

REVIEWER NOTES:

1. RIGHT OF WAY WILL NEED TO BE ACQUIRED IN ORDER TO COMPLETE THE PROJECT.
2. A SIMPLIFIED PAVEMENT DESIGN HAS BEEN INCORPORATED.
3. A PARTIAL SET OF GENERAL NOTES IS PROVIDED TO CAPTURE UNIQUE PROJECT REQUIREMENTS.
4. THE PROJECT INCLUDES CONSTRUCTION OF A DOWNSTREAM TEMPORARY ROADWAY WITH A TEMPORARY STRUCTURE PROVIDED BY THE CONTRACTOR AND REMOVAL OF THE CURRENT TEMPORARY BRIDGE ON EXISTING ALIGNMENT. THE TEMPORARY BRIDGE AND CURRENT MAINTENANCE OF TRAFFIC DEVICES WILL BE RETURNED TO VTRANS ONCE THE TEMPORARY ROADWAY IS OPENED TO TRAFFIC.
5. THIS SUBMITTAL DOES NOT INCLUDE ALL TYPICAL PRELIMINARY PLANS DUE TO SCHEUDLE CONSTRAINTS. SHEETS THAT DO NOT AID IN IDENTIFYING PROJECT IMPACTS HAVE BEEN DELAYED UNTIL THE FINAL PLANS SUBMITTAL (EG: SIGNS AND LINES LAYOUT).

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT

TOWN OF DUXBURY
COUNTY OF WASHINGTON

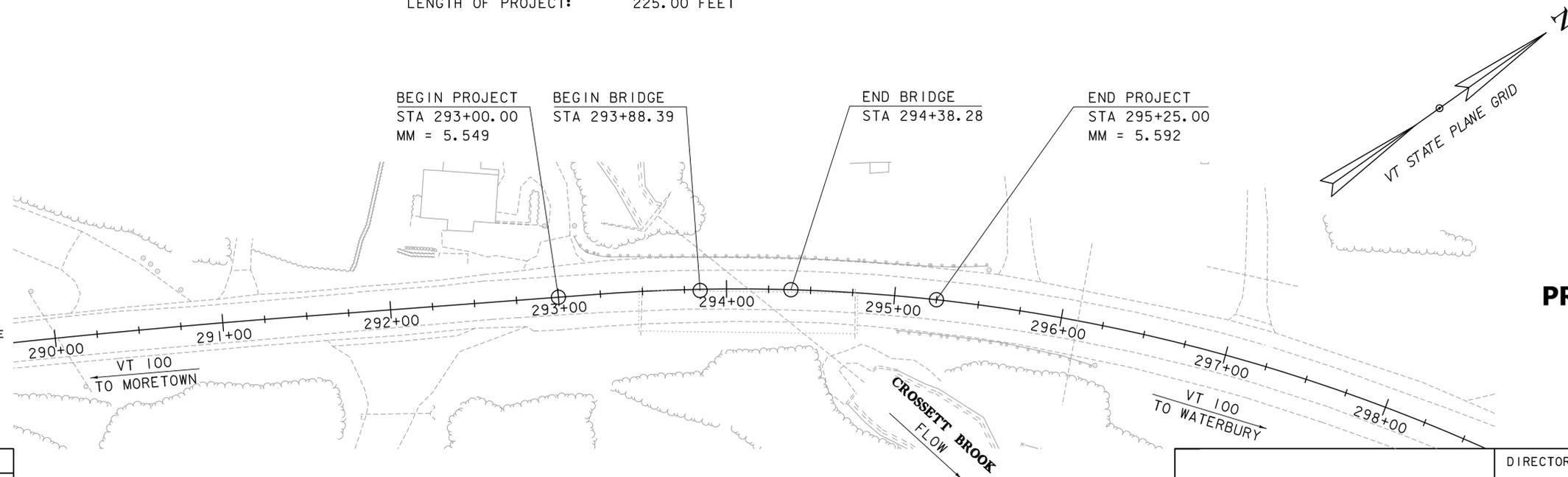
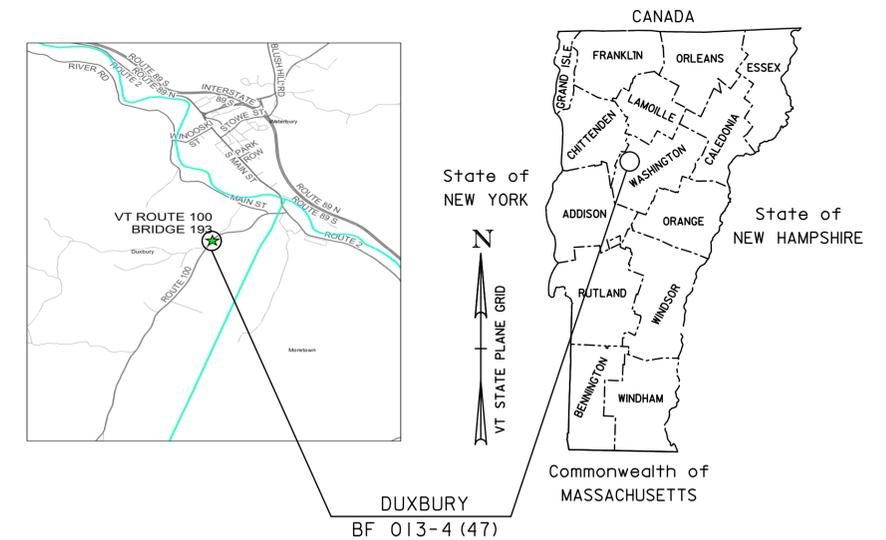
ROUTE NO : VT ROUTE 100, RURAL MINOR ARTERIAL

BRIDGE NO : 193

PROJECT LOCATION: 0.7 MILES SOUTH OF THE JUNCTION WITH US 2

PROJECT DESCRIPTION: REMOVAL AND REPLACEMENT OF EXISTING CULVERT ON EXISTING ALIGNMENT WITH ASSOCIATED CHANNEL AND APPROACH WORK

LENGTH OF STRUCTURE: 49.89 FEET
 LENGTH OF ROADWAY: 175.11 FEET
 LENGTH OF PROJECT: 225.00 FEET



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.

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	R. GILMAN
SURVEYED DATE :	04-12-2016
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (07)

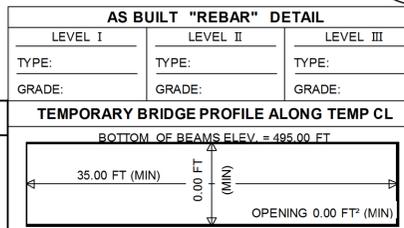
SCALE 1" = 40' - 0"
 40 0 40

**PRELIMINARY PLANS
4/18/2016**

DIRECTOR OF PROJECT DELIVERY	
APPROVED _____	DATE _____
PROJECT MANAGER : KRISTIN HIGGINS, P.E.,	
PROJECT NAME :	DUXBURY
PROJECT NUMBER :	BF 013-4 (47)
SHEET 1 OF 40 SHEETS	

INDEX OF SHEETS						FINAL HYDRAULIC REPORT																	
PLAN SHEETS						STANDARDS LIST						HYDROLOGIC DATA						PROPOSED STRUCTURE					
1	TITLE SHEET					B-5	SLOPE GRADING, EMBANKMENTS, MUCK					Date: April 2016						STRUCTURE TYPE: Precast Conspan Arch					
2	PRELIMINARY INFORMATION SHEET					E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD					DRAINAGE AREA: 5.1 sq. mi.						CLEAR SPAN(NORMAL TO STREAM): 28'					
3-4	TYPICAL SECTIONS AND DETAILS					E-191	PAVEMENT MARKING DETAILS					CHARACTER OF TERRAIN: Mountainous, mostly forested, rural						VERTICAL CLEARANCE ABOVE STREAMBED: ~8.5'					
5	GENERAL NOTES					E-193	PAVEMENT MARKING DETAILS					STREAM CHARACTERISTICS: Sinuous and alluvial						WATERWAY OF FULL OPENING: 195 sq. ft.					
6	CONVENTIONAL SYMBOLOGY SHEET					E-175	POWER DROP STANCHIONS					NATURE OF STREAMBED: Gravel and cobbles						WATER SURFACE ELEVATIONS AT:					
7	TIE SHEET					G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)					PEAK FLOW DATA - ANNUAL EXCEEDANCE PROBABILITY (AEP)						43% AEP = 493.4' VELOCITY= 7.0 fps					
8-9	LAYOUT SHEETS					G-10	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDV)					43% = 310 cfs 2% = 1120 cfs						10% AEP = 494.8' " 8.7 fps					
10-11	PROFILE SHEETS					G-1D	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS					10% = 660 cfs 1% = 1310 cfs						4% AEP = 495.6' " 9.8 fps					
12-13	TEMPORARY ROADWAY LAYOUTS					G-19	MAIL BOX SUPPORT DETAILS					4% = 890 cfs 0.2% = 1830 cfs						2% AEP = 496.3' " 10.7 fps					
14-15	TEMPORARY ROADWAY PROFILE SHEETS					T-1	TRAFFIC CONTROL GENERAL NOTES					DATE OF FLOOD OF RECORD: Unknown						1% AEP = 498.8' " 11.1 fps					
16	TEMPORARY ROADWAY DETAILS AND NOTES					T-2	TRAFFIC SIGN GENERAL NOTES					ESTIMATED DISCHARGE: Unknown						IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No					
17	TEMPORARY ROADWAY SIGNING					T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING					WATER SURFACE ELEV.: Unknown						FREQUENCY: N/A					
18-19	UTILITY RELOCATION LAYOUT					T-17	TRAFFIC CONTROL MISCELLANEOUS DETAILS					NATURAL STREAM VELOCITY: @ 2% AEP = 12.0 fps						RELIEF ELEVATION: 511.4'					
20	PLAN AND ELEVATION					T-24	TRAFFIC CONTROL FOR MAINTENANCE PAVEMENT MARKING OPER					ICE CONDITIONS: Moderate						DISCHARGE OVER ROAD @ 1% AEP: None					
21-27	VT 100 CROSS SECTIONS					T-28	CONSTRUCTION SIGN DETAILS					DEBRIS: Light to moderate						BRIDGE LOW CHORD ELEVATION: 499.8'					
28-30	CHANNEL SECTIONS					T-29	CONSTRUCTION SIGN DETAILS					DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No						FREEBOARD: @ 2% AEP = 3.5'					
31-32	RESOURCE SITE PLAN					T-30	CONSTRUCTION SIGN DETAILS					IS ORDINARY RISE RAPID? No						SCOUR: Contraction scour at 0.5% AEP = 2.0'. Design foundations to be 6.0' below streambed.					
33	EPSC PLAN NARRATIVE					T-31	CONSTRUCTION SIGN DETAILS					IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No						REQUIRED CHANNEL PROTECTION: Stone Fill Type IV*					
34-35	EPSC EXISTING SITE PLAN					T-35	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS					IF YES, DESCRIBE:						PERMIT INFORMATION					
36-37	EPSC CONSTRUCTION SITE PLAN					T-36	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS FOR PAVING					WATERSHED STORAGE: <1% HEADWATERS: UNIFORM: X IMMEDIATELY ABOVE SITE:						AVERAGE DAILY FLOW: - DEPTH OR ELEVATION: -					
38-40	EPSC DETAILS					T-40	DELINEATORS AND MILEPOSTS					EXISTING STRUCTURE INFORMATION						ORDINARY LOW WATER: - -					
STRUCTURES DETAIL SHEETS						T-42	BRIDGE NUMBER PLAQUE					STRUCTURE TYPE: CGMPPA						ORDINARY HIGH WATER: - -					
SD-501.00	CONCRETE DETAILS AND NOTES				5/7/2010	T-44	MILEMARKER DETAILS STATE AND TOWN HIGHWAYS					YEAR BUILT: 1977						CLEAR SPAN(NORMAL TO STREAM): 15' - 10"					
SD-502.00	CONCRETE DETAILS AND NOTES				5/7/2010	T-45	SQUARE TUBE SIGN POST AND ANCHOR					CLEAR SPAN(NORMAL TO STREAM): 15' - 10"						VERTICAL CLEARANCE ABOVE STREAMBED: 10' - 8"					
												WATERWAY OF FULL OPENING: 132 sq. ft.						TEMPORARY BRIDGE REQUIREMENTS					
												DISPOSITION OF STRUCTURE: Remove and replace						STRUCTURE TYPE: Bridge					
												TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings						CLEAR SPAN (NORMAL TO STREAM): Minimum clear span 35'					
												WATER SURFACE ELEVATIONS AT:						VERTICAL CLEARANCE ABOVE STREAMBED: Minimum low beam elev. = 495.0'					
												43% AEP = 494.5' VELOCITY = 10.4 fps						WATERWAY AREA OF FULL OPENING: 250 sq. ft. minimum					
												10% AEP = 496.7' " 11.0 fps						ADDITIONAL INFORMATION					
												4% AEP = 498.0' " 14.5 fps						*Rebuild channel through structure with E-stone type E4					
												2% AEP = 499.4' " 15.5 fps						TRAFFIC MAINTENANCE NOTES					
												1% AEP = 500.4' " 16.3 fps						1. MAINTAIN TWO-WAY TRAFFIC ON A TEMPORARY BRIDGE.					
												LONG TERM STREAMBED CHANGES: Scour hole at outlet						2. TRAFFIC SIGNALS ARE NOT NECESSARY.					
												IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No						3. SIDEWALKS ARE NOT NECESSARY					
												FREQUENCY: N/A						4. THE APPROACHES FOR THE TEMPORARY BRIDGE SHALL BE PAVED.					
												RELIEF ELEVATION: 511.4'						DESIGN VALUES					
												DISCHARGE OVER ROAD @ 1% AEP: None						1. DESIGN LIVE LOAD HL-93					
												UPSTREAM STRUCTURE						2. FUTURE PAVEMENT dp: 3.0 INCH					
												TOWN: Duxbury DISTANCE: 1000'						3. DESIGN SPAN L: 28.00 FT					
												HIGHWAY #: Th 37 STRUCTURE #: 7						4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS) Δ: ---					
												CLEAR SPAN: CLEAR HEIGHT:						5. PRESTRESSING STRAND fy: ---					
												YEAR BUILT: FULL WATERWAY:						6. PRESTRESSED CONCRETE STRENGTH f'c: ---					
												STRUCTURE TYPE:						7. PRESTRESSED CONCRETE RELEASE STRENGTH f'el: ---					
												DOWNSTREAM STRUCTURE						8. CONCRETE, HIGH PERFORMANCE CLASS AA f'c: ---					
												TOWN: Duxbury DISTANCE: 7000'						9. CONCRETE, HIGH PERFORMANCE CLASS A f'c: ---					
												HIGHWAY #: STRUCTURE #:						10. CONCRETE, HIGH PERFORMANCE CLASS B f'c: 3.5 KSI					
												CLEAR SPAN: CLEAR HEIGHT:						11. CONCRETE, CLASS C f'c: 3.0 KSI					
												YEAR BUILT: FULL WATERWAY:						12. REINFORCING STEEL fy: 60 KSI					
												STRUCTURE TYPE: Confluence with Winooski River						13. STRUCTURAL STEEL AASHTO M270 fy: ---					
												LRFR LOAD RATING FACTORS						14. NOMINAL BEARING RESISTANCE OF SOIL qn: 4.0 KSF					
												LOADING LEVELS						15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) φ: ---					
												H-20 HL-93 3S2 6 AXLE 3A STR. 4A STR. 5A SEM						16. NOMINAL BEARING RESISTANCE OF ROCK qn: 10.0 KSF					
												TONNAGE 20 36 36 66 30 34.5 38						17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) φ: ---					
												INVENTORY						18. PILE RESISTANCE FACTOR φ: ---					
												POSTING						19. LATERAL PILE DEFLECTION Δ: ---					
												OPERATING						20. BASIC WIND SPEED V3s: ---					
												COMMENTS:						21. MINIMUM GROUND SNOW LOAD pg: ---					
																		22. SEISMIC DATA PGA: 0 Ss: --- Sf: ---					
																		23. ---					
																		24. ---					
																		25. ---					
																		26. ---					
																		PROJECT NAME: DUXBURY					
																		PROJECT NUMBER: BF 013-4(47)					
																		FILE NAME: z16b001.dgn PLOT DATE: 4/18/2016					
																		PROJECT LEADER: J. OLUND DRAWN BY: S. MORGAN					
																		DESIGNED BY: J. OLUND CHECKED BY: J. HOWE					
																		PRELIMINARY INFORMATION SHEET 1 SHEET 2 OF 40					

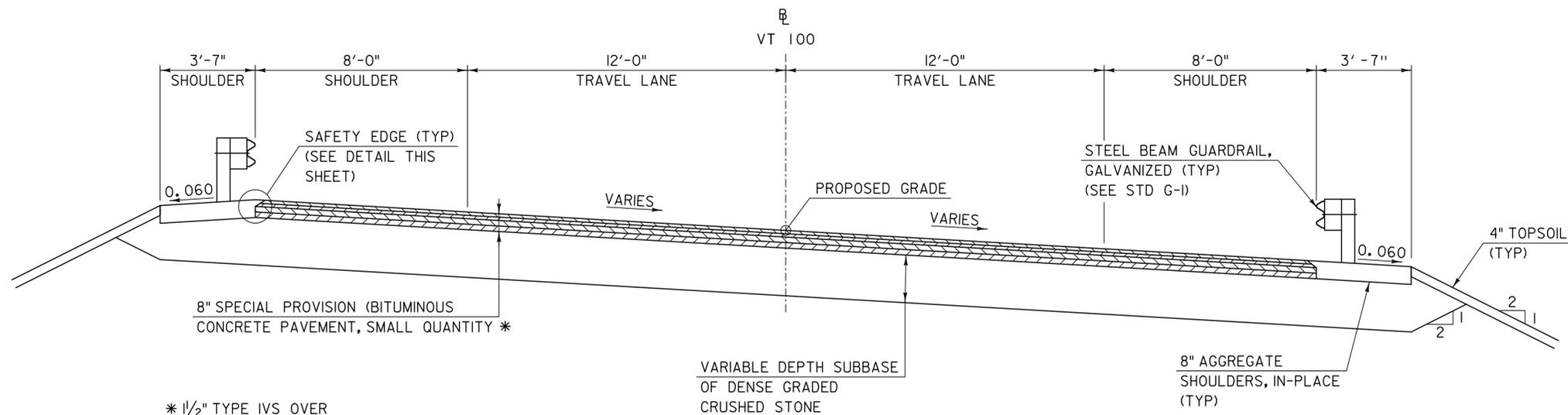
FABRICATOR TO PROVIDE
LOAD RATING (SEE
GENERAL NOTES)



TRAFFIC DATA							
YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2016 to 2036	: 1564000
2016	3800	500	54	5.7	280	40 year ESAL for flexible pavement from 2016 to 2056	: 3728000
2036	4300	560	54	9.6	530	Design Speed:	40 mph

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

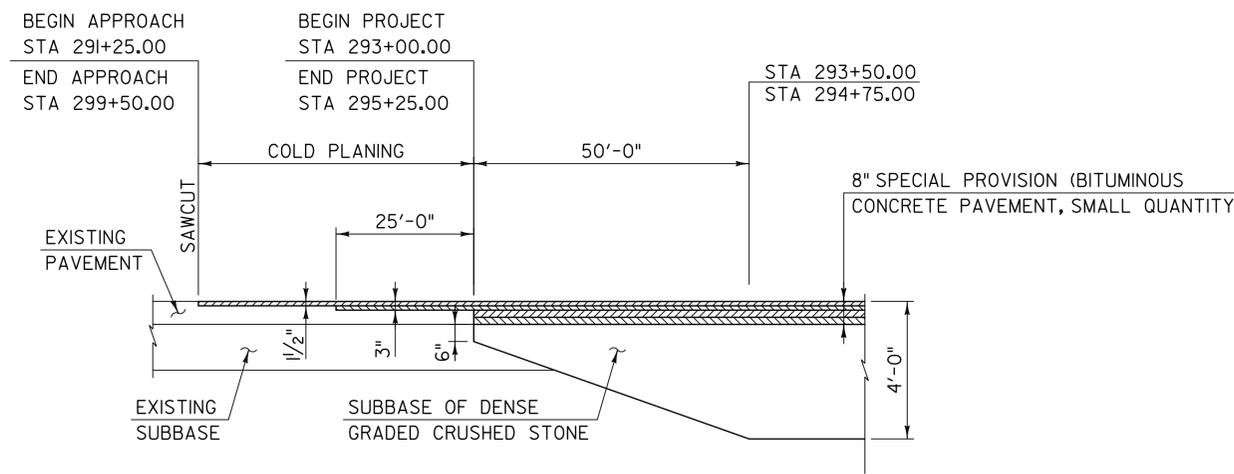




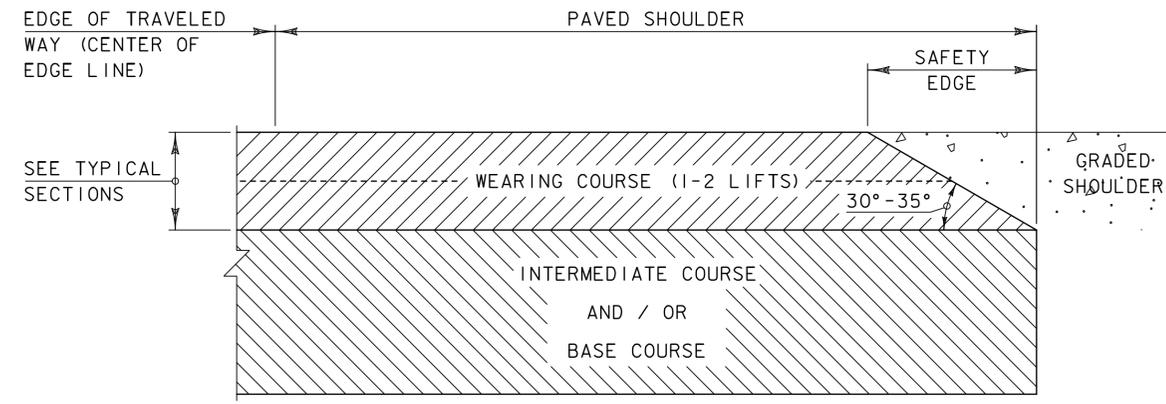
MATERIAL TOLERANCES (IF USED ON PROJECT)	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	
SAND BORROW	+/- 1"

* 1/2" TYPE IVS OVER
 1/2" TYPE IVS OVER
 2 1/2" TYPE IIS OVER
 2 1/2" TYPE IIS.

ROADWAY TYPICAL SECTION
 SCALE 3/8" = 1'-0"



APPROACH SECTION
 (NOT TO SCALE)



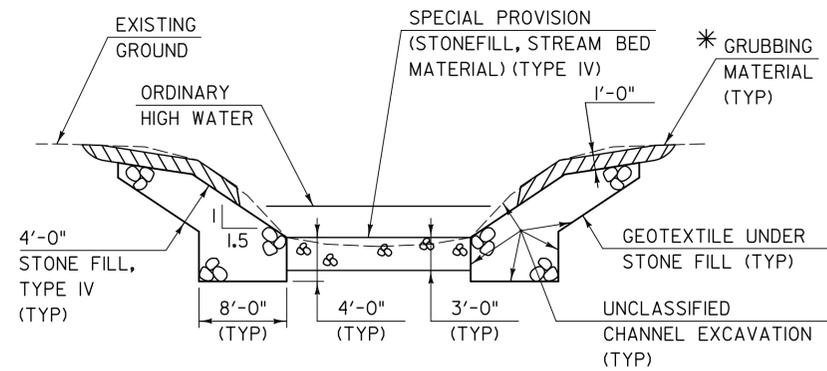
SAFETY EDGE DETAIL
 NOT TO SCALE

1. LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE" AT THE CONTRACTOR'S CHOICE.
2. THE EDGE OF PAVEMENT SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE 30 TO 35 DEGREE ANGLE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.
3. THE PAVED SHOULDER EXTENDS FROM THE EDGE OF TRAVELED WAY TO THE EDGE OF THE WEARING COURSE, INCLUDING THE "SAFETY EDGE".

FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

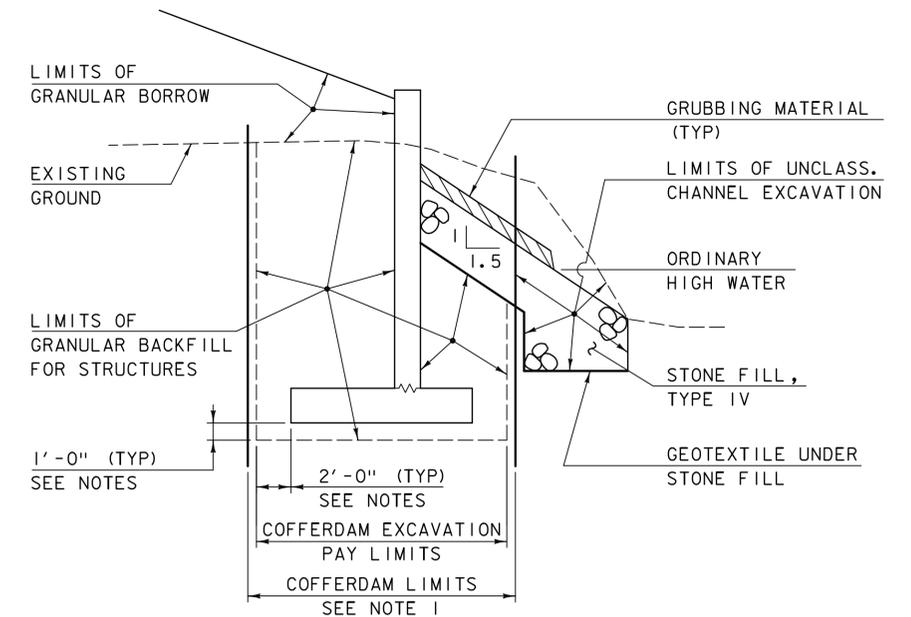
TYLIN INTERNATIONAL

PROJECT NAME: DUXBURY	PLOT DATE: 4/18/2016
PROJECT NUMBER: BF 013-4(47)	DRAWN BY: S. MORGAN
FILE NAME: z16b001typ1.dgn	CHECKED BY: J. OLUND
PROJECT LEADER: J. OLUND	SHEET 3 OF 40
DESIGNED BY: J. HOWE	
TYPICAL SECTIONS AND DETAILS 1	

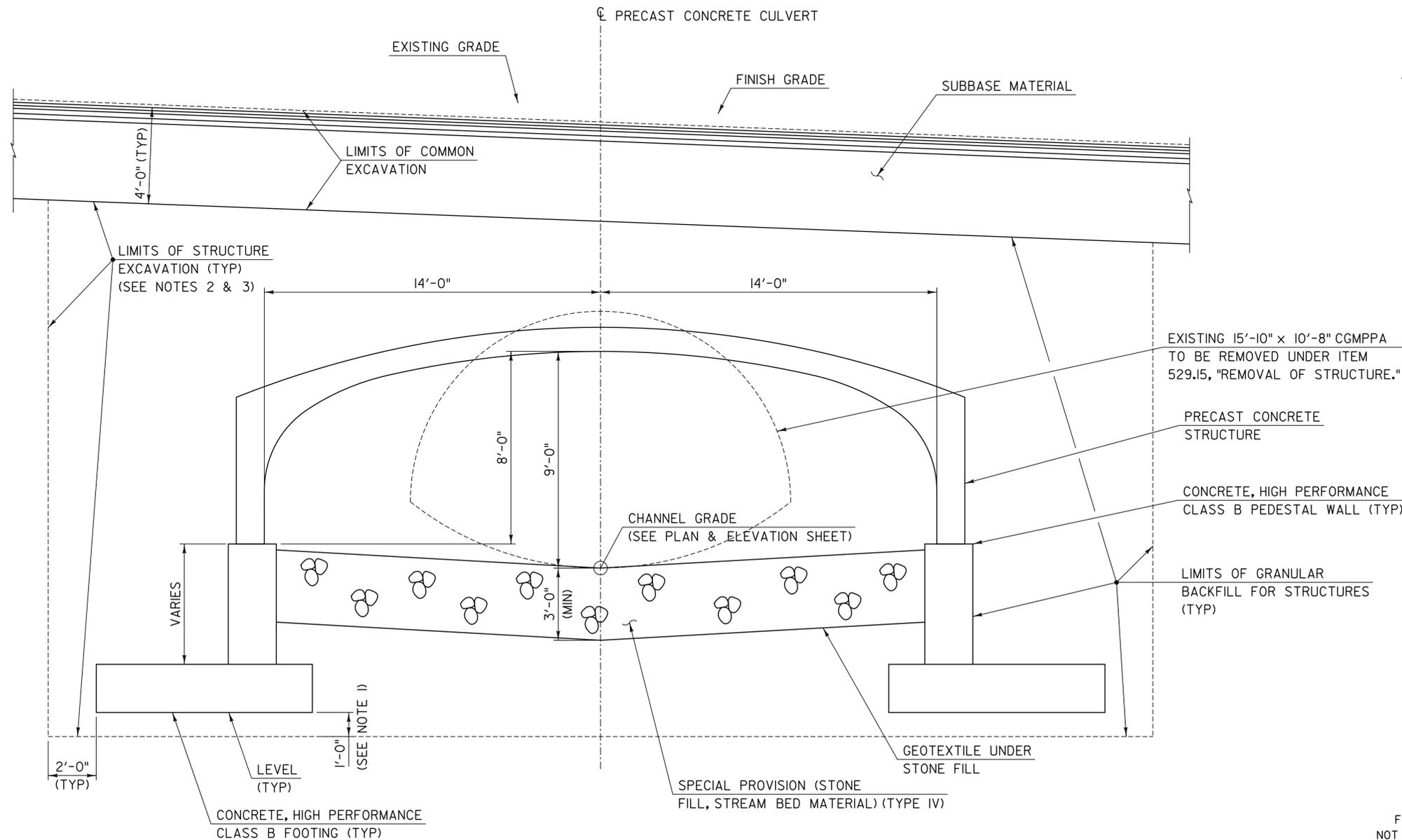


TYPICAL CHANNEL SECTION
(NOT TO SCALE)

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



TYPICAL WINGWALL EARTHWORK SECTION
(NOT TO SCALE)



PRECAST CONCRETE CULVERT AND EARTHWORK TYPICAL SECTION

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

NOTES:

- ONE FOOT UNDERCUT AS DETERMINED NECESSARY BY THE ENGINEER.
- ACTUAL LIMITS OF STRUCTURE EXCAVATION TO BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY THE EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER ITEM 204.25, "STRUCTURE EXCAVATION." EXCAVATION BY THE CONTRACTOR OUTSIDE THESE LIMITS WILL BE AT THE EXPENSE OF THE CONTRACTOR.
- LIMITS EXCLUDE EXISTING CGMPA CULVERT.
- MINIMUM WATERWAY OPENING SHALL BE 195 FT².
- THE CONTRACTOR IS MADE AWARE OF THE POTENTIAL TO ENCOUNTER EXISTING SUBSTRUCTURE REMNANTS. REMOVAL OF ANY EXISTING SUBSTRUCTURE WILL BE PAID UNDER ITEM 208.35, "COFFERDAM EXCAVATION, ROCK."

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

TYLIN INTERNATIONAL

FILE NAME: z16b001typ2.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: J. OLUND
TYPICAL SECTIONS AND DETAILS 2

PLOT DATE: 4/18/2016
DRAWN BY: P. BRYANT
CHECKED BY: B. TOOTHAKER
SHEET 4 OF 40

GENERAL

1. ALL MATERIALS, DESIGN, 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, 7TH EDITION WITH INTERIMS THROUGH 2016.
2. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68°F, UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR SHALL LOCATE WATER LINES PRIOR TO EXCAVATION FOR EXISTING STRUCTURE REMOVAL. PAYMENT WILL BE MADE UNDER ITEM 204.22, "TRENCH EXCAVATION OF EARTH, EXPLORATORY."

EARTHWORK, REMOVAL, AND RELATED ITEMS

4. NO ONSITE DISPOSAL OF WASTE MATERIALS SHALL BE ALLOWED.
5. THE EXISTING CGMPPA, HEADWALLS AND WINGWALLS SHALL BE REMOVED IN THEIR ENTIRETY. PAYMENT FOR REMOVAL WILL BE MADE UNDER ITEM 529.15, "REMOVAL OF STRUCTURE."
6. THE TYPE IV "STONE FILL, STREAMBED MATERIAL" WITHIN THE CHANNEL AND UNDER THE PRECAST CONCRETE ARCHES AS SHOWN ON THE PLANS SHALL BE PLACED BEFORE THE PRECAST CONCRETE ARCHES ARE SET.

TRAFFIC CONTROL

7. THE EXISTING TEMPORARY BRIDGE AND CONSTRUCTION SIGNING ON EXISTING ALIGNMENT SHALL BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF THE DOWNSTREAM TEMPORARY ROADWAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF EXISTING TEMPORARY BRIDGE, APPROACHES, AND SIGNING DURING CONSTRUCTION OF THE DOWNSTREAM TEMPORARY ROADWAY. ONCE TRAFFIC IS TRANSFERRED TO THE DOWNSTREAM TEMPORARY ROADWAY, THE EXISTING TEMPORARY BRIDGE SHALL BE DISMANTLED AND DELIVERED TO THE VTRANS MAINTENANCE GARAGE IN {LOCATION} ALONG WITH ALL EXISTING CONSTRUCTION SIGNING AND TEMPORARY CONCRETE BLOCKS USED FOR SOIL RETENTION. PAYMENT FOR MAINTENANCE, REMOVAL, AND DELIVERY OF THE EXISTING TEMPORARY BRIDGE, CONSTRUCTION SIGNING, AND CONCRETE BLOCKS WILL BE MADE UNDER ITEM 900.645, "SPECIAL PROVISION (REMOVAL OF TEMPORARY BRIDGE AND APPROACHES)."

CONCRETE

8. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL CONCRETE SURFACES EXPOSED IN THE FINAL CONDITION, WITH THE EXCEPTION OF THE UNDERSIDE OF THE PRECAST CONCRETE ARCHES.
9. ALL REINFORCING STEEL SHALL MEET THE REQUIREMENTS FOR LEVEL I, EPOXY COATED CORROSION RESISTANCE IN ACCORDANCE WITH SECTION 507, UNLESS OTHERWISE NOTED.
10. MINIMUM CLEAR COVER SHALL BE AS FOLLOWS:
 - ALONG TOP SURFACE OF SUPERSTRUCTURE: 2 ½ INCH
 - ALONG BOTTOM SURFACE OF SUPERSTRUCTURE: 1 ½ INCH
 - ALONG BACK FACES OF WALLS AGAINST EARTH: 2 INCH
 - ELSEWHERE UNLESS OTHERWISE INDICATED: 3 INCH
11. TEST BARS SHALL BE PROVIDED IN ACCORDANCE WITH THE "VERMONT AGENCY OF TRANSPORTATION MATERIAL SAMPLING MANUAL" AVAILABLE ON THE AGENCY WEBSITE.

PRECAST CONCRETE ARCHES

12. VTRANS HAS PURCHASED AND ARRANGED FOR STORAGE OF PRECAST CONCRETE ARCHES, WINGWALLS, AND HEADWALLS AT {LOCATION}. THE CONTRACTOR SHALL COORDINATE THE DELIVERY OF THE PRECAST CONCRETE COMPONENTS AND INSTALL IN ACCORDANCE WITH THESE PLANS, THE CORRESPONDING FABRICATION DRAWINGS, AND SECTION 540. PAYMENT FOR COORDINATION, DELIVERY, AND INSTALLATION SHALL BE MADE UNDER ITEM 900.645, "SPECIAL PROVISION (XXXX)."

13.

ELECTRICAL

14.

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

TYLININTERNATIONAL

PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

FILE NAME: z16b00lnotes.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: J. OLUND
GENERAL NOTES

PLOT DATE: 4/18/2016
DRAWN BY: S. MORGAN
CHECKED BY: ----
SHEET 5 OF 40

GENERAL INFORMATION

SYMBOLOLOGY LEGEND NOTE

THE SYMBOLOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOLOGY. THE SYMBOLOLOGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLOLOGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT CODE	DESCRIPTION
CH	CHANNEL EASEMENT
CONST	CONSTRUCTION EASEMENT
CUL	CULVERT EASEMENT
D&C	DISCONNECT & CONNECT
DIT	DITCH EASEMENT
DR	DRAINAGE EASEMENT
DRIVE	DRIVEWAY EASEMENT
EC	EROSION CONTROL
HWY	HIGHWAY EASEMENT
I&M	INSTALL & MAINTAIN EASEMENT
LAND	LANDSCAPE EASEMENT
R&RES	REMOVE & RESET
R&REP	REMOVE & REPLACE
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
■	BNDNS BOUND SET
▣	BNDNS BOUND TO BE SET
●	IPNS IRON PIN SET
⊙	IPNS IRON PIN TO BE SET
⊗	CALC EXISTING ROW POINT
○	PROW PROPOSED ROW POINT
[LENGTH]	LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT CODE	DESCRIPTION
⊗	APL BOUND APPARENT LOCATION
□	BM BENCHMARK
▣	BND BOUND
▣	CB CATCH BASIN
⊕	COMB COMBINATION POLE
▣	DITHR DROP INLET THROATED DNC
⊕	EL ELECTRIC POWER POLE
○	FPOLE FLAGPOLE
⊙	GASFIL GAS FILLER
⊙	GP GUIDE POST
⊗	GSO GAS SHUT OFF
○	GUY GUY POLE
○	GUYW GUY WIRE
⊗	GV GATE VALVE
⊗	H TREE HARDWOOD
△	HCTRL CONTROL HORIZONTAL
△	HVCTRL CONTROL HORIZ. & VERTICAL
◇	HYD HYDRANT
⊙	IP IRON PIN
⊙	IPIPE IRON PIPE
⊕	LI LIGHT - STREET OR YARD
⊕	MB MAILBOX
○	MH MANHOLE (MH)
▣	MM MILE MARKER
○	PM PARKING METER
▣	PMK PROJECT MARKER
○	POST POST STONE/WOOD
⊗	RRSIG RAILROAD SIGNAL
⊕	RRSL RAILROAD SWITCH LEVER
⊕	S TREE SOFTWOOD
⊕	SAT SATELLITE DISH
⊕	SHRUB SHRUB
⊕	SIGN SIGN
⊕	STUMP STUMP
⊕	TEL TELEPHONE POLE
○	TIE TIE
⊕	TSIGN SIGN W/DOUBLE POST
⊕	VCTRL CONTROL VERTICAL
○	WELL WELL
⊗	WSO WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLOLOGY

UNDERGROUND UTILITIES

— UGU —	UTILITY (GENERIC-UNKNOWN)
— UT —	TELEPHONE
— UE —	ELECTRIC
— UC —	CABLE (TV)
— UEC —	ELECTRIC+CABLE
— UET —	ELECTRIC+TELEPHONE
— UCT —	CABLE+TELEPHONE
— UECT —	ELECTRIC+CABLE+TELEP.
— G —	GAS LINE
— W —	WATER LINE
— S —	SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

— AGU —	UTILITY (GENERIC-UNKNOWN)
— T —	TELEPHONE
— E —	ELECTRIC
— C —	CABLE (TV)
— EC —	ELECTRIC+CABLE
— ET —	ELECTRIC+TELEPHONE
— AER E&T —	ELECTRIC+TELEPHONE
— CT —	CABLE+TELEPHONE
— ECT —	ELECTRIC+CABLE+TELEP.
— — —	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOLOGY

— — — CZ — — —	CLEAR ZONE
—————	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

△ — △ — △ — △	TOP OF CUT SLOPE
○ — ○ — ○ — ○	TOE OF FILL SLOPE
⊗ ⊗ ⊗ ⊗ ⊗ ⊗	STONE FILL
-----	BOTTOM OF DITCH
-----	CULVERT PROPOSED
-----	STRUCTURE SUBSURFACE
PDF — PDF —	PROJECT DEMARCATION FENCE
BF * * * BF * * *	BARRIER FENCE
XXXXXXXXXXXXXXXXXXXX	TREE PROTECTION ZONE (TPZ)
//////	STRIPING LINE REMOVAL
~~~~~	SHEET PILES

**CONVENTIONAL BOUNDARY SYMBOLOLOGY**

**BOUNDARY LINES**

—————	TOWN LINE	TOWN BOUNDARY LINE
—————	COUNTY LINE	COUNTY BOUNDARY LINE
—————	STATE LINE	STATE BOUNDARY LINE
///		PROPOSED STATE R.O.W. (LIMITED ACCESS)
---		PROPOSED STATE R.O.W.
---		STATE ROW (LIMITED ACCESS)
---		STATE ROW
---		TOWN ROW
---		PERMANENT EASEMENT LINE (P)
---		TEMPORARY EASEMENT LINE (T)
+		SURVEY LINE
P L P L		PROPERTY LINE (P/L)
△ SR ○ SR △ SR ○		SLOPE RIGHTS
6f		6F PROPERTY BOUNDARY
4f		4F PROPERTY BOUNDARY
HAZ		HAZARDOUS WASTE

**EPSC LAYOUT PLAN SYMBOLOLOGY**

**EPSC MEASURES**

ONNOONNOONNO	FILTER CURTAIN
— X — X — X — X	SILT FENCE
— X — X — X — X	SILT FENCE WOVEN WIRE
▶ — ▶ — ▶ — ▶	CHECK DAM
▣	DISTURBED AREAS REQUIRING RE-VEGETATION
⊗	EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOLOGY

**ENVIRONMENTAL RESOURCES**

— W —	WETLAND BOUNDARY
-----	RIPARIAN BUFFER ZONE
-----	WETLAND BUFFER ZONE
-----	SOIL TYPE BOUNDARY
— T&E —	THREATENED & ENDANGERED SPECIES
HAZ — HAZ	HAZARDOUS WASTE AREA
— AG —	AGRICULTURAL LAND
— HABITAT —	FISH & WILDLIFE HABITAT
— FLOOD PLAIN —	FLOOD PLAIN
— OHW —	ORDINARY HIGH WATER (OHW)
— — —	STORM WATER
-----	USDA FOREST SERVICE LANDS
-----	WILDLIFE HABITAT SUIT/CONN

**ARCHEOLOGICAL & HISTORIC**

— ARCH —	ARCHEOLOGICAL BOUNDARY
— HISTORIC DIST —	HISTORIC DISTRICT BOUNDARY
— HISTORIC —	HISTORIC AREA
(H)	HISTORIC STRUCTURE

**CONVENTIONAL TOPOGRAPHIC SYMBOLOLOGY**

**EXISTING FEATURES**

-----	ROAD EDGE PAVEMENT
-----	ROAD EDGE GRAVEL
-----	DRIVEWAY EDGE
-----	DITCH
-----	FOUNDATION
— X — X — X — X	FENCE (EXISTING)
□ — □ — □ — □	FENCE WOOD POST
○ — ○ — ○ — ○	FENCE STEEL POST
~~~~~	GARDEN
○ — ○ — ○ — ○	ROAD GUARDRAIL
	RAILROAD TRACKS
-----	CULVERT (EXISTING)
○○○○○○○○○○○○○○○○	STONE WALL
-----	WALL
~~~~~	WOOD LINE
~~~~~	BRUSH LINE
~~~~~	HEDGE
-----	BODY OF WATER EDGE
~~~~~	LEDGE EXPOSED

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

TYLIN INTERNATIONAL

FILE NAME: z16b001legend.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: T. POULIN
CONVENTIONAL SYMBOLOLOGY LEGEND

PLOT DATE: 4/18/2016
DRAWN BY: T. POULIN
CHECKED BY: J. OLUND
SHEET 6 OF 40

GPS CONTROL POINTS

HVCTRL #1
 "STATE FARM"
 NORTH = 665405.5920
 EAST = 1575241.4560
 ELEV. = 456.5610

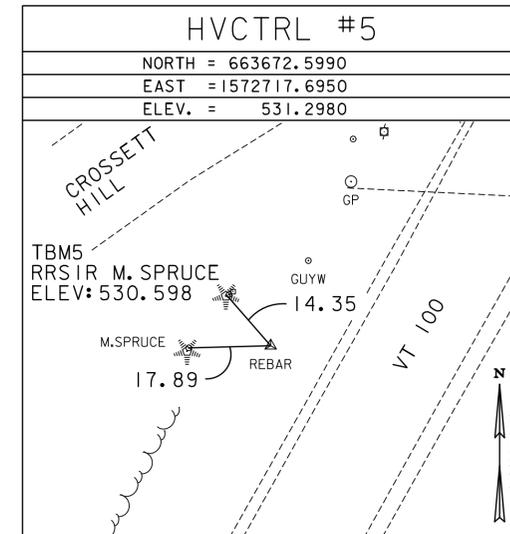
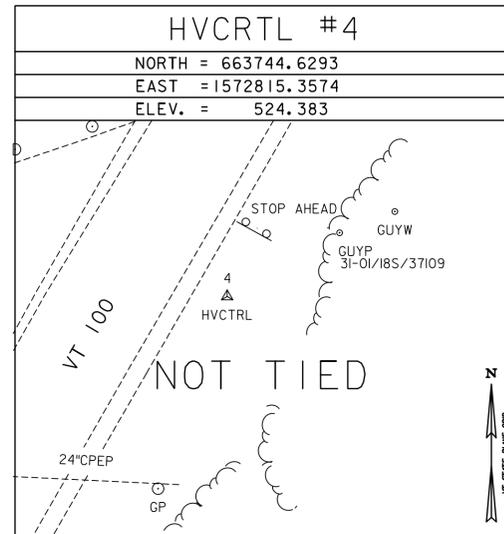
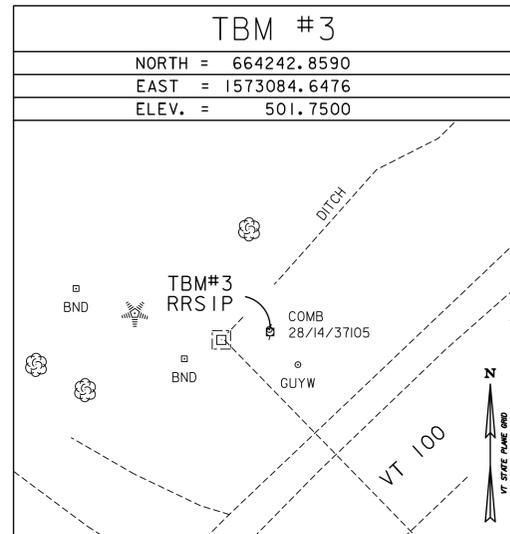
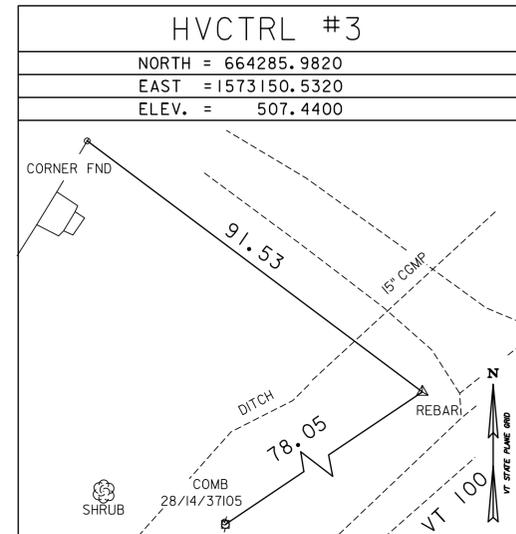
DUXBURY, VT.
 THE MARK IS SET FLUSH WITH GROUND SURFACE IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT, AT THE SITE OF THE FORMER STATE OF VERMONT FARM STORAGE BARN. IT IS 24.7 M SOUTH OF AND 1.5 M HIGHER THAN THE CENTERLINE OF VT ROUTE 100, 9.4 M EAST-NORTHEAST OF THE CENTERLINE OF A PAVED DRIVE LEADING TO THE BARN, 36.1 M NORTH-NORTHWEST OF THE NORTH CORNER OF THE BARN, 23.1 M EAST-NORTHEAST OF POLE NO 2/2, AND 1.9 M SOUTH OF THE GRAVEL DRIVE LEADING TO HOUSE NO 11.

HVCTRL #2
 "BEDELL"
 NORTH = 664729.5220
 EAST = 1574008.0820
 ELEV. = 561.2400

DUXBURY, VT.
 1.0 MI (1.6 KM) SOUTH SOUTHEAST OF WATERBURY, 4.4 MI (7.1 KM) WEST NORTHWEST OF MIDDLESEX, AND 5.3 MI (8.5 KM) NORTH OF MORETOWN. TO REACH FROM THE JUNCTION OF VERMONT ROUTE 100 SOUTH AND U.S. ROUTE 2 IN WATERBURY, PROCEED SOUTHWEST ALONG VERMONT ROUTE 100 FOR 0.5 MI (0.8 KM) TO AND OPEN KNOLL AND THE STATION SITE ON THE NORTHEAST SIDE OF ROUTE 100. THE MARK IS A STATE OF VERMONT SURVEY DISK SET IN THE TOP OF A CONCRETE MONUMENT 20 CM IN DIAMETER, FLUSH WITH THE GROUND SURFACE. IT IS LOCATED 252 FT (76.8 M) NORTHWEST OF A CONCRETE HIGHWAY BOUND, 194 FT (59.1 M) NORTHEAST OF THE CENTERLINE OF VERMONT ROUTE 100, 31.46 FT (9.59 M) SOUTH OF A CONCRETE HIGHWAY BOUND, 27 FT (8.2 M) SOUTHWEST OF THE STATE HIGHWAY RIGHT OF WAY FENCE, AND 5 FT (1.5 M) NORTHEAST OF A STEEL WITNESS POST. OWNERSHIP IS THE STATE OF VERMONT.

*GPS CONTROL PROVIDED BY VT GSU 2016

TRAVERSE TIES



*TRAVERSE COMPLETED BY: G.HITCHCOCK PC/ B.HERRING, K.KELLY, 4/05/2016

CHANNEL ALIGNMENT

HORIZONTAL ALIGNMENT NAME:	STATION	NORTHING	EASTING
ELEMENT: LINEAR			
POB	19+25.00	664034.3448	1572799.5241
PI	20+25.00	664034.5307	1572899.5239
TANGENT DIRECTION: N 89°53'36.72" E			
TANGENT LENGTH: 100.00			
ELEMENT: LINEAR			
PI	20+25.00	664034.5307	1572799.5241
PI	22+75.00	664103.6964	1573139.7656
TANGENT DIRECTION: N 73°56'19.85" E			
TANGENT LENGTH: 250.00			
ELEMENT: LINEAR			
PI	22+75.00	664103.6964	1573139.7656
PI	23+75.00	664104.5855	1573239.7617
TANGENT DIRECTION: N 89°29'26.12" E			
TANGENT LENGTH: 100.00			

MAINLINE ALIGNMENT

HORIZONTAL ALIGNMENT NAME:	STATION	NORTHING	EASTING
HORIZONTAL ALIGNMENT NAME: VT 100 PROPOSED			
ELEMENT: LINEAR			
POB	287+51.15	663486.4469	1572645.8525
PC	289+51.36	663661.7050	1572742.6525
TANGENT DIRECTION: N 28°54'47.28" E			
TANGENT LENGTH: 200.21			
ELEMENT: CIRCULAR			
PC	289+51.36	663661.7050	1572742.6525
PI	290+51.37	663749.2493	1572791.0058
CC		660891.5502	1577758.0617
PT	291+51.36	663835.0527	1572842.3848
RADIUS: 5729.58			
DELTA: 2°00'00.00" RIGHT			
DEGREE OF CURVATURE (ARC): 1°00'00.00"			
LENGTH: 200.00			
TANGENT: 100.01			
CHORD: 199.99			
MIDDLE ORDINATE: 0.87			
EXTERNAL: 0.87			
TANGENT DIRECTION: N 28°54'47.28" E			
RADIAL DIRECTION: S 61°05'12.72" E			
CHORD DIRECTION: N 29°54'47.28" E			
RADIAL DIRECTION: S 59°05'12.72" E			
TANGENT DIRECTION: N 30°54'47.28" E			
ELEMENT: LINEAR			
PT	291+51.36	663835.0527	1572842.3848
PC	293+25.55	663984.4984	1572931.8727
TANGENT DIRECTION: N 30°54'47.28" E			
TANGENT LENGTH: 174.19			

HORIZONTAL ALIGNMENT NAME: VT 100 PROPOSED

ELEMENT:	STATION	NORTHING	EASTING
ELEMENT: CIRCULAR			
PC	293+25.55	663984.4984	1572931.8727
PI	298+75.05	664455.9369	1573214.1697
CC		663423.8305	1573868.1934
PT	303+43.66	664509.9043	1573761.0091
RADIUS: 1091.35			
DELTA: 53°27'02.22" RIGHT			
DEGREE OF CURVATURE (ARC): 5°14'59.97"			
LENGTH: 1018.11			
TANGENT: 549.50			
CHORD: 981.59			
MIDDLE ORDINATE: 116.59			
EXTERNAL: 130.53			
TANGENT DIRECTION: N 30°54'47.28" E			
RADIAL DIRECTION: S 59°05'12.72" E			
CHORD DIRECTION: N 57°38'18.39" E			
RADIAL DIRECTION: S 5°38'10.50" E			
TANGENT DIRECTION: N 84°21'49.50" E			
ELEMENT: LINEAR			
PT	303+43.66	664509.9043	1573761.0091
POE	305+43.66	664529.5465	1573960.0393
TANGENT DIRECTION: N 84°21'49.50" E			
TANGENT LENGTH: 200.00			

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (1996)
ADJUSTMENT	N/A

FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

PROJECT NAME: DUXBURY
 PROJECT NUMBER: BF 013-4(47)

TYLIN INTERNATIONAL

FILE NAME: z16B001t1.dgn
 PROJECT LEADER: J. OLUND
 DESIGNED BY: J. HOWE
 TIE SHEET

PLOT DATE: 4/18/2016
 DRAWN BY: VTRANS
 CHECKED BY: K. DUCHARME
 SHEET 7 OF 40

REMOVAL OF STRUCTURE
STA 293+51.47 LT - 294+90.57 RT

CONSTRUCT DRIVES
29X+XX.XX - 29X+X.X, LT
8' PAVED APRON

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 292+86.22 - 296+25.08, RT
STA 293+11.79 - 295+52.63, LT
ADJUST ELEVATION OF VALVE BOX
STA 29X+XX.XX, LT

WIRED CONDUIT 1" SCH 80 PVC
292+43.20, RT TO 292+74.57, RT

POWER DROP STANCHION, STREET LIGHTING
292+43.20, RT

FLASHING BEACON, GROUND MOUNTED
292+74.57, RT

CURVE (1)
DELTA = 2°00'00"
D = 1°00'00"
R = 5729.58'
T = 100.01'
L = 200.00'
E = 0.87'

BEGIN APPROACH
STA. 291+25.00
MATCH EXISTING

BEGIN PROJECT
STA 293+00.00

END BRIDGE
STA 294+38.28

END PROJECT
STA 295+25.00

HVCTRL #5
EL 531.30

HVCTRL #4
EL 524.38

HD STEEL BEAM GUARDRAIL, GALVANIZED
STA 293+12.95 - 294+26.01, LT
STA 294+20.80 - 296+63.02, RT

MANUFACTURED TERMINAL SECTION, FLARED
STA 294+20.80, RT
STA 294+26.01, LT

ANCHOR FOR STEEL BEAM RAIL
STA 293+26.45, LT

EXISTING CULVERT DATA
SINGLE 15'-10" X 10'-8" CGMPPA
CONSTRUCTED IN 1973
STRUCTURE LENGTH = 158'-0"

CONSTRUCT DRIVES
STA 292+14, RT
STA 293+03, LT

NOTES:

- DRIVE APRON SHALL BE ONE LIFT, 3" THICK, TYPE IVS, TO BE PAID UNDER ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".
- GRAVEL DRIVE FOR UTILITY ACCESS SHALL BE 15 FT WIDE AND CONSIST OF 1FOOT OF GRAVEL SUBBASE PLACED UPON GEOTEXTILE FOR STONE FILL. PAYMENT WILL BE MADE UNDER APPLICABLE ITEMS.

LAYOUT I

SCALE 1" = 20' - 0"
20 0 20

FLOODWAY AND RIVER CORRIDOR NOTES:

- FLOODWAY AND FLOOD FRINGE DELINEATION BOUNDARIES ARE APPROXIMATED FROM PUBLISHED NATIONAL FLOOD INSURANCE PROGRAM (NFIP) MAPS DATED MARCH 19, 2013.
- THE BASE FLOOD ELEVATION (Q100) AT THE BRIDGE INLET IS APPROXIMATELY 505.0, IN NAVD 88.
- ANR RIVER CORRIDOR DELINEATION BOUNDARIES ARE APPROXIMATED FROM MAPS PRODUCED BY "FLOOD READY VERMONT" STATE PROGRAM.

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

TYLIN INTERNATIONAL

FILE NAME: z16b00lbr.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: J. HOWE
LAYOUT SHEET I

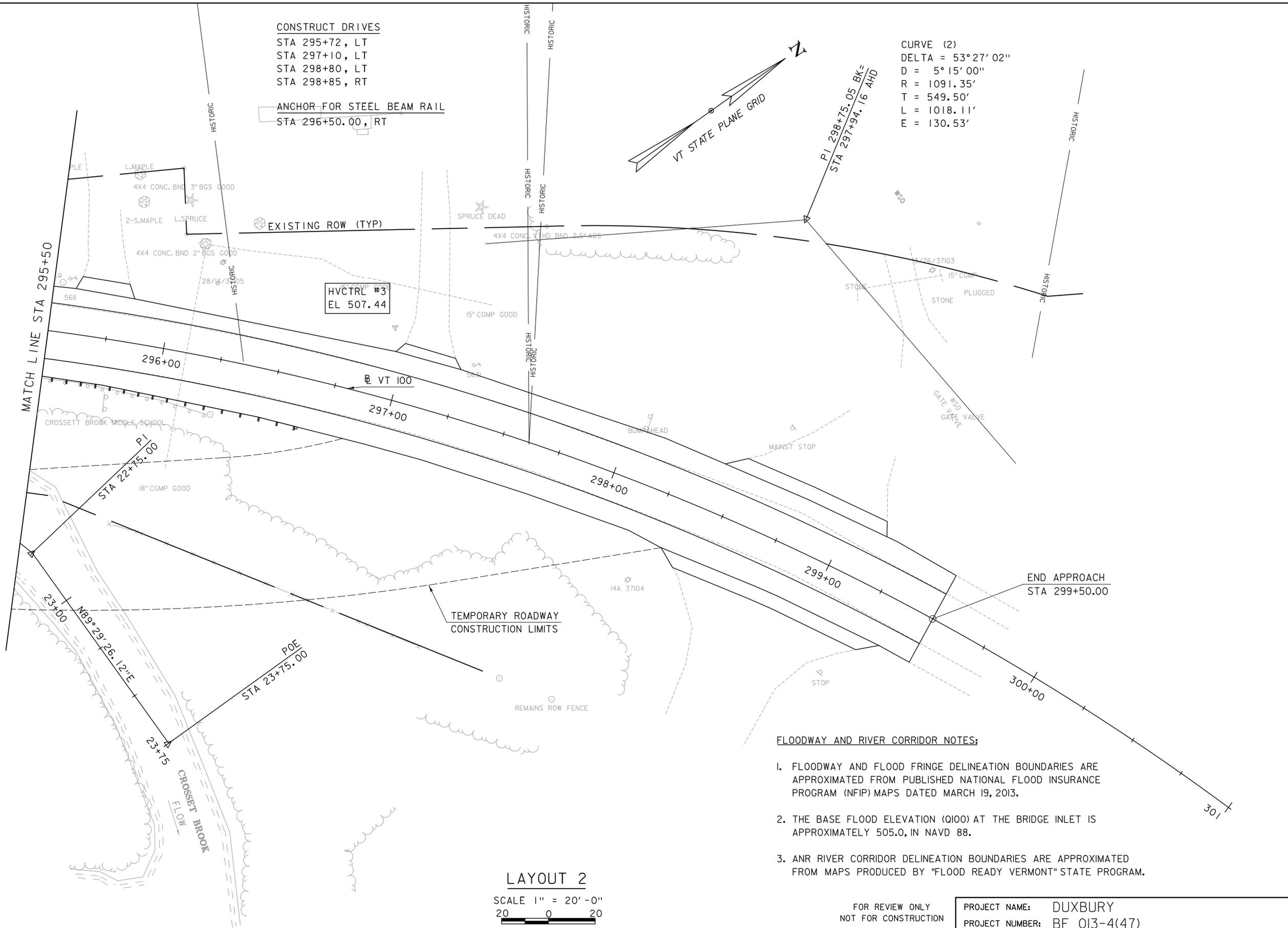
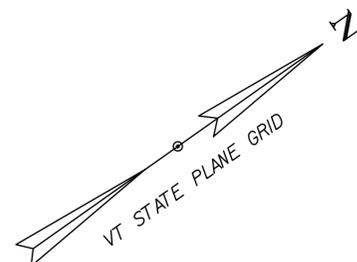
PLOT DATE: 4/18/2016
DRAWN BY: S. MORGAN
CHECKED BY: XXXXX
SHEET 8 OF 40

CONSTRUCT DRIVES

STA 295+72, LT
 STA 297+10, LT
 STA 298+80, LT
 STA 298+85, RT

ANCHOR FOR STEEL BEAM RAIL
 STA 296+50.00, RT

CURVE (2)
 DELTA = 53°27'02"
 D = 5°15'00"
 R = 1091.35'
 T = 549.50'
 L = 1018.11'
 E = 130.53'



MATCH LINE STA 295+50

END APPROACH
 STA 299+50.00

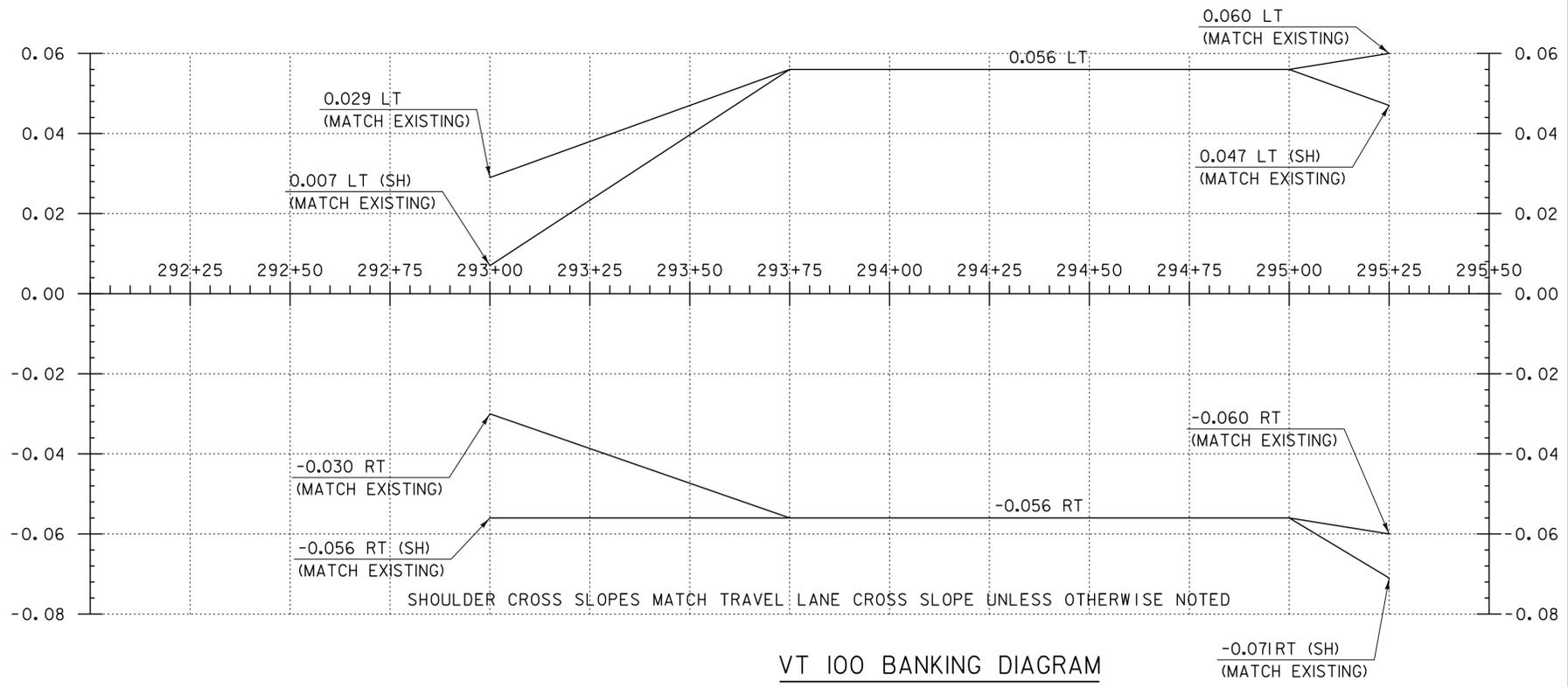
TEMPORARY ROADWAY
 CONSTRUCTION LIMITS

FLOODWAY AND RIVER CORRIDOR NOTES:

1. FLOODWAY AND FLOOD FRINGE DELINEATION BOUNDARIES ARE APPROXIMATED FROM PUBLISHED NATIONAL FLOOD INSURANCE PROGRAM (NFIP) MAPS DATED MARCH 19, 2013.
2. THE BASE FLOOD ELEVATION (Q100) AT THE BRIDGE INLET IS APPROXIMATELY 505.0, IN NAVD 88.
3. ANR RIVER CORRIDOR DELINEATION BOUNDARIES ARE APPROXIMATED FROM MAPS PRODUCED BY "FLOOD READY VERMONT" STATE PROGRAM.

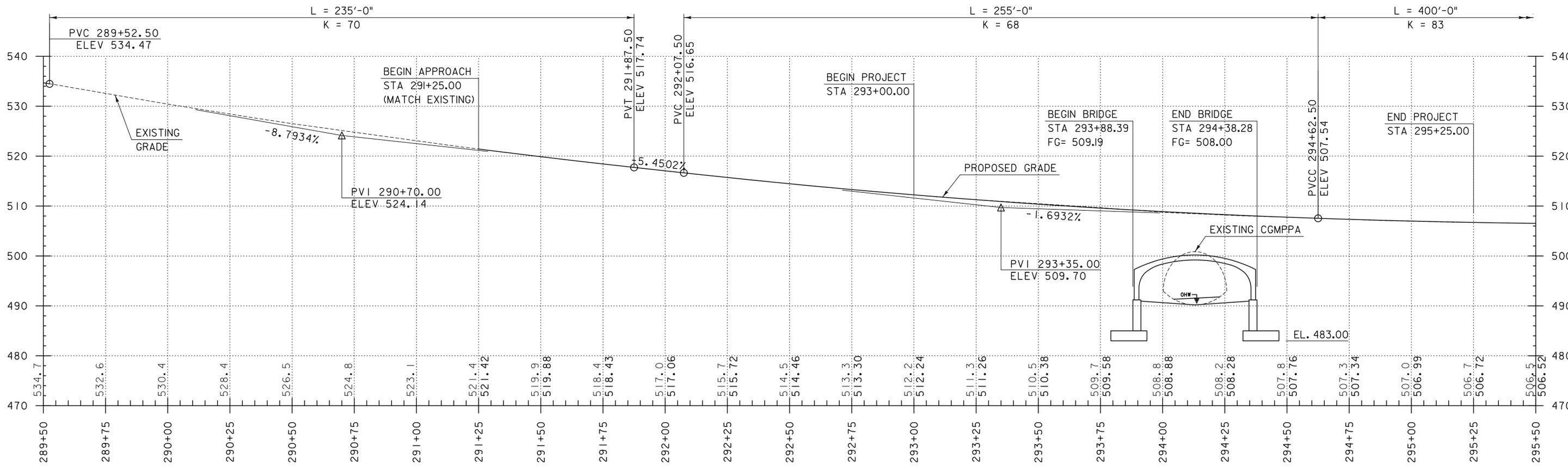
LAYOUT 2
 SCALE 1" = 20' - 0"
 20 0 20

FOR REVIEW ONLY NOT FOR CONSTRUCTION TYLIN INTERNATIONAL	PROJECT NAME: DUXBURY	PLOT DATE: 4/18/2016
	PROJECT NUMBER: BF 013-4(47)	DRAWN BY: S. MORGAN
	FILE NAME: z16b00lbr.dgn	CHECKED BY: XXXXX
	PROJECT LEADER: J. OLUND	SHEET 9 OF 40
	DESIGNED BY: J. HOWE	
	LAYOUT SHEET 2	



VT 100 BANKING DIAGRAM

HORIZONTAL SCALE: 1"=20'
NO VERTICAL SCALE



VT 100 PROFILE I

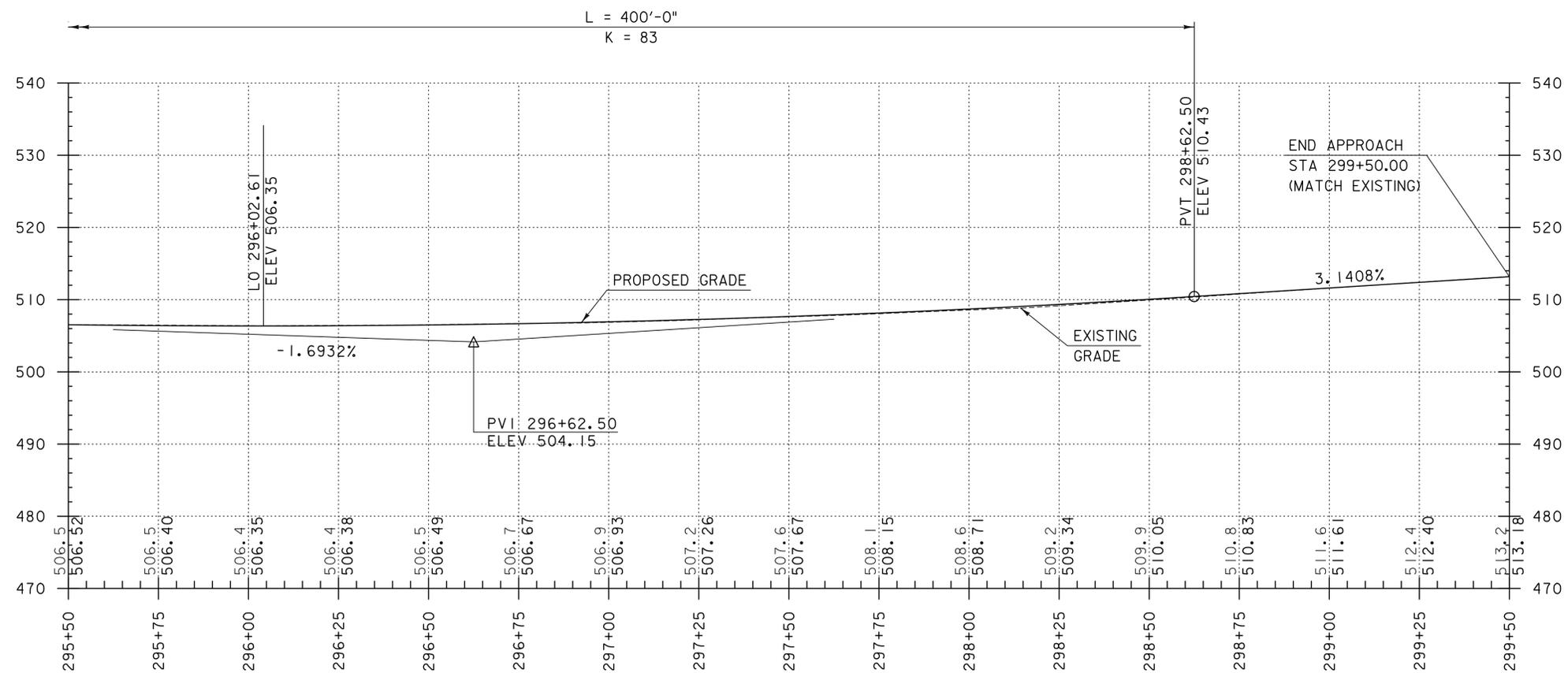
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"= 10'

NOTE:
GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG $\text{\textcircled{C}}$.
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG $\text{\textcircled{C}}$.

FOR REVIEW ONLY
NOT FOR CONSTRUCTION



PROJECT NAME: DUXBURY	FILE NAME: z16b001pro.dgn	PLOT DATE: 4/18/2016
PROJECT NUMBER: BF 013-4(47)	PROJECT LEADER: J. OLUND	DRAWN BY: S. MORGAN
	DESIGNED BY: J. HOWE	CHECKED BY: XXXXX
	PROFILE I	SHEET 10 OF 40



NOTE:

GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG L.

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG C.

VT 100 PROFILE 2

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1" = 10'

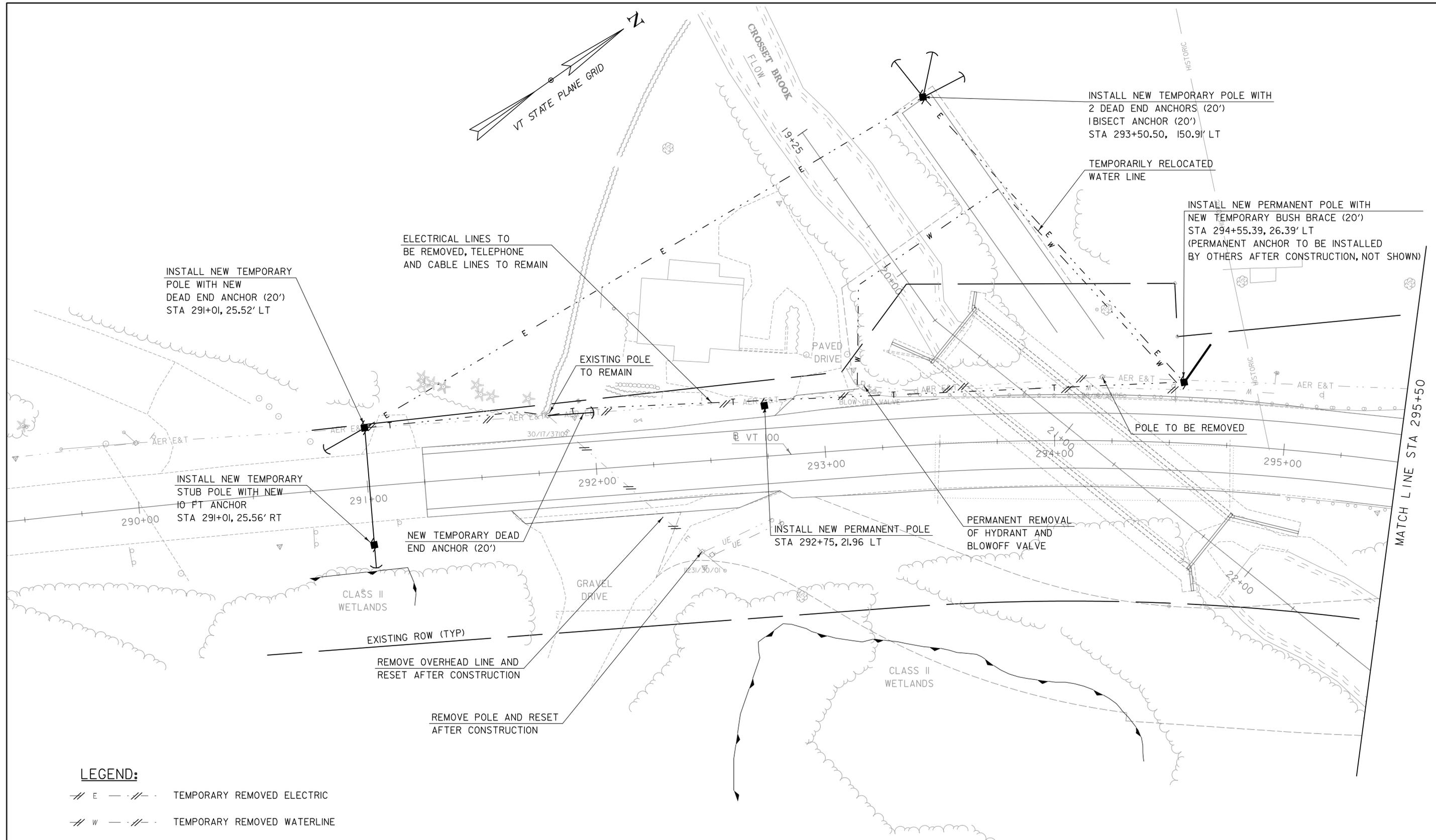
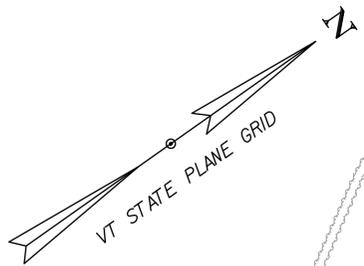
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

TYLIN INTERNATIONAL

PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

FILE NAME: z16b001pro.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: J. HOWE
PROFILE 2

PLOT DATE: 4/18/2016
DRAWN BY: S. MORGAN
CHECKED BY: XXXXX
SHEET II OF 40



INSTALL NEW TEMPORARY POLE WITH NEW DEAD END ANCHOR (20') STA 291+01, 25.52' LT

ELECTRICAL LINES TO BE REMOVED, TELEPHONE AND CABLE LINES TO REMAIN

INSTALL NEW TEMPORARY POLE WITH 2 DEAD END ANCHORS (20') 1BISECT ANCHOR (20') STA 293+50.50, 150.9' LT

TEMPORARILY RELOCATED WATER LINE

INSTALL NEW PERMANENT POLE WITH NEW TEMPORARY BUSH BRACE (20') STA 294+55.39, 26.39' LT (PERMANENT ANCHOR TO BE INSTALLED BY OTHERS AFTER CONSTRUCTION, NOT SHOWN)

INSTALL NEW TEMPORARY STUB POLE WITH NEW 10' FT ANCHOR STA 291+01, 25.56' RT

EXISTING POLE TO REMAIN

POLE TO BE REMOVED

NEW TEMPORARY DEAD END ANCHOR (20')

INSTALL NEW PERMANENT POLE STA 292+75, 21.96 LT

PERMANENT REMOVAL OF HYDRANT AND BLOWOFF VALVE

CLASS II WETLANDS

EXISTING ROW (TYP)

REMOVE OVERHEAD LINE AND RESET AFTER CONSTRUCTION

REMOVE POLE AND RESET AFTER CONSTRUCTION

MATCH LINE STA 295+50

LEGEND:

--- E --- TEMPORARY REMOVED ELECTRIC

--- W --- TEMPORARY REMOVED WATERLINE

NOTE: OVERHEAD UTILITY AND UNDERGROUND WATERLINE RELOCATION EFFORTS SHOWN ON THIS SHEET ARE PERFORMED BY OTHERS AND ARE PROVIDED HEREIN FOR INFORMATION ONLY TO REFLECT CHANGED SITE CONDITIONS. POWER DROP STANCHION, UNDERGROUND ELECTRIC LINE, AND FLASHING LIGHT TO BE REMOVED BY CONTRACTOR. SEE GENERAL NOTES FOR ADDITIONAL DETAILS.

UTILITY RELOCATION LAYOUT I

SCALE 1" = 20' - 0"
 20 0 20

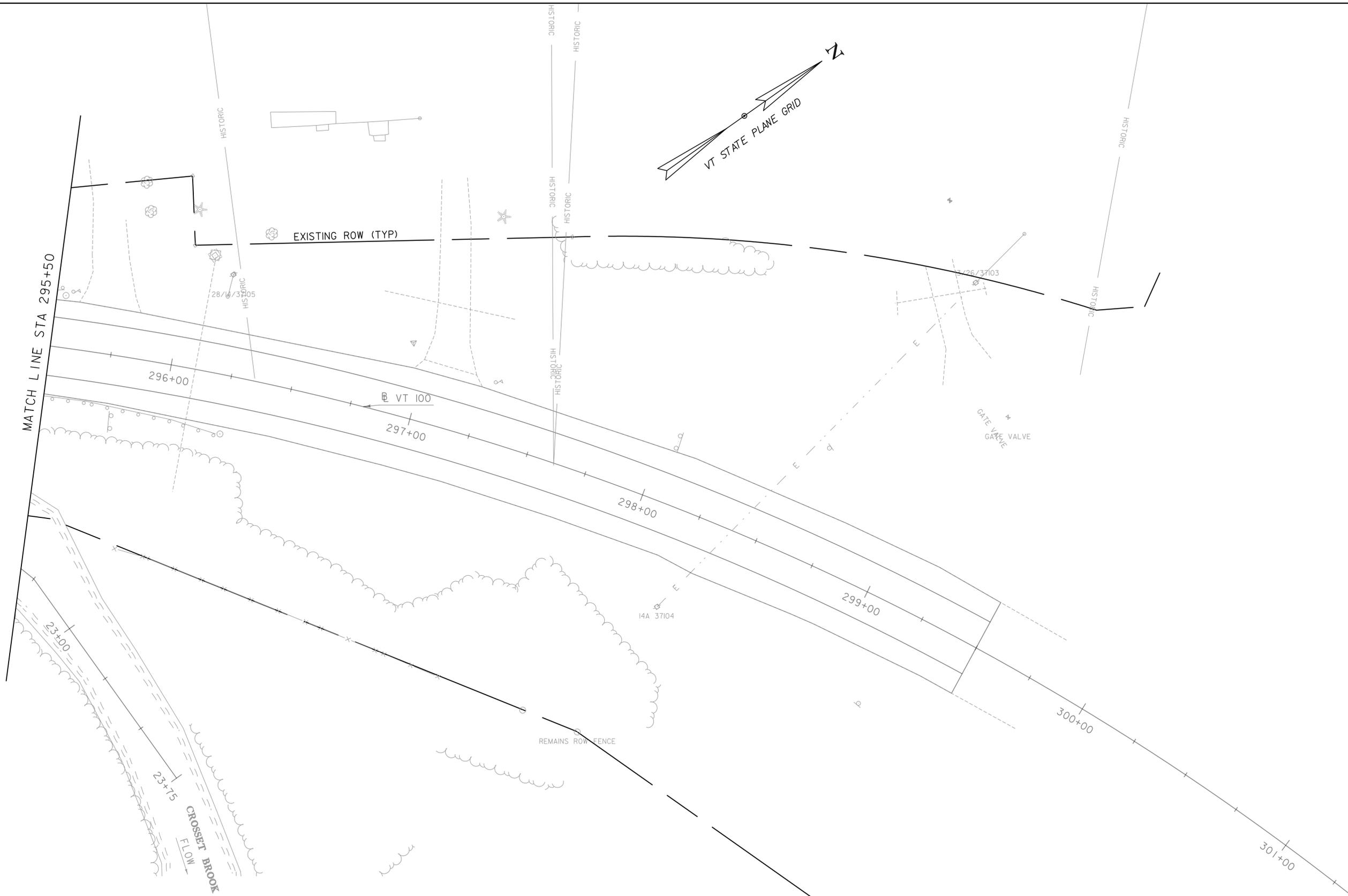
FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

TYLIN INTERNATIONAL

PROJECT NAME: DUXBURY
 PROJECT NUMBER: BF 013-4(47)

FILE NAME: z16b001u11.dgn
 PROJECT LEADER: J. OLUND
 DESIGNED BY: L. WHEELER
 UTILITY RELOCATION LAYOUT I

PLOT DATE: 4/18/2016
 DRAWN BY: S. MORGAN
 CHECKED BY: XXXXX
 SHEET 18 OF 40



UTILITY RELOCATION LAYOUT 2

SCALE 1" = 20'-0"
 20 0 20

FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

PROJECT NAME: DUXBURY
 PROJECT NUMBER: BF 013-4(47)

TYLININTERNATIONAL

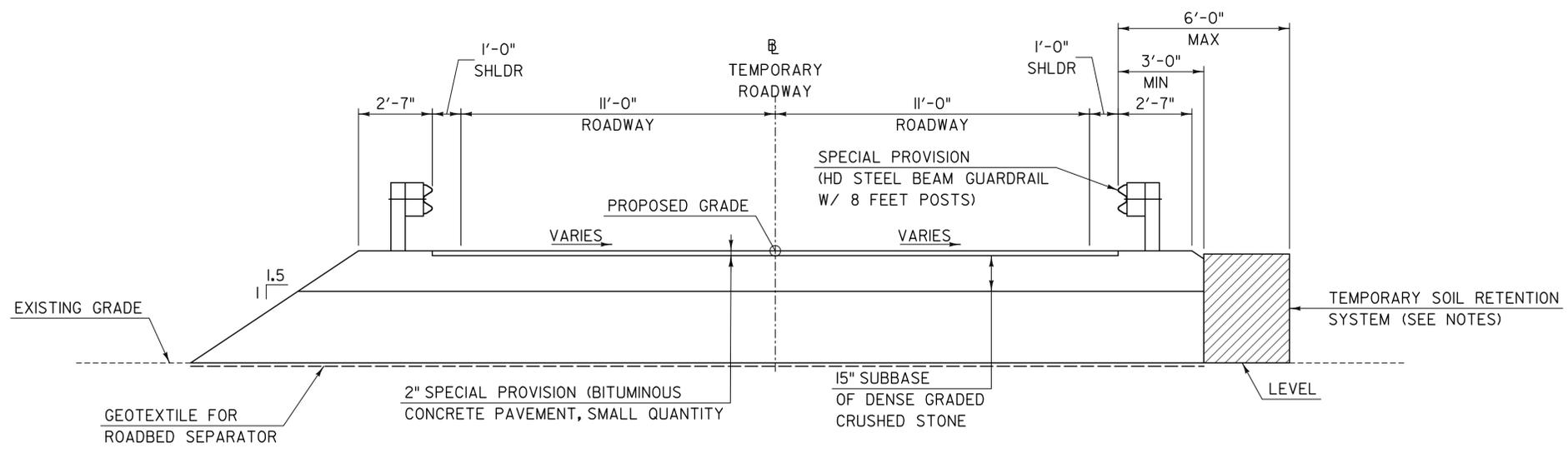
FILE NAME: z16b00lut11.dgn
 PROJECT LEADER: J. OLUND
 DESIGNED BY: L. WHEELER
 UTILITY RELOCATION LAYOUT 2

PLOT DATE: 4/18/2016
 DRAWN BY: S. MORGAN
 CHECKED BY: XXXXX
 SHEET 19 OF 40

NOTE: NO UTILITY RELOCATION THIS SHEET.

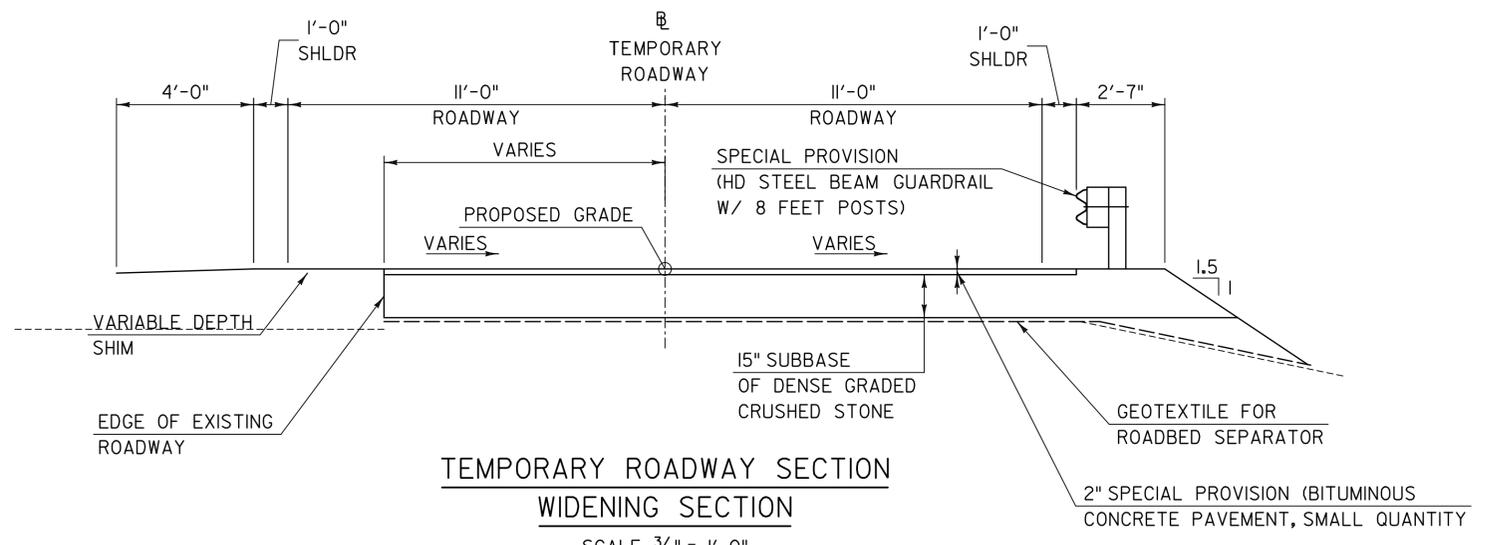
TEMPORARY ROADWAY

	STATION	NORTHING	EASTING
ELEMENT: LINEAR			
POB (I)	50+00.00	663748.3501	1572791.8006
PC (I2)	50+90.47	663826.0835	1572838.0921
TANGENT DIRECTION:	N 30° 46' 28.37" E		
TANGENT LENGTH:	90.47		
ELEMENT: CIRCULAR			
PC (I2)	50+90.47	663826.0835	1572838.0921
PI ()	51+85.39	663907.6317	1572886.6556
CC (I3)	52+74.32	663672.5851	1573095.8483
PRC (I4)	52+74.32	663946.4075	1572973.2868
RADIUS:	300.00		
DELTA:	35° 06' 44.69" RIGHT		
DEGREE OF CURVATURE (ARC):	19° 05' 54.94"		
LENGTH:	183.85		
TANGENT:	94.91		
CHORD:	180.98		
MIDDLE ORDINATE:	13.97		
EXTERNAL:	14.66		
TANGENT DIRECTION:	N 30° 46' 28.37" E		
TANGENT DIRECTION:	N 65° 53' 13.05" E		
ELEMENT: CIRCULAR			
PC (I2)	52+74.32	663946.4075	1572973.2868
PI ()	53+57.57	663980.4171	1573049.2700
CC (I3)	54+36.73	664220.2298	1572850.7254
PRC (I4)	54+36.73	664048.7180	1573096.8629
RADIUS:	300.00		
DELTA:	31° 01' 03.61" LEFT		
DEGREE OF CURVATURE (ARC):	19° 05' 54.94"		
LENGTH:	162.41		
TANGENT:	83.25		
CHORD:	160.43		
MIDDLE ORDINATE:	10.92		
EXTERNAL:	11.34		
TANGENT DIRECTION:	N 65° 53' 13.05" E		
TANGENT DIRECTION:	N 34° 52' 09.44" E		
ELEMENT: LINEAR			
PT (I6)	54+36.73	664048.7180	1573096.8629
PC (I7)	55+66.55	664155.2344	1573171.0849
TANGENT DIRECTION:	N 30° 52' 09.44" E		
TANGENT LENGTH:	129.93		
ELEMENT: CIRCULAR			
PC (I7)	55+66.55	664155.2344	1573171.0849
PI ()	56+04.62	664186.4633	1573192.8457
CC (I8)	56+42.28	664326.7462	1572924.9474
PRC (I9)	56+42.28	664222.1371	1573206.1181
RADIUS:	300.00		
DELTA:	14° 27' 41.94" Left		
DEGREE OF CURVATURE (ARC):	19° 05' 54.94"		
LENGTH:	75.72		
TANGENT:	38.06		
CHORD:	75.52		
MIDDLE ORDINATE:	2.39		
EXTERNAL:	2.40		
TANGENT DIRECTION:	N 34° 52' 09.44" E		
TANGENT DIRECTION:	S 55° 07' 50.56" E		
ELEMENT: CIRCULAR			
PRC (I9)	56+42.28	664222.1371	1573206.1181
PI ()	57+54.32	664327.1533	1573245.1892
CC (I20)	58+56.75	664117.5280	1573487.2887
PCC (I21)	58+56.75	664380.8441	1573343.5367
RADIUS:	300.00		
DELTA:	14° 27' 41.94" Left		
DEGREE OF CURVATURE (ARC):	19° 05' 54.94"		
LENGTH:	214.47		
TANGENT:	112.05		
CHORD:	209.93		
MIDDLE ORDINATE:	18.96		
EXTERNAL:	20.24		
TANGENT DIRECTION:	N 34° 52' 09.44" E		
TANGENT DIRECTION:	S 55° 07' 50.56" E		
ELEMENT: CIRCULAR			
PRC (I21)	58+56.75	664380.8441	1573343.5367
PI ()	58+90.78	664397.1497	1573373.4042
CC (I10)	59+24.78	663462.7487	1573844.7520
PCC (I22)	59+24.78	664411.4795	1573404.2684
RADIUS:	1046.00		
DELTA:	3° 43' 35.70" Right		
DEGREE OF CURVATURE (ARC):	5° 28' 39.39"		
LENGTH:	68.03		
TANGENT:	34.03		
CHORD:	68.02		
MIDDLE ORDINATE:	0.55		
EXTERNAL:	0.55		
TANGENT DIRECTION:	N 61° 22' 06.88" E		
TANGENT DIRECTION:	N 65° 05' 42.57" E		



**TEMPORARY ROADWAY SECTION
FILL SECTION**

SCALE 3/8" = 1'-0"



**TEMPORARY ROADWAY SECTION
WIDENING SECTION**

SCALE 3/8" = 1'-0"

TEMPORARY ROADWAY NOTES:

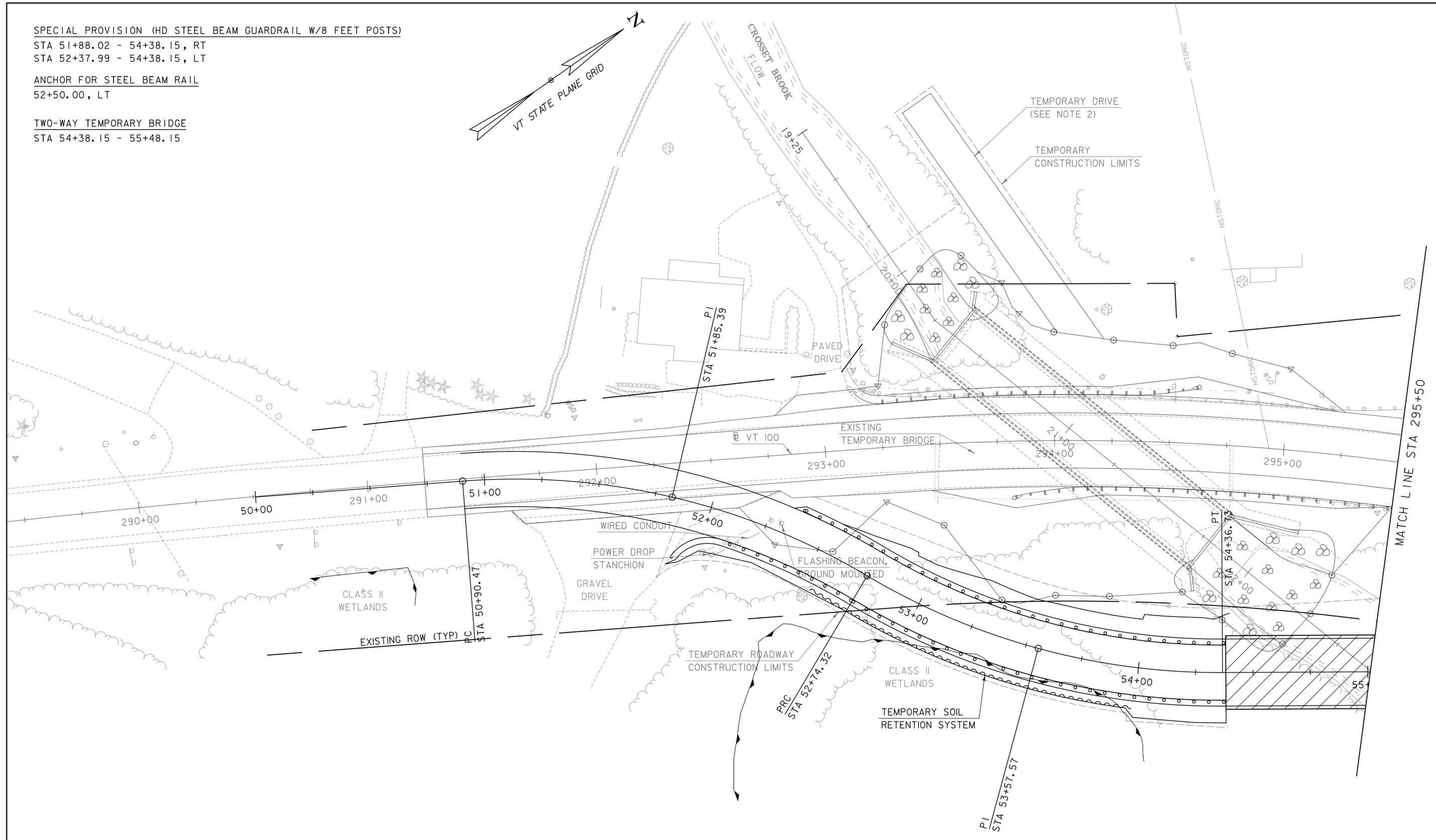
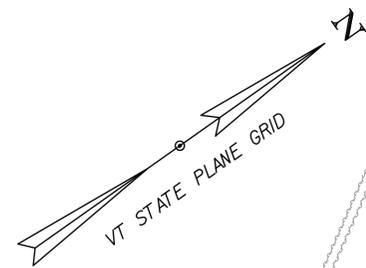
1. THE CONTRACTOR SHALL INSTALL THE TEMPORARY ROADWAY AND ALL SUPPORTING ELEMENTS AS SHOWN ON THE PLANS. PAYMENT FOR CONSTRUCTION, MAINTENANCE, AND REMOVAL OF THE TEMPORARY ROADWAY, INCLUDING BUT NOT LIMITED TO, EXCAVATION, EARTH BORROW, SUBBASE, PAVEMENT, GUARDRAIL, GEOTEXTILE, AND SIGNING AND FOR FURNISHING ALL LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK WILL BE MADE UNDER ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)."
2. THE CONTRACTOR SHALL DESIGN, FURNISH, AND INSTALL A TEMPORARY SOIL RETENTION SYSTEM WITHIN THE LIMITS OF THE WETLANDS AND IN ACCORDANCE WITH THE NOTED GEOMETRY. THE SELECTED SOIL RETENTION SYSTEM AND SUPPORTING CALCULATIONS AND DRAWINGS SHALL BE SUBMITTED FOR APPROVAL IN ACCORDANCE WITH SECTION 105. PAYMENT FOR DESIGNING, FURNISHING, INSTALLING, AND REMOVING THE SOIL RETENTION SYSTEM WILL BE INCLUDED IN ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)."
3. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, FURNISH, AND INSTALL A TEMPORARY STRUCTURE WITHIN THE PAY LIMITS NOTED ON THE PLANS AND WITHIN THE GEOMETRIC LIMITATIONS NOTED ON THE PRELIMINARY INFORMATION SHEET. ALL ITEMS WITHIN THE NOTED PAY LIMITS, INCLUDING BUT NOT LIMITED TO, SUBBASE, PAVEMENT, SHORING, SOIL RETENTION STRUCTURES, FOUNDATIONS, AND BRIDGES, WILL BE PAID UNDER ITEM 528.II, "TWO-WAY TEMPORARY BRIDGE."

FOR REVIEW ONLY NOT FOR CONSTRUCTION	PROJECT NAME: DUXBURY	FILE NAME: z16b001trdet.dgn	PLOT DATE: 4/18/2016
	PROJECT NUMBER: BF 013-4(47)	PROJECT LEADER: J. OLUND	DRAWN BY: S. MORGAN
TYLIN INTERNATIONAL	DESIGNED BY: T. KELLY	CHECKED BY: D. BRYANT	TEMPORARY ROADWAY DETAILS AND NOTES
			SHEET 16 OF 43

SPECIAL PROVISION (HD STEEL BEAM GUARDRAIL W/8 FEET POSTS)
 STA 51+88.02 - 54+38.15, RT
 STA 52+37.99 - 54+38.15, LT

ANCHOR FOR STEEL BEAM RAIL
 52+50.00, LT

TWO-WAY TEMPORARY BRIDGE
 STA 54+38.15 - 55+48.15



TEMPORARY ROADWAY LAYOUT I

SCALE 1" = 20' - 0"
 20 0 20

 LIMITS OF ITEM 528.II, "TWO-WAY TEMPORARY BRIDGE"

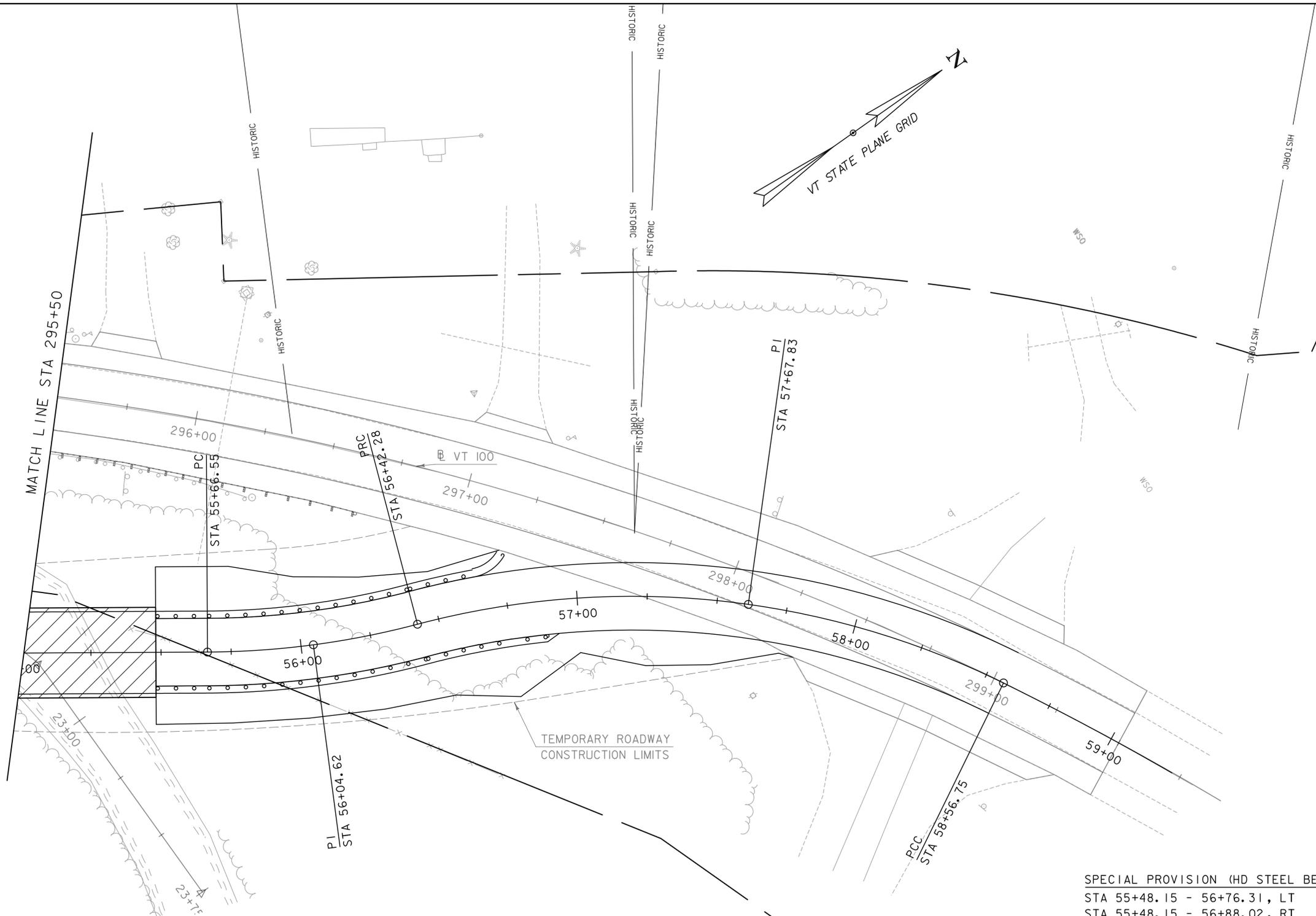
FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

TYLIN INTERNATIONAL

PROJECT NAME: DUXBURY
 PROJECT NUMBER: BF 013-4(47)

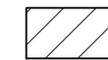
FILE NAME: z16b001trdwy1.dgn
 PROJECT LEADER: J. OLUND
 DESIGNED BY: T. KELLEY
 TEMPORARY ROADWAY SHEET I

PLOT DATE: 4/18/2016
 DRAWN BY: T. KELLEY
 CHECKED BY: XXXXX
 SHEET 12 OF 40



SPECIAL PROVISION (HD STEEL BEAM GUARDRAIL W/8 FEET POSTS)
 STA 55+48.15 - 56+76.31, LT
 STA 55+48.15 - 56+88.02, RT

ANCHOR FOR STEEL BEAM RAIL
 STA 56+65.00, LT
 STA 56+75.00, RT

 LIMITS OF ITEM 528.II, "TWO-WAY TEMPORARY BRIDGE"

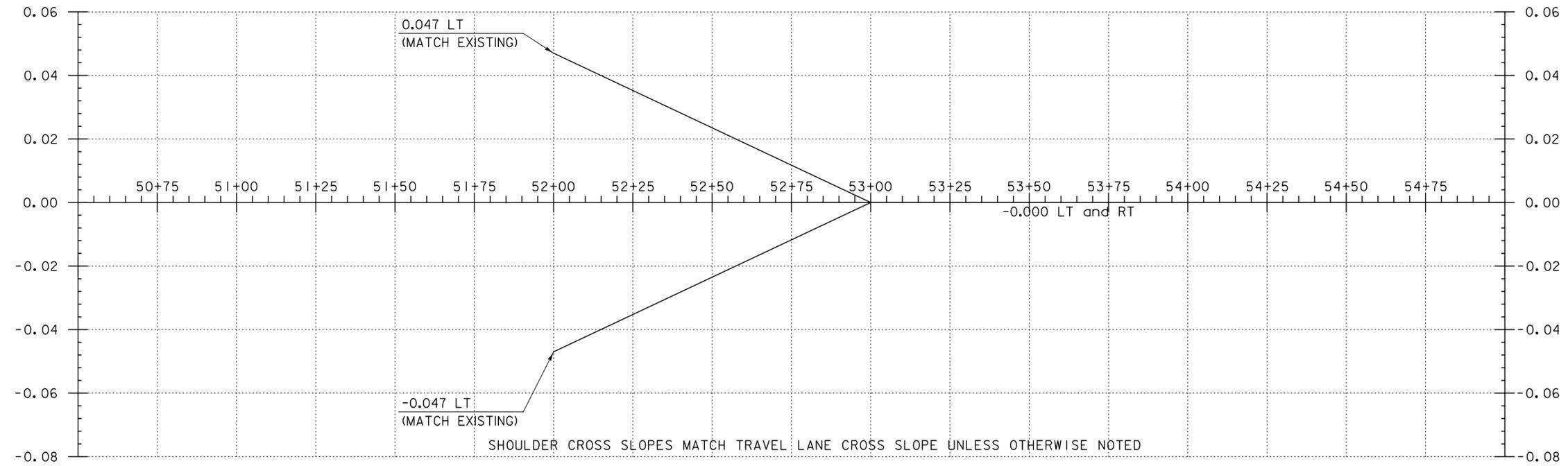
TEMPORARY ROADWAY LAYOUT 2

SCALE 1" = 20'-0"
 20 0 20

FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

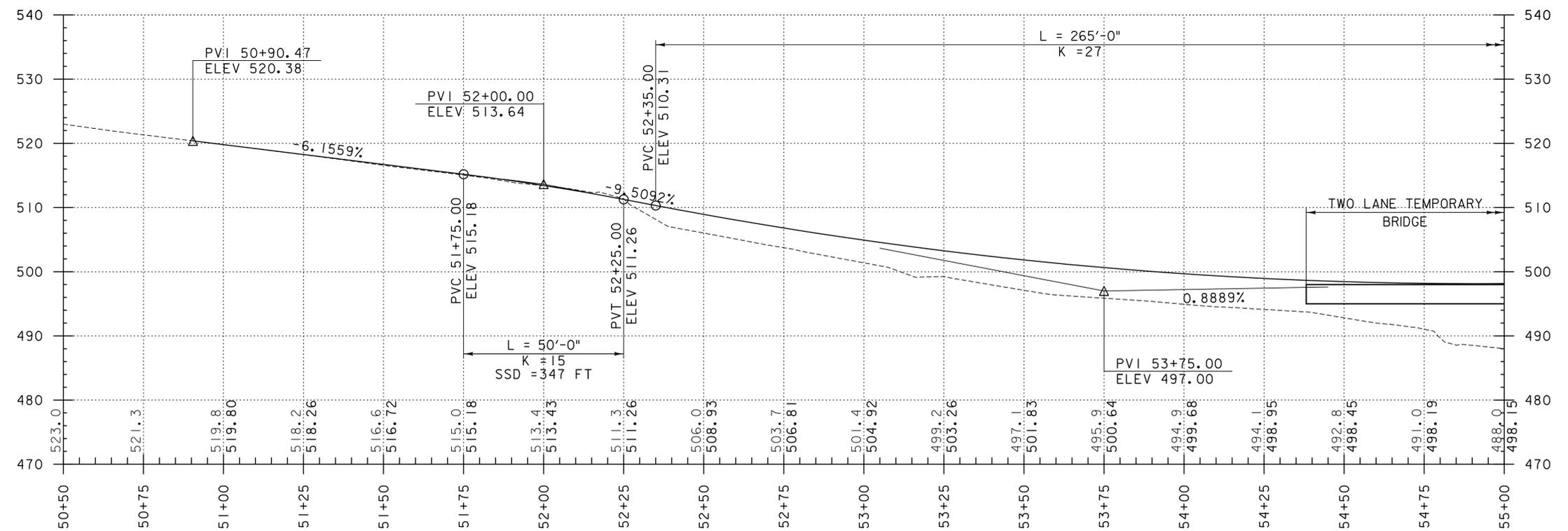


PROJECT NAME: DUXBURY	PLOT DATE: 4/18/2016
PROJECT NUMBER: BF 013-4(47)	DRAWN BY: T. KELLEY
FILE NAME: z16b001trdwy1.dgn	CHECKED BY: XXXXX
PROJECT LEADER: J. OLUND	SHEET 13 OF 40
DESIGNED BY: T. KELLEY	
TEMPORARY ROADWAY SHEET 2	



TEMPORARY ROADWAY BANKING DIAGRAM

HORIZONTAL SCALE: 1"=20'
NO VERTICAL SCALE



TEMPORARY ROADWAY PROFILE I

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1" = 10'

NOTE:

GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG C .

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG C .

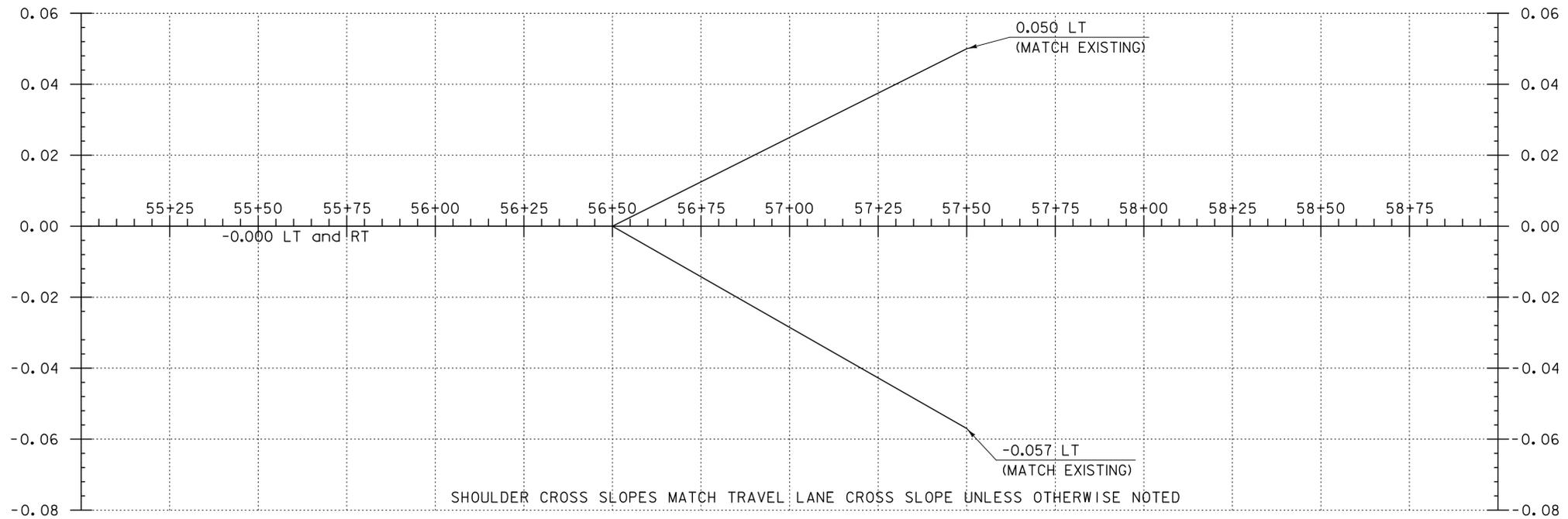
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

TYLINTERNATIONAL

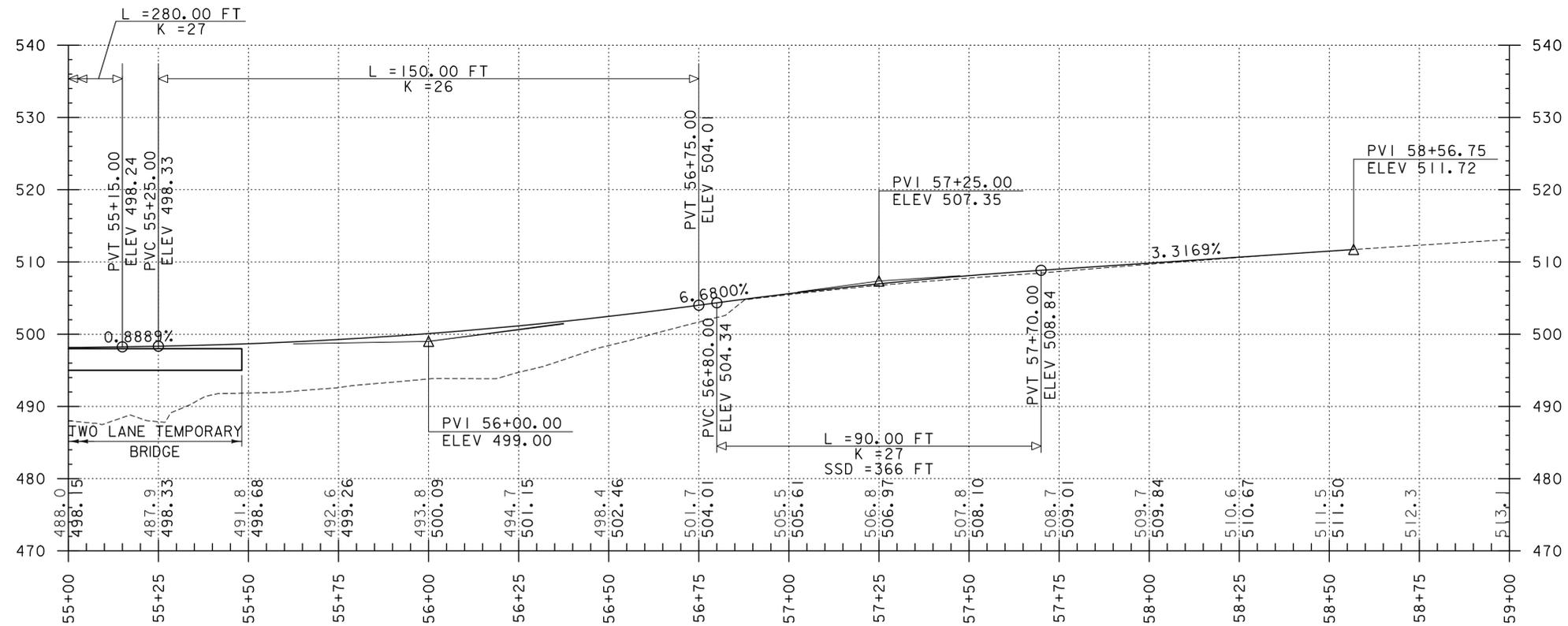
FILE NAME: z16b001trdwy2.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: T. KELLEY
TEMPORARY ROADWAY PROFILE I

PLOT DATE: 4/18/2016
DRAWN BY: T. KELLEY
CHECKED BY: D. BRYANT
SHEET 14 OF 40



TEMPORARY ROADWAY BANKING DIAGRAM

HORIZONTAL SCALE: 1"=20'
NO VERTICAL SCALE



TEMPORARY ROADWAY PROFILE 2

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"= 10'

NOTE:

GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG \mathcal{C} .

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG \mathcal{C} .

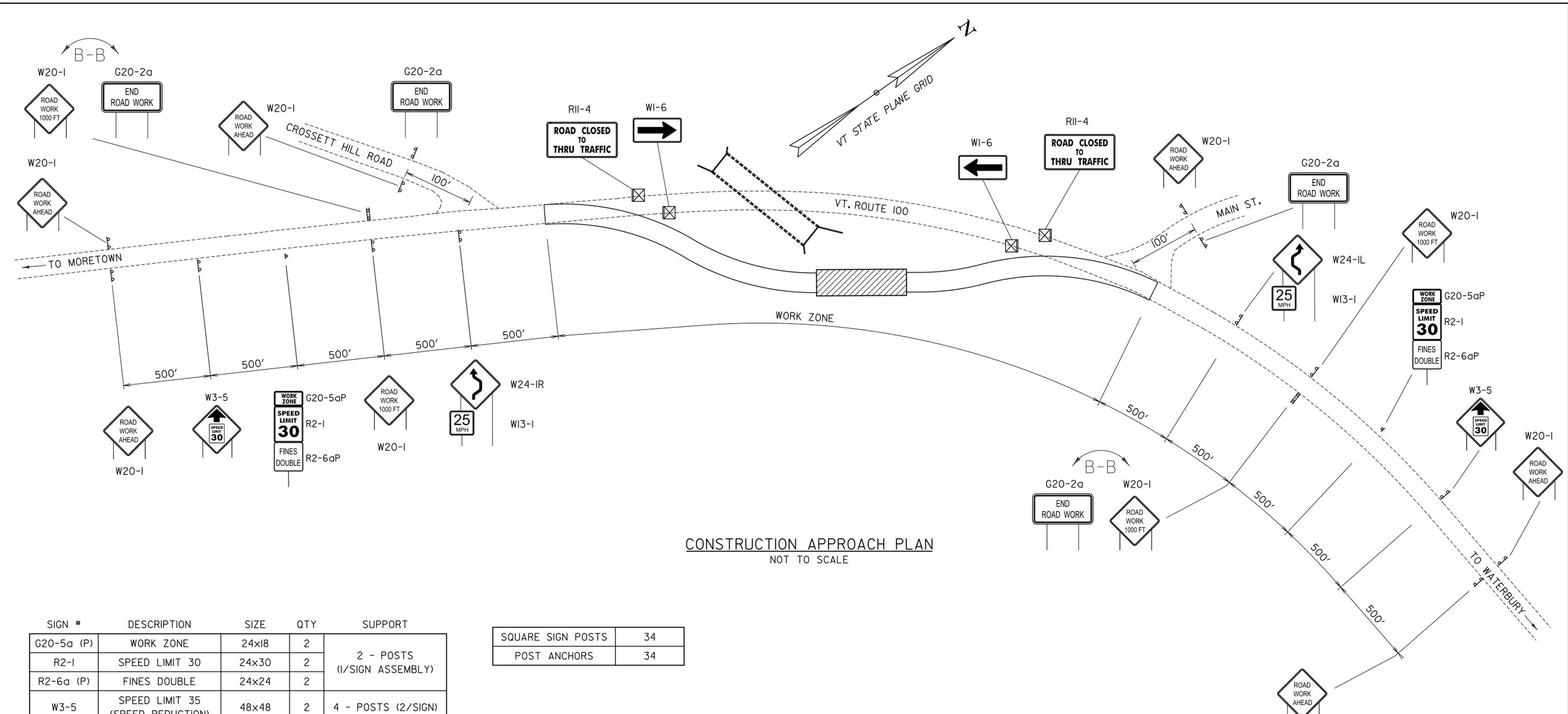
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

TYLINTERNATIONAL

PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

FILE NAME: z16b001trdwy2.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: T. KELLEY
TEMPORARY ROADWAY PROFILE 2

PLOT DATE: 4/18/2016
DRAWN BY: T. KELLEY
CHECKED BY: D. BRYANT
SHEET 15 OF 40



CONSTRUCTION APPROACH PLAN
NOT TO SCALE

SIGN #	DESCRIPTION	SIZE	QTY	SUPPORT
G20-5a (P)	WORK ZONE	24x18	2	2 - POSTS (1/SIGN ASSEMBLY)
R2-1	SPEED LIMIT 30	24x30	2	
R2-6a (P)	FINES DOUBLE	24x24	2	
W3-5	SPEED LIMIT 35 (SPEED REDUCTION)	48x48	2	4 - POSTS (2/SIGN)
G20-2a	END ROAD WORK	48x24	2	4 - POSTS (2/SIGN ASSEMBLY)
W20-1	ROAD WORK 1000 FT	48x48	2	
W1-6	ONE DIR. LARGE ARROW	48x24	2	TYPE III BARRICADE
R11-4	ROAD CLOSED TO THRU TRAFFIC	60x30	2	TYPE III BARRICADE
W20-1	ROAD WORK AHEAD	48x48	2	4 - POSTS (2/SIGN)
W20-1	ROAD WORK 1500 FT	48x48	4	
W20-1	ROAD WORK 1000 FT	48x48	2	
W24-1L	DOUBLE REVERSE CURVE (1LANE)	48x48	1	2 - POSTS (2/SIGN ASSEMBLY)
W13-1	30 MPH	24x24	1	
W24-1R	DOUBLE REVERSE CURVE (1LANE)	48x48	1	2 - POSTS (2/SIGN ASSEMBLY)
W13-1	30 MPH	24x24	1	

SQUARE SIGN POSTS	34
POST ANCHORS	34

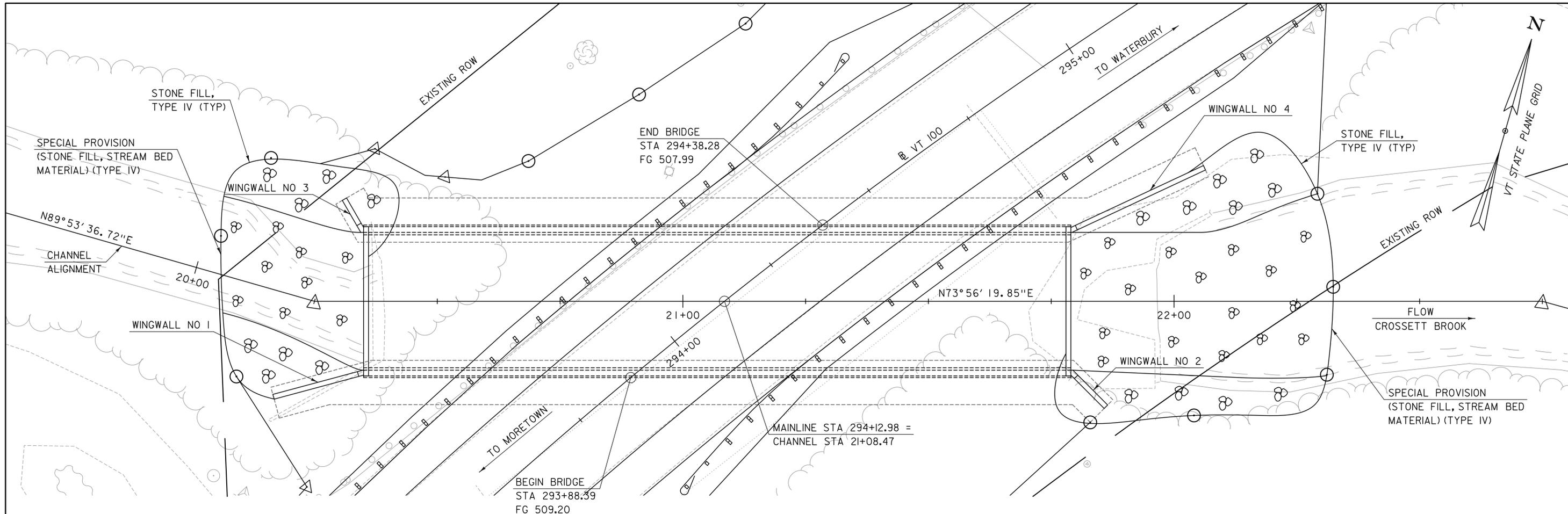
SIGNING NOTES:

- INSTALL SIGNS WITH THE FLOW OF TRAFFIC.
- ADJUST SIGN SPACINGS TO ACCOMODATE EXISTING SIGNS OR OBSTRUCTIONS - TRIM BRANCHES AS NECESSARY.
- 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.
- COVER EXISTING SIGNING IN CONFLICT WITH CONSTRUCTION SIGNING.
- TYPE III MODIFIED BARRICADE SHALL BE TYPE III BARRICADE WITH THE ASSOCIATED SIGNING MOUNTED ON IT. ALL BARRICADES SHALL MEET "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 OR THE "AMERICAN ASSOCIATION OF STATE AND HIGHWAY TRANSPORTATION OFFICIALS" (AASHTO) "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH). THE APPROPRIATE RESOURCE SHALL BE DETERMINED AS DESCRIBED IN THE MASH PUBLICATION.

LEGEND

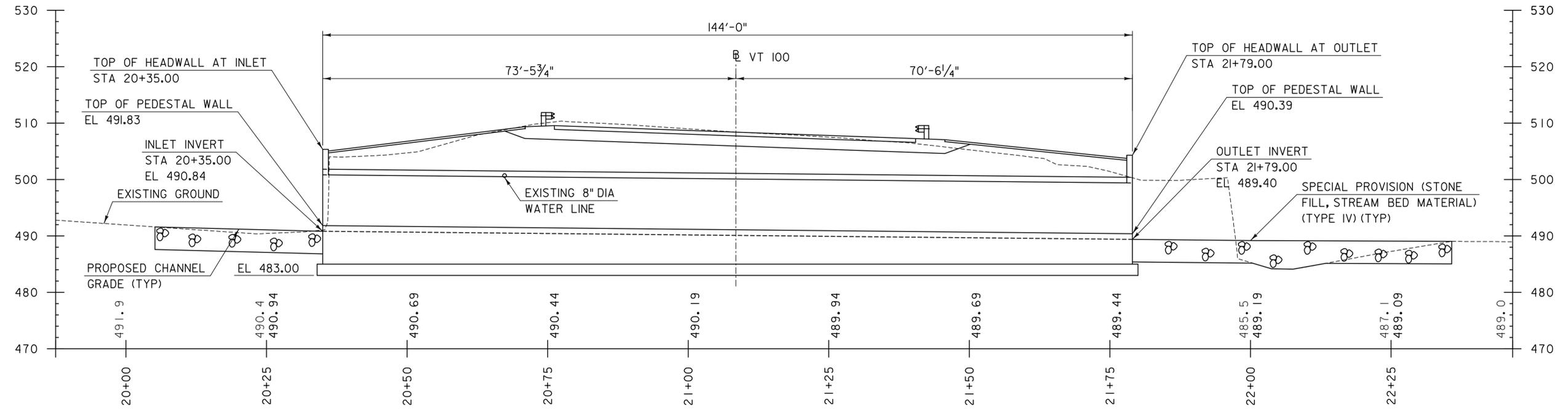
- ▲ SIGN WITH 1 POST
- ▬ SIGN WITH 2 POSTS
- ☒ TYPE 3 BARRICADE, MODIFIED

FOR REVIEW ONLY NOT FOR CONSTRUCTION TYLIN INTERNATIONAL	PROJECT NAME: DUXBURY	PLOT DATE: 4/18/2016
	PROJECT NUMBER: BF 013-4(47)	DRAWN BY: T. KELLEY
	FILE NAME: z16b001trdwy3.dgn	CHECKED BY: XXXXX
	PROJECT LEADER: J. OLUND	SHEET 17 OF 40
	DESIGNED BY: T. KELLEY	
	TEMPORARY ROADWAY SIGNING	



PLAN

SCALE: 1" = 10'-0"

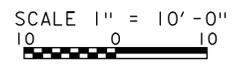


LONGITUDINAL SECTION ALONG CHANNEL LINE

SCALE: 1" = 10'-0"

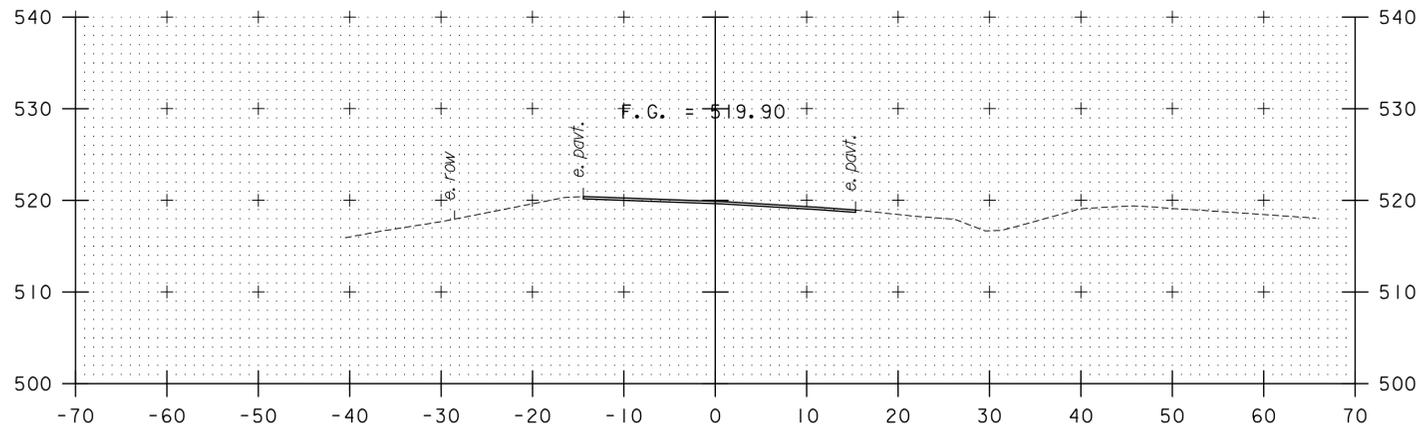
NOTE:
 GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℓ .
 GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG ℓ .

FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

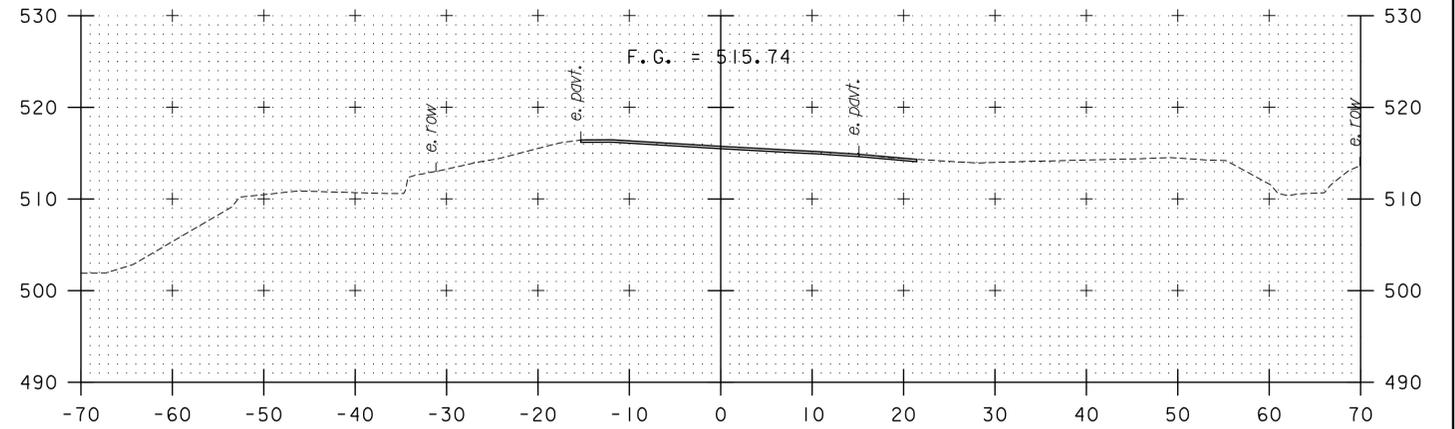


TYLIN INTERNATIONAL

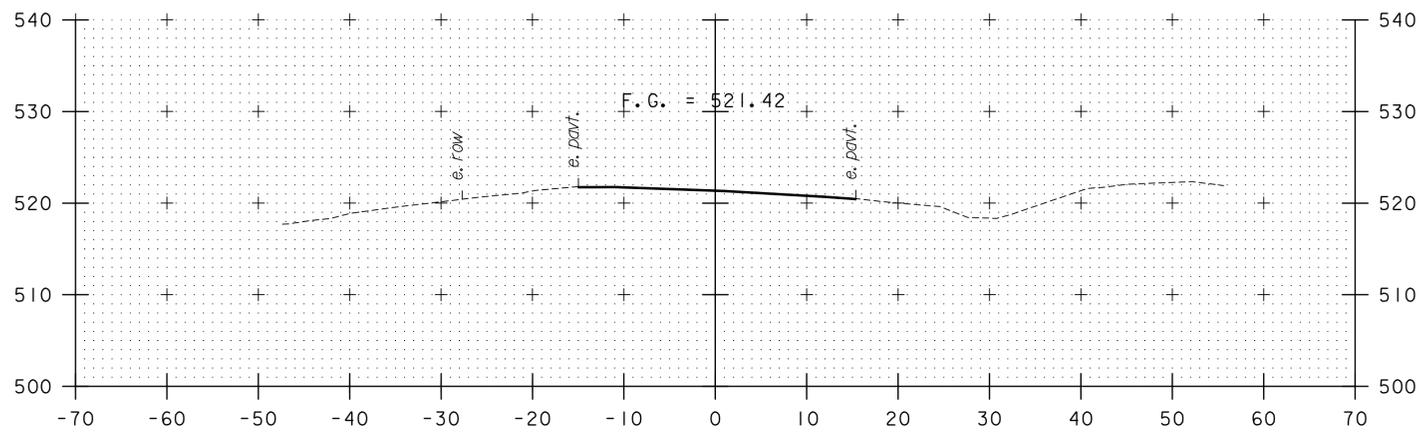
PROJECT NAME: DUXBURY	PLOT DATE: 4/18/2016
PROJECT NUMBER: BF 013-4(47)	DRAWN BY: S. MORGAN
FILE NAME: z16b001pe.dgn	CHECKED BY: XXXXX
PROJECT LEADER: J. OLUND	SHEET 20 OF 40
DESIGNED BY: XXXXX	
GENERAL PLAN AND ELEVATION	



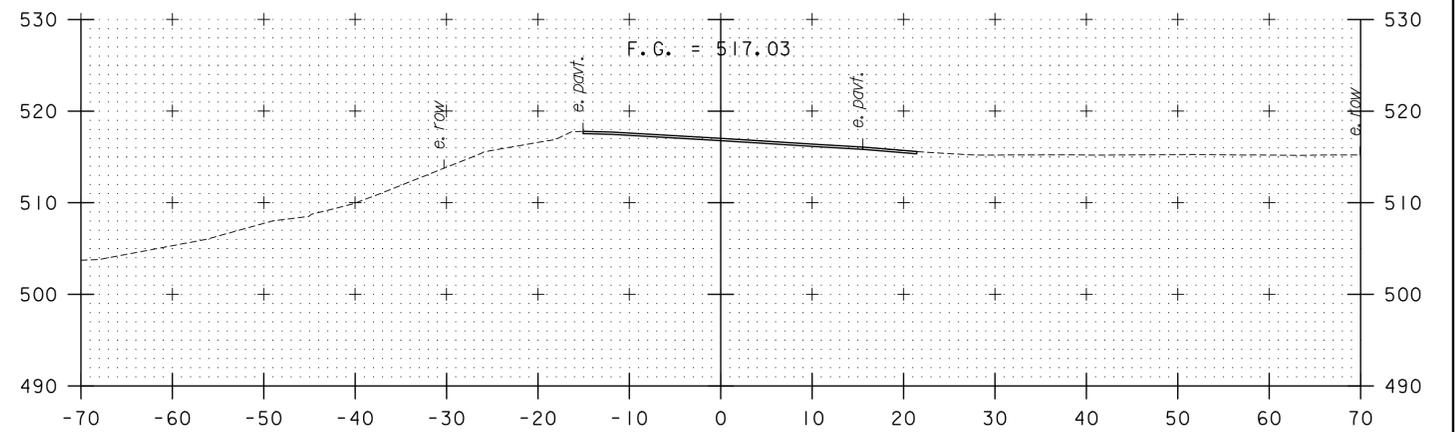
291+50



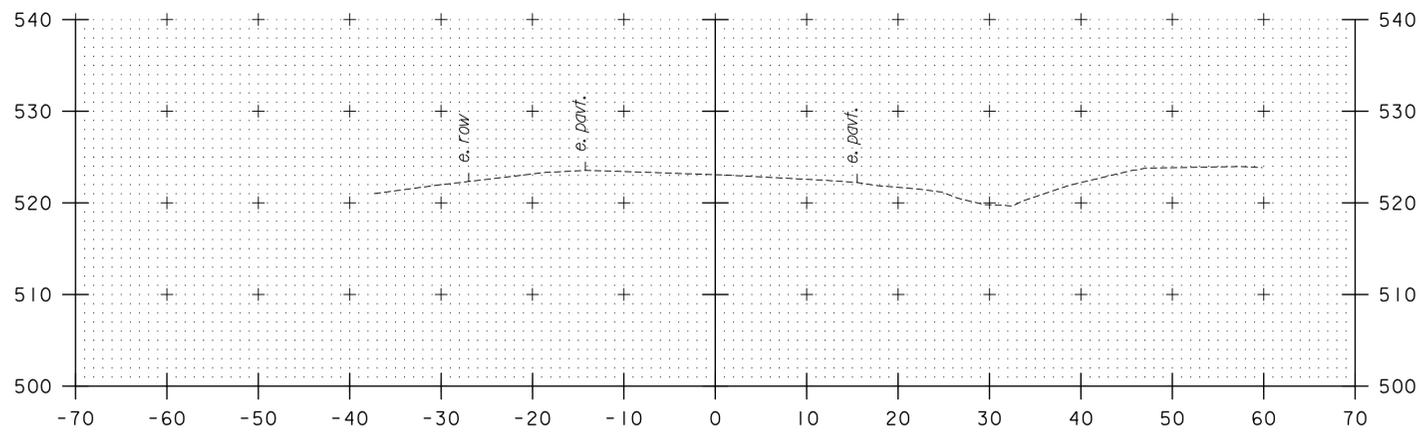
292+25



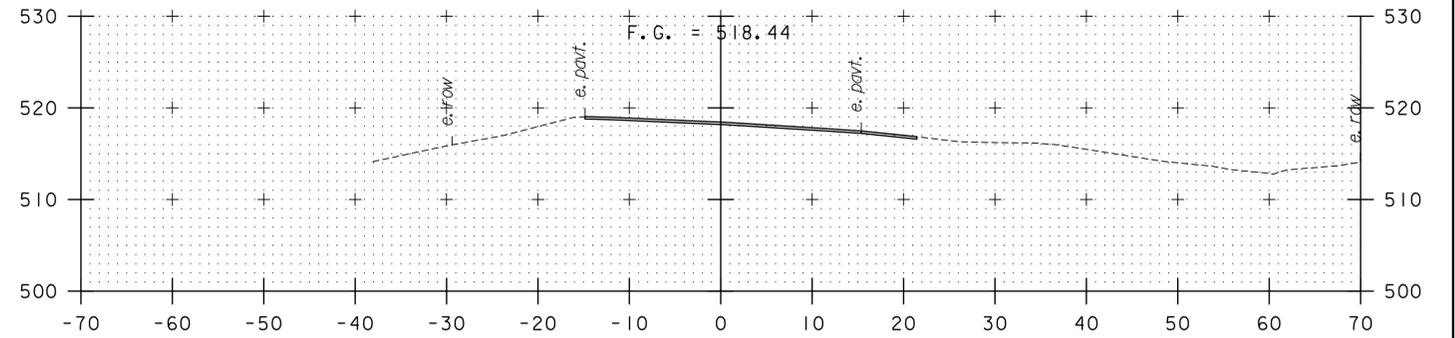
291+25
BEGIN APPROACH



292+00



291+00



291+75

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

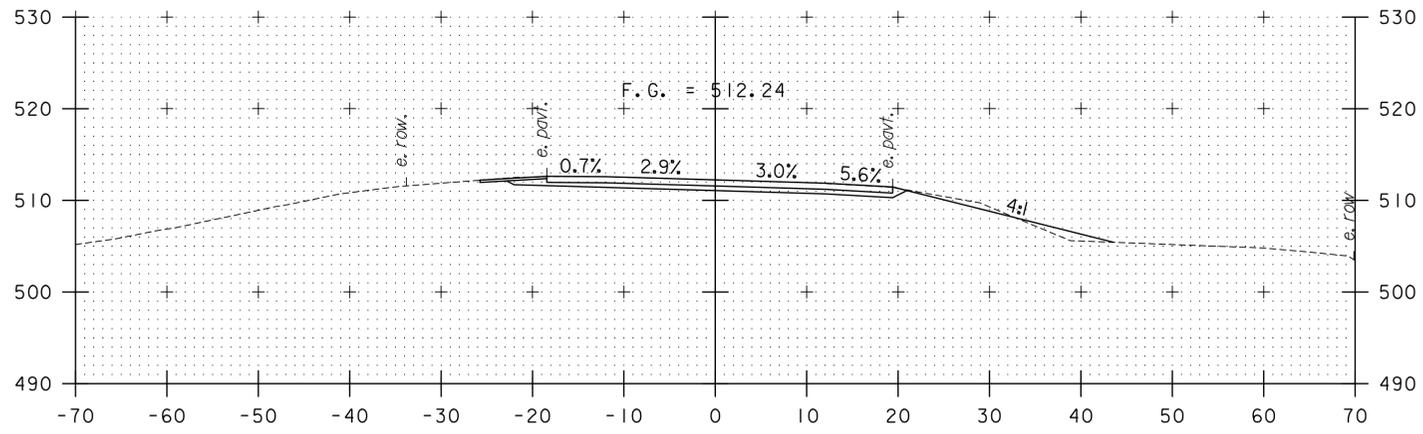
PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

TYLINTERNATIONAL

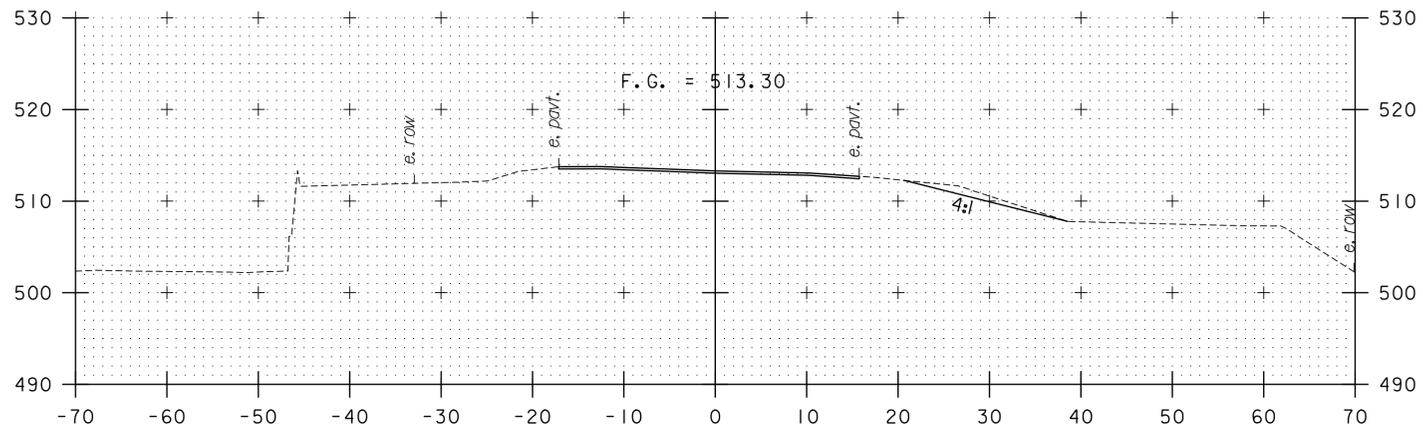
FILE NAME: z16b001xs.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: J. HOWE
VT 100 CROSS SECTIONS I

PLOT DATE: 4/18/2016
DRAWN BY: P. BRYANT
CHECKED BY: J. OLUND
SHEET 21 OF 40

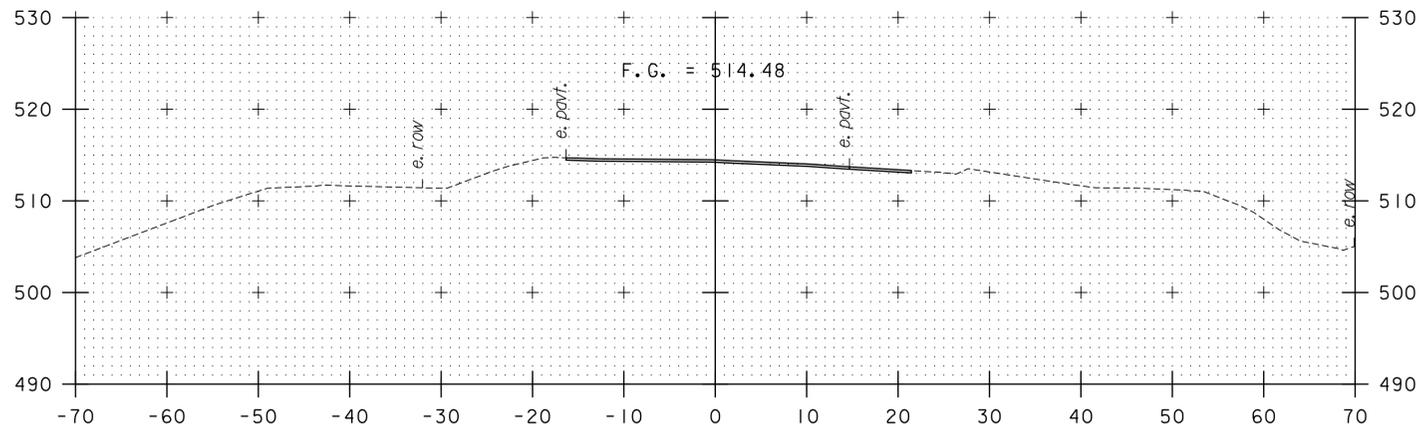
STA. 291+00 TO STA. 292+25



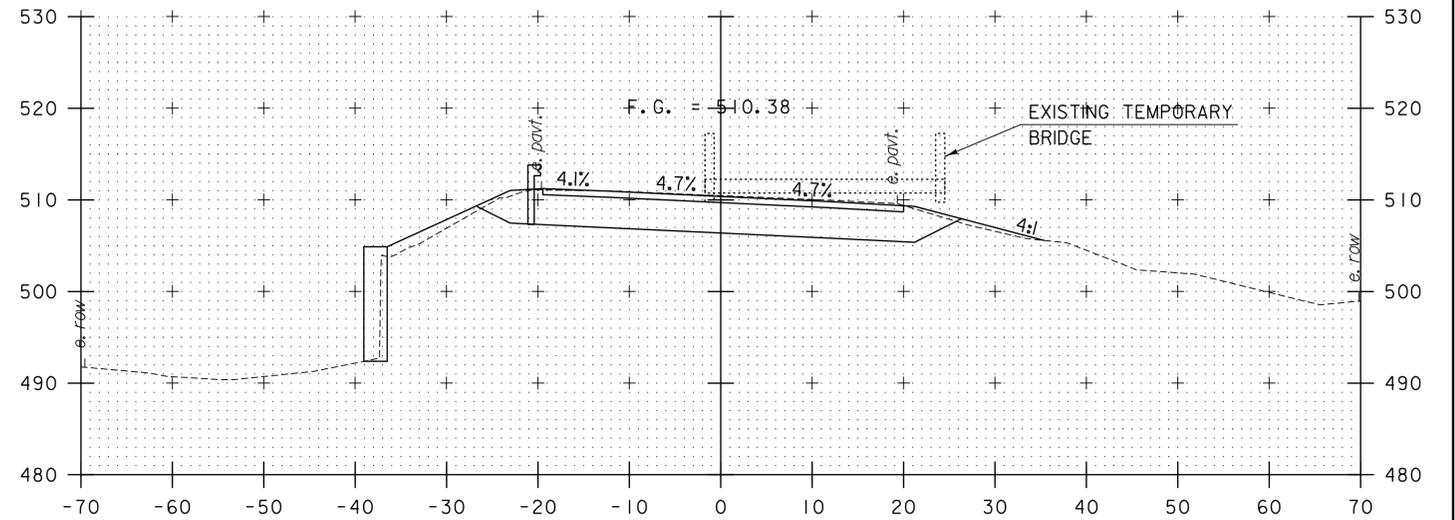
293+00
BEGIN PROJECT



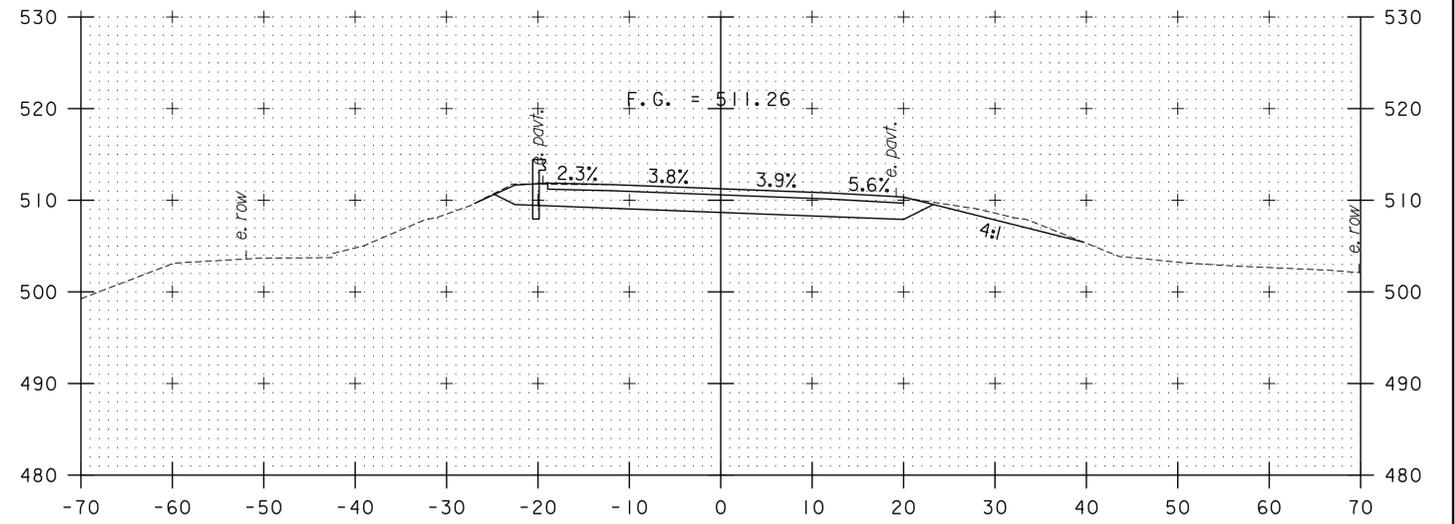
292+75



292+50



293+50



293+25

STA. 292+50 TO STA. 293+50

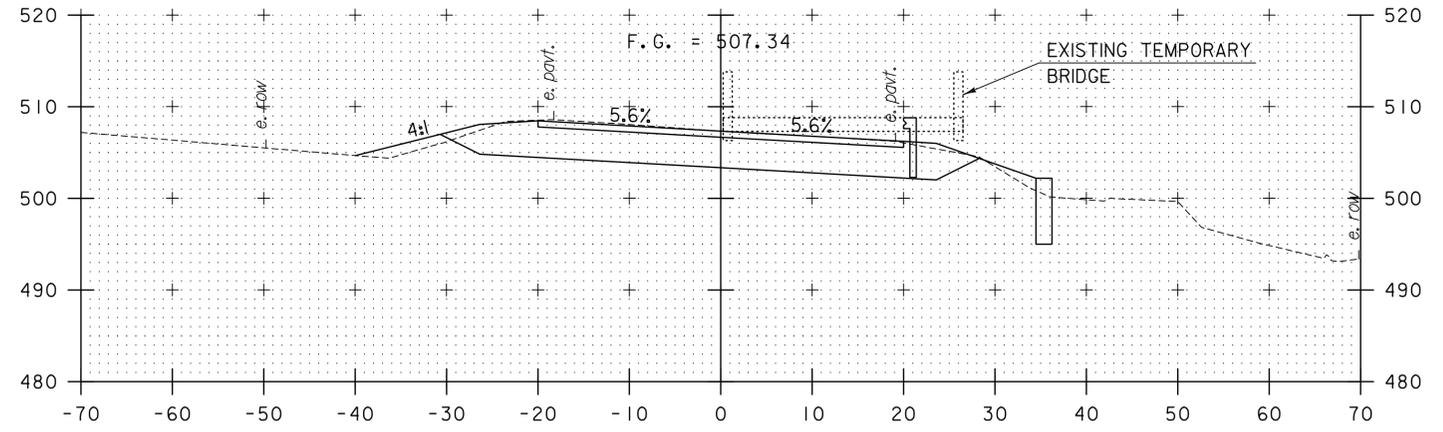
TYLINTERNATIONAL

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

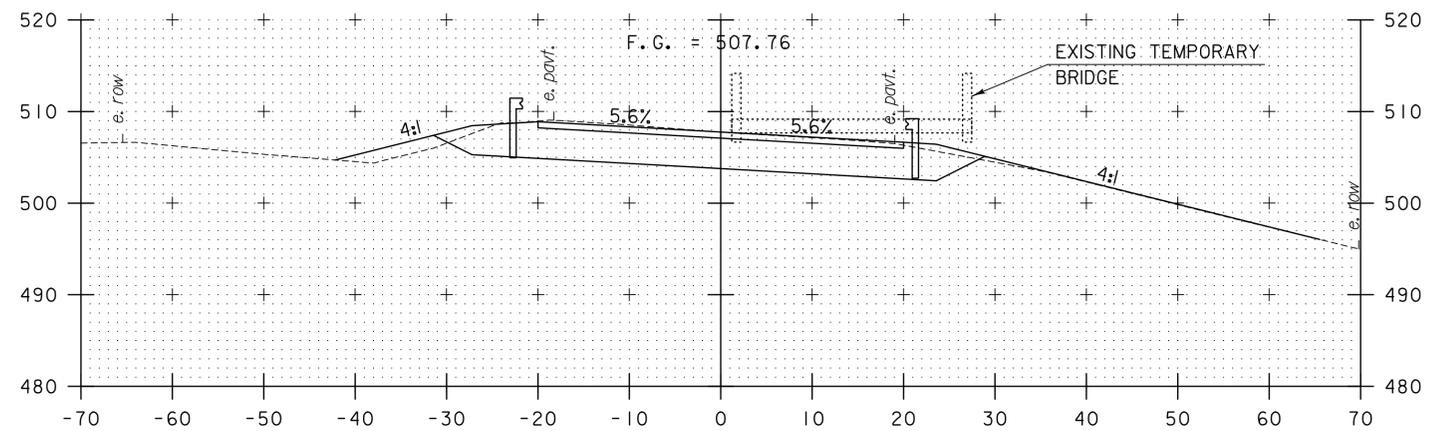
PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

FILE NAME: z16b001xs.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: J. HOWE
VT 100 CROSS SECTIONS 2

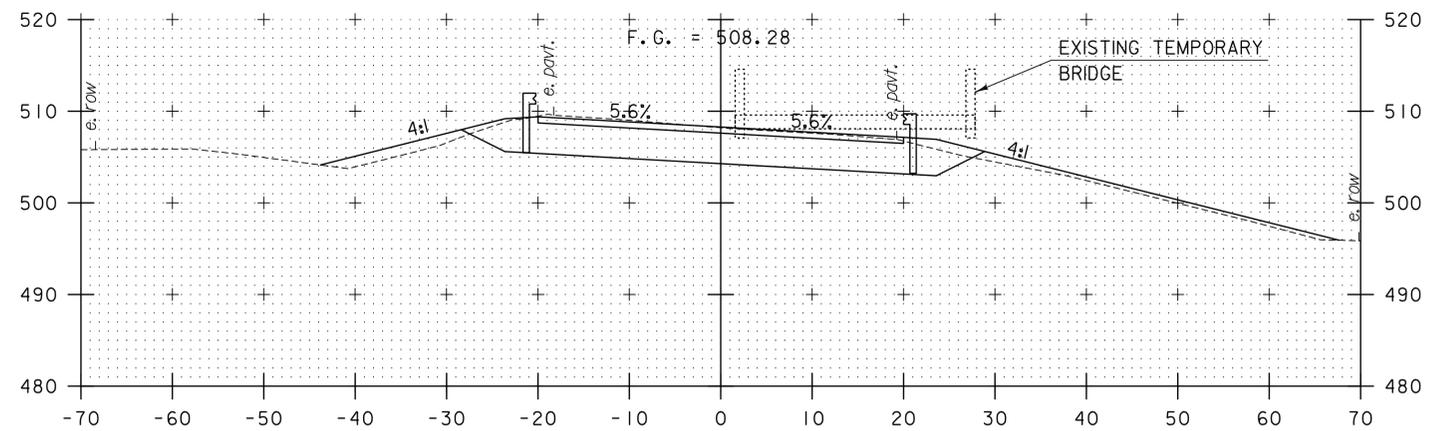
PLOT DATE: 4/18/2016
DRAWN BY: P. BRYANT
CHECKED BY: J. OLUND
SHEET 22 OF 40



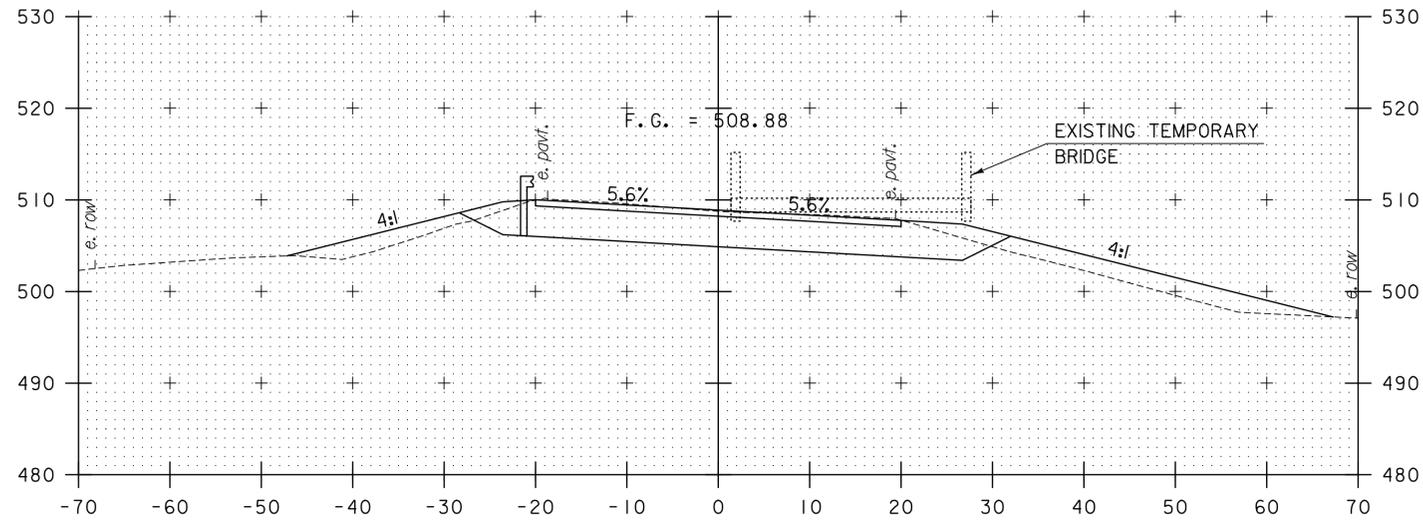
294+75



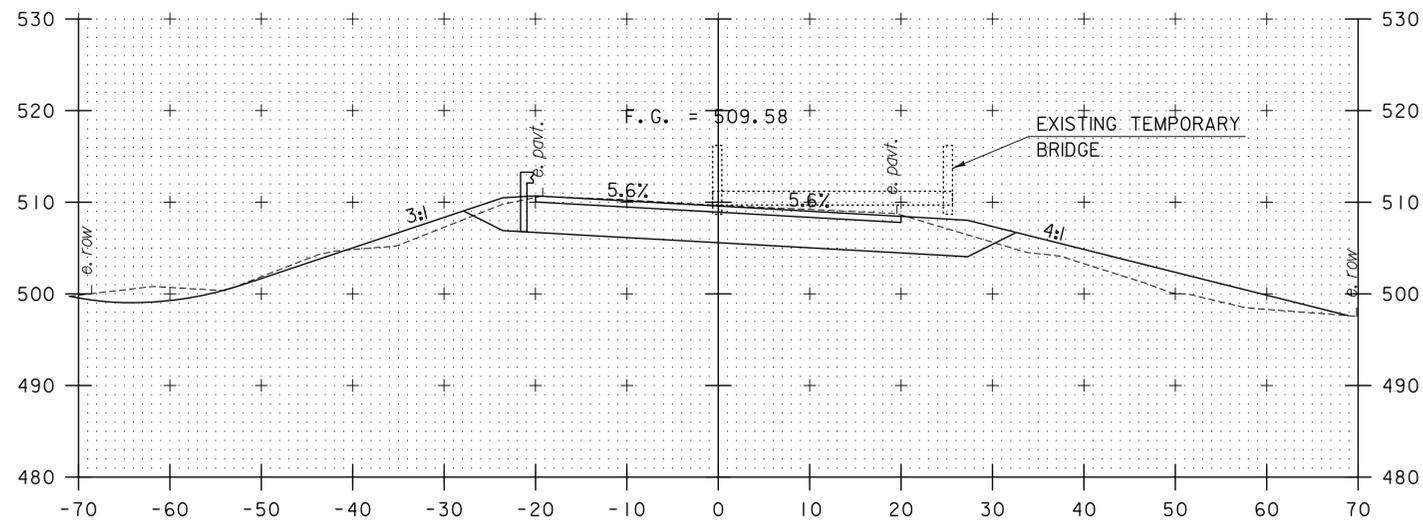
294+50



294+25



294+00
BEGIN BRIDGE 293+88.39



293+75

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

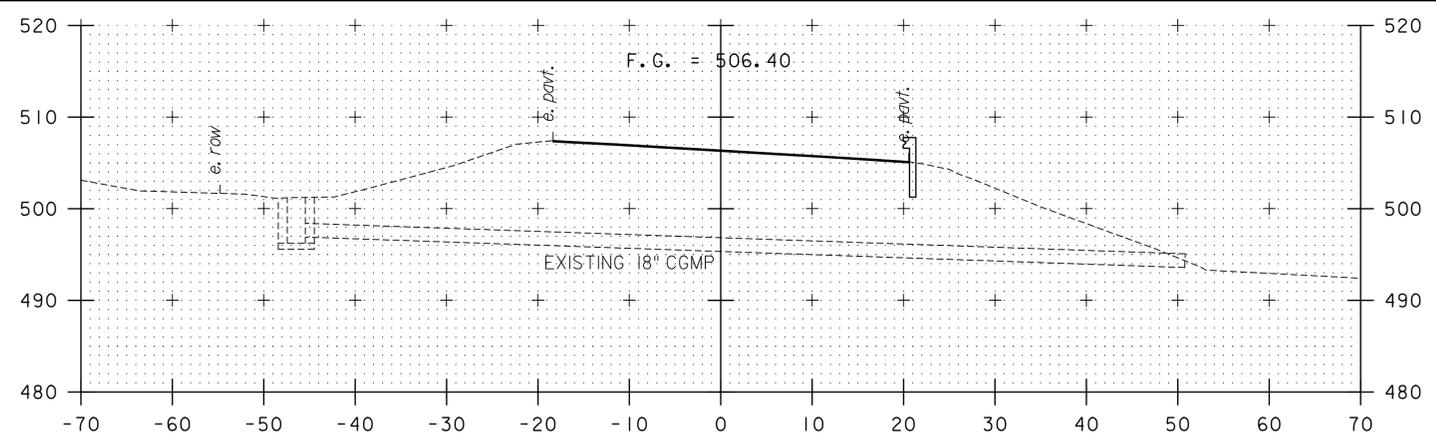
PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

TYLIN INTERNATIONAL

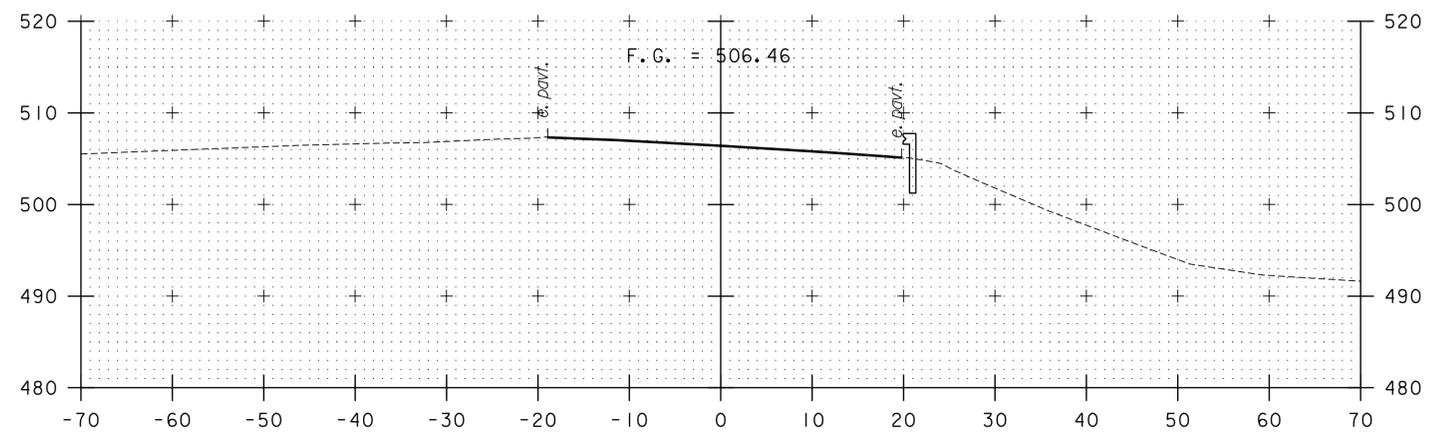
FILE NAME: z16b001xs.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: J. HOWE
VT 100 CROSS SECTIONS 3

PLOT DATE: 4/18/2016
DRAWN BY: P. BRYANT
CHECKED BY: J. OLUND
SHEET 23 OF 40

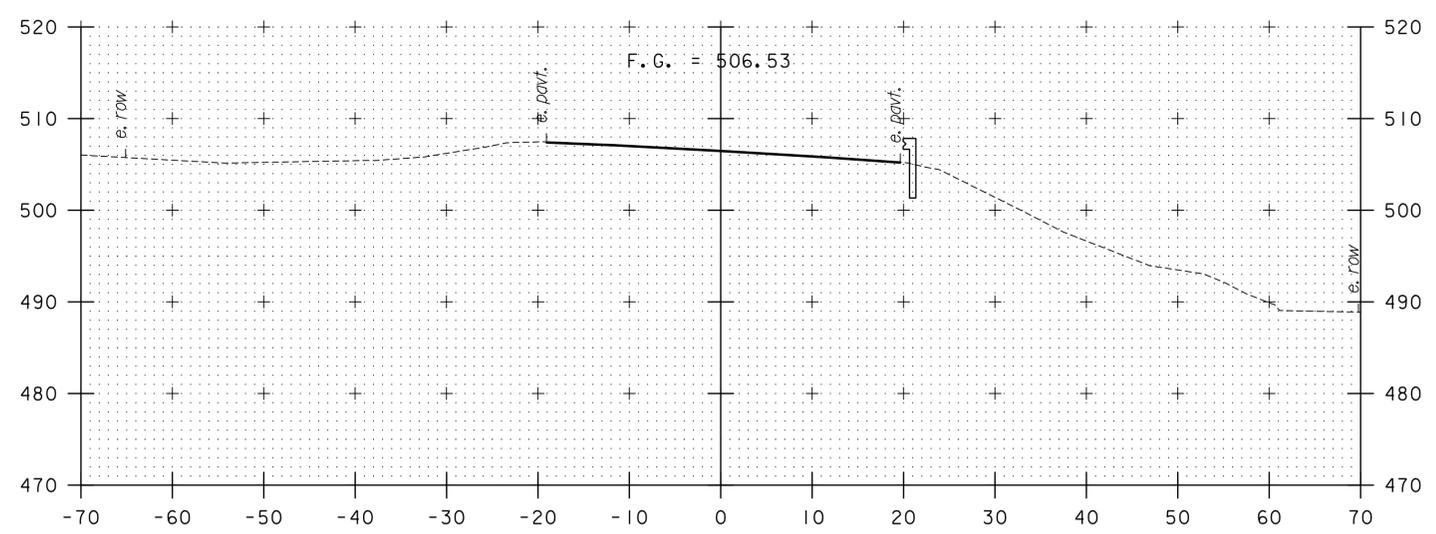
STA. 293+75 TO STA. 294+75



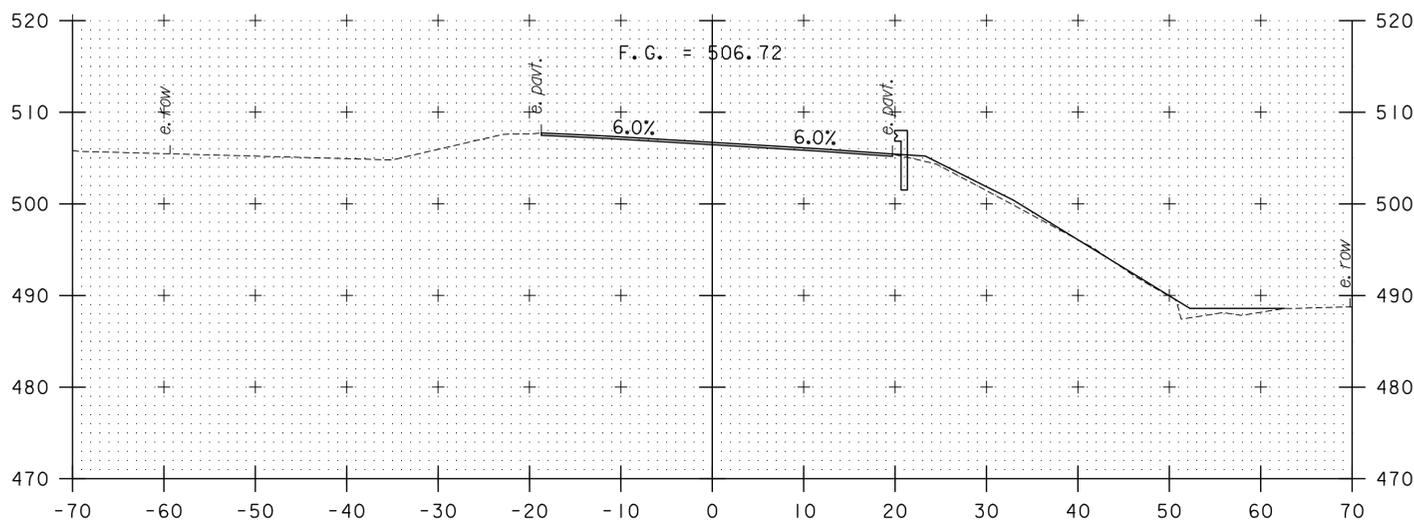
296+00



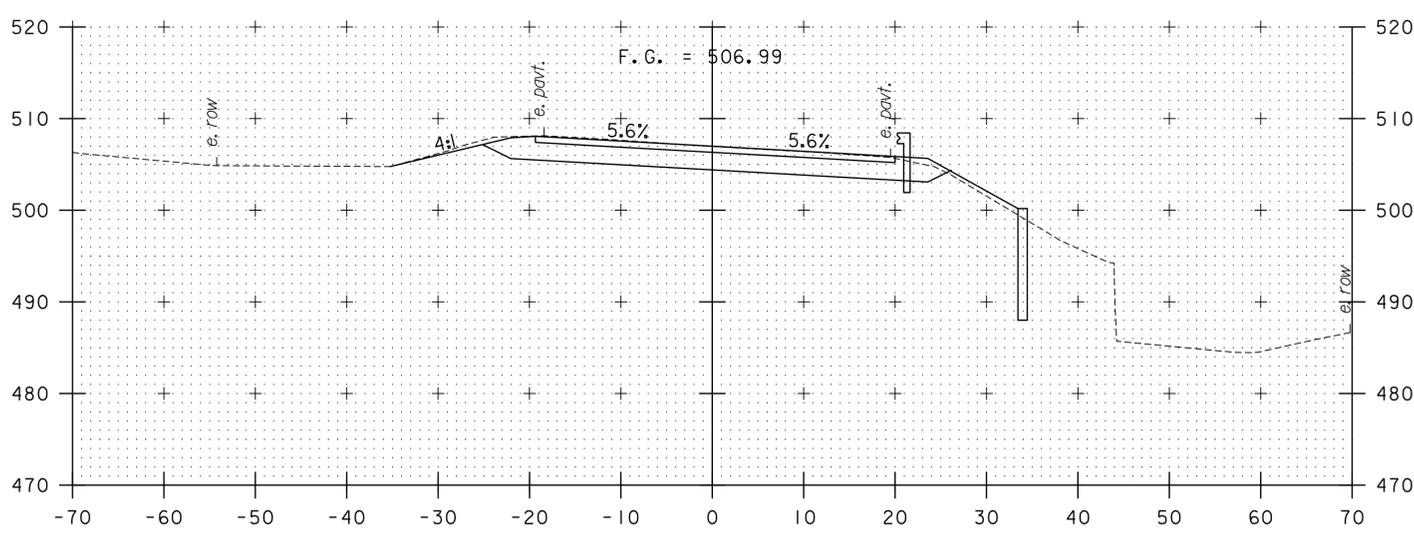
295+75



295+50



295+25
END PROJECT



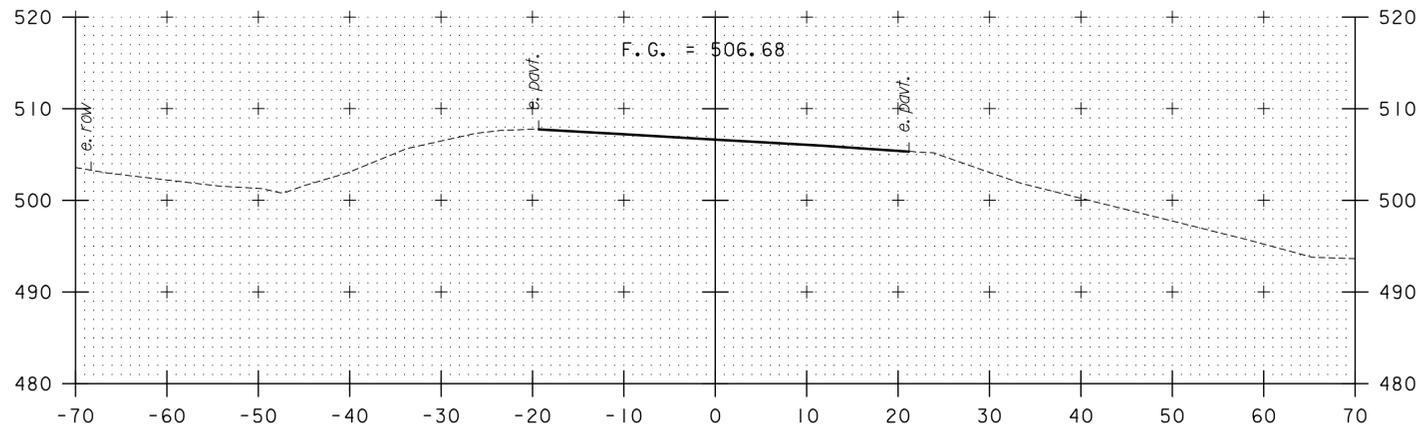
295+00

STA. 295+00 TO STA. 296+00

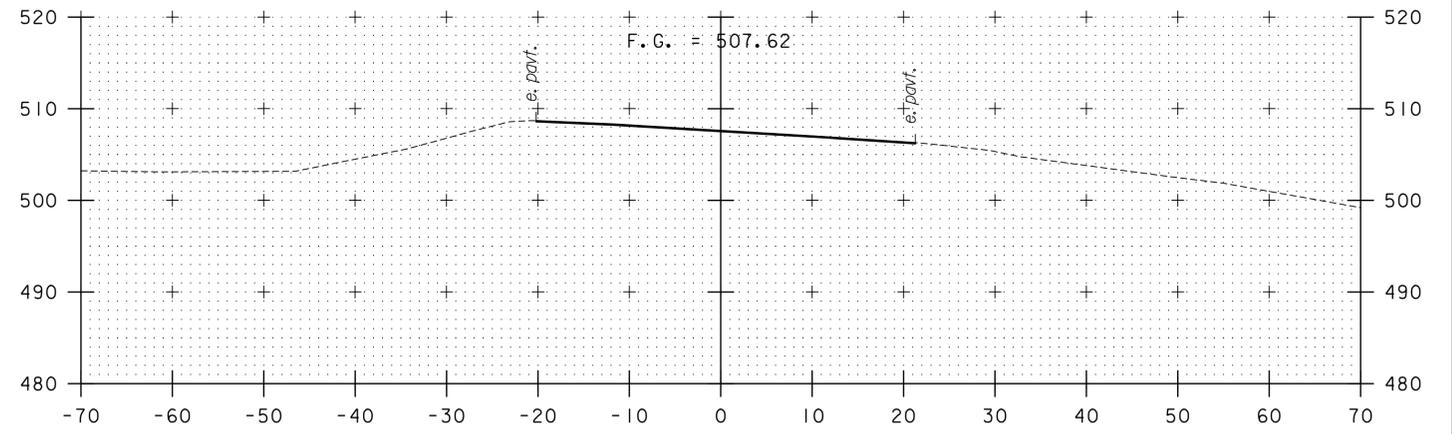
TYLIN INTERNATIONAL

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

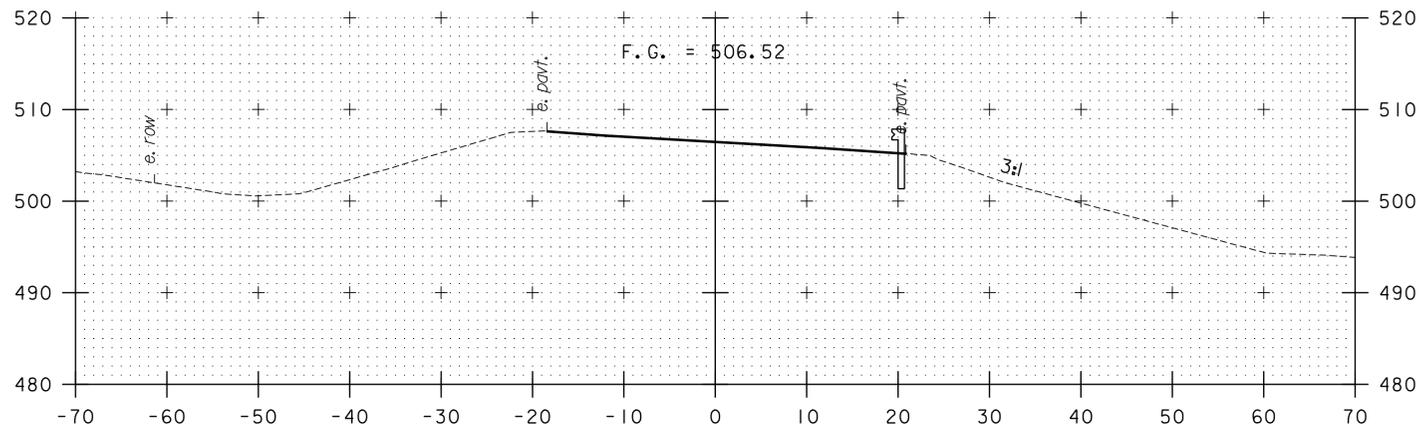
PROJECT NAME: DUXBURY	PLOT DATE: 4/18/2016
PROJECT NUMBER: BF 013-4(47)	DRAWN BY: P. BRYANT
FILE NAME: z16b001xs.dgn	DESIGNED BY: J. HOWE
PROJECT LEADER: J. OLUND	CHECKED BY: J. OLUND
VT 100 CROSS SECTIONS 4	SHEET 24 OF 40



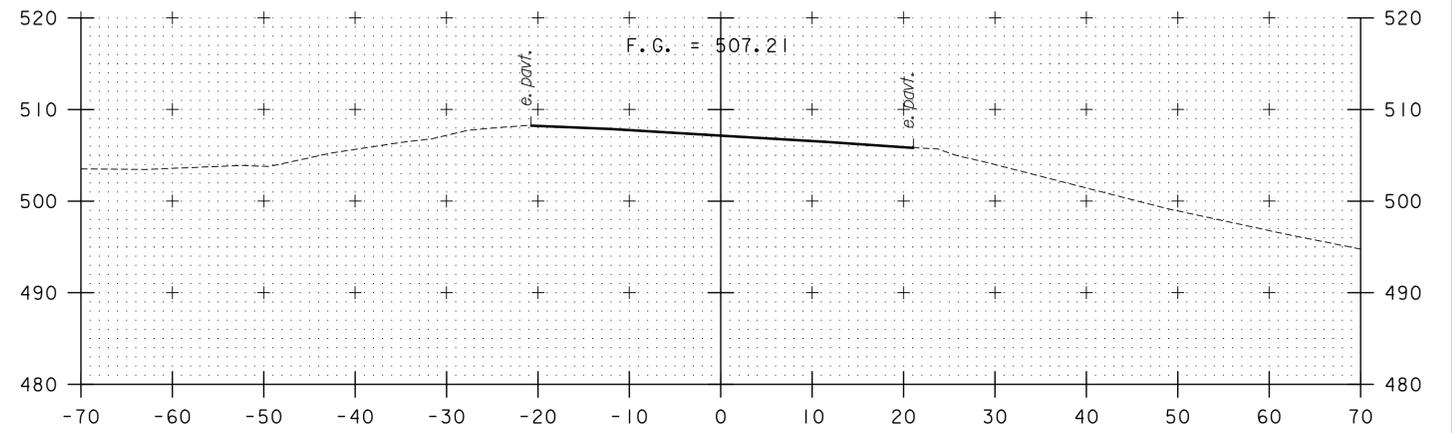
296+75



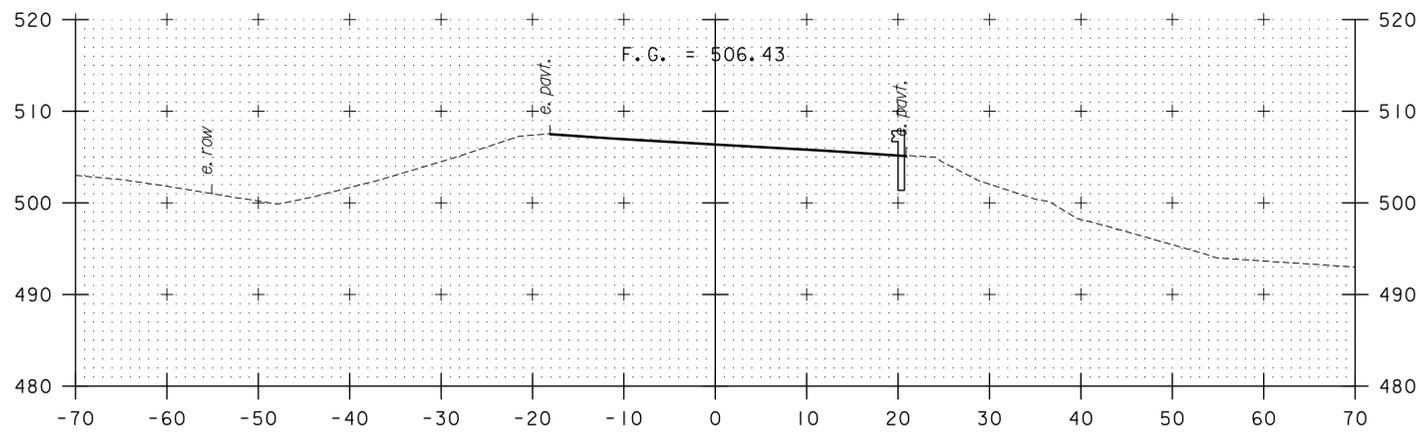
297+50



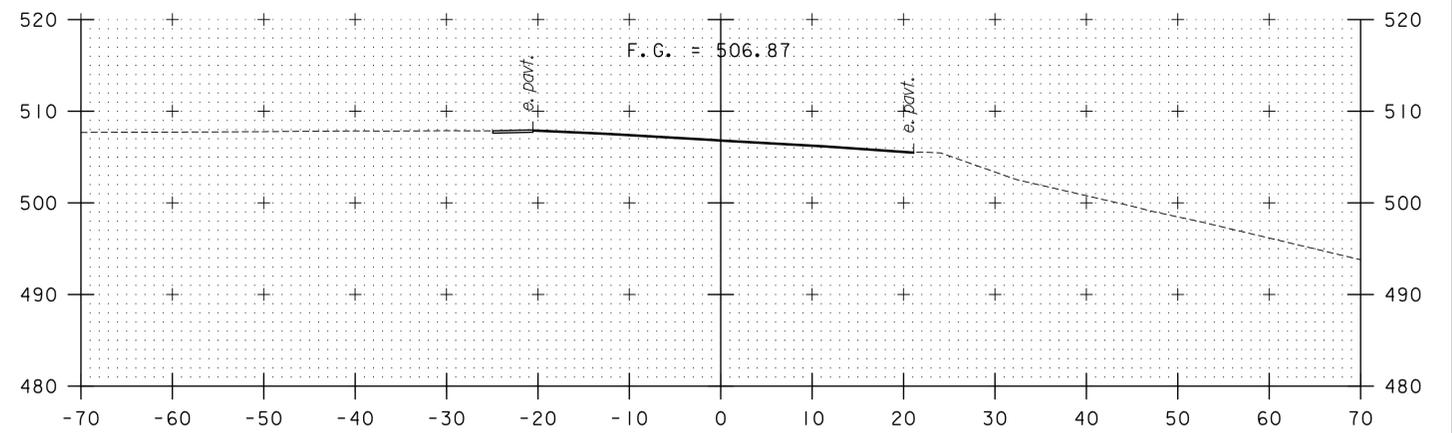
296+50



297+25



296+25



297+00

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

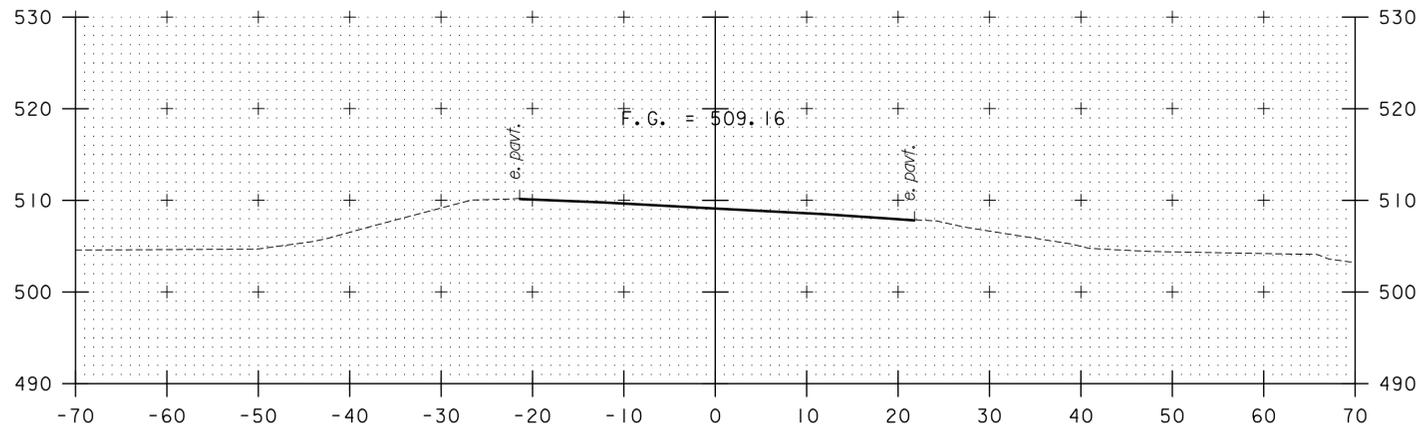
PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

TYLIN INTERNATIONAL

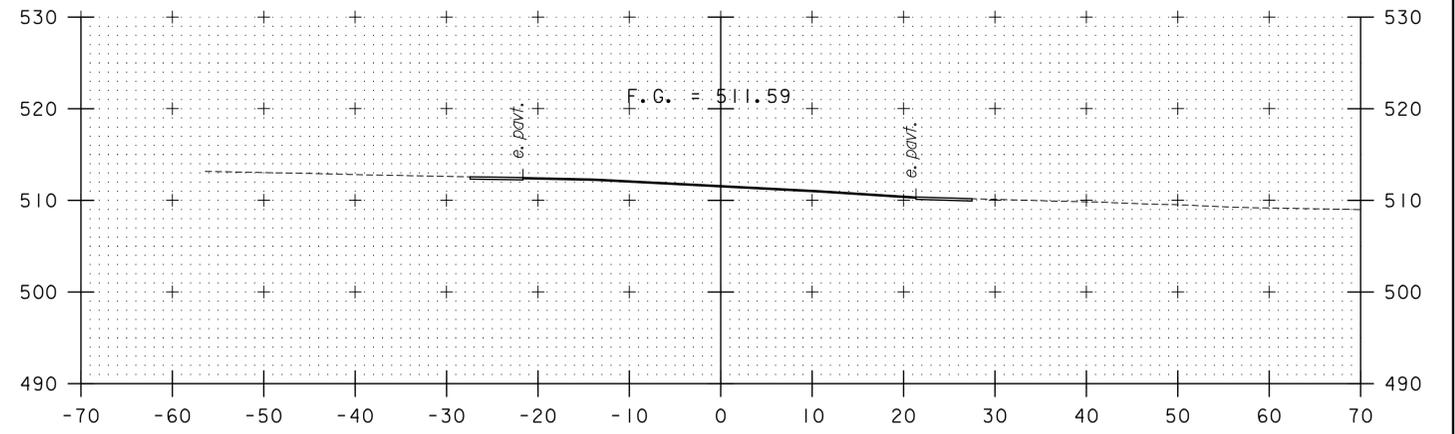
FILE NAME: z16b001xs.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: J. HOWE
VT 100 CROSS SECTIONS 5

PLOT DATE: 4/18/2016
DRAWN BY: P. BRYANT
CHECKED BY: J. OLUND
SHEET 25 OF 40

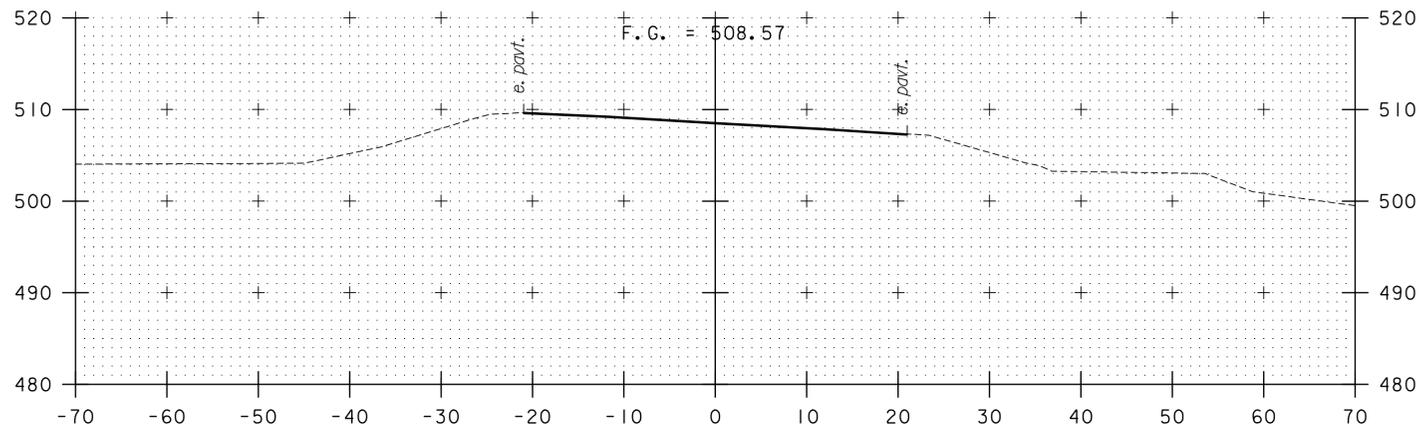
STA. 296+25 TO STA. 297+50



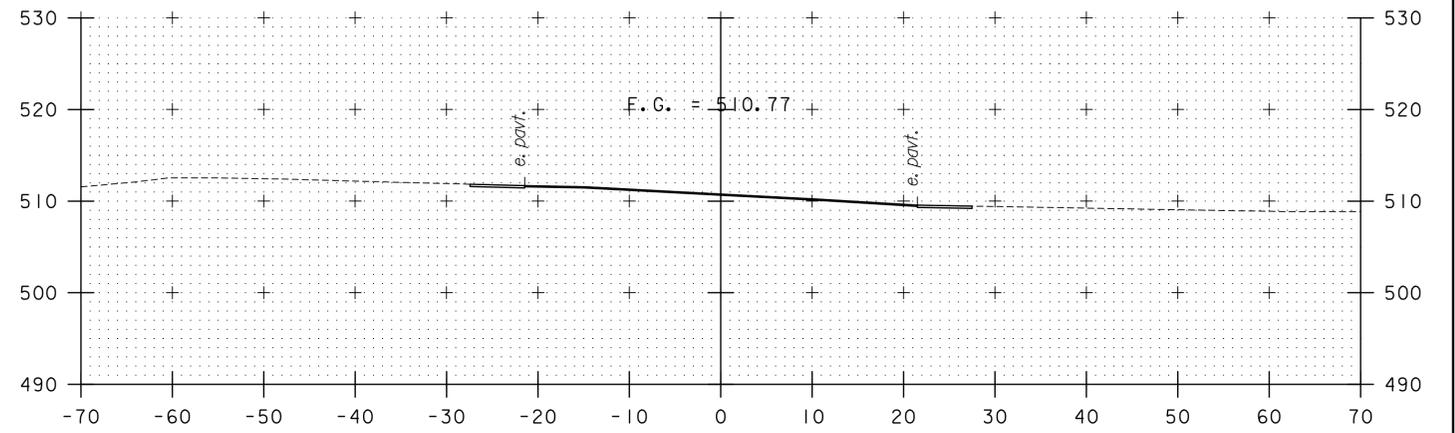
298+25



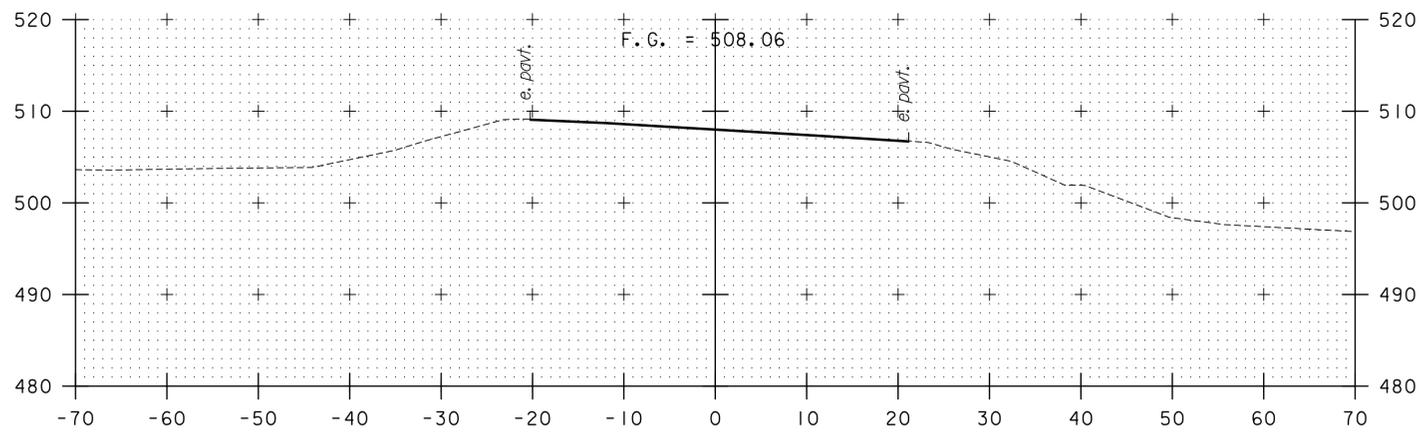
299+00



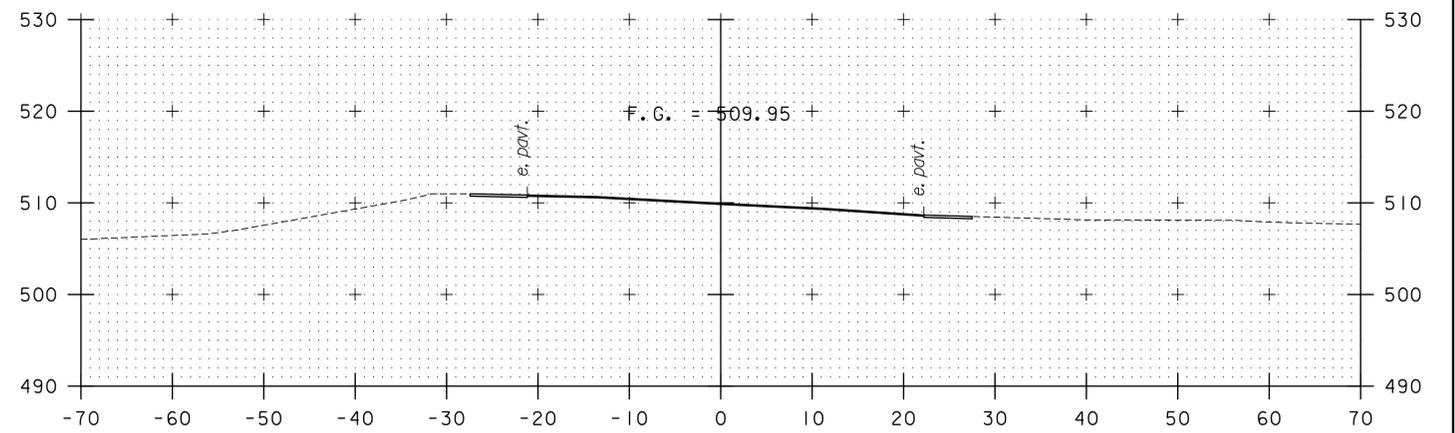
298+00



298+75



297+75



298+50

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

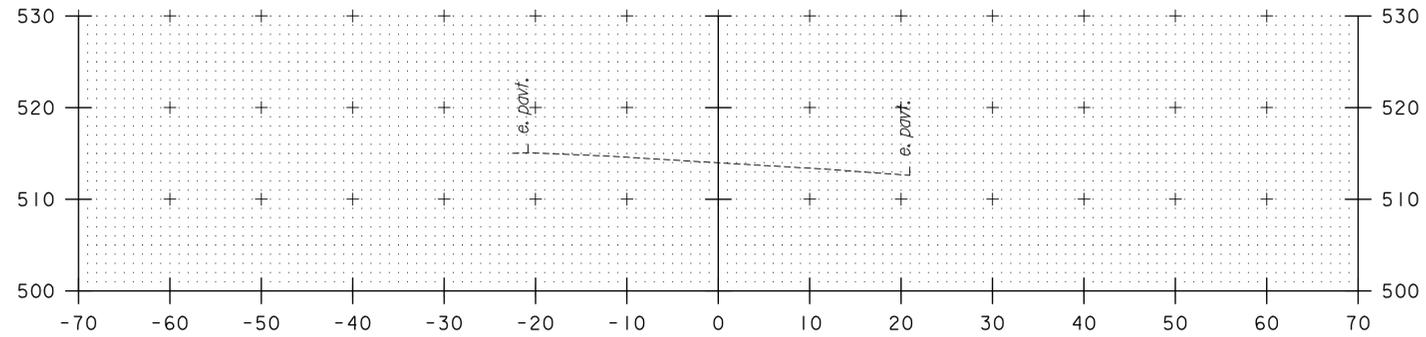
PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

TYLINTERNATIONAL

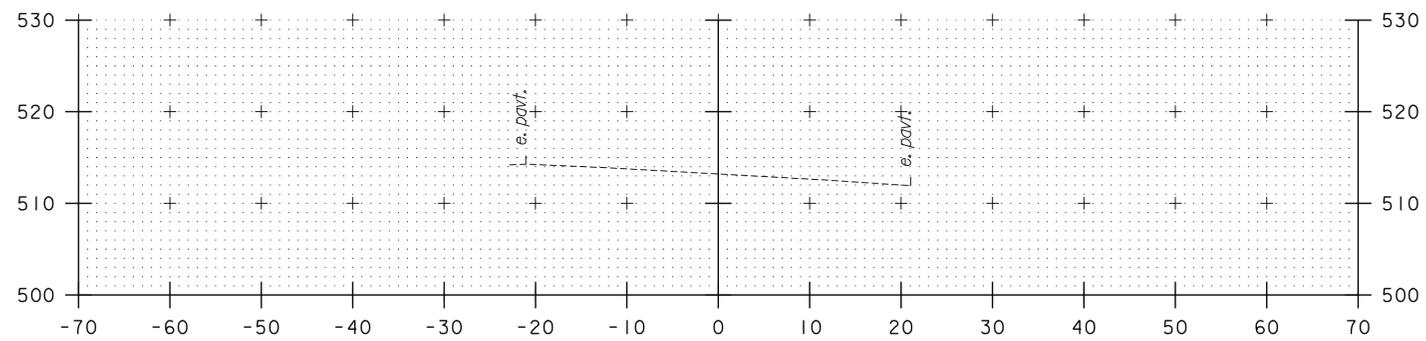
FILE NAME: z16b001xs.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: J. HOWE
VT 100 CROSS SECTIONS 6

PLOT DATE: 4/18/2016
DRAWN BY: P. BRYANT
CHECKED BY: J. OLUND
SHEET 26 OF 40

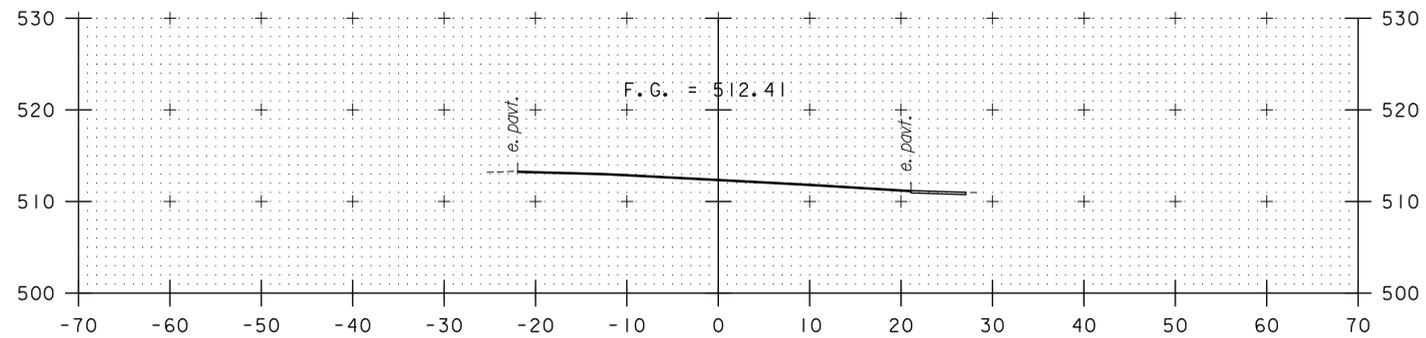
STA. 297+75 TO STA. 299+00



299+75



299+50
END APPROACH



299+25

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

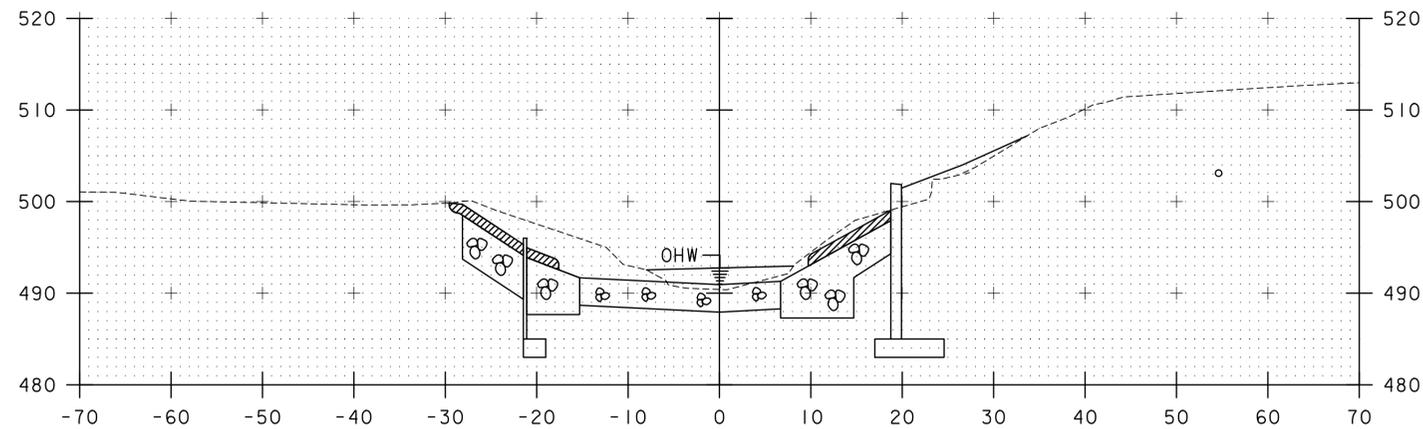
PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

TYLIN INTERNATIONAL

FILE NAME: z16b001xs.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: J. HOWE
VT 100 CROSS SECTIONS 7

PLOT DATE: 4/18/2016
DRAWN BY: P. BRYANT
CHECKED BY: J. OLUND
SHEET 27 OF 40

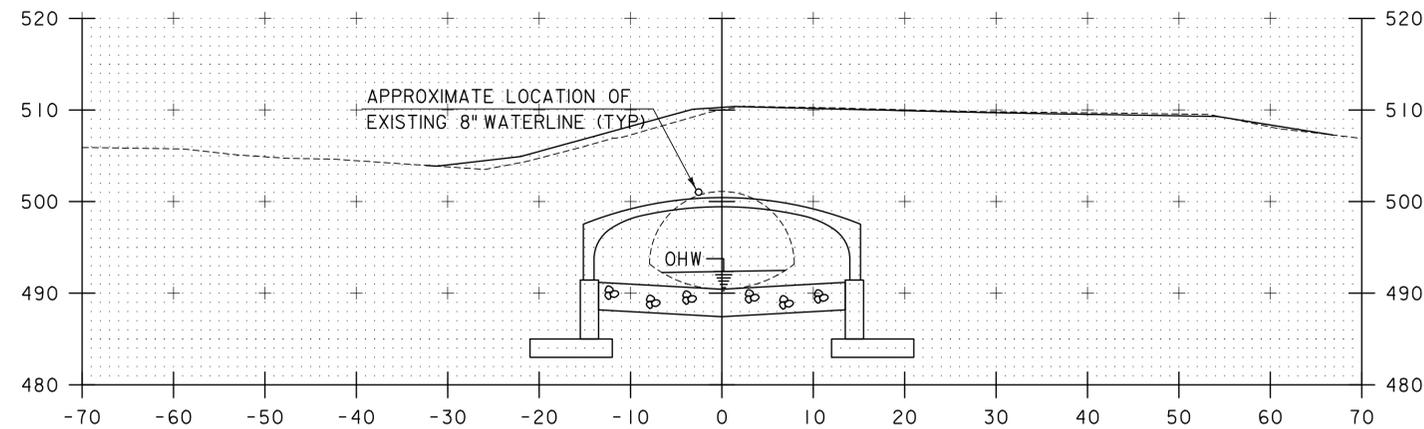
STA. 299+25 TO STA. 299+75



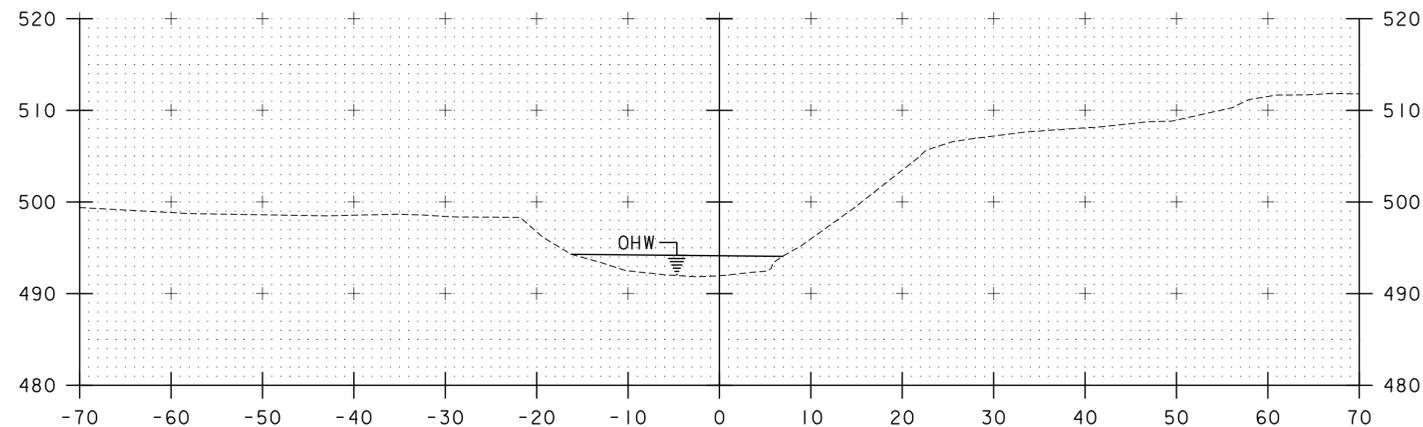
STA 20+01.34, LT
 BEGIN SPECIAL PROVISION (STONE FILL,
 STREAM BED MATERIAL) (TYPE IV)
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION
 BEGIN GEOTEXTILE UNDER STONE FILL
 BEGIN STONE FILL TYPE IV
 BEGIN GRUBBING MATERIAL

20+25

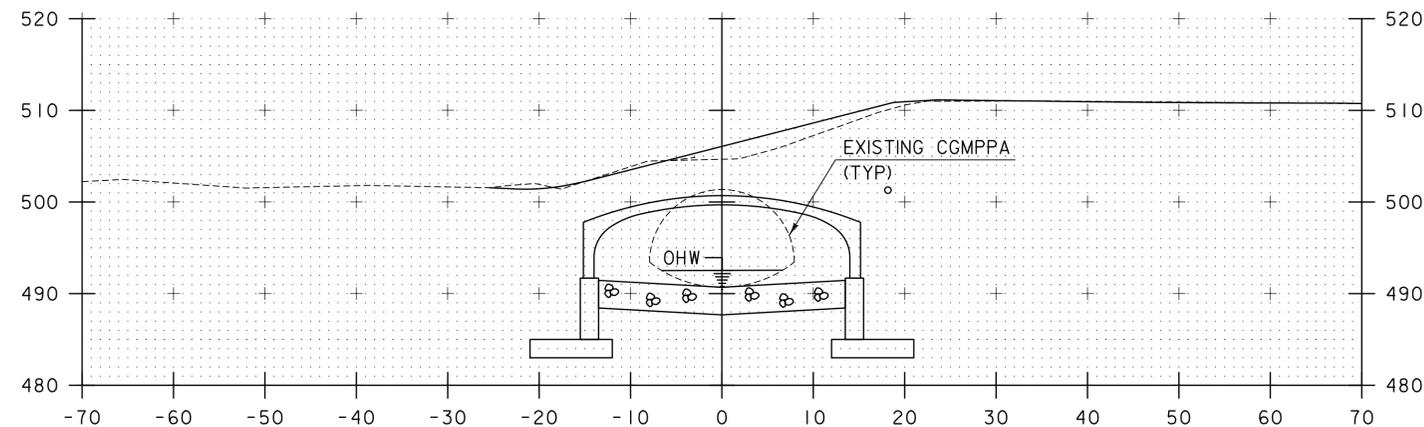
STA 20+07.70, RT
 BEGIN SPECIAL PROVISION (STONE FILL,
 STREAM BED MATERIAL) (TYPE IV)
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION
 BEGIN GEOTEXTILE UNDER STONE FILL
 BEGIN STONE FILL TYPE IV
 BEGIN GRUBBING MATERIAL



20+75



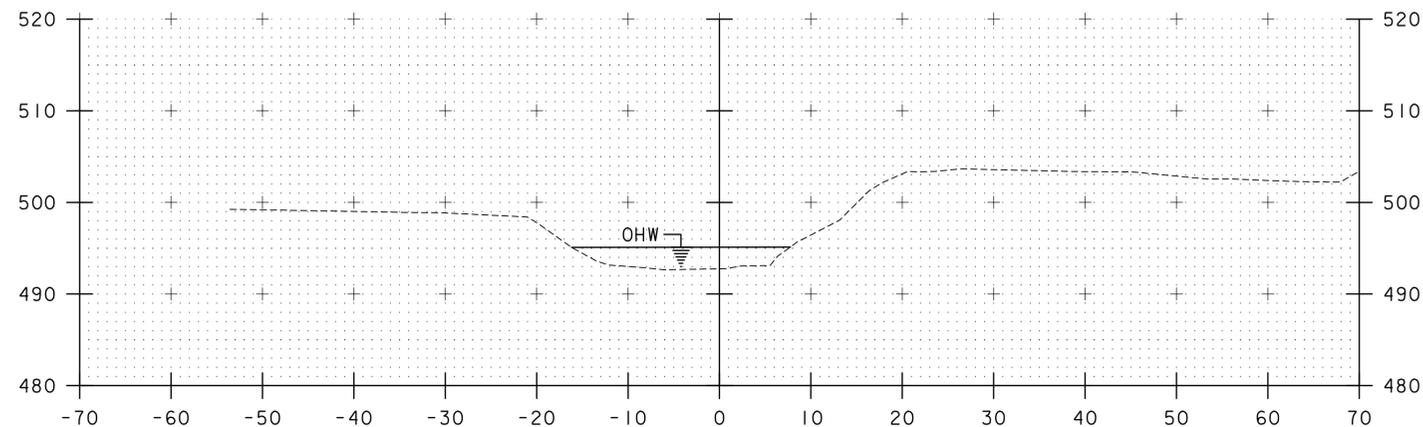
20+00



20+50

STA 20+42.21, LT
 END UNCLASSIFIED CHANNEL EXCAVATION
 END STONE FILL TYPE IV
 END GRUBBING MATERIAL

STA 20+34.87, RT
 END UNCLASSIFIED CHANNEL EXCAVATION
 END STONE FILL TYPE IV
 END GRUBBING MATERIAL



19+75

FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

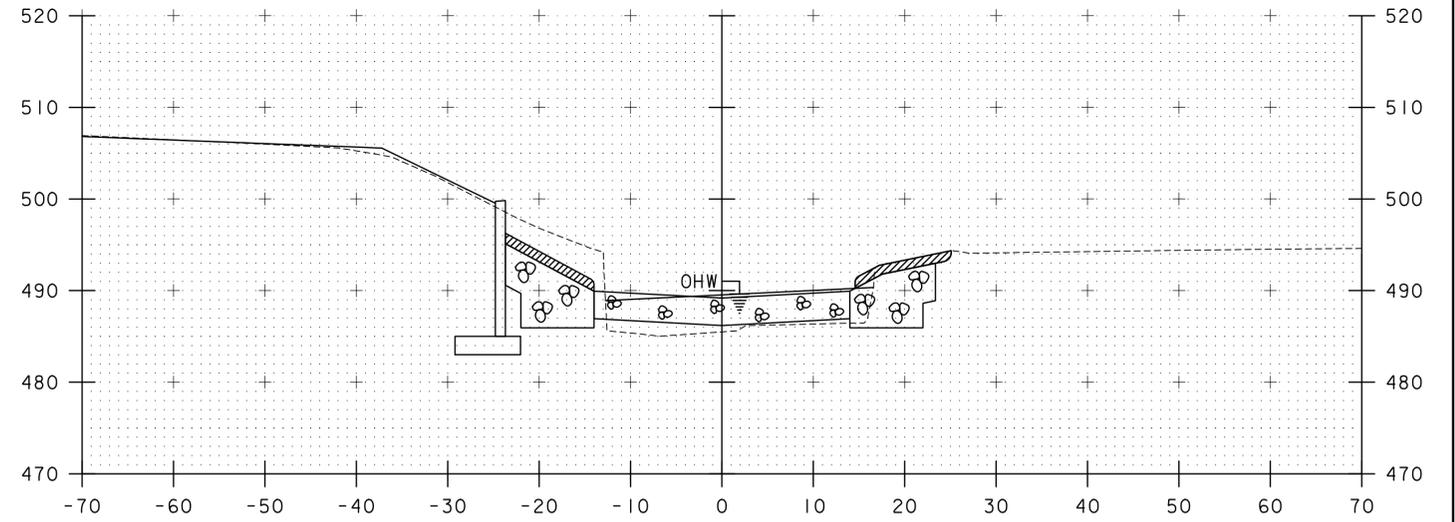
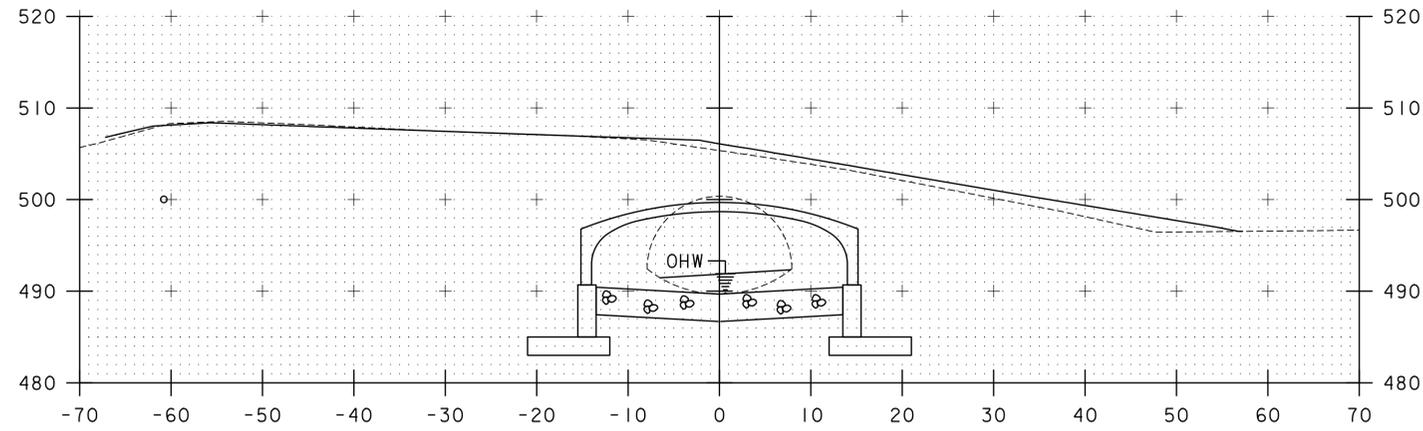
TYLIN INTERNATIONAL

PROJECT NAME: DUXBURY
 PROJECT NUMBER: BF 013-4(47)

FILE NAME: z16b001xschan.dgn
 PROJECT LEADER: J. OLUND
 DESIGNED BY: B. TOOTHAKER
 CHANNEL SECTIONS I

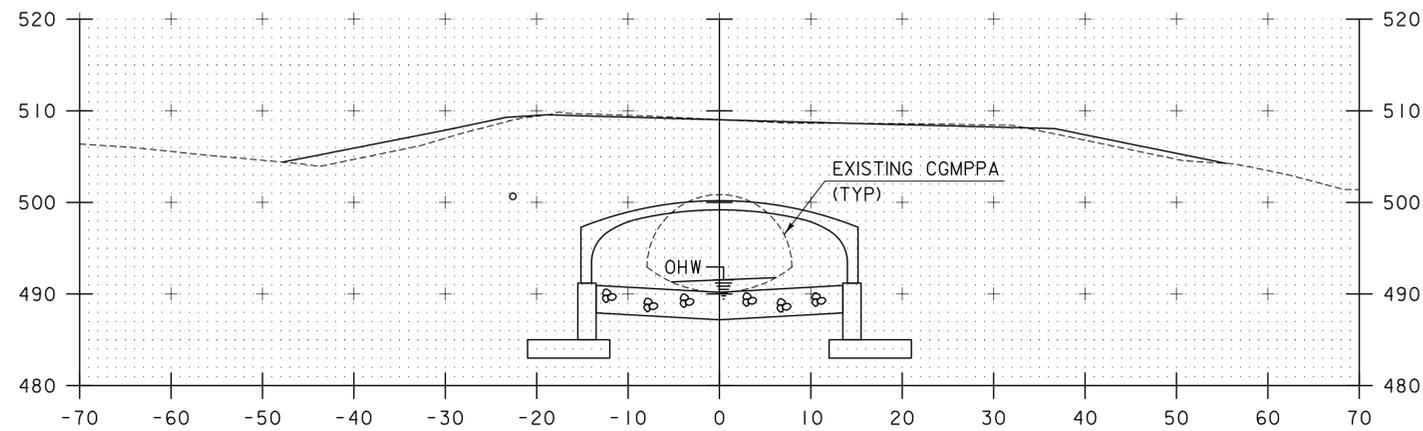
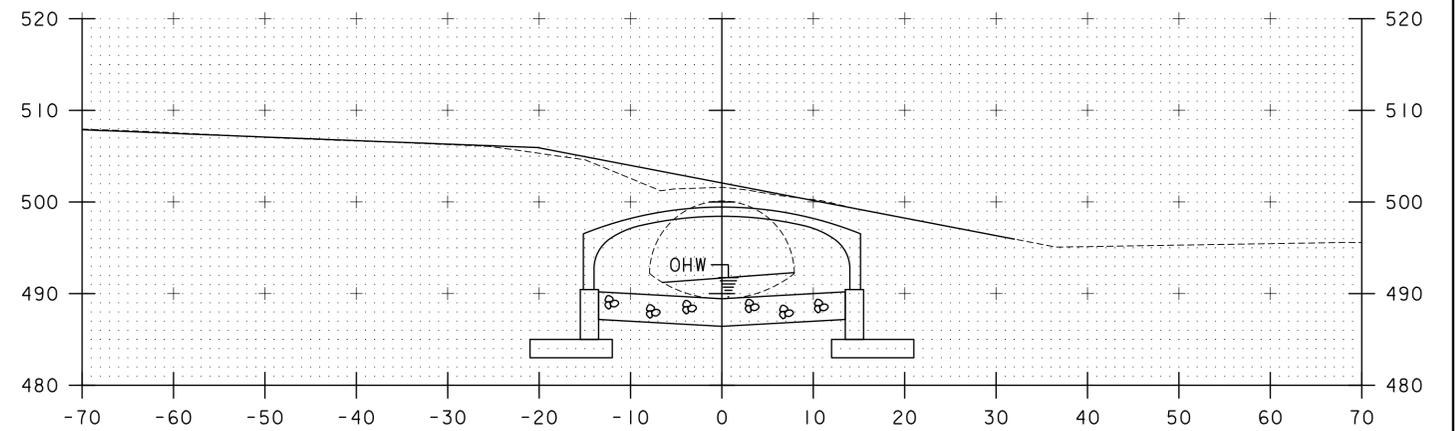
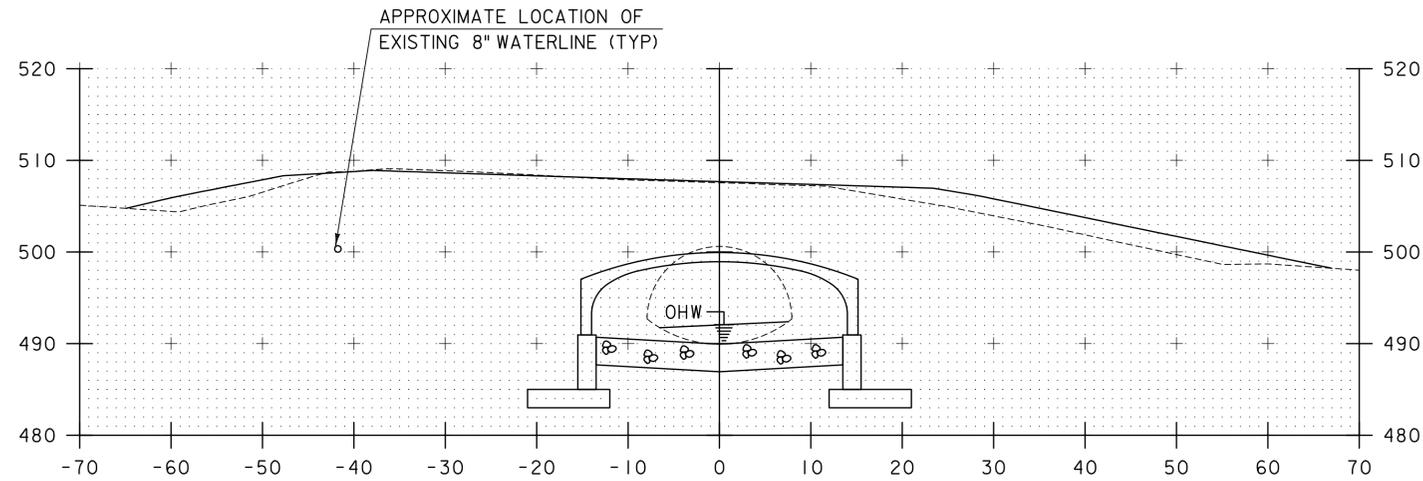
PLOT DATE: 4/18/2016
 DRAWN BY: B. TOOTHAKER
 CHECKED BY: D. MYERS
 SHEET 28 OF 43

STA. 19+75 TO STA. 20+75



STA 21+79.00, LT
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION
 BEGIN STONE FILL TYPE IV
 BEGIN GRUBBING MATERIAL

STA 21+75.71, RT
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION
 BEGIN STONE FILL TYPE IV
 BEGIN GRUBBING MATERIAL



FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

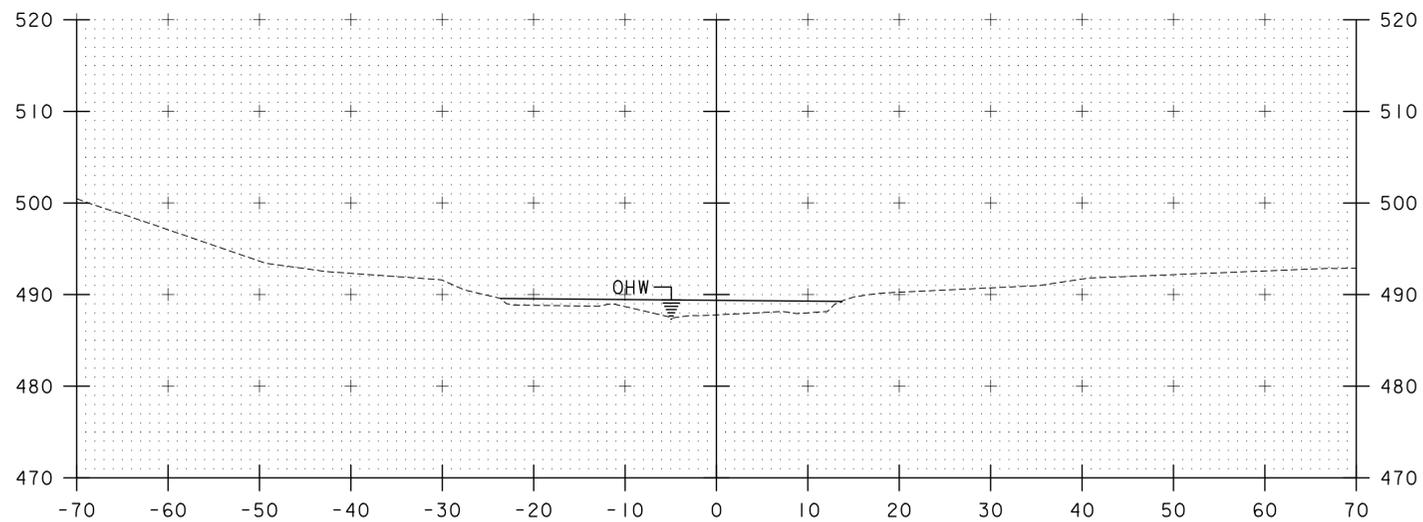
PROJECT NAME: DUXBURY
 PROJECT NUMBER: BF 013-4(47)

TYLIN INTERNATIONAL

FILE NAME: z16b001xschan.dgn
 PROJECT LEADER: J. OLUND
 DESIGNED BY: B. TOOTHAKER
 CHANNEL SECTIONS 2

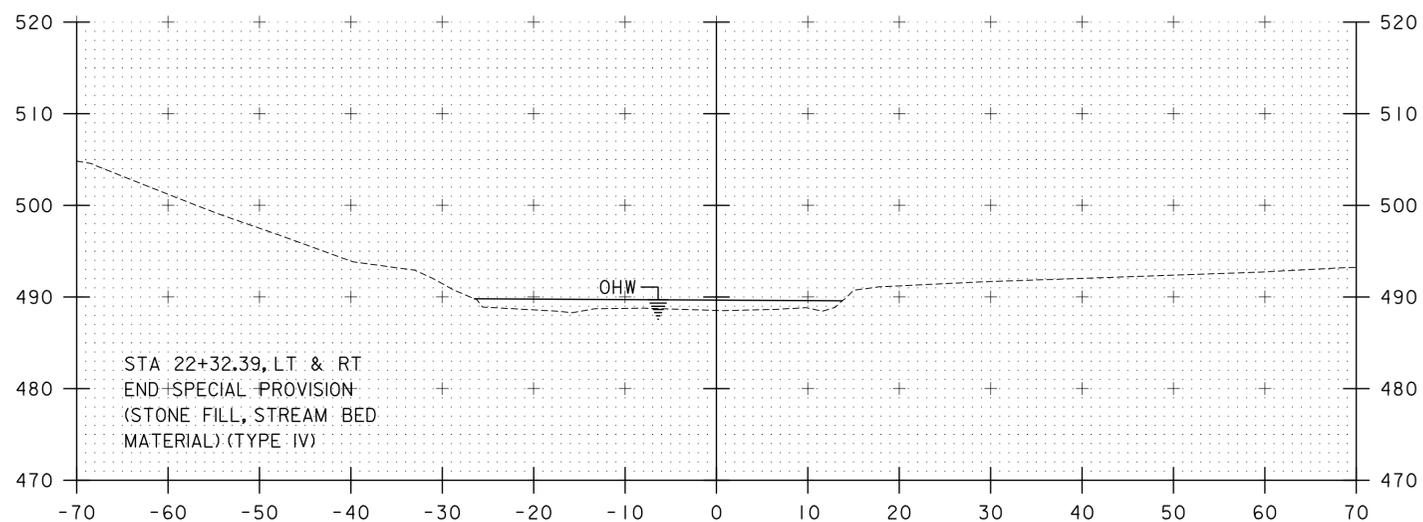
PLOT DATE: 4/18/2016
 DRAWN BY: B. TOOTHAKER
 CHECKED BY: D. MYERS
 SHEET 29 OF 43

STA. 21+00 TO STA. 22+00



22+75

NOTE: TEMPORARY BRIDGE AND ROADWAY NOT SHOWN

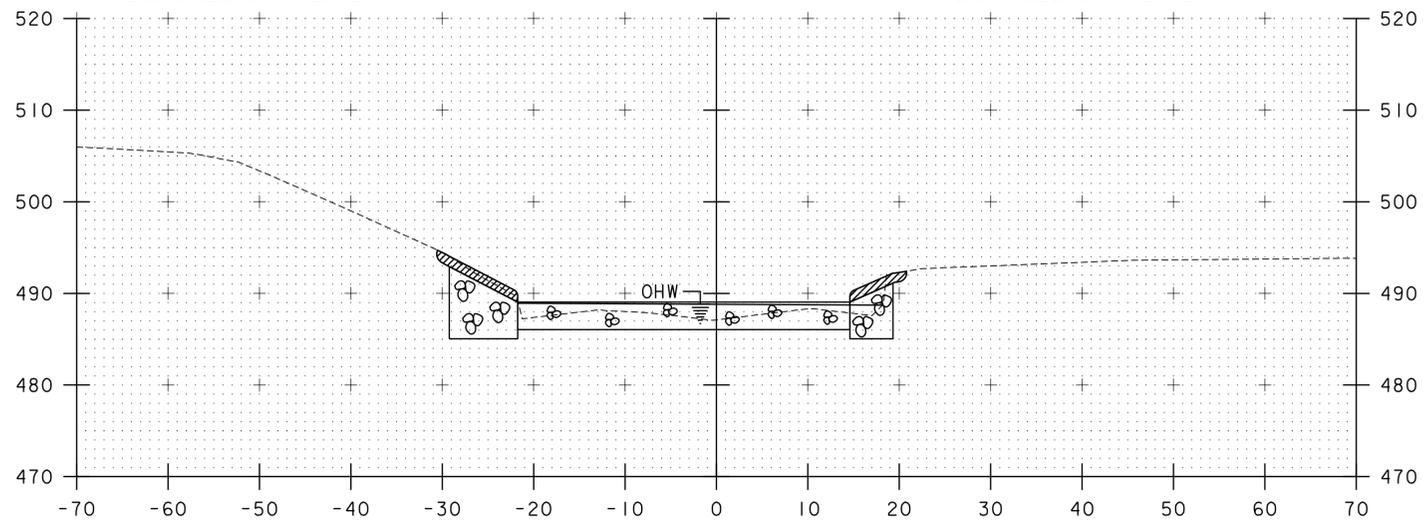


STA 22+32.39, LT & RT
END SPECIAL PROVISION
(STONE FILL, STREAM BED
MATERIAL) (TYPE IV)

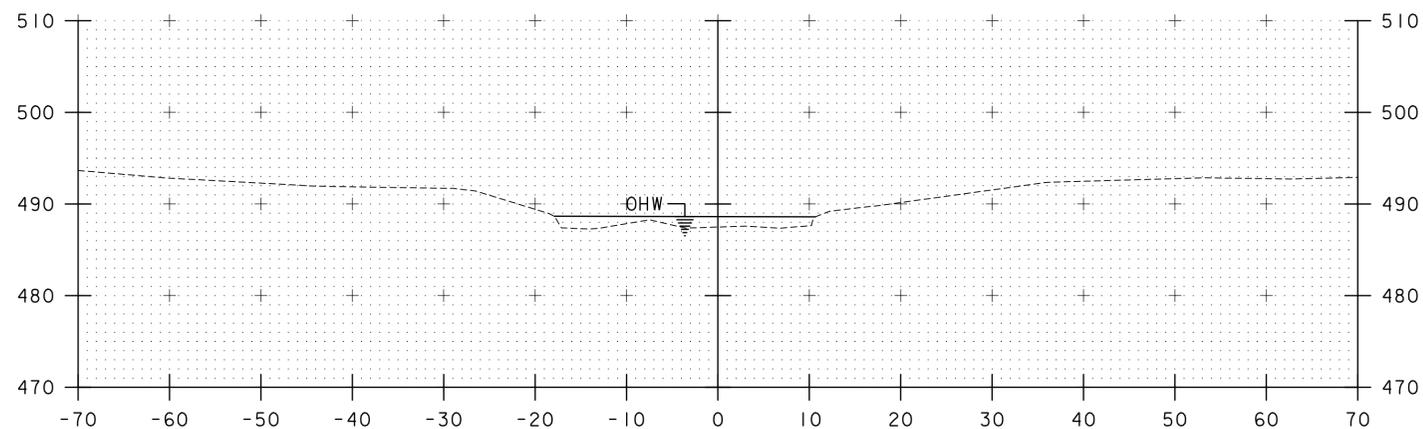
STA 22+32.39, LT
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END STONE FILL TYPE IV
END GRUBBING MATERIAL

22+50

STA 22+32.39, RT
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END STONE FILL TYPE IV
END GRUBBING MATERIAL



22+25



23+00

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

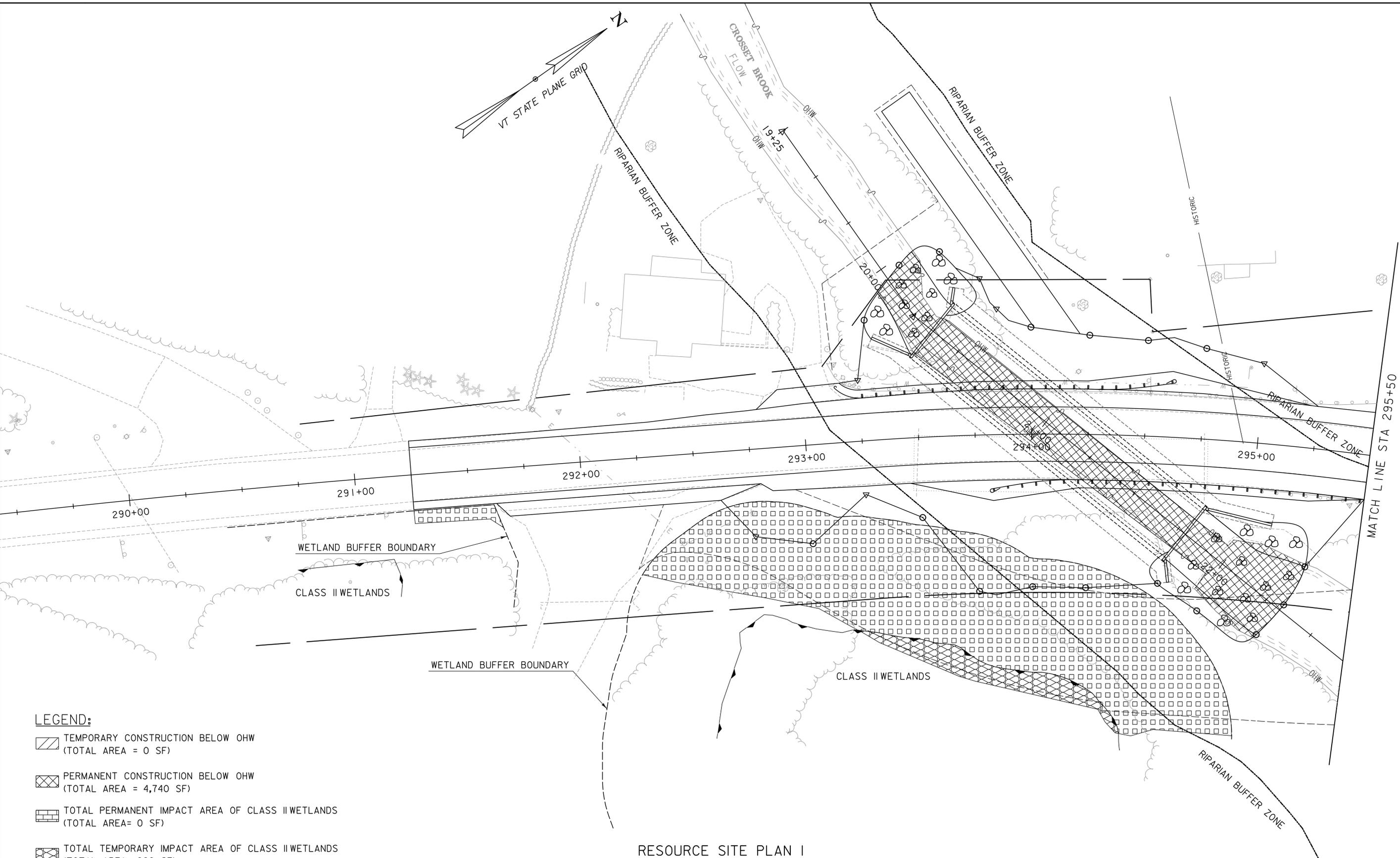
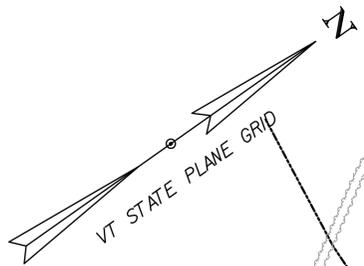
TYLIN INTERNATIONAL

PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

FILE NAME: z16b001xschan.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: B. TOOTHAKER
CHANNEL SECTIONS 3

PLOT DATE: 4/18/2016
DRAWN BY: B. TOOTHAKER
CHECKED BY: D. MYERS
SHEET 30 OF 43

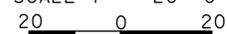
STA. 22+25 TO STA. 23+00



LEGEND:

-  TEMPORARY CONSTRUCTION BELOW OHW
(TOTAL AREA = 0 SF)
-  PERMANENT CONSTRUCTION BELOW OHW
(TOTAL AREA = 4,740 SF)
-  TOTAL PERMANENT IMPACT AREA OF CLASS II WETLANDS
(TOTAL AREA= 0 SF)
-  TOTAL TEMPORARY IMPACT AREA OF CLASS II WETLANDS
(TOTAL AREA= 960 SF)
-  TOTAL PERMANENT IMPACT AREA OF WETLAND BUFFER
(TOTAL AREA= 0 SF)
-  TOTAL TEMPORARY IMPACT AREA OF WETLAND BUFFER
(TOTAL AREA= 12,025 SF)

RESOURCE SITE PLAN I

SCALE 1" = 20' - 0"


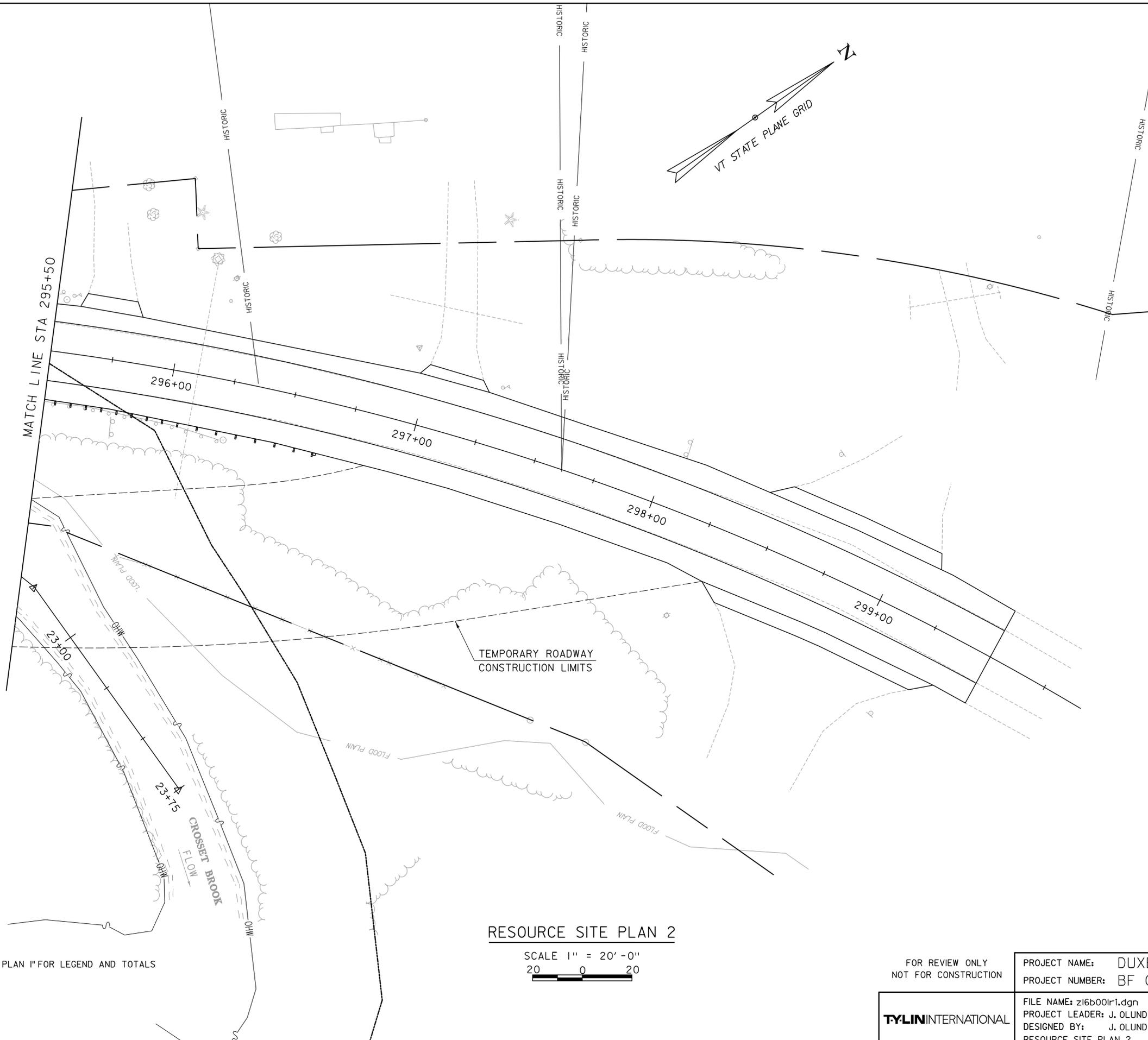
FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

TYLIN INTERNATIONAL

PROJECT NAME: DUXBURY
 PROJECT NUMBER: BF 013-4(47)

FILE NAME: z16b001r1.dgn
 PROJECT LEADER: J. OLUND
 DESIGNED BY: J. OLUND
 RESOURCE SITE PLAN I

PLOT DATE: 4/18/2016
 DRAWN BY: S. MORGAN
 CHECKED BY: T. POULIN
 SHEET 31 OF 40



NOTE: SEE SHEET "RESOURCE SITE PLAN I" FOR LEGEND AND TOTALS

RESOURCE SITE PLAN 2

SCALE 1" = 20'-0"
 20 0 20

FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

TYLININTERNATIONAL

PROJECT NAME: DUXBURY
 PROJECT NUMBER: BF 013-4(47)

FILE NAME: z16b001r1.dgn
 PROJECT LEADER: J. OLUND
 DESIGNED BY: J. OLUND
 RESOURCE SITE PLAN 2

PLOT DATE: 4/18/2016
 DRAWN BY: S. MORGAN
 CHECKED BY: T. POULIN
 SHEET 32 OF 40

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF BRIDGE 193 (BURIED CORRUGATED METAL PLATE PIPE ARCH) OVER CROSSETT BROOK IN THE TOWN OF DUXBURY. WITH A PRECAST ARCH WITH AN 9 FOOT RISE AND 28 FOOT SPAN, ON NEW FOOTINGS ALONG THE SAME ALIGNMENT. BRIDGE 193 IS LOCATED IN THE TOWN OF DUXBURY, ON VT ROUTE 100, APPROXIMATELY 0.7 MILES SOUTH OF THE JUNCTION WITH US ROUTE 2. THIS PROJECT ALSO INCLUDES THE CONSTRUCTION AND REMOVAL OF A DOWNSTREAM, OFF-ALIGNMENT TEMPORARY DETOUR ROADWAY

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 1.99 ACRES. IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS MOUNTAINOUS COMPRISED OF FOREST AND LIGHTLY DEVELOPED RESIDENTIAL AREAS. VT ROUTE 100, FOUR UNPAVED DRIVEWAYS, AND A PAVED SCHOOL DRIVEWAY ARE WITHIN THE PROJECT SITE. THERE ARE THREE RESIDENCES ON THE NORTH SIDE OF THE PROJECT, A QUARRY TO THE SOUTHWEST AND A SCHOOL TO THE SOUTH EAST.

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

CROSSETT BROOK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS STEEP, SINUOUS, AND ALLUVIAL. THE STREAM BED CONSISTS OF GRAVEL AND COBBLES. THE TRIBUTARY AREA AT THE CULVERT CROSSING IS 5.1 MILES². THERE ARE NO CLOSED DRAINAGE SYSTEMS OR CURBING ON THE PROJECT SITE. ONE DROP INLET CURRENTLY DRAINS FROM A LOW POINT NORTHEAST OF THE STRUCTURE THROUGH AN 18" DIAMETER CORRUGATE METAL PIPE WHICH PASSES UNDER THE ROADWAY AND DAYLIGHTS SOUTHEAST OF THE STRUCTURE. A 24" DIAMETER CPE PIPE PASSES UNDER THE GRAVEL DRIVEWAY TO THE QUARRY, ALLOWING WATER IN THE DITCH SOUTHWEST OF THE STRUCTURE TO DRAIN TOWARD CROSSETT BROOK. DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE COULD RECEIVE RUNOFF WATER FROM A FEW NEARBY SLOPES.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD AND SOFTWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING CULVERT AND THE CONSTRUCTION OF A TEMPORARY ROADWAY DOWNSTREAM OF THE EXISTING CULVERT. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL, TYPE IV AS SPECIFIED ON THE PLANS. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WASHINGTON, VERMONT. SOILS ON THE PROJECT SITE ARE SALMON ADAMANT COMPLEX, LAMOINE SILT LOAM, RUMNEY FINE SANDY LOAM, ONDAWA FINE SANDY LOAM, BUXTON SILT LOAM, AND SALMON EVRY FINE SANDY LOAM. SEE EXISTING SITE PLANS FOR SOIL LOCATIONS AND DETAILS.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:

0.0-0.23 = LOW EROSION POTENTIAL
0.24-0.36 = MODERATE EROSION POTENTIAL
0.37 AND HIGHER = HIGH EROSION POTENTIAL

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: YES (SEE EPSC - EXISTING SITE PLAN FOR LOCATIONS)
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: CROSSETT BROOK
WETLANDS: YES (CLASS II)

1.3 RISK EVALUATION

THIS 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 CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE 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 OF 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 THIS 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 CONTRACTORS 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 SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

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

THE PROJECT AREA IS RELATIVELY FLAT; THEREFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

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

CHECK DAMS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

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 HEADWALLS. STONE FILL, STREAM BEAD MATERIAL (TYPE IV) WILL BE USED IN THE BOTTOM OF THE CHANNEL TO PREVENT FUTURE SCOUR AND ESTABLISH A NATURAL STREAMBED.

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. THE USE OF TEMPORARY EROSION MATTING (BIODEGRADABLE) DURING CONSTRUCTION IS NOT ANTICIPATED.

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.

THE USE OF PERMANENT EROSION CONTROL MATTING IS NOT ANTICIPATED FOR THIS PROJECT

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 ANTICIPATED. A LOCATION FOR TREATMENT HAS BEEN PROPOSED AND IS SHOWN ON THE PLANS. HOWEVER THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR.

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 SPECIFICATION 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

WASTE, BORROW, AND STAGING AREAS MUST BE APPROVED BY THE VTRANS ENVIRONMENTAL SECTION.

NO ONSITE DISPOSAL OF WASTE MATERIALS SHALL BE ALLOWED. THE CONTRACTOR IS ENCOURAGED TO USE EXEMPT SITES FOR EARTHEN AND/OR SOLID WASTES. INFORMATION REGARDING EXEMPT SITES MAY BE FOUND ON THE VTRANS ENVIRONMENTAL WEBSITE AT:
<http://vtransengineering.vermont.gov/bureaus/pdb/environmental/off-site-activity>

1.5.3 UPDATES

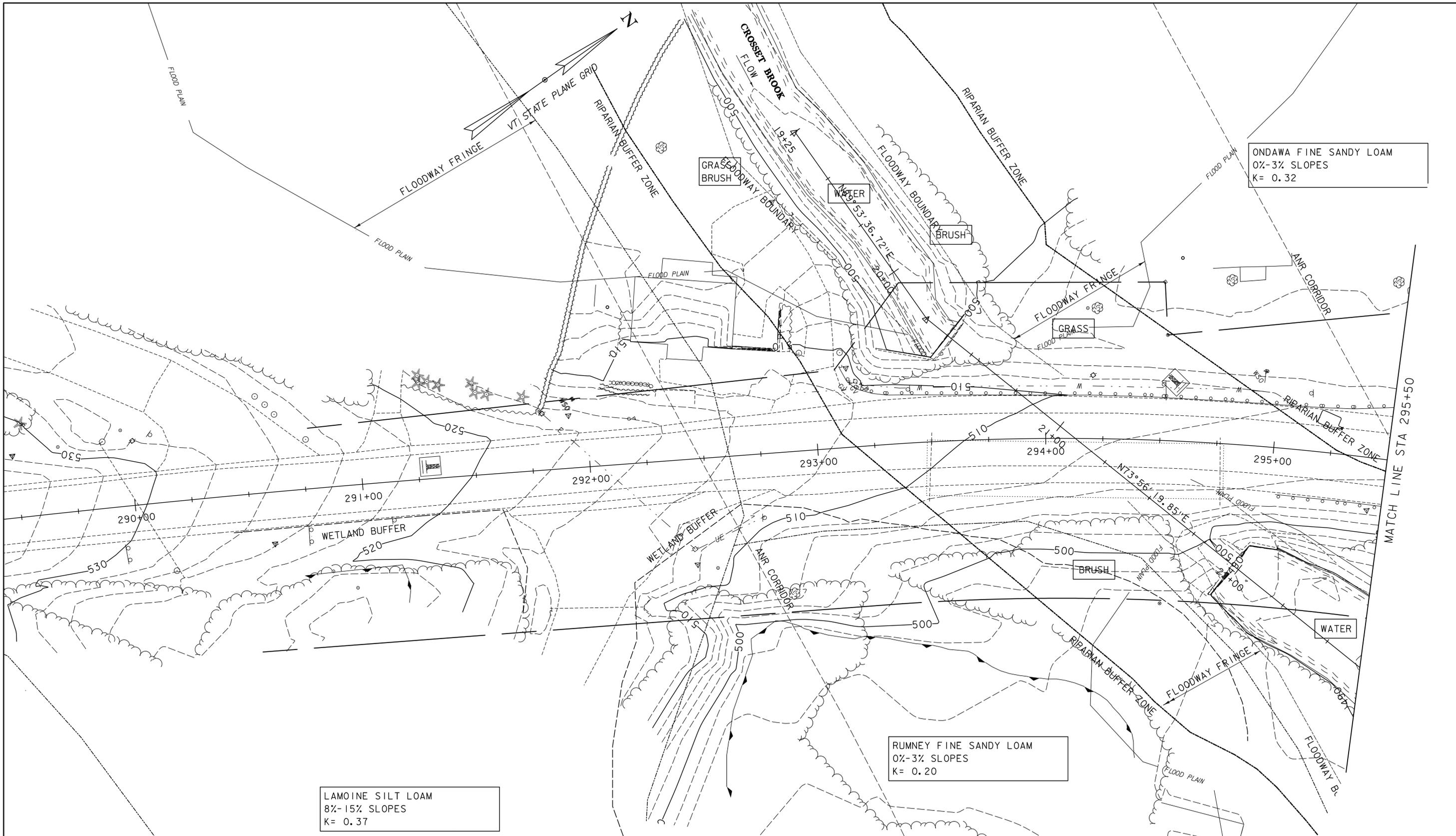
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

TYLININTERNATIONAL

PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

FILE NAME: z16b00lepsonar.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: J. OLUND
EPSC PLAN NARRATIVE

PLOT DATE: 4/18/2016
DRAWN BY: S. MORGAN
CHECKED BY: D. BRYANT
SHEET 33 OF 40



EPSC - EXISTING SITE PLAN I

SCALE 1" = 20' - 0"
 20 0 20

FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

PROJECT NAME: DUXBURY
 PROJECT NUMBER: BF 013-4(47)

TYLIN INTERNATIONAL

FILE NAME: z16b001ero.dgn
 PROJECT LEADER: J. OLUND
 DESIGNED BY: B. TOOTHAKER
 EPSC EXISTING SITE PLAN I

PLOT DATE: 4/18/2016
 DRAWN BY: S. MORGAN
 CHECKED BY: J. OLUND
 SHEET 34 OF 40

SALMON ADAMANT COMPLEX
 0%-25% SLOPES
 K= x.xx

LAMOINE SILT LOAM
 8%-15% SLOPES
 K= 0.37

RUMNEY FINE SANDY LOAM
 0%-3% SLOPES
 K= 0.20

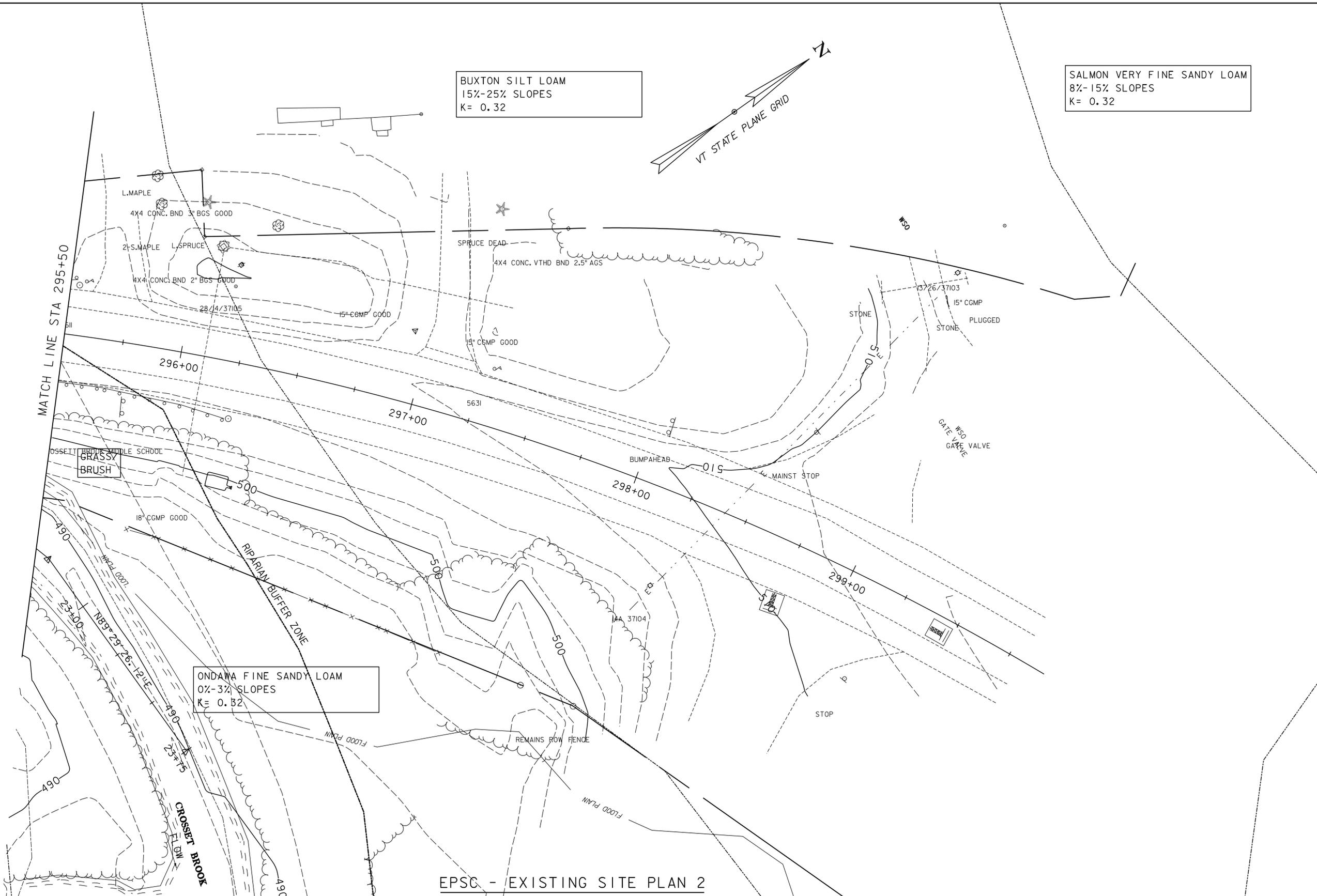
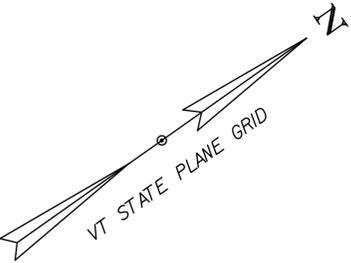
ONDWA FINE SANDY LOAM
 0%-3% SLOPES
 K= 0.32

MATCH LINE STA 295+50

BUXTON SILT LOAM
15%-25% SLOPES
K= 0.32

SALMON VERY FINE SANDY LOAM
8%-15% SLOPES
K= 0.32

ONDANA FINE SANDY LOAM
0%-3% SLOPES
K= 0.32



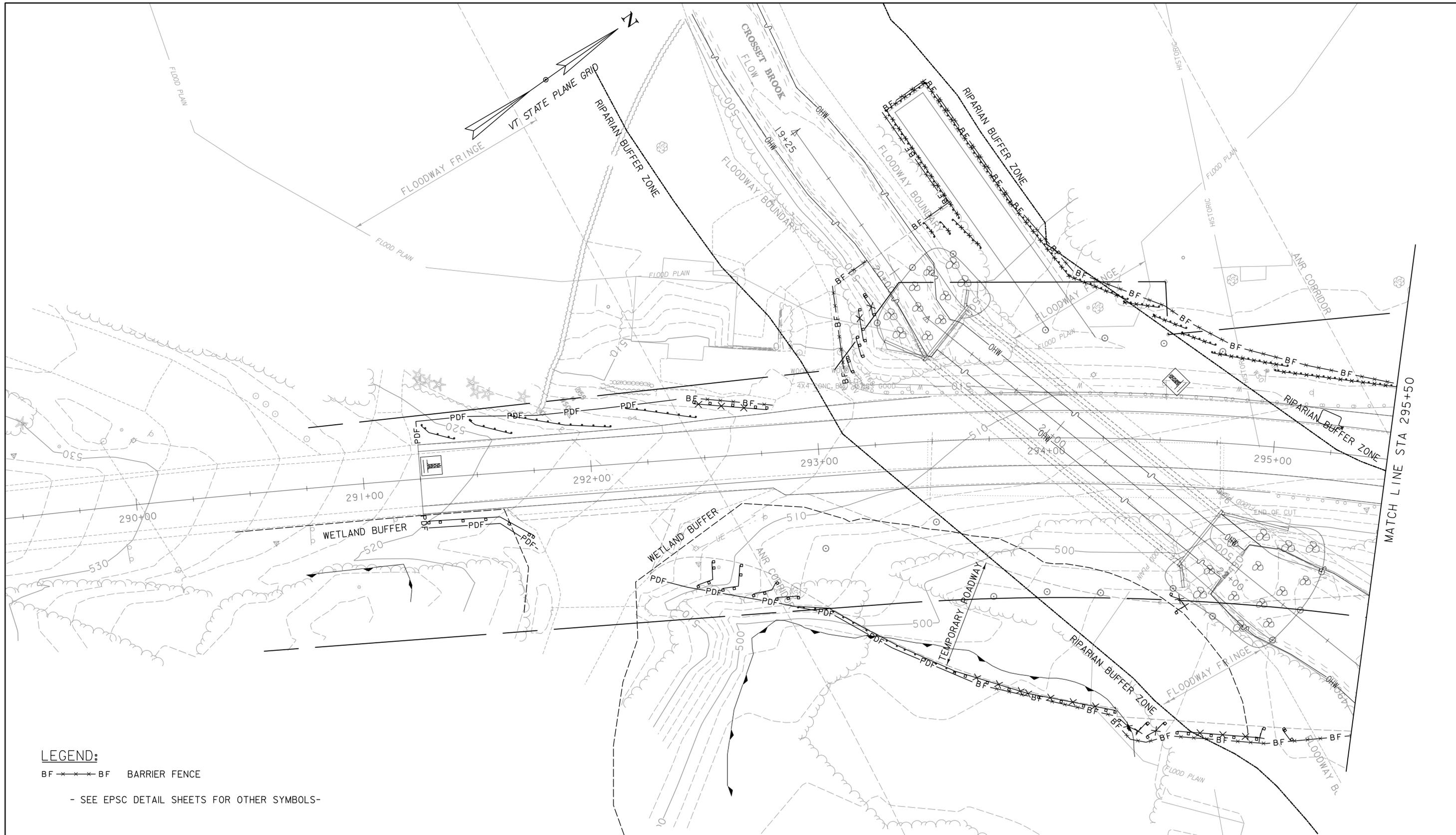
EPSC - EXISTING SITE PLAN 2

SCALE 1" = 20' - 0"
20 0 20

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

TYLIN INTERNATIONAL

PROJECT NAME: DUXBURY	PLOT DATE: 4/18/2016
PROJECT NUMBER: BF 013-4(47)	DRAWN BY: S. MORGAN
FILE NAME: z16b001ero.dgn	CHECKED BY: J. OLUND
PROJECT LEADER: J. OLUND	SHEET 35 OF 40
DESIGNED BY: B. TOOTHAKER	
EPSC EXISTING SITE PLAN 2	



LEGEND:

BF - - - - BF BARRIER FENCE

- SEE EPSC DETAIL SHEETS FOR OTHER SYMBOLS -

EPSC - CONSTRUCTION SITE PLAN I

SCALE 1" = 20' - 0"
 20 0 20

FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

PROJECT NAME: DUXBURY
 PROJECT NUMBER: BF 013-4(47)

TYLININTERNATIONAL

FILE NAME: z16b001ero.dgn
 PROJECT LEADER: J. OLUND
 DESIGNED BY: B. TOOTHAKER
 EPSC CONSTRUCTION SITE PLAN I

PLOT DATE: 4/18/2016
 DRAWN BY: S. MORGAN
 CHECKED BY: J. OLUND
 SHEET 36 OF 40



EPSC - CONSTRUCTION SITE PLAN 2

SCALE 1" = 20'-0"
 20 0 20

LEGEND:

BF - - - - BF BARRIER FENCE

- SEE EPSC DETAIL SHEETS FOR OTHER SYMBOLS-

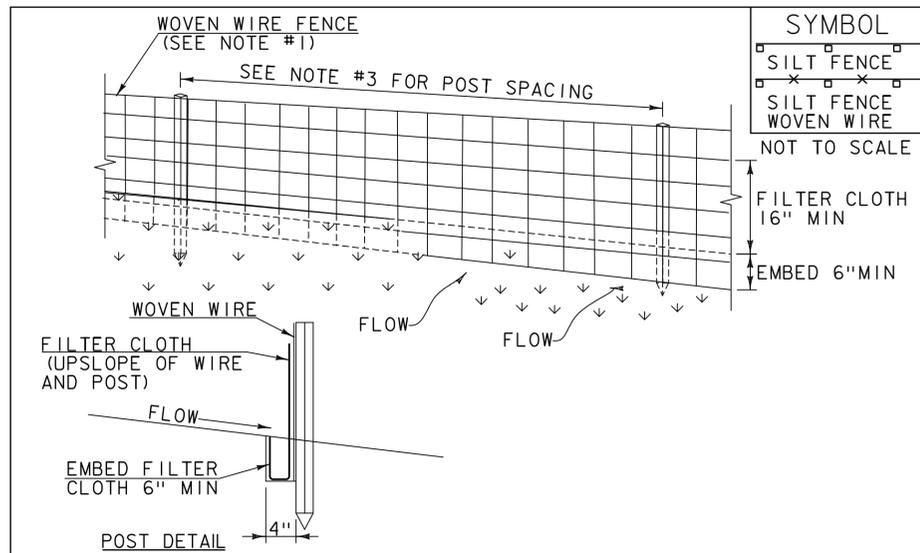
FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

PROJECT NAME: DUXBURY
 PROJECT NUMBER: BF 013-4(47)

TYLININTERNATIONAL

FILE NAME: z16b001ero.dgn
 PROJECT LEADER: J. OLUND
 DESIGNED BY: B. TOOTHAKER
 EPSC CONSTRUCTION SITE PLAN 2

PLOT DATE: 4/18/2016
 DRAWN BY: S. MORGAN
 CHECKED BY: J. OLUND
 SHEET 37 OF 40



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, MIRAF1100X, 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.

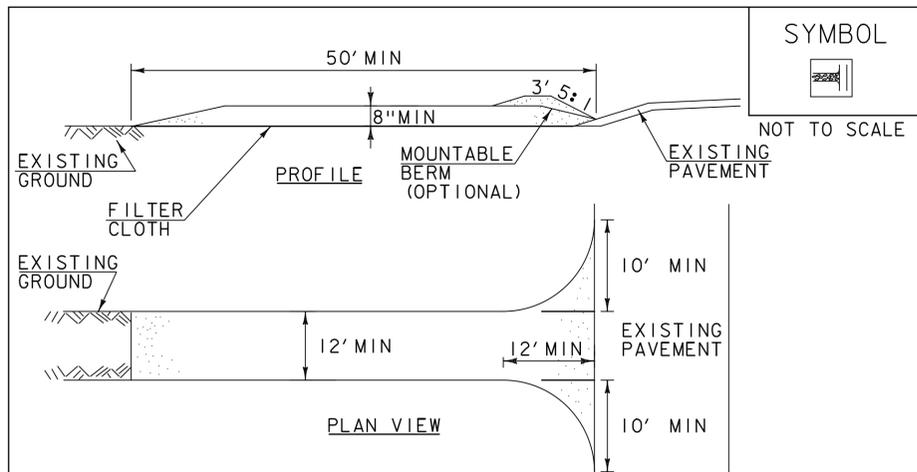
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS- NOT LESS THAN 8".
4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' 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.

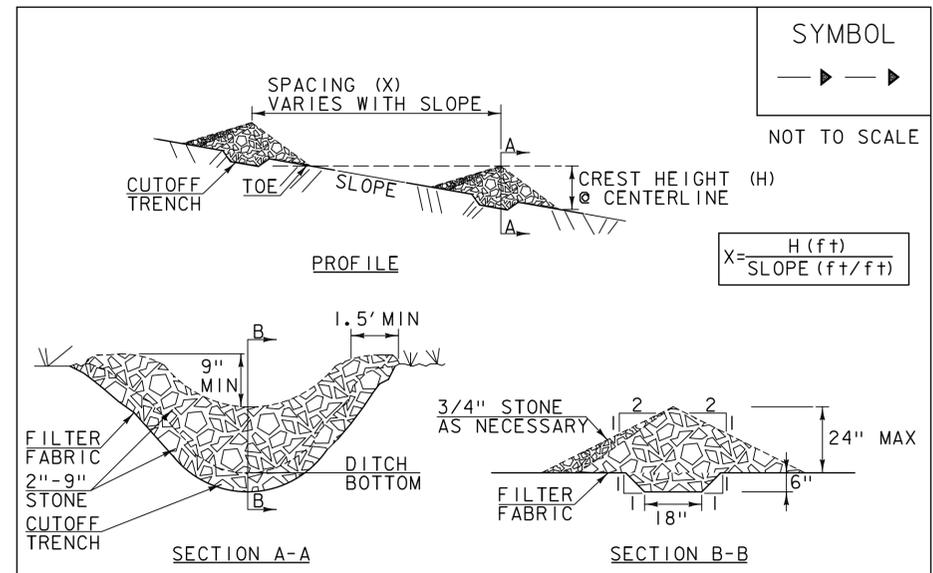
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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 WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



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 OF THE 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' 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

FOR REVIEW ONLY NOT FOR CONSTRUCTION	PROJECT NAME: DUXBURY	PLOT DATE: 4/18/2016
	PROJECT NUMBER: BF 013-4(47)	
TYLIN INTERNATIONAL	FILE NAME: z16b001erodet.dgn	CHECKED BY: XXXXX
	PROJECT LEADER: J. OLUND	SHEET 38 OF 40
	DESIGNED BY: B. TOOTHAKER	
	EPSC DETAILS I	

VAOT LOW GROW/FINE FESCUE MIX						
WEIGHT	LBS/AC		NAME	LATIN NAME	GERM	PURITY
	BROADCAST	HYDROSEED				
38%	57	95	CREeping RED FESCUE	FESTUCA RUBRA VAR. RUBRA	90%	98%
29%	43.5	72.5	HARD FESCUE	FESTUCA LONGIFOLIA	85%	95%
15%	22.5	37.5	CHEWINGS FESCUE	FESTUCA RUBRA VAR. COMMUTATA	87%	95%
15%	22.5	37.5	ANNUAL RYEGRASS	LOLIUM MULTIFLORUM	90%	95%
3%	4.5	7.5	INERTS			
100%	150	250				

VAOT RURAL AREA MIX						
WEIGHT	LBS/AC		NAME	LATIN NAME	GERM	PURITY
	BROADCAST	HYDROSEED				
37.5%	22.5	45	CREeping RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
37.5%	22.5	45	TALL FESCUE	FESTUCA ARUNDINACEA	90%	95%
5.0%	3	6	RED TOP	AGROSTIS GIGANTEA	90%	95%
15.0%	9	18	WHITE FIELD CLOVER	TRIFOLIUM REPENS	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	60	120				

GENERAL AMENDMENT GUIDANCE		
FERTILIZER	LIME	
10/20/10	AG LIME	PELLITIZED
500 LBS/AC	2 TONS/AC	1 TONS/AC

CONSTRUCTION GUIDANCE

1. SEED MIX: THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER ON WHICH SEED MIX TO USE.
2. SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) 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. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED PROPOSED FOR USE WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED.
7. 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
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651J5)	REVISIONS JANUARY 12, 2015 WHF

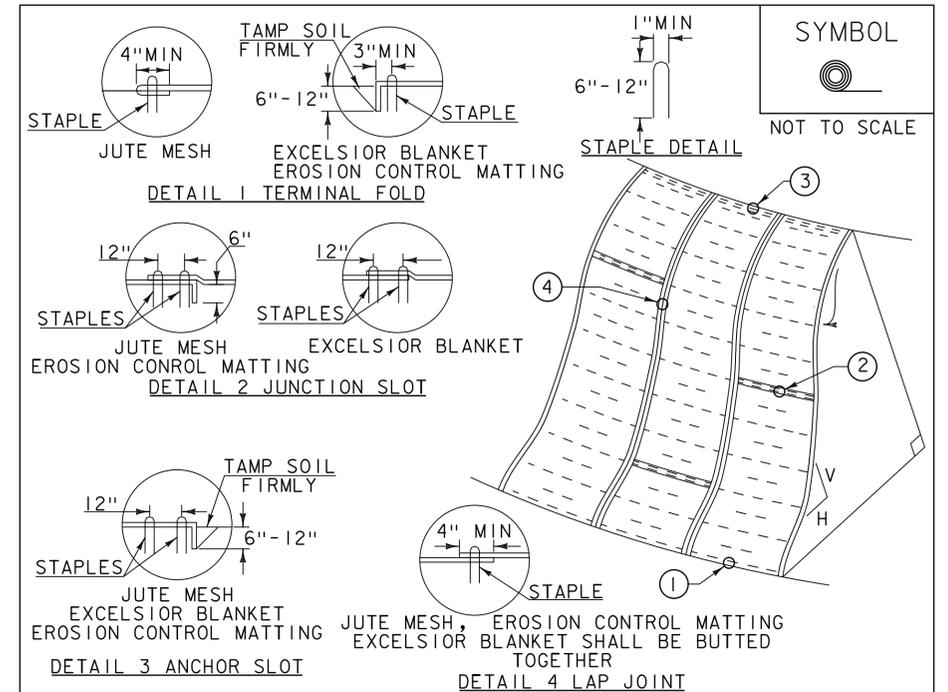
VAOT URBAN LAWN MIX						
WEIGHT	LBS/AC		NAME	LATIN NAME	GERM	PURITY
	BROADCAST	HYDROSEED				
42.5%	34	68	CREeping RED FESCUE	FESTUCA RUBRA X RUBRA	85%	98%
20.0%	16	32	PERENNIAL RYE GRASS	LOLIUM PERENNE	90%	95%
32.5%	26	52	KENTUCKY BLUE GRASS	POA PRATENSIS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	80	160				

GENERAL AMENDMENT GUIDANCE		
FERTILIZER	LIME	
10/20/10	AG LIME	PELLITIZED
500 LBS/AC	2 TONS/AC	1 TONS/AC

CONSTRUCTION GUIDANCE

1. SEED MIX: THE URBAN AREA MIX SHALL NOT BE USED IN WETLANDS OR ANY WATERS OF THE STATE OF VERMONT.
2. SEED MIX: USE ONLY AS INDICATED IN THE PLANS.
3. SEED MIX: 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. 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
7. 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
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651J5)	REVISIONS JANUARY 22, 2015 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' X 25' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4' X 150' 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
--	---

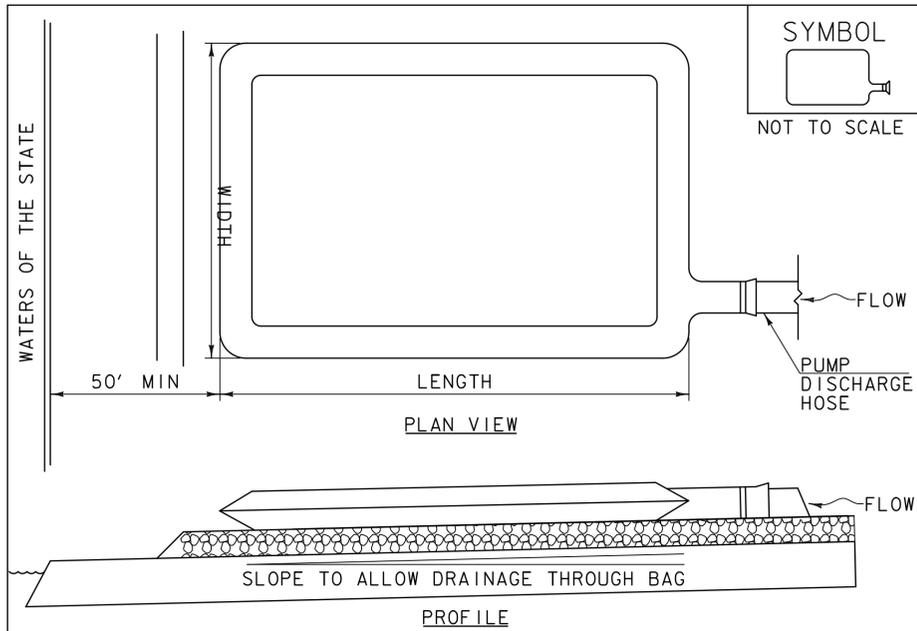
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

TYLIN INTERNATIONAL

PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

FILE NAME: z16b001erodet.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: B. TOOTHAKER
EPSC DETAILS 2

PLOT DATE: 4/18/2016
DRAWN BY: B. TOOTHAKER
CHECKED BY: XXXXX
SHEET 39 OF 40



CONSTRUCTION SPECIFICATIONS

1. THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.
2. FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
3. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION EFFICIENCY.
4. FILTER BAGS SHALL BE LOCATED A MINIMUM OF 50' FROM WATERS OF THE STATE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. THE NECK OF THE FILTER BAG SHALL BE STRAPPED TIGHTLY TO THE DISCHARGE HOSE.
6. A FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A REASONABLE RATE.
7. 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

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

PROJECT NAME: DUXBURY
PROJECT NUMBER: BF 013-4(47)

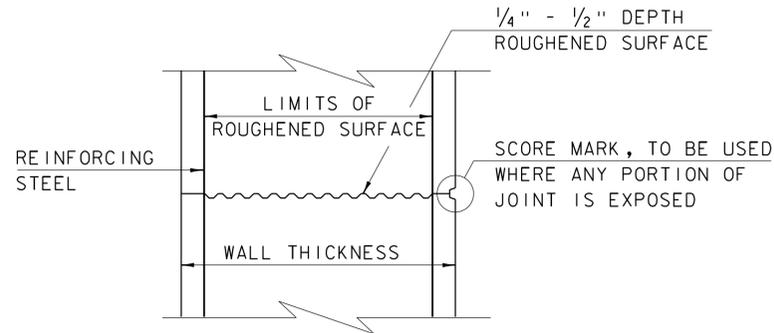
TYLININTERNATIONAL

FILE NAME: z16b001erodet.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: B. TOOTHAKER
EPSC DETAILS 3

PLOT DATE: 4/18/2016
DRAWN BY: B. TOOTHAKER
CHECKED BY: XXXXX
SHEET 40 OF 40

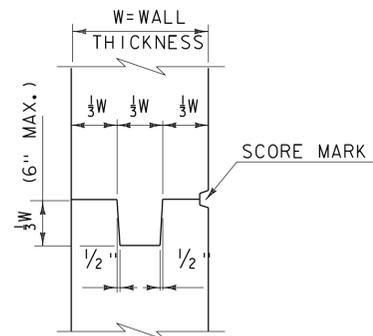
CONCRETE GENERAL NOTES

1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1"
2. REINFORCING STEEL SIZE AND SPACING SHOWN IN THE PLANS IS BASED ON 60 KSI STEEL, UNLESS NOTED OTHERWISE. WITH THE ENGINEER'S PERMISSION, BAR SIZE AND SPACING MAY BE MODIFIED ACCORDING TO THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND STRUCTURES DESIGN MANUAL WHEN USING HIGHER STRENGTH STEEL.

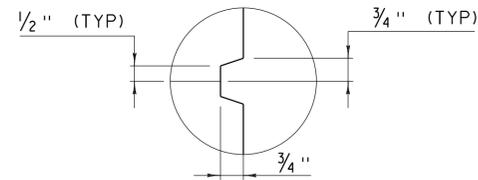


TYPICAL HORIZONTAL CONSTRUCTION JOINT
(NOT TO SCALE)

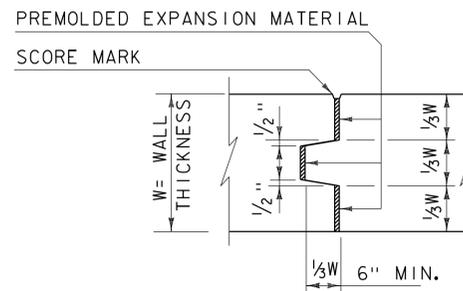
1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



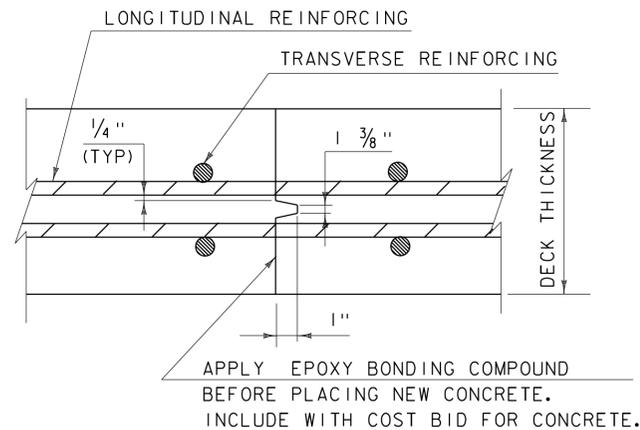
TYPICAL CONCRETE CONSTRUCTION JOINT
(NOT TO SCALE)



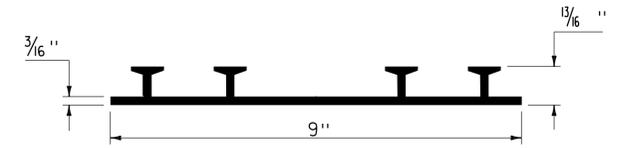
SCORE MARK DETAIL
(NOT TO SCALE)



TYPICAL CONCRETE EXPANSION JOINT
(NOT TO SCALE)



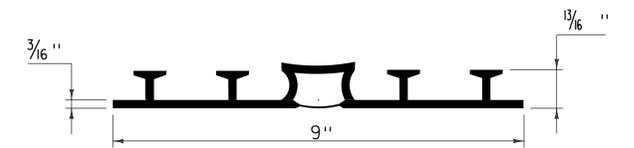
TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS
(NOT TO SCALE)



P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

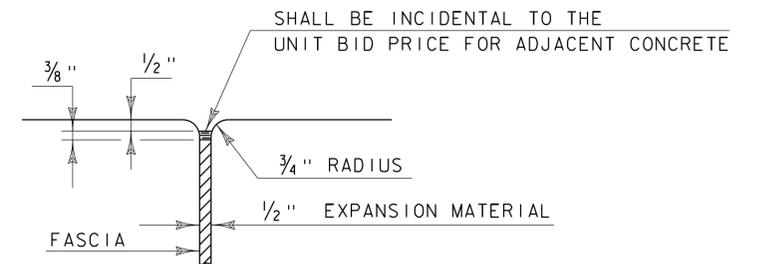
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



P.V.C. WATERSTOP FOR EXPANSION JOINTS
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



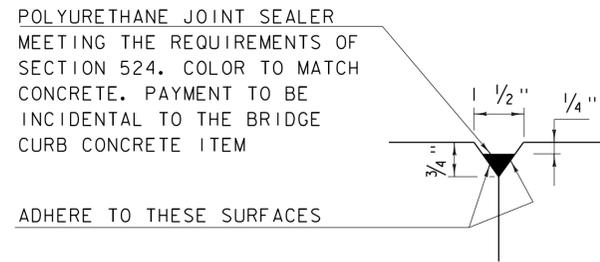
JOINT BETWEEN FASCIA AND WINGWALL
(NOT TO SCALE)

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
FEBRUARY 9, 2012	REBAR SUBSTITUTION ALLOWANCE ADDED TO CONCRETE GENERAL NOTES.

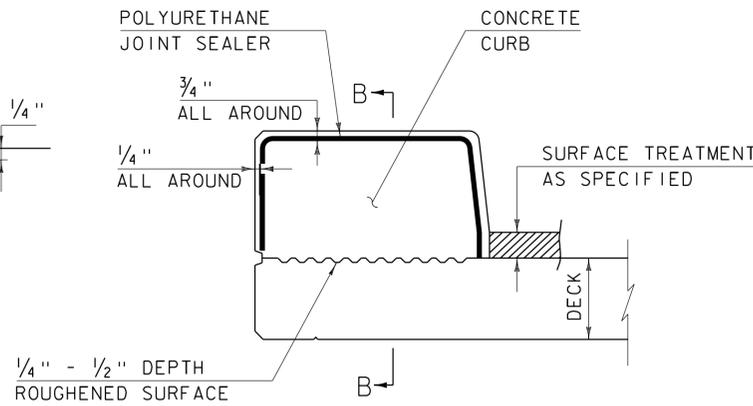
**CONCRETE
DETAILS AND NOTES**



**STRUCTURES
DETAIL
SD-501.00**

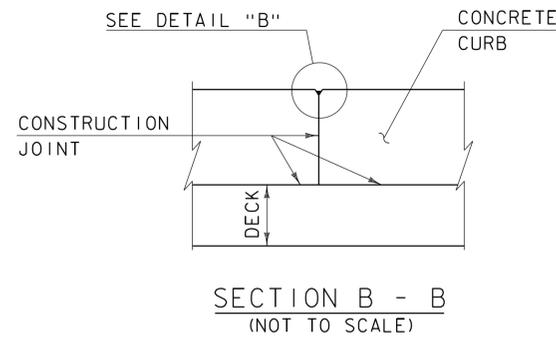


DETAIL "B"
(NOT TO SCALE)

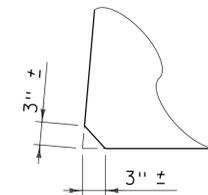


CONCRETE CURB JOINT SECTION
(NOT TO SCALE)

1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT DETAIL FOR ADDITIONAL INFORMATION



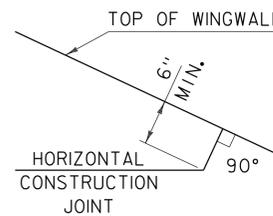
SECTION B - B
(NOT TO SCALE)



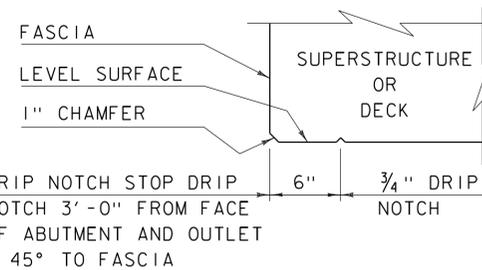
ACUTE ANGLE
CLIP DETAIL
(NOT TO SCALE)

CONCRETE CURB JOINT NOTES

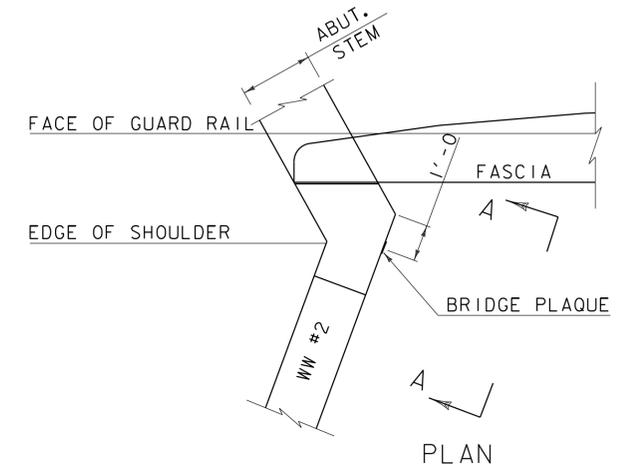
1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 15'-0" CENTER TO CENTER AND 2'-0" MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.
3. ON MULTI-SPAN CONTINUOUS SUPERSTRUCTURES, REGARDLESS OF WHETHER APPROVED SHRINKAGE REDUCING ADMIXTURE IS USED, CURB JOINTS SHALL BE LOCATED OVER THE CENTERLINE OF PIERS AND 7'-0" EACH SIDE OF THE CENTERLINE OF EACH PIER.
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.
5. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS. CURB STIRRUP BARS SHALL BE TURNED AS NECESSARY TO MAINTAIN COVER IN THE FLARED CURB ENDS.
6. THE JOINT SPACING AND DETAILS SHOWN SHALL APPLY TO SIDEWALKS WHEN SHOWN IN THE PLANS.



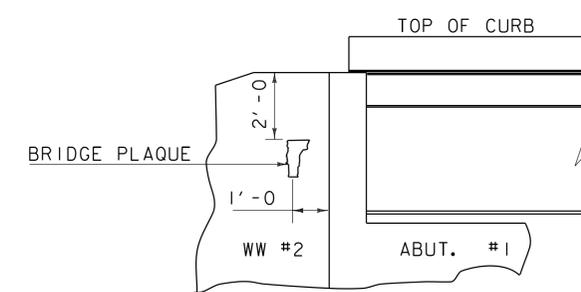
HORIZONTAL WINGWALL
CONSTRUCTION JOINT
(NOT TO SCALE)



DRIP NOTCH DETAIL
(NOT TO SCALE)



PLAN



VIEW "A - A"

BRIDGE PLAQUE
(NOT TO SCALE)

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

PAYMENT FOR INSTALLATION OF THE BRIDGE PLAQUE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED AND ADDED TWO DETAILS
OCTOBER 10, 2012	MODIFIED HORZ. JOINT WINGWALL ADD 6" MIN. DIMENSION

CONCRETE
DETAILS AND NOTES



STRUCTURES
DETAIL
SD-502.00