, olive brown SILT, little fine Sand, little fine Gravel, wet, Rec. = 0.67 ft, (AASHTO M145 Classification: A-4)	4-6-6-10 (12)	19.0	20.7	12.5	66.8		
		Field Note, Inferred Gravelly Sandy Silt.							
25		Rec. = 1.0 ft	9-16-52 (68)	6.2	63.8	24.3	11.9		
		Visual Description (Burmister), S6 (25'–26.5'): Refusal, dark gray DECOMPOSED ROCK (fine to coarse Gravel and fine to coarse Sand), wet, (AASHTO M145 Classification: A-1-a)	50/2.5	10.9	62.0	29.3	8.7		
		Visual Description (Burmister), S7 (27'–27.2'): Refusal, dark gray pulverized and fractured WEATHERED ROCK (fine to coarse Sand and fine to coarse Gravel), wet, Rec. = 0.21 ft, (AASHTO M145 Classification: A-1-a)							
30		Hole stopped @ 27.2 ft HSA refusal in inferred bedrock.							
35									
40									
45									

Remarks:
1) Ground surface elevation, coordinates, and stationing are estimated from an electronic site plan provided by TY Lin and taped measurements in the field.
2) Augered to 6" deep prior to sampling S1.
3) Note consistent auger grinding and rig chatter below 23' deep through inferred gravelly sandy silt soils
4) Infer top of weathered rock at 25.5' based on auger resistance.
5) Hollow stem auger refusal at 27' deep on inferred bedrock.
6) SPT N-values were performed according to ASTM D1586.
7) Lab testing gradations reported are per AASHTO M145.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. 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.

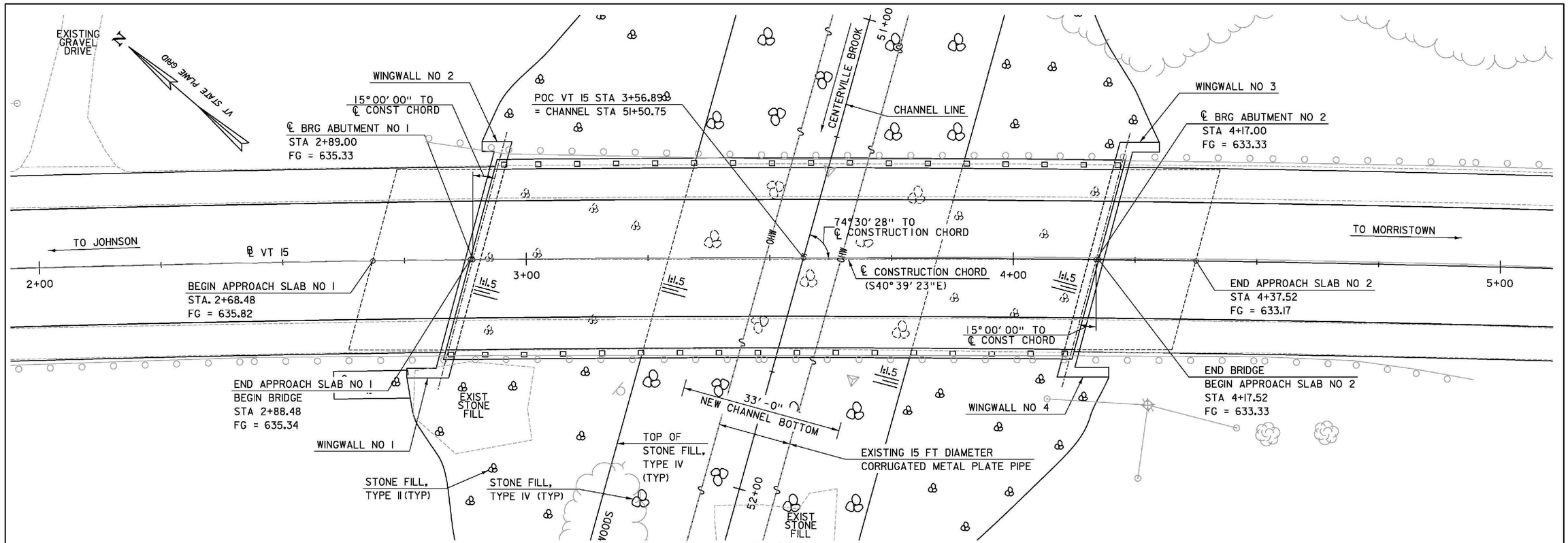
BROWN LOG (EDITED) 888-042 HYDE PARK.GPJ VERMONT AOT.GDT 10/12/12

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

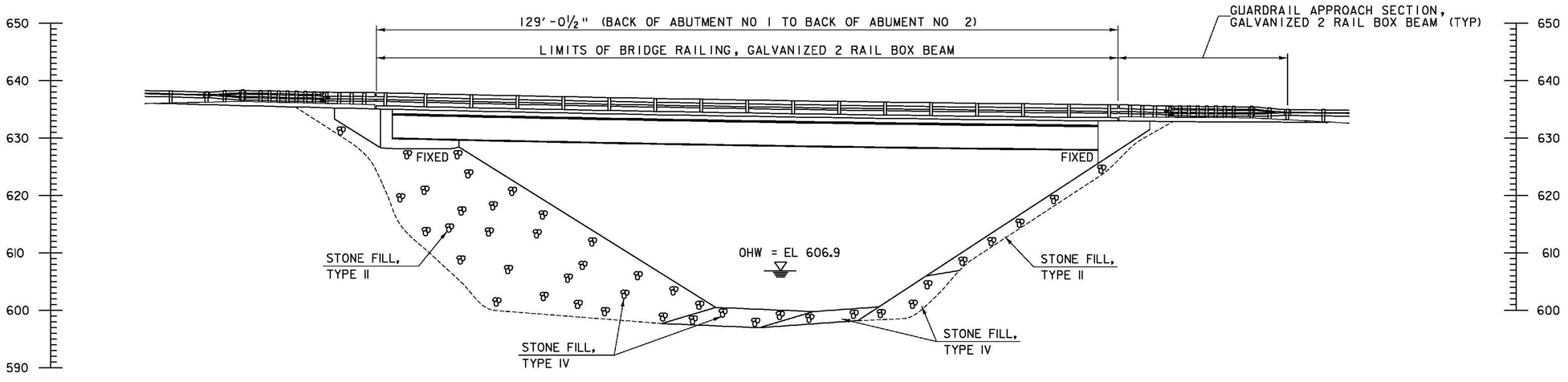
T·Y LIN INTERNATIONAL

FILE NAME: z11b292bdrborlog4.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: J. OLUND
BORING LOGS 4

PLOT DATE: 11/6/2013
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
SHEET 28 OF 60



PLAN



ELEVATION @ DOWNSTREAM FASCIA

SCALE: 1" = 10'-0"

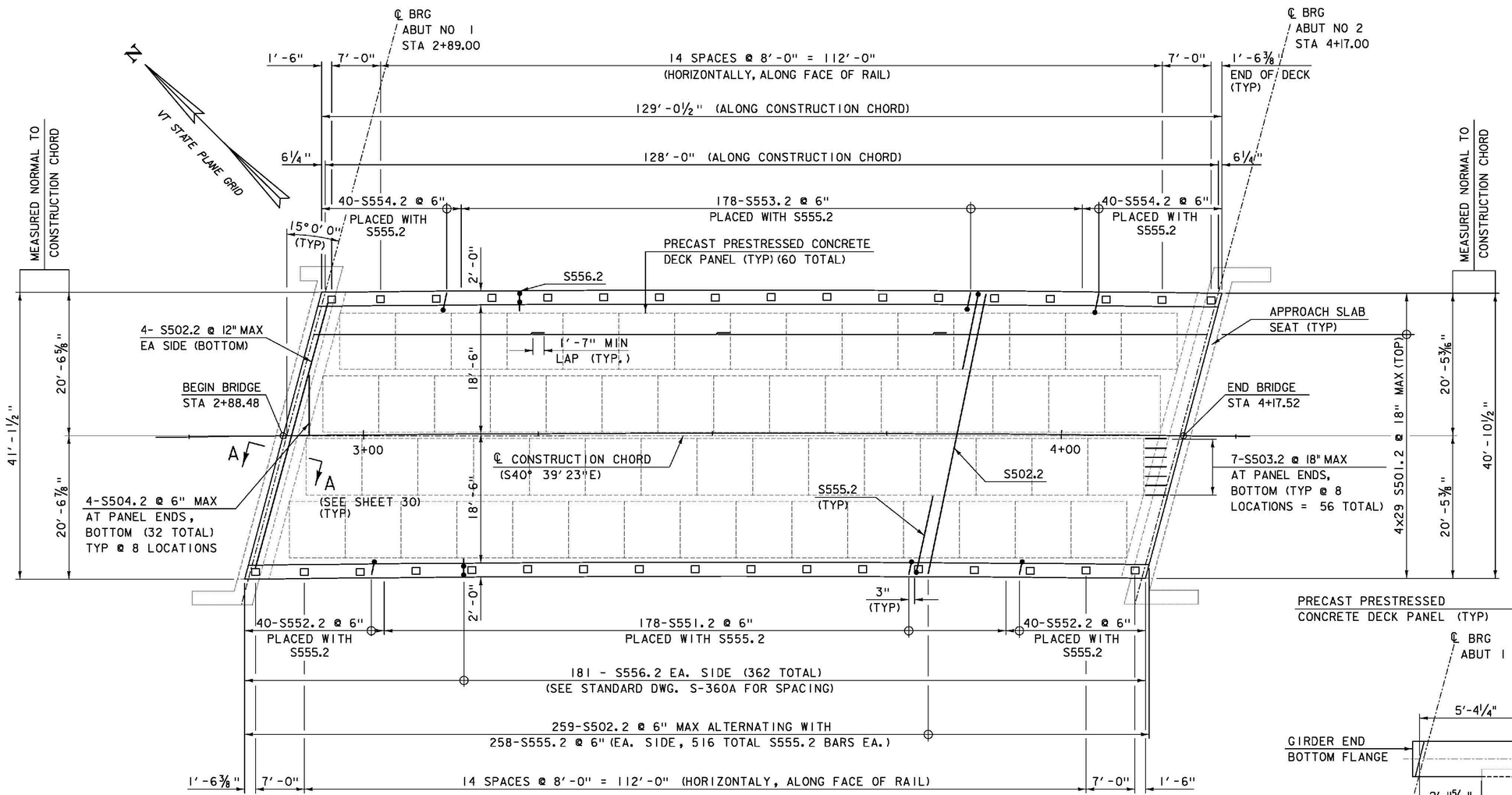
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T.Y.LIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

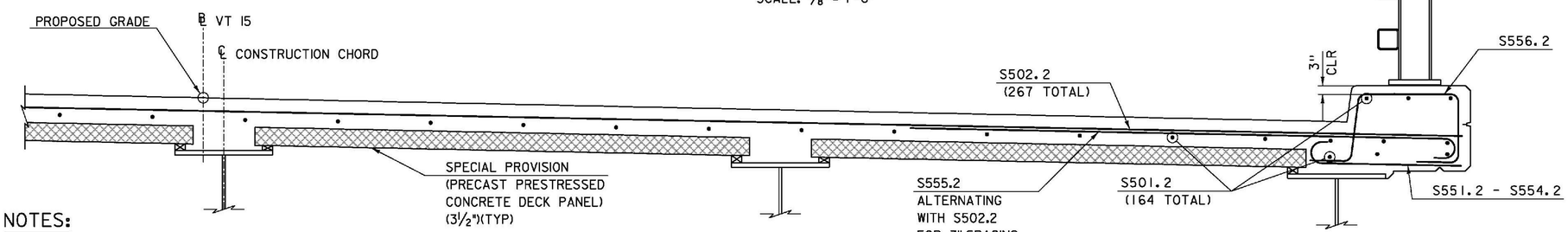
FILE NAME: z11b292bdrgpe.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: J. OLUND
BRIDGE PLAN & ELEVATION

PLOT DATE: 11/6/2013
DRAWN BY: S. MORGAN
CHECKED BY: R. HEBERT
SHEET 29 OF 60



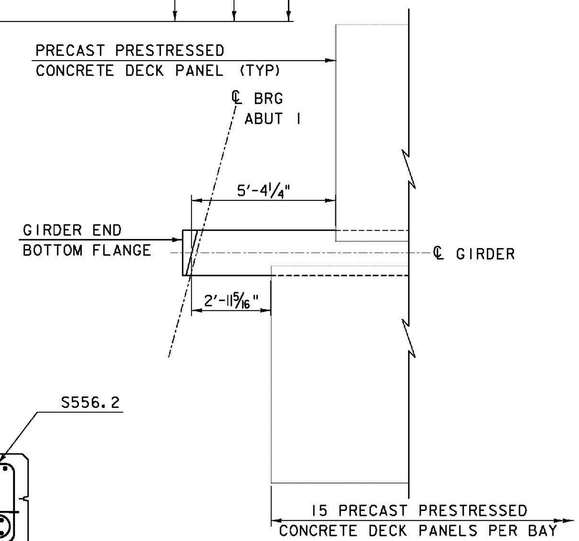
DECK PLAN

SCALE: 1/8" = 1'-0"



BRIDGE TYPICAL SECTION

SCALE: 1" = 1'-0"



DECK PANEL LAYOUT DETAIL

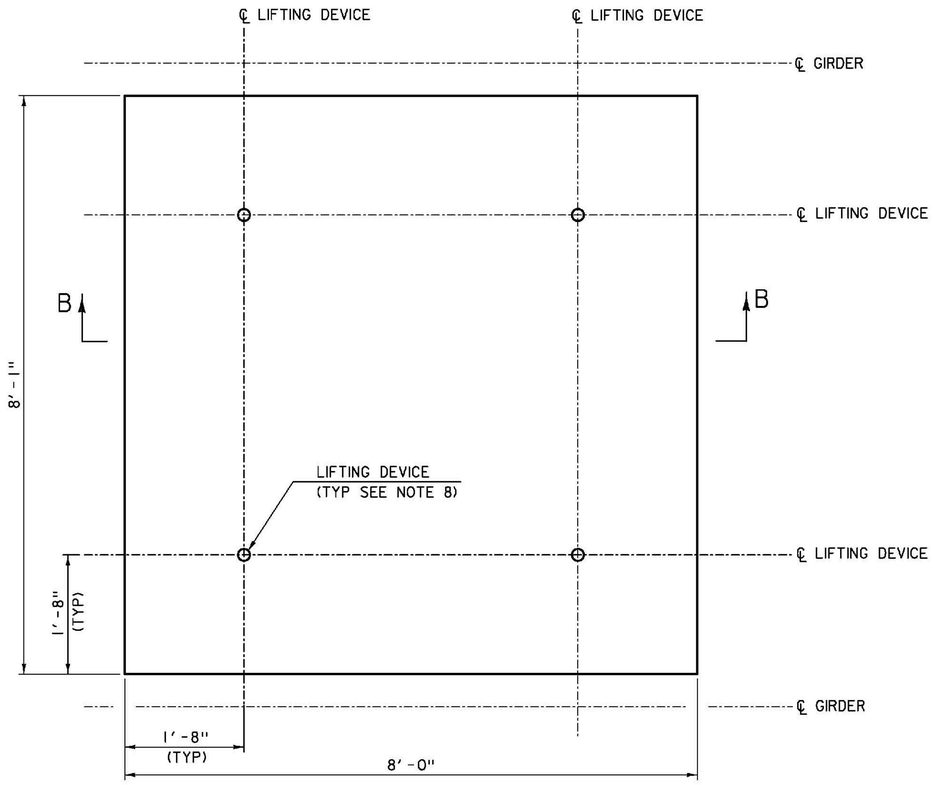
SCALE: 3/8" = 1'-0"

NOTES:

1. TRANSVERSE BARS TO BE PLACED PARALLEL WITH ABUTMENTS.
2. CURB STIRRUPS TO BE NORMAL TO CURB.
3. SEE ABUTMENT REINFORCING AND ABUTMENT SECTIONS SHEETS FOR ADDITIONAL REINFORCING NOT SHOWN AT BRIDGE ENDS.

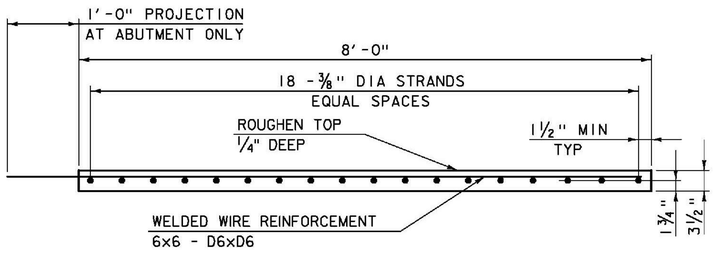
PROJECT NAME:	HYDE PARK
PROJECT NUMBER:	STP CULV(26)
FILE NAME: z11b292bdrdeckplan.dgn	PLOT DATE: 11/6/2013
PROJECT LEADER: R. HEBERT	DRAWN BY: B. CARTER
DESIGNED BY: J. OLUND	CHECKED BY: D. MYERS
SUPERSTRUCTURE PLAN & SECTIONS	SHEET 30 OF 60

TYLIN INTERNATIONAL



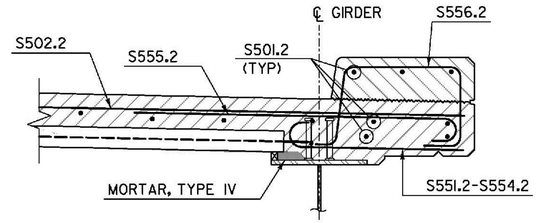
PRECAST PRESTRESSED CONCRETE DECK PANEL PLAN

SCALE: 1" = 1'-0"



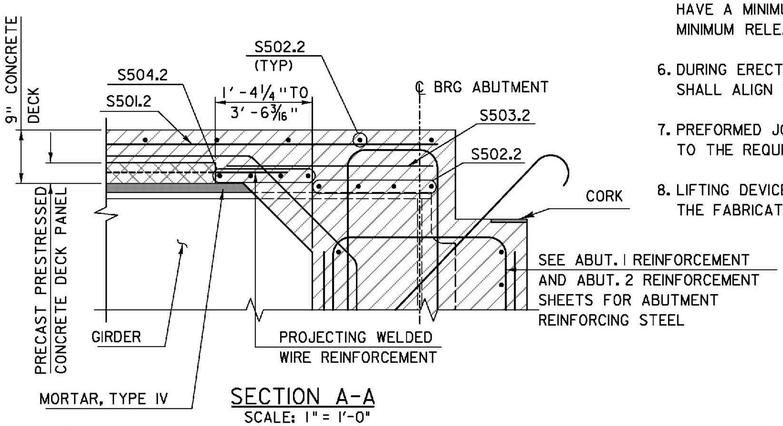
SECTION B-B

SCALE: 1" = 1'-0"



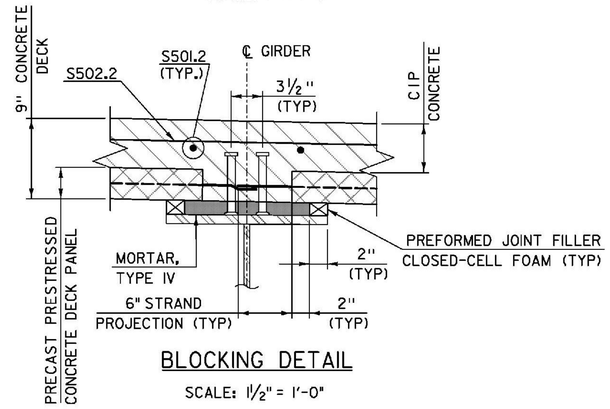
TYPICAL OVERHANG SECTION

SCALE: 1" = 1'-0"



SECTION A-A

SCALE: 1" = 1'-0"



BLOCKING DETAIL

SCALE: 1 1/2" = 1'-0"

NOTES:

1. PRECAST PRESTRESSED CONCRETE DECK PANELS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 510 OF THE STANDARD SPECIFICATIONS AND SPECIAL PROVISION 900.670. MORTAR, TYPE IV AND PREFORMED JOINT FILLER CLOSED - CELL FOAM SHALL BE PAID FOR UNDER SPECIAL PROVISION ITEM 900.670 (PRECAST PRESTRESSED CONCRETE DECK PANEL)(3 1/2").

2. PANEL WIDTHS OF LESS THAN 8'-0" MAY BE USED. PROVIDE STRANDS IN THE RATIO OF THE SMALLER PANEL WIDTH TO 8'-0", MULTIPLIED BY THE NUMBER OF STRANDS SHOWN, ROUNDING UP TO THE NEXT EVEN NUMBER OF STRANDS. THE MINIMUM PANEL WIDTH IS 3'-0".

3. PRESTRESSING STRANDS SHALL BE 3/8" DIAMETER, GRADE 270 SEVEN - WIRE LOW RELAXATION STRANDS CONFORMING TO THE REQUIREMENTS OF AASHTO M203 (ASTM A416). INITIAL TENSION SHALL BE 17.2 KIPS PER STRAND.

4. A MAT OF #3 REINFORCING BARS SPACED AT 6 INCHES O.C. IN EACH DIRECTION MAY BE SUBSTITUTED FOR WELDED WIRE FABRIC. THE WELDED WIRE FABRIC OR THE REINFORCING BARS SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR REINFORCING STEEL, LEVEL II.

5. CONCRETE FOR PRECAST PRESTRESSED CONCRETE DECK PANELS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5,000 PSI AND A MINIMUM RELEASE STRENGTH OF 4,000 PSI.

6. DURING ERECTION, PRECAST PRESTRESSED CONCRETE DECK PANELS SHALL ALIGN VERTICALLY TO WITHIN 1/4 INCH.

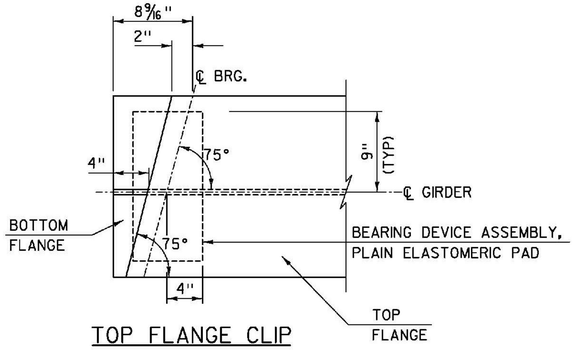
7. PREFORMED JOINT FILLER, CLOSED-CELL FOAM SHALL BE CUT IN THE FIELD TO THE REQUIRED THICKNESS.

8. LIFTING DEVICE SELECTION AND DESIGN SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

LEGEND:

- CONCRETE, HIGH PERFORMANCE CLASS A
- PRECAST PRESTRESSED CONCRETE DECK PANEL
- MORTAR, TYPE IV

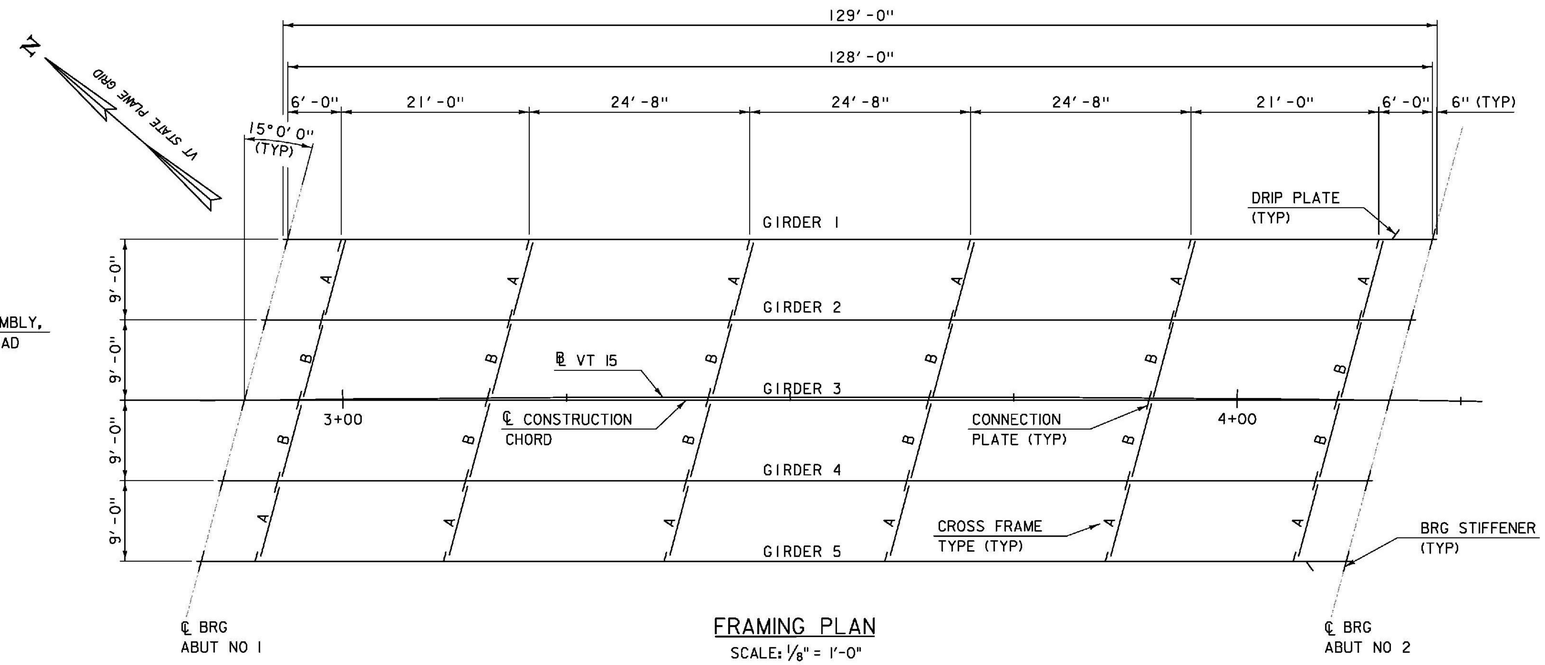
PROJECT NAME: HYDE PARK	
PROJECT NUMBER: STP CULV(26)	
TY·LIN INTERNATIONAL	
FILE NAME: z11b292bdrsupl.dgn	PLOT DATE: 11/6/2013
PROJECT LEADER: R. HEBERT	DRAWN BY: B. CARTER
DESIGNED BY: J. OLUND	CHECKED BY: D. MYERS
PRECAST CONCRETE DECK PANEL DETAILS	SHEET 31 OF 60



TOP FLANGE CLIP PLAN AT ABUTMENTS

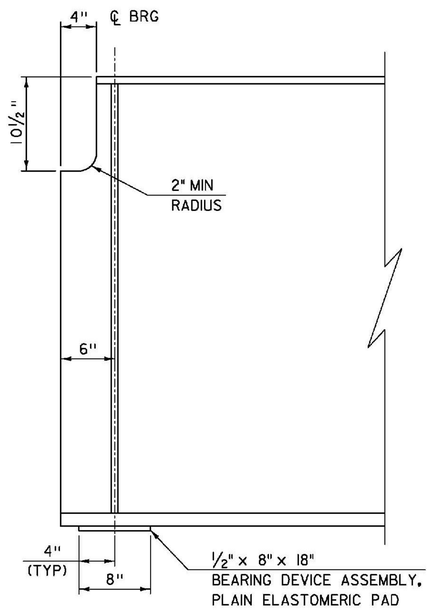
SCALE: 1 1/2" = 1'-0"

BEARING STIFFENER NOT SHOWN FOR CLARITY



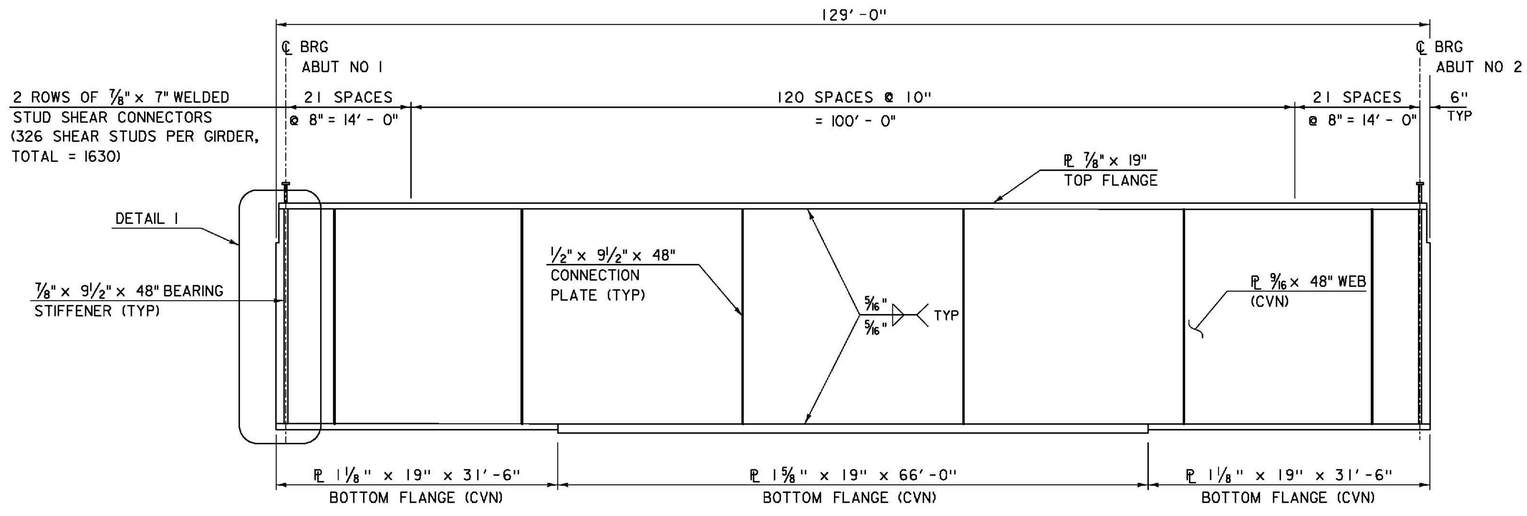
FRAMING PLAN

SCALE: 1/8" = 1'-0"



DETAIL 1

SCALE: 1 1/2" = 1'-0"



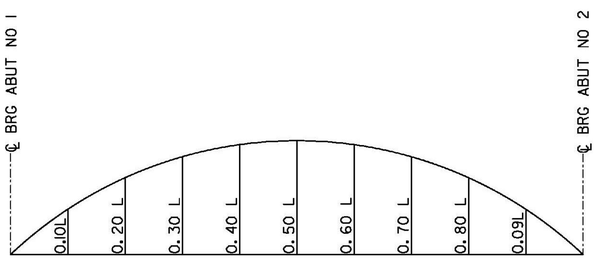
GIRDER ELEVATION

HORIZ SCALE: 1/8" = 1'-0"

VERT SCALE: 3/4" = 1'-0"

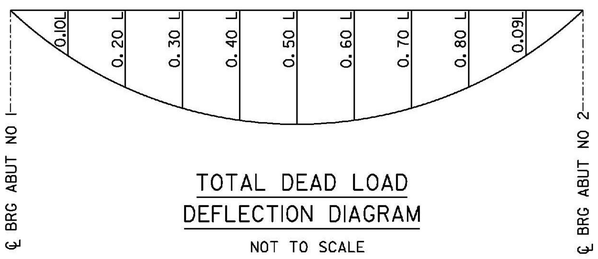
PROJECT NAME:	HYDE PARK
PROJECT NUMBER:	STP CULV(26)
FILE NAME: z11b292bdrframe.dgn	PLOT DATE: 11/6/2013
PROJECT LEADER: R. HEBERT	DRAWN BY: B. CARTER
DESIGNED BY: T. POULIN	CHECKED BY: D. MYERS
FRAMING PLAN & GIRDER ELEVATION	SHEET 32 OF 60

TYLIN INTERNATIONAL



CAMBER DIAGRAM

NOT TO SCALE



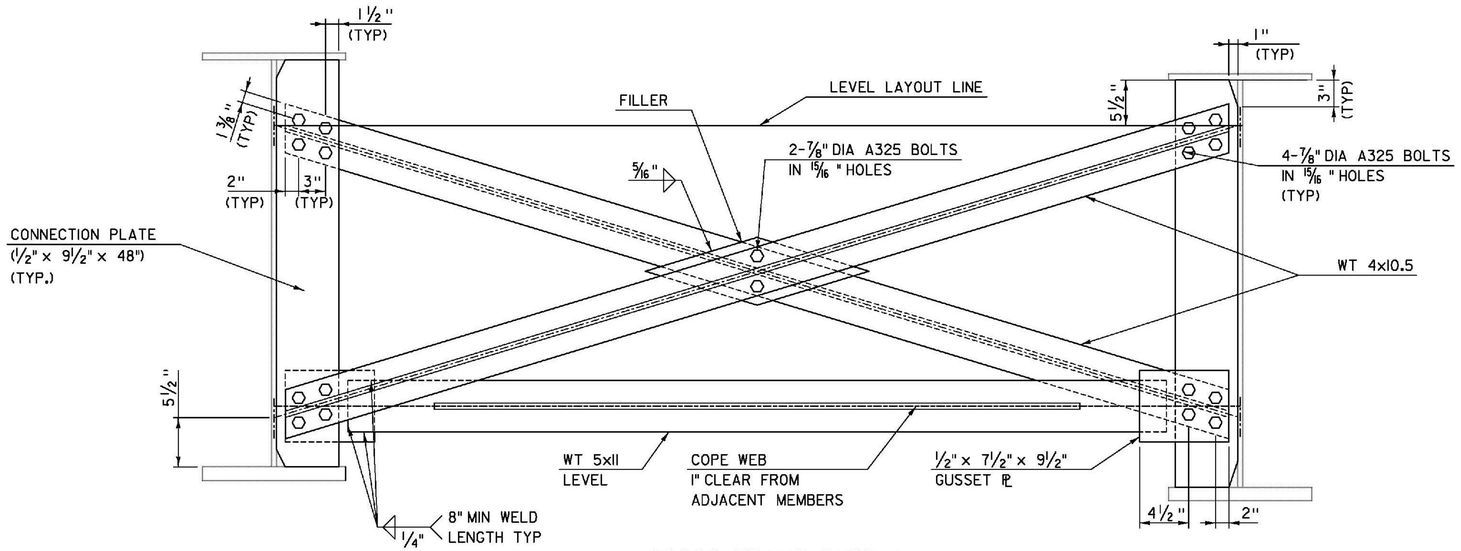
TOTAL DEAD LOAD
DEFLECTION DIAGRAM

NOT TO SCALE

GIRDER 1-5	.10L	.20L	.30L	.40L	.50L	.60L	.70L	.80L	.90L
STEEL DEFLECTION	0 1/2"	1"	1 3/8"	1 3/16"	1 5/16"	1 3/16"	1 3/8"	1"	0 1/2"
SLAB & SDL DEFLECTION	2 1/8"	3 15/16"	5 3/8"	6 5/16"	6 5/8"	6 5/16"	5 3/8"	3 15/16"	2 1/8"
TOTAL DEFLECTION	2 5/8"	4 15/16"	6 3/4"	7 7/8"	8 1/4"	7 7/8"	6 3/4"	4 15/16"	2 5/8"
VERTICAL CURVE CAMBER	-1"	-1 3/4"	-2 5/16"	-2 5/8"	-2 3/4"	-2 5/8"	-2 5/16"	-1 3/4"	-1"
TOTAL CAMBER	1 5/8"	3 3/16"	4 7/16"	5 3/16"	5 1/2"	5 3/16"	4 7/16"	3 3/16"	1 5/8"

NOTE:

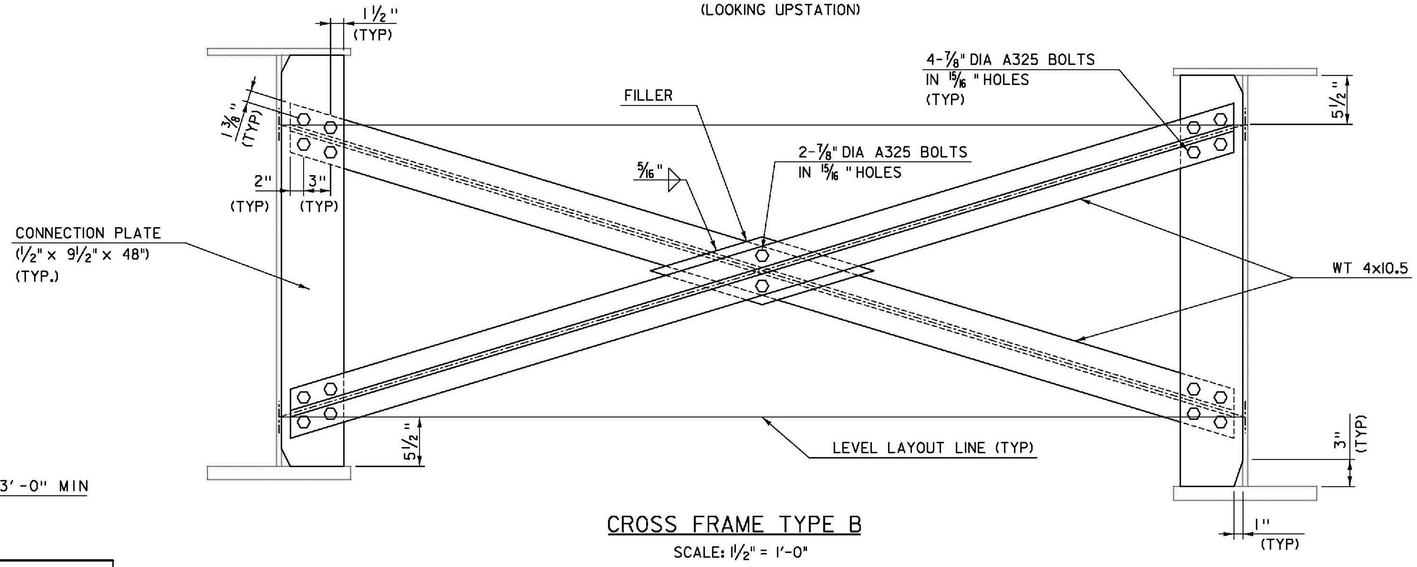
FUTURE WEARING SURFACE NOT CONSIDERED IN CAMBER.



CROSS FRAME TYPE A

SCALE: 1 1/2" = 1'-0"

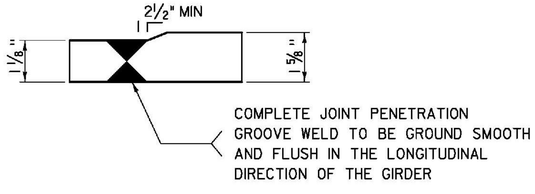
(LOOKING UPSTATION)



CROSS FRAME TYPE B

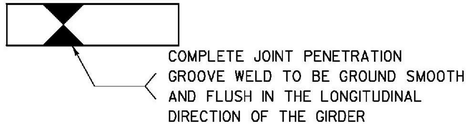
SCALE: 1 1/2" = 1'-0"

(LOOKING UPSTATION)



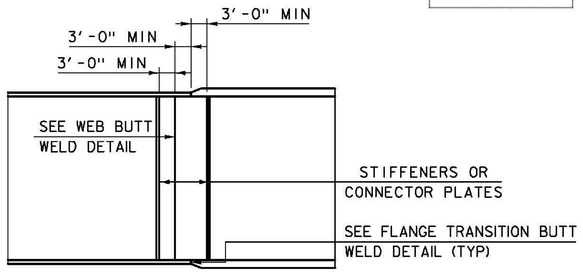
FLANGE TRANSITION BUTT WELD

NOT TO SCALE



FLANGE OR WEB BUTT WELD

NOT TO SCALE



WELDED SPLICE TRANSITION

NOT TO SCALE

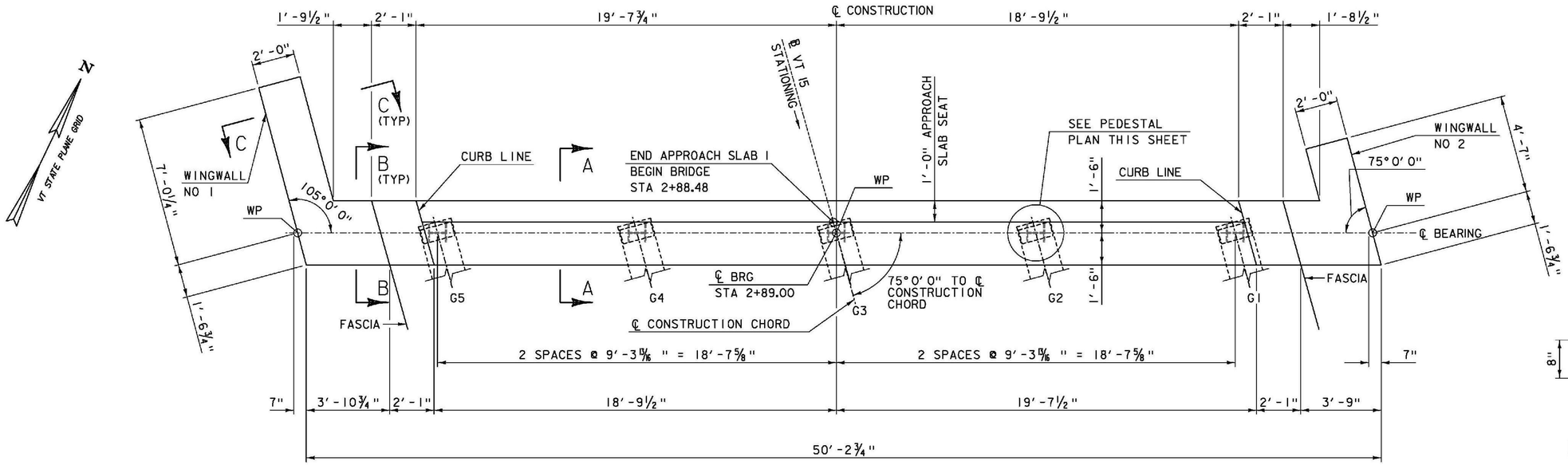
PROJECT NAME: HYDE PARK

PROJECT NUMBER: STP CULV(26)

T.Y.LIN INTERNATIONAL

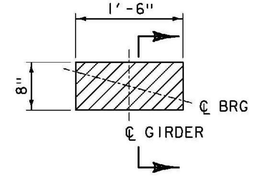
FILE NAME: z11b292bdrxframe.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: T. POULIN
STEEL GIRDER DETAILS

PLOT DATE: 11/6/2013
DRAWN BY: B. CARTER
CHECKED BY: D. MYERS
SHEET 33 OF 60



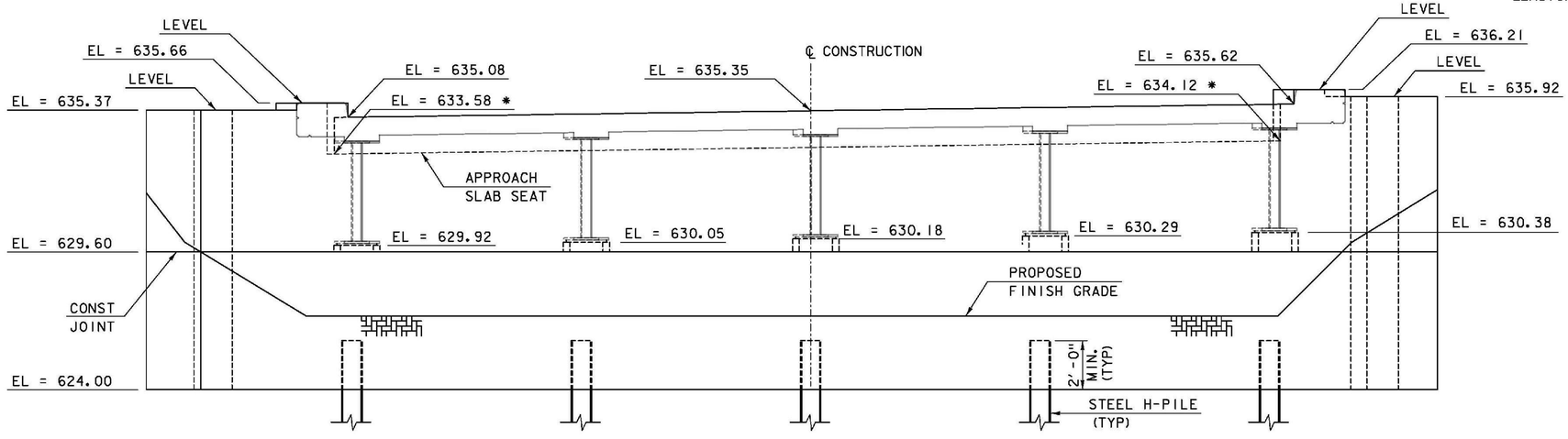
ABUTMENT NO. 1 PLAN

SCALE: ⅜" = 1'-0"
NOTE: SEE ABUTMENT SECTIONS SHEET FOR SECTIONS A-A, B-B, AND C-C.



PEDESTAL PLAN

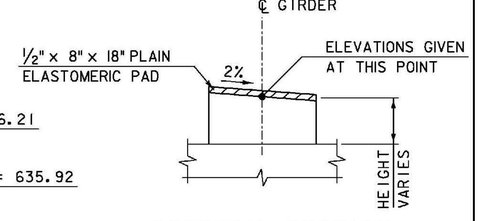
SCALE: 1" = 1'-0"



ABUTMENT NO. 1 ELEVATION

SCALE: ⅜" = 1'-0"
NOTE: ELEVATIONS AT FRONT FACE OF ABUTMENT UNLESS OTHERWISE NOTED

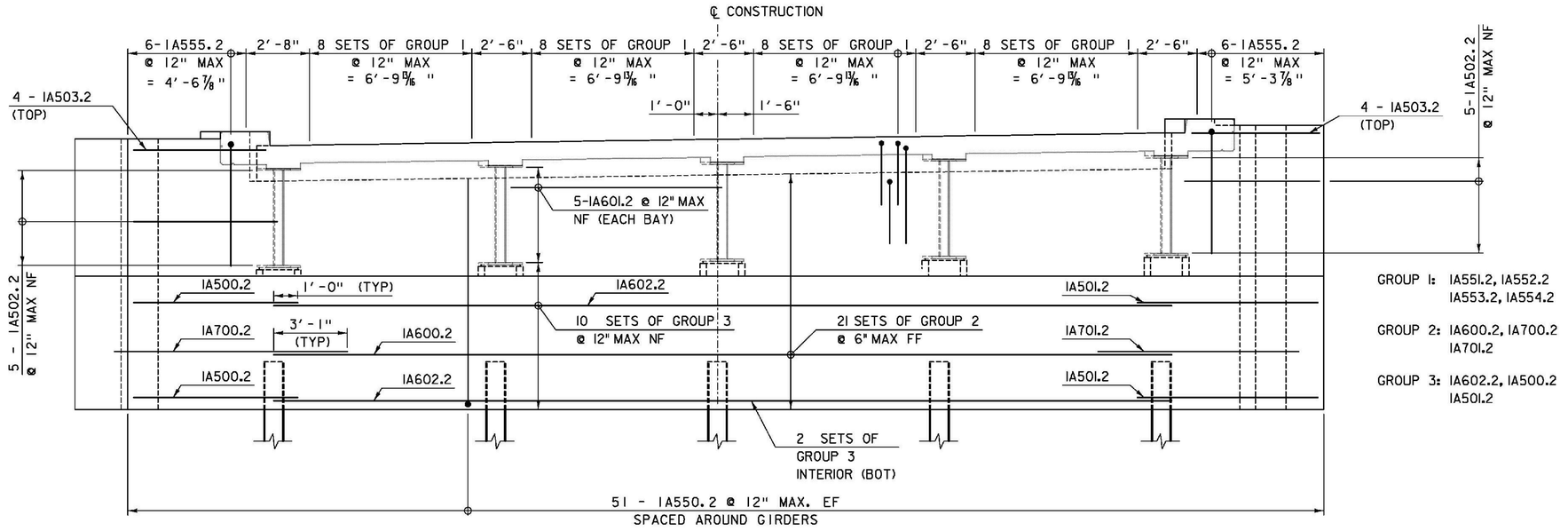
* ELEVATIONS AT CORNER OF APPROACH SLAB SEAT



PEDESTAL SECTION

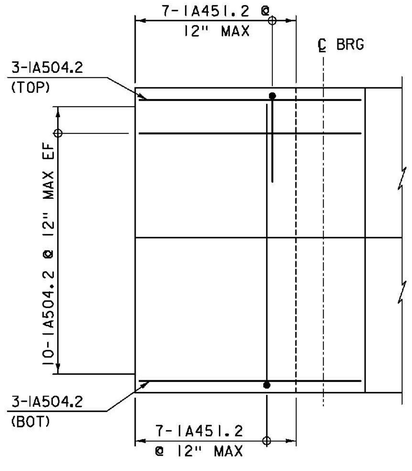
SCALE: 1" = 1'-0"

PROJECT NAME: HYDE PARK	
PROJECT NUMBER: STP CULV(26)	
T.Y.LIN INTERNATIONAL	
FILE NAME: z11b292bdrabut1.dgn	PLOT DATE: 11/6/2013
PROJECT LEADER: R. HEBERT	DRAWN BY: T.KELLEY
DESIGNED BY: D. MYERS	CHECKED BY: J. OLUND
ABUTMENT 1 PLAN AND ELEVATION	SHEET 34 OF 60



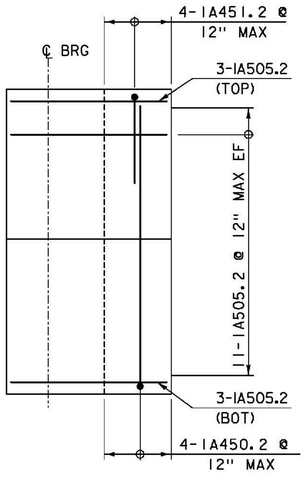
ABUTMENT NO 1 REINFORCEMENT ELEVATION

SCALE: 3/8" = 1'-0"



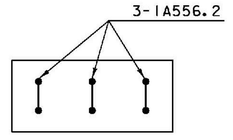
WINGWALL 1 - REINFORCEMENT ELEVATION

SCALE: 3/8" = 1'-0"



WINGWALL 2 - REINFORCEMENT ELEVATION

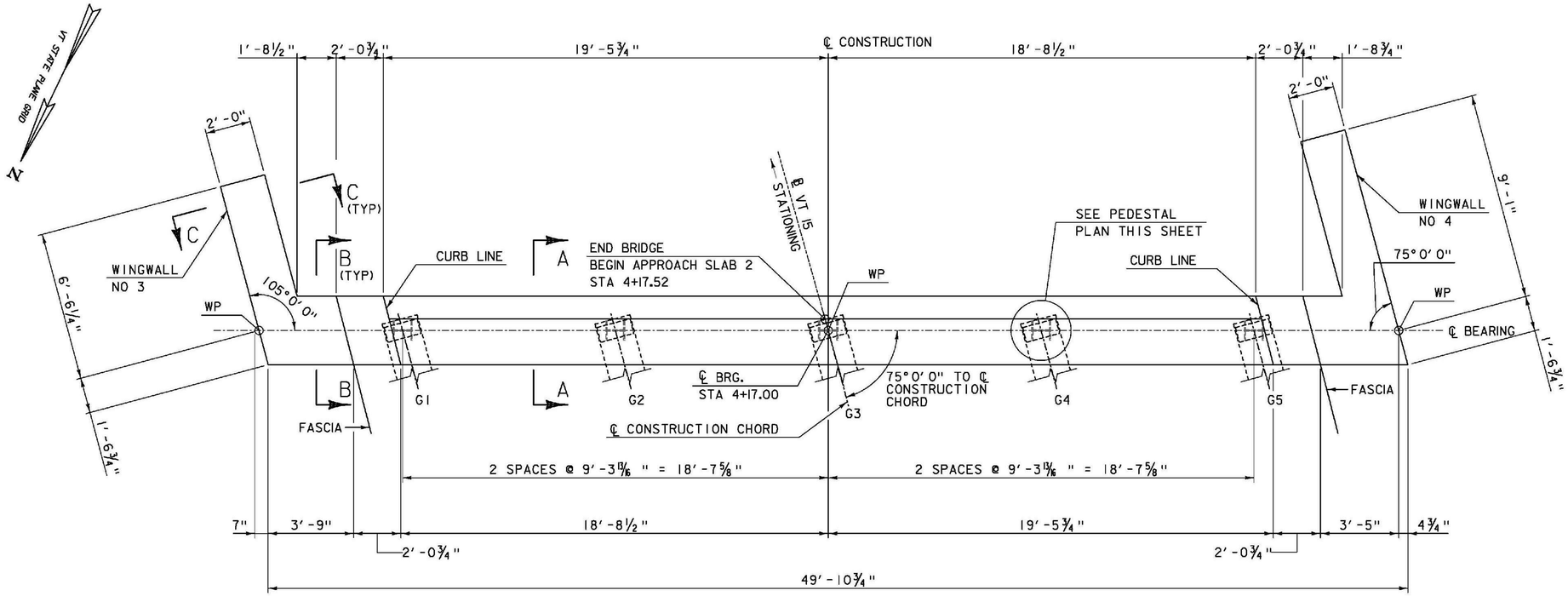
SCALE: 3/8" = 1'-0"



TYPICAL PEDESTAL REINFORCEMENT PLAN

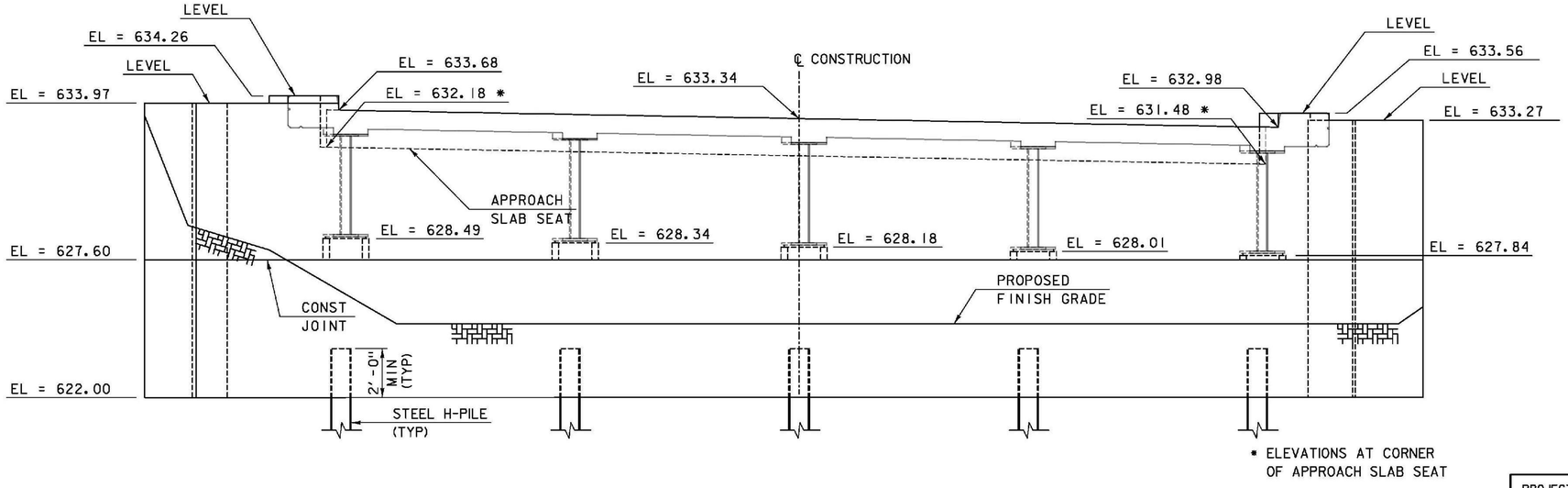
SCALE: 1 1/2" = 1'-0"

PROJECT NAME:	HYDE PARK
PROJECT NUMBER:	STP CULV(26)
TYLIN INTERNATIONAL	
FILE NAME: z11b292bdrabutlr.dgn	PLOT DATE: 11/6/2013
PROJECT LEADER: R. HEBERT	DRAWN BY: S. MORGAN
DESIGNED BY: D. MYERS	CHECKED BY: D. MYERS
ABUTMENT 1- REINFORCEMENT	SHEET 35 OF 60



ABUTMENT NO. 2 PLAN

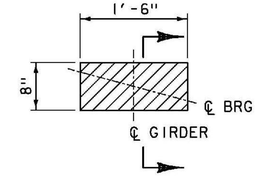
SCALE: ⅜" = 1'-0"
NOTE: SEE ABUTMENT SECTIONS SHEET FOR SECTIONS A-A, B-B AND C-C



* ELEVATIONS AT CORNER OF APPROACH SLAB SEAT

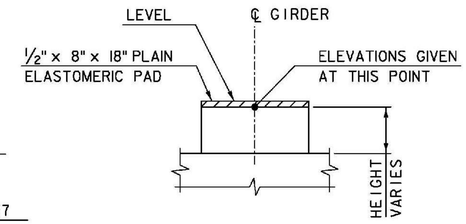
ABUTMENT NO. 2 ELEVATION

SCALE: ⅜" = 1'-0"
NOTE: ELEVATIONS AT FRONT FACE OF ABUTMENT UNLESS OTHERWISE NOTED



PEDESTAL PLAN

SCALE: 1" = 1'-0"

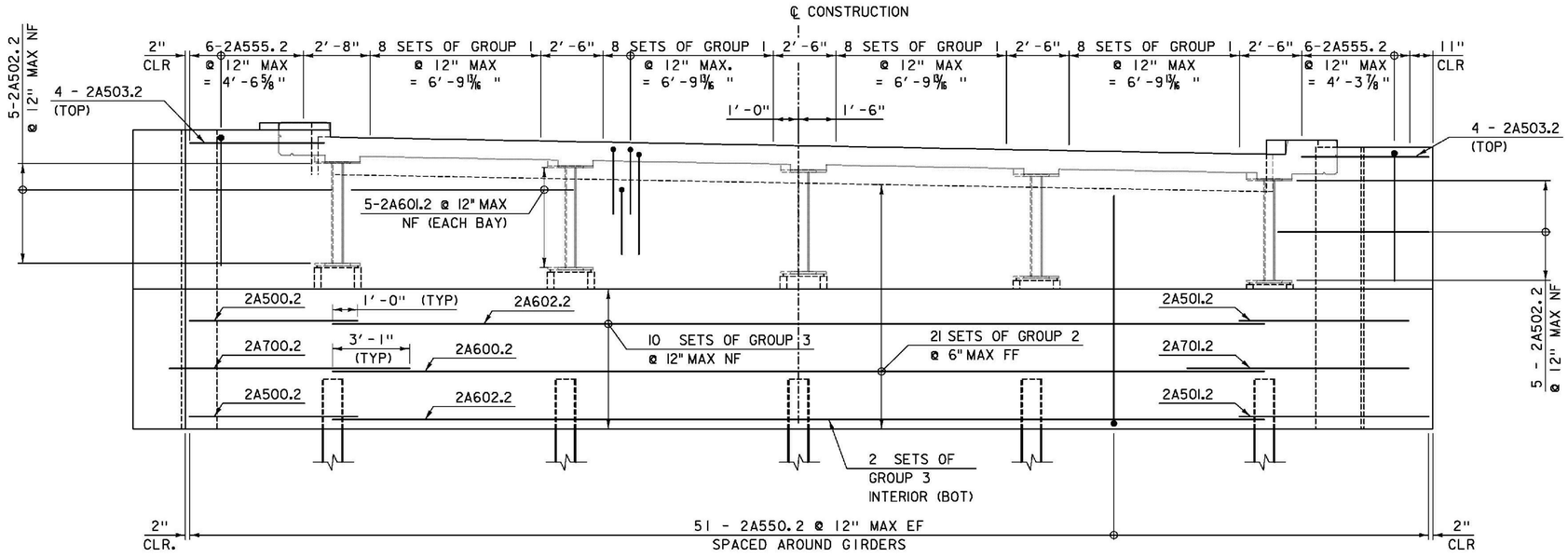


PEDESTAL SECTION

SCALE: 1" = 1'-0"

PROJECT NAME:	HYDE PARK
PROJECT NUMBER:	STP CULV(26)
FILE NAME: z11b292bdrabut2.dgn	PLOT DATE: 11/6/2013
PROJECT LEADER: R. HEBERT	DRAWN BY: T.KELLEY
DESIGNED BY: D. MYERS	CHECKED BY: J. OLUND
ABUTMENT 2 PLAN AND ELEVATION	SHEET 36 OF 60

TYLIN INTERNATIONAL



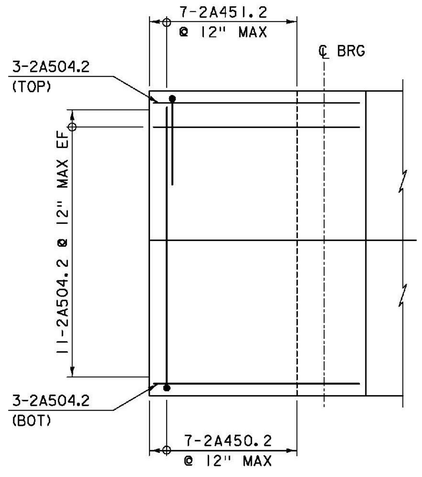
ABUTMENT NO. 2 REINFORCEMENT ELEVATION

SCALE: 3/8" = 1'-0"

GROUP 1: 2A551.2, 2A552.2
2A553.2, 2A554.2

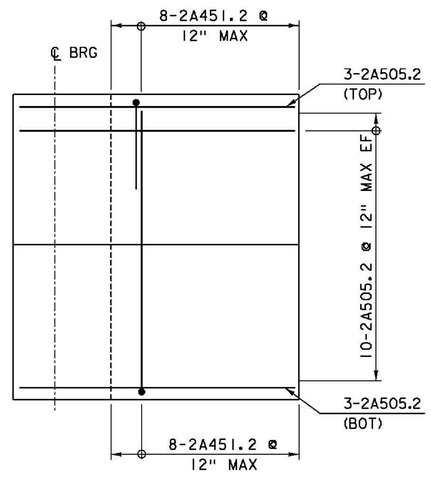
GROUP 2: 2A600.2, 2A700.2
2A701.2

GROUP 3: 2A602.2, 2A500.2
2A501.2



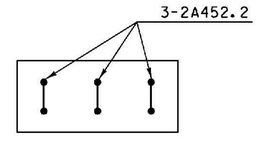
WINGWALL 3 - REINFORCEMENT ELEVATION

SCALE: 3/8" = 1'-0"



WINGWALL 4 - REINFORCEMENT ELEVATION

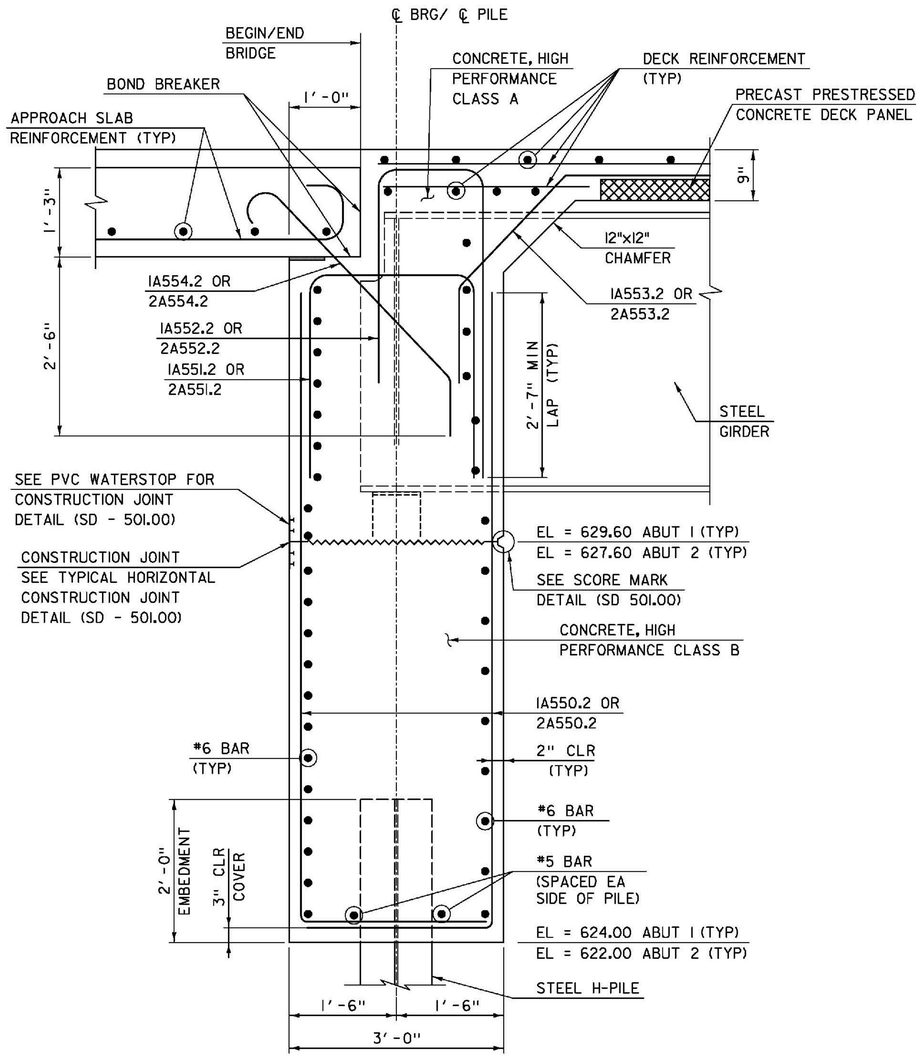
SCALE: 3/8" = 1'-0"



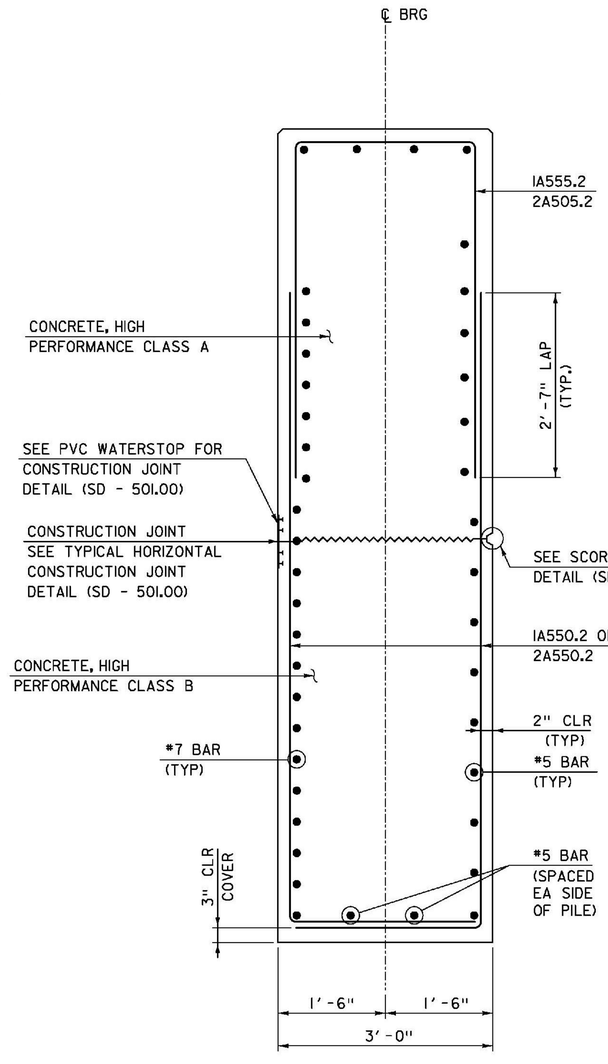
TYPICAL PEDESTAL REINFORCEMENT PLAN

SCALE: 1 1/2" = 1'-0"

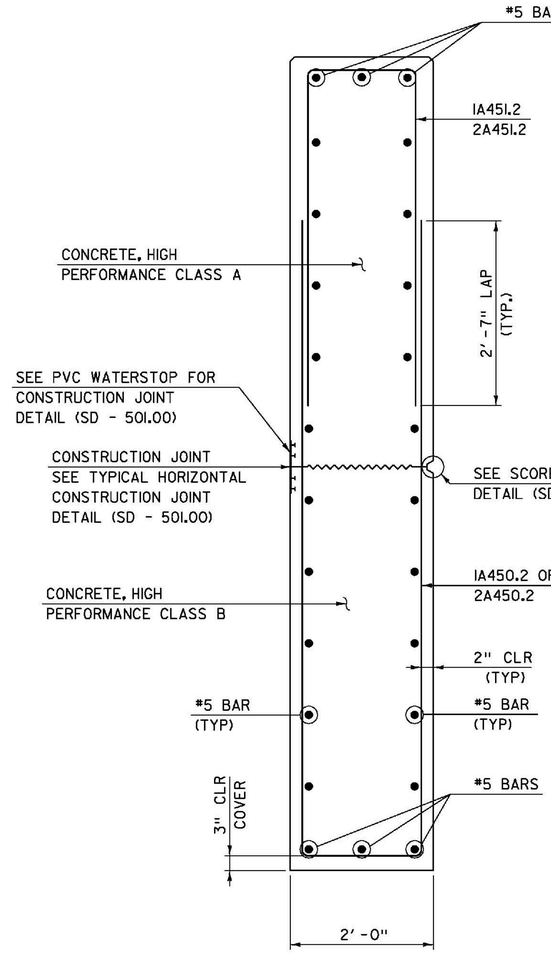
PROJECT NAME:	HYDE PARK
PROJECT NUMBER:	STP CULV(26)
TYLIN INTERNATIONAL	
FILE NAME: z11b292bdrabut2r.dgn	PLOT DATE: 11/6/2013
PROJECT LEADER: R. HEBERT	DRAWN BY: S. MORGAN
DESIGNED BY: D. MYERS	CHECKED BY: T. POULIN
ABUTMENT 2 - REINFORCMENT	SHEET 37 OF 60



SECTION A-A
ABUTMENT - APPROACH SLAB
SCALE: 1" = 1'-0"

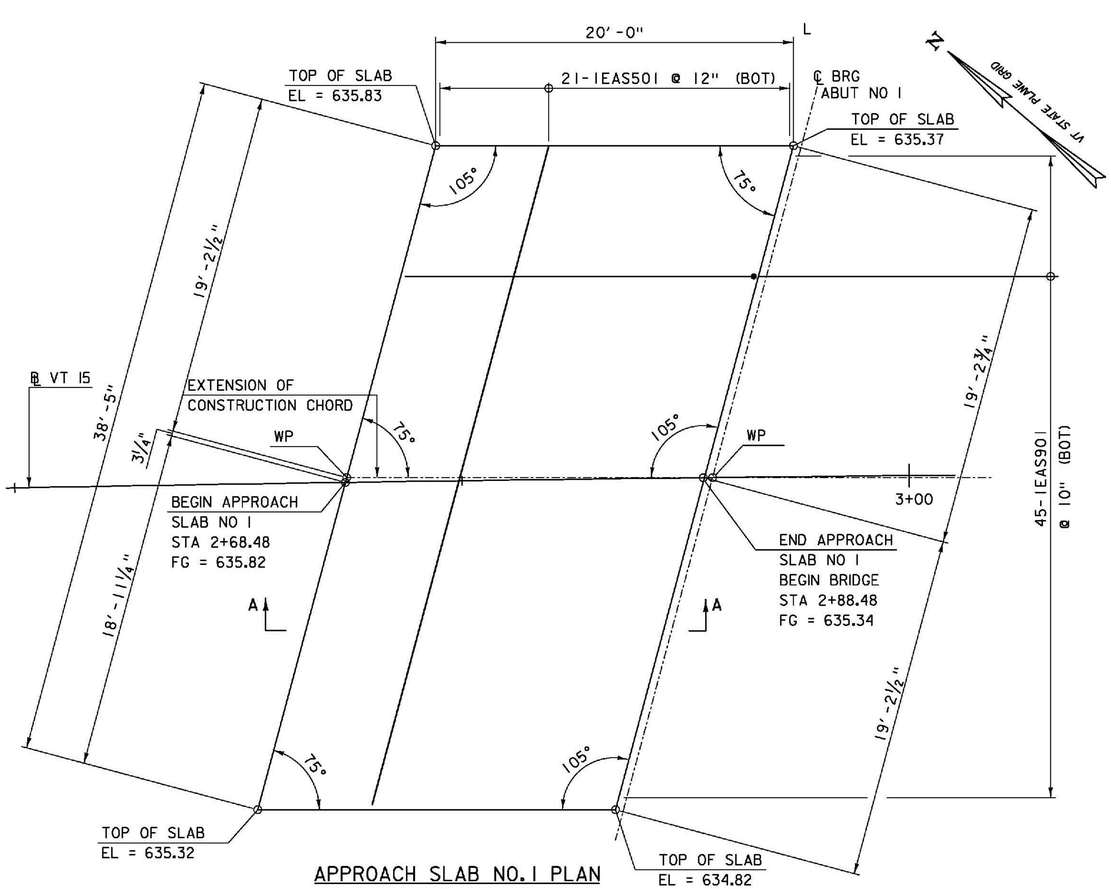


SECTION B-B
ABUTMENT - BACKWALL
SCALE: 1" = 1'-0"



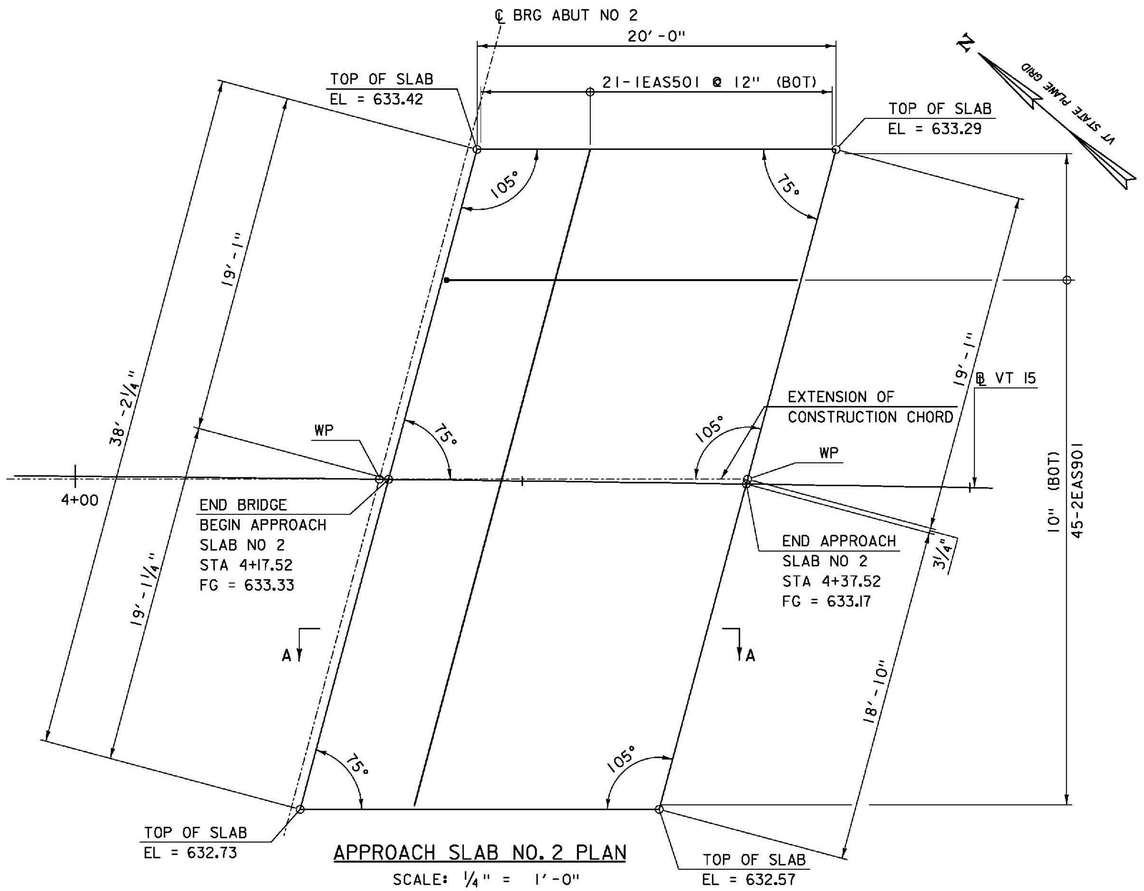
SECTION C-C
WINGWALL TYPICAL
SCALE: 1" = 1'-0"

PROJECT NAME: HYDE PARK	
PROJECT NUMBER: STP CULV(26)	
TY·LIN INTERNATIONAL	FILE NAME: z11b292bdrabutsect.dgn PROJECT LEADER: R. HEBERT DESIGNED BY: D. MYERS ABUTMENT SECTIONS
	PLOT DATE: 11/6/2013 DRAWN BY: T. KELLEY CHECKED BY: D. MYERS SHEET 38 OF 60



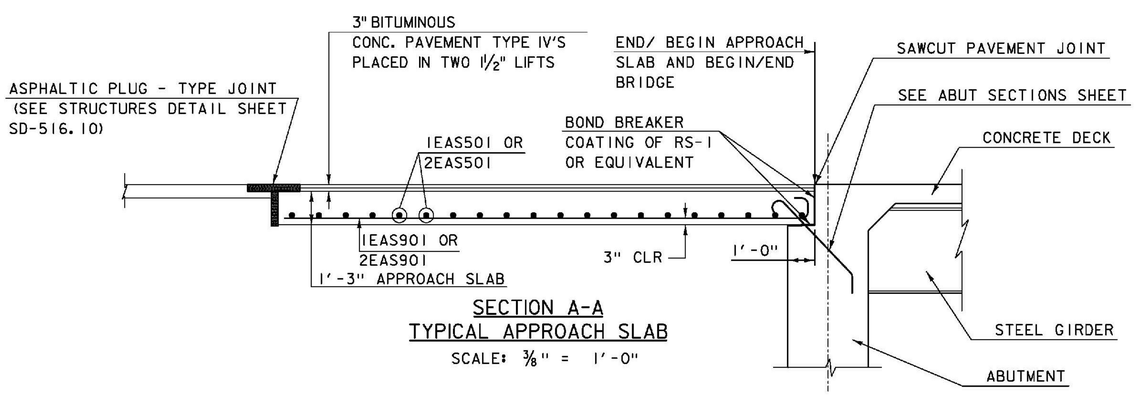
APPROACH SLAB NO. 1 PLAN

SCALE: ¼" = 1'-0"



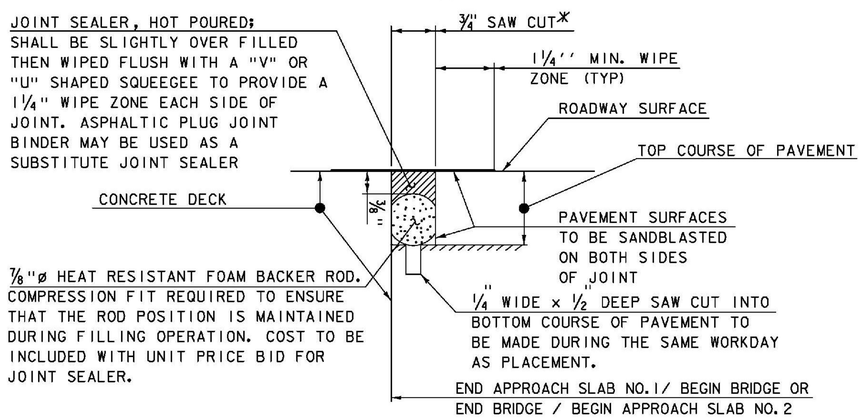
APPROACH SLAB NO. 2 PLAN

SCALE: ¼" = 1'-0"



SECTION A-A
TYPICAL APPROACH SLAB

SCALE: ⅜" = 1'-0"



ITEM 524.11, "JOINT SEALER, HOT POURED"
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 CONCRETE DECK. 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.

PROJECT NAME: HYDE PARK	
PROJECT NUMBER: STP CULV(26)	
FILE NAME: z11b292bdrapprslab.dgn	PLOT DATE: 11/6/2013
PROJECT LEADER: R. HEBERT	DRAWN BY: S. MORGAN
DESIGNED BY: D. MYERS	CHECKED BY: D. MYERS
APPROACH SLAB DETAILS	SHEET 39 OF 60

TYLIN INTERNATIONAL

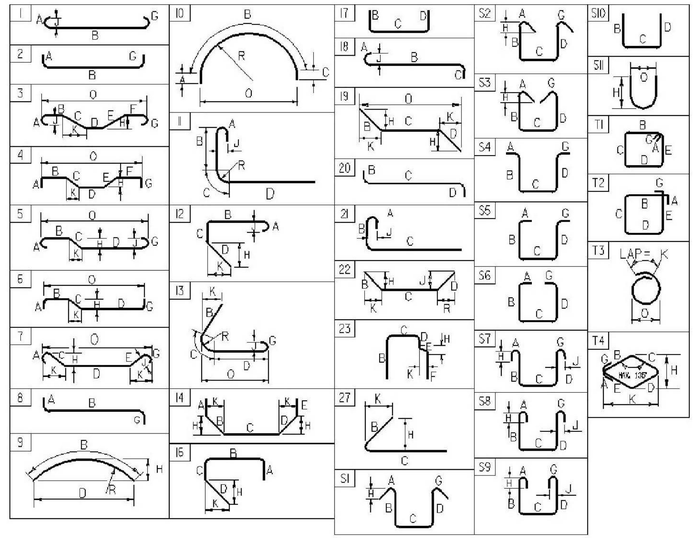
STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
DECK REINFORCEMENT																	
	164	5	33'- 5"	S501.2	STR												
	267	5	42'- 1"	S502.2	STR												
	56	5	3'- 3"	S503.2	STR												
	32	5	9'- 0"	S504.2	STR												
	178	5	3'- 1"	S551.2	1	0'- 7"	2'- 6"					0'- 0"					
	80	5	3'- 3"	S552.2	1	0'- 7"	2'- 8"					0'- 0"					
	178	5	3'- 7"	S553.2	1	0'- 7"	3'- 0"					0'- 0"					
	80	5	3'- 5"	S554.2	1	0'- 7"	2'- 10"					0'- 0"					
	516	5	6'- 4"	S555.2	1	0'- 7"	5'- 9"					0'- 0"					
	362	5	5'- 0"	S556.2	S5	0'- 10"	0'- 11"	1'- 6"	0'- 11"			0'- 10"					
ABUTMENT 1 REINFORCEMENT																	
	16	4	8'- 3"	1A400.2	STR												
✳	18	4	5'- 3"	1A401.2	STR												
	9	5	7'- 0"	1A500.2	STR												
	9	5	7'- 8"	1A501.2	STR												
	10	5	6'- 1"	1A502.2	STR												
	8	5	5'- 5"	1A503.2	STR												
	10	5	8'- 3"	1A504.2	STR												
✳	12	5	5'- 3"	1A505.2	STR												
	30	6	37'- 4"	1A600.2	STR												
✳	21	6	9'- 0"	1A601.2	STR												
	21	7	9'- 11"	1A700.2	STR												
	21	7	9'- 0"	1A701.2	STR												
	11	4	23'- 5"	1A450.2	17		10'- 11"	1'- 7"	10'- 11"								
	11	4	4'- 9"	1A451.2	17		1'- 7"	1'- 7"	1'- 7"								
	15	4	4'- 0"	1A452.2	17		1'- 10"	0'- 4"	1'- 10"								
	102	5	11'- 8"	1A550.2	17		2'- 7"	9'- 1"	0'- 0"								
	32	5	8'- 11"	1A551.2	17		3'- 2"	2'- 7"	3'- 2"								
	32	5	7'- 5"	1A552.2	17		2'- 11"	1'- 7"	2'- 11"								
	32	5	6'- 2"	1A553.2	14	1'- 6"	2'- 1"	2'- 7"					1'- 6"		1'- 6"		
	32	5	5'- 6"	1A554.2	3	0'- 7"	4'- 5"	0'- 6"	0'- 0"	0'- 0"	0'- 0"	0'- 0"	0'- 4"		0'- 4"		
	12	5	12'- 7"	1A555.2	17		5'- 0"	2'- 7"	5'- 0"								
ABUTMENT 2 REINFORCEMENT																	
	17	4	7'- 9"	2A400.2	STR												
	16	4	9'- 9"	2A401.2	STR												
	9	5	6'- 9"	2A500.2	STR												
	9	5	7'- 7"	2A501.2	STR												
	10	5	6'- 0"	2A502.2	STR												
	8	5	5'- 4"	2A503.2	STR												
	11	5	7'- 9"	2A504.2	STR												
	10	5	9'- 9"	2A505.2	STR												
	30	6	37'- 4"	2A600.2	STR												
	20	6	9'- 0"	2A601.2	STR												
	21	7	9'- 8"	2A700.2	STR												
✳	22	7	8'- 11"	2A701.2	STR												
	15	4	23'- 3"	2A450.2	17		10'- 10"	1'- 7"	10'- 10"								
	15	4	5'- 1"	2A451.2	17		1'- 9"	1'- 7"	1'- 9"								
	15	4	4'- 0"	2A452.2	17		1'- 10"	0'- 4"	1'- 10"								
	102	5	11'- 7"	2A550.2	17		2'- 7"	9'- 0"	0'- 0"								
	32	5	9'- 3"	2A551.2	17		3'- 4"	2'- 7"	3'- 4"								
	32	5	7'- 5"	2A552.2	17		2'- 11"	1'- 7"	2'- 11"								
	32	5	6'- 2"	2A553.2	14	1'- 6"	2'- 1"	2'- 7"					1'- 6"		1'- 6"		
	32	5	5'- 6"	2A554.2	3	0'- 7"	4'- 5"	0'- 6"	0'- 0"	0'- 0"	0'- 0"	0'- 0"	0'- 4"		0'- 4"		
	12	5	12'- 9"	2A555.2	17		5'- 1"	2'- 7"	5'- 1"								
APPROACH SLAB 1																	
	21	5	37'- 10"	1EAS501	STR												
	45	9	20'- 9"	1EAS901	1	1'- 3"	19'- 6"					0'- 0"					
APPROACH SLAB 2																	
✳	22	5	37'- 7"	2EAS501	STR												
✳	46	9	20'- 9"	2EAS901	1	1'- 3"	19'- 6"					0'- 0"					

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-SI). ALL BARS SHALL BE GRADE 60, 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. .2 |
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



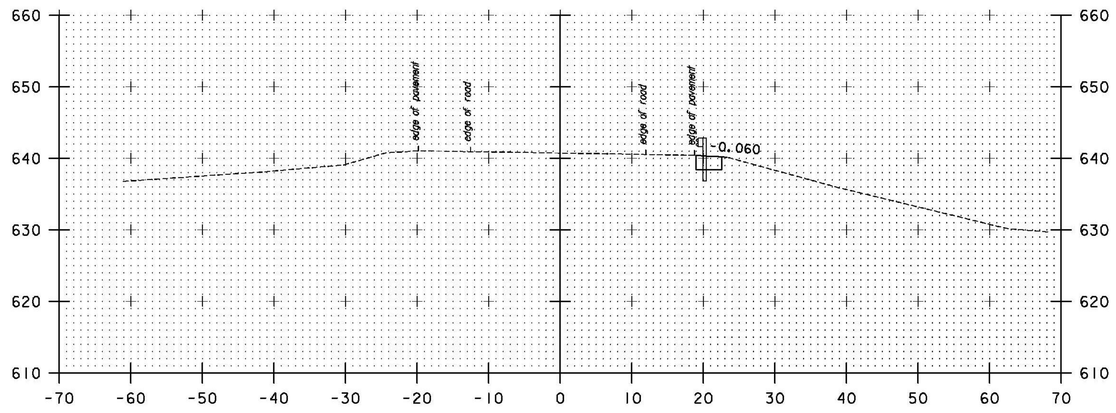
ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION DIAMETER INCHES	AREA INCHES ^{2}	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

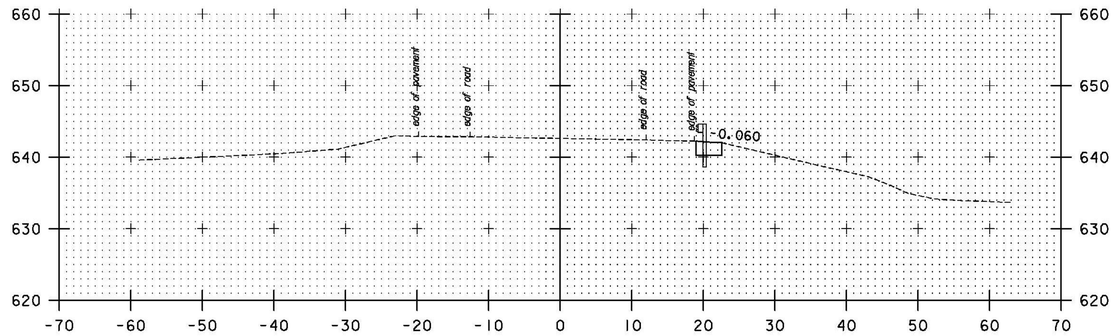
PROJECT NAME: **HYDE PARK**
PROJECT NUMBER: **STP CULV(26)**

FILE NAME: **z11b292rss.xls**
PROJECT MANAGER: **R. HEBERT**
DESIGNED BY: **T. POULIN**
REINFORCING STEEL SCHEDULE

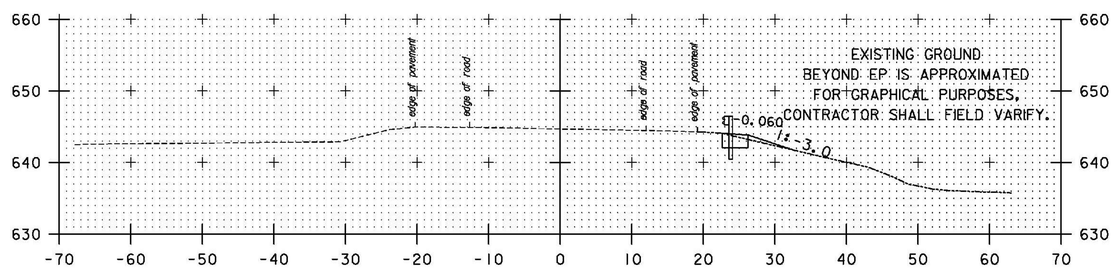
PLOT DATE: **5/9/2013**
DRAWN BY: **T. POULIN**
CHECKED BY: **J. OLUND**
SHEET **40** OF **60**



1+00

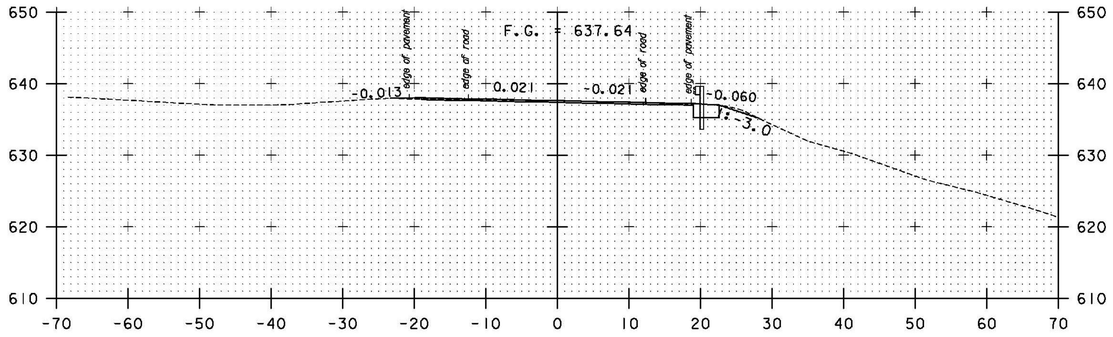


0+50



0+00

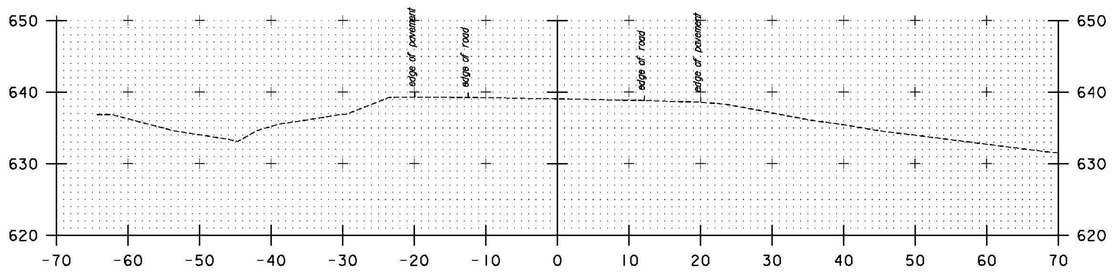
STA 2+35.00
END APPROACH
BEGIN PROJECT
STP CULV(26)



+80.83
34.71' LT
UTILITY POLE

2+00
DRIVE LEFT

VT 15
STA 1+85.00
BEGIN APPROACH
MATCH EXISTING PAVEMENT



1+50
DRIVE RIGHT

STA. 0+00 TO STA. 2+00

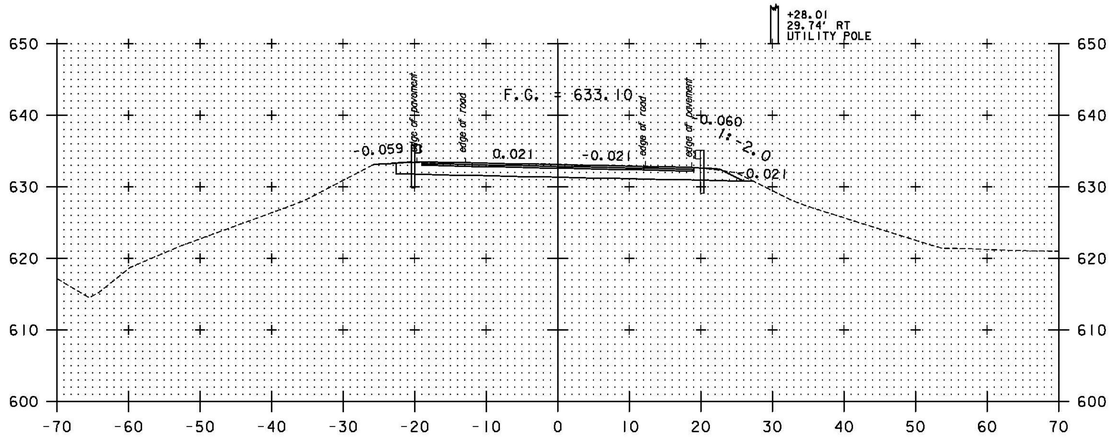
SCALE 1" = 10'-0"
10 0 10

TYLIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

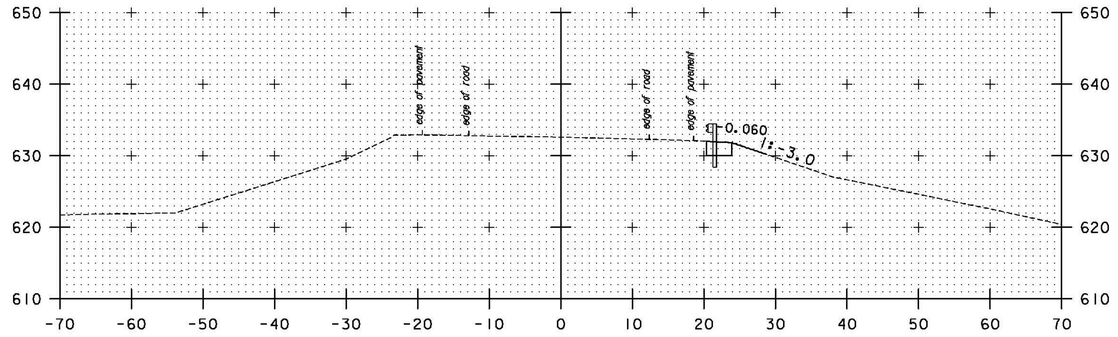
FILE NAME: z11b292bdr_xs.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: T. KELLEY
ROADWAY CROSS SECTIONS 1

PLOT DATE: 11/6/2013
DRAWN BY: T. KELLEY
CHECKED BY: D. BRYANT
SHEET 41 OF 60



4+50

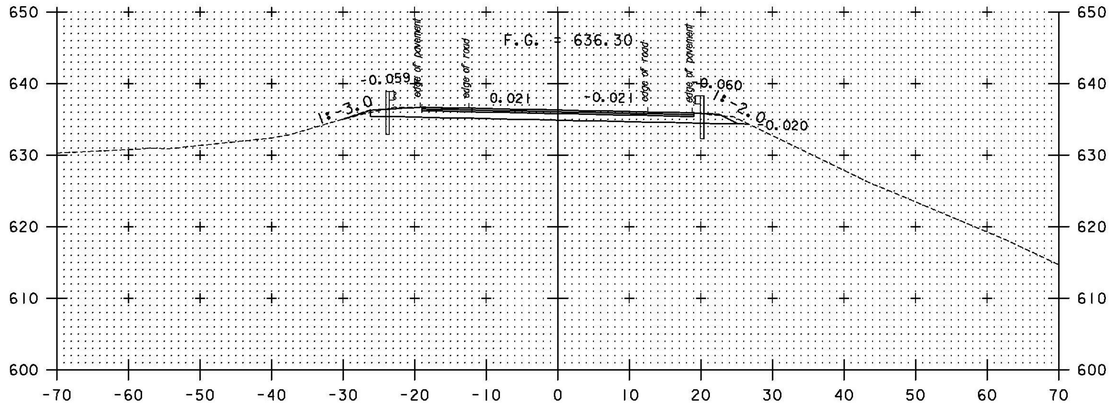
STA 4+17.52
END BRIDGE
RESUME ROADWAY



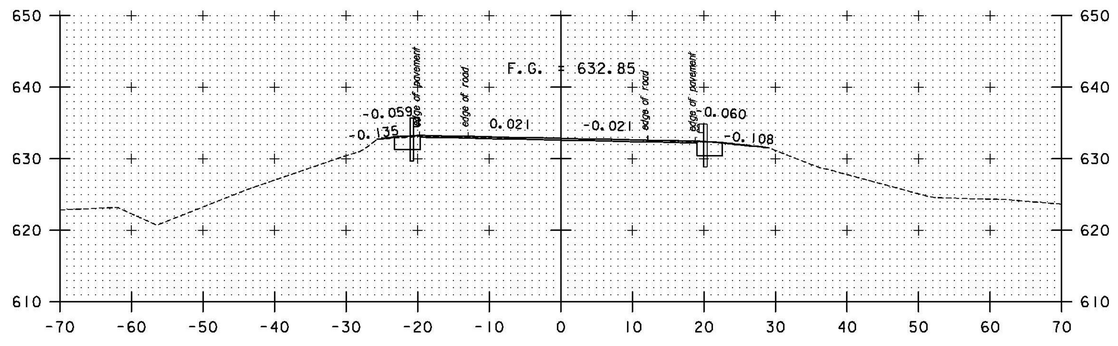
5+50

VT 15
STA 5+20.00
END APPROACH
MATCH EXISTING PAVEMENT

STA 2+88.48
STOP ROADWAY
BEGIN BRIDGE



2+50



5+00

STA 4+70.00
END PROJECT
STP CULV(26)
BEGIN APPROACH

+52.72
35.33' RT
3" LOCUST (REMOVE)

+64.81
34.85' RT
3" LOCUST (REMOVE)

STA. 2+50 TO STA. 5+50

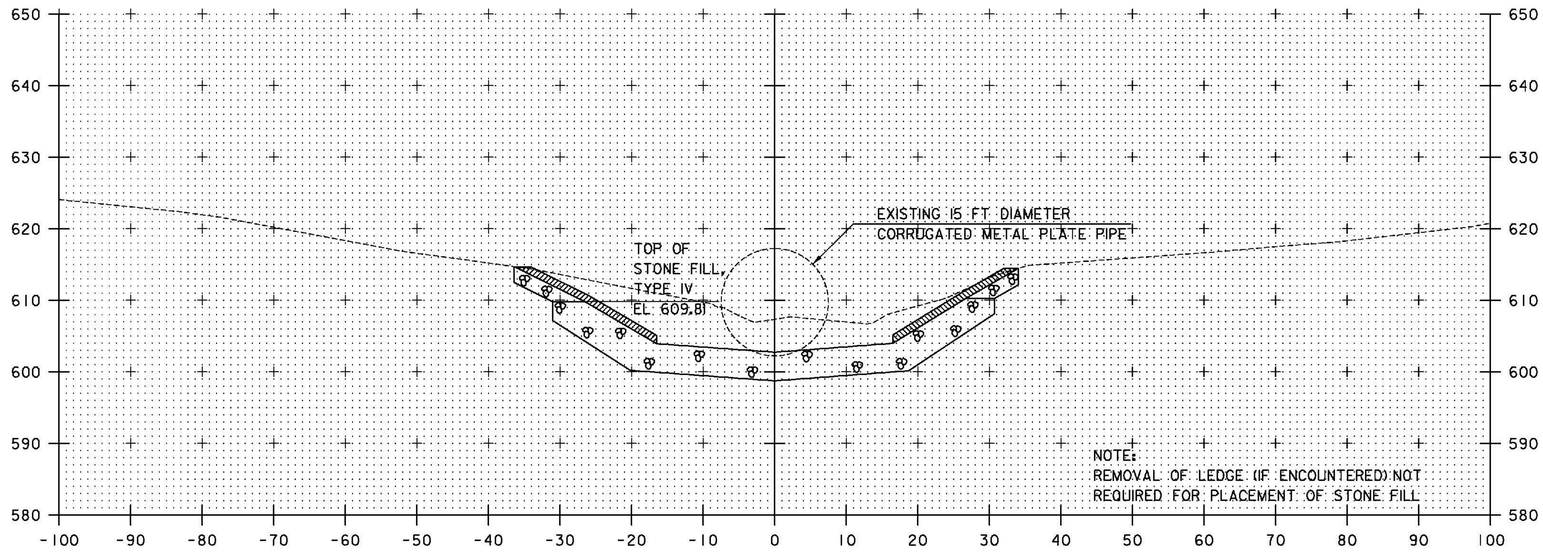
SCALE 1" = 10'-0"
10 0 10

T.Y.LIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292bdr_xs.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: T. KELLEY
ROADWAY CROSS SECTIONS 2

PLOT DATE: 11/6/2013
DRAWN BY: T. KELLEY
CHECKED BY: D. BRYANT
SHEET 42 OF 60



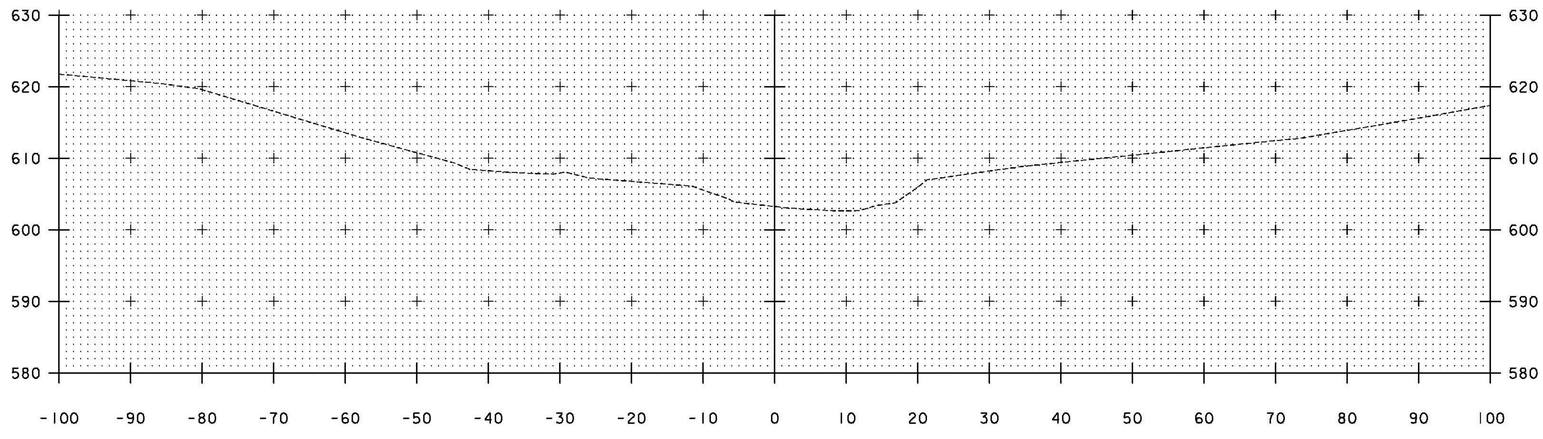
STATION 50+52, LT.
BEGIN UNCLASSIFIED CHANNEL EXCAVATION,
GEOTEXTILE UNDER STONE FILL,
STONE FILL, TYPE IV, AND
GRUBBING MATERIAL

50+75

STATION 50+62, RT.
BEGIN UNCLASSIFIED CHANNEL EXCAVATION,
GEOTEXTILE UNDER STONE FILL,
STONE FILL, TYPE IV, AND
GRUBBING MATERIAL

STATION 50+55, LT.
BEGIN STONE FILL, TYPE II

STATION 50+67, RT.
BEGIN STONE FILL, TYPE II



50+50

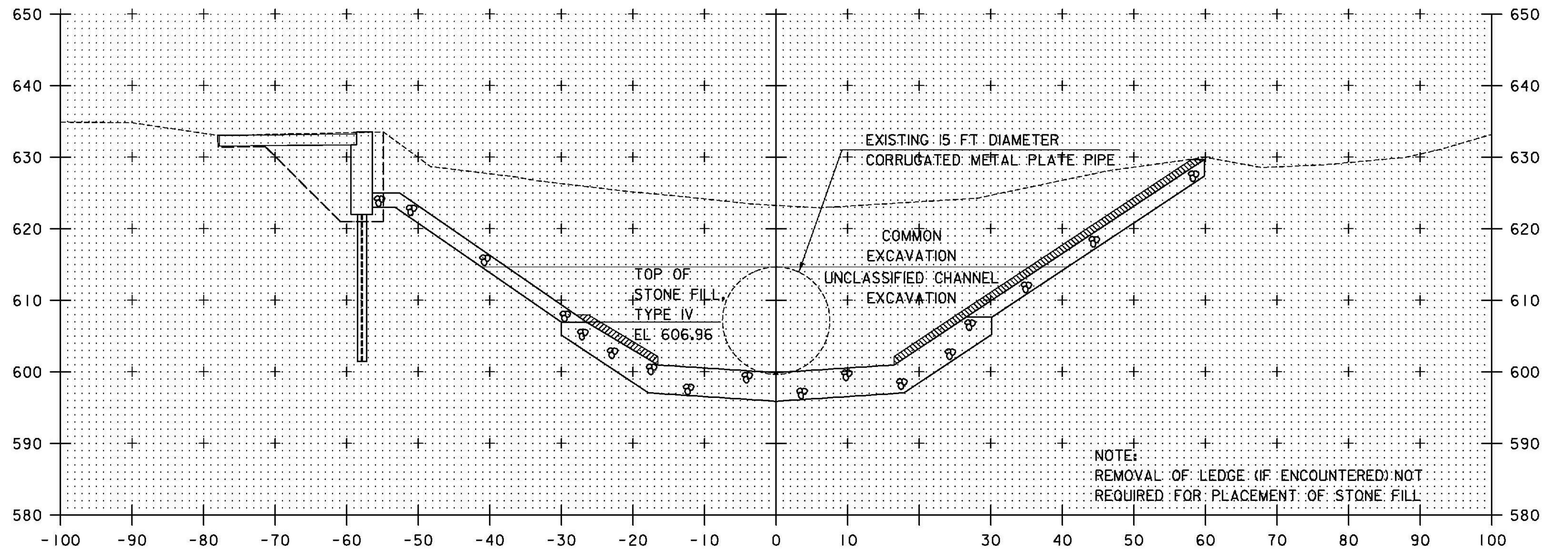
STA. 50+50 TO STA. 50+75

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

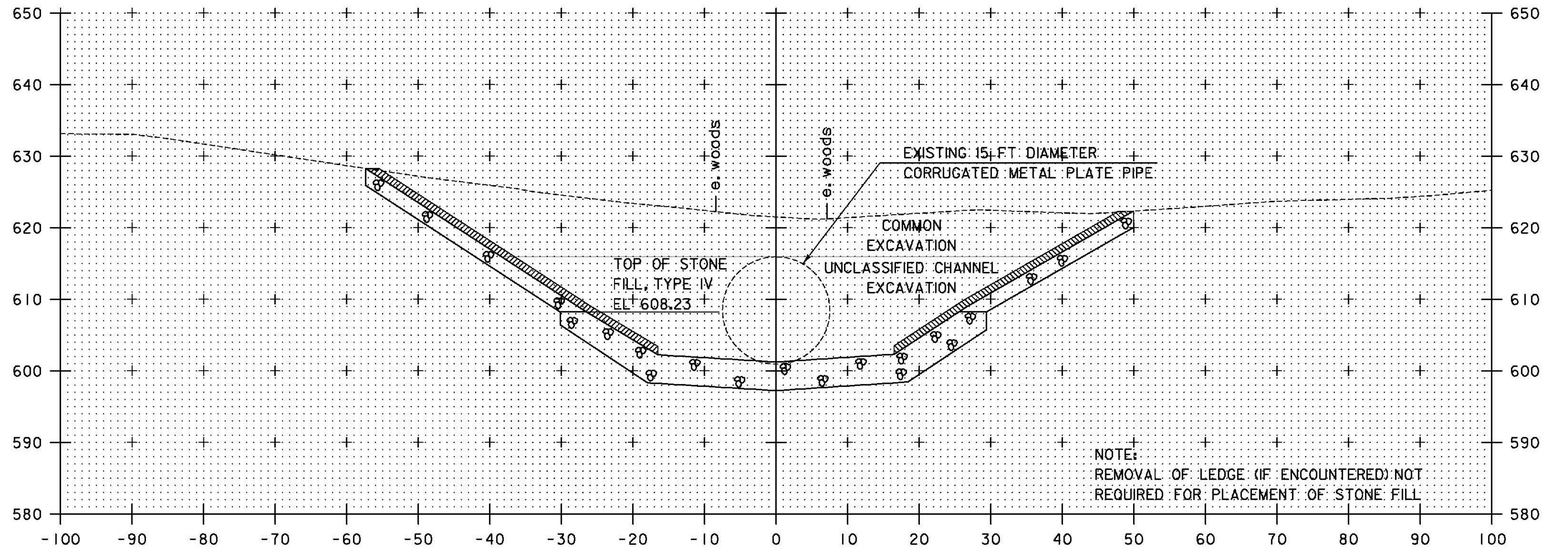
TY LIN INTERNATIONAL

FILE NAME: z11b292bdrxschan.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: J. OLUND
CHANNEL CROSS SECTIONS - 1

PLOT DATE: 11/6/2013
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
SHEET 43 OF 60



51+25



STATION 50+80
BEGIN COMMON EXCAVATION

51+00

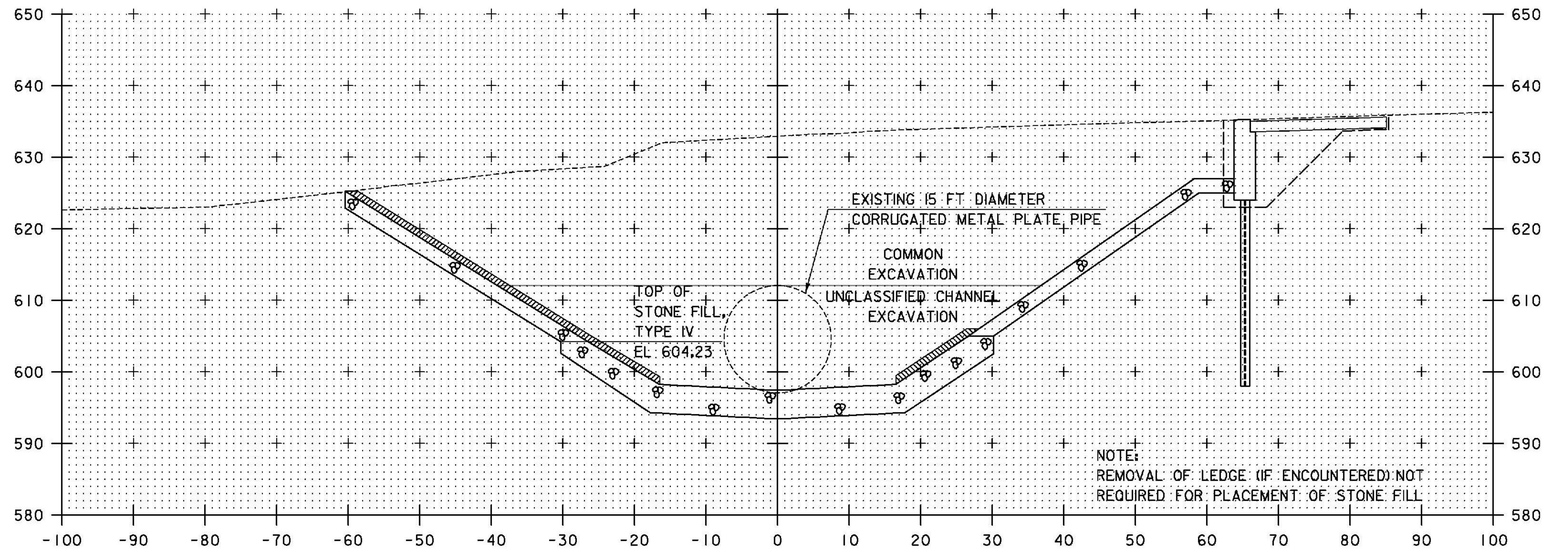
STA. 51+00 TO STA. 51+25

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

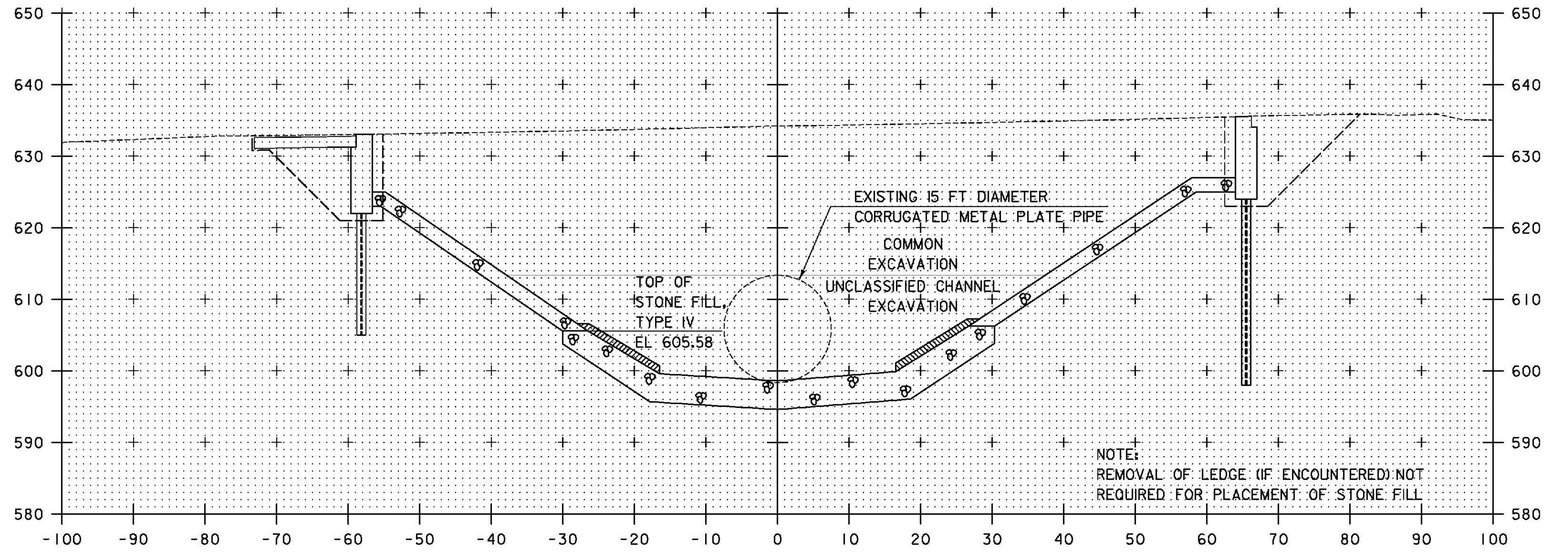
TYLIN INTERNATIONAL

FILE NAME: z11b292bdrxschan.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: J. OLUND
CHANNEL CROSS SECTIONS - 2

PLOT DATE: 11/6/2013
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
SHEET 44 OF 60



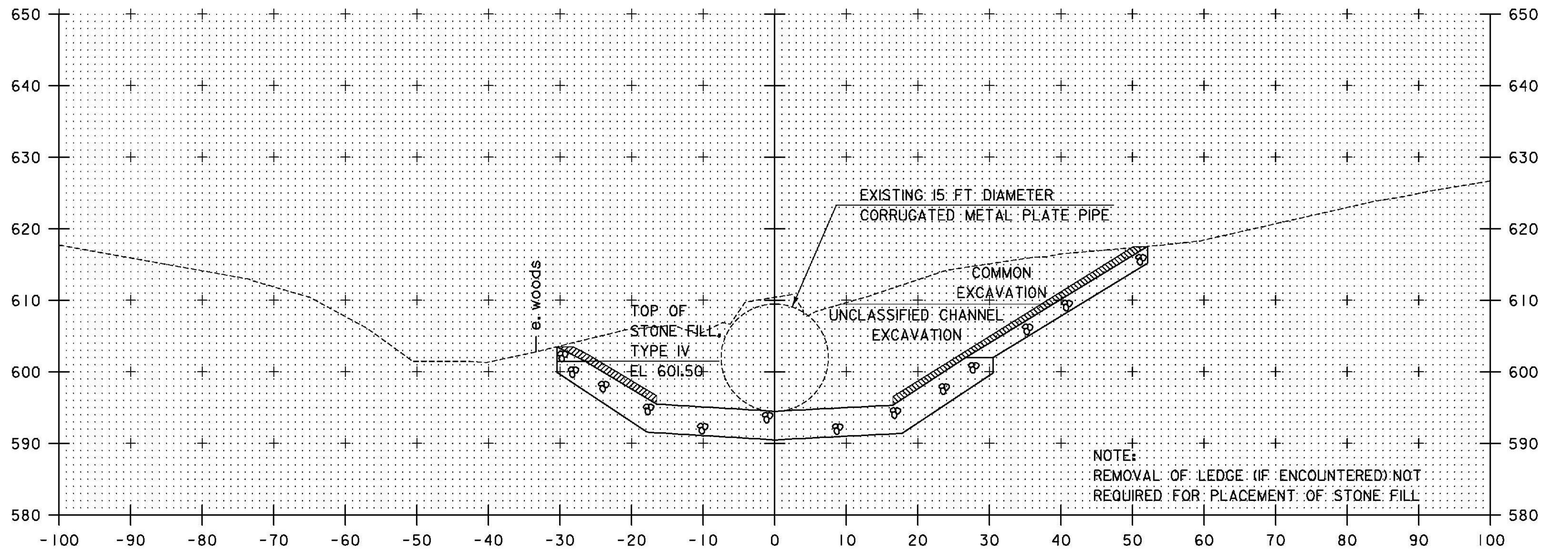
51+75



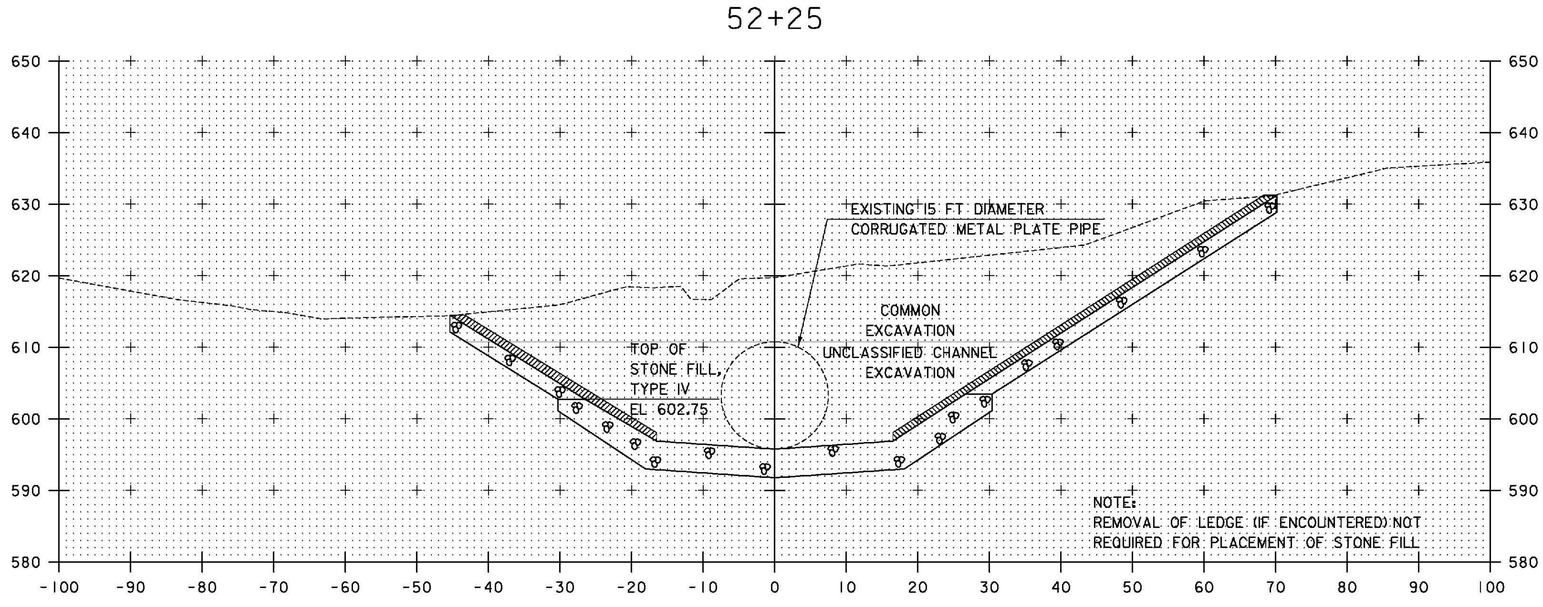
51+50
(CENTER OF BRIDGE)

STA. 51+50 TO STA. 51+75

PROJECT NAME: HYDE PARK	
PROJECT NUMBER: STP CULV(26)	
TYLIN INTERNATIONAL	
FILE NAME: z11b292bdrxschan.dgn	PLOT DATE: 11/6/2013
PROJECT LEADER: R. HEBERT	DRAWN BY: S. MORGAN
DESIGNED BY: J. OLUND	CHECKED BY: J. OLUND
CHANNEL CROSS SECTIONS - 3	SHEET 45 OF 60



52+25



52+00

STA. 52+00 TO STA. 52+25

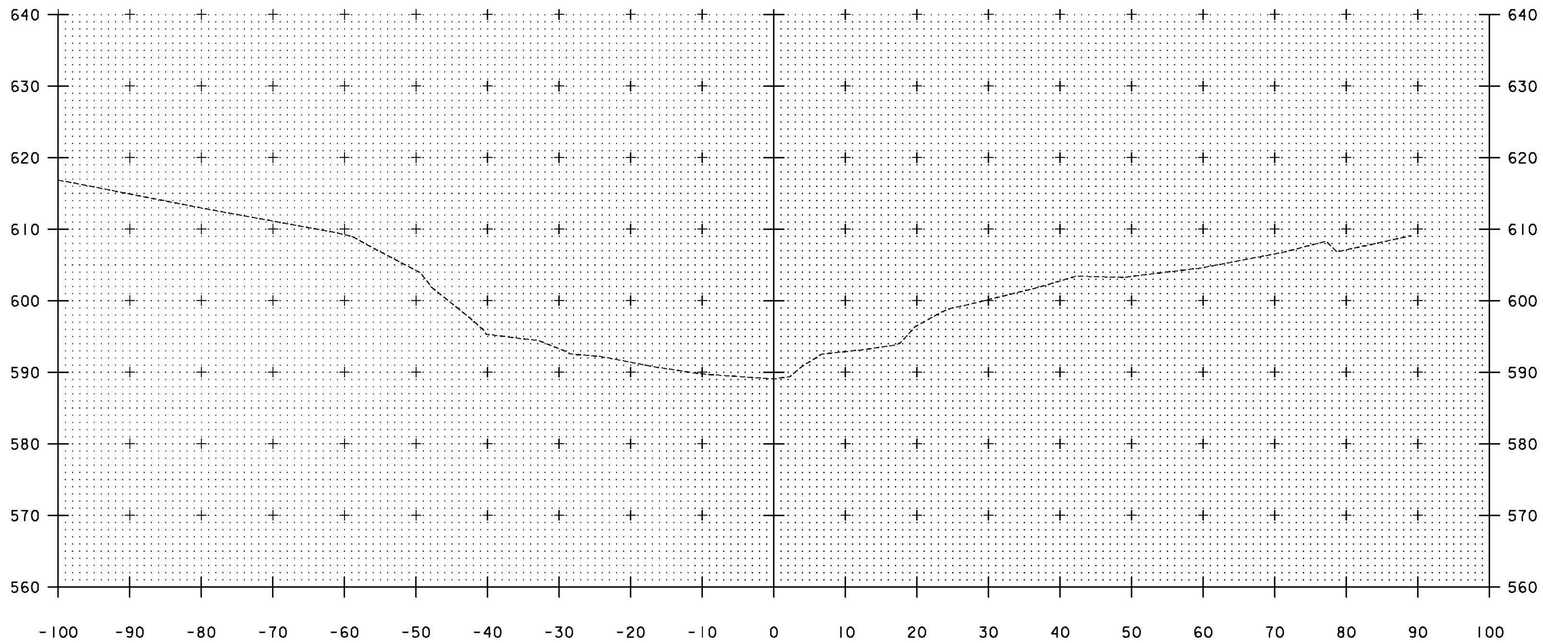
PROJECT NAME: HYDE PARK

PROJECT NUMBER: STP CULV(26)

TYLIN INTERNATIONAL

FILE NAME: z11b292bdrxschan.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: J. OLUND
CHANNEL CROSS SECTIONS - 4

PLOT DATE: 11/6/2013
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
SHEET 46 OF 60



STA. 52+50 TO STA. 52+75

PROJECT NAME: HYDE PARK

PROJECT NUMBER: STP CULV(26)

TY·LIN INTERNATIONAL

FILE NAME: z11b292bdrxschan.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: J. OLUND
CHANNEL CROSS SECTIONS - 5

PLOT DATE: 11/6/2013
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
SHEET 47 OF 60

LEGEND

STONE FILL, TYPE II

STONE FILL, TYPE IV

PERMANENT OHW IMPACTS
(TOTAL AREA 3,475 S.F.)

AREA OF EARTH DISTURBANCE ABOVE OHW
(TOTAL AREA = 79,446 S.F.)

TOTAL AREA OF EARTH DISTURBANCE WITHIN PROJECT LIMITS = 84,035 S.F. (1.93 ACRE)
NO TEMPORARY IMPACTS BELOW ORDINARY HIGH WATER (OHW)
TOTAL PERMANENT IMPACT AREA OF WETLAND BUFFER = 5041 S.F.

ARCH ARC ARCHEOLOGICAL RESOURCE LIMIT

CLASS II WETLAND

OHW ORDINARY HIGH WATER

N

VT STATE PLANE GRID

CENTERVILLE BROOK

74° 30' 28" TO ℄ PROPOSED
CONSTRUCTION CHORD

AREA OF PERMANENT
STREAMBED IMPACT

PROPOSED VT 15 STA. 3+56.89
CHANNEL LINE STA. 51+50.75

AREA OF SOUTH APPROACH
SOIL DISTURBANCE

AREA OF NORTH APPROACH
SOIL DISTURBANCE

℄ VT 15

STA. 1+85.00
BEGIN APPROACH
MATCH EXISTING PAVEMENT

TEMPORARY SLOPE LIMIT FOR
MAINTENANCE OF TRAFFIC

AER E&T

VT RTE 15
TO JOHNSON

-1+00
0+00
1+00
2+00
3+00
4+00
5+00

OHW

STA. 4+17.52
END BRIDGE

STA. 2+35.00
END APPROACH
BEGIN PROJECT
STP CULV(26)

STA. 2+88.48
BEGIN BRIDGE

CHANNEL LINE

EXISTING ROW (TYP)

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

T.Y.LIN INTERNATIONAL

FILE NAME: z11b292bdr_RI.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. BRYANT
RESOURCE LAYOUT PLAN 1

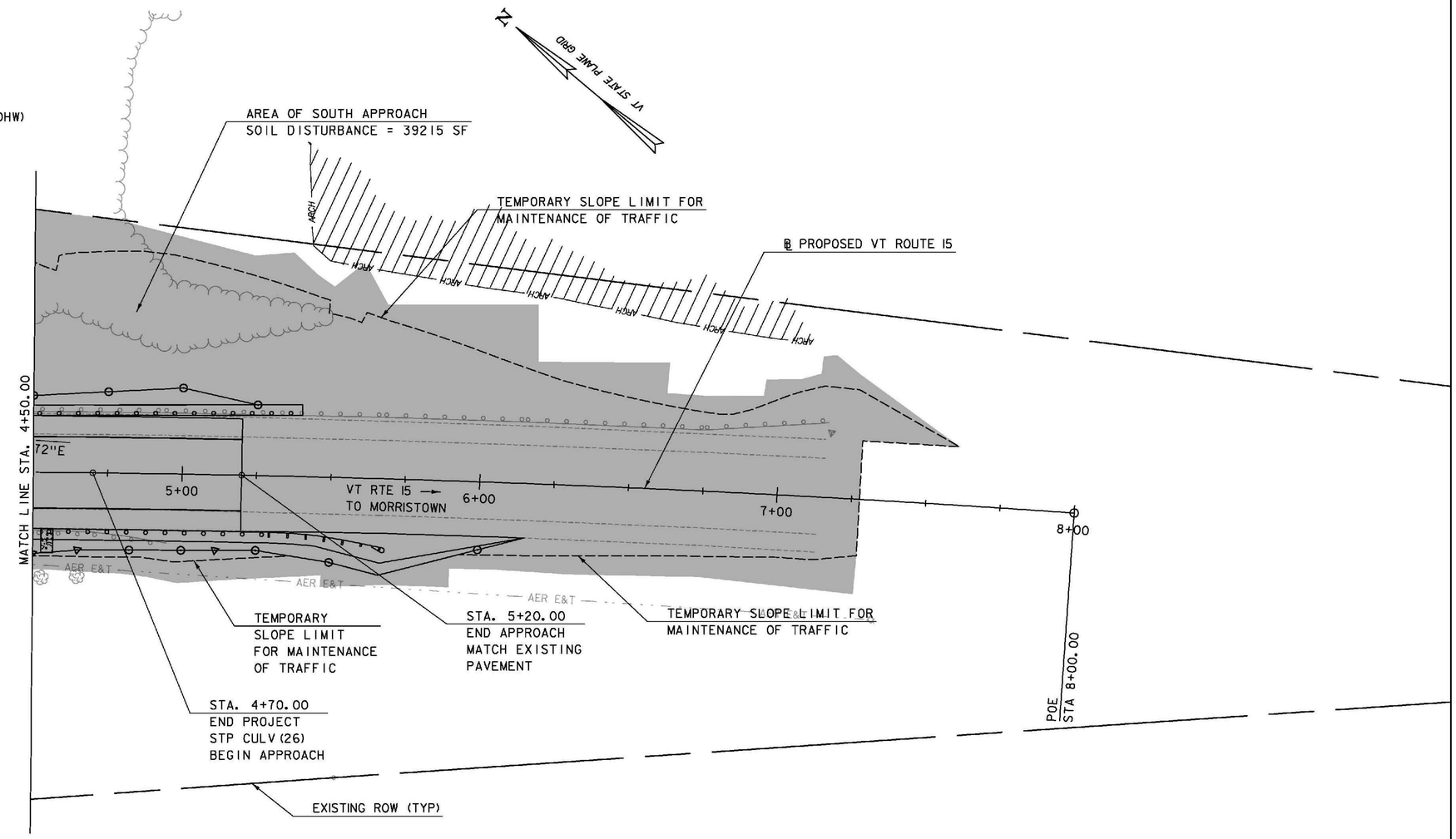
PLOT DATE: 11/6/2013
DRAWN BY: D. BRYANT
CHECKED BY: D. BURHANS
SHEET 48 OF 60

LEGEND

- STONE FILL, TYPE II
- STONE FILL, TYPE IV
- PERMANENT OHW IMPACTS
- AREA OF EARTH DISTURBANCE ABOVE OHW

NO TEMPORARY IMPACTS BELOW ORDINARY HIGH WATER (OHW)

- ARCH — ARC ARCHEOLOGICAL RESOURCE LIMIT
- CLASS II WETLAND
- OHW — ORDINARY HIGH WATER



20 0 20
SCALE IN FEET

TYLIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292bdr_RI.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. BRYANT
RESOURCE LAYOUT PLAN 2

PLOT DATE: 11/6/2013
DRAWN BY: D. BRYANT
CHECKED BY: D. BURHANS
SHEET 49 OF 60

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF BRIDGE #42 (CORRUGATED METAL PLATE PIPE) ON VT 15 SPANNING 15 FEET OVER THE BODY OF WATER KNOWN AS CENTERVILLE BROOK IN THE TOWN OF HYDE PARK. THE PROJECT BEGINS AT A POINT 0.5 MILES SOUTHEASTERLY OF ITS INTERSECTION WITH VT ROUTE 100 AND PROCEEDS SOUTHEASTERLY ALONG VT ROUTE 15 FOR 0.045 MILES. WORK WILL INVOLVE REMOVAL OF EXISTING PIPE, CONSTRUCTION OF NEW ABUTMENTS AND CONSTRUCTION OF THE BRIDGE SUPERSTRUCTURE ON THE EXISTING ALIGNMENT. ALSO INCLUDED WILL BE RELATED TEMPORARY ROADWAY DETOUR, PERMANENT CHANNEL, AND APPROACH WORK.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA AND SUGGESTED MOT METHOD AS SHOWN ON THE ATTACHED EPSC PLAN. THE AREA OF DISTURBANCE DOES NOT INCLUDE WASTE, BORROW AND STAGING AREAS. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE LOCATION OF THE WASTE, BORROW AND STAGING AREAS, AS WELL AS THE MATERIAL STOCKPILE, REFUELING AND MAINTENANCE AREAS. A MAP SHALL BE ATTACHED IF NECESSARY.

TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 84,035 SQUARE FEET (1.93 ACRES).

IT IS ANTICIPATED THAT THE PROJECT WILL LAST TWO CONSTRUCTION SEASONS.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY, EXISTING ROADS, UTILITIES

THE TOPOGRAPHY ON BOTH SIDES OF VT 15 SLOPES DOWN STEEPLY AWAY FROM THE ROADWAY AND CONSISTS MOSTLY OF FIELD GRASS ON THE SLOPES AND LIGHTLY WOODED AREAS NEAR THE TOE OF SLOPE. PORTIONS NEAR THE WATER BODY ARE LIGHTLY WOODED WITH SHALLOW SLOPES. THE GENERAL TOPOGRAPHY OF THE AREA SLOPES FROM EAST TO WEST. ALL ROAD SURFACES IN THE PROJECT AREA ARE BITUMINOUS CONCRETE PAVEMENT. ONE COMMERCIAL PROPERTY BORDERS THE PROJECT ON THE SOUTHEASTERLY CORNER AND ONE RESIDENTIAL PROPERTY ON THE SOUTHWEST CORNER. BOTH ARE OUTSIDE THE PROJECT LIMITS.

THERE ARE OVERHEAD ELECTRICAL LINES ALONG THE EASTERLY SIDE OF THE NORTH APPROACH. THE LINES CROSS TO THE WESTERLY SIDE OF THE SOUTH APPROACH. THESE WILL BE RELOCATED TO ACCOMMODATE THE PROJECT. THERE ARE NO UNDERGROUND UTILITIES WITHIN THE PROJECT SITE.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE BRIDGE SPANS THE BODY OF WATER KNOWN AS CENTERVILLE BROOK. THE BROOK IS CLASSIFIED AS SINUOUS. IN THE REACH INFLUENCED BY THE BRIDGE THE BROOK IS CHANNELIZED AND STRAIGHT, ITS BOUNDARIES ARE ALLUVIAL, AND ITS STREAM BANKS ARE INCISED WITH A NARROW FLOOD PLAIN. THE STREAM BED CONSISTS OF SAND AND GRAVEL AND LEDGE. CONSTRUCTION OF THE NEW BRIDGE WILL REQUIRE SOME PERMANENT IMPACTS OF CENTERVILLE BROOK. IT IS ANTICIPATED THAT EXISTING SOILS WILL BE DISTURBED IN THE BROOK DURING THE REMOVAL OF THE EXISTING CULVERT.

THE FOLLOWING DESCRIPTIONS ARE FOR THE EXISTING SITE PLANS: SURFACE DRAINAGE FROM VT 15 FLOWS DOWN EXISTING VEGETATED AND WOODED SIDESLOPES AND INTO CENTERVILLE BROOK.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF WELL ESTABLISHED FIELD AND LIGHTLY WOODED AREAS. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS REQUIRED FOR REPLACEMENT OF THE EXISTING CULVERT WITH A NEW BRIDGE. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES OR REPLACED WITH STONE FILL COVERED WITH GRUBBING MATERIAL.

1.2.4 SOILS

SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE FOR THE COUNTY OF LAMOILLE, VERMONT. SOILS ON THE PROJECT SITE ARE:

NEAR THE SOUTHERN PROJECT LIMITS AND NEAR THE NORTHERLY END OF THE BRIDGE THE SOIL TYPE IS BOOTHBAY SILT LOAM, 3 TO 8 PERCENT SLOPE, “K FACTOR” = 0.49. THE EROSION HAZARD IS “HIGH” DUE TO ITS K FACTOR.

NEAR THE NORTHERLY PROJECT LIMITS THE SOIL TYPE IS SALMON VERY FINE SANDY LOAM, 8 TO 15 PERCENT SLOPE, “K FACTOR” = 0.49. THE EROSION HAZARD IS “HIGH” DUE TO ITS K FACTOR.

NEAR CENTERVILLE BROOK THE SOIL TYPE IS BOOTHBAY SILT LOAM, 15 TO 25 PERCENT SLOPE, “K” FACTOR = 0.49. THE EROSION HAZARD IS “HIGH” DUE TO ITS K FACTOR.

1.2.4 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHAEOLOGICAL AREAS: YES (AREA OF ARCHAEOLOGICAL SIGNIFICANCE ALONG THE SOUTHEAST APPROACH BEYOND THE PROJECT LIMITS OF WORK.)
PRIME AGRICULTURE LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: CENTERVILLE BROOK
WETLANDS: YES, CLASS II, ADJACENT TO SOUTHEAST APPROACH QUADRANT
FISH & WILDLIFE HABITAT: COLDWATER FISHERY W/SEASONAL RESTRICTIONS

1.3 RISK EVALUATION

THE PROJECT FALLS UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES FOR LOW RISK PROJECTS. ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT TO AVOID SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. BECAUSE THE PROJECT FALLS UNDER THE CGP 3-9020, BARRIER FENCE SHALL BE USED INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 100 FEET OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC).

1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTOR’S PROGRESS SCHEDULE. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHOULD BE INSTALLED PRIOR TO ANY UPSLOPE WORK.

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN OR AS NECESSARY. BECAUSE THE PROJECT FALLS UNDER THE CGP 3-9020, SILT FENCE, WOVEN WIRE REINFORCED SHALL BE USED INSTEAD OF SILT FENCE WITHIN 100 FEET OF RECEIVING WATERS.

1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

DIVERSION OF UPLAND RUNOFF NOT ANTICIPATED.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

THE USE OF STONE CHECK DAMS IS ANTICIPATED FOR THIS PROJECT IF A TEMPORARY ROADWAY DETOUR IS UTILIZED.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS.

SEED AND MULCH WILL BE USED AS PERMANENT CONTROLS TO STABILIZE EXPOSED SOIL. STONE FILL WILL BE USED TO STABILIZE THE SLOPES AND STREAMBED AROUND ABUTMENTS.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

SHOULD EARTH DISTURBANCE BE PERFORMED OUTSIDE THE CONSTRUCTION SEASON, A WINTER EROSION AND SEDIMENT CONTROL PLAN DESCRIBING ALTERNATIVE STABILIZATION METHODS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO AUGUST 15 FOR APPROVAL.

1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER, AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

TREATMENT OF DEWATERING COFFERDAM IS NOT ANTICIPATED.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

T.Y.LIN INTERNATIONAL

FILE NAME: z11b292bdr_epscn.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. BRYANT
EPSC NARRATIVE

PLOT DATE: 11/6/2013
DRAWN BY: D. BRYANT
CHECKED BY: D. BURHANS
SHEET 50 OF 60

N

VT STATE PLANE GRID

℄ VT 15

STA. 1+85.00
BEGIN APPROACH
MATCH EXISTING PAVEMENT

℄ VT 15 STA 3+56.89
CHANNEL LINE STA. 51+50.75

CENTERVILLE BROOK

50+00

51+00

52+00

53+00

MATCH LINE STA. 4+50.00

-1+00

0+00

1+00

2+00

3+00

4+00

AER E&T

610

620

630

640

590

600

STA. 2+35.00
END APPROACH
BEGIN PROJECT
STP CULV(26)

CHANNEL LINE

EXISTING ROW (TYP)

LEGEND:

ARCH ——— ARCHAEOLOGICAL RESOURCE LIMIT

CLASS II WETLAND

NOTES:

1. ORDINARY HIGH WATER ELEVATION = VARIES
2. COUNTOURS REFLECT EXISTING CONDITIONS.

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SCALE IN FEET

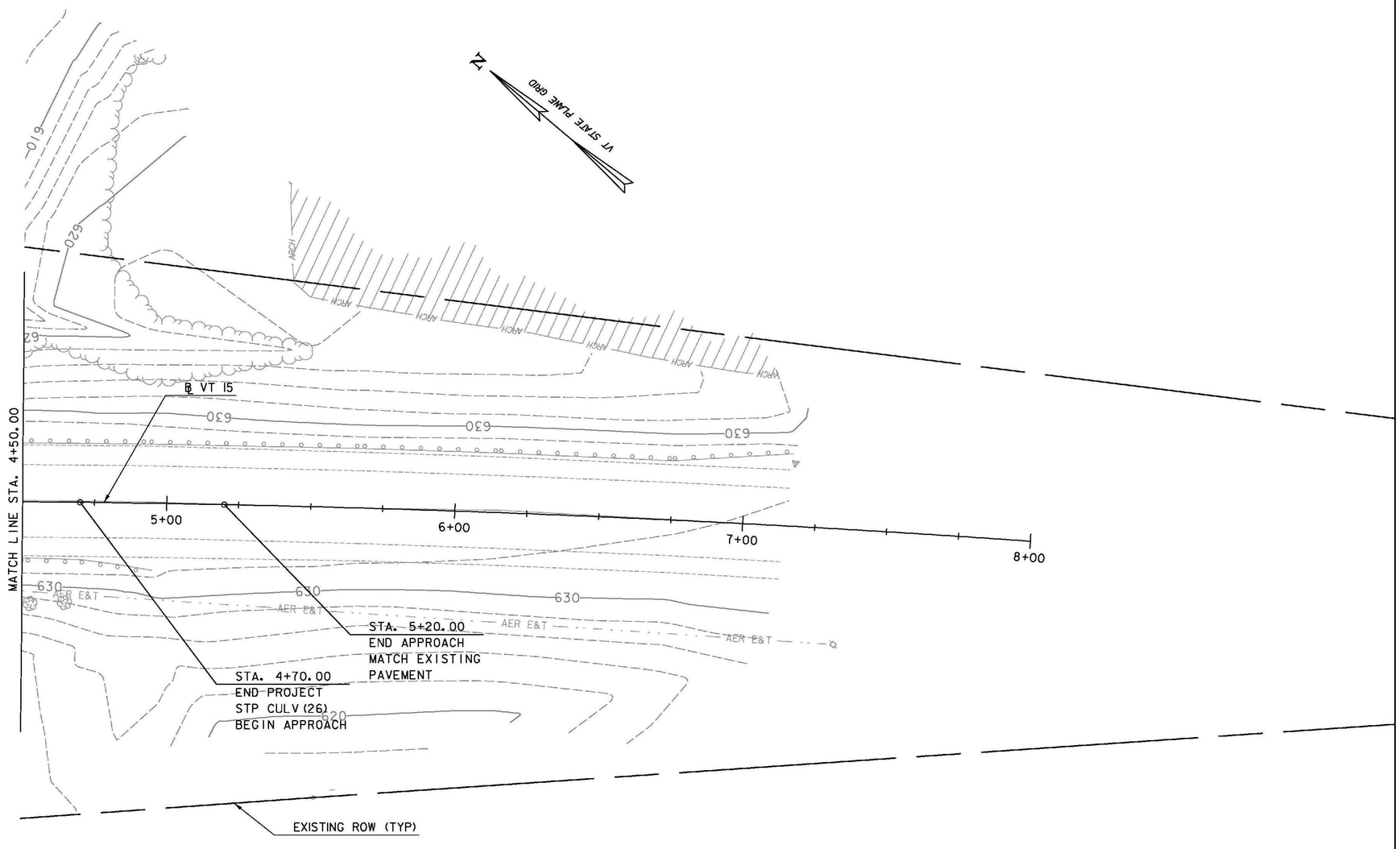
T·Y·LIN INTERNATIONAL

PROJECT NAME: HYDE PARK

PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292bdr_ero.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. BRYANT
EPSC EXISTING CONDITIONS SITE PLAN 1

PLOT DATE: 11/6/2013
DRAWN BY: D. BRYANT
CHECKED BY: D. BURHANS
SHEET 51 OF 60



LEGEND:

ARCH ——— ARCHAEOLOGICAL RESOURCE LIMIT

CLASS II WETLAND

NOTES:

1. COUNTOURS REFLECT EXISTING CONDITIONS.

20 0 20

SCALE IN FEET

T.Y.LIN INTERNATIONAL

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PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292bdr_ero.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. BRYANT
EPSC EXISTING CONDITIONS SITE PLAN 2

PLOT DATE: 11/6/2013
DRAWN BY: D. BRYANT
CHECKED BY: D. BURHANS
SHEET 52 OF 60

GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED

2+37.54 RT - 2+63.29 RT	= 78.0 SF
2+63.80 RT - 2+76.20 RT	= 37.8 SF
2+70.06 RT - 2+82.85 RT	= 39.2 SF
2+83.53 RT - 2+92.99 RT	= 28.3 SF
2+92.20 RT - 2+99.28 RT	= 21.3 SF
3+09.57 RT - 3+19.46 RT	= 20.4 SF
3+40.61 RT - 3+50.63 RT	= 30.4 SF
3+62.36 RT - 3+69.34 RT	= 22.0 SF
3+70.76 RT - 3+88.05 RT	= 51.7 SF
3+96.98 RT - 4+16.41 RT	= 59.3 SF
44+92.52 LT - 45+15.92 LT	= 93.2 SF
45+27.08 LT - 45+51.38 LT	= 86.8 SF
45+61.51 LT - 45+64.40 LT	= 19.4 SF
45+75.03 LT - 45+75.07 LT	= 24.9 SF
46.09.24 LT - 46+11.98 LT	= 15.4 SF
46+23.94 LT - 46+40.65 LT	= 65.1 SF
46+53.59 LT - 46+54.54 LT	= 20.7 SF

GEOTEXTILE FOR SILT FENCE

0+16.97 RT - 0+79.15 RT	= 169.3 SF
0+80.50 RT - 1+00.89 RT	= 54.9 SF
1+02.58 RT - 1+21.19 RT	= 50.3 SF
1+22.98 RT - 1+50.10 RT	= 74.5 SF
1+62.19 RT - 2+37.72 RT	= 207.1 SF
4+16.18 RT - 4+38.40 RT	= 59.1 SF
4+38.00 RT - 4+50.00 RT	= 31.8 SF
42+41.21 LT - 42+69.82 LT	= 100.6 SF
43+07.11 LT - 43+25.55 LT	= 82.6 SF
43+45.77 LT - 43+51.65 LT	= 33.6 SF
43+63.19 LT - 43+66.09 LT	= 22.3 SF
44+49.63 LT - 44+53.26 LT	= 36.6 SF
44+71.86 LT - 44+76.55 LT	= 33.7 SF

PROJECT DEMARCATION FENCE

42+07.84 LT - 44+79.46 LT = 353.11 LF
-0+60.44 RT - 1+52.20 RT = 230.99 LF
1+61.85 RT - 2+38.04 RT = 78.57 LF
4+15.65 RT - 4+50.00 RT = 38.51 LF

BARRIER FENCE

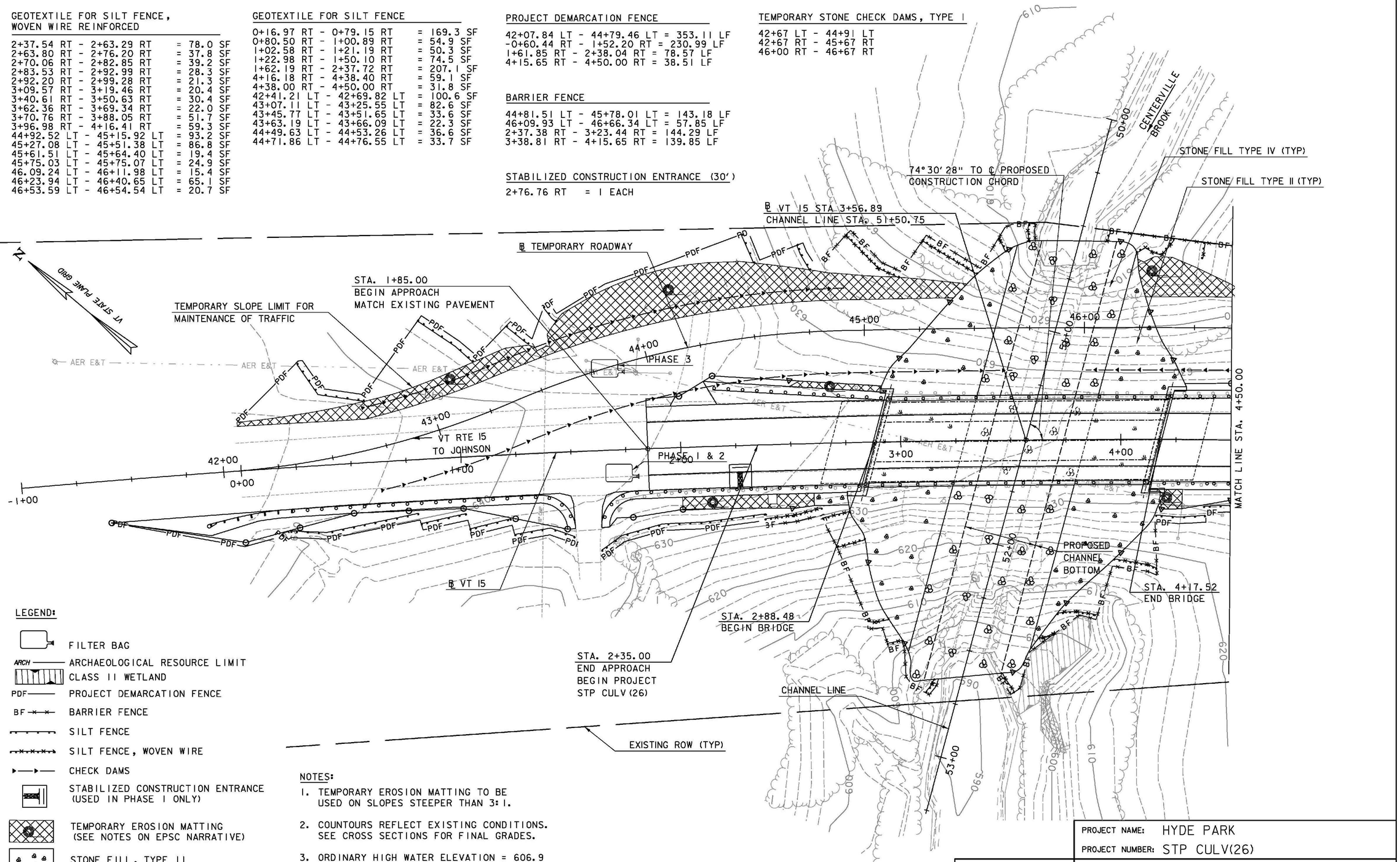
44+81.51 LT - 45+78.01 LT = 143.18 LF
46+09.93 LT - 46+66.34 LT = 57.85 LF
2+37.38 RT - 3+23.44 RT = 144.29 LF
3+38.81 RT - 4+15.65 RT = 139.85 LF

STABILIZED CONSTRUCTION ENTRANCE (30')

2+76.76 RT = 1 EACH

TEMPORARY STONE CHECK DAMS, TYPE I

42+67 LT - 44+91 LT
42+67 RT - 45+67 RT
46+00 RT - 46+67 RT



LEGEND:

- FILTER BAG
- ARCH — ARCHAEOLOGICAL RESOURCE LIMIT
- CLASS II WETLAND
- PDF — PROJECT DEMARCATION FENCE
- BF — BARRIER FENCE
- SILT FENCE
- SILT FENCE, WOVEN WIRE
- CHECK DAMS
- STABILIZED CONSTRUCTION ENTRANCE (USED IN PHASE I ONLY)
- TEMPORARY EROSION MATTING (SEE NOTES ON EPSC NARRATIVE)
- STONE FILL, TYPE II
- STONE FILL, TYPE IV

NOTES:

1. TEMPORARY EROSION MATTING TO BE USED ON SLOPES STEEPER THAN 3:1.
2. COUNTOURS REFLECT EXISTING CONDITIONS. SEE CROSS SECTIONS FOR FINAL GRADES.
3. ORDINARY HIGH WATER ELEVATION = 606.9
4. EPSC DETAILS, METHODS AND QUANTITIES SHOWN ARE APPLICABLE TO THE MOT SCHEME NOTED WITHIN THESE PLANS.

20 0 20
SCALE IN FEET

TYLIN INTERNATIONAL

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DESIGNED BY: D. BRYANT
EPSC CONSTRUCTION SITE PLAN I

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CHECKED BY: D. BURHANS
SHEET 53 OF 60

GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED

46+90.75 LT - 46+90.92 LT = 17.4 SF
47+04.31 LT - 47+17.93 LT = 43.8 SF

GEOTEXTILE FOR SILT FENCE

4+50.00 RT - 5+48.39 RT = 258.9 SF
5+47.15 RT - 5+90.67 RT = 115.5 SF
5+90.65 RT - 7+27.62 RT = 363.3 SF
47+17.93 LT - 47+41.84 LT = 68.1 SF
47+45.42 LT - 47+70.77 LT = 91.1 SF
47+80.84 LT - 48+27.16 LT = 134.6 SF
48+34.25 LT - 48+79.24 LT = 116.1 SF
48+81.75 LT - 49+15.94 LT = 86.4 SF
49+16.27 LT - 49+39.45 LT = 78.2 SF

PROJECT DEMARCATION FENCE

47+18.35 LT - 49+85.58 LT = 316.35 LF
4+50.00 RT - 7+27.62 RT = 299.38 LF

BARRIER FENCE

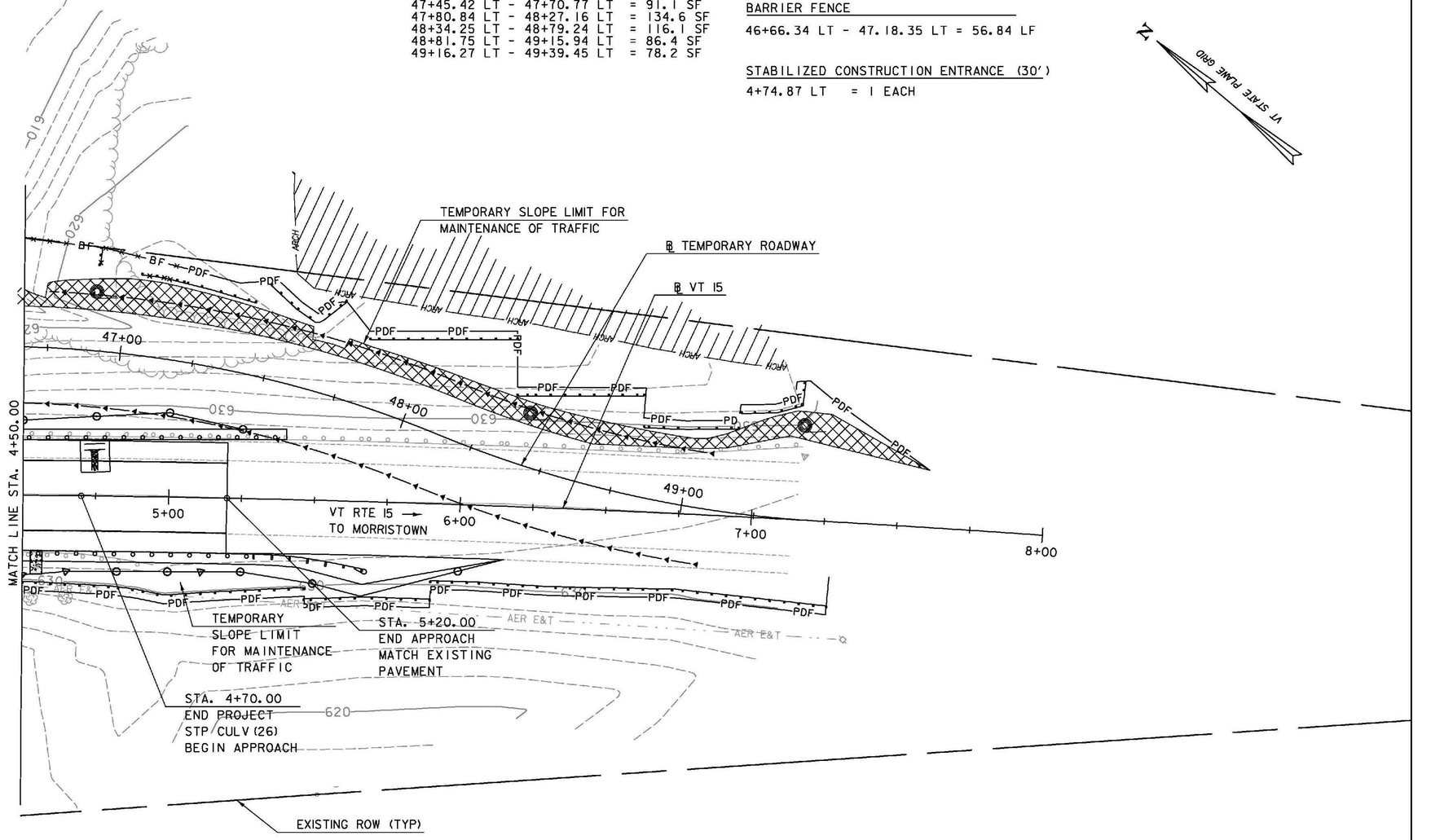
46+66.34 LT - 47.18.35 LT = 56.84 LF

STABILIZED CONSTRUCTION ENTRANCE (30')

4+74.87 LT = 1 EACH

TEMPORARY STONE CHECK DAMS, TYPE I

46+67 RT - 49+09 RT
46+75 LT - 49+09 LT



LEGEND:

- FILTER BAG
- ARCH — ARCHAEOLOGICAL RESOURCE LIMIT
- CLASS II WETLAND
- PDF — PROJECT DEMARCATION FENCE
- BF — BARRIER FENCE
- SILT FENCE
- SILT FENCE, WOVEN WIRE
- CHECK DAMS
- STABILIZED CONSTRUCTION ENTRANCE (USED IN PHASE I ONLY)
- TEMPORARY EROSION MATTING (SEE NOTES ON EPSC NARRATIVE)
- STONE FILL, TYPE II
- STONE FILL, TYPE IV

NOTES:

1. TEMPORARY EROSION MATTING TO BE USED ON SLOPES STEEPER THAN 3:1.
2. COUNTOURS REFLECT EXISTING CONDITIONS. SEE CROSS SECTIONS FOR FINAL GRADES.
3. ORDINARY HIGH WATER ELEVATION = 606.9

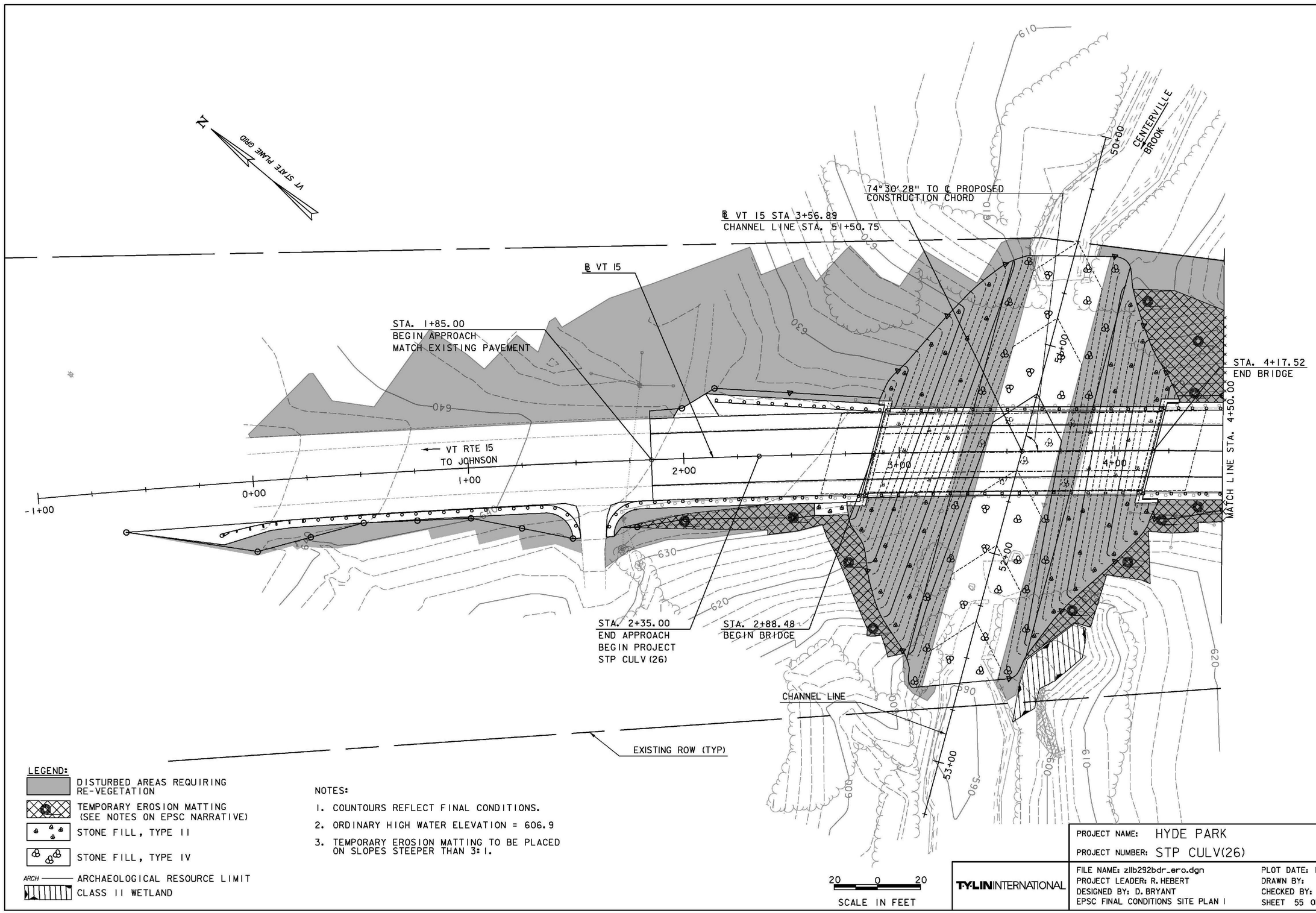
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EPSC CONSTRUCTION SITE PLAN 2

PLOT DATE: 11/6/2013
DRAWN BY: D. BRYANT
CHECKED BY: D. BURHANS
SHEET 54 OF 60



LEGEND:

- DISTURBED AREAS REQUIRING RE-VEGETATION
- TEMPORARY EROSION MATTING (SEE NOTES ON EPSC NARRATIVE)
- STONE FILL, TYPE II
- STONE FILL, TYPE IV
- ARCH —— ARCHAEOLOGICAL RESOURCE LIMIT
- CLASS II WETLAND

NOTES:

1. COUNTOURS REFLECT FINAL CONDITIONS.
2. ORDINARY HIGH WATER ELEVATION = 606.9
3. TEMPORARY EROSION MATTING TO BE PLACED ON SLOPES STEEPER THAN 3:1.

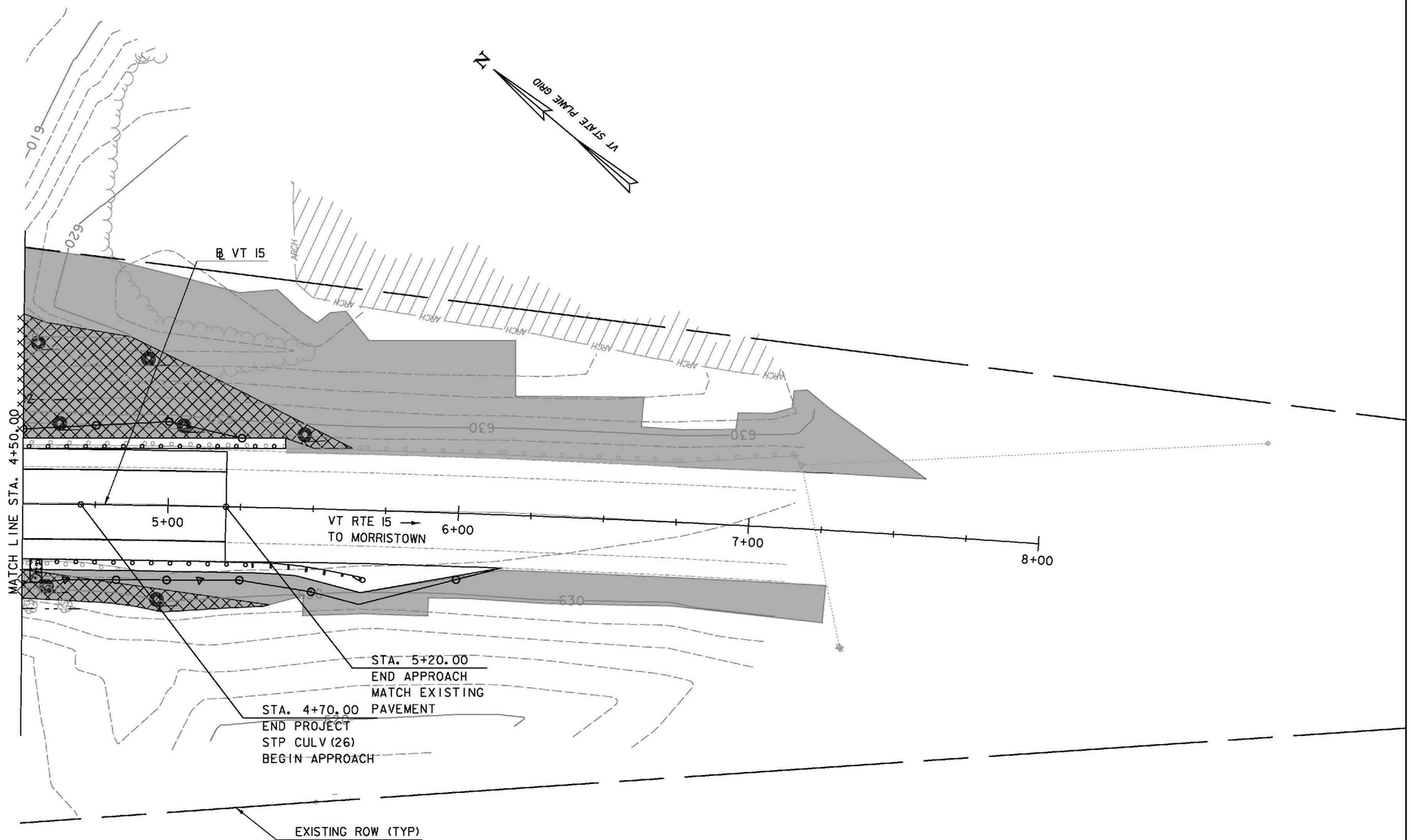
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PROJECT LEADER: R. HEBERT
DESIGNED BY: D. BRYANT
EPSC FINAL CONDITIONS SITE PLAN 1

PLOT DATE: 11/6/2013
DRAWN BY: D. BRYANT
CHECKED BY: D. BURHANS
SHEET 55 OF 60



LEGEND:

- DISTURBED AREAS REQUIRING RE-VEGETATION
- TEMPORARY EROSION MATTING (SEE NOTES ON EPSC NARRATIVE)
- STONE FILL, TYPE II
- STONE FILL, TYPE IV
- ARCH — ARCHAEOLOGICAL RESOURCE LIMIT
- CLASS II WETLAND

NOTES:

1. COUNTOURS REFLECT EXISTING CONDITIONS. FINAL CONTOURS WILL BE SIMILAR. SEE CROSS SECTION SHEETS FOR FINAL GRADES.
2. ORDINARY HIGH WATER ELEVATION = 606.9
3. TEMPORARY EROSION MATTING TO BE PLACED ON SLOPES STEEPER THAN 3:1.

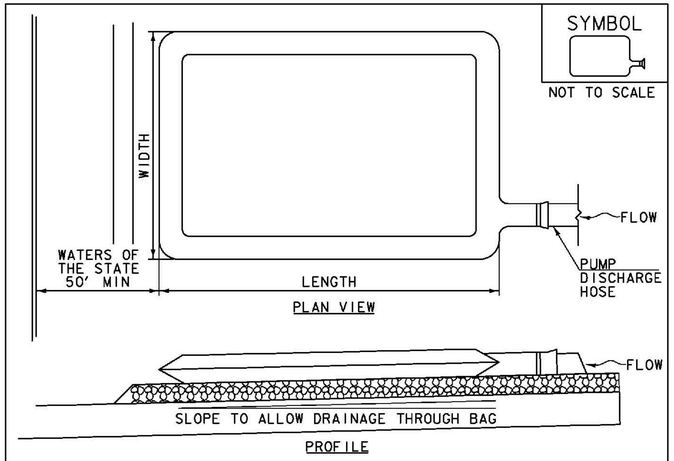
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SCALE IN FEET

T.Y.LIN INTERNATIONAL

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

FILE NAME: z11b292bdr_ero.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. BRYANT
EPSC FINAL CONDITIONS SITE PLAN 2

PLOT DATE: 11/6/2013
DRAWN BY: D. BRYANT
CHECKED BY: D. BURHANS
SHEET 56 OF 60



CONSTRUCTION SPECIFICATIONS

THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.

FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.

FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION EFFICIENCY.

FILTER BAGS SHALL BE LOCATED A MINIMUM OF 50' FROM WATERS OF THE STATE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

THE NECK OF THE FILTER BAG SHALL BE STRAPPED TIGHTLY TO THE DISCHARGE HOSE.

A FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A REASONABLE RATE.

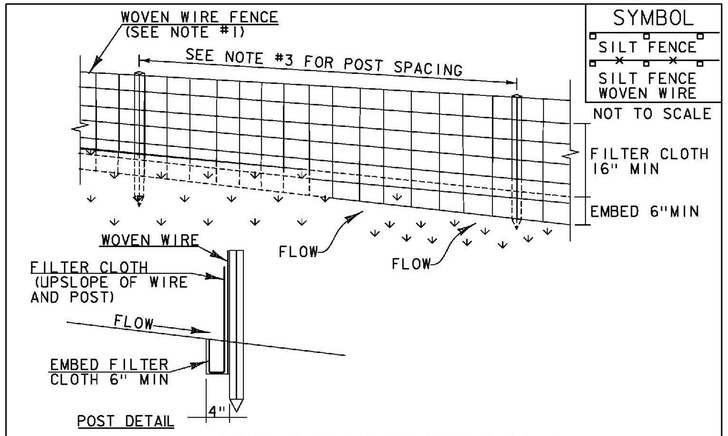
FILTER BAG SHALL BE DISPOSED OF AS APPROVED IN THE EPSC PLAN OR AS DIRECTED BY THE ENGINEER.

FILTER BAG

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR FILTER BAG (PAY ITEM 653.45) AND AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. 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' AND 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 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

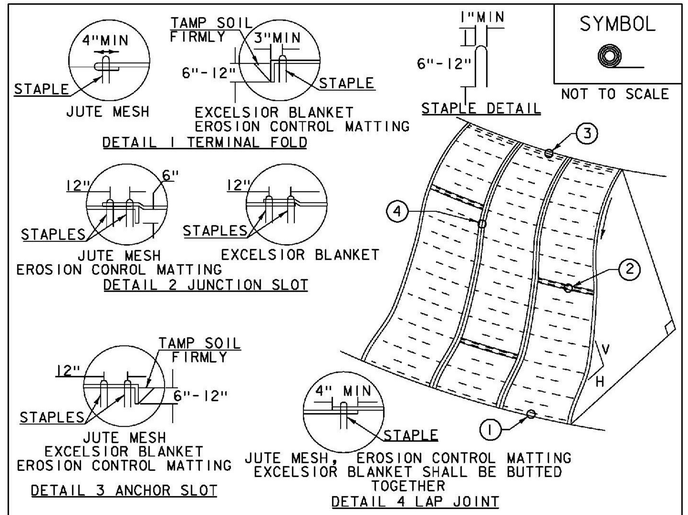
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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 WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF



CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H: 1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME 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: NEW YORK STATE DEC
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 WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) ~~OR PERMANENT EROSION MATTING (PAY ITEM 653.21).~~

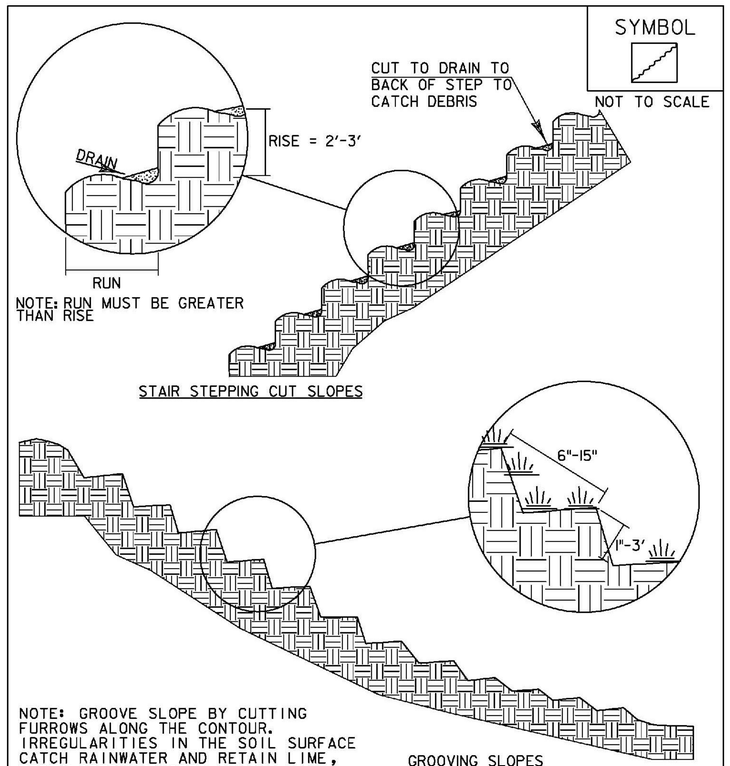
REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

T.Y.LIN INTERNATIONAL

FILE NAME: z11b292bdr_erodet.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. BRYANT
EPSC DETAILS - 1

PLOT DATE: 11/6/2013
DRAWN BY: D. BRYANT
CHECKED BY: D. BURHANS



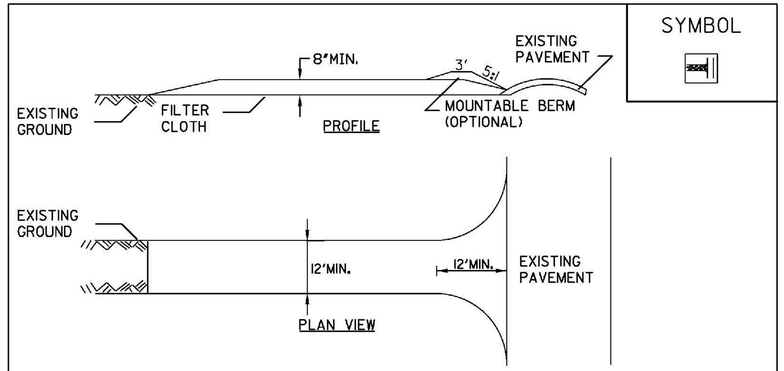
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SURFACE ROUGHENING

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

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF



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

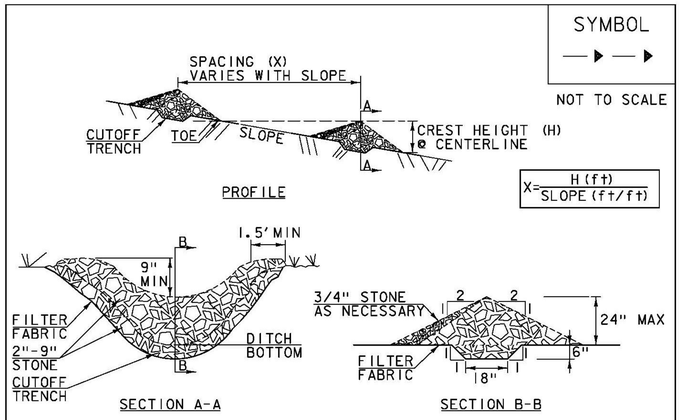
REVISIONS	
FEBRUARY 9, 2007	WHF
MARCH 8, 2007	JMF

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

TYLIN INTERNATIONAL

FILE NAME: z11b292bdr_erodet.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. BRYANT
EPSC DETAILS - 2

PLOT DATE: 11/6/2013
DRAWN BY: D. BRYANT
CHECKED BY: D. BURHANS
SHEET 58 OF 60



CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OFTHE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
4. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA 2 ACRES.

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

CHECK DAM

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

VAOT RURAL AREA MIX

	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
37.5%	22.5	45	CREEPING RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX

	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREEPING RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

SOIL AMENDMENT GUIDANCE

FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	*FOLLOW*	PELLETIZED	*FOLLOW*
500 LBS/AC	*MANUFACTURER*	2 TONS/AC	*MANUFACTURER*

CONSTRUCTION GUIDANCE

1. RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
2. URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
7. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
8. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

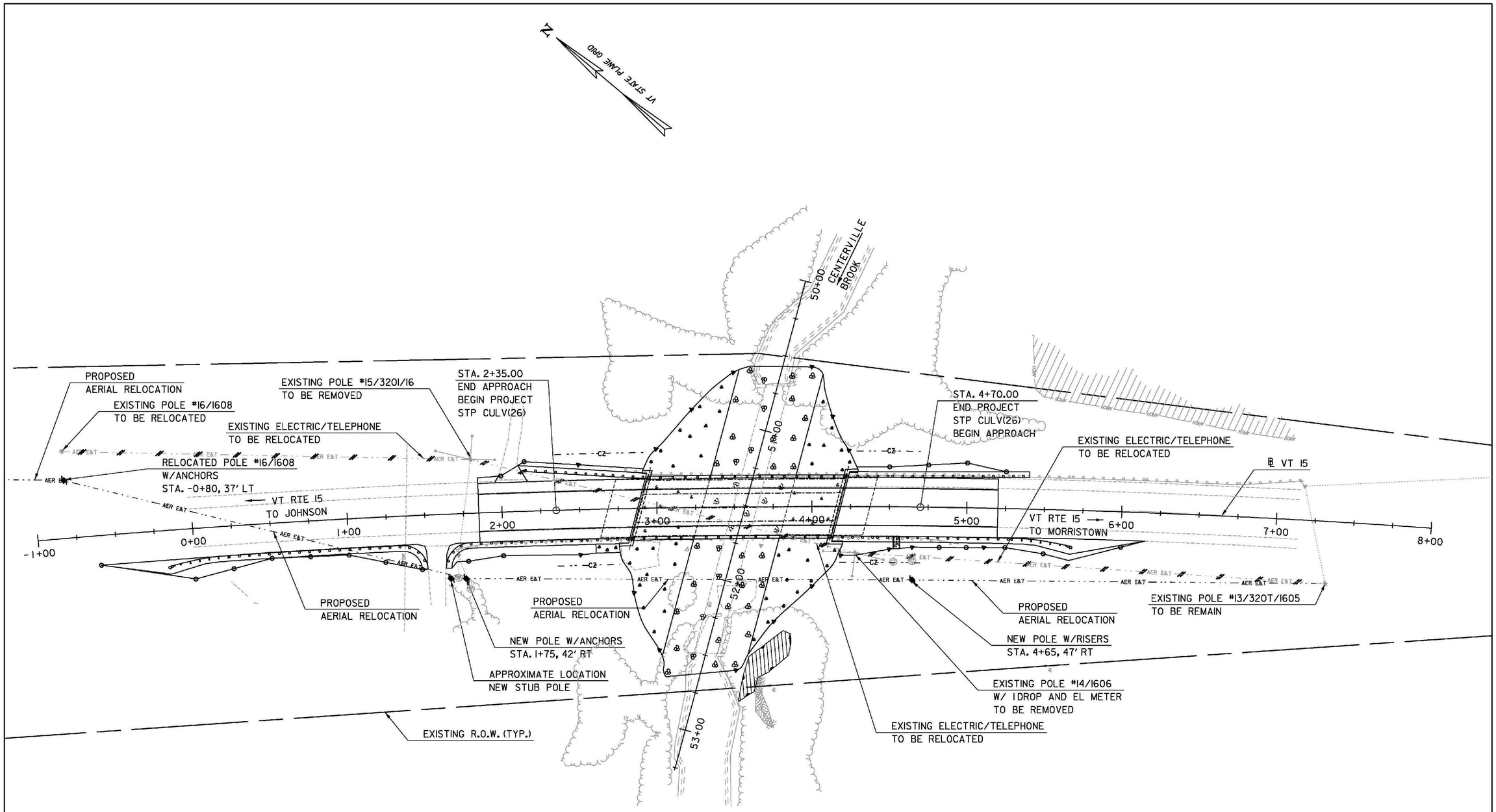
REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF
FEBRUARY 16, 2011	WHF

PROJECT NAME: HYDE PARK
PROJECT NUMBER: STP CULV(26)

TYLIN INTERNATIONAL

FILE NAME: z11b292bdr_erodet.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: D. BRYANT
EPSC DETAILS - 3

PLOT DATE: 11/6/2013
DRAWN BY: D. BRYANT
CHECKED BY: D. BURHANS
SHEET 59 OF 60



UTILITY RELOCATION PLAN

LEGEND:

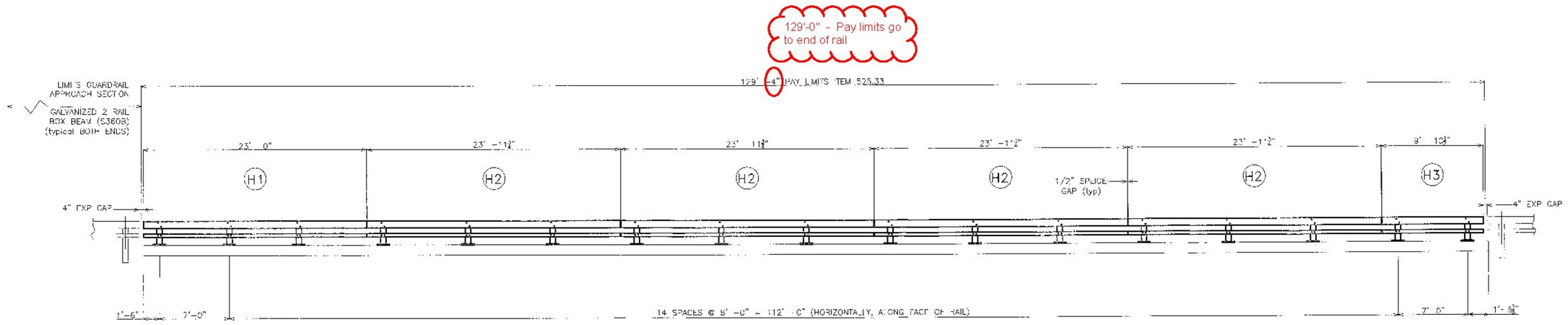
— AER E&T — · · · — ELECTRIC/TELEPHONE

AER E&T — // · · — ELECTRIC/TELEPHONE TO BE RELOCATED

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SCALE IN FEET

T.Y.LIN INTERNATIONAL

PROJECT NAME: HYDE PARK	
PROJECT NUMBER: STP CULV(26)	
FILE NAME: z11b292bdr_Util.dgn	PLOT DATE: 11/6/2013
PROJECT LEADER: R. HEBERT	DRAWN BY: T. KELLEY
DESIGNED BY: T. KELLEY	CHECKED BY: D. BRYANT
UTILITY RELOCATION PLAN	SHEET 60 OF 60



TYPICAL RAILING ELEVATION

LOOKING AT TRAFFIC FACE OF RAILING
FACING NORTHEAST OR SOUTHWEST FROM CENTERLINE OF ROAD

BILL OF MATERIAL

BOTH SIDES OF BRIDGE

Qty	mk	Description	Spec.
34		BRIDGE RAILING POST W6 x 25 x 2'-2.375" OAH WITH 1 x 10 x 14 BASE PLATE (GLV)	A709 gr 50
10		SPLICE TUBE (FOR 6X4 RAIL) HSS 7 x 3 x 3/8 x 1'-8.000" OAL w/ TAPPED HOLES & 2 WELDED NUTS (GLV)	A500 gr B
10		SPLICE TUBE (FOR 4X4 RAIL) HSS 3 x 3 x 5/16 x 1'-8.000" OAL w/TAPPED HOLES & 2 WELDED NUTS (GLV)	A500 gr B
2	H1	RAIL TUBE HSS 8 x 4 x 5/16 x 23 ft OAL - FIX splice 1 end, EXP splice 1 end (GLV)	A500 gr B
8	H2	RAIL TUBE HSS 8 x 4 x 5/16 x 23 ft - 11.750 in OAL - FIX splice both ends (GLV)	A500 gr B
2	H3	RAIL TUBE HSS 8 x 4 x 5/16 x 9 ft - 10.500 in OAL - FIX splice 1 end, EXP splice 1 end (GLV)	A500 gr B
2	H1	RAIL TUBE HSS 4 x 4 x 1/4 x 23 ft OAL - FIX splice 1 end, EXP splice 1 end (GLV)	A500 gr B
8	H2	RAIL TUBE HSS 4 x 4 x 1/4 x 23 ft - 11.750 in OAL - FIX splice both ends (GLV)	A500 gr B
2	H3	RAIL TUBE HSS 4 x 4 x 1/4 x 9 ft - 10.500 in OAL - FIX splice 1 end EXP splice 1 end (GLV)	A500 gr B
34		ANCHOR SPACER PLATE PL 0.375 x 13.000 x 9.375	A709 gr 36
136		ANCHOR STUD DBL END PART THREAD 1" DIA x 12.000 w/ 2.250" THD EACH END (GLV)	A449
272		HEAVY HEX NUT 1" (GLV)	A563 DH
136		ROUND WASHER (SAE) 1" DIA SMALL (GLV)	F436
136		JAM NUT 1" (GALV)	A563 DH
136		ROUND HEAD POST BOLT slot or wrench head – no shoulder 3/4" DIA x 3" LG. FULL BODY (GLV)	A449 / A325
136		LOCK NUT 3/4" (GLV)	A563 DH
136		ROUND WASHER (SAE) 3/4" (GLV)	F436
80		HEX HEAD BOLT 5/8" DIA x 1.75" LG. (GLV)	A325
80		ROUND WASHER (SAE) 5/8" (GLV)	F436
34		BEARING PAD 0.125" THICK x 10.000 x 14.000 (NEOPRENE 80 durometer +/-10)	ashtoTF 251

X	No Exception Taken
	Make Correction as Noted
	Submit Specified Item
	Revise and Resubmit as Noted
	Rejected

T·Y·LIN INTERNATIONAL

Checking is for general compliance with the design concept of the project and general compliance with the information given in the contract documents only. Any action shown is not an approval and is subject to the requirements of the plans and specifications. Any action shown on a specific item shall not indicate the checking of an assembly of which the item is a component. Contractor is solely responsible for: dimensions which shall be confirmed and correlated at the job site, fabrication processes, techniques of construction, safety precautions, and coordination of its work with that of all other trades and the satisfactory performance of its work.

Reviewed By: Daniel S. Myers Date: 08/07/2014

No.	Remarks	Date
0	Initial submittal	7-14-14

REVISIONS – APPLIES TO SET

ITEM 525.33 BRIDGE RAILING GALVANIZED 2 RAIL BOX BEAM = 259 LF

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM (S-360A)
TOWN OF HYDE PARK, VERMONT
VT. ROUTE 15 (MINOR ARTERIAL) BRIDGE #42
LAMOILLE COUNTY STP CULV(26)

AISC CERTIFIED FABRICATOR

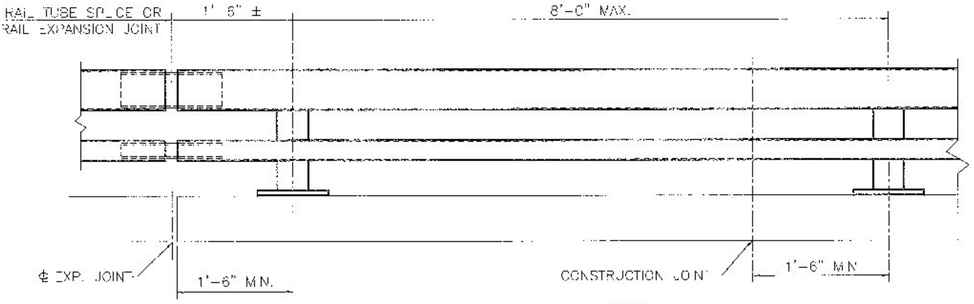
ACC JOB NO. 2001

GENERAL CONTRACTOR

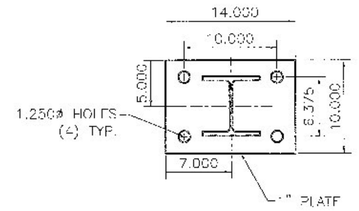
SUB CONTRACTOR VT REC

SHEET NO. 1 of 3

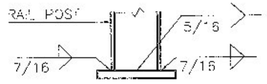
DRAWN MKT | CHECKED | DATE 07-14-14 | SCALE NONE | SIZE D



BRIDGE RAILING ELEVATION



POST AND BASE PLATE



BASE WELD DETAIL

NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.

2. PRIOR TO GALVANIZING, ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS.

3. ALL POSTS SHALL BE SET NORMAL TO GRADE.

4. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.

5. RAIL TUBE EXPANSION JOINT SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPERSTRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.

6. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT SHALL BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AND APPROVED ZINC-RICH PAINT DURING INSTALLATION.

7. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.

8. RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY ASTM A449 ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.

9. ANY BENDING OR CURVING OF RAIL SHALL BE DONE IN A FABRICATION PLANT IN ACCORDANCE WITH SUBMITTED PROCEDURES.

10. THE MINIMUM DISTANCE FROM A POST TO AN EXPANSION JOINT SHALL BE SUCH TO MAINTAIN MINIMUM EDGE DISTANCE OF 6" FROM ANY ANCHOR BOLT TO THE END OF THE SLAB, OR TO THE EXPANSION JOINT ACCESS POUR, IF ONE IS USED.

11. A DELINEATOR (SEE VAOT STANDARD DRAWING D-1 FOR DETAILS) SHALL BE INSTALLED AT NEAREST POST TO 30 FT SPACING. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.

12. THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.

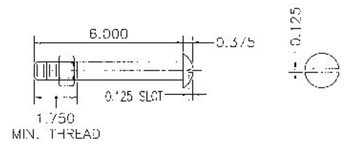
MATERIALS
RAIL TUBES.....ASTM A500 GRADE B OR ASTM A501
RAIL POSTS AND BASE PLATES.....ASTM A709/A709M, GRADE 50
ALL OTHER PLATES AND PLATES.....ASTM A709/A709M, GRADE 36
ANCHOR STUDS.....ASTM A449
ALL OTHER BOLTS (UNLESS NOTED).....AASHTO M164, TYPE1

NUTS FOR AASHTO M164 BOLTS AND FOR ANCHOR STUDS SHALL COMPLY WITH AASHTO M291 (ASTM A563).

WASHERS SHALL COMPLY WITH AASHTO M293 (ASTV F436) SPECIFICATIONS.

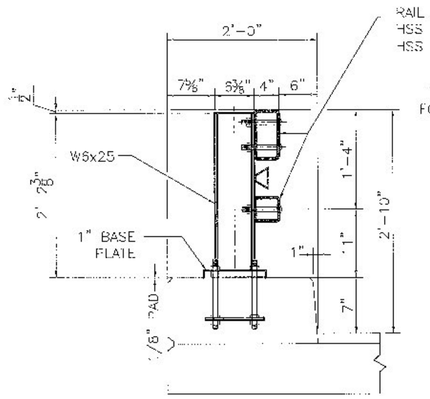
1/8" PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A370 CHARPY IMPACT TESTING USING TYPE A SPECIMEN.

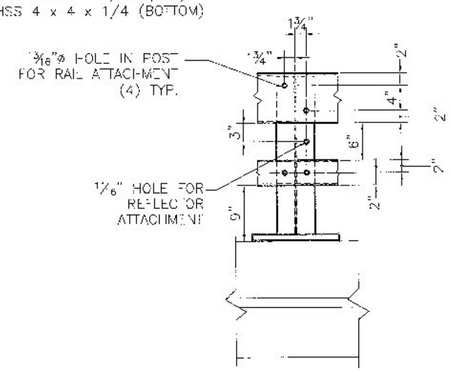


3/4" DIA. A449
ROUND HEAD BOLT

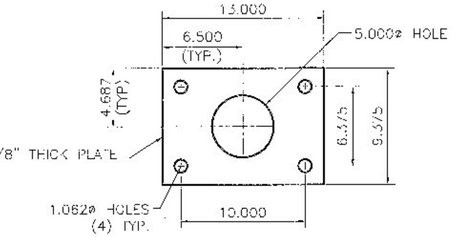
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE #8)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



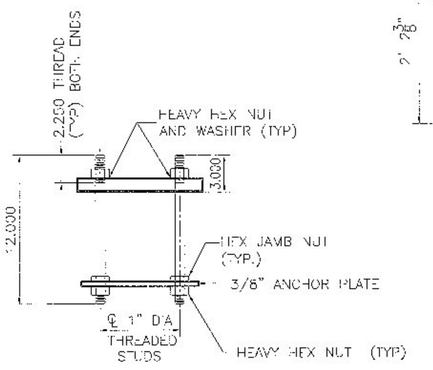
TYPICAL SECTION



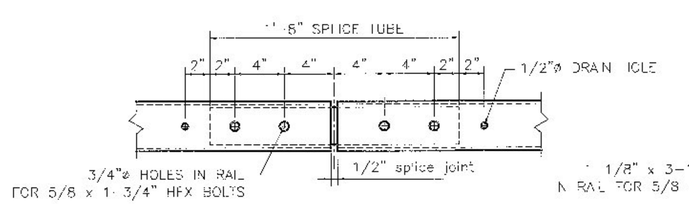
ELEVATION



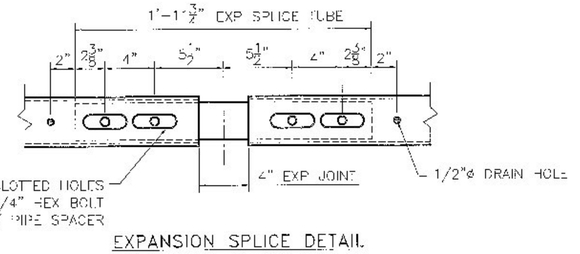
ANCHOR PLATE



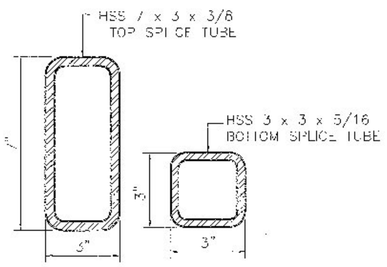
RAIL POST ANCHORAGE



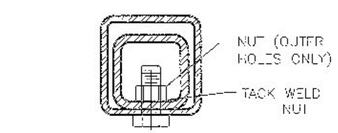
FIXED SPLICE JOINT DETAIL
BOTTOM VIEW



EXPANSION SPLICE DETAIL
BOTTOM VIEW

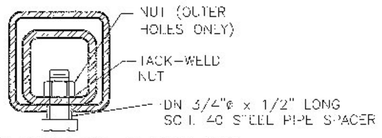


RAIL TUBE SPLICE SECTION



5/8"ø TAPPED HOLE IN SPLICE TUBE & 3/4"ø HOLE IN RAIL TUBE FOR BOLT & PLAIN HARDENED WASHER

FIXED SPLICE JOINT SECTION



5/8"ø TAPPED HOLE IN SPLICE TUBE AND 1 1/8" x "C" SLOT IN RAIL TUBE FOR BOLT AND PLAIN HARDENED WASHER

EXPANSION JOINT SECTION

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM (S-360A)

TOWN OF HYDE PARK, VERMONT
VT. ROUTE 15 (MINOR ARTERIAL) BRIDGE #42
LAMOILLE COUNTY STP CULV(26)

AISC CERTIFIED FABRICATOR

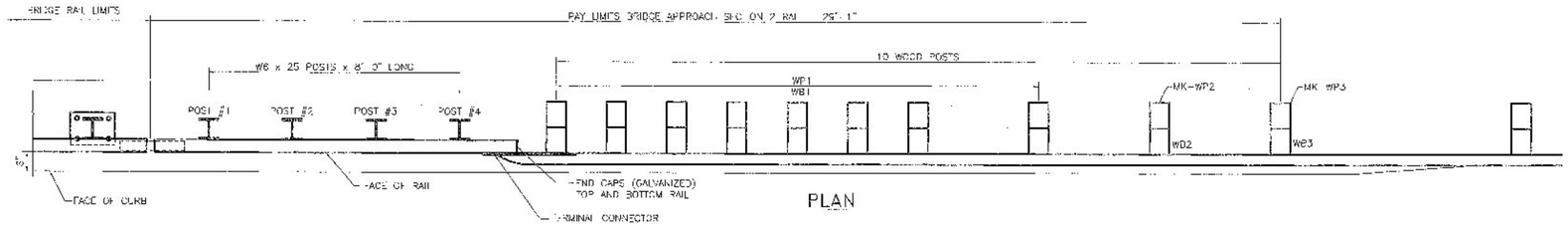
MAIN CONTRACTOR

SUB CONTRACTOR: VT REC

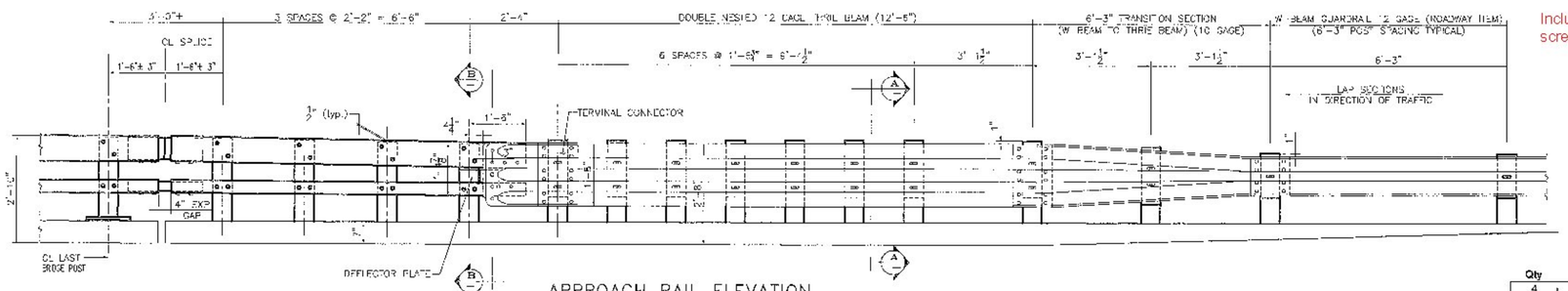
SHOP JOB NO. 2001

SHEET NO. 2 of 3

DRAWN	CHECKED	DATE	SCALE	SIZE
MKT		07-14-14	NONE	D

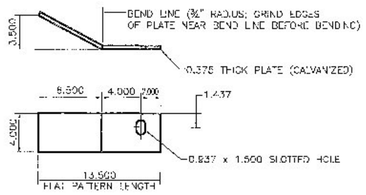


PLAN



APPROACH RAIL ELEVATION

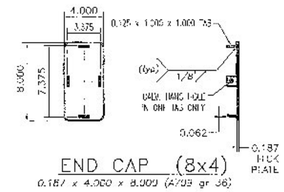
LEADING END (RIGHT) IS SHOWN
DEPARTURE END (LEFT) SIMILAR BUT OPPPOSITE HAND



DEFLECTOR PLATE

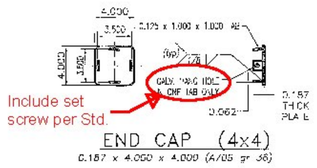
0.375 x 4.000 x 13.500 (A709 gr 36)

RIGHT HAND APPROACH SHOWN – LEFT HAND BENT OPPOSITE



END CAP (8x4)

0.187 x 4.000 x 8.000 (A709 gr 36)

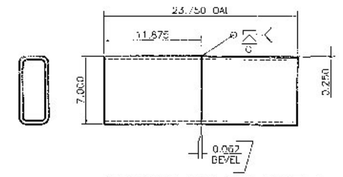


END CAP (4x4)

0.187 x 4.000 x 4.000 (A709 gr 36)

NOTES:

1. PAYMENT FOR GUARDRAIL APPROACH SECTION – GALVANIZED 2 RAIL SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, THE DEFLECTION PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.
2. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
3. TUBE AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL UNLESS OTHERWISE NOTED.
4. APPROACH RAIL BOLTS SHALL BE ASTM A307 GRADE A AND NUTS SHALL BE AASHTO M291 (ASTM 563 GRADE A OR BETTER (GALVANIZED). WASHERS SHALL BE ASTM F844.
5. WELD TOP SPLICE BAR TO RAIL BEND. USE COMPLETE PENETRATION WELD (E-70).



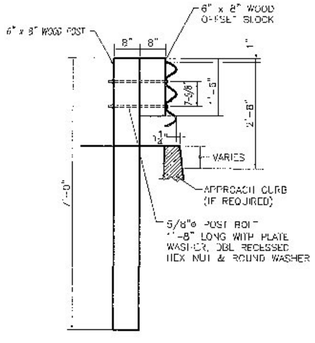
ANGLED SPLICE DETAIL

HSS 7 x 3 x 3/8 – FOR UPPER RAIL SPLICE

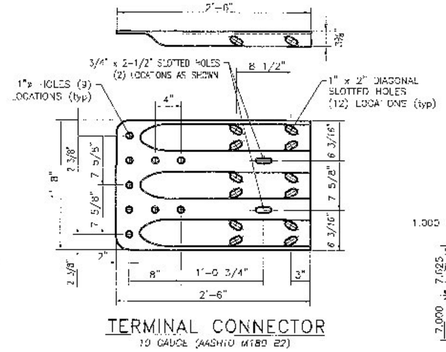
SEE BRIDGE RAIL SHEET FOR DETAIL ON LOWER RAIL SPLICE TUBE

BILL OF MATERIAL

Qty	mk	Description	Spec.
4	01	W6x25 APPROACH POST - #1 x 8'-0" OAL (GALV)	A709 gr 50
4	02	W6x25 APPROACH POST - #2 x 8'-0" OAL (GALV)	A709 gr 50
4	03	W6x25 APPROACH POST - #3 x 8'-0" OAL (GALV)	A709 gr 50
4	04	W6x25 APPROACH POST - #4 x 8'-0" OAL (GALV)	A709 gr 50
4		UPPER RAIL APPROACH TUBE HSS 8 x 4 x 5/16 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV)	A500 gr B
4		LOWER RAIL APPROACH TUBE HSS 4 x 4 x 5/16 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV)	A500 gr B
4		CONNECTION PLATE PL 0.375" x 20.000" x 27.000" (GALV)	A709 gr 36
2		DEFLECTOR PLATE (RIGHT) PL 0.375 x 4.000 x 13.375 (GALV)	A709 gr 36
2		DEFLECTOR PLATE (LEFT) PL 0.375 x 4.000 x 13.375 (GALV)	A709 gr 36
4		END CAP FOR 8x4 TUBE 0.187 THICK PLATE 8.000 x 4.000 w/ WELDED TABS (GALV)	A709 gr 36
4		END CAP FOR 4x4 TUBE 0.187 THICK PLATE 4.000 x 4.000 w/ WELDED TABS (GALV)	A709 gr 36
4		(ANGLED) SPLICE TUBE (EXPANSION) FOR 8x4 UPPER RAIL HSS 7 x 3 x 3/8 x 1'-11.750" OAL (GALV)	A500 gr B
4		SPLICE TUBE (EXPANSION) FOR 4x4 LOWER RAIL HSS 3 x 3 x 5/16 x 1'-11.750" OAL (GALV)	A500 gr B
32		WOOD POST (WP1) 6 x 8 x 7'-0"	TIMBER
32		WOOD BLOCKOUT (WB1) 6 x 8 x 1'-6"	TIMBER
4		WOOD POST (WP2) 6 x 8 x 7'-0"	TIMBER
4		WOOD BLOCKOUT (WB2) 6 x 8 x 1'-6"	TIMBER
4		WOOD POST(WP3) 6 x 8 x 7'-0"	TIMBER
4		WOOD BLOCKOUT (WB3) 6 x 8 x 1'-2"	TIMBER
4		THRIE FLAT LIP BRIDGE SHOE (MODIFIED) 10 GA. GALV	aashto M180 B2
4		THRIE TRANSITION PANEL 6'-3" / 3'-1 1/2" 10 GA. GALV.	aashto M180 B2
8		THRIE PANEL 12'-6" / 1'-6 3/4" 12 GA. GALV.	aashto M180 A2
92		ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 6" LG. (GLV) w/ LOCK NUT & FLAT WASHER	A449
4		ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 2" LG. (GLV) w/ HEX NUT	A449
8		ROUND HEAD POST BOLT - oval shoulder 5/8" DIA x 1'-8" LG. (GALV) w/ DBL RECESS NUT, FLAT WASHER	A307
68		ROUND HEAD POST BOLT - oval shoulder 5/8" DIA x 1'-6" LG. (GALV) w/ DBL RECESS NUT, FLAT WASHER	A307
32		HEX HEAD BOLT 5/8 x 1-3/4" (GALV) w/ FLAT WASHER	A325
128		PANEL SPLICE BOLT 5/8 x 1-1/4" (GALV) w/ DOUBLE RECESSED NUT	A307
76		RECTANGULAR PLATE WASHER 0.187 x 1.750 x 3.000 (GALV)	A709 gr 36
32		SPACER PIPE - GALVANIZED 3/4" SCH. 40 x 1/2" LONG (GLV)	A53 gr B

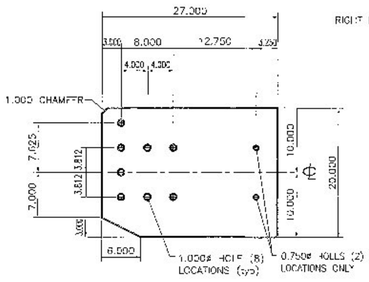


SECTION A–A



TERMINAL CONNECTOR

10 GAUGE (AASHTO M180 B2)

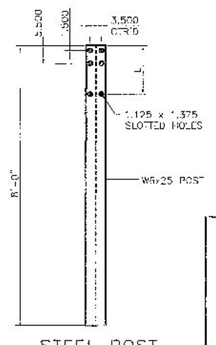


CONNECTION PLATE

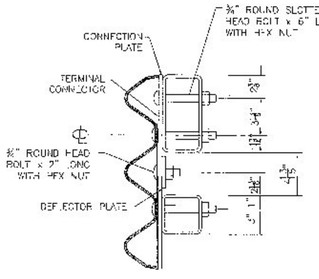
0.375 x 20.000 x 27.000 (A709 gr 36)

STEEL POST CHART

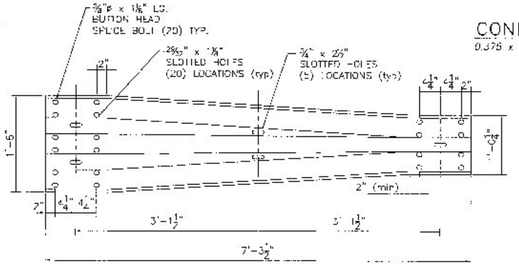
No.	L
#1	1'-3.250"
#2	1' 3.000"
#3	1'-2.687"
#4	1'-2.375"



STEEL POST

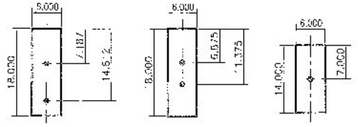


SECTION B–B



THRIE TRANSITION PANEL

10 GAUGE (AASHTO M180 B2)



WOOD BLOCK DETAILS

ITEM 621.72 GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM – 4 UNITS

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 621.72 GUARDRAIL APPROACH, GALVANIZED 2 RAIL BOX BEAM (S-3503)

TOWN OF HYDE PARK, VERMONT
VT. ROUTE 15 (MINOR ARTERIAL) BRIDGE #42
LAMOILLE COUNTY STP CULV(26)

GENERAL CONTRACTOR

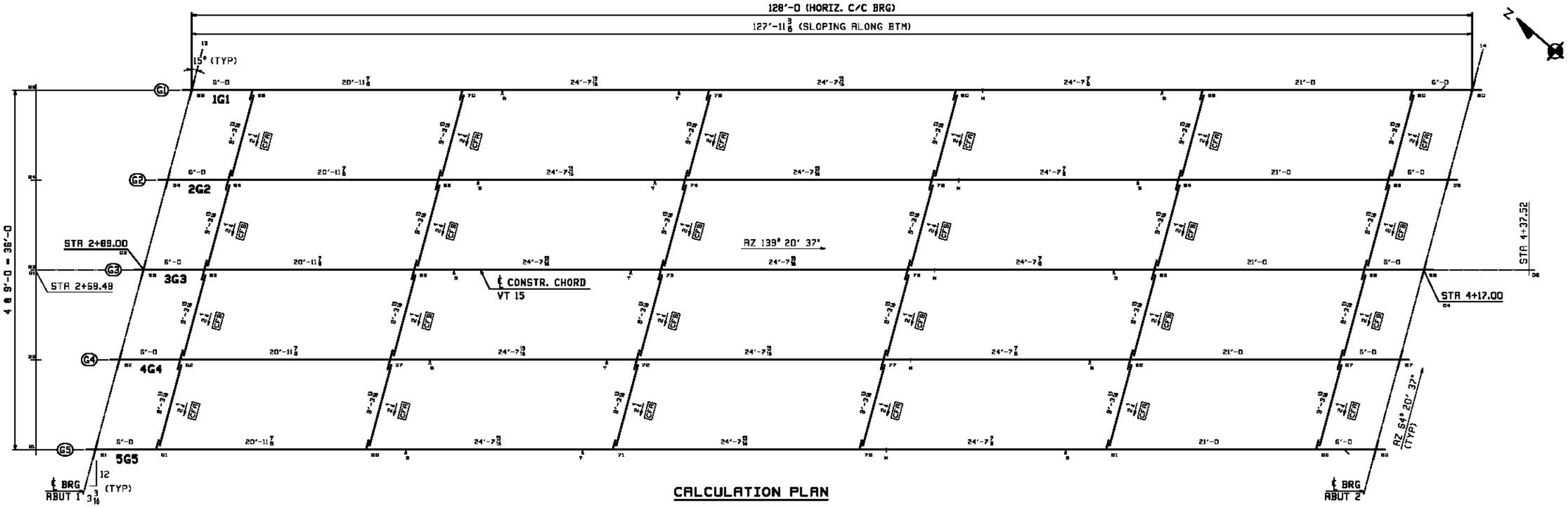
SUB CONTRACTOR
VT REC

HSC JOB NO. 2001

SHEET NO 3 of 3

CERTIFIED FABRICATOR

DRAWN	CHECKED	DATE	SCALE	SIZE
MKT		07-14-14	NONE	D



CALCULATION PLAN

	GRADE	
Line	ABUT 1	ABUT 2
1	-.0219	-.0084
2	-.0222	-.0087
3	-.0224	-.0089
4	-.0227	-.0092
5	-.0230	-.0094

T.Y. LIN INTERNATIONAL

THE STAMPED DOCUMENTS ARE HEREBY:

____ APPROVED
_X_ APPROVED AS NOTED
____ REVISE AND RESUBMIT

SEE TRANSMITTAL FOR ADDITIONAL INFORMATION AS APPLICABLE.

THIS REVIEW IS FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT ONLY. ANY DEVIATION FROM THE PLANS OR SPECIFICATIONS NOT CLEARLY NOTED BY THE CONTRACTOR HAS NOT BEEN REVIEWED. REVIEW BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR OF THE CONTRACTUAL RESPONSIBILITY FOR ANY ERRORS OR DEVIATION FROM THE CONTRACT REQUIREMENTS.

RICK HEBERT — REVIEWER
4/25/2014 — DATE

** NOTE **
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

NOTES:
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTT OF WEB WITH CORRECTIONS MADE FOR VERTICAL CURVE, GRADE & DL CAMBER (UN).
2. TRANSVERSE DIMENSIONS ARE HORIZONTAL (UN).
3. DROP ARROW POINTS TOWARDS LOW END OF MEMBER.
4. ENDS OF GIRDERS AND ALL BRG STIFF'S ARE VERTICAL AFTER DL ROTATION.
5. ALL INT. CROSSFRAMES ARE NORMAL TO GRADE.
6. BOTT PT NUMBERS = TOP PT NUMBERS + 500.
7. FOR LAYOUTS SEE "TD" SHEETS.

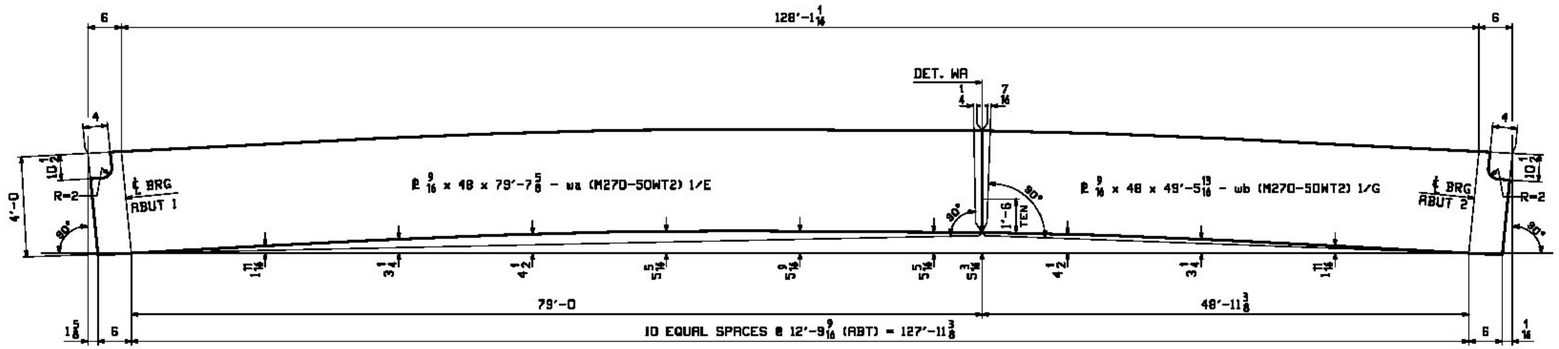
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL: M270-50W (UN)	SURFACE PREP. & PAINT: SEE GN1	HOLES:	SHOP BOLTS:

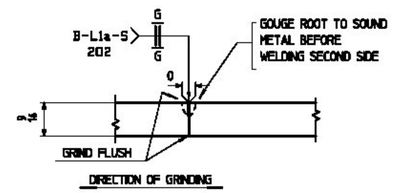
DESCRIPTION: CALCULATION PLAN

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6725
TEKMOR 3244

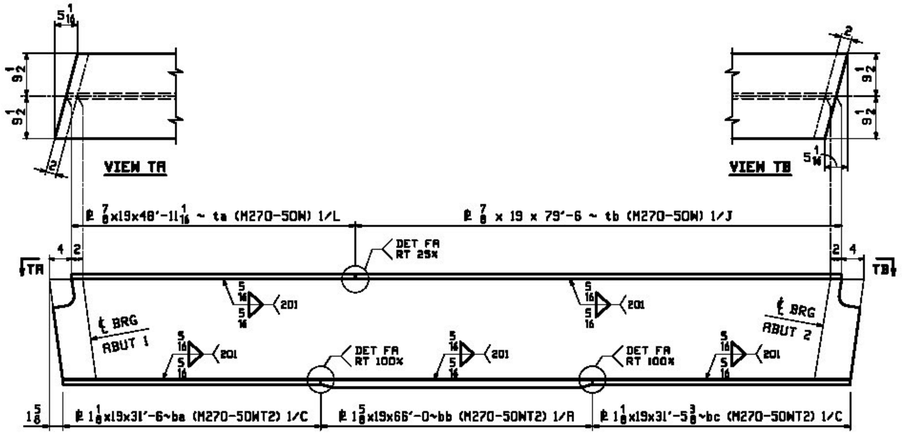
STRUCTURE: VT RTE 15 OVER CENTERVILLE BRIDGE #42 HYDE PARK LAMOILLE COUNTY	DRAWN: JAS	DATE: 02/27
	CHKD: DO	DATE: 3/5/14
LOCATION: HYDE PARK, VT	JOB NO.	DWG NO.
PROJ NO. STP CULV (26)	565	WS1
CUSTOMER: VDOT		REV. 0



CAMBER DIAGRAM FOR 1G1, 2G2, 3G3, 4G4 & 5G5

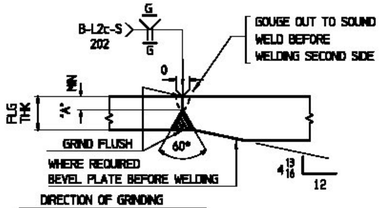


WEB PLATE SPLICE DETAIL "WA"



FLANGE DIAGRAM FOR 1G1, 2G2, 3G3, 4G4 & 5G5

FLG THK	"A"
7/8	1/4
1 1/8	3/8



FLANGE PLATE SPLICE DETAIL "FA"

NOTES:
1. ALL MATERIAL TO BE AASHTO M270-50W
2. "T2" DENOTES MAT'L SUBJECT TO CHARPY V-NOTCH TESTING (ZONE 2)
3. TRIM ENDS OF GIRDERS AFTER ALL WELDING IS COMPLETED.
4. FOR GENERAL NOTES SEE DWG GN1.

T.Y. LIN INTERNATIONAL

THE STAMPED DOCUMENTS ARE HEREBY:

____ APPROVED
_X_ APPROVED AS NOTED
____ REVISE AND RESUBMIT

SEE TRANSMITTAL FOR ADDITIONAL INFORMATION AS APPLICABLE.

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RICK HEBERT — REVIEWER
4/25/2014 — DATE

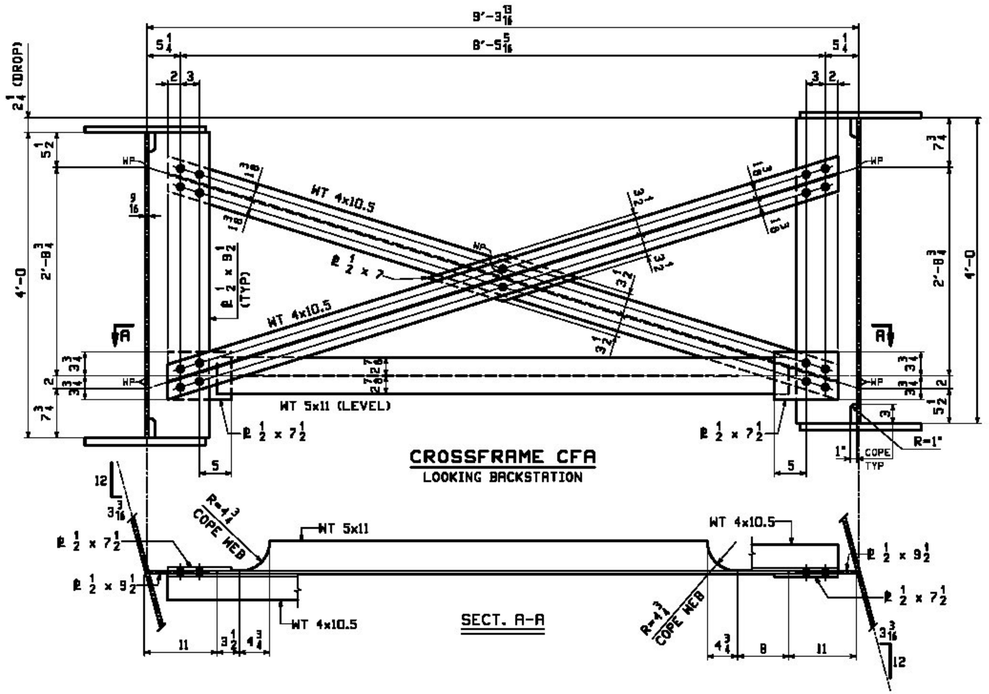
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
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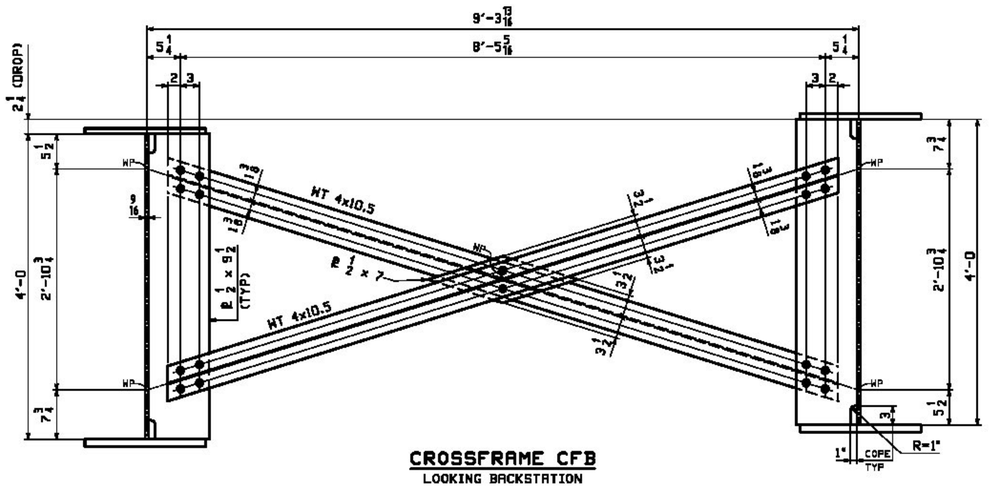
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W (UN)	SEE GN1		

DESCRIPTION: CAMBER & FLANGE DIAGRAMS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6725
TEMSCR 3244

STRUCTURE:	DRAWN:	DATE:
VT RTE 15 OVER CENTERVILLE BRIDGE #42 HYDE PARK LAMOILLE COUNTY	JAS	02/27
	CHKD: DO	DATE: 3/7/14
LOCATION: HYDE PARK, VT	JOB NO.	DWG NO.
PROJ NO. STP CULV (26)	565	C1
CUSTOMER: VDOT		REV. △





T.Y. LIN INTERNATIONAL

THE STAMPED DOCUMENTS ARE HEREBY:

____ APPROVED
__X__ APPROVED AS NOTED
____ REVISE AND RESUBMIT

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RICK HEBERT — REVIEWER
4/25/2014 — DATE

** NOTE **
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W (UN)	SEE GN1	15/16"ø	NONE

DESCRIPTION: TYPICAL LAYOUTS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6725
TEMBOR 3244

STRUCTURE: VT RTE 15 OVER CENTERVILLE BRIDGE #42 HYDE PARK LAMOILLE COUNTY	DRAWN: JAS	DATE: 02/27
	CHKD: DO	DATE: 3/5/14
LOCATION: HYDE PARK, VT	JOB NO.	DWG NO.
PROJ NO. STP CULV (26)	565	TD1
CUSTOMER: VDOT		REV. △

T.Y. LIN INTERNATIONAL

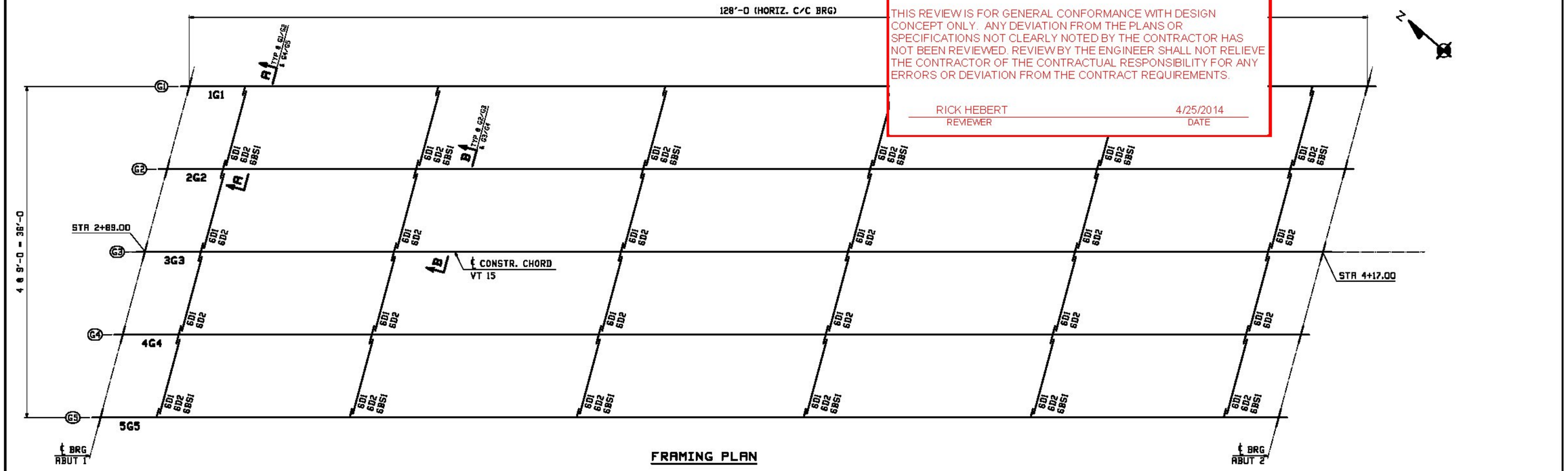
THE STAMPED DOCUMENTS ARE HEREBY:

____ APPROVED
__X__ APPROVED AS NOTED
____ REVISE AND RESUBMIT

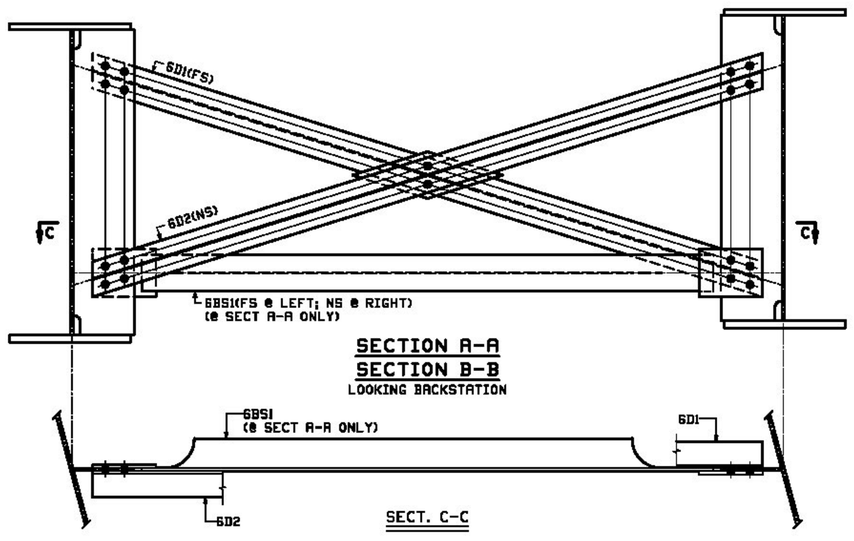
SEE TRANSMITTAL FOR ADDITIONAL INFORMATION AS APPLICABLE.

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RICK HEBERT — REVIEWER
4/25/2014 — DATE



FRAMING PLAN



SECTION A-A
SECTION B-B
LOOKING BACKSTATION

SECT. C-C

FIELD BOLT LIST							A325 Type 3 BOLTS							
LINE	NO RQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS @ CONN	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASHER CODE	PIECES CONNECTED AND REMARKS
1														CROSSFRAME @ FASCIA
2	96	7/8	2 1/4	4	24	7/8	1/2	3/8					1	CONN STIFF ~ DIAG FLG
3	96	7/8	2 3/4	4	24	1 3/8	1/2	3/4	1/2				1	CONN STIFF~DIAG FLG~GUSS
4	24	7/8	2 3/4	2	12	1 1/4	3/8	1/2	3/8				1	DIAG FLG~CTR GUSS~DIAG FLG
5														
6														CROSSFRAME @ INTERIOR
7	192	7/8	2 1/4	4	48	7/8	1/2	3/8					1	CONN STIFF ~ DIAG FLG
8	24	7/8	2 3/4	2	12	1 1/4	3/8	1/2	3/8				1	DIAG FLG~CTR GUSS~DIAG FLG
9														

WASHER CODES

1: 1 Hard Flat Washer

FIELD BOLT SUMMARY	2% + 2 ADDED, MIN. 2 EXTRA				
LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	298	7/8	A325 Type 3	2 1/4	288	
2	149	7/8	A325 Type 3	2 3/4	144	
3						
4	445	Hard Flat Washers	for 7/8 ø	BOLT	(F438-3)	
5						
6						
7						

Bolted connections shall be installed using the Direct Tension Indicator Method. Refer to Section 506.19 of the 2011 General Special Provisions.

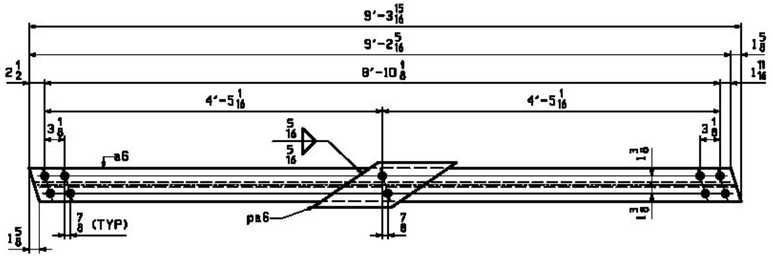
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W (UN)	SEE GNI	15/16"ø	

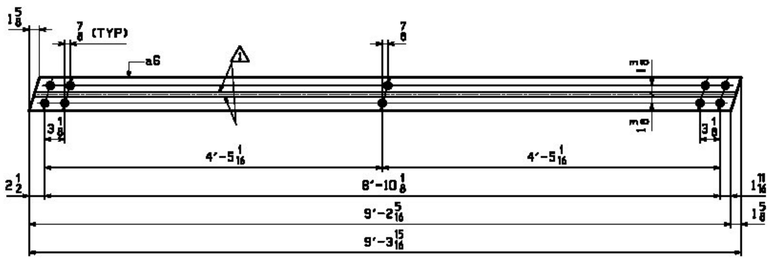
DESCRIPTION: FRAMING PLAN

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6725
TENSOR 3244

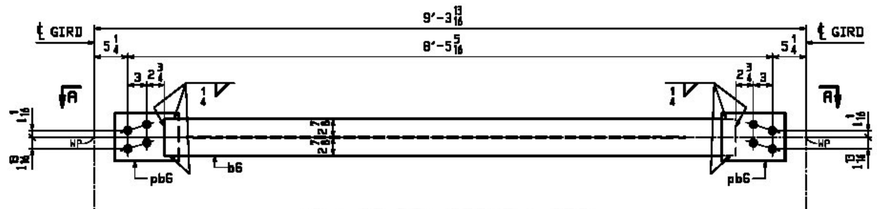
STRUCTURE:	VT RTE 15 OVER CENTERVILLE BRIDGE #42 HYDE PARK LAMOILLE COUNTY	DRAWN: JAS	DATE: 02/28
		CHKD: DO	DATE: 3/7/14
LOCATION:	HYDE PARK, VT	JOB NO.	DWG NO.
PROJ NO.	STP CULV (26)	565	E1
CUSTOMER:	VDOT		REV. △



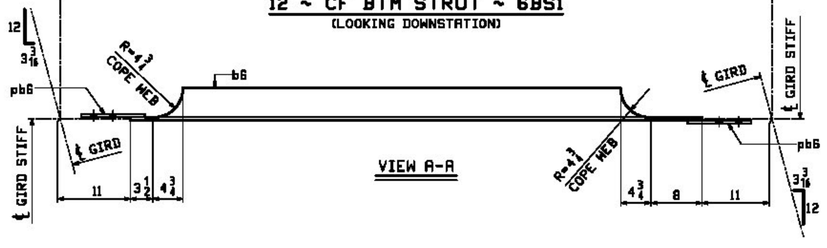
24 ~ CF DIAGONAL ~ GD1
(LOOKING DOWNSTATION)



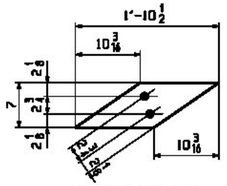
24 ~ CF DIAGONAL ~ GD2
(LOOKING DOWNSTATION)



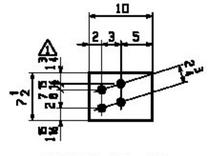
12 ~ CF BTM STRUT ~ GBS1
(LOOKING DOWNSTATION)



VIEW A-A



DETAIL OF pa6



DETAIL OF pb6

RUN INFO		SHOP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		GD1	24		CROSSFRAME DIAG				120	
2	J		24	a6	WT 4x10.5	9	3 5/16		98	
2	L		24	pa6	PL 1/2x7	1	10 1/2		22	
		GD2	24		CROSSFRAME DIAG				98	
2	J		24	a6	WT 4x10.5	9	3 11/16		98	
		GBS1	12		CROSSFRAME BTM STRUT				104	
2	H		12	b6	WT 5x11	7	5 11/16		82	
2	M		24	pb6	PL 1/2x7 1/2	0	10		11	

BILL OF MATERIAL

JOB NO. 565

DRAWING NO. 6 REV. 1

T.Y. LIN INTERNATIONAL

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____ APPROVED
_X_ APPROVED AS NOTED
____ REVISE AND RESUBMIT

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RICK HEBERT — REVIEWER
4/25/2014 — DATE

NOTES:
FOR GENERAL NOTES SEE SHEET GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	04/09	APPROVAL COMMENTS-STEM NS	JAS	WL		
0	04/08	ADDED DIMENSIONS TO pb6	ELG	DO		

MATERIAL: M270-50W (UN) | SURFACE PREP. & PAINT: SEE GN1 | HOLES: 15/16"ø | SHOP BOLTS: NONE

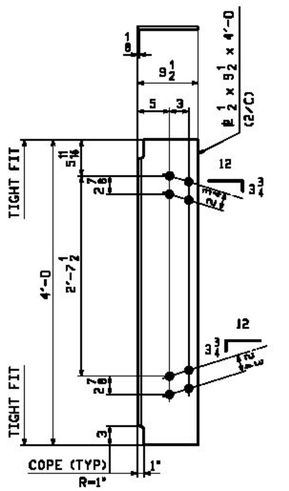
DESCRIPTION: INT CROSSFRAMES

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6725
TENSOR 3244

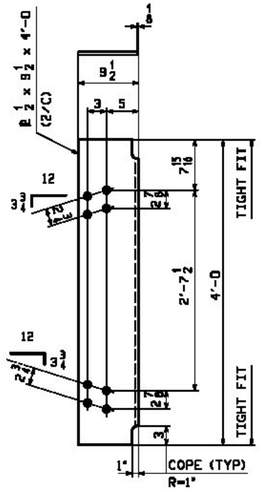
STRUCTURE: VT RTE 15 OVER CENTERVILLE
BRIDGE #42
HYDE PARK
LAMOILLE COUNTY

LOCATION: HYDE PARK, VT
PROJ NO. STP CULV (26)
CUSTOMER: VDOT

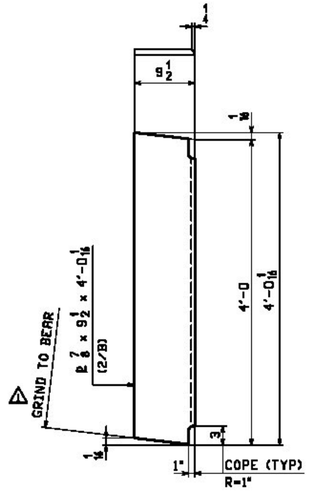
DRAWN: JAS DATE: 02/28
CHKD: DO DATE: 3/7/14
JOB NO. 565
DWG NO. 6
REV. 1



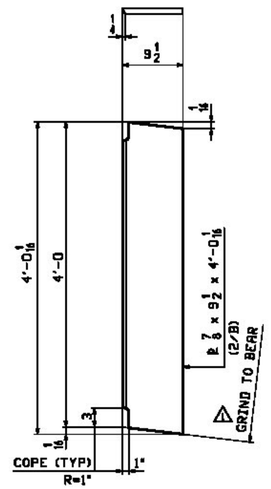
24 ~ CF CONN STIFF ~ x1a
(LOW SIDE)



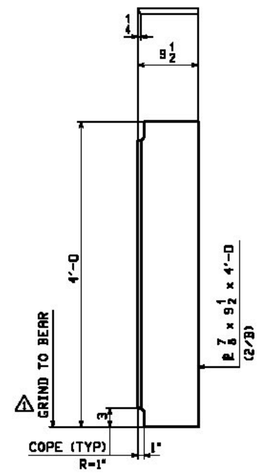
24 ~ CF CONN STIFF ~ x1b
(HIGH SIDE)



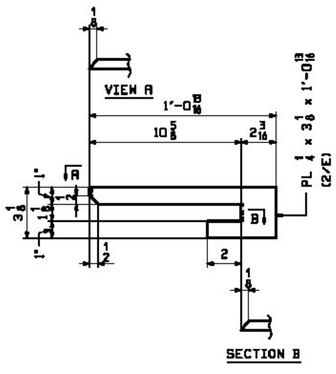
5 ~ BRG STIFF ~ x1c
(NS @ ABUT 1)



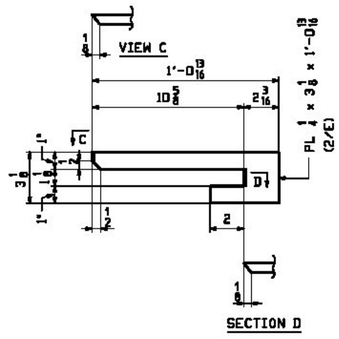
5 ~ BRG STIFF ~ x1d
(FS @ ABUT 1)



10 ~ BRG STIFF ~ x1f
(ABUT 2)



ONE ~ DRIP BAR ~ x1g
(@ G5, NEAR ABUT 2)



ONE ~ DRIP BAR ~ x1h
(@ G1, NEAR ABUT 2)

T.Y. LIN INTERNATIONAL

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RICK HEBERT — REVIEWER
4/25/2014 — DATE

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.

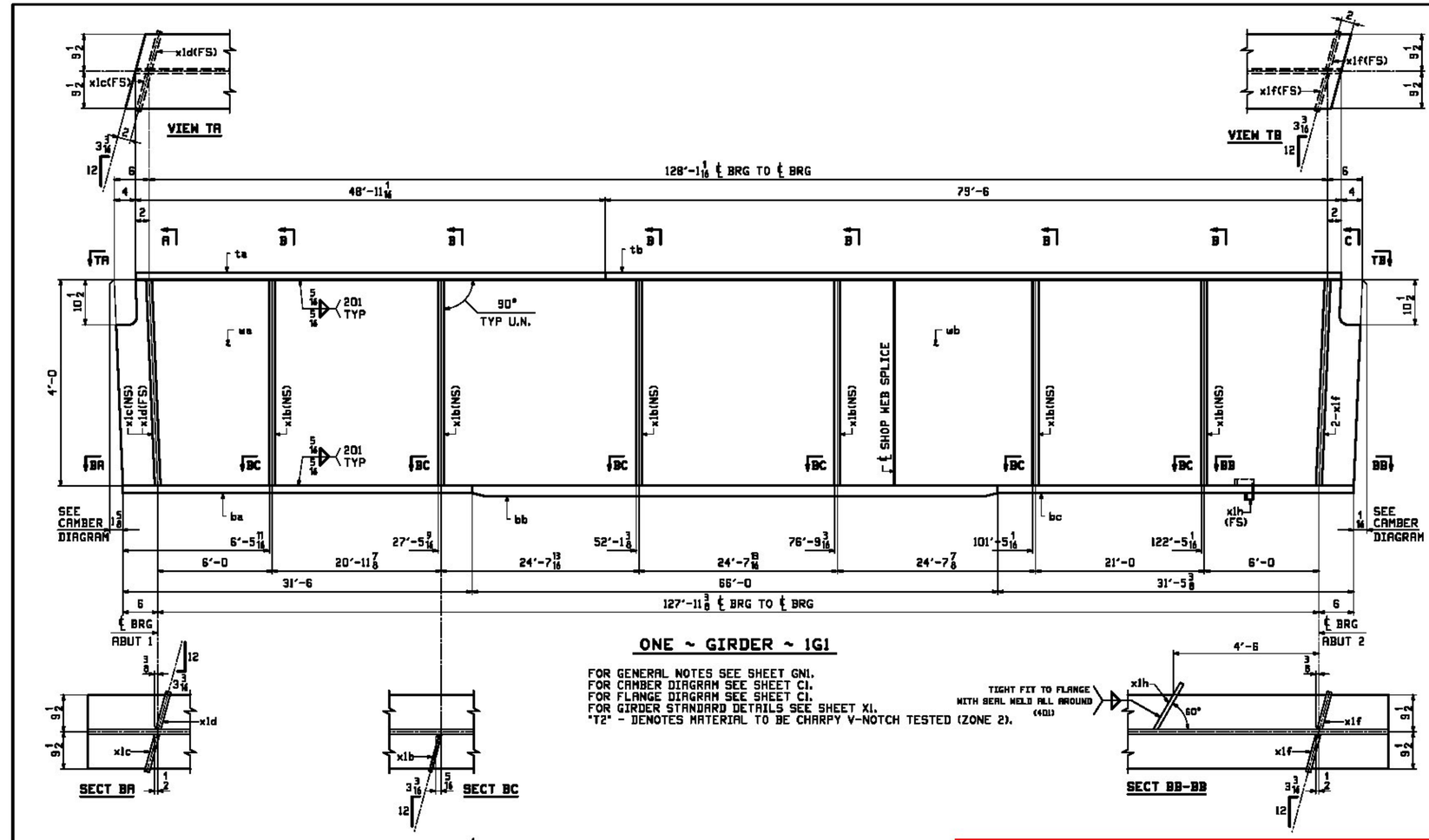
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	4/7/14	GRIND TO BEAR PER APROVAL COMMENT				
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W (UN)	SEE GN1	15/16"ø	NONE

DESCRIPTION: GIRDER STANDARD DETAILS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6725
TEMSOR 3244

STRUCTURE: VT RTE 15 OVER CENTERVILLE BRIDGE #42 HYDE PARK LAMOILLE COUNTY	DRAWN: JAS	DATE: 02/28
	CHKD: DO	DATE: 3/6/14
LOCATION: HYDE PARK, VT	JOB NO.	DWG NO.
PROJ NO. STP CULV (26)	565	X1
CUSTOMER: VDOT		REV. 1



FAB'N INFO		SHOP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		1G1	1		GIRDER				31484	
1	E		1	wa	PL 3/8x48	79	7 5/8	M270-50W T2	7317	
1	G		1	wb	PL 3/8x48	49	5 3/16	M270-50W T2	4546	
1	L		1	ta	PL 7/8x19	46	11 11/16		2768	
1	J		1	tb	PL 7/8x19	79	5		4497	
1	C		1	ba	PL 1 1/8x19	31	6	M270-50W T2	2291	
1	A		1	bb	PL 1 5/8x19	66	0	M270-50W T2	5934	
1	C		1	bc	PL 1 1/8x19	31	5 3/8	M270-50W T2	2287	
2	C		6	x1b	PL 1/2x9 1/2	4	0		65	
2	B		1	x1c	PL 7/16x8 1/2	4	0 1/16	QMD	113	
2	B		1	x1d	PL 7/16x9 1/2	4	0 1/16	QMD	113	
2	B		2	x1f	PL 7/16x9 1/2	4	0	QMD	113	
2	E		1	x1h	PL 1/4x3 1/8	1	0 11/16		3	

BILL OF MATERIAL

JOB NO. 565

DRAWING NO. 1

REV. 1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	4/7/14	GRIND TO BEAR PER APROVAL COMMENT	ML			

MATERIAL: M270-50W (UN) | SURFACE PREP. & PAINT: SEE GN1 | HOLES: 15/16"ø | SHOP BOLTS: NONE

DESCRIPTION: GIRDER~1G1

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6725
TEMSCR 3844

STRUCTURE: VT RTE 15 OVER CENTERVILLE BRIDGE #42 HYDE PARK LAMOILLE COUNTY

DRAWN: JAS | DATE: 02/28

CHKD: DO | DATE: 3/6/14

LOCATION: HYDE PARK, VT | JOB NO. 565 | DWG NO. 1

PROJ NO. STP CULV (26) | REV. 1

CUSTOMER: VDOT

T.Y. LIN INTERNATIONAL

THE STAMPED DOCUMENTS ARE HEREBY:

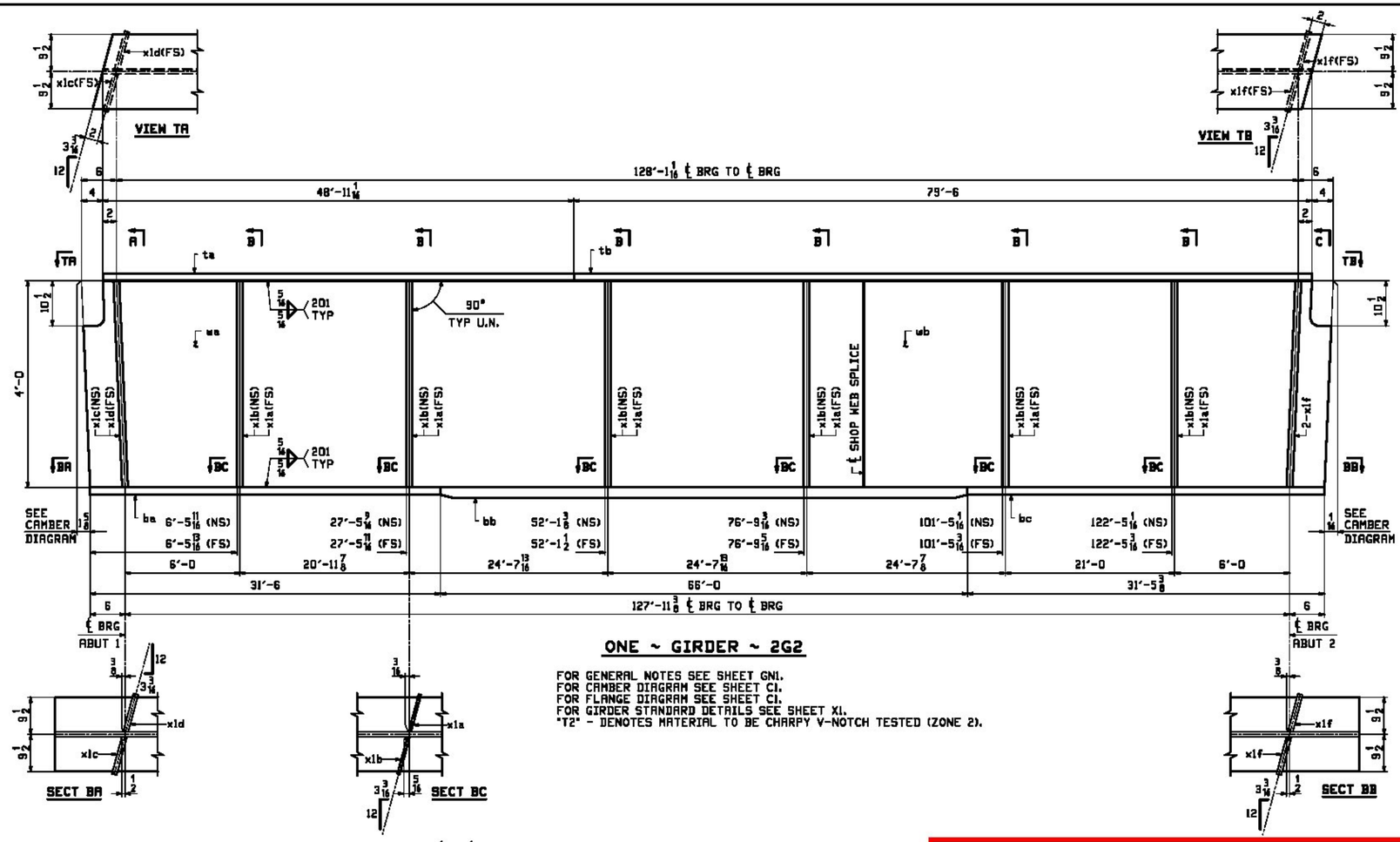
____ APPROVED
_X_ APPROVED AS NOTED
____ REVISE AND RESUBMIT

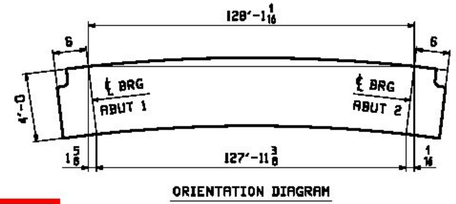
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RICK HEBERT — REVIEWER

4/25/2014 — DATE





ORIENTATION DIAGRAM

FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								565	2	1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		2G2	1		GIRDER				31869	
1	E		1	we	PL 3/8 x48	79	7 5/8	M270-50W T2	7317	
1	G		1	wb	PL 3/8 x48	49	5 3/16	M270-50W T2	4546	
1	L		1	ta	PL 7/16 x19	46	11 11/16		2768	
1	J		1	tb	PL 7/16 x19	79	5		4497	
1	C		1	ba	PL 1 1/16 x19	31	6	M270-50W T2	2291	
1	A		1	bb	PL 1 5/16 x19	66	0	M270-50W T2	5934	
1	C		1	bc	PL 1 1/16 x19	31	5 3/8	M270-50W T2	2287	
2	C		6	x1a	PL 1/2 x9 1/2	4	0		65	
2	C		6	x1b	PL 1/2 x8 1/2	4	0		65	
2	B		1	x1c	PL 7/16 x9 1/2	4	0 1/16	CMID	113	
2	B		1	x1d	PL 7/16 x9 1/2	4	0 1/16	CMID	113	
2	B		2	x1f	PL 7/16 x9 1/2	4	0	CMID	113	

T.Y. LIN INTERNATIONAL

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RICK HEBERT — REVIEWER
4/25/2014 — DATE

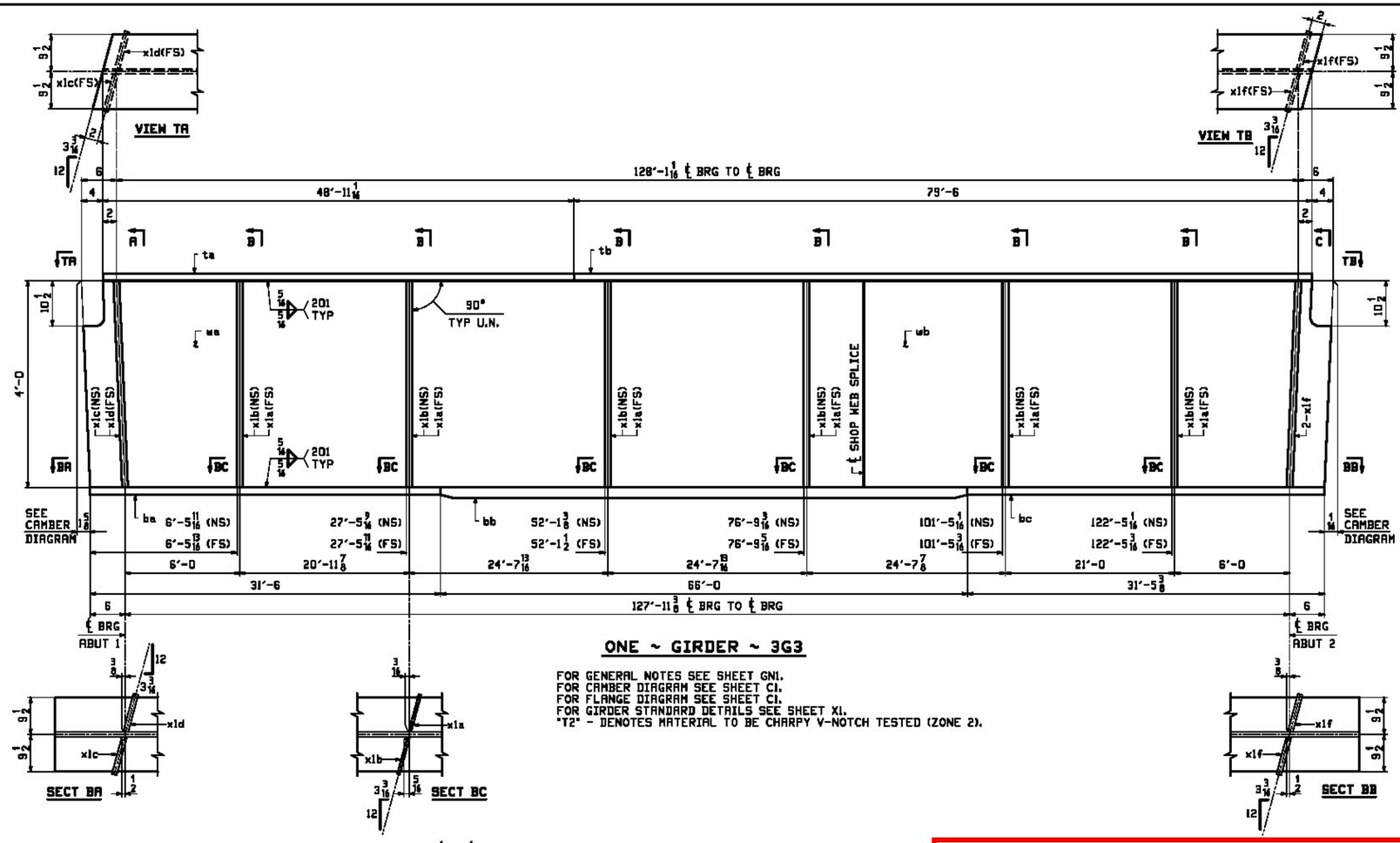
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	4/7/14	GRIND TO BEAR PER APROVAL COMMENT	ML			
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W (UN)	SEE GN1	15/16"ø	NONE

DESCRIPTION: GIRDER~2G2

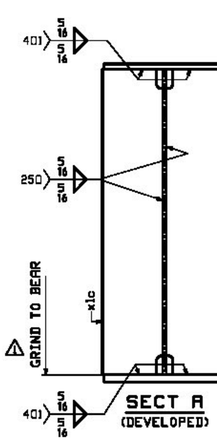
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6725
TEMSCOR SBE44

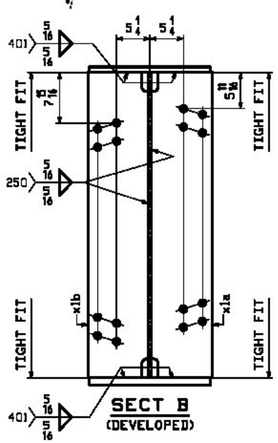
STRUCTURE: VT RTE 15 OVER CENTERVILLE BRIDGE #42 HYDE PARK LAMOILLE COUNTY	DRAWN: JAS	DATE: 02/28	
	CHKD: DO	DATE: 3/6/14	
LOCATION: HYDE PARK, VT	JOB NO. 565	DWG NO. 2	
PROJ NO. STP CULV (26)		REV. 1	
CUSTOMER: VDOT			

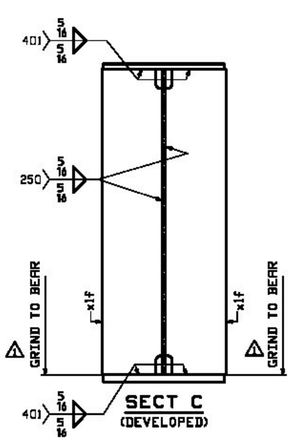


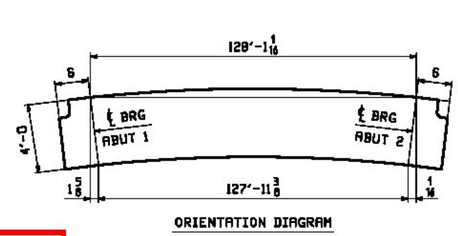
ONE ~ GIRDER ~ 3G3

FOR GENERAL NOTES SEE SHEET GN1.
FOR CAMBER DIAGRAM SEE SHEET C1.
FOR FLANGE DIAGRAM SEE SHEET C1.
FOR GIRDER STANDARD DETAILS SEE SHEET X1.
"T2" - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2).









ORIENTATION DIAGRAM

FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								565	3	⚠1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		3G3	1		GIRDER				31869	
1	E		1	we	PL 3/4 x48	79	7 5/8	M270-50W T2	7317	
1	G		1	wb	PL 3/4 x48	49	5 3/16	M270-50W T2	4546	
1	L		1	ta	PL 7/8 x19	46	11 11/16		2768	
1	J		1	tb	PL 7/8 x19	79	5		4497	
1	C		1	ba	PL 1 1/8 x19	31	6	M270-50W T2	2291	
1	A		1	bb	PL 1 5/8 x19	66	0	M270-50W T2	5934	
1	C		1	bc	PL 1 1/8 x19	31	5 3/8	M270-50W T2	2287	
2	C		6	x1a	PL 1/2 x9 1/2	4	0		65	
2	C		6	x1b	PL 1/2 x9 1/2	4	0		65	
2	B		1	x1c	PL 7/16 x9 1/2	4	0 1/16	QMID	113	
2	B		1	x1d	PL 7/16 x9 1/2	4	0 1/16	QMID	113	
2	B		2	x1f	PL 7/16 x9 1/2	4	0	QMID	113	

T.Y. LIN INTERNATIONAL

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RICK HEBERT — REVIEWER
4/25/2014 — DATE

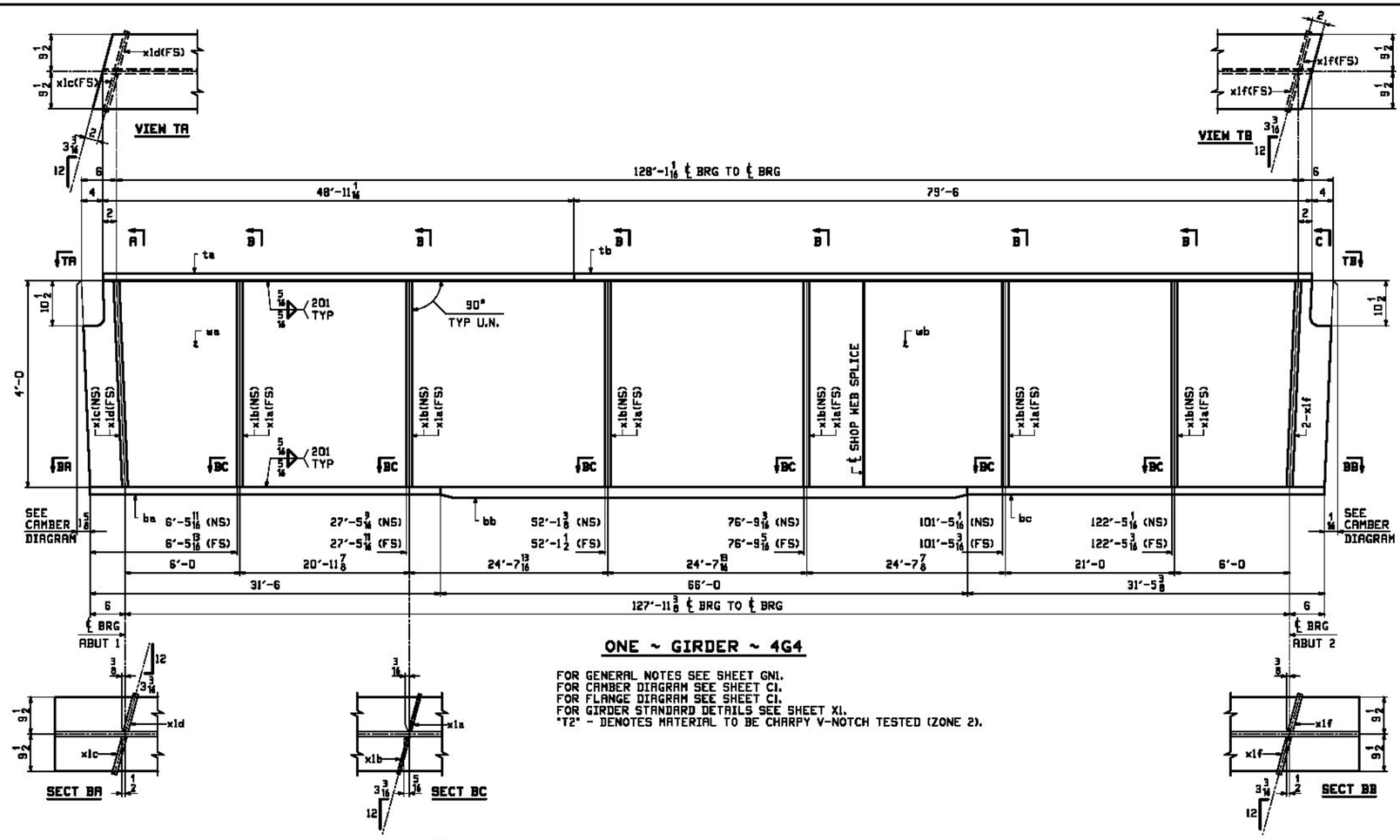
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠1	4/7/14	GRIND TO BEAR PER APROVAL COMMENT	WL			
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W (UN)	SEE GN1	15/16"ø	NONE

DESCRIPTION: GIRDER~3G3

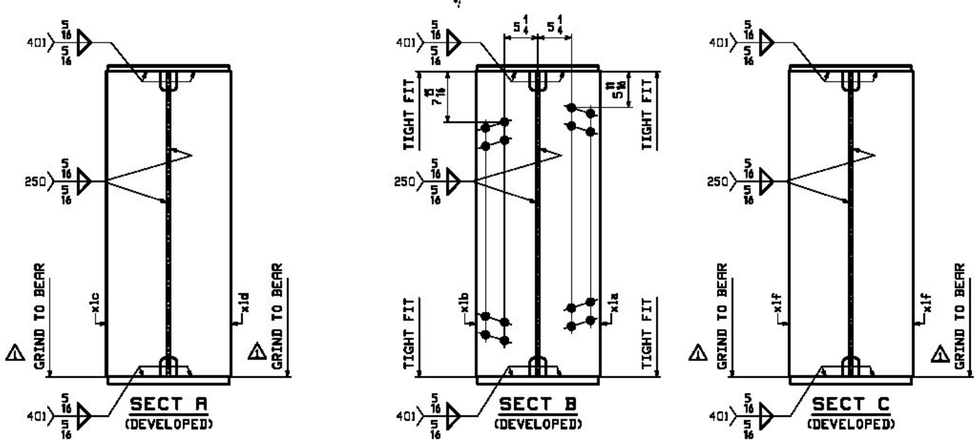
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6725
TEMSCOR SEAA

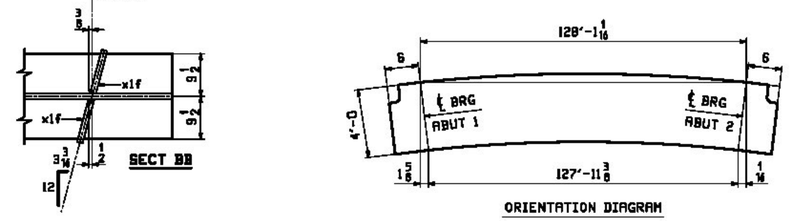
STRUCTURE: VT RTE 15 OVER CENTERVILLE BRIDGE #42 HYDE PARK LAMOILLE COUNTY	DRAWN: JAS	DATE: 02/28
	CHKD: DO	DATE: 3/6/14
LOCATION: HYDE PARK, VT	JOB NO. 565	DWG NO. 3
PROJ NO. STP CULV (26)		REV. ⚠1
CUSTOMER: VDOT		



ONE ~ GIRDER ~ 4G4

FOR GENERAL NOTES SEE SHEET GN1.
FOR CAMBER DIAGRAM SEE SHEET C1.
FOR FLANGE DIAGRAM SEE SHEET C1.
FOR GIRDER STANDARD DETAILS SEE SHEET X1.
"T2" - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2).





FAB INFO		SHOP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		4G4	1		GIRDER				31869	
1	E		1	we	PL 3/8x48	79	7 5/8	M270-50W T2	7317	
1	G		1	wb	PL 3/8x48	49	5 3/16	M270-50W T2	4546	
1	L		1	ta	PL 7/8x19	46	11 11/16		2768	
1	J		1	tb	PL 7/8x19	79	5		4497	
1	C		1	ba	PL 1 1/8x19	31	6	M270-50W T2	2291	
1	A		1	bb	PL 1 5/8x19	66	0	M270-50W T2	5934	
1	C		1	bc	PL 1 1/8x19	31	5 3/8	M270-50W T2	2287	
2	C		6	x1a	PL 1/2x9 1/2	4	0		65	
2	C		6	x1b	PL 1/2x8 1/2	4	0		65	
2	B		1	x1c	PL 7/16x9 1/2	4	0 1/16	QMID	113	
2	B		1	x1d	PL 7/16x9 1/2	4	0 1/16	QMID	113	
2	B		2	x1f	PL 7/16x9 1/2	4	0	QMID	113	

JOB NO. 565 | DRAWING NO. 4 | REV. 1

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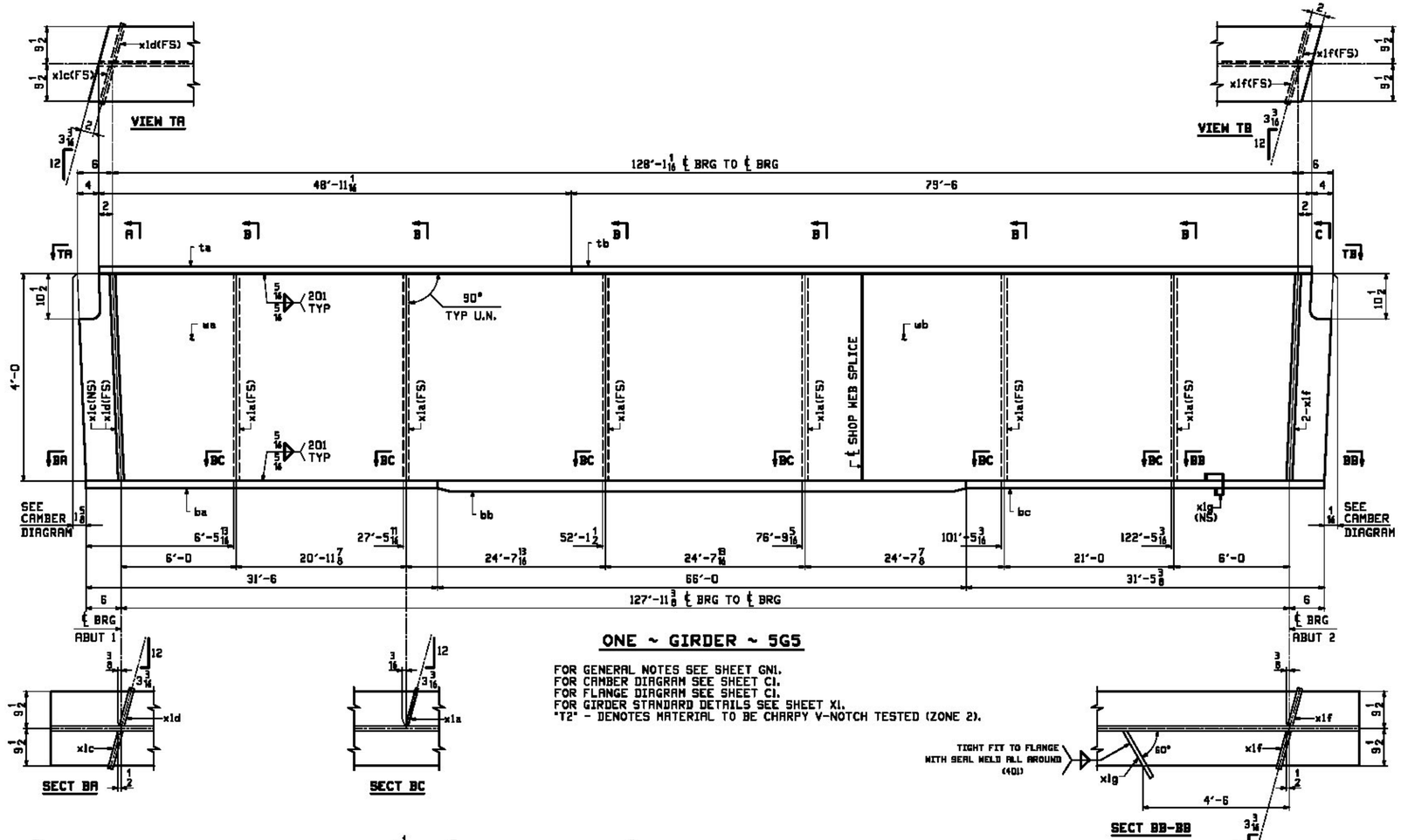
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	4/7/14	GRIND TO BEAR PER APROVAL COMMENT	ML			
0						

MATERIAL: M270-50W (UN) | SURFACE PREP. & PAINT: SEE GN1 | HOLES: 15/16"ø | SHOP BOLTS: NONE

DESCRIPTION: GIRDER~4G4

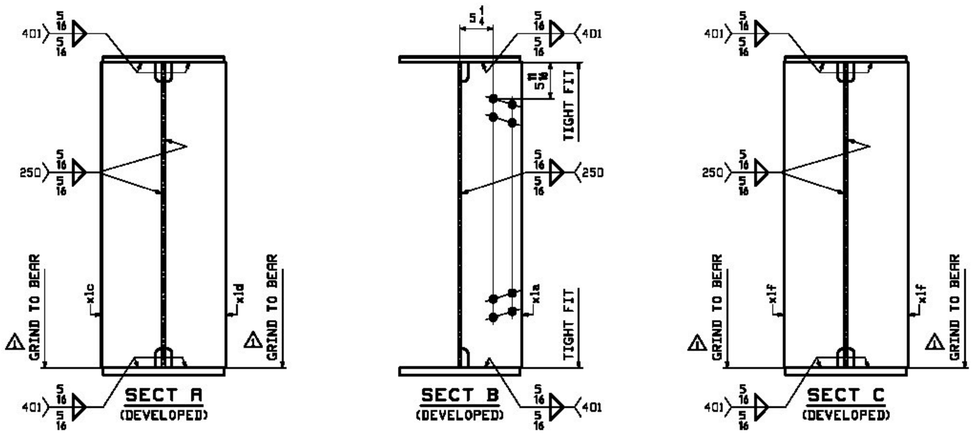
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106 PHONE (207) 780-6722 FAX. (207) 780-6725
TEKSOR 3844

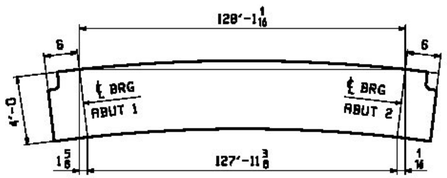
STRUCTURE: VT RTE 15 OVER CENTERVILLE BRIDGE #42 HYDE PARK LAMOILLE COUNTY
DRAWN: JAS | DATE: 02/28
CHKD: DO | DATE: 3/6/14
LOCATION: HYDE PARK, VT | JOB NO. 565 | DWG NO. 4
PROJ NO. STP CULV (26)
CUSTOMER: VDOT | REV. 1



ONE ~ GIRDER ~ 5G5

FOR GENERAL NOTES SEE SHEET GN1.
FOR CAMBER DIAGRAM SEE SHEET C1.
FOR FLANGE DIAGRAM SEE SHEET C1.
FOR GIRDER STANDARD DETAILS SEE SHEET X1.
"T2" - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2).





ORIENTATION DIAGRAM

FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								565	5	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		5G5	1		GIRDER				31484	
1	E		1	we	PL 3/8 x48	79	7 5/8	M270-50W T2	7317	
1	G		1	wb	PL 3/8 x48	49	5 3/16	M270-50W T2	4546	
1	L		1	ta	PL 7/8 x19	46	11 11/16		2768	
1	J		1	tb	PL 7/8 x19	79	5		4497	
1	C		1	ba	PL 1 1/8 x19	31	6	M270-50W T2	2291	
1	A		1	bb	PL 1 5/8 x19	66	0	M270-50W T2	5934	
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2	C		6	x1a	PL 1/2 x9 1/2	4	0		65	
2	B		1	x1c	PL 7/8 x8 1/2	4	0 1/16	QHD	113	
2	B		1	x1d	PL 7/8 x9 1/2	4	0 1/16	QHD	113	
2	B		2	x1f	PL 7/8 x9 1/2	4	0	QHD	113	
2	E		1	x1g	PL 1 x3 1/8	1	0 13/16		3	

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RICK HEBERT — REVIEWER
4/25/2014 — DATE

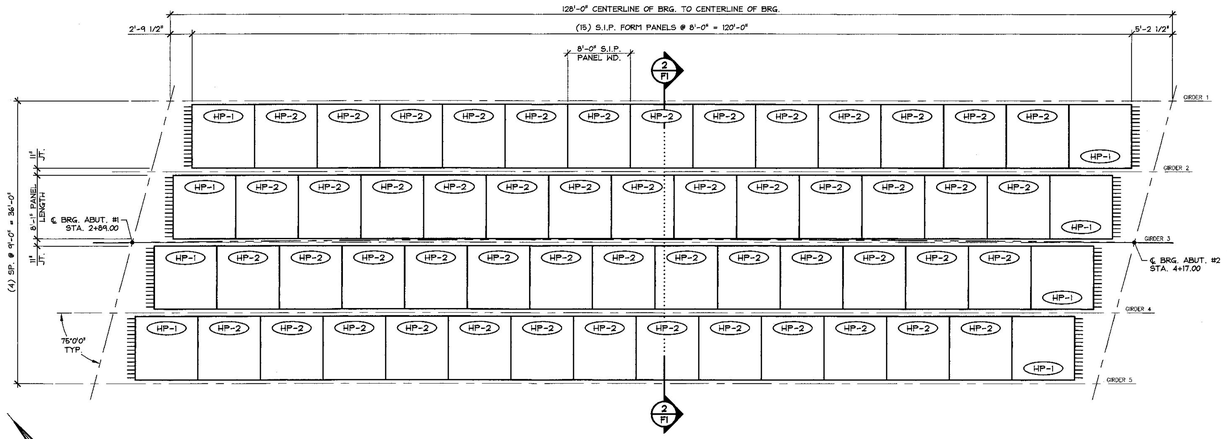
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	4/7/14	GRIND TO BEAR PER APROVAL COMMENT	ML			
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W (UN)	SEE GN1	15/16"ø	NONE

DESCRIPTION: GIRDER~5G5

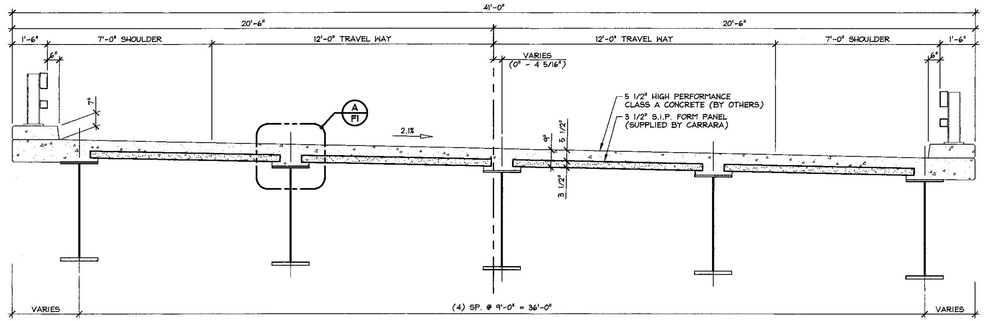
CASCO BAY STEEL STRUCTURES, INC.
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PHONE (207) 780-6722 FAX. (207) 780-6725
TEMSCR 3844

STRUCTURE: VT RTE 15 OVER CENTERVILLE BRIDGE #42 HYDE PARK LAMOILLE COUNTY	DRAWN: JAS	DATE: 02/28	
	CHKD: DO	DATE: 3/6/14	
LOCATION: HYDE PARK, VT	JOB NO. 565	DWG NO. 5	
PROJ NO. STP CULV (26)		REV. 1	
CUSTOMER: VDOT			



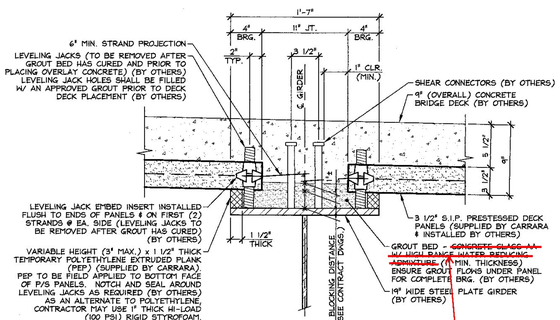
1 / F1 PRESTRESSED STAY-IN-PLACE FORM PANEL LAYOUT

1/8" = 1'-0"



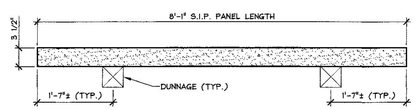
2 / F1 TRANSVERSE SECTION

3/8" = 1'-0"



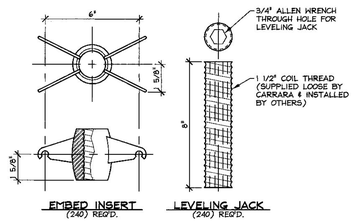
A / F1 SECTION

1 1/2" = 1'-0"



TYP. STORAGE & SHIPPING DUNNAGE LOCATIONS

N.T.S.



LEVELING EMBED & JACK DETAIL

PLASTIC N.T.S.

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RICK HEBERT — REVIEWER
5/5/2014 — DATE

GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
2. MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 4,000 PSI.
3. REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31), AND SHALL BE LEVEL II, DUAL-COATED.
4. PRESTRESSING STRANDS SHALL CONFORM TO ASTM A-416 (AASHTO M203M), AND SHALL CONSIST OF 3/8"ø x 270 KSI 7 WIRE LOW RELAXATION STRANDS.
5. PRESTRESSING STRANDS SHALL EACH BE PULLED TO HAVE A NET TENSION OF 17.2 K (U.N.O.) AFTER ACCOUNTING FOR CHUCK SLIPPAGE. TENSION SHALL BE VERIFIED BY MEASURING STRAND ELONGATION, (SEE EXAMPLE ELONGATION CALCULATION AND TENSIONING PROCEDURE, THIS SHEET).
6. ENDS OF PRESTRESSING STRANDS SHALL PROJECT 6" MIN. FROM EACH END OF PANEL.
7. THE TOPS OF THE PANELS SHALL BE BROOMED TO A SURFACE ROUGHNESS OF 1/16" (U.N.O.) (BROOM DIRECTION PARALLEL TO STRANDS).
8. PANELS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. PANELS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 2'-0" OF THE PANEL ENDS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
9. DESIGN MIX: J.P.C. BRIDGE MIX #425M
10. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS, CONTRACT DOCUMENTS & SPECIFICATIONS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
11. THE ENGINEER WILL BE NOTIFIED AT LEAST 14 DAYS PRIOR TO THE SCHEDULED START OF CASTING AND AT LEAST 2 DAYS BEFORE THE ACTUAL WORK BEGINS.
12. CURING METHOD: AS SOON AS THE TOP OF THE PANEL IS FINISHED A COVER OF POLY AND A LAYER OF HOMOSOTE, (OR BLUEBOARD) WILL BE PLACED OVER THE PANEL IN A MANNER THAT WILL NOT DISTURB THE BROOM FINISH. THE DESIRED CURING TEMPERATURE RANGE SHALL NOT DROP BELOW 70°F. THE TEMPERATURE SHALL BE RECORDED BY AUTOMATIC SENSOR INSTRUMENTS ON GRAPH CHARTS SPACED NOT MORE THAN 50 FEET APART & WILL CONTINUE UNTIL RELEASE STRENGTH IS ACHIEVED (NATURAL CURE WITH NO EXTERNAL HEAT APPLIED). EACH CHART SHALL BE MARKED AND GIVEN TO THE INSPECTOR (IF APPLICABLE).
13. THE DRILLING OF HOLES OR USE OF POWER ACTUATED TOOLS ON PANELS SHALL NOT BE PERMITTED.
14. THE PANELS SHALL BE ORIENTED AND ERECTED WITH THE MARK-END AS SHOWN ON PLANS.
15. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FORMING THE END OF THE DECK SLAB PRIOR TO CASTING DECK.

EXAMPLE PRESTRESSING STRAND ELONGATION CALC. AND TENSIONING

(NOT TO BE USED FOR CONSTRUCTION)

SIZE & GRADE: 3/8"ø x 270 KSI

AREA: 0.085 IN^2

TENSION: 17,200 LBS. EACH STRAND

GRIP TO GRIP: 120'-6" = 120.5'

Es = 28,600,000 PSI (ASSUMED FOR THESE CALCULATIONS; VALUE TO BE OBTAINED FOR STRAND SPOOL ACTUALLY USED)

EXAMPLE: $\Delta = \frac{PL}{AE} = \frac{(17{,}200 - 3{,}000) \times 120.5 \times 12}{0.085 \times 28{,}600{,}000} = 8.45"$

THEREFORE: TOLERANCES: ± 5%
- △ UPPER LIMIT = 1.05 x 8.45" = 8.87" = 8 7/8"
- △ LOWER LIMIT = 0.95 x 8.45" = 8.03" = 8"

EXTRA FORCE REQUIRED TO COMPENSATE FOR 1/2" CHUCK SLIPPAGE:

$\Delta P = \frac{0.5 \times 14{,}200}{8.45} = 840$ LBS.

TOTAL TENSIONING FORCE = 17,200 + 840 = 18,040 LBS.

STRAND TENSIONING PROCEDURE:

1. PULL EACH STRAND INITALLY TO 3,000 LBS.± AND MARK STRAND.
2. THEN PULL EACH STRAND TO A TOTAL TENSION OF 18,404 LBS.± AND MEASURE ELONGATION AFTER SEATING. IT MUST BE BETWEEN 8" AND 8 7/8".

± NOTE: FORCES READ ON STRESSING JACK GAUGES MUST BE MADE TO CORRESPOND TO ABOVE VALUES BASED ON CALIBRATION DATA FOR SPECIFIC JACK USED.

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2444 OSE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

A.L. St. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF LAMOILLE

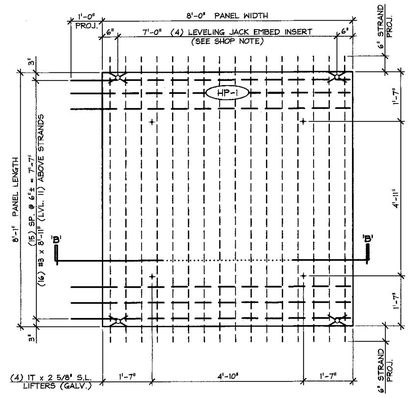
DATE: APRIL 10, 2014
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23427-014

TOWN OF HYDE PARK
VT ROUTE 15 (MINOR ARTERIAL)
BRIDGE NO.: 42 PROJECT NO.: STP CULV(26)

SUPERSTRUCTURE PLAN & SECTIONS

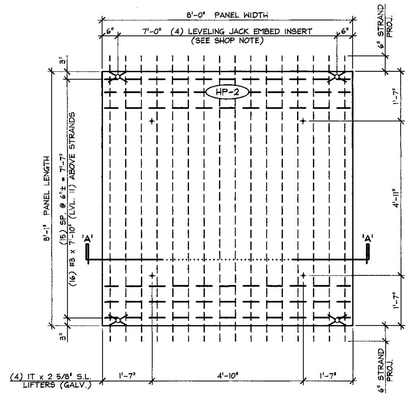
DWG. NO: F1

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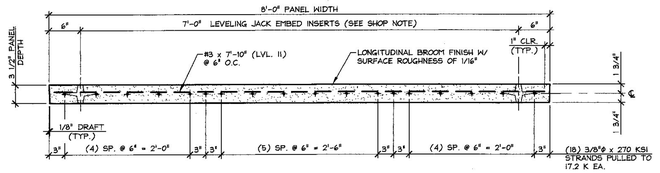
DECK PANEL - 'HP-1'

1/2" = 1'-0"



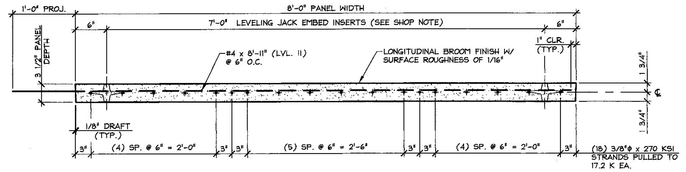
DECK PANEL - 'HP-2'

1/2" = 1'-0"



DECK PANEL SECTION - 'A-A'

1" = 1'-0"



DECK PANEL SECTION - 'B-B'

1" = 1'-0"

① ③ ⑤ ⑦ ⑨ ⑪ ⑬ ⑮ ⑰ ⑱ ⑯ ⑭ ⑫ ⑩ ⑧ ⑥ ④ ②

DETENSIONING SCHEDULE

N.T.S.

SHOP NOTE:
INSTALL LEVELING JACK INSERTS FLUSH TO FORM AT ENDS OF PANELS ON FIRST TWO (2) STRANDS AT EA. SIDE OF PANEL

MARK:	HP-1	QTY.:	8	WT.:	1.4 T	VOL.:	0.69 cy
MARK:	HP-2	QTY.:	52	WT.:	1.4 T	VOL.:	0.69 cy
MARK:	-	QTY.:	-	WT.:	-	VOL.:	-

MATERIAL LIST / PANEL

ITEM	DESCRIPTION	QTY./PANEL HP-1	HP-2	-
1	#3 x 7'-10" (LEVEL II, DUAL COATED)		16	
2	#3 x 8'-11" (LEVEL II, DUAL COATED)	16		
3				
4				
5				
6	IT x 2 5/8" SWIFT LIFT LIFTER (GALV.)	4	4	
7				
8	LEVELING JACK EMBED INSERTS	4	4	
9				
10				
11				

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DATE: APRIL 10, 2014
SCALE: NOTED

TOWN OF HYDE PARK
VT ROUTE 15 (MINOR ARTERIAL)
BRIDGE NO.: 42 PROJECT NO.: STP CULV(26)

CHKD: - DFTM: B.L.
JOB NO: 23427-014

PRESTRESSED S.I.P. FORM PANEL DETAILS

DWG. NO: P1

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[illegible] STEEL FABRICATORS, INC.

WELDING PROCEDURE SPECIFICATION

Material specification A 572 M Gr 50 - 50W
Welding process Submerged Arc welding — Power Wave
Manual or machine Machine
Position of welding Flat + Horizontal
Filler metal specification AWS A5.23
Filler metal classification F8A2-EM12-M12-H8
Flux Lincoln 960 - Elec. LA-75
Shielding gas N/A Flow rate N/A
Single or multiple pass Single + Multiple
Single or multiple arc Single
Welding current Alternating
Polarity AC
Welding progression See Details
Root treatment Grind - wire brush - Area Free of Slag-RUST-MOISTURE
Preheat and interpass temperature See Table
Postheat temperature N/A
Heat Input Min 47.1 KJ/in Max 74.0 KJ/in PQR - PW1 - 67.3 KJ/in

Minimum Preheat and Interpass Temperature, °C [°F]

Welding Process (Base Metal)	Thickness of Thickest Part at Point of Welding, mm [in]			
	To 20 mm [3/4 in] Incl.	Over 20 mm [3/4 in] to 40 mm [1-1/2 in] Incl.	Over 40 mm [1-1/2 in] to 65 mm [2-1/2 in] Incl.	Over 65 mm [2-1/2 in]
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. 250 [36], 345 [50], 345W [50W], HPS 345W [HPS 50W])	10 [50]	20 [70]	65 [150]	110 [225]
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. HPS 485W [HPS 70W], 690 [100], 690W [100W])*	10 [50]	50 [125]	80 [175]	110 [225]

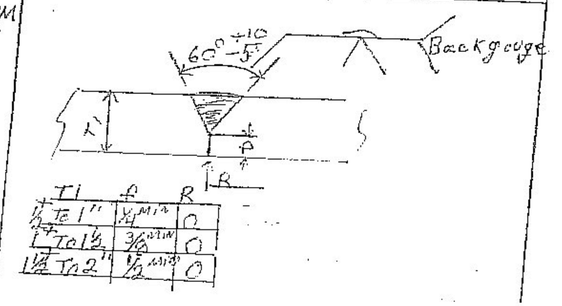
VT - AOT, HYDE PARK
BR. NO. 42
PROJ NO. STP-CUIV (26
CASE NO 566

WELDING PROCEDURE

Max InterPass - 460°F

Pass no.	Electrode size	Welding current Amperes	Welding current Volts	Travel speed
AS	5/32	827	38	28IPM
Req.		744 To 910	35 To 41	24 To 32

See 5.13
AWS D1-5 Joint detail BL2c-S



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Procedure no. PW202B ST of VT
Revision no.

Contractor Casco Bay Steel
Authorized By Paul E Woodall
Date April-13-2012

WELDING PROCEDURE SPECIFICATION

Material specification ASTM Gr 50 + 50W
Welding process Submerged ARC Welding
Manual or machine Machine
Position of welding Flat + Horizontal
Filler metal specification AWS A5-23
Filler metal classification F8A2-EN1K-Ni1-H8
Flux Lincoln 960-Elec LA-75
Shielding gas N/A Flow rate N/A
Single or multiple pass Single & Multiple
Single or multiple arc Single
Welding current DC
Polarity DCEP
Welding progression See Detail
Root treatment Grind-wire Brush-Area Free of Slag-Rust & Moisture
Preheat and interpass temperature See Table
Postheat temperature N/A
Heat Input Min 51.3 KJ/in Max 73.4 KJ/in PQR-1 = 64.1 KJ/in

Minimum Preheat and Interpass Temperature, °C [°F]

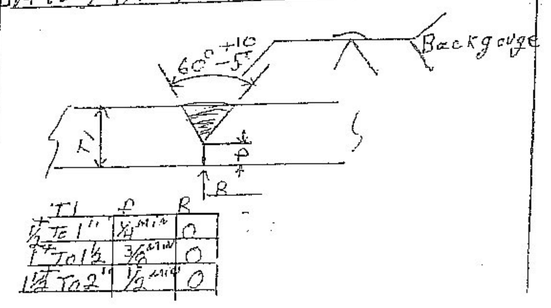
Welding Process (Base Metal)	To 20 mm [3/4 in] Incl.	Over 20 mm [3/4 in] to 40 mm [1-1/2 in] Incl.	Over 40 mm [1-1/2 in] to 65 mm [2-1/2 in] Incl.	Over 65 mm [2-1/2 in]
		Thickness of Thickest Part at Point of Welding, mm [in]		
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. 250 [36], 345 [50], 345W [50W], HPS 345W [HPS 50W])	10 [50]	20 [70]	65 [150]	110 [225]
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. HPS 485W [HPS 70W], 690 [100], 690W [100W])[a]	10 [50]	50 [125]	80 [175]	110 [225]

VT - AOT HYDE PARK
Br. NO. 42
PROJ NO. STP-CUIV (26)
CASS NO 565

WELDING PROCEDURE Max InterPass - 430

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
5/32	5/32	620	31	18IPM
		570 To 650	29 To 33	15 To 20

See 5.13
AWS D1-5 Joint detail BL2c-S



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Procedure no 2023 ST of VT
Revision no

Contractor Casco Bay Steel
Authorized By
April 13-2012

WELDING PROCEDURE SPECIFICATION

Material specification ASTM Gr 50 + 50W
Welding process Submerged ARC Welding
Manual or machine Machine
Position of welding Flat + Horizontal
Filler metal specification AWS A5-23
Filler metal classification F8A2-EN1K-Ni1-H8
Flux Lincoln 960-Elec LA-75
Shielding gas NA Flow rate NA
Single or multiple pass Single & Multiple
Single or multiple arc Single
Welding current DC
Polarity DCEP
Welding progression See Detail
Root treatment Grind-wire Brush-Area Free of Slag-Rust & Moisture
Preheat and interpass temperature See Table
Posfheat temperature NA
Heat Input Min 51.3KJ/in Max 79.4KJ/in PQR-1-64.1 KJ/in

Minimum Preheat and Interpass Temperature, °C [°F]

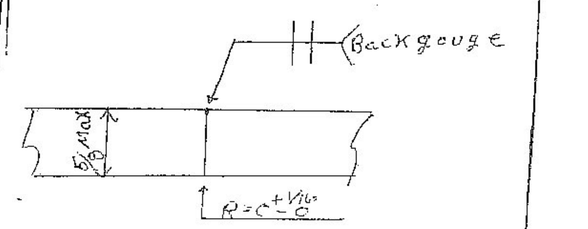
Welding Process (Base Metal)	Thickness of Thickest Part at Point of Welding, mm [in]			
	To 20 mm [3/4 in] Incl.	Over 20 mm [3/4 in] to 40 mm [1-1/2 in] Incl.	Over 40 mm [1-1/2 in] to 65 mm [2-1/2 in] Incl.	Over 65 mm [2-1/2 in]
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. 250 [36], 345 [50], 345W [50W], HPS 345W [HPS 50W])	10 [50]	20 [70]	65 [150]	110 [225]
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. HPS 485W [HPS 70W], 690 [100], 690W [100W])*	10 [50]	50 [125]	80 [175]	110 [225]

VT. AOT, HYDE PARK
Br. NO. 42
PROJ NO STP-CULV(26)
CBSS NO 566

WELDING PROCEDURE Max InterPass - 430°F

Pass no.	Electrode size	Welding current Amperes	Welding current Volts	Travel speed
		620	31	18IPM
		570	29	15
	5/32	TO	TO	TO
		650	33	20

See 5.13
AWS D1-5 Joint detail BL1a-5



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Procedure no 202A ST of VT
Revision no

Contractor Casco Bay Steel
Authorized By [signature]
April 13-2012

Casco Bay Steel Structures, Inc.

WELDING PROCEDURE SPECIFICATION

Material specification ASTM Gr 50 + 50W
Welding process Submerged ARC Welding
Manual or machine Machine
Position of welding Flat + Horizontal
Filler metal specification AWS A5-23
Filler metal classification F8A2-ENiK-Ni1-H8
Flux Lincoln 960 - Elec LA-75
Shielding gas N/A Flow rate N/A
Single or multiple pass Single / Multiple
Single or multiple arc Single
Welding current DC
Polarity DCEP
Welding progression See Detail
Root treatment Grind - Wire Brush - Area Free of Slag - Rust & Moisture
Preheat and interpass temperature See Table
Posfheat temperature N/A
Heat Input Min 51.3 KJ/in Max 79.4 KJ/in PQR - 1 - 64.1 KJ/in

Minimum Preheat and Interpass Temperature, °C [°F]

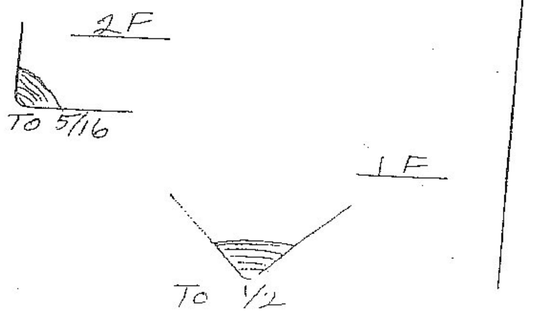
Welding Process (Base Metal)	Thickness of Thicker Part at Point of Welding, mm [in]			
	To 20 mm [3/4 in] Incl.	Over 20 mm [3/4 in] to 40 mm [1-1/2 in] Incl.	Over 40 mm [1-1/2 in] to 65 mm [2-1/2 in] Incl.	Over 65 mm [2-1/2 in]
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. 250 [36], 345 [50], 345W [50W], HPS 345W [HPS 50W])	10 [50]	20 [70]	65 [150]	110 [225]
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. HPS 485W [HPS 70W], 690 [100], 690W [100W])*	10 [50]	50 [125]	80 [175]	110 [225]

VT - AOT, HYDE PAR
Br NO. 42
PROJ NO. STP-CULV (
CASS NO 566

WELDING PROCEDURE

Pass no.	Electrode size	Welding current Amperes	Welding current Volts	Travel speed
	5/32	620	31	18 IPM
		570 To 650	29 To 33	15 To 20

See 5.13
AWS D1-5 Joint detail Fillet



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Procedure no. 201 - 51 of VT
Date
Company Casco Bay Steel
Paul E. Goodale
April 13, 2012

Casco Bay Steel Structures, Inc.

WELDING PROCEDURE SPECIFICATION

Material specification ASTM - Gr 50 - 50W NOTE - 1
Welding process Submerged ARC welding
Manual or machine Machine
Position of welding Flat - Horizontal
Filler metal specification AWS A5-23
Filler metal classification F8A2-EN1K-Ni1-H8
Flux Lincoln 960-, Elec- LA 75
Shielding gas NA Flow rate NA
Single or multiple pass Single & Multiple
Single or multiple arc Single
Welding current DC
Polarity DCEN
Welding progression See Detail
Root treatment Grind - wire Brush - Area Free of Slag - Rust - Moisture
Preheat and interpass temperature See Table
Postheat temperature NA
Heat Input Min 409KJ/in Max 642 KJ/in PQR #2 - 58.4 KJ/in

Minimum Preheat and Interpass Temperature, °C [°F]

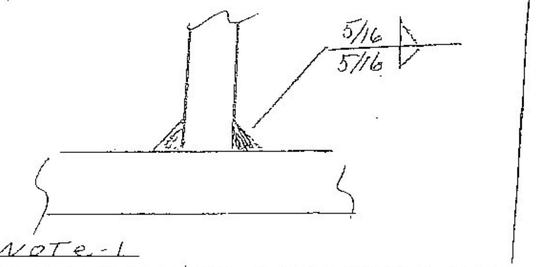
Welding Process (Base Metal)	Thickness of Thickest Part at Point of Welding, mm [in] To 20 mm [3/4 in] Incl.	Over 20 mm [3/4 in] to 40 mm [1-1/2 in] Incl.	Over 40 mm [1-1/2 in] to 65 mm [2-1/2 in] Incl.	Over 65 mm [2-1/2 in]
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. 250 [36], 345 [50], 345W [50W], HPS 345W (HPS 50W))	10 [50]	20 [70]	65 [150]	110 [225]
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. HPS 485W (HPS 70W), 690 [100], 690W [100W])*	10 [50]	50 [125]	80 [175]	110 [225]

VT - AOT HYDE PARK
Br. NO. 42
PROJ NO. STP-CUIV (2)
CASS NO 566

WELDING PROCEDURE Max. Interpass - 450°

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
		365	32	12IPM
	3/32	320 TO 350	30 TO 33	11 TO 14

Sec 5-13
AWS D1-5 Joint detail Fillet



NOTE-1

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use For welding Gr 5-50W To GrHPS)

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250 ST of VT

Casco Bay Steel
Fabricated
April 13, 2012

Casco Bay Steel Structures, Inc.

WELDING PROCEDURE SPECIFICATION

Material specification ASTM Gr 50 (345)
Welding process Flux Core Arc Welding (FCAW)
Manual or machine Semi, AUTO
Position of welding Flat & Horizontal
Filler metal specification AWS 5.6-21
Filler metal classification E71T-1 - Lincoln UltraCore 71AYS DUAL
Flux ~A
Shielding gas 75%AR / 25%CO2 Flow rate 35CFH +8/-4, Elec. Stickout 5/8+-
Single or multiple pass Single & Multiple
Single or multiple arc Single
Welding current DC
Polarity DC EP
Welding progression See Details
Root treatment blast Clean - wirebrush - area Free of slag-Rust & Moisture
Preheat and interpass temperature See Table
Postheat temperature As Req.
Heat Input Min 22.4 KJ/in Max 35.2 KJ/in PQR # FCM-SP2, 32 KJ/in

VT. AOT, HYDE PARK
Br. NO. 42
PROJ NO. STP-CULV (26)
CASS NO 565

Minimum Preheat and Interpass Temperature, °C [°F]

Welding Process (Base Metal)	To 20 mm [3/4 in] Incl.	Over 20 mm [3/4 in] to 40 mm [1-1/2 in] Incl.	Over 40 mm [1-1/2 in] to 65 mm [2-1/2 in] Incl.	Over 65 mm [2-1/2 in]
	Thickness of Thickest Part at Point of Welding, mm [in]			
SAW; GMAW; FCAW; SMAW (M270M [M270] Gr. 709M [A 709] Gr. 250 [36], 345 [50], 345W [70W]); HPS 345W (HPS 50W))	10 [50]	20 [70]	65 [150]	110 [225]
FCM Gr 50	150°F	200°F	225°F	325°F - H8

Max Interpass 400°F

WELDING PROCEDURE

Sec. 5.12.4.2

Pass no.	Electrode size	Welding current Amperes	Welding current Volts	Travel speed
		297	29	16.4
1 To 4	1/16	326 To 267.3	31 To 27	18.9 To 13.9

AWS D1.5 Joint detail Fillet

2F: 5/16 To 5/16* — 1F: 5/16 To 5/16*

* Weld Size may use Multiple Pass

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10-c ST of VT A.O.T.
REV 1

Contractor Casco Bay Steel
P.O.E. Peaslee
1-11-2013

Casco Bay Steel Structures, Inc.

WELDING PROCEDURE SPECIFICATION

Material specification A S T M Gr 50 - 50W
Welding process Shielded Metal ARC
Manual or machine Manual
Position of welding Flat, Horizontal
Filler metal specification ANSI/AWS A5.1 - A5-5
Filler metal classification E 7018 - E 8018 C/C3
Flux N A
Shielding gas N A Flow rate N A
Single or multiple pass Single & Multiple
Single or multiple arc Single
Welding current AC / DC
Polarity Straight & Reverse
Welding progression See Detail
Root treatment Grind - Wire brush - Area Free of Slag - RUST - Moisture
Preheat and interpass temperature
Postheat temperature N A
Heat Input Min N A Max N A

Minimum Preheat and Interpass Temperature, °C [°F]

Welding Process (Base Metal)	To 20 mm [3/4 in] incl.	Over 20 mm [3/4 in] to 40 mm [1-1/2 in] incl.	Over 40 mm [1-1/2 in] to 65 mm [2-1/2 in] incl.	Over 65 mm [2-1/2 in]
		Thickness of Thicker Part at Point of Welding, mm [in]		
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. 250 [36], 345 [50], 345W [50W], HPS 345W [HPS 50W])	10 [50]	20 [70]	65 [150]	110 [225]

VT - AOT HYDE PARK
Br NO. 42
PROJ NO. STP-CUIV (26)
CBSS NO. 566

WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
	7018			
AS	1/8	70 To 170	22-26	
	5/32	120 To 225	22-26	AS
Req	3/16	170 To 300	24-27	
	8018			Req
	1/8	90 To 160	22-26	
	5/32	120 To 225	22-26	
	3/16	180 To 290	24-27	

AWS D1-5 Joint detail Fillet

2F



3/16 To 5/16

1F



3/16 To 3/8

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Procedure no. 401
Revision no.

Contractor Casco Bay Steel
Authorized By [signature]
Date April 13 2012