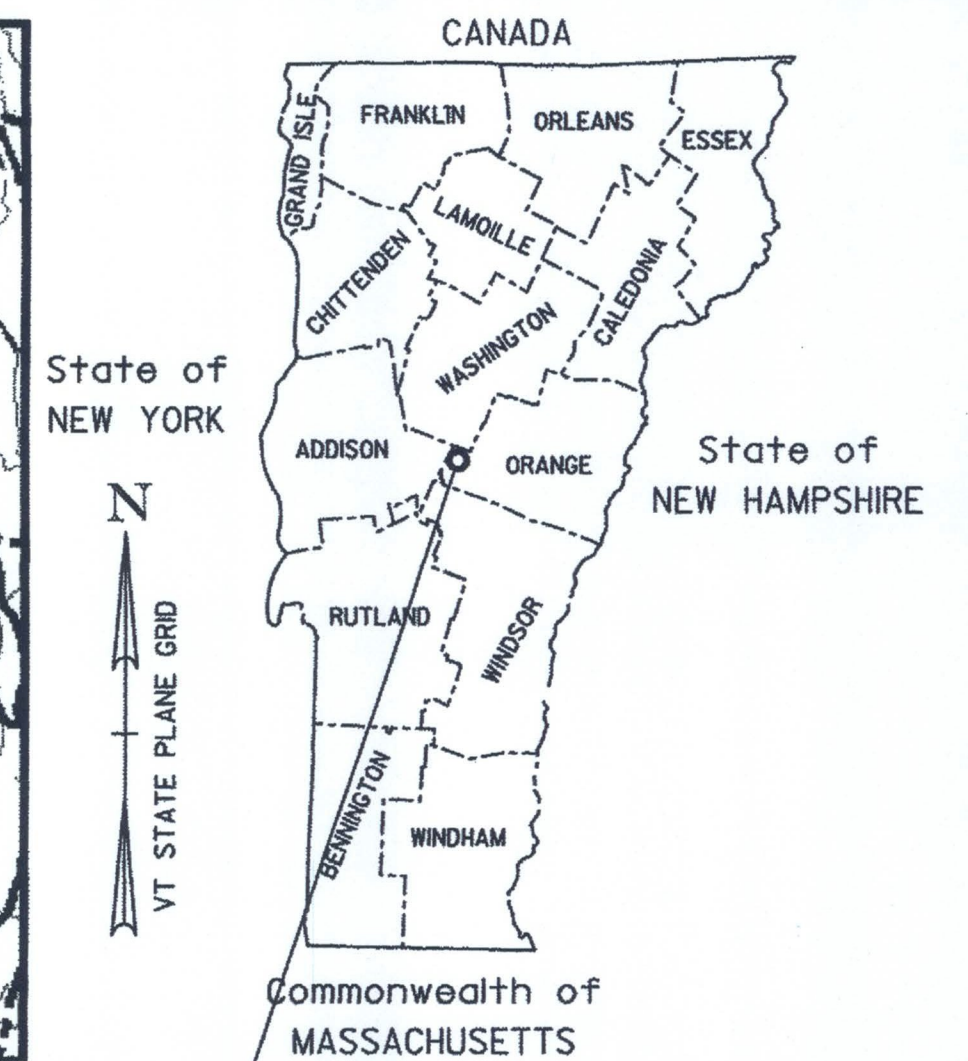
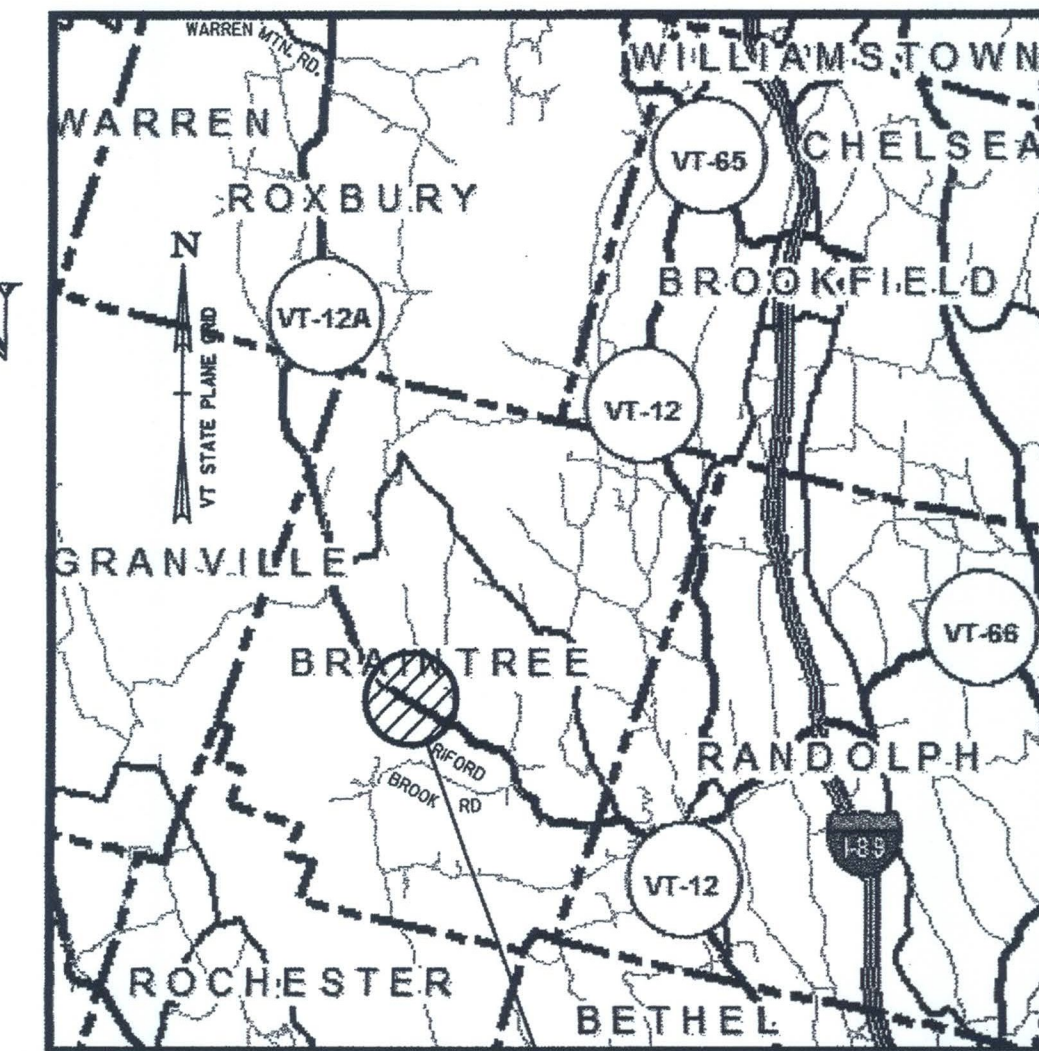


SEE SHEET 2 FOR INDEX OF SHEETS AND STANDARDS LIST

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT TOWN OF BRAINTREE COUNTY OF ORANGE BRIDGE NO. 6 & 7 ON VT ROUTE 12A MAJOR COLLECTOR



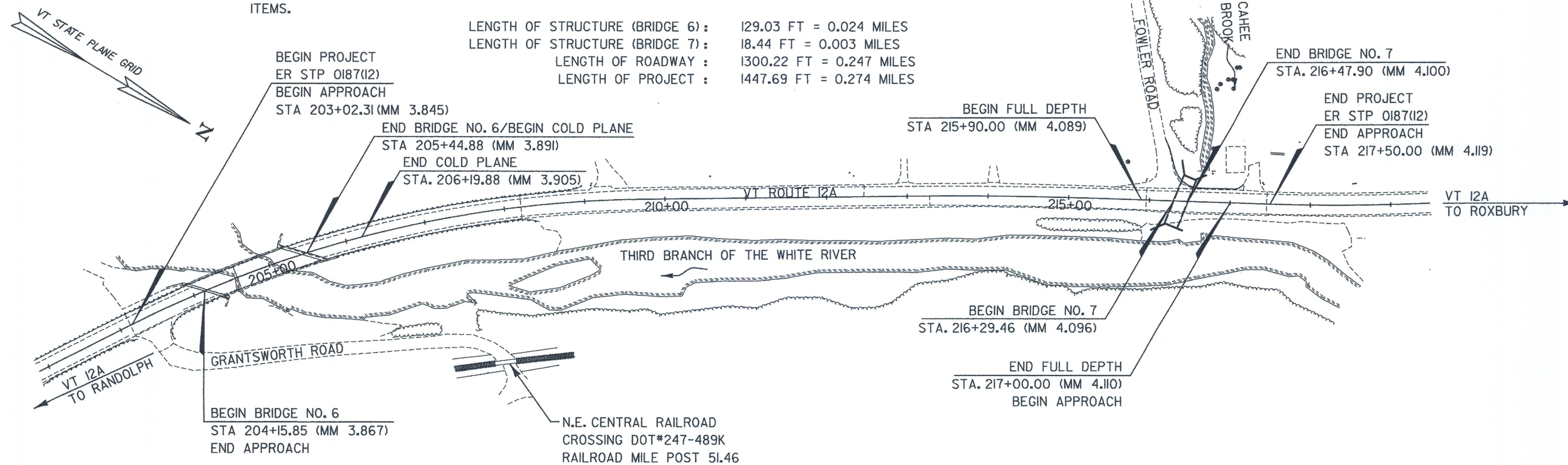
PROJECT
BRAINTREE ER STP 0187 (12)
LOCATION MAP NOT TO SCALE

RECORD PLANS	
CONTRACTOR:	WILLEY EARTHMOVING CORPORATION - WINDSOR, VT
RESIDENT ENGINEER:	DAVID HALE
CONSTRUCTION BEGAN:	MAY 28, 2014
CONSTRUCTION COMPLETE:	NOVEMBER 26, 2014
RECORD PLANS BY:	DAVID HALE & JESSE IVES
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.	
BY	<i>Josh Mudgett</i> for <i>Richard Hale</i> RESIDENT ENGINEER
DATE	<i>June 14, 2018</i>
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.	

PROJECT LOCATION : BEGINNING AT A POINT ON VERMONT ROUTE 12A IN THE TOWN OF BRAINTREE APPROXIMATELY 3.845 MILES FROM THE RANDOLPH/BRAINTREE TOWN LINE (STA. 203+02.31) AND EXTENDING NORTHERLY ALONG VERMONT ROUTE 12A APPROXIMATELY 1447.69 FEET TO MM 4.119 (STA. 217+50).

PROJECT DESCRIPTION : REPLACEMENT OF BRIDGE NO. 6 SOUTHERN APPROACH SLAB AND MEMBRANE, REPLACEMENT OF BRIDGE 7 WITH A NEW 16 FOOT X 9 FOOT PRECAST CONCRETE STRUCTURE, AND SLOPE REPAIR FOR APPROXIMATELY 1,300 FEET BETWEEN VERMONT ROUTE 12A AND THE THIRD BRANCH OF THE WHITE RIVER. ALSO INCLUDED AS PART OF THIS PROJECT ARE, COLD PLANING AND PAVING, GUARDRAIL, SIGNS AND OTHER INCIDENTAL ITEMS.

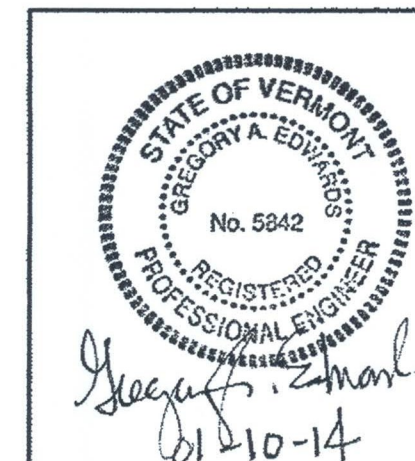
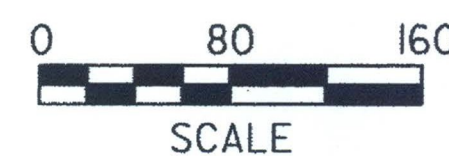
LENGTH OF STRUCTURE (BRIDGE 6) : 129.03 FT = 0.024 MILES
 LENGTH OF STRUCTURE (BRIDGE 7) : 18.44 FT = 0.003 MILES
 LENGTH OF ROADWAY : 1300.22 FT = 0.247 MILES
 LENGTH OF PROJECT : 1447.69 FT = 0.274 MILES



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

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 2
SURVEYED BY : VERMONT SURVEY & ENGINEERING
SURVEYED DATE : 2012
DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (2011) SPC (4400 VT)



Stantec
 Stantec Consulting Services Inc.
 55 Green Mountain Drive
 South Burlington VT U.S.A. 05403
 Tel. 802.864.0223
 Fax. 802.864.0165
 www.stantec.com

DIRECTOR OF PROGRAM DEVELOPMENT	APPROVED <i>Paul Libby</i> DATE <i>1/14/14</i>
PROJECT MANAGER : PAUL LIBBY	
PROJECT NAME : BRAINTREE	
PROJECT NUMBER : ER STP 0187 (12)	
SHEET 1 OF 72 SHEETS	

PRELIMINARY INFORMATION SHEET (BRIDGE)

INDEX OF SHEETS

BRIDGE 7 FINAL HYDRAULIC REPORT

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9	EARTHWORKS SHEET
10	CONVENTIONAL SYMBOLOLOGY LEGEND
11	ROW DETAIL SHEET
12-14	ROW LAYOUT SHEETS 1-3
15	TIE SHEET
16-18	LAYOUT SHEETS 1-3
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E-138	MILE MARKER DETAILS - STATE & TOWN HIGHWAYS	05-30-2003
E-140	REGULATORY SIGN DETAILS	08-30-1996
E-141	REGULATORY SIGN DETAILS	09-20-1995
E-143	REGULATORY SIGN DETAILS	06-15-2004
E-155	WARNING SIGN DETAILS	05-01-2004
E-171A	TRAFFIC CONTROL SIGNALS GENERAL NOTES & DETAILS	08-09-1995
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J-3	MAIL BOX SUPPORT DETAILS	08-07-1995
G-1	STEEL BEAM GUARDRAIL WITH STEEL POSTS	01-03-2000
G-1D	ANCHOR FOR STEEL BEAM GUARDRAIL	01-03-2000
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T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNS	08-06-2012
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T-28	CONSTRUCTION SIGN DETAILS	08-06-2012
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T-35	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS FOR PAVING	08-06-2012
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T-45	SQUARE STEEL SIGN POST AND ANCHOR	01-02-2013

STRUCTURE DETAIL SHEETS

SD-516.10	BRIDGE JOINT ASPHALTIC PLUG	08-29-2011
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HYDROLOGIC DATA

Date: April 2013

DRAINAGE AREA: 1.5 sq. mi.
CHARACTER OF TERRAIN: Mountainous, forested, rural
STREAM CHARACTERISTICS: Incised and alluvial
NATURE OF STREAMBED: Gravel and cobbles

PEAK FLOW DATA

Q 2.33 =	120 cfs	Q 50 =	450 cfs
Q 10 =	275 cfs	Q 100 =	530 cfs
Q 25 =	360 cfs	Q 500 =	740 cfs

DATE OF FLOOD OF RECORD: Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY: @ Q50 = 12.5 fps
ICE CONDITIONS: Moderate
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGH-WATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Yes
IF YES, DESCRIBE: Possibly by the water surface elevations of the Third Branch of the White River

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Multi-plate pipe arch
YEAR BUILT: 1968
CLEAR SPAN(NORMAL TO STREAM): 13'-5"
VERTICAL CLEARANCE ABOVE STREAMBED: 8'-5"
WATERWAY OF FULL OPENING: ~89 sq. ft.
DISPOSITION OF STRUCTURE: Remove and replace
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 =	763.6'	VELOCITY =	9.8 fps
Q10 =	765.3'	"	12.5 fps
Q25 =	766.1'	"	14.0 fps
Q50 =	766.9'	"	15.4 fps
Q100 =	767.5'	"	16.2 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: No

FREQUENCY: N/A
RELIEF ELEVATION: 772.5'
DISCHARGE OVER ROAD @Q100: N/A

UPSTREAM STRUCTURE

TOWN: None DISTANCE: _____
HIGHWAY #: _____ STRUCTURE #: _____
CLEAR SPAN: _____ CLEAR HEIGHT: _____
YEAR BUILT: _____ FULL WATERWAY: _____
STRUCTURE TYPE: _____

DOWNSTREAM STRUCTURE

TOWN: Braintree DISTANCE: 0'
HIGHWAY #: _____ STRUCTURE #: _____
CLEAR SPAN: _____ CLEAR HEIGHT: _____
YEAR BUILT: _____ FULL WATERWAY: _____
STRUCTURE TYPE: Confluence with Third Branch of the White River

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR.	4A STR.	5A SEM
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:							

AS BUILT "REBAR" DETAIL

AS BUILT "REBAR" DETAIL		
LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2014 to 2034 : 251000
2014	1000	130	59	4.8	75	40 year ESAL for flexible pavement from 2014 to 2054 : 600000
2034	1100	150	59	7.4	130	Design Speed : 50 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Precast Concrete Box
CLEAR SPAN(NORMAL TO STREAM): 16'
VERTICAL CLEARANCE ABOVE STREAMBED: 7'
WATERWAY OF FULL OPENING: 112 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	761.0'	VELOCITY=	9.1 fps
Q10 =	762.3'	"	12.3 fps
Q25 =	762.9'	"	13.9 fps
Q50 =	763.4'	"	15.1 fps
Q100 =	763.9'	"	16.0 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: N/A
RELIEF ELEVATION: 772.5'
DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 766.3'
VERTICAL CLEARANCE: @ Q50 = 2.9'

SCOUR: Scour is not calculated for a box.

REQUIRED CHANNEL PROTECTION: Riprap, Heavy Type

PERMIT INFORMATION

AVERAGE DAILY FLOW: 5 cfs DEPTH OR ELEVATION:
ORDINARY LOW WATER: 2 cfs 0.5'
ORDINARY HIGH WATER: 55 cfs 1.0'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: None required. Phased construction
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

All the above information is provided without the Third Branch at flood stage. We have no information on flood stage for the Third Branch.

TRAFFIC MAINTENANCE NOTES

1. TRAFFIC WILL BE MAINTAINED ON AN OFFSITE DETOUR
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	d _p : 3.0 INCH
3. DESIGN SPAN	L: 0.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ: ---
5. PRESTRESSING STRAND (0.60 INCH DIAMETER - LOW RELAX)	f _y : ---
6. PRESTRESSED CONCRETE STRENGTH	f'c: ---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'ci: ---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'c: ---
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'c: ---
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'c: ---
11. CONCRETE, CLASS C	f'c: ---
12. REINFORCING STEEL	f _y : 60 KSI
13. STRUCTURAL STEEL AASHTO M270	f _y : ---
14. NOMINAL BEARING RESISTANCE OF SOIL	q _n : SEE GEO. RPT
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: 0.45
16. NOMINAL BEARING RESISTANCE OF ROCK	q _n : NA
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
18. PILE RESISTANCE FACTOR	φ: NA
19. LATERAL PILE DEFLECTION	Δ: ---
20. BASIC WIND SPEED	V _{3s} : ---
21. MINIMUM GROUND SNOWLOAD	p _g : ---
22. SEISMIC DATA	P _{GA} : 0 S _s : --- S ₁ : ---
23.	---
24.	---
25.	---
26.	---

PROJECT NAME: BRAINTREE
PROJECT NUMBER: ER STP 0187(12)

FILE NAME: z12c526pi.xls PLOT DATE: 1/10/2014
PROJECT LEADER: G. EDWARDS DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD CHECKED BY: M. FOISY
PRELIMINARY INFORMATION SHEET SHEET 2 OF 72

PROJECT NOTES

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND ITS LATEST REVISIONS AND THE 6TH EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND ITS LATEST REVISIONS.
2. THE CONTRACTOR WILL BE ALLOWED TO CLOSE BRIDGE NO. 7 TO COMPLETE BRIDGE REPLACEMENT. SEE THE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
3. THE CONTRACTOR SHALL ENSURE ACCESS TO ALL DRIVES AND SIDE ROADS AT ALL TIMES DURING CONSTRUCTION.
4. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68°F UNLESS OTHERWISE NOTED.
5. IN-STREAM CONSTRUCTION SHALL OCCUR ONLY WITHIN THE TIMEFRAME SPECIFIED IN THE CONTRACT DOCUMENTS. IF THE CONTRACTOR PROPOSES TO PERFORM IN STREAM WORK OUTSIDE OF THESE TIMEFRAMES, THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM THE APPROPRIATE REGULATING ENTITIES PRIOR TO PERFORMING THE WORK.

PRECAST CONCRETE BOX CULVERT AND WINGWALLS

1. THE BOX CULVERT INCLUDING THE SILLS, HEADWALLS, CUT-OFF WALLS, AND WINGWALLS SHALL BE PRECAST. THE DESIGN OF THE CULVERT INCLUDING THE SILLS, HEADWALLS, CUT-OFF WALLS, AND WINGWALLS SHALL BE THE RESPONSIBILITY OF THE FABRICATOR. CULVERT SHALL BE DESIGNED FOR AN HL-93 LIVE LOAD.
2. THE CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS FOR THE BOX CULVERT AND ALL ASSOCIATED DETAILS FOR THE APPROVAL OF THE PROJECT MANAGER IN ACCORDANCE WITH SUBSECTION 105.03.
3. THE BOX CULVERT TYPICAL SECTIONS SHOWN IN THE DRAWINGS ARE FOR SCHEMATIC PURPOSES ONLY. THE ACTUAL SHAPE OF THE BOX CULVERT AND ITS COMPONENTS WILL BE DEPENDENT ON THE FABRICATOR.
4. ALL BOX CULVERT JOINTS SHALL BE STRENGTHENED WITH PERMANENT CLOSURE HARDWARE. ALL HARDWARE COMPONENTS SHALL BE GALVANIZED IN ACCORDANCE WITH SUBSECTION 726.08 OF THE STANDARD SPECIFICATIONS.
5. ALL REINFORCING STEEL FOR THE PRECAST CONCRETE BOX CULVERT AND WINGWALLS SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR UNCOATED LEVEL 1 AND WILL BE PAID FOR UNDER THE APPROPRIATE 540.10 CONTRACT ITEM.
6. AFTER BOX CULVERT SECTIONS HAVE BEEN SET IN THEIR FINAL POSITION, ALL LIFTING HOLES AND CONNECTION POCKETS, SHALL BE FILLED WITH MORTAR, TYPE IV. ALL MORTAR SHALL BE WET CURED UNTIL THE COMPRESSIVE STRENGTH HAS REACHED 2000 psi., PRIOR TO THE APPLICATION OF ANY WATERPROOFING. APPROVED CURING COMPOUNDS MAY BE USED IN PLACE OF WET CURING. MORTAR, TYPE IV SHALL BE PAID FOR UNDER CONTRACT ITEM 540.10.
7. A TWO FOOT WIDE STRIP OF SHEET MEMBRANE WATERPROOFING, PREFORMED SHEET SHALL BE APPLIED AT EACH SIDE JOINT. THE MEMBRANE SHALL BE CENTERED ON THE JOINT AND SHALL RUN THE ENTIRE HEIGHT OF THE JOINT. THE ENTIRE TOP OF THE BOX CULVERT SHALL THEN BE COVERED WITH MEMBRANE. THE MEMBRANE SHEETS SHALL OVERLAP THE EDGES OF THE CULVERT BY ONE FOOT ON EACH SIDE AS SHOWN IN THE PLANS. THE MEMBRANE WATERPROOFING, PREFORMED STRIP SHALL BE ON THE VTRANS PREAPPROVED PRODUCTS LIST AND WILL BE PAID FOR UNDER ITEM 540.10.
8. WATER REPELLENT IN ACCORDANCE WITH ITEM 514.10 SHALL BE APPLIED TO ALL EXPOSED SURFACES EXCEPT THE INSIDE OF THE BOX.
9. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1".

APPROACH SLAB CONCRETE AND REINFORCING STEEL

1. CONCRETE FOR THE APPROACH SLAB SHALL BE 501.34, CONCRETE HIGH PERFORMANCE CLASS B.
2. REINFORCING STEEL FOR APPROACH SLAB SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL 1 EPOXY COATED AND WILL BE PAID FOR UNDER CONTRACT ITEM 507.11 REINFORCING STEEL, LEVEL 1.
3. AREAS OF UNSOUND CONCRETE ON THE APPROACH SLAB SEAT SHALL BE REPAIRED IN ACCORDANCE WITH ITEMS 580.13, 580.14 AND 580.15 AS DIRECTED BY THE ENGINEER.
4. REMOVAL OF EXPOSED PORTION OF EXISTING DOWELS IN APPROACH SLAB SEAT TO BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 501.34.

SIMULATED STREAM BED

1. BED MATERIAL TO BE PLACED IN THE RECONSTRUCTED CHANNEL AND BOX CULVERT IS INTENDED TO MIMIC THE NATIVE CHANNEL.
2. INSTALLATION OF THE BED MATERIAL MAY REQUIRE INDIVIDUAL PLACEMENT OF LARGE STONES AT SPECIFIC LOCATIONS, AS DIRECTED BY THE ENGINEER. THE BED MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER AND THE AGENCY OF NATURAL RESOURCES STREAM ALTERATION ENGINEER, AND WILL BE IN ACCORDANCE WITH ITEMS 900.608 SPECIAL PROVISION (STONE FILL, STREAM BED MATERIAL) AND 900.608 SPECIAL PROVISION (STONE FILL, CULVERT LINING).

UTILITY COORDINATION

1. THE CONTRACTOR IS ADVISED TO EXERCISE CAUTION WHILE WORKING IN AREAS OF OVERHEAD UTILITIES. SEE THE UTILITY SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

LANDSCAPING NOTES

1. ALL LANDSCAPING ITEMS WILL BE INSTALLED AT LOCATIONS AS DIRECTED BY THE ENGINEER.
2. APPLICABLE STANDARDS: AMERICAN NATIONAL STANDARDS FOR TREE CARE OPERATIONS, ANSI A300. AMERICAN STANDARD FOR NURSERY STOCK, AND SO Z60.1. HORTUS THIRD, THE STAFF OF THE L.H. BAILEY HORTORIUM. ALL STANDARDS SHALL INCLUDE THE LATEST ADDITIONS AND AMENDMENTS AS OF THE DATE OF ADVERTISEMENT FOR BIDS.
3. FERTILIZER: SLOW RELEASE TYPE, OR SUBSTITUTE APPROVED BY THE ENGINEER, APPLIED AS FOLLOWS:
TREES AND SHRUBS
MARCH-MAY 10-10-10
MAY-OCTOBER 6-10-10
OCTOBER-MARCH 4-12-12
RATE OF APPLICATION: 1lb./INCH IN CALIPER
4. EXCAVATE SOIL TO 3X WIDER THAN ROOT BALL DIAMETER FOR TREES AND 2X WIDER FOR SHRUBS. SET BALLED AND BURLAPPED (B&B) STOCK ON LAYER OF COMPACTED SOIL MIXTURE, STAND PLUMB AND IN CENTER OF PIT OR TRENCH WITH TOP OF BALL AT THE SAME ELEVATION AS ADJACENT FINISHED LANDSCAPE GRADES. REMOVE WIRE BASKET AND ALL TWINE, REMOVE BURLAP FROM UPPER HALF OF BALLS; RETAIN ON BOTTOMS. SET CONTAINER GROWN SOCK AS SPECIFIED FOR B&B MATERIAL, EXCEPT CUT CANS ON TWO SIDES WITH AN APPROVED CAN CUTTER.
5. DISH TOP OF BACKFILL TO ALLOW FOR MULCHING. MULCH PITS WITH NOT LESS THAN 3" OF ORGANIC MULCH. MULCH SHALL NOT COME IN CONTACT WITH TREE BARK.
6. ALL PLANTS SHALL BE CAREFULLY AND THOROUGHLY WATERED DURING PLANTING AND AS OFTEN AS NECESSARY THEREAFTER TO PROVIDE THE BEST GROWING CONDITIONS UNTIL ACCEPTANCE OF THE WORK.
7. BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING. MAINTAIN TREES, SHRUBS, AND OTHER PLANTS BY PRUNING, CULTIVATING, AND WEEDING AS REQUIRED FOR HEALTHY GROWTH. RESTORE PLANTING SAUCERS. RESTORE OR REPLACE DAMAGED WRAPPINGS. SPRAY AS REQUIRED TO KEEP TREES AND SHRUBS FREE OF INSECTS AND DISEASE, THE COST OF THE WORK SHALL BE CONSIDERED INCIDENTAL TO THE APPROPRIATE 656.30, AND 656.35 CONTRACT ITEMS.
8. MAINTAIN LAWNS BY WATERING, FERTILIZING, WEEDING, MOWING (2" HEIGHT), TRIMMING, AND OTHER OPERATIONS SUCH AS ROLLING, REGRADING, AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS. THE COST OF THE WORK SHALL BE CONSIDERED INCIDENTAL TO THE SECTION 651 CONTRACT ITEMS.
9. SEE EPSC DETAILS SHEET 1 FOR TURF ESTABLISHMENT INFORMATION.

SLOPE AND CHANNEL REPAIR NOTES

1. THE PRINCIPLE DIMENSION OF RIPRAP SHALL BE GREATER THAN 5 FOOT WITH THE LEAST DIMENSION AT LEAST 1/3 THE LONGEST DIMENSION. STONE SHALL BE ANGULAR, AND APPROVED BY THE ENGINEER, ROUGH, UNHEWN, QUARRY STONE. THE STONES SHALL BE HARD, SOUND AND RESISTENT TO THE ACTION OF WATER AND WEATHERING. THEY SHALL BE OF A ROCK TYPE OTHER THAN SERPENTINE ROCK CONTAINING THE FIBROUS VARIETY CHRYSOTILE (ASBESTOS). RIPRAP SHALL BE PAID UNDER CONTRACT ITEM 613.15 RIPRAP, HEAVY TYPE.
2. IN AREAS WHERE 3'-7" GUARDRAIL BACKING CANNOT BE ACHIEVED, INSTALL 8' POSTS UNDER CONTRACT ITEM 621.205.
3. THE STONE SLOPE SHALL BE NO STEEPER THAN 1.5H TO 1.0V UNLESS DIRECTED BY THE ENGINEER.
4. NATURAL RIVER BOULDERS SHALL BE PLACED THROUGHOUT THE FINISHED STREAM CHANNEL. PAYMENT WILL BE MADE UNDER CONTRACT ITEM 900.645 SPECIAL PROVISION (STREAM HABITAT BOULDERS).

BR6 MEMBRANE NOTES

1. TRAFFIC SHALL BE ALLOWED TO DRIVE ON THE BARE CONCRETE BRIDGE DECK AFTER THE REMOVAL OF THE BARRIER MEMBRANE, BUT PRIOR TO THE DECK BEING CLEANED AND PREPARED FOR THE NEW SHEET MEMBRANE. ONCE THE CONCRETE BRIDGE DECK IS PREPARED FOR THE NEW SHEET MEMBRANE, NO TRAFFIC SHALL BE ALLOWED ON THE DECK UNTIL THE FIRST LIFT OF BITUMINOUS CONCRETE PAVEMENT IS IN PLACE OVER THE ENTIRE LENGTH OF THE BRIDGE.
2. THE FINAL ONE HALF INCH OF PAVEMENT ON THE CONCRETE BRIDGE DECK AND APPROACH SLABS SHALL BE REMOVED BY LOADER, GRADER OR EQUIPMENT APPROVED BY THE ENGINEER. COLD PLANING TO REMOVE BRIDGE PAVEMENT WILL BE INCIDENTAL TO ITEM 529.10, "REMOVAL OF BRIDGE PAVEMENT".
3. DURING BRIDGE AND APPROACH SLAB PAVEMENT REMOVAL, THE CONTRACTOR SHALL EXERCISE CARE TO INSURE THAT NO DAMAGE OCCURS TO THE EXISTING CONCRETE BRIDGE DECK AND THE EXISTING APPROACH SLABS. ANY DAMAGE TO THE CONCRETE BRIDGE DECK OR APPROACH SLABS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. REPAIRS SHALL BE MADE IN ACCORDANCE WITH SECTION 580.
4. CARE SHALL BE TAKEN TO PROTECT ANY SCUPPERS OR DROP INLETS AT ALL STAGES OF CONSTRUCTION. ANY DAMAGE TO THESE STRUCTURES SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AND AT THE CONTRACTOR'S EXPENSE.
5. AFTER THE REMOVAL OF THE BRIDGE PAVEMENT, THE BARRIER MEMBRANE SHALL BE REMOVED AND THE CONCRETE BRIDGE DECK SHALL BE CLEANED AND PREPARED IN ACCORDANCE WITH SUBSECTION 580.04 AND TO THE SATISFACTION OF THE ENGINEER. REMOVAL OF THE BARRIER MEMBRANE AND THE CLEANING AND PREPARATION OF THE CONCRETE BRIDGE DECK WILL BE PAID FOR UNDER ITEM 580.16, "SURFACE PREPARATION FOR MEMBRANE".
6. ONCE THE BARRIER MEMBRANE IS REMOVED, ANY AREAS ON THE CONCRETE BRIDGE DECK THAT ARE FOUND TO BE UNSOUND SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE ENGINEER SHALL MAKE A DETERMINATION AS TO HOW TO REPAIR THE DETERIORATED PORTION OF THE CONCRETE BRIDGE DECK AND THE LIMITS OF THE REPAIR.
7. UPON THE ENGINEER'S APPROVAL OF THE CONCRETE BRIDGE DECK'S CONDITION, ITEM 519.20, "SHEET MEMBRANE WATERPROOFING, TORCH APPLIED" SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 519. SHEET MEMBRANE WATERPROOFING SHALL NOT BE APPLIED WHEN THE DECK CONCRETE AND/OR DECK PATCH AREA'S MOISTURE CONTENT IS ABOVE THE SECTION 519 SPECIFICATIONS OR THE MANUFACTURER'S SPECIFICATIONS, WHICHEVER IS LESS.
8. FOLLOWING THE COMPLETION OF ALL OTHER BR6 CONSTRUCTION ACTIVITIES, ALL FABRIC DRAIN TROUGHS, DOWNSPOUTS AND SCUPPERS SHALL BE THOROUGHLY FLUSHED BY THE CONTRACTOR. COST FOR FLUSHING THE FABRIC DRAIN TROUGHS, DOWNSPOUTS AND SCUPPERS WILL BE INCIDENTAL TO ALL OTHER ITEMS IN THE CONTRACT.

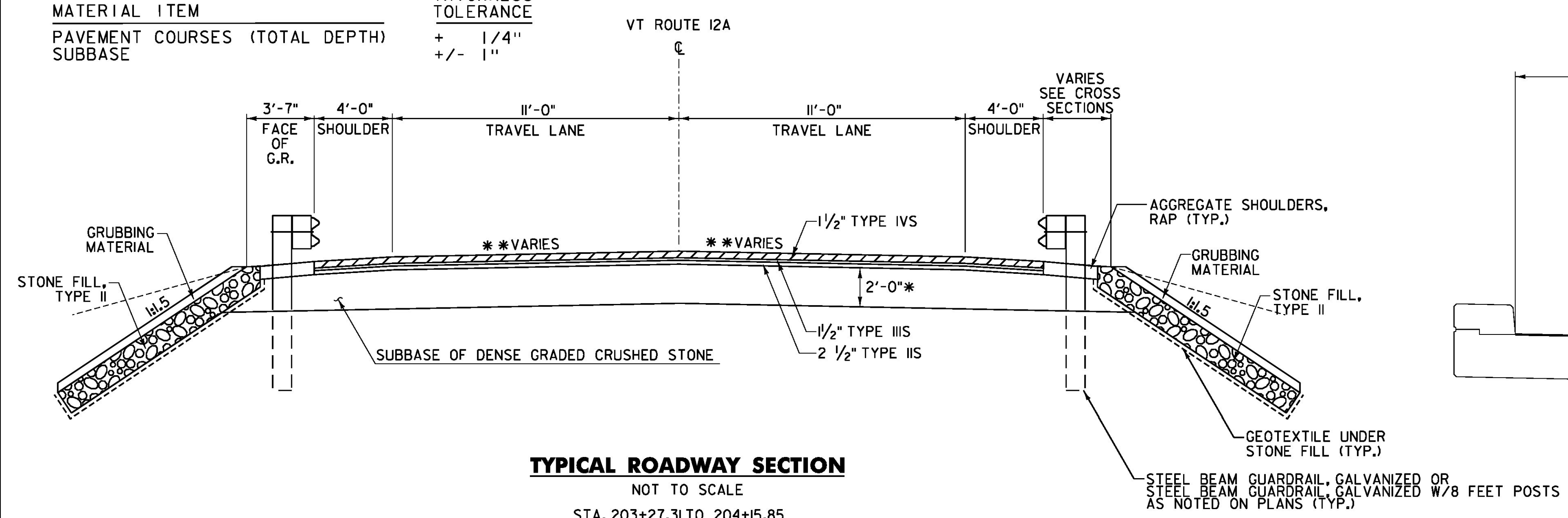
TRAFFIC CONTROL

1. SEE SHEETS 34-38 FOR TRAFFIC CONTROL PLANS AND NOTES.



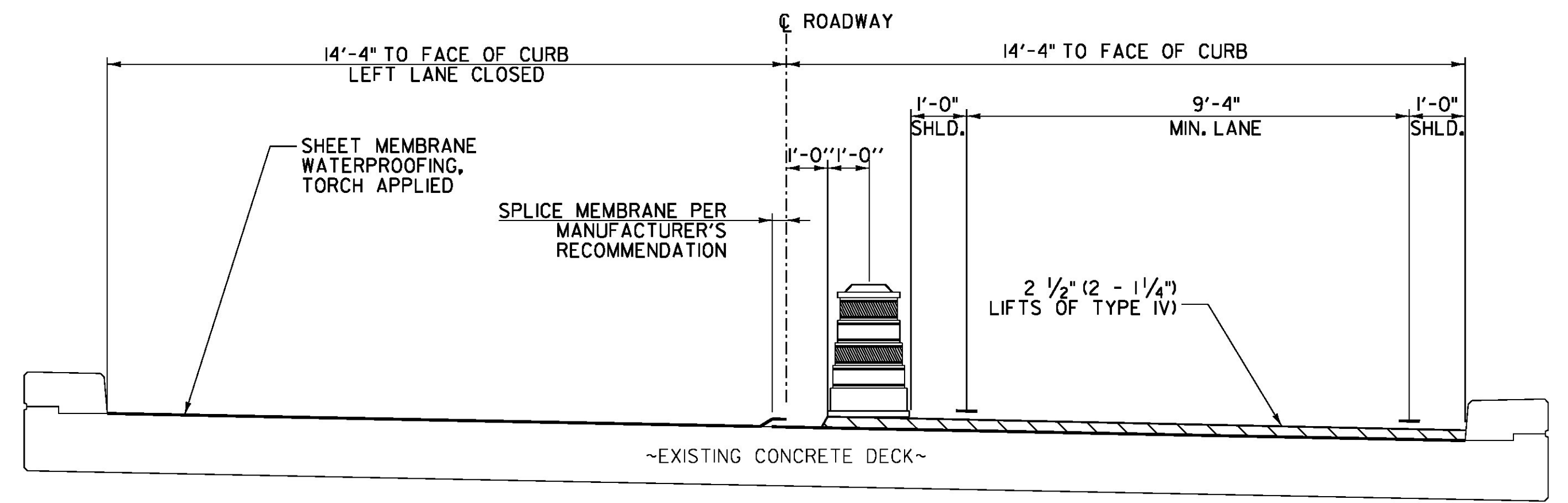
PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526frm.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
CHECKED BY:	M. FOISY
PLOT DATE:	1/27/2014
DRAWN BY:	G. BURGMEIER
PROJECT NOTES	SHEET 3 OF 72

MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT COURSES (TOTAL DEPTH)	+ 1/4"
SUBBASE	+/- 1"



TYPICAL ROADWAY SECTION

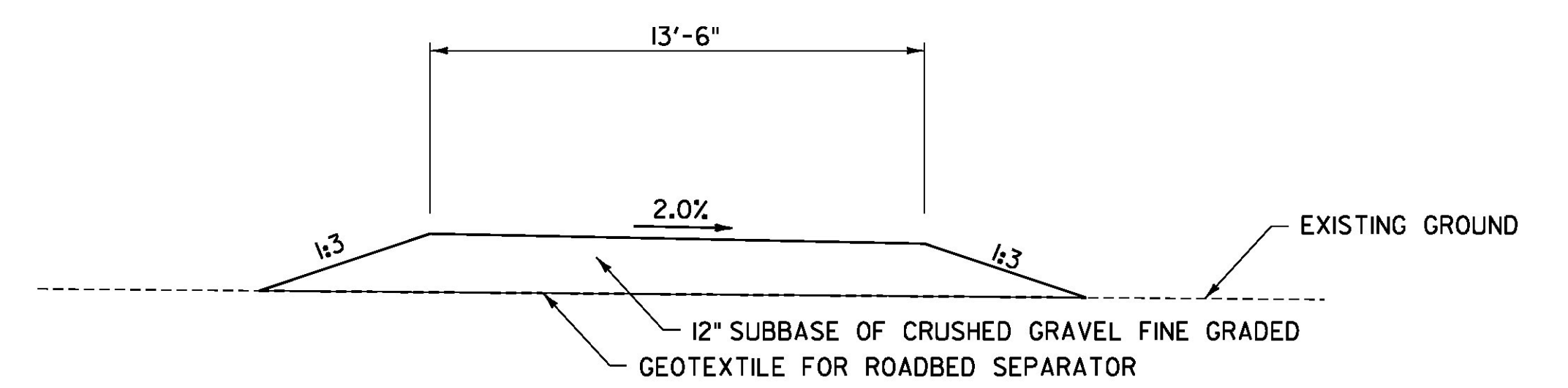
NOT TO SCALE
 STA. 203+27.31 TO 204+15.85
 STA. 215+90.00 TO 217+00.00
 *VARIES SEE APPROACH SLAB #1 REPLACEMENT ON THE BRIDGE DETAILS SHEET AND THE TYPICAL APPROACH SECTION ON THE CULVERT DETAIL SHEET
 **SEE CROSS SECTIONS



MEMBRANE SPLICE DETAIL & TRAFFIC PHASING

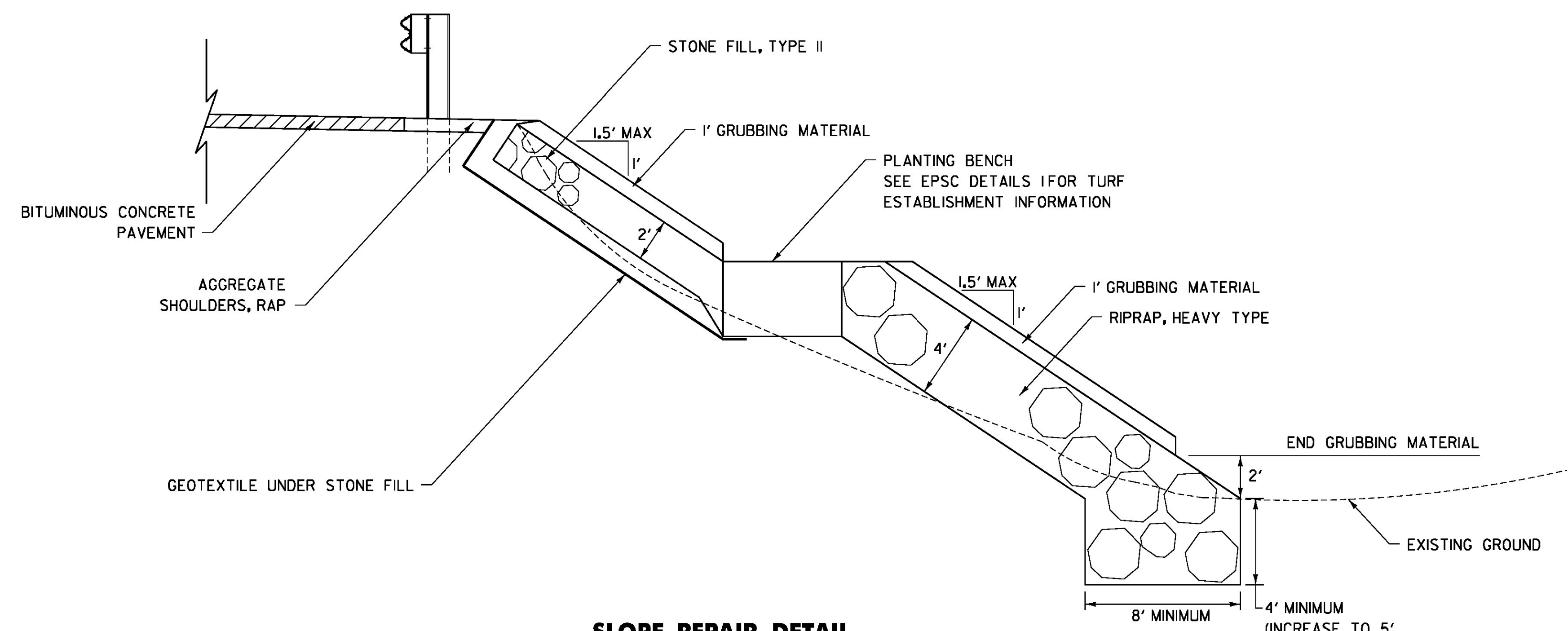
NOTE: LEFT LANE CLOSURE AND LEFT SIDE MEMBRANE SPLICE SHOWN. RIGHT LANE CLOSURE AND RIGHT SIDE MEMBRANE SPLICE SIMILAR. PLACEMENT OF THE MEMBRANE SHALL START AT THE LOW SIDE OF THE BRIDGE. THE SPLICE SHALL BE AS SHOWN ABOVE, WITH THE HIGH SIDE OVERLAPPING THE LOW SIDE.

NOT TO SCALE
 STA. 204+15.85 TO 205+44.88



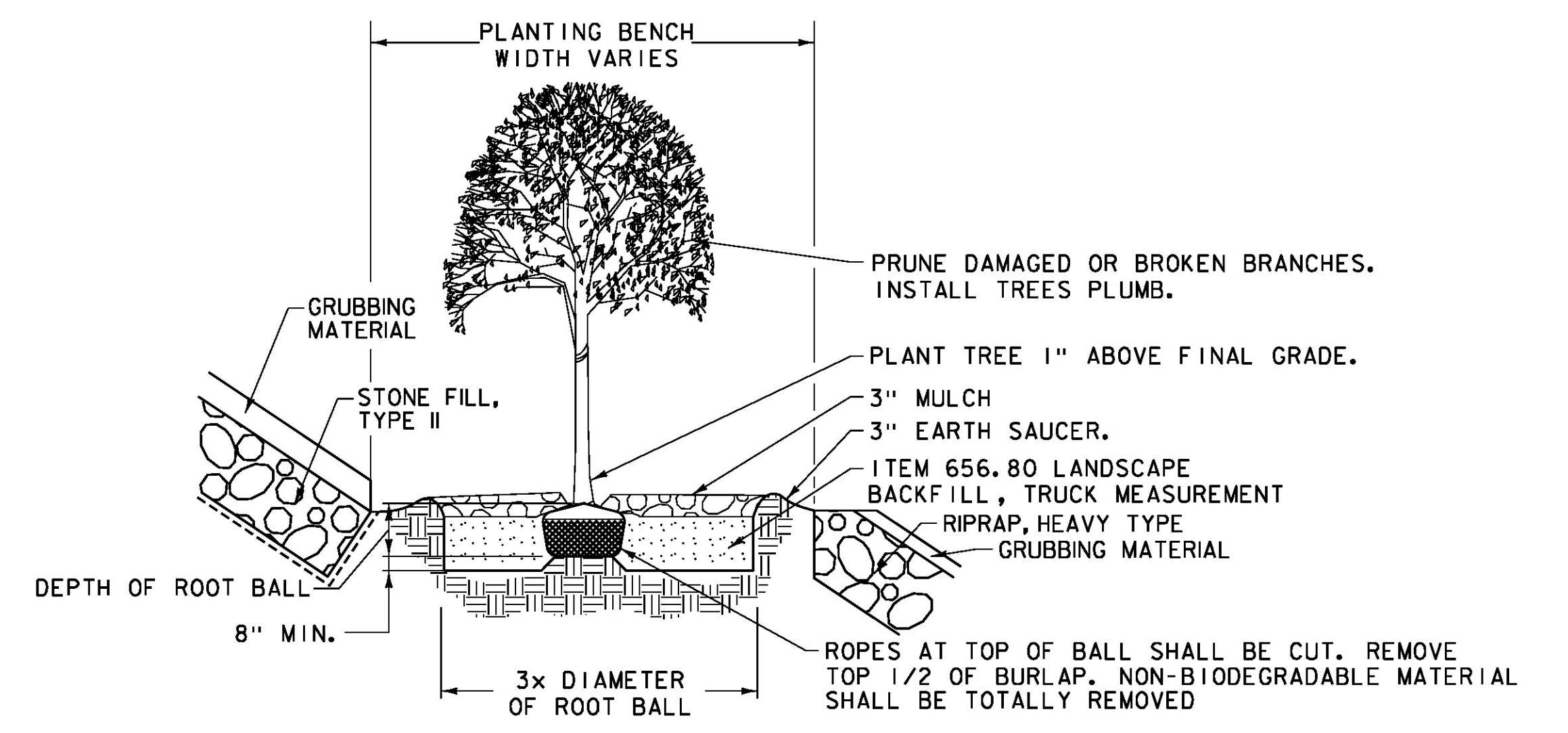
TEMPORARY FOWLER ROAD RELOCATION TYPICAL SECTION

NOT TO SCALE



SLOPE REPAIR DETAIL

NOT TO SCALE
 SEE SLOPE REPAIR NOTES ON SHEET 3
 SEE CROSS SECTIONS FOR ELEVATIONS AND WIDTHS



PLANTING BENCH DETAIL

NOT TO SCALE
 SEE LANDSCAPING NOTES ON SHEET 3



PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526typ.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
TYPICAL SECTIONS SHEET	
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMIEIER
CHECKED BY:	M. FOISY
SHEET	4 OF 72

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
						ROADWAY	EROSION CONTROL	BRIDGE NO. 6	BRIDGE NO. 7	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	EST			COMMON EXCAVATION
						575					575		CY	COMMON EXCAVATION	203.15	19	164	CY	APPROACH SLAB
						12500					12500		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	10	392	CY	CULVERT CONSTRUCTION
						125					125		CY	EARTH BORROW	203.30	-	556	CY	SUBTOTAL
						1					1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-	19	CY	ROUNDING
									1880		1880		CY	STRUCTURE EXCAVATION	204.25	8	575	CY	TOTAL
									1400		1400		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	11			UNCLASSIFIED CHANNEL EXCAVATION
						300					300		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	50			THIRD BRANCH BANK STABILIZATION
						50					50		CY	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	301.26	1			CAHEE BROOK
						580					580		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	6			CULVERT INLET
						25					25		TON	AGGREGATE SHOULDERS, RAP	402.13	5			CULVERT OUTLET
						15					15		CWT	EMULSIFIED ASPHALT	404.65	2			SUBTOTAL
						1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	-			ROUNDING
								38			38		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	1			TOTAL
								5010			5010		LB	REINFORCING STEEL, LEVEL I	507.11	10			SUBBASE OF DENSE GRADED CRUSHED STONE
								35			35		LF	DRILLING AND GROUTING DOWELS	507.16	3			APPROACH SLAB CONSTRUCTION
								10	17		27		GAL	WATER REPELLENT, SILANE	514.10	1			BOX CULVERT CONSTRUCTION
								96			96		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	-			SUBTOTAL
								440			440		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	5			ROUNDING
								96			96		LF	JOINT SEALER, HOT POURED	524.11	-			TOTAL
								435			435		SY	REMOVAL OF BRIDGE PAVEMENT	529.10	5			
									1		1		EACH	REMOVAL OF STRUCTURE (13'-5" x 8'-5" x 76" PIPE ARCH)	529.15	-			
									1		1		LS	PRECAST CONCRETE STRUCTURE (16'-0" x 9'-0" x 65'-0" BOX)	540.10	-			
								20			20		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I	580.10	EST.			
								20			20		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II	580.11	EST.			
								1			1		CY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III	580.12	EST.			
								1			1		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I	580.13	EST.			
								1			1		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14	EST.			
								1			1		CY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS III	580.15	EST.			
								3900			3900		SF	SURFACE PREPARATION FOR MEMBRANE	580.16	29			
						6					6		LF	18" CPEP(SL)	601.2615	1			
						2					2		EACH	18" CPEPES	601.7015	-			
						10					10		HR	POWER BROOM RENTAL, TYPE I	608.30	EST.			
						3250					3250		CY	STONE FILL, TYPE II	613.11	34			
						8000					8000		CY	RIPRAP, HEAVY TYPE	613.15	22			
						2					2		EACH	RELOCATE MAILBOX, SINGLE SUPPORT	617.10	-			
						675					675		LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20	15			
						1150					1150		LF	STEEL BEAM GUARDRAIL, GALVANIZED W/6 FEET POSTS	621.205	-			
						130					130		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21	-			
						5					5		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	-			

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 PLOT DATE: 1/27/2014
 DRAWN BY: G. BURGMEIER
 CHECKED BY: M. FOISY
 SHEET 5 OF 72



QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES						TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES						
					ROADWAY	EROSION CONTROL	BRIDGE NO. 6	BRIDGE NO. 7	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					875					875		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	16			
								140		140		TON	CRUSHED STONE BEDDING	629.54	8			
					875					875		HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST.			
					2575					2575		HR	FLAGGERS	630.15	EST.			
									1	1		LS	FIELD OFFICE, ENGINEERS	631.10	-			
									1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16	-			
									1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17	-			
									3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26	-			
					1					1		LS	MOBILIZATION/DEMOBILIZATION	635.11	-			
													BEGIN OPTION AA					
					1100					1100		LF	DURABLE 4 INCH WHITE LINE, THERMOPLASTIC	646.402	45			
					1100					1100		LF	DURABLE 4 INCH WHITE LINE, POLYUREA	646.404	45			
													END OPTION AA					
													BEGIN OPTION BB					
					1000					1000		LF	DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC	646.412	25			
					1000					1000		LF	DURABLE 4 INCH YELLOW LINE, POLYUREA	646.414	25			
													END OPTION BB					
					2200					2200		LF	TEMPORARY 4 INCH WHITE LINE	646.600	90			
					2000					2000		LF	TEMPORARY 4 INCH YELLOW LINE	646.610	50			
					40					40		EACH	LINE STRIPING TARGETS	646.76	-			
					270					270		SF	PAVEMENT MARKING MASK	646.86	3			
					410					410		SY	GEOTEXTILE FOR ROADBED SEPARATOR	649.11	5			
					6200					6200		SY	GEOTEXTILE UNDER STONE FILL	649.31	45			
						55				55		SY	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515	2			
						1325				1325		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61	25			
						130				130		LB	SEED	651.15	4			
						100				100		LB	SEED, WINTER RYE	651.17	EST.			
						1060				1060		LB	FERTILIZER	651.18	7			
						5				5		TON	AGRICULTURAL LIMESTONE	651.20	0.8			
						5				5		TON	HAY MULCH	651.25	0.8			
						190				190		CY	TOPSOIL	651.35	8			
						6950				6950		SY	GRUBBING MATERIAL	651.40	29			
						1				1		LS	EPSC PLAN	652.10	-			
						35				35		HR	MONITORING EPSC PLAN	652.20	1			
						1				1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30	-			
						8150				8150		SY	TEMPORARY EROSION MATTING	653.20	49			
						135				135		CY	VEHICLE TRACKING PAD	653.35	3			
					880					880		LF	BARRIER FENCE	653.50	3			
					17					17		EACH	DECIDUOUS TREES (ACER SACCHARUM)(D&B)(2 1/2" CAL.)	656.30	-			
					17					17		EACH	DECIDUOUS TREES (FRAXINUS AMERICANA)(D&B)(2 1/2" CAL.)	656.30	-			

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 PLOT DATE: 1/10/2014
 DRAWN BY: G. BURGMEIER
 CHECKED BY: M. FOISY
 SHEET 6 OF 72



QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
						ROADWAY	EROSION CONTROL	BRIDGE NO. 6	BRIDGE NO. 7	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						50					50		EACH	DECIDUOUS SHRUBS (CORNUS RACEMOSA)(BR)	656.35	-			SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)
						50					50		EACH	DECIDUOUS SHRUBS (SAMBUCUS CANADENSIS)(BR)	656.35	-	49	TON	APPROACH SLAB TYPE IIS
						175					175		EACH	GROUND COVERS AND VINES (IRIS VERISCOLOR)(BR)	656.40	-	142	TON	APPROACH SLAB TYPE IVS
						20					20		MGAL	LANDSCAPE WATERING	656.65	EST.	98	TON	CULVERT CONSTRUCTION TYPE IIS
						170					170		CY	LANDSCAPE BACKFILL, TRUCK MEASUREMENT	656.80	EST.	58	TON	CULVERT CONSTRUCTION TYPE IIS
						45					45		SF	TRAFFIC SIGNS, TYPE A	675.20	3	58	TON	CULVERT CONSTRUCTION TYPE IVS
						205					205		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341	5	23	TON	SIDERoadS TYPE IVS
						10					10		EACH	REMOVING SIGNS	675.50	-	428	TON	SUBTOTAL
						5					5		EACH	DELINEATOR WITH STEEL POST	676.10	EST.	12	TON	ROUNDING
						1					1		EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM	678.40	-	440	TON	TOTAL
						3					3		EACH	TEMPORARY DETECTOR	678.42	-			
						1					1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50	-			
									80		80		CY	SPECIAL PROVISION (STONE FILL, CULVERT LINING)	900.608	3			
									85		85		CY	SPECIAL PROVISION (STONE FILL, STREAM BED MATERIAL)	900.608	2			
						1					1		LS	SPECIAL PROVISION (CPM SCHEDULE)	900.645	-			
						1					1		LS	SPECIAL PROVISION (STREAM HABITAT BOULDERS)	900.645	-			
									1		1		LS	SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)	900.645	-			
						1					1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645	-			
						1					1		LU	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(N.A.B.I.)	900.650	-			
						1					1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	900.650	-			
						1					1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650	-			
						15					15		SY	SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)	900.675	2			
						440					440		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680	12			
											14		EACH	DECIDUOUS SEEDLINGS (BETULA ALLE-GHANIENSIS) (4-5') (2 GAL)	656.16				
											14		EACH	DECIDUOUS SEEDLINGS (ACER RUBRUM) (4-5') (5 GAL)	656.16				
											12		EACH	DECIDUOUS SEEDLINGS (BETULA POPULIFOLIA) (4-5') (5 GAL)	656.16				
											14		EACH	DECIDUOUS SEEDLINGS (BETULA NIGRA) (5-6') (5 GAL)	656.16				
											22		EACH	DECIDUOUS SEEDLINGS (POPULUS DELTOIDES) (4-5') (1 GAL)	656.16				
											22		EACH	DECIDUOUS SEEDLINGS (ACER RUBRUM) (3-4') (2 GAL)	656.16				
											22		EACH	DECIDUOUS SEEDLINGS (BETULA NIGRA HERITAGE) (3-4') (2 GAL)	656.16				
											22		EACH	DECIDUOUS SEEDLINGS (BETULA POPULIFOLIA) (4-5') (2 GAL)	656.16				

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 CHECKED BY: M. FOISY
 SHEET 7 OF 72



GENERAL INFORMATION

SYMBOLGY LEGEND NOTE

THE SYMBOLGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLGY. THE SYMBOLGY 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. SYMBOLGY 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	BENCH MARK
▣	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 VALUE
⊕	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 SYMBOLGY

UNDERGROUND UTILITIES	
— 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)

— 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 SYMBOLGY

PROJECT DESIGN & LAYOUT SYMBOLGY	
—	CLEAR ZONE
—	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

—	TOP OF CUT SLOPE
—	TOE OF FILL SLOPE
⊕	STONE FILL
—	BOTTOM OF DITCH 'L
—	CULVERT PROPOSED
—	STRUCTURE SUBSURFACE
PDF	PROJECT DEMARCATION FENCE
BF	BARRIER FENCE
—	TREE PROTECTION ZONE (TPZ)
—	STRIPING LINE REMOVAL
—	SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLGY

BOUNDARY LINES	
—	TOWN BOUNDARY LINE
—	COUNTY BOUNDARY 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
—	PROPERTY LINE (P/L)
—	SLOPE RIGHTS
6f	6F PROPERTY BOUNDARY
4f	4F PROPERTY BOUNDARY
HAZ	HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLGY

EPSC MEASURES	
—	FILTER CURTAIN
—	SILT FENCE
—	SILT FENCE WOVEN WIRE
—	CHECK DAM
—	DISTURBED AREAS REQUIRING RE VEGETATION
—	EROSION MATTING

ENVIRONMENTAL RESOURCES

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

ARCHEOLOGICAL & HISTORIC

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

CONVENTIONAL TOPOGRAPHIC SYMBOLGY

EXISTING FEATURES	
—	ROAD EDGE PAVEMENT
—	ROAD EDGE GRAVEL
—	DRIVEWAY EDGE
—	DITCH
—	FOUNDATION
—	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

PROJECT NAME:	VAOT PROJECT NAME
PROJECT NUMBER:	PROJECT NUMBER
FILE NAME: z12c526frm.dgn	PLOT DATE: 1/10/2014
PROJECT LEADER: VTRANS	DRAWN BY: VTRANS
DESIGNED BY: VTRANS	CHECKED BY: VTRANS
CONVENTIONAL SYMBOLGY - LEGEND	SHEET 10 OF 72

62L.20 STEEL BEAM GUARDRAIL, GALVANIZED
 STA. 202+68.74 TO 203+68.74, LT
 STA. 203+60.35 TO 204+04.90, RT
 STA. 205+53.07 TO 208+00.00, LT
 STA. 205+91.74 TO 208+00.00, RT

62L.21 HD STEEL BEAM GUARDRAIL, GALVANIZED
 STA. 203+68.74 TO 203+93.74, LT
 STA. 204+04.90 TO 204+29.90, RT
 STA. 205+28.07 TO 205+53.07, LT

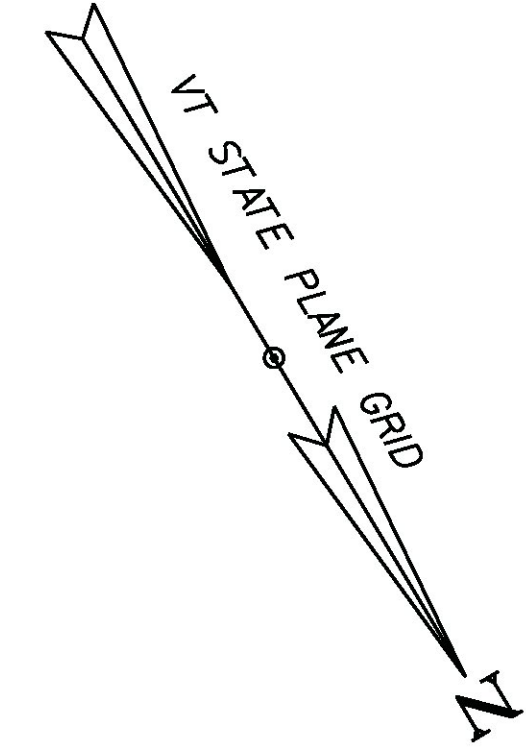
62L.60 ANCHOR FOR STEEL BEAM RAIL
 STA. 203+60.35, RT

62L.215 HD STEEL BEAM GUARDRAIL W8' POSTS, GALVANIZED
 STA. 205+66.74 TO 205+91.74, RT

DURABLE & TEMPORARY 4 INCH WHITE LINE, PAINT
 (ALL LINES WILL INCLUDE EDGE LINE BREAKS
 AND RADII FOR SIDE ROADS)
 STA. 203+02.31 TO 206+19.88, SOLID LT & RT

DURABLE & TEMPORARY 4 INCH YELLOW LINE, PAINT
 (ALL LINES WILL INCLUDE C BREAKS FOR SIDE ROADS)
 STA. 203+02.31 TO 206+19.88, SOLID LT & RT

675.50 REMOVING SIGNS
 AS SHOWN - 5



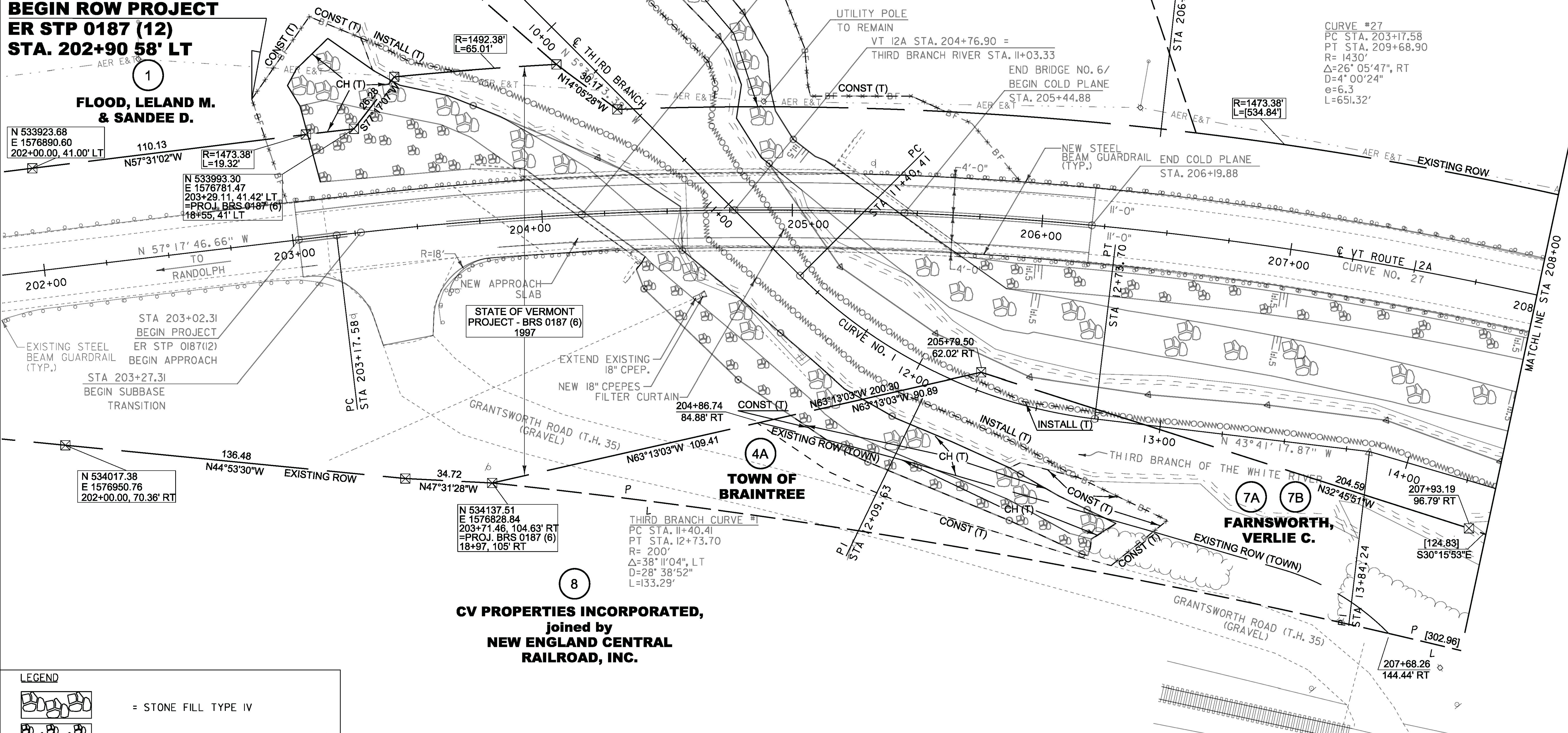
**BEGIN ROW PROJECT
 ER STP 0187 (12)
 STA. 202+90 58' LT**

**FLOOD, LELAND M.
 & SANDEE D.**

**VINTON FAMILY
 LAND, LLC.**

**N/F
 LANGLOIS, RYAN C.
 & SARAH F.**

CURVE #27
 PC STA. 203+17.58
 PT STA. 209+68.90
 R= 1430'
 Δ=26° 05' 47", RT
 D=4° 00' 24"
 e=6.3
 L=651.32'



N 533923.68
 E 1576890.60
 202+00.00, 41.00' LT

N 533993.30
 E 1576781.47
 203+29.11, 41.42' LT
 =PROJ. BRS 0187 (6)
 18+55, 41' LT

N 534017.38
 E 1576950.76
 202+00.00, 70.36' RT

N 534137.51
 E 1576828.84
 203+71.46, 104.63' RT
 =PROJ. BRS 0187 (6)
 18+97, 105' RT

THIRD BRANCH CURVE #1
 PC STA. 11+40.41
 PT STA. 12+73.70
 R= 200'
 Δ=38° 11' 04", LT
 D=28° 38' 52"
 L=133.29'

N 534593.19
 E 1576931.19
 207+93.19, 96.79' RT

[124.83]
 S30°15'53"E

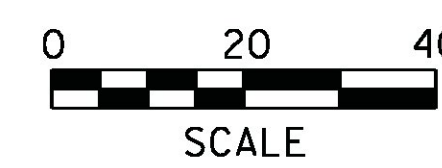
[302.96]
 207+68.26, 144.44' RT

LEGEND	
	= STONE FILL TYPE IV
	= STONE FILL TYPE II WITH GRUBBING
	= CUT LIMIT
	= FILL LIMIT
	= EXISTING GUARDRAIL
	= PROPOSED GUARDRAIL

SIGN LEGEND	
R	= REMOVE
S	= SALVAGE
RET	= RETAIN

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

**FOR R.O.W.
 USE ONLY**



PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	r12c526lay1.dgn
PROJECT LEADER:	P. LIBBY
DESIGNED BY:	STANTEC
ROW LAYOUT SHEET	10F 3
PLOT DATE:	14-OCT-2013
DRAWN BY:	A. EGIZI
CHECKED BY:	E. PIERCE
SHEET	12 OF 72

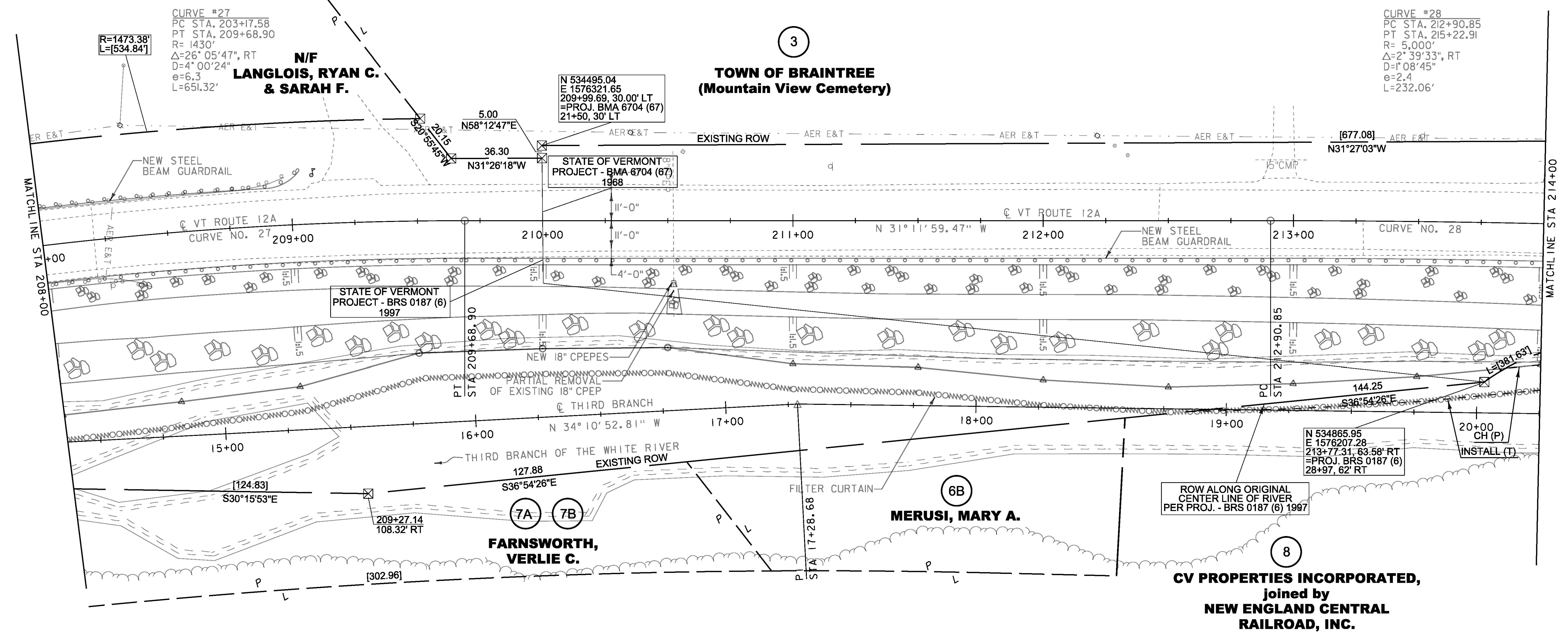
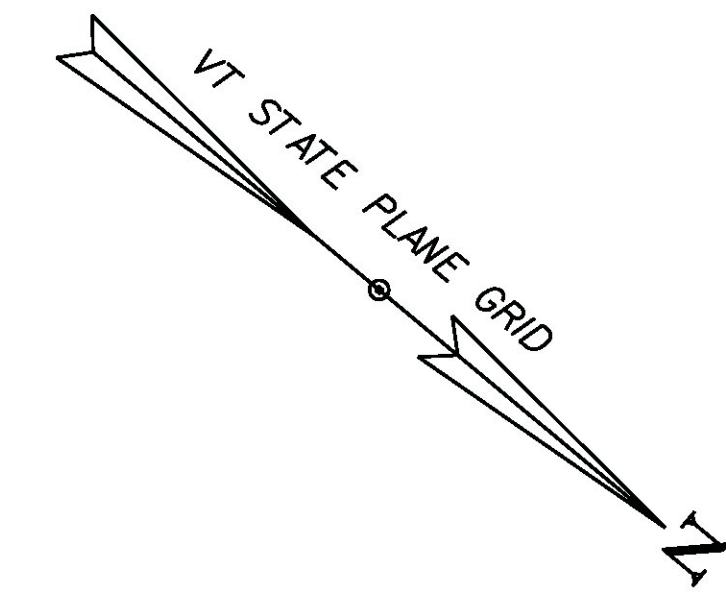
617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 209+08, LT

675.50 REMOVING SIGNS
AS SHOWN - I

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 208+00.00 TO 209+03.07, LT
STA. 208+00.00 TO 214+00.00, RT

621.60 ANCHOR FOR STEEL BEAM RAIL
STA. 209+03.07, LT

621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 208+00.00 TO 208+99.48, LT
STA. 208+00.00 TO 208+42.78, RT



LEGEND

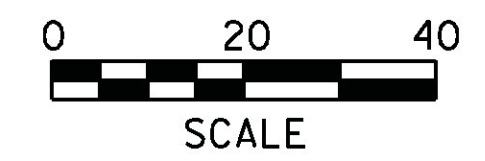
	= STONE FILL TYPE IV
	= STONE FILL TYPE II WITH GRUBBING
	= CUT LIMIT
	= FILL LIMIT
	= EXISTING GUARDRAIL
	= PROPOSED GUARDRAIL

SIGN LEGEND

R	= REMOVE
S	= SALVAGE
RET	= RETAIN

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

FOR R.O.W. USE ONLY



PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	r12c526lay2.dgn
PROJECT LEADER:	P. LIBBY
DESIGNED BY:	STANTEC
ROW LAYOUT SHEET 2 OF 3	
PLOT DATE:	14-OCT-2013
DRAWN BY:	A. EGIZI
CHECKED BY:	E. PIERCE
SHEET	13 OF 72

617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 215+95, LT

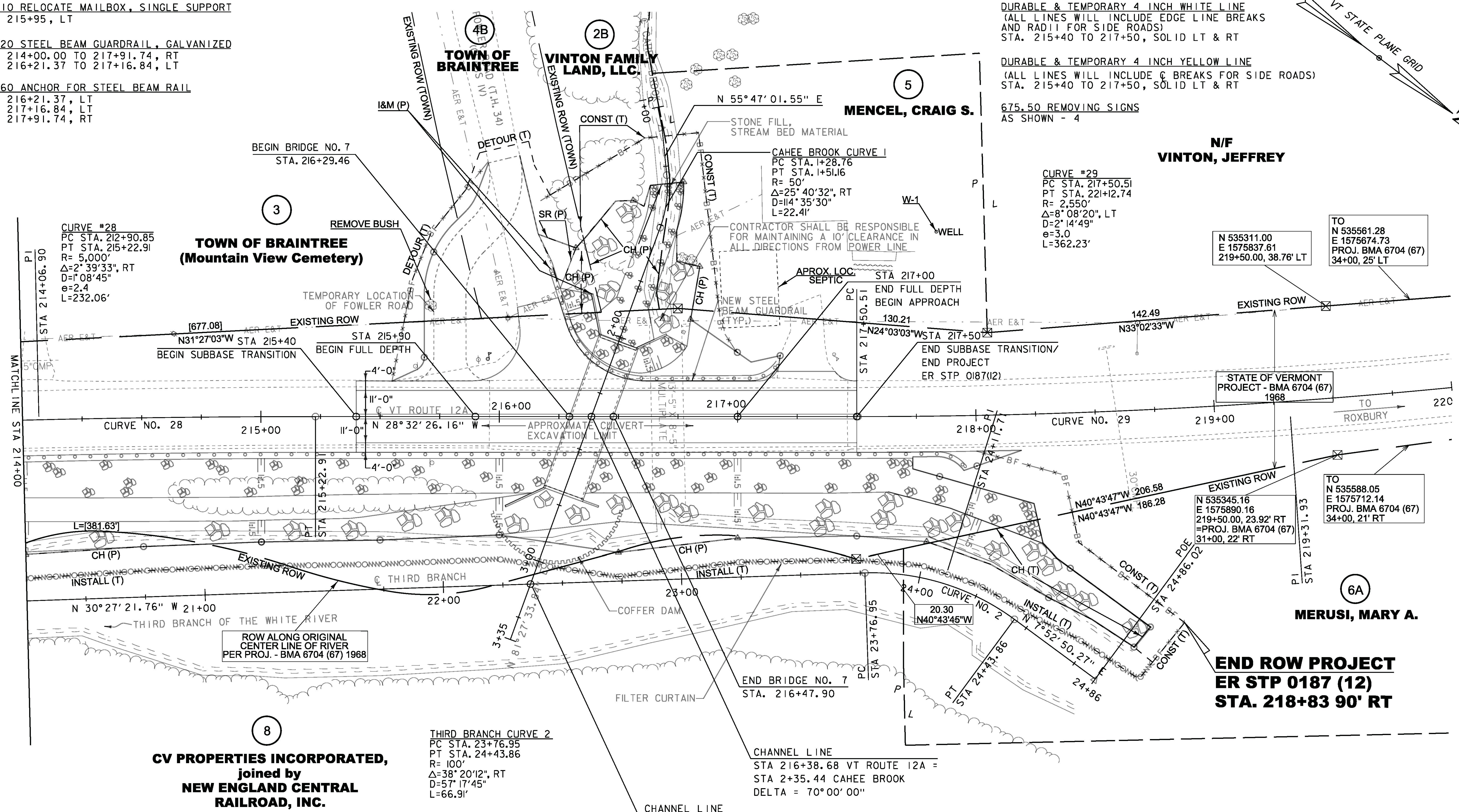
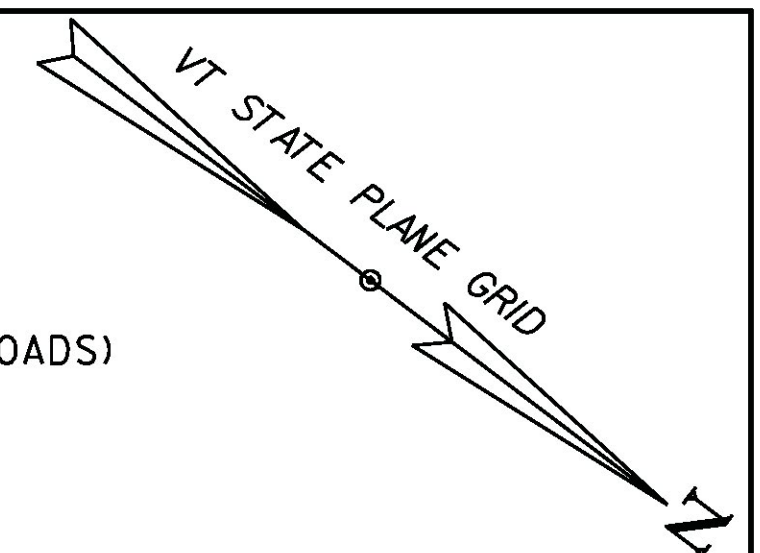
621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 214+00.00 TO 217+91.74, RT
STA. 216+21.37 TO 217+16.84, LT

621.60 ANCHOR FOR STEEL BEAM RAIL
STA. 216+21.37, LT
STA. 217+16.84, LT
STA. 217+91.74, RT

DURABLE & TEMPORARY 4 INCH WHITE LINE
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 215+40 TO 217+50, SOLID LT & RT

DURABLE & TEMPORARY 4 INCH YELLOW LINE
(ALL LINES WILL INCLUDE C BREAKS FOR SIDE ROADS)
STA. 215+40 TO 217+50, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 4



CURVE #28
PC STA. 212+90.85
PT STA. 215+22.91
R= 5,000'
Δ=2° 39' 33", RT
D=1° 08' 45"
e=2.4
L=232.06'

CURVE #29
PC STA. 217+50.51
PT STA. 221+12.74
R= 2,550'
Δ=8° 08' 20", LT
D=2° 14' 49"
e=3.0
L=362.23'

THIRD BRANCH CURVE 2
PC STA. 23+76.95
PT STA. 24+43.86
R= 100'
Δ=38° 20' 12", RT
D=57° 17' 45"
L=66.91'

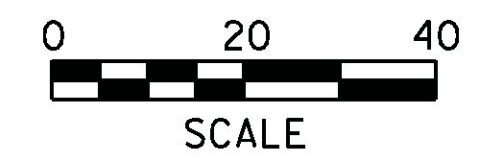
**CV PROPERTIES INCORPORATED,
joined by
NEW ENGLAND CENTRAL
RAILROAD, INC.**

LEGEND	
	= STONE FILL TYPE IV
	= STONE FILL TYPE II WITH GRUBBING
	= CUT LIMIT
	= FILL LIMIT
	= EXISTING GUARDRAIL
	= PROPOSED GUARDRAIL

SIGN LEGEND	
R	= REMOVE
S	= SALVAGE
RET	= RETAIN

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

**FOR R.O.W.
USE ONLY**



PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	r12c526lay3.dgn
PROJECT LEADER:	P. LIBBY
DESIGNED BY:	STANTEC
ROW LAYOUT SHEET 3 OF 3	
PLOT DATE:	14-OCT-2013
DRAWN BY:	A. EGIZI
CHECKED BY:	E. PIERCE
SHEET	14 OF 72

GPS/NGS CONTROL POINTS

RANDOLPH CORS ARP

PID DJ8951
 N = 524583.45
 E = 1613157.07
 ELLIP HEIGHT = 1329.21

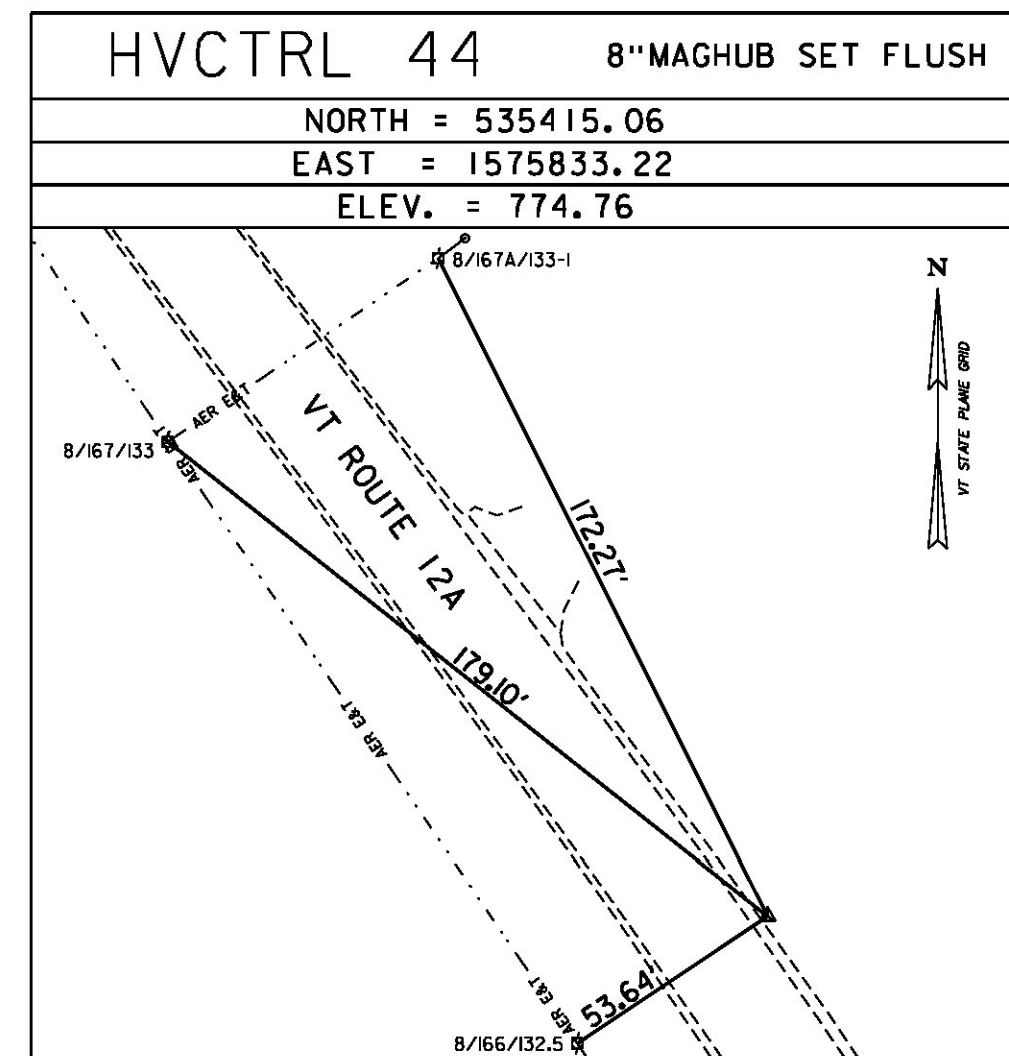
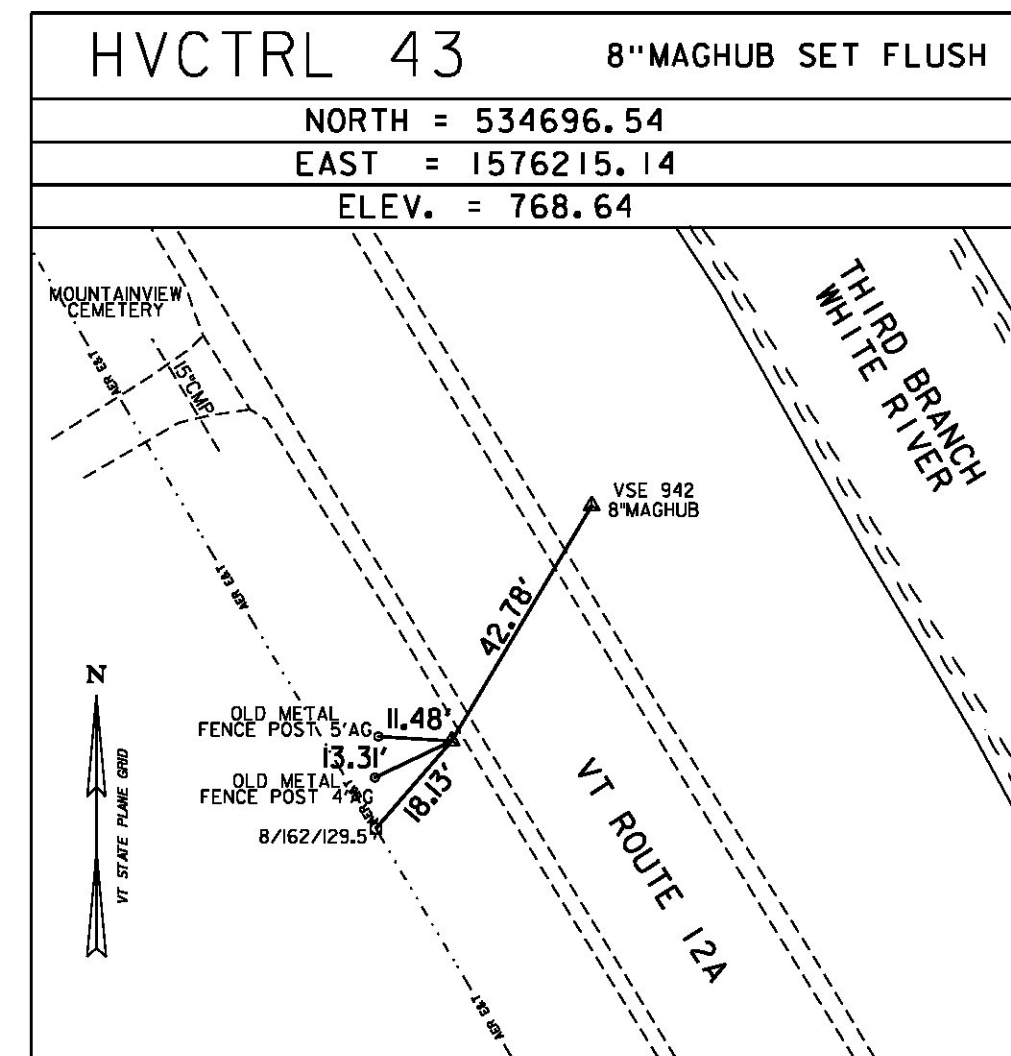
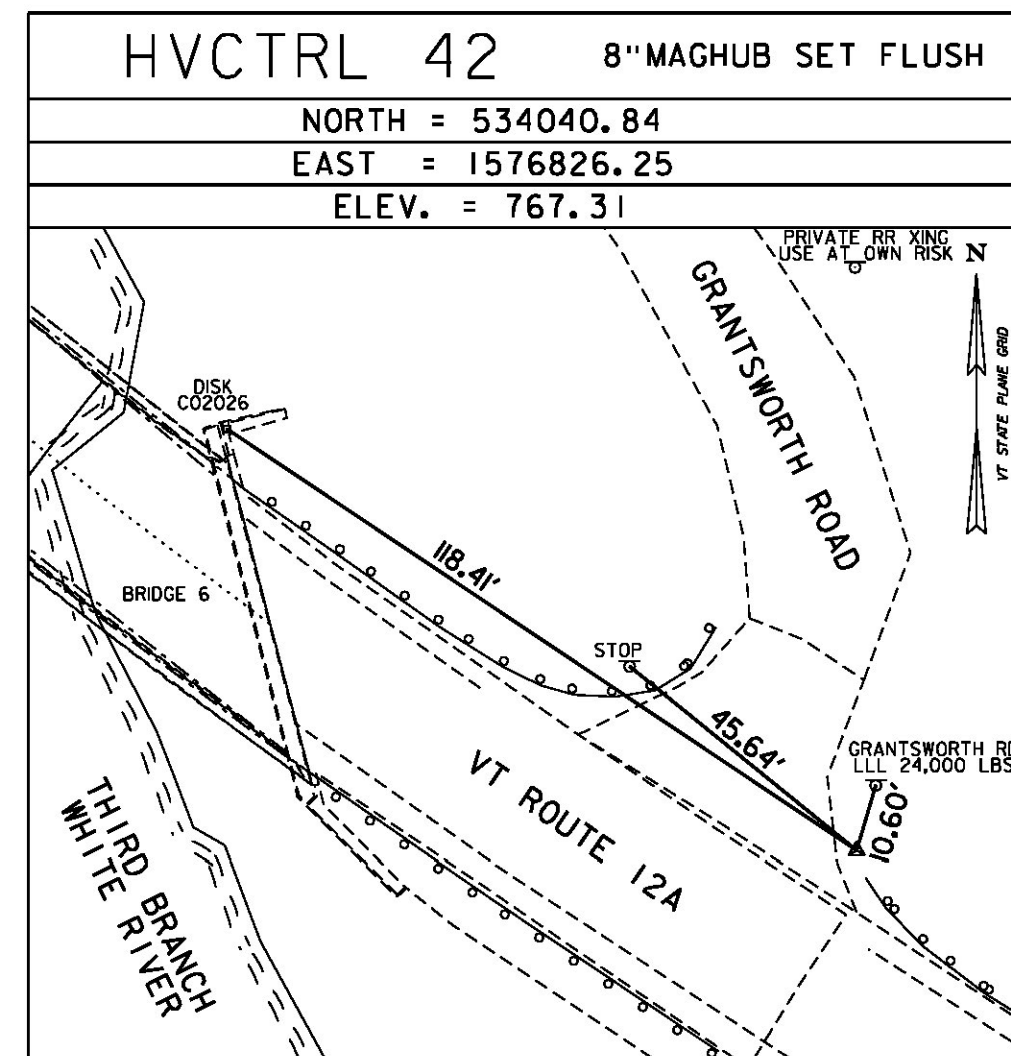
VTAT DISK C02026

PID DM1728
 N = 534106.71
 E = 1576727.85
 ELEV = 766.82

STATION IS A GPS CONTINUOUSLY OPERATING REFERENCE STATION. STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA. THE ANTENNA IS MOUNTED ON THE ROOF OF GREEN HALL, ON THE CAMPUS OF VERMONT TECHNICAL COLLEGE, RANDOLPH, VT. THE MONUMENT IS ATTACHED TO A TWO STORY CONCRETE/BRICK BUILDING WITH A 10 FT CONCRETE FOUNDATION BUILT IN 1969. MAST IS A 1.75 INCH DIA GALV PIPE THAT IS 108 INCHES LONG. THE MAST ATTACHED TO A STEEL MOUNTING FRAME WITH THREE ATTACHMENTS CONSISTING OF 3/8 INCH SS THROUGH BOLTS. THE MOUNTING FRAME IS ATTACHED TO THE BUILDING USING 8 ATTACHMENT POINTS. THE TOP 2 AND BOTTOM 2 ARE 1/2 INCH SS BOLTS SECURED TO THE BRICK OR CONC WITH LEAD ANCHORS. THE MIDDLE 4 ATTACHMENTS ARE THROUGH BOLTED AND CONSIST OF 1/2 INCH SS THREADED ROD AND NUTS.

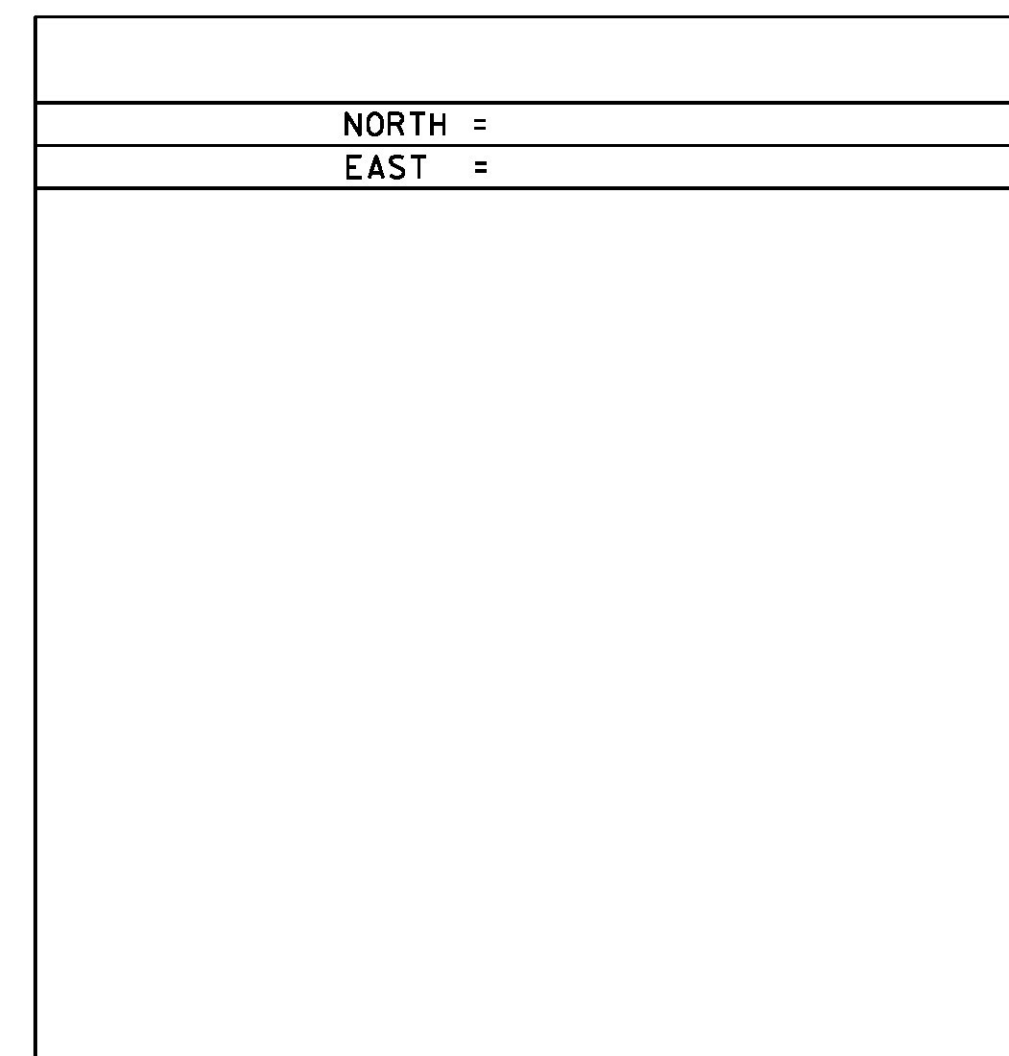
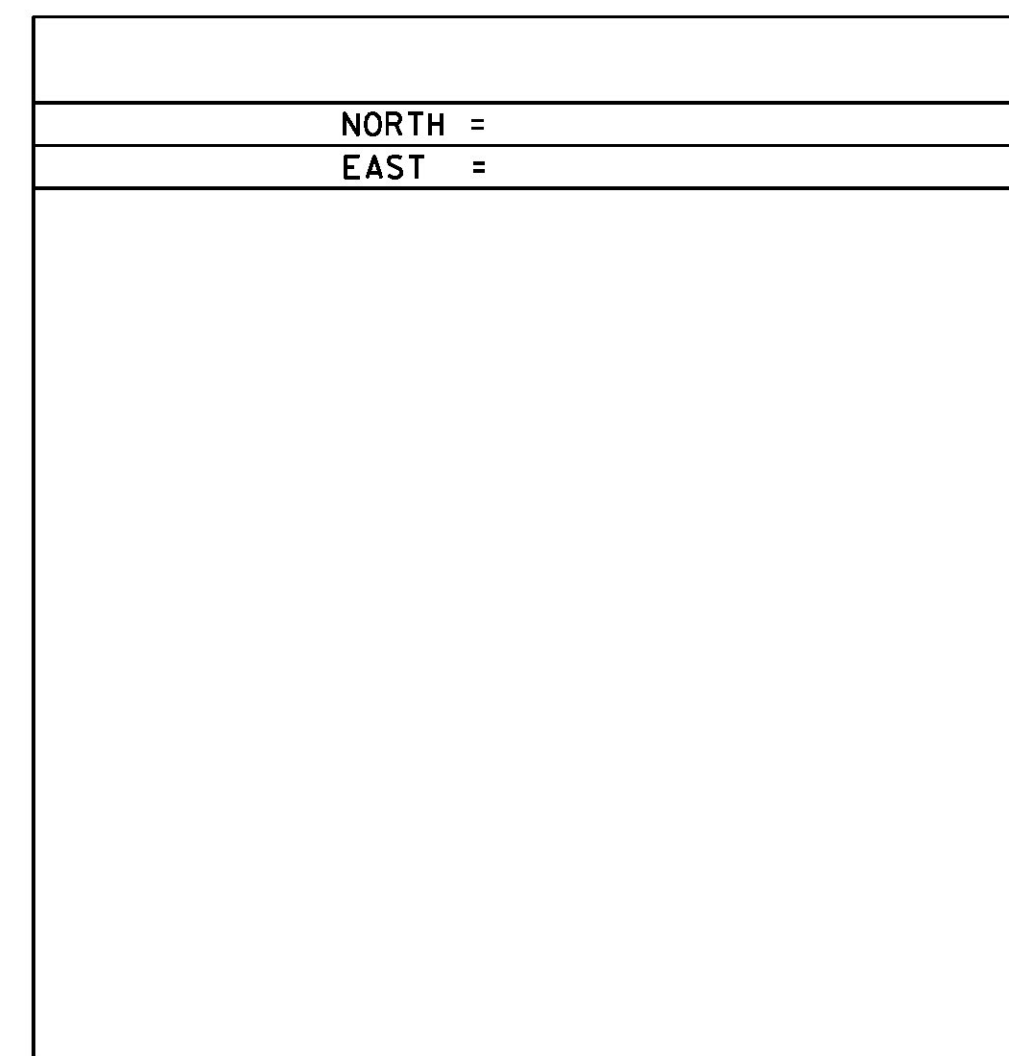
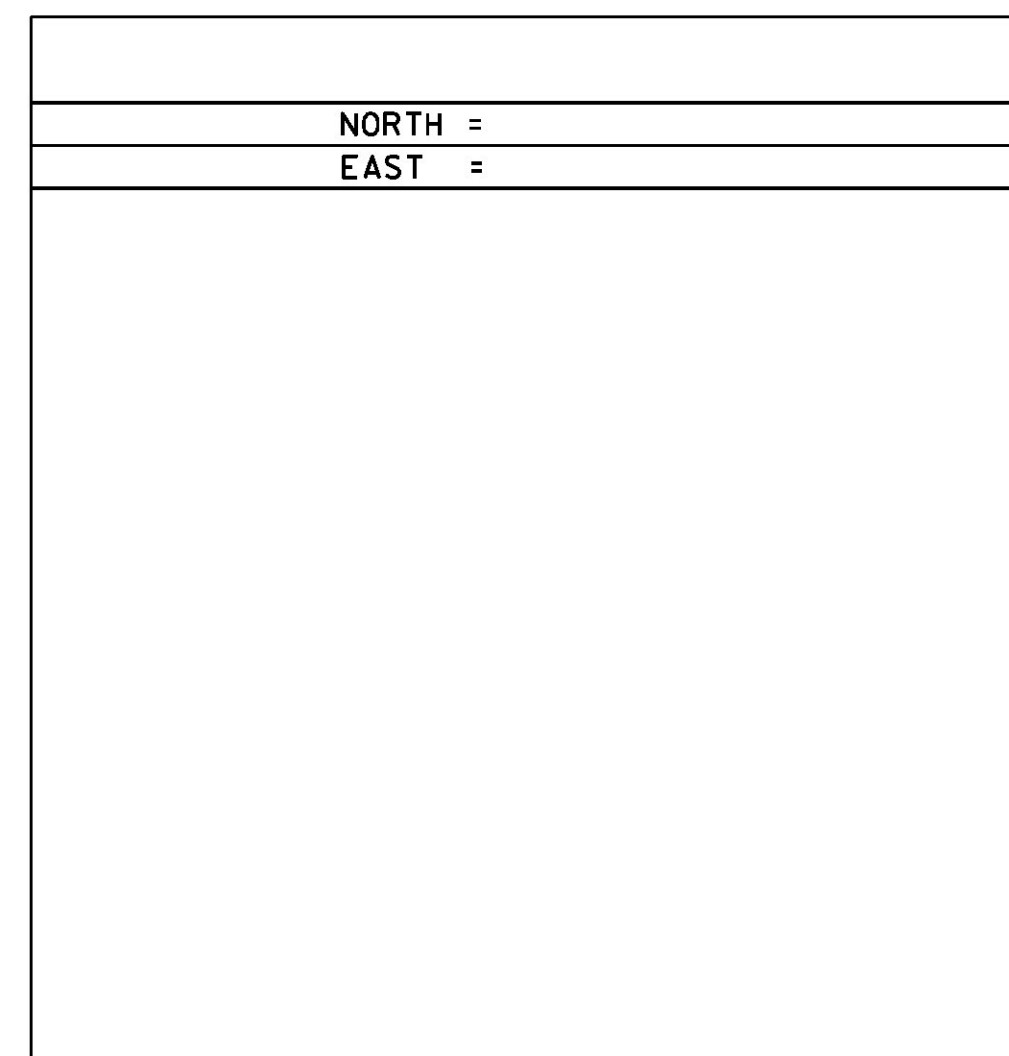
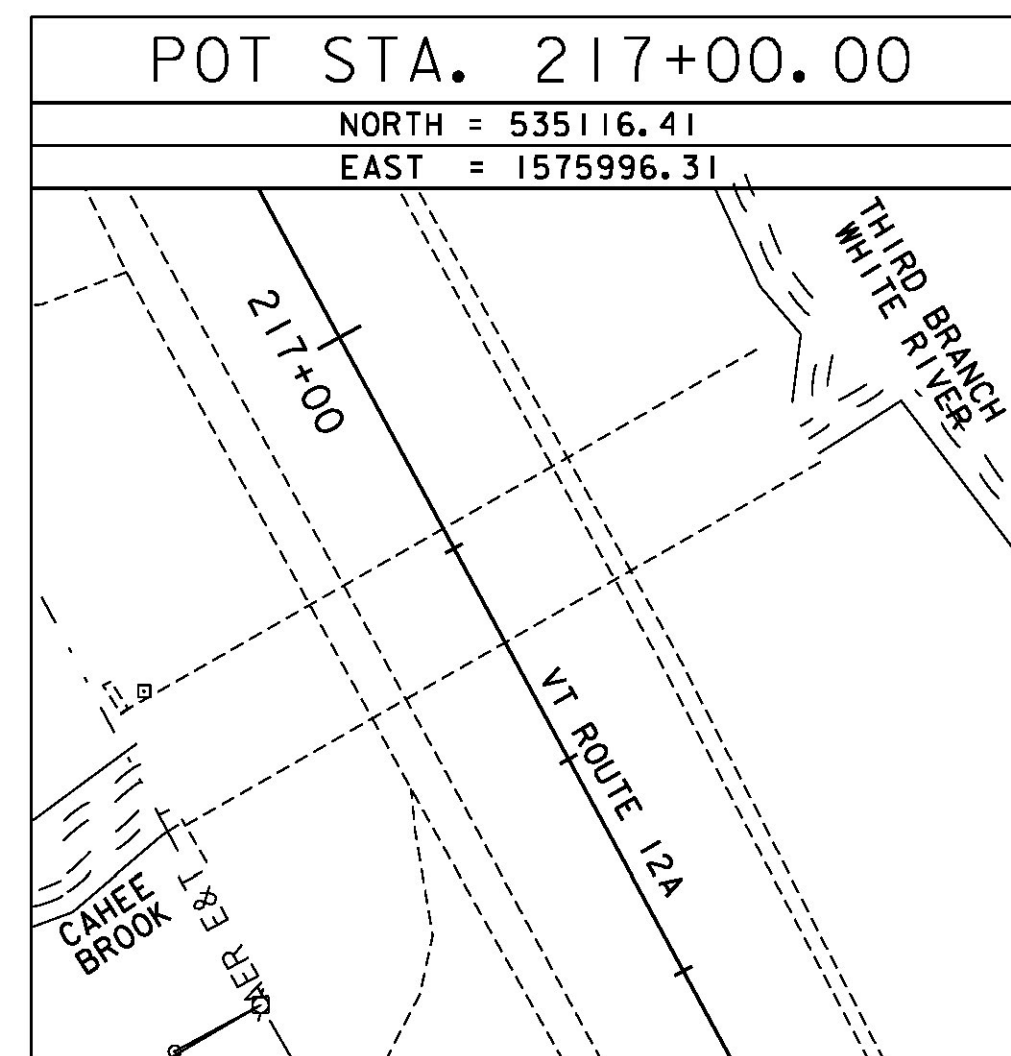
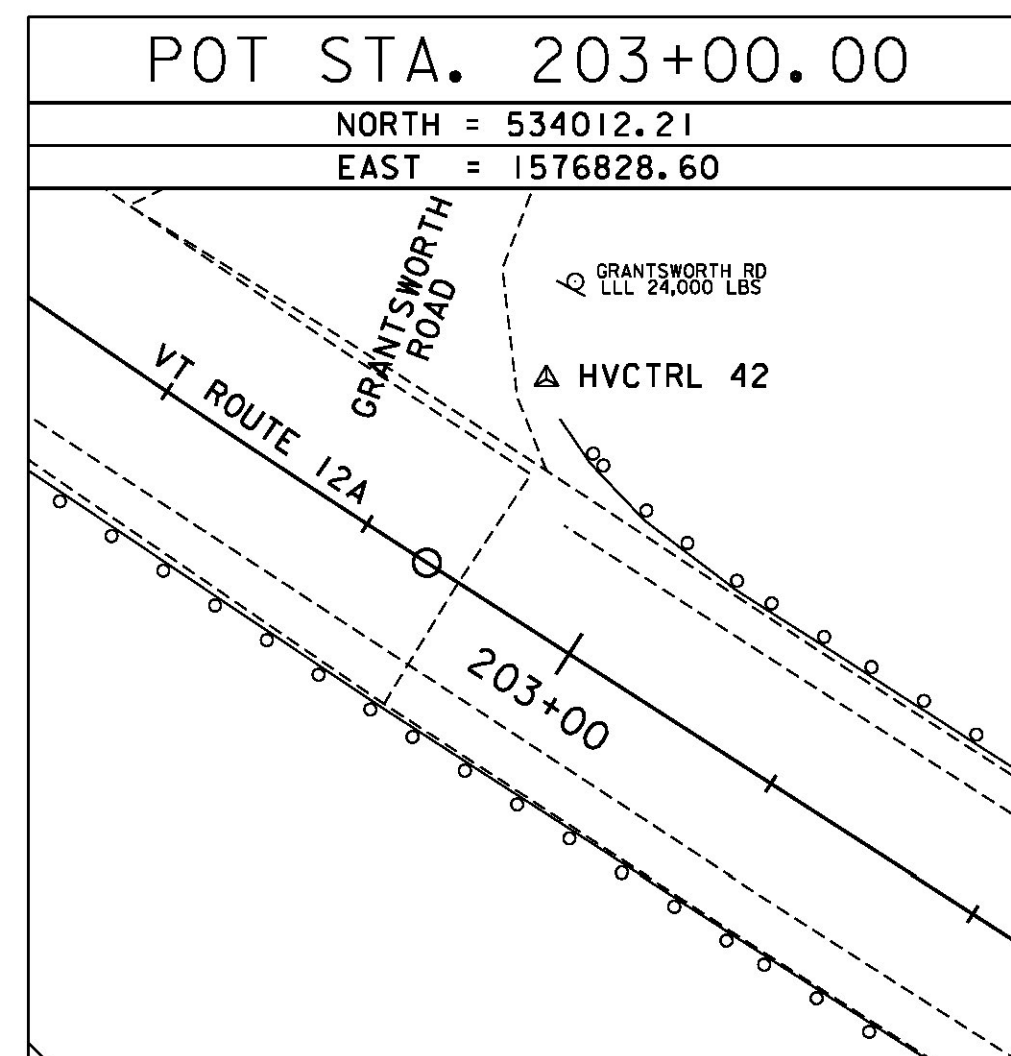
TO REACH FROM THE INTERSECTION OF VT ROUTE 12 AND VT ROUTE 12A IN RANDOLPH GO NORTH ALONG VT ROUTE 12A FOR 4.7 MI (7.6 KM) TO THE VT ROUTE 12A CROSSING OF THE NEW ENGLAND CENTRAL RAILROAD. CONTINUE STRAIGHT AHEAD AND GO NORTH ALONG VT ROUTE 12A FOR 0.5 MI (0.8 KM) TO THE SOUTH END OF THE VT ROUTE 12A BRIDGE OVER THE THIRD BRANCH OF THE WHITE RIVER AND THE SITE OF THE MARK ON THE RIGHT, SET IN THE TOP OF THE WING WALL AT THE SOUTHEAST CORNER OF THE BRIDGE, DIRECTLY ABOVE THE BRIDGE DATE PLAQUE. IT IS ABOUT 35 M (114.8 FT) NORTH OF THE INTERSECTION OF VT ROUTE 12A AND GRANTSWORTH ROAD RIGHT AND 0.65 MI (1.0 KM) SOUTH OF THE INTERSECTION OF VT ROUTE 12A AND NORTH ROAD IN WEST BRAINTREE VILLAGE. IT IS 6.3 M (20.7 FT) EAST OF AND ABOUT 0.3 M (1.0 FT) LOWER THE CENTERLINE OF VT ROUTE 12A, 1.3 M (4.3 FT) EAST OF THE EAST EDGE OF THE BRIDGE CURB, 0.3 M (1.0 FT) SOUTHEAST OF THE NORTHWEST FACE OF THE ABUTMENT AND 0.3 M (1.0 FT) SOUTHWEST OF THE NORTHEAST EDGE OF THE ABUTMENT.

TRAVERSE TIES



■ MAIN TRAVERSE COMPLETED: FEBRUARY 1, 2013 BY VSE, M. YEFCHAK-PC, T. YEFCHAK

BASELINE TIES



DATUM
 VERTICAL NAVD 88 FT
 HORIZONTAL NAD 83(2011)SFT
 ADJUSTMENT LSQ

PROJECT NAME: BRAINTREE
 PROJECT NUMBER: ER STP 0187(12)

FILE NAME: z12c526frm.dgn
 PROJECT LEADER: VTRANS
 DESIGNED BY: VTRANS
 TIE SHEET

PLOT DATE: 1/10/2014
 DRAWN BY: VTRANS
 CHECKED BY: VTRANS
 SHEET 15 OF 72



STEEL BEAM GUARDRAIL, GALVANIZED

STA. 202+68.74 TO 203+68.74, LT
 STA. 203+60.35 TO 204+04.90, RT
 STA. 205+53.07 TO 208+00.00, LT

HD STEEL BEAM GUARDRAIL, GALVANIZED

STA. 203+68.74 TO 203+93.74, LT
 STA. 204+04.90 TO 204+29.90, RT
 STA. 205+28.07 TO 205+53.07, LT
 STA. 205+91.74 TO 206+16.74, RT

STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS

STA. 206+16.74 TO 208+00.00, RT

ANCHOR FOR STEEL BEAM RAIL

STA. 203+60.35, RT

REMOVAL & DISPOSAL OF GUARDRAIL

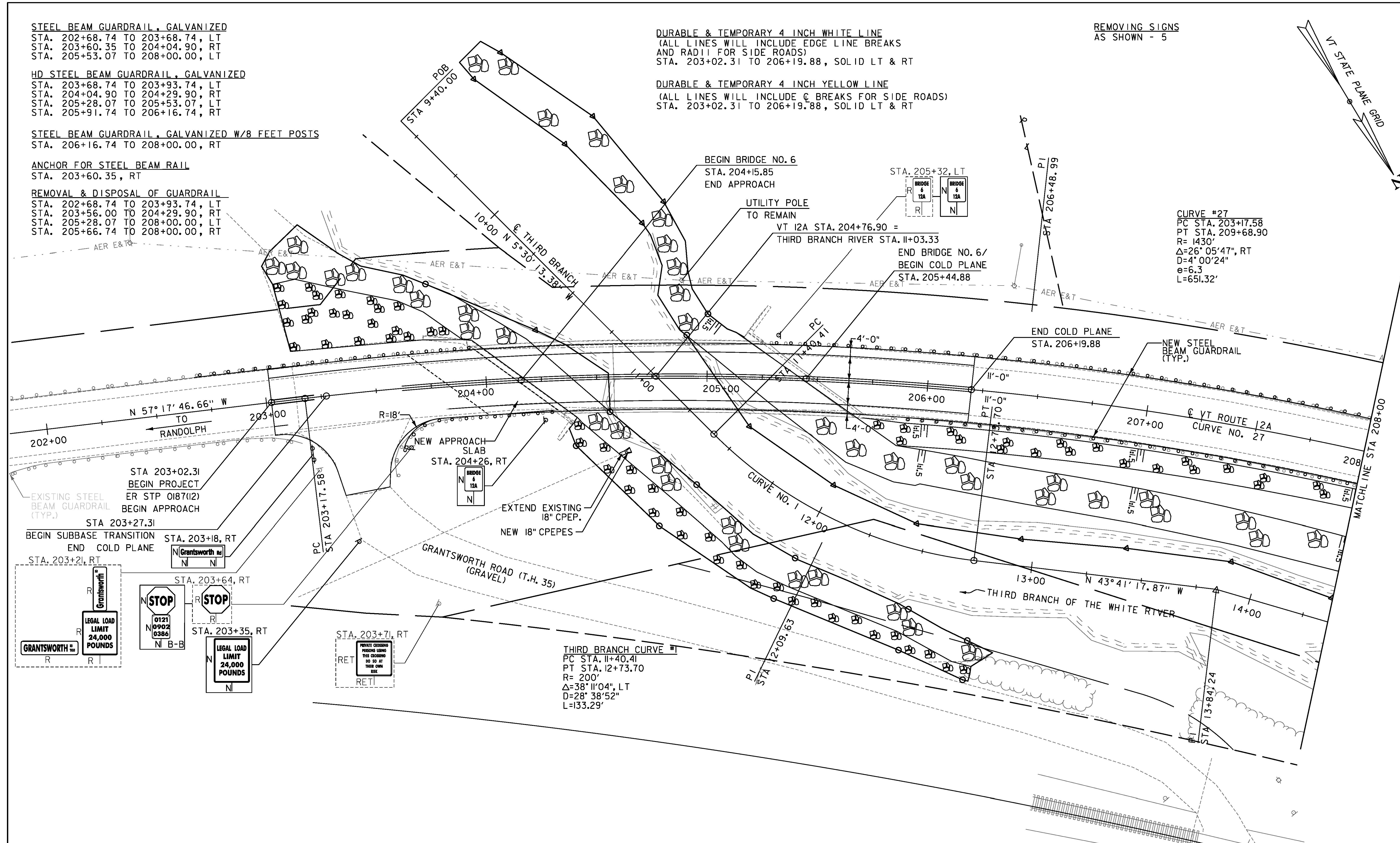
STA. 202+68.74 TO 203+93.74, LT
 STA. 203+56.00 TO 204+29.90, RT
 STA. 205+28.07 TO 208+00.00, LT
 STA. 205+66.74 TO 208+00.00, RT

DURABLE & TEMPORARY 4 INCH WHITE LINE
 (ALL LINES WILL INCLUDE EDGE LINE BREAKS
 AND RADI FOR SIDE ROADS)
 STA. 203+02.31 TO 206+19.88, SOLID LT & RT

DURABLE & TEMPORARY 4 INCH YELLOW LINE
 (ALL LINES WILL INCLUDE C BREAKS FOR SIDE ROADS)
 STA. 203+02.31 TO 206+19.88, SOLID LT & RT

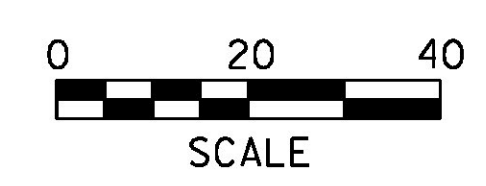
REMOVING SIGNS
 AS SHOWN - 5

CURVE #27
 PC STA. 203+17.58
 PT STA. 209+68.90
 R= 1430'
 Δ=26° 05' 47", RT
 D=4° 00' 24"
 e=6.3
 L=651.32'



LEGEND	
	= RIPRAP, HEAVY TYPE
	= STONE FILL TYPE II WITH GRUBBING MATERIAL

SIGN LEGEND	
R	= REMOVE
S	= SALVAGE
RET	= RETAIN



PROJECT NAME:	BRAINTREE	PLOT DATE:	1/10/2014
PROJECT NUMBER:	ER STP 0187(12)	DRAWN BY:	G. BURGMEIER
FILE NAME:	z12c526bdr.dgn	DESIGNED BY:	I. MAYNARD
PROJECT LEADER:	G. EDWARDS	CHECKED BY:	M. FOISY
LAYOUT SHEET 1			SHEET 16 OF 72

RELOCATE MAILBOX, SINGLE SUPPORT
STA. 209+08, LT

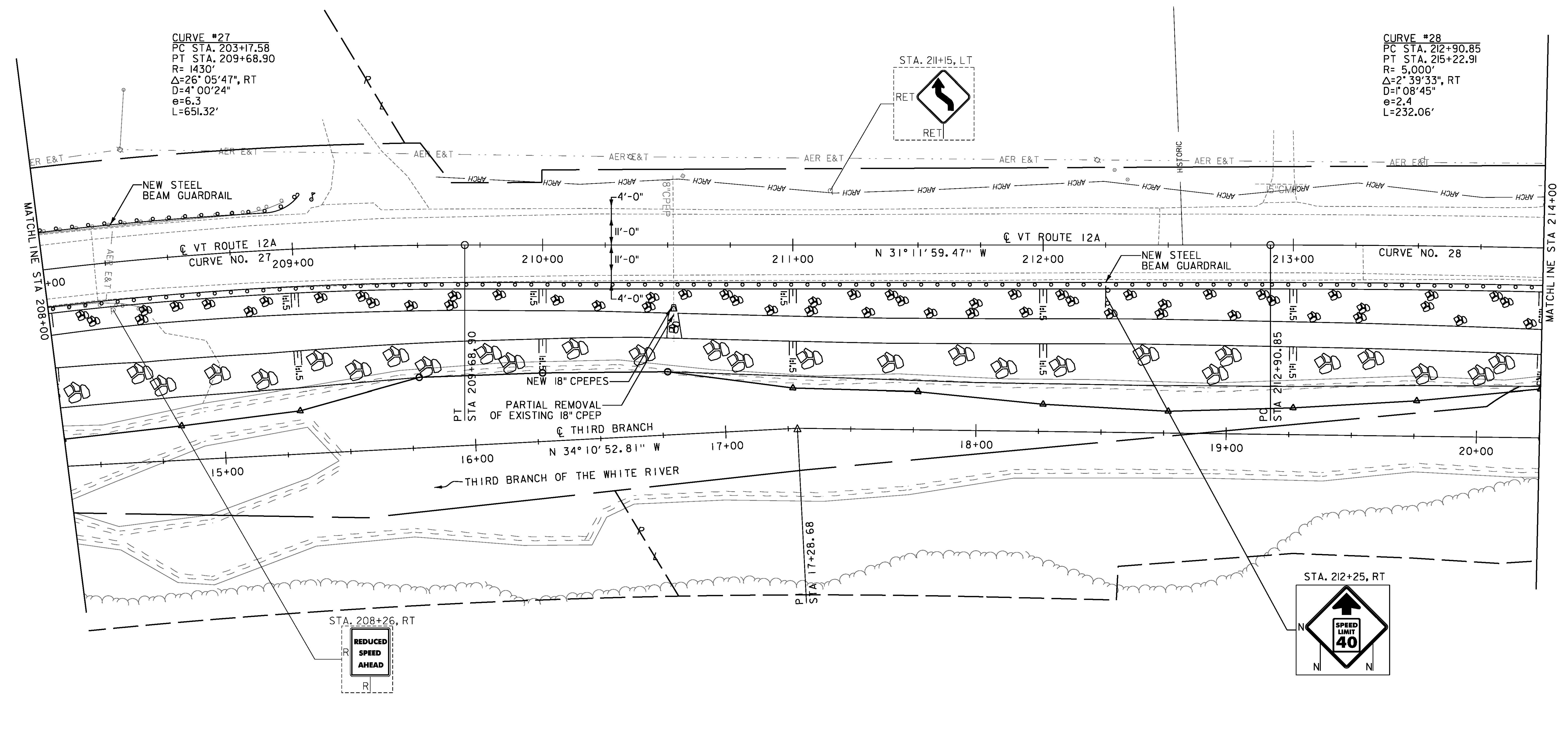
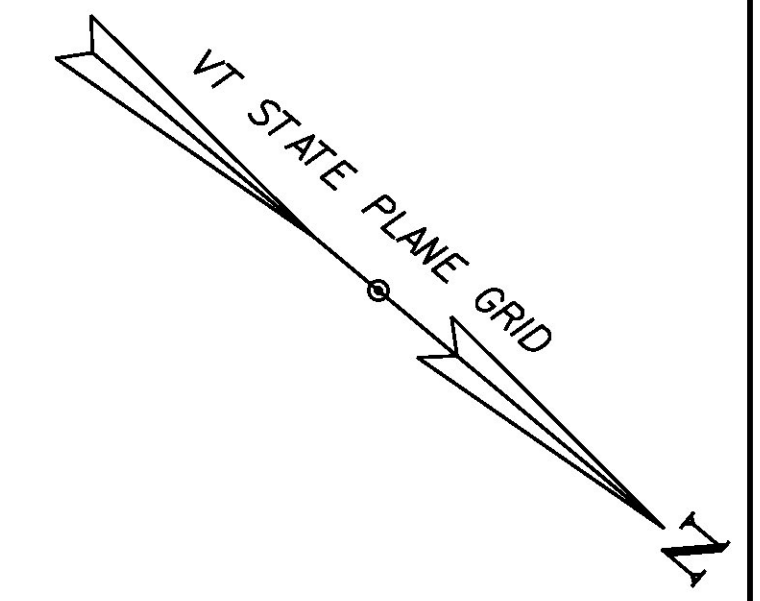
REMOVING SIGNS
AS SHOWN - I

STEEL BEAM GUARDRAIL, GALVANIZED
STA. 208+00.00 TO 209+03.07, LT

STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS
STA. 208+00.00 TO 214+00.00, RT

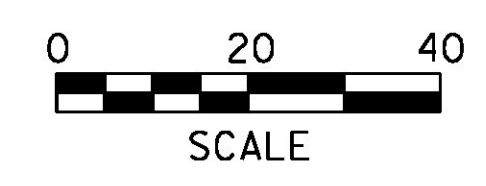
ANCHOR FOR STEEL BEAM RAIL
STA. 209+03.07, LT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 208+00.00 TO 208+99.48, LT
STA. 208+00.00 TO 208+42.78, RT



LEGEND	
	= RIPRAP, HEAVY TYPE
	= STONE FILL TYPE II WITH GRUBBING MATERIAL

SIGN LEGEND	
R	= REMOVE
S	= SALVAGE
RET	= RETAIN



PROJECT NAME: BRAINTREE	PLOT DATE: 1/10/2014
PROJECT NUMBER: ER STP 0187(12)	DRAWN BY: G. BURGMEIER
FILE NAME: z12c526bdr.dgn	CHECKED BY: M. FOISY
DESIGNED BY: I. MAYNARD	SHEET 17 OF 72
LAYOUT SHEET 2	

RELOCATE MAILBOX, SINGLE SUPPORT
STA. 215+95, LT

STEEL BEAM GUARDRAIL, GALVANIZED
STA. 216+21.37 TO 217+16.84, LT
STA. 217+66.74 TO 217+91.74, RT

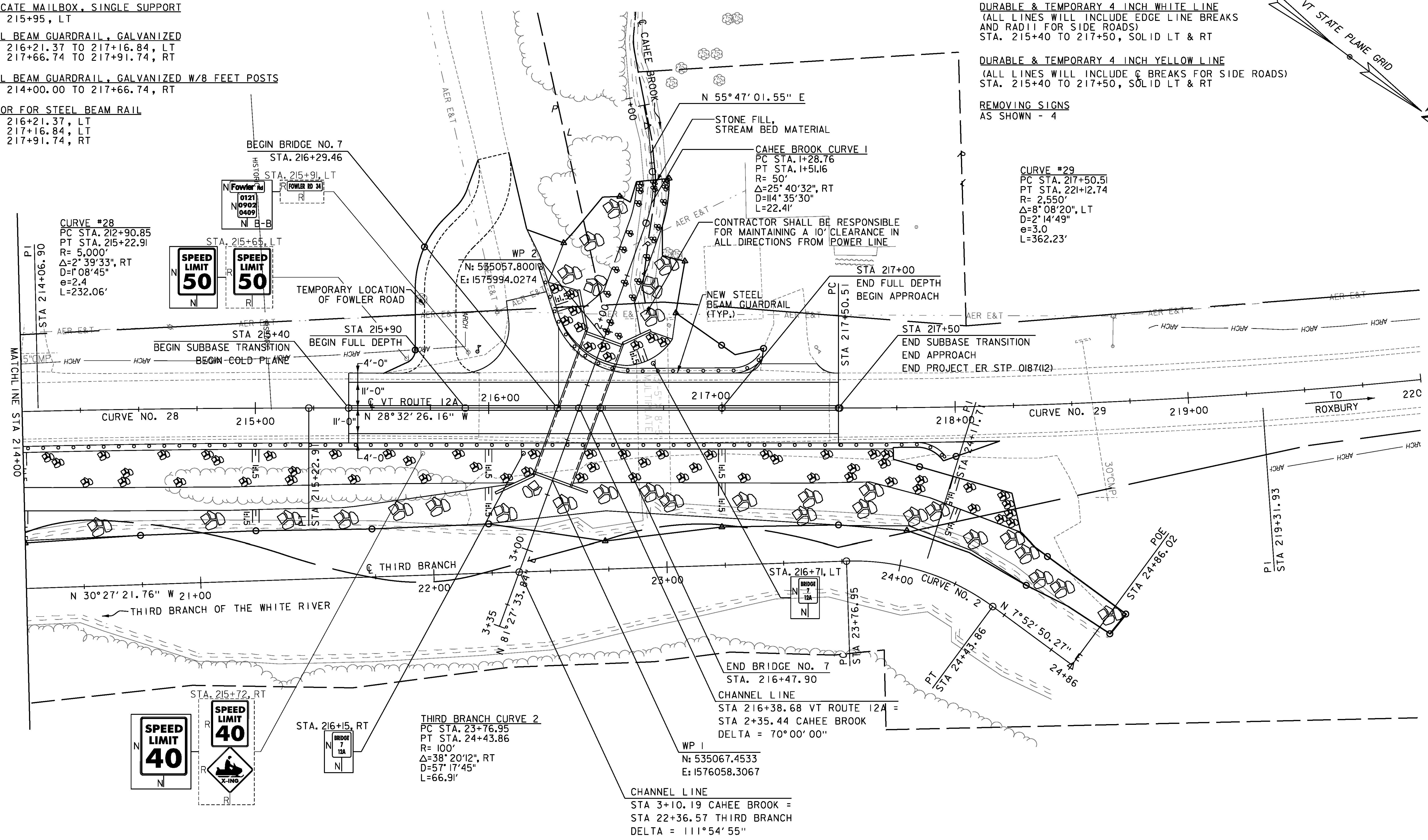
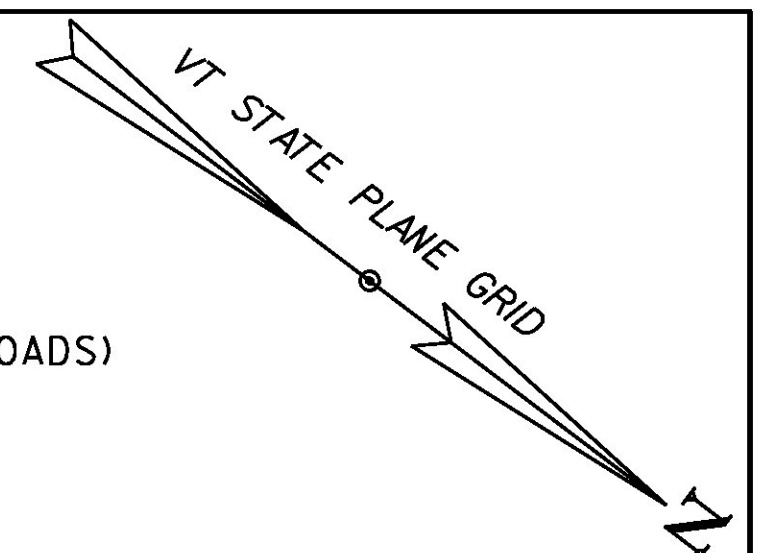
STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS
STA. 214+00.00 TO 217+66.74, RT

ANCHOR FOR STEEL BEAM RAIL
STA. 216+21.37, LT
STA. 217+16.84, LT
STA. 217+91.74, RT

DURABLE & TEMPORARY 4 INCH WHITE LINE
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 215+40 TO 217+50, SOLID LT & RT

DURABLE & TEMPORARY 4 INCH YELLOW LINE
(ALL LINES WILL INCLUDE C BREAKS FOR SIDE ROADS)
STA. 215+40 TO 217+50, SOLID LT & RT

REMOVING SIGNS
AS SHOWN - 4



CURVE #28
PC STA. 212+90.85
PT STA. 215+22.91
R= 5,000'
 $\Delta=2^{\circ}39'33''$, RT
D=1'08'45"
e=2.4
L=232.06'

SPEED LIMIT 50
SPEED LIMIT 50

CAHEE BROOK CURVE 1
PC STA. 1+28.76
PT STA. 1+51.16
R= 50'
 $\Delta=25^{\circ}40'32''$, RT
D=114'35'30"
L=22.41'

CURVE #29
PC STA. 217+50.51
PT STA. 221+12.74
R= 2,550'
 $\Delta=8^{\circ}08'20''$, LT
D=2'14'49"
e=3.0
L=362.23'

THIRD BRANCH CURVE 2
PC STA. 23+76.95
PT STA. 24+43.86
R= 100'
 $\Delta=38^{\circ}20'12''$, RT
D=57'17'45"
L=66.91'

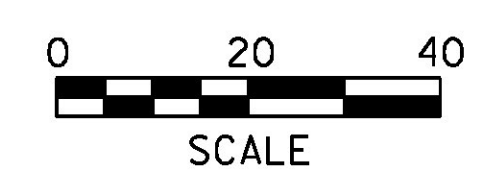
SPEED LIMIT 40
SPEED LIMIT 40

LEGEND

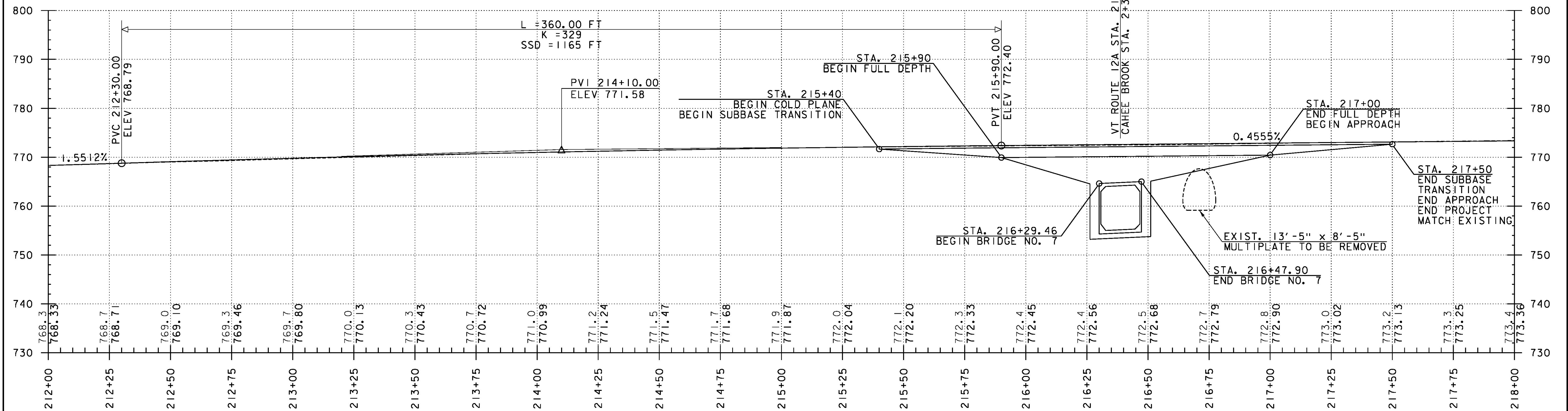
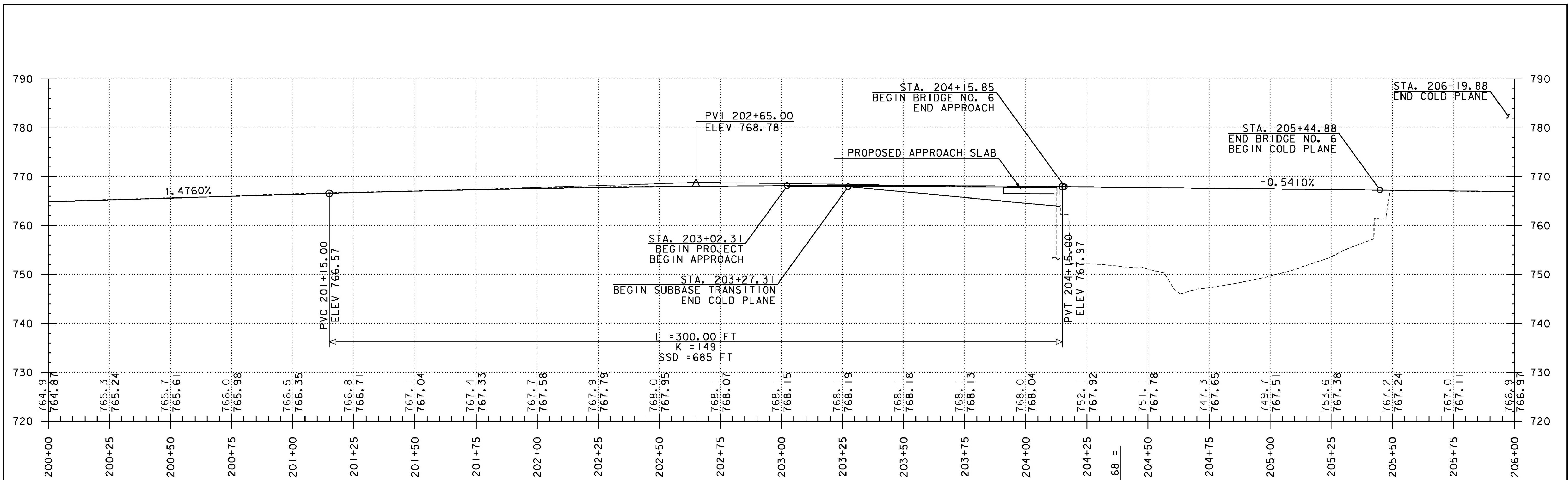
- = RIPRAP, HEAVY TYPE
- = STONE FILL TYPE II WITH GRUBBING MATERIAL
- = SPECIAL PROVISION (STONE FILL, STREAM BED MATERIAL)

SIGN LEGEND

- R = REMOVE
- S = SALVAGE
- RET = RETAIN



PROJECT NAME: BRAINTREE	PLOT DATE: 1/10/2014
PROJECT NUMBER: ER STP 0187(12)	DRAWN BY: G. BURGMIEER
FILE NAME: z12c526bdr.dgn	DESIGNED BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: M. FOISY
LAYOUT SHEET 3	SHEET 18 OF 72



PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(I2)
FILE NAME:	z12c526pro.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
ROUTE 12A PROFILE	
PLOT DATE:	1/10/2014
DRAWN BY:	G. BARRETT
CHECKED BY:	M. FOISY
SHEET	19 OF 72

HORIZONTAL: 0 20 40
 VERTICAL: 0 10 20
 SCALE IN FEET

SOIL CLASSIFICATION

AASHTO

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

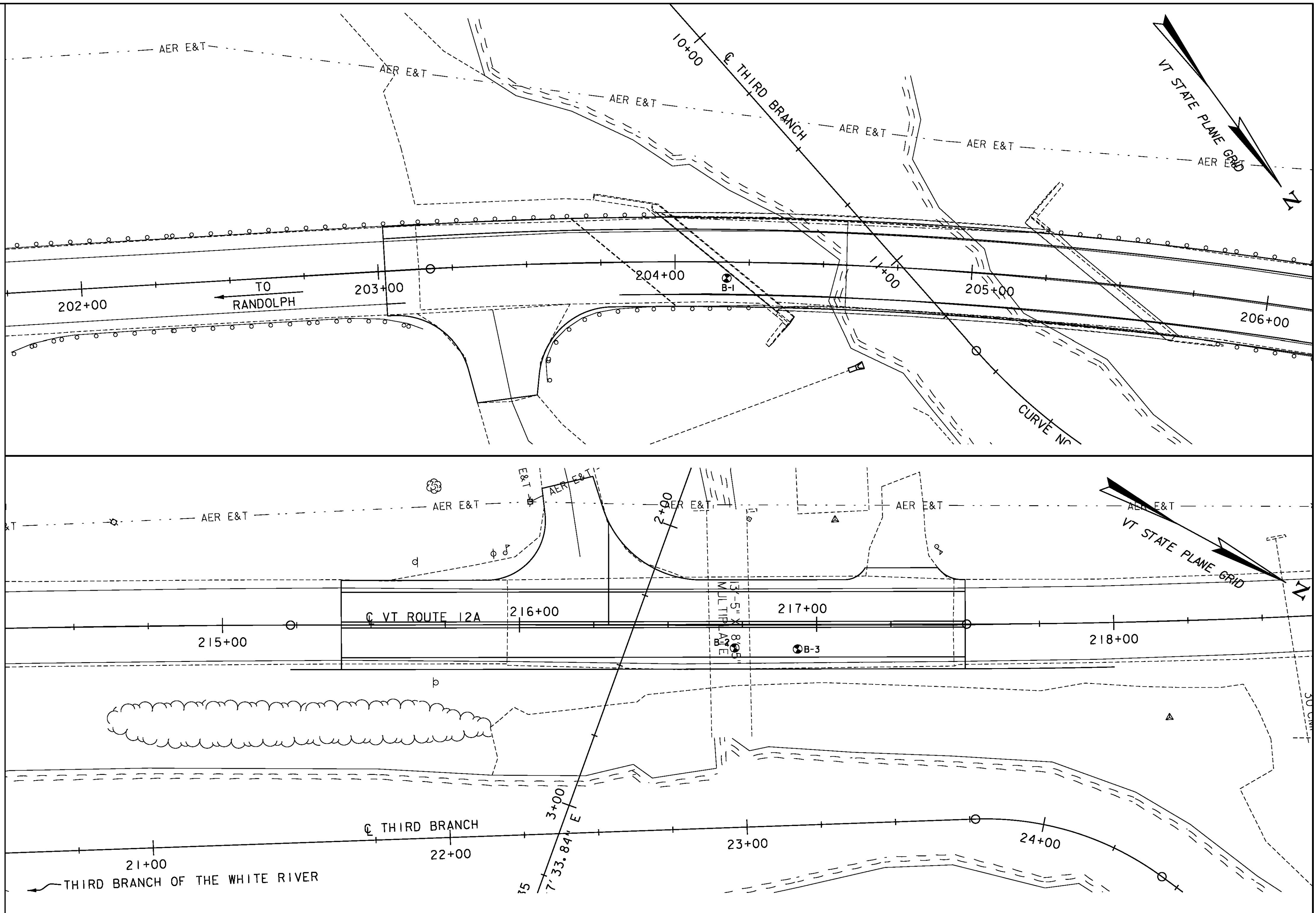
COMMONLY USED SYMBOLS

- ▼ Water Elevation
- ⊕ Standard Penetration Boring
- ⊗ Auger Boring
- ⊙ Rod Sounding
- S Sample
- N Standard Penetration Test
- Blow Count Per Foot For:
- 2" O.D. Sampler
- 1 3/8" I.D. Sampler
- Hammer Weight Of 140 Lbs.
- Hammer Fall Of 30"
- VS Field Vane Shear Test
- US Undisturbed Soil Sample
- B Blast
- DC Diamond Core
- MD Mud Drill
- WA Wash Ahead
- HSA Hollow Stem Auger
- AX Core Size 1 1/8"
- BX Core Size 1 5/8"
- NX Core Size 2 1/8"
- M Double Tube Core Barrel Used
- LL Liquid Limit
- PL Plastic Limit
- PI Plasticity Index
- NP Non Plastic
- w Moisture Content (Dry Wgt. Basis)
- D Dry
- M Moist
- MTW Moist To Wet
- W Wet
- Sat Saturated
- Bo Boulder
- Gr Gravel
- Sa Sand
- SI Silt
- Cl Clay
- HP Hardpan
- Le Ledge
- NLTD No Ledge To Depth
- CNPF Can Not Penetrate Further
- TLOB Top of Ledge Or Boulder
- NR No Recovery
- Rec. Recovery
- %Rec. Percent Recovery
- RQD Rock Quality Designation
- CBR California Bearing Ratio
- < Less Than
- > Greater Than
- R Refusal (N > 100)
- VTSPG NAD83 - See Note 7

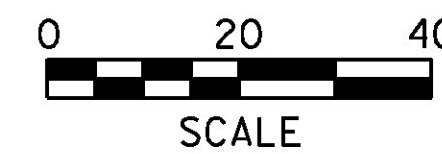
COLOR			
b/k	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mitc	Multicolored
or	Orange		

DEFINITIONS (AASHTO)

- BEDROCK (LEDGE)** - Rock in its native location of indefinite thickness.
- BOULDER** - A rock fragment with an average dimension > 12 inches.
- COBBLE** - Rock fragments with an average dimension between 3 and 12 inches.
- GRAVEL** - Rounded particles of rock < 3" and > 0.075" (#10 sieve).
- SAND** - Particles of rock < 0.075" (#10 sieve) and > 0.0025" (#200 sieve).
- SILT** - Soil < 0.0025" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.
- CLAY** - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.
- VARVED** - Alternate layers of silt and clay.
- HARDPAN** - Extremely dense soil, cemented layer, not softened when wet.
- MUCK** - Soft organic soil (containing > 10% organic material).
- MOISTURE CONTENT** - Weight of water divided by dry weight of soil.
- FLOWING SAND** - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
- STRIKE** - Angle from magnetic north to line of intersection of bed with a horizontal plane.
- DIP** - Inclination of bed with a horizontal plane.



BORING LAYOUT



LEGEND:



GENERAL NOTES

- The subsurface explorations shown herein were made in November 2012 by the Agency.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.
- Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

BORING CHART

BORING NUMBER	SURVEY STATION	OFFSET	BEDROCK ELEVATION
B-1	204+17.4	5.4' RT	N/A
B-2	216+72.4	7.9' RT	N/A
B-3	216+93.6	8.3' RT	N/A

PROJECT NAME: BRAINTREE
PROJECT NUMBER: ER STP 0187(12)

FILE NAME: z12c526borplan.dgn
PROJECT LEADER: G. EDWARDS
DESIGNED BY: I. MAYNARD
BORING INFORMATION SHEET

PLOT DATE: 1/10/2014
DRAWN BY: G. BURMEIER
CHECKED BY: M. FOISY
SHEET 20 OF 72



BOREHOLE LOG B-1

CLIENT Vermont Agency of Transportation STP 0187(10)SC PROJECT No. 195310811
 LOCATION Repair Site D-4-12A-4, VT Route 12A, Braintree, Vermont EXPLORATION No. B-1
 EXPLORATION DATE 11/19/2012 to 11/19/2012 WATER LEVEL NE immediately after drilling DATUM NAVD 88

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					PID Reading (PPM)	Undrained Shear Strength - tsf							
					TYPE	NUMBER	RECOVERY	SPT blows / 6"	SPT N-Value		1	2	3	4				
0	767.7																	
	767.2	6.5 Inches of Asphalt Pavement (0.0 ft - 0.54 ft)																
		Dense, brown, coarse to fine SAND and gravel, little silt (A-1-b)			SS	1	13		25	41								
	765.7	Dense, brown, coarse to fine SAND and gravel, little silt (A-1-b)			SS	2	15		25	34								
	763.7	Dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)			SS	3	15		17	43								
5	761.7	Very dense, brown, coarse to fine SAND and gravel, little silt (A-1-a)			SS	4	16		22	57								
	759.7	Very dense, brown, coarse to fine SAND and gravel, little silt (A-1-a)			SS	5	16		35	71								
	757.7	Very dense, brown, GRAVEL and coarse to fine SAND, little silt (A-1-a)			SS	6	16		25	48								
	755.7	-FILL-																
15	752.7	Dense, grey, coarse to fine SAND and gravel, little silt (A-1-a)			SS	7	9		23	34								
	750.7								15									
20	748.7	Auger and sampler refusal at 19.0 feet below the ground surface. Possible pile cap.			SS	8	0		50/0"	R								

Driller: Mikes Boring and Coring, Mobil B-50 truck mounted rig with safety hammer with cathead and rope, 3.25 inch ID HSA; Supervisor: Bruce Bline (Stantec)

Unconfined Compression Test
 Field Vane Test Remolded
 Pocket Penetrometer / Torvane
 Continued Next Page

BOREHOLE LOG B-1

CLIENT Vermont Agency of Transportation STP 0187(10)SC PROJECT No. 195310811
 LOCATION Repair Site D-4-12A-4, VT Route 12A, Braintree, Vermont EXPLORATION No. B-1
 EXPLORATION DATE 11/19/2012 to 11/19/2012 WATER LEVEL NE immediately after drilling DATUM NAVD 88

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					PID Reading (PPM)	Undrained Shear Strength - tsf							
					TYPE	NUMBER	RECOVERY	SPT blows / 6"	SPT N-Value		1	2	3	4				
20																		
		Note: AASHTO classification included in parenthesis.																
		LOCATION Station: 204+17.4 Offset: 5.4 RT																
		VTSPG NAD83 N 534075.5407 ft E 1576744.9086 ft																
30																		
35																		
40																		

Driller: Mikes Boring and Coring, Mobil B-50 truck mounted rig with safety hammer with cathead and rope, 3.25 inch ID HSA; Supervisor: Bruce Bline (Stantec)

Unconfined Compression Test
 Field Vane Test Remolded
 Pocket Penetrometer / Torvane

PROJECT NAME: BRAINTREE
 PROJECT NUMBER: ER STP 0187(12)

FILE NAME: z12c526bor.dgn PLOT DATE: 1/10/2014
 PROJECT LEADER: G. EDWARDS DRAWN BY: G. BURGMEIER
 DESIGNED BY: I. MAYNARD CHECKED BY: M. FOISY
BORING LOG SHEET 1 SHEET 21 OF 72



BOREHOLE LOG B-2

CLIENT Vermont Agency of Transportation STP 0187(10)SC PROJECT No. 195310811
 LOCATION Repair Site D-4-12A-4, VT Route 12A, Braintree, Vermont EXPLORATION No. B-2
 EXPLORATION DATE 11/19/2012 to 11/19/2012 WATER LEVEL 15 ft immediately after drilling DATUM NAVD 88

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					Undrained Shear Strength - tsf									
					TYPE	NUMBER	RECOVERY	SPT blows / 6"	SPT N-Value	PID Reading (PPM)	1	2	3	4					
0	772.5	8 Inches of Asphalt Pavement (0.0 ft - 0.7 ft)																	
	771.8	Dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)																	
	770.5				SS	1	15		27 24 22 18	46									
	767.5	Medium dense, brown, GRAVEL and coarse to fine sand, trace silt (A-1-a), with asphalt particles			SS	2	15		12 7 7 15	14									
	765.5	-FILL-																	
	763.5	Medium dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)			SS	3	16		7 5 7 6	12									
	761.5																		
	758.5	Very dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)			SS	4	18		39 31 22 18	53									
	756.5	Very dense, brown, coarse to fine SAND and gravel, little silt (A-1-a)			SS	5	18		28 54 67 42	121									
	754.5	-GLACIAL OUTWASH-																	
	753.5	Medium dense, brown, coarse to fine SAND and gravel, little silt (A-1-a)							14 14										
20		Driller: Mikes Boring and Coring, Mobil B-50 truck mounted rig with safety hammer with cathead and rope, 3.25 inch ID HSA; Supervisor: Bruce Bline (Stantec)					<input type="checkbox"/> Unconfined Compression Test <input type="checkbox"/> Field Vane Test <input checked="" type="checkbox"/> Remolded <input checked="" type="checkbox"/> Pocket Penetrometer / Torvane Continued Next Page												

BOREHOLE LOG B-2

CLIENT Vermont Agency of Transportation STP 0187(10)SC PROJECT No. 195310811
 LOCATION Repair Site D-4-12A-4, VT Route 12A, Braintree, Vermont EXPLORATION No. B-2
 EXPLORATION DATE 11/19/2012 to 11/19/2012 WATER LEVEL 15 ft immediately after drilling DATUM NAVD 88

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					Undrained Shear Strength - tsf									
					TYPE	NUMBER	RECOVERY	SPT blows / 6"	SPT N-Value	PID Reading (PPM)	1	2	3	4					
	751.5				SS	6	16		14 18	28									
	748.5	Medium dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)			SS	7	20		4 7 13 11	14									
	746.5																		
	743.5	Medium dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)			SS	8	20		10 7 18 20	25									
	741.5	-GLACIAL OUTWASH-																	
	738.5	Dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)			SS	9	11		32 19 22 27	41									
	736.5	Boring terminated at 36 feet below ground surface. No refusal.																	
		Driller: Mikes Boring and Coring, Mobil B-50 truck mounted rig with safety hammer with cathead and rope, 3.25 inch ID HSA; Supervisor: Bruce Bline (Stantec)					<input type="checkbox"/> Unconfined Compression Test <input type="checkbox"/> Field Vane Test <input checked="" type="checkbox"/> Remolded <input checked="" type="checkbox"/> Pocket Penetrometer / Torvane Continued Next Page												

PROJECT NAME: BRAINTREE
 PROJECT NUMBER: ER STP 0187(12)
 FILE NAME: z12c526bor.dgn PLOT DATE: 1/10/2014
 PROJECT LEADER: G. EDWARDS DRAWN BY: G. BURGMIEIER
 DESIGNED BY: I. MAYNARD CHECKED BY: M. FOISY
BORING LOG SHEET 2 SHEET 22 OF 72



BOREHOLE LOG B-2

CLIENT Vermont Agency of Transportation STP 0187(10)SC PROJECT No. 195310811
 LOCATION Repair Site D-4-12A-4, VT Route 12A, Braintree, Vermont EXPLORATION No. B-2
 EXPLORATION DATE 11/19/2012 to 11/19/2012 WATER LEVEL 15 ft immediately after drilling DATUM NAVD 88

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					PID Reading (PPM)	Undrained Shear Strength - tsf								
					TYPE	NUMBER	RECOVERY	SPT blows / 6"	SPT N-Value		1	2	3	4					
40		LOCATION Station: 216+72.4 Offset: 7.9 RT VTSPG NAD83 N 535077.5060 ft E 1576008.4746 ft																	
45																			
50																			
55																			
60																			

Driller: Mikes Boring and Coring, Mobil B-50 truck mounted rig with safety hammer with cathead and rope, 3.25 inch ID HSA; Supervisor: Bruce Bline (Stantec)

B-2 3 of 3

BOREHOLE LOG B-3

CLIENT Vermont Agency of Transportation STP 0187(10)SC PROJECT No. 195310811
 LOCATION Repair Site D-4-12A-4, VT Route 12A, Braintree, Vermont EXPLORATION No. B-3
 EXPLORATION DATE 11/29/2012 to 11/20/2012 WATER LEVEL 15 ft immediately after drilling DATUM NAVD 88

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					PID Reading (PPM)	Undrained Shear Strength - tsf								
					TYPE	NUMBER	RECOVERY	SPT blows / 6"	SPT N-Value		1	2	3	4					
0	772.4	6.5 Inches of Asphalt Pavement (0.0 ft - 0.54 ft)																	
	771.9	Very dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)			SS	1	15	44	62										
	770.4																		
5	767.4	Medium dense, brown, coarse to fine SAND and gravel, little silt (A-1-a)			SS	2	12	13	21										
	765.4	-FILL-																	
	763.4	Dense, brown, coarse to fine SAND and gravel, little silt (A-1-a)			SS	3	6	9	42										
	761.4																		
	758.4	Medium dense, brown, coarse to fine SAND and gravel, trace silt (A-1-a)			SS	4	11	2	21										
	756.4	Dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)			SS	5	16	9	54										
	754.4	-GLACIAL OUTWASH-																	
	753.4	Dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)						20											
20								19											

Driller: Mikes Boring and Coring, Mobil B-50 truck mounted rig with safety hammer with cathead and rope, 3.25 inch ID HSA; Supervisor: Bruce Bline (Stantec)

B-3 1 of 3

PROJECT NAME: BRAINTREE
 PROJECT NUMBER: ER STP 0187(12)
 FILE NAME: z12c526bor.dgn PLOT DATE: 1/10/2014
 PROJECT LEADER: G. EDWARDS DRAWN BY: G. BURGMEIER
 DESIGNED BY: I. MAYNARD CHECKED BY: M. FOISY
BORING LOG SHEET 3 SHEET 23 OF 72



BOREHOLE LOG

B-3

CLIENT Vermont Agency of Transportation STP 0187(10)SC PROJECT No. 195310811
 LOCATION Repair Site D-4-12A-4, VT Route 12A, Braintree, Vermont EXPLORATION No. B-3
 EXPLORATION DATE 11/29/2012 to 11/20/2012 WATER LEVEL 15 ft immediately after drilling DATUM NAVD 88

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					PID Reading (PPM)	Undrained Shear Strength - tsf			
					TYPE	NUMBER	RECOVERY	SPT blows / 6"	SPT N-Value		1	2	3	4
20	751.4	Note: driller added mud to augers before taking sample at 24 feet.			SS	6	14	18	37					
25	748.4	Very dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)			SS	7	3	10	53					
25	746.4						25							
30	743.4	Medium dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)			SS	8	12	11	24					
30	741.4	-GLACIAL OUTWASH-					12							
35	738.4	Dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)			SS	9	14	20	19					
35	736.4						15							
40	733.4	Medium dense, brown, GRAVEL and coarse to fine sand, little silt (A-1-a)					14							
40	733.4						10							

Driller: Mikes Boring and Coring, Mobil B-50 truck mounted rig with safety hammer with cathead and rope, 3.25 inch ID HSA; Supervisor: Bruce Bline (Stantec)

△ Unconfined Compression Test
 □ Field Vane Test ■ Remolded
 ✕ Pocket Penetrometer / Torvane
 Continued Next Page

BOREHOLE LOG

B-3

CLIENT Vermont Agency of Transportation STP 0187(10)SC PROJECT No. 195310811
 LOCATION Repair Site D-4-12A-4, VT Route 12A, Braintree, Vermont EXPLORATION No. B-3
 EXPLORATION DATE 11/29/2012 to 11/20/2012 WATER LEVEL 15 ft immediately after drilling DATUM NAVD 88

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					PID Reading (PPM)	Undrained Shear Strength - tsf			
					TYPE	NUMBER	RECOVERY	SPT blows / 6"	SPT N-Value		1	2	3	4
40	731.4	-GLACIAL OUTWASH-			SS	10	13	11	21					
45	728.4	Medium dense, brown, silty fine SAND (A3)			SS	11	16	7	18					
45	726.4						8							
45	726.4	Boring terminated at 46 feet below ground surface. No refusal.					10							
50		Note: AASHTO classification included in parenthesis.												
50		LOCATION Station: 216+93.6 Offset: 8.3 RT												
50		VTSPG NAD83 N 535103.8967 ft E 1576012.6156 ft												
55														
60														

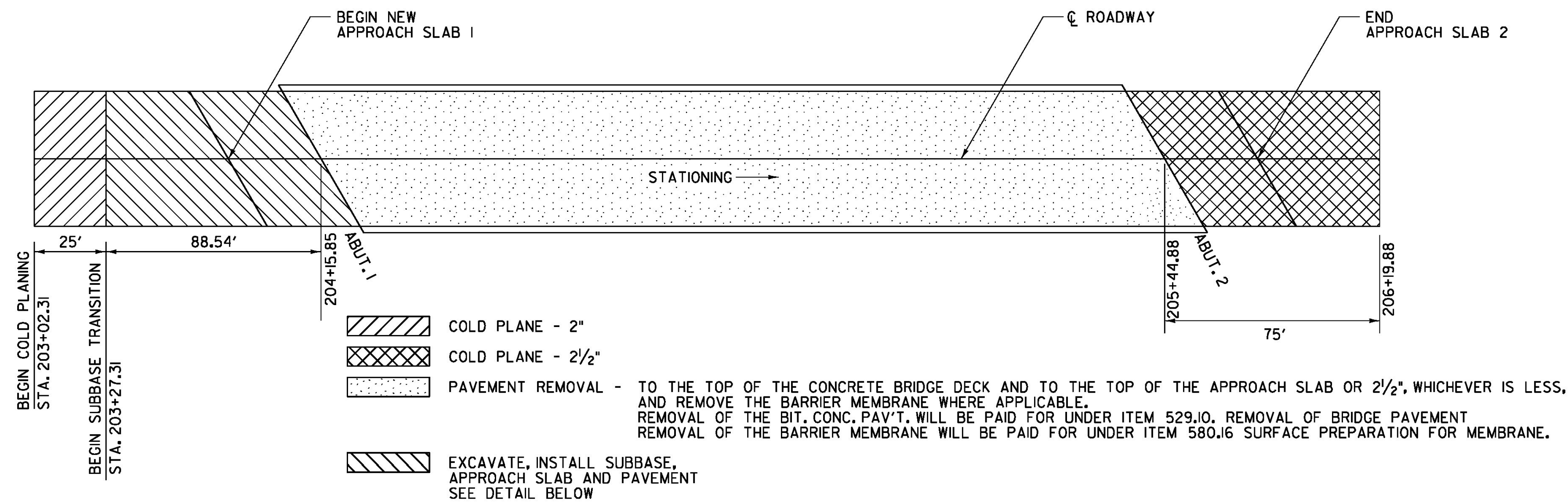
Driller: Mikes Boring and Coring, Mobil B-50 truck mounted rig with safety hammer with cathead and rope, 3.25 inch ID HSA; Supervisor: Bruce Bline (Stantec)

△ Unconfined Compression Test
 □ Field Vane Test ■ Remolded
 ✕ Pocket Penetrometer / Torvane

PROJECT NAME: BRAINTREE
 PROJECT NUMBER: ER STP 0187(12)

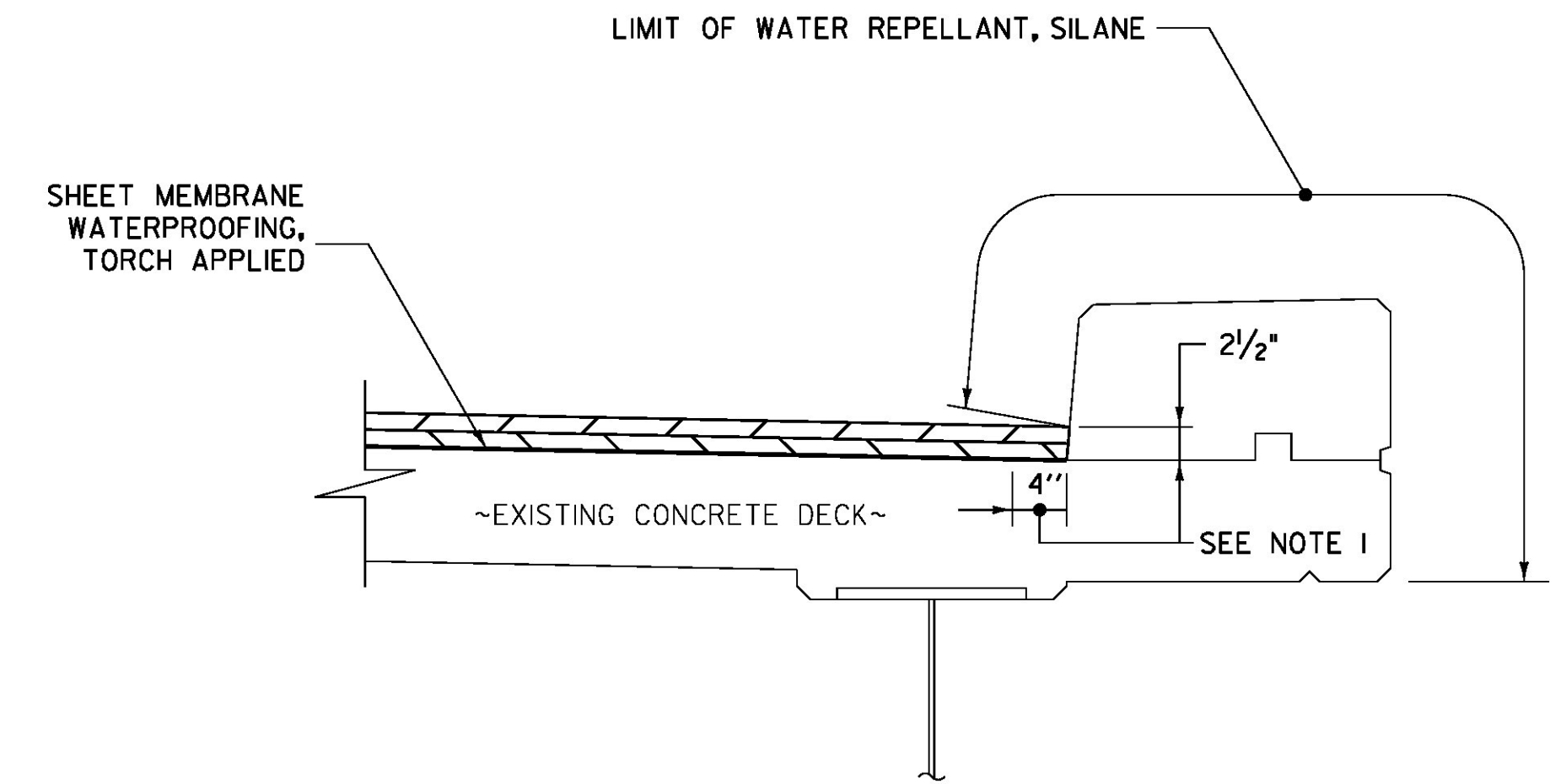
FILE NAME: z12c526bor.dgn PLOT DATE: 1/10/2014
 PROJECT LEADER: G. EDWARDS DRAWN BY: G. BURGMEIER
 DESIGNED BY: I. MAYNARD CHECKED BY: M. FOISY
BORING LOG SHEET 4 SHEET 24 OF 72





BRIDGE NO. 6 BITUMINOUS CONCRETE REMOVAL PLAN

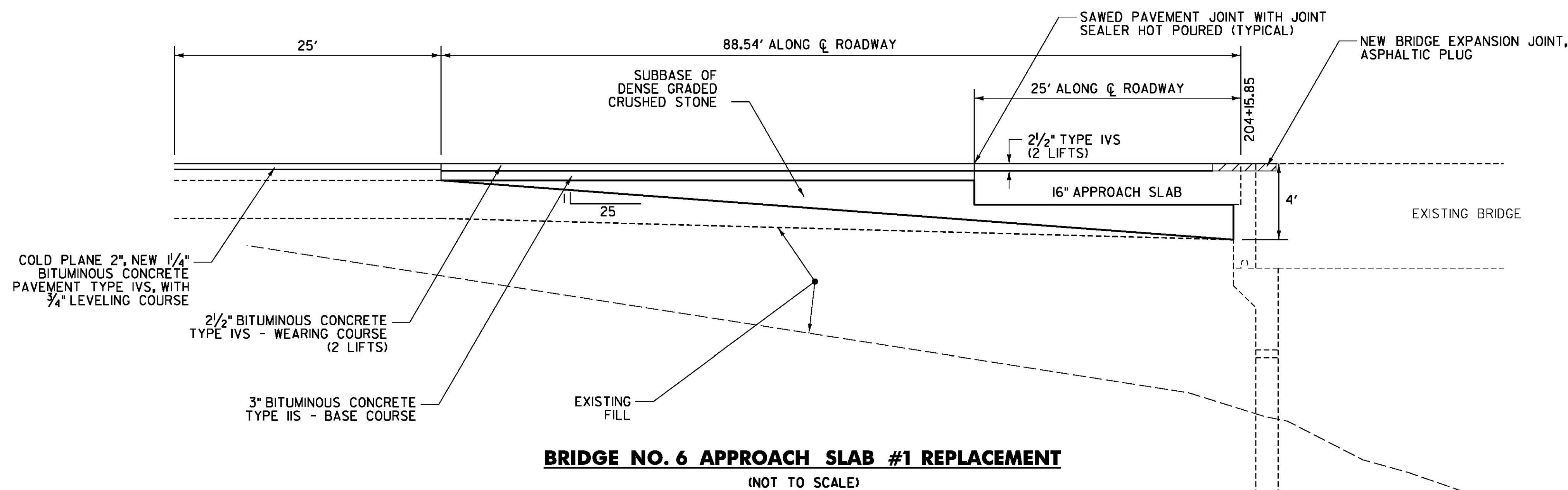
NOT TO SCALE



DETAIL A
NOT TO SCALE

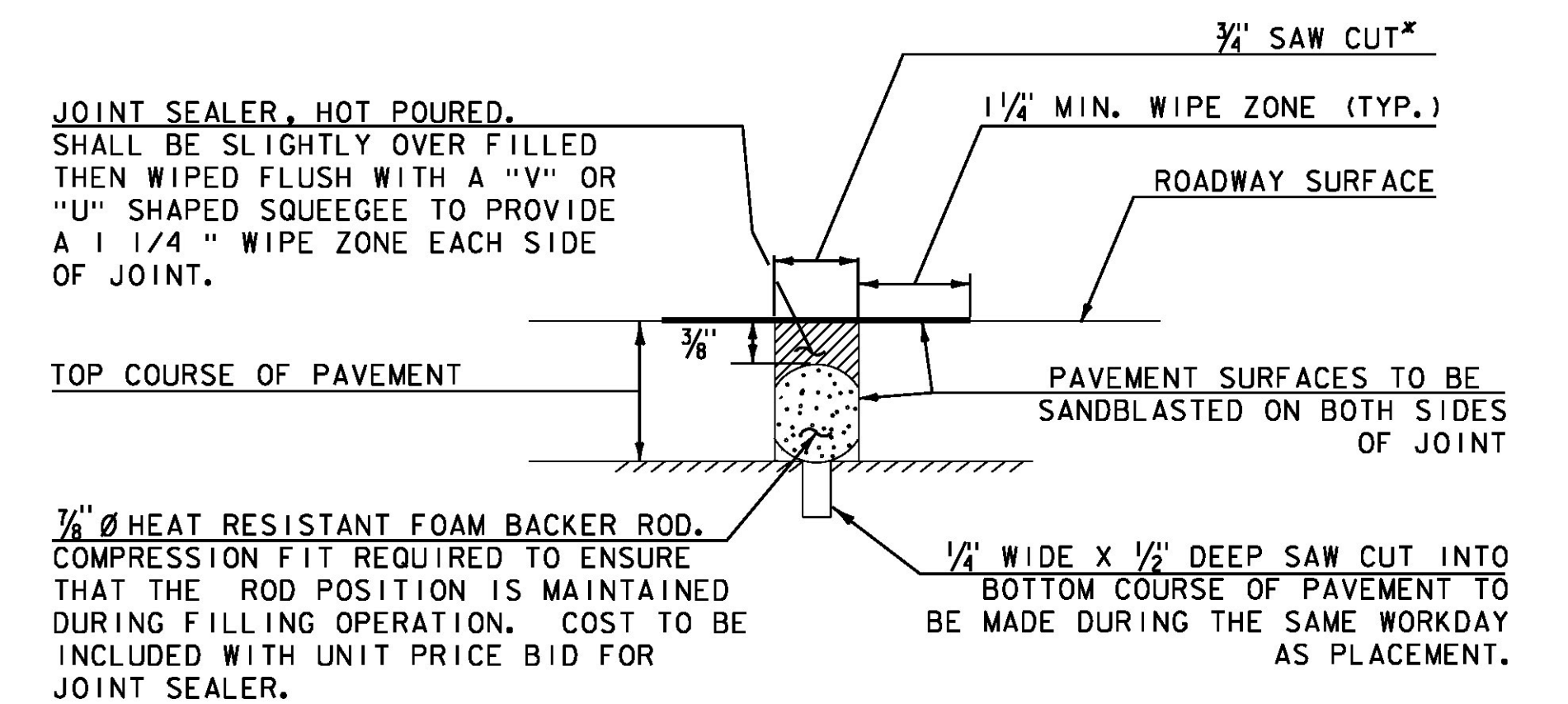
DETAIL A NOTES:

1. INDICATES AREA ALONG DECK AND UP FACE OF CURB FOR PLACEMENT OF TWO COATS OF POLYURETHANE MEMBRANE.
2. POLYURETHANE MEMBRANE AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 519.20, SHEET MEMBRANE WATERPROOFING, TORCH APPLIED.
3. SHEET MEMBRANE WATERPROOFING SHALL EXTEND TO FACE OF CURB AS SHOWN.
4. IN ADDITION TO THE REQUIREMENTS OF SUBSECTION 519.04, BLAST CLEAN 2 1/2" UP THE FACE OF CURB PRIOR TO PLACING THE MEMBRANE, INCIDENTAL TO ITEM 519.20, SHEET MEMBRANE WATERPROOFING, TORCH APPLIED.



BRIDGE NO. 6 APPROACH SLAB #1 REPLACEMENT

(NOT TO SCALE)

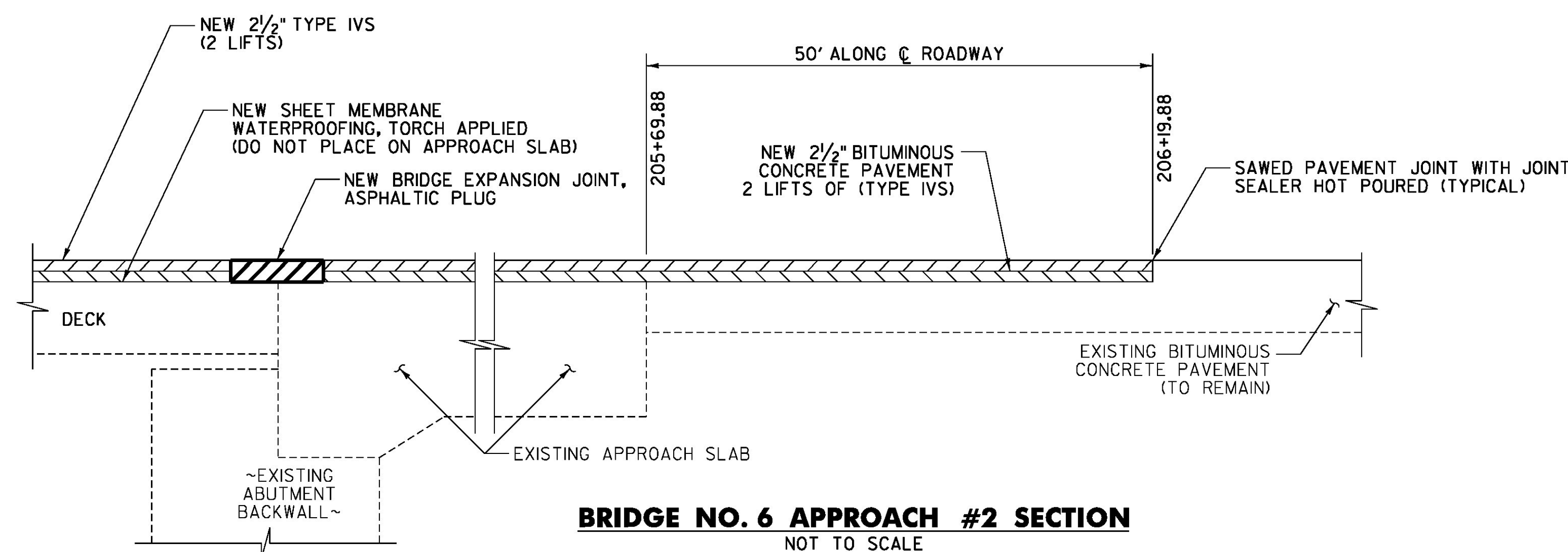


NOTE: PLACE JOINT SEALER, HOT POURED AT THE BEGINNING OF APPROACH SLABS.

SAWED PAVEMENT JOINT DETAIL

N. T. S.

* JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER. FOR LOCATION REQUIRED, REFER TO SHEET 26.



BRIDGE NO. 6 APPROACH #2 SECTION

NOT TO SCALE



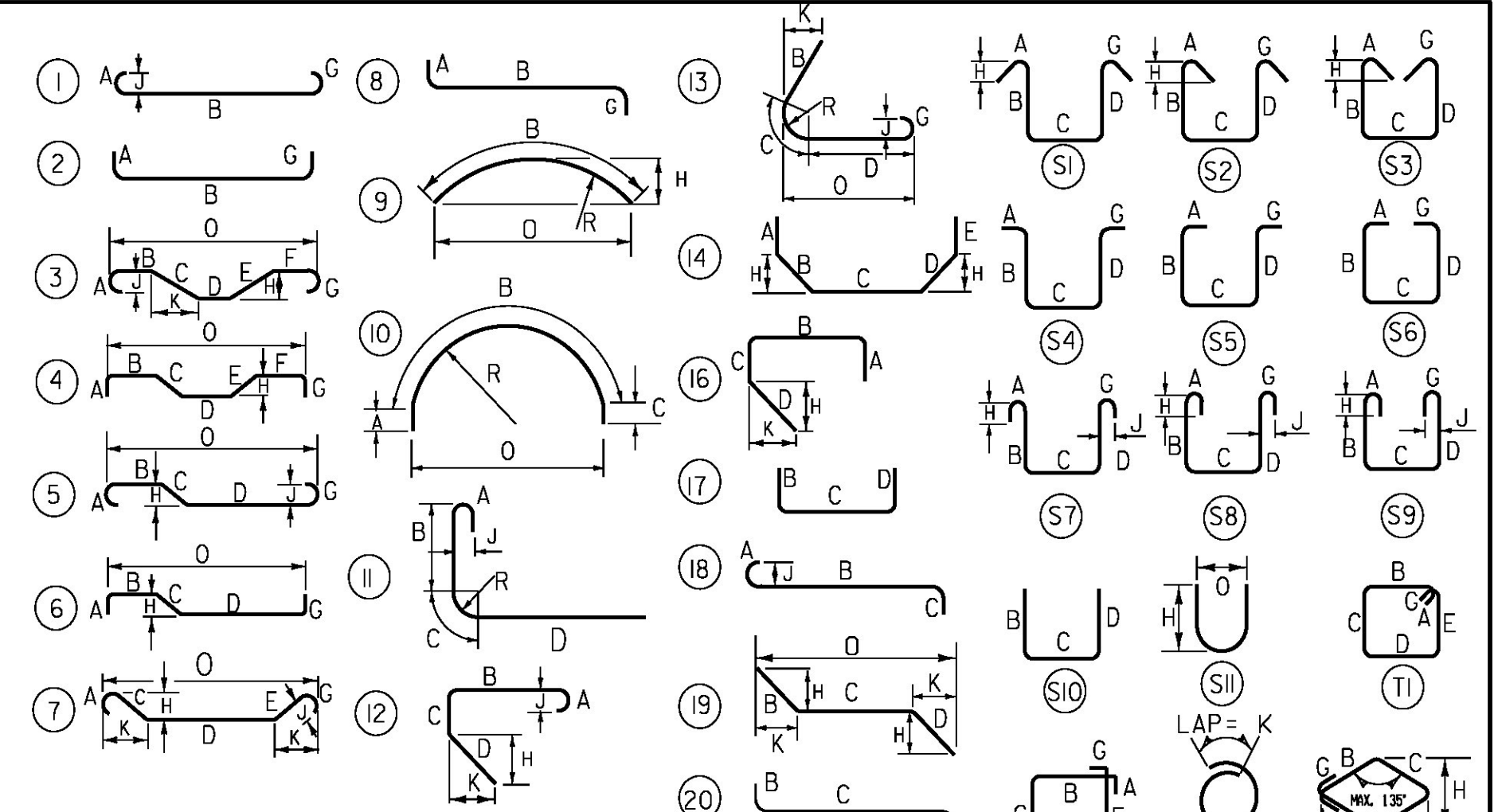
PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526+yp.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	J. HUNGERFORD
BRIDGE 6 DETAIL SHEET 1	
PLOT DATE:	1/10/2014
DRAWN BY:	J. HUNGERFORD
CHECKED BY:	G. BOGUE
SHEET	25 OF 72

REINFORCING STEEL SCHEDULE

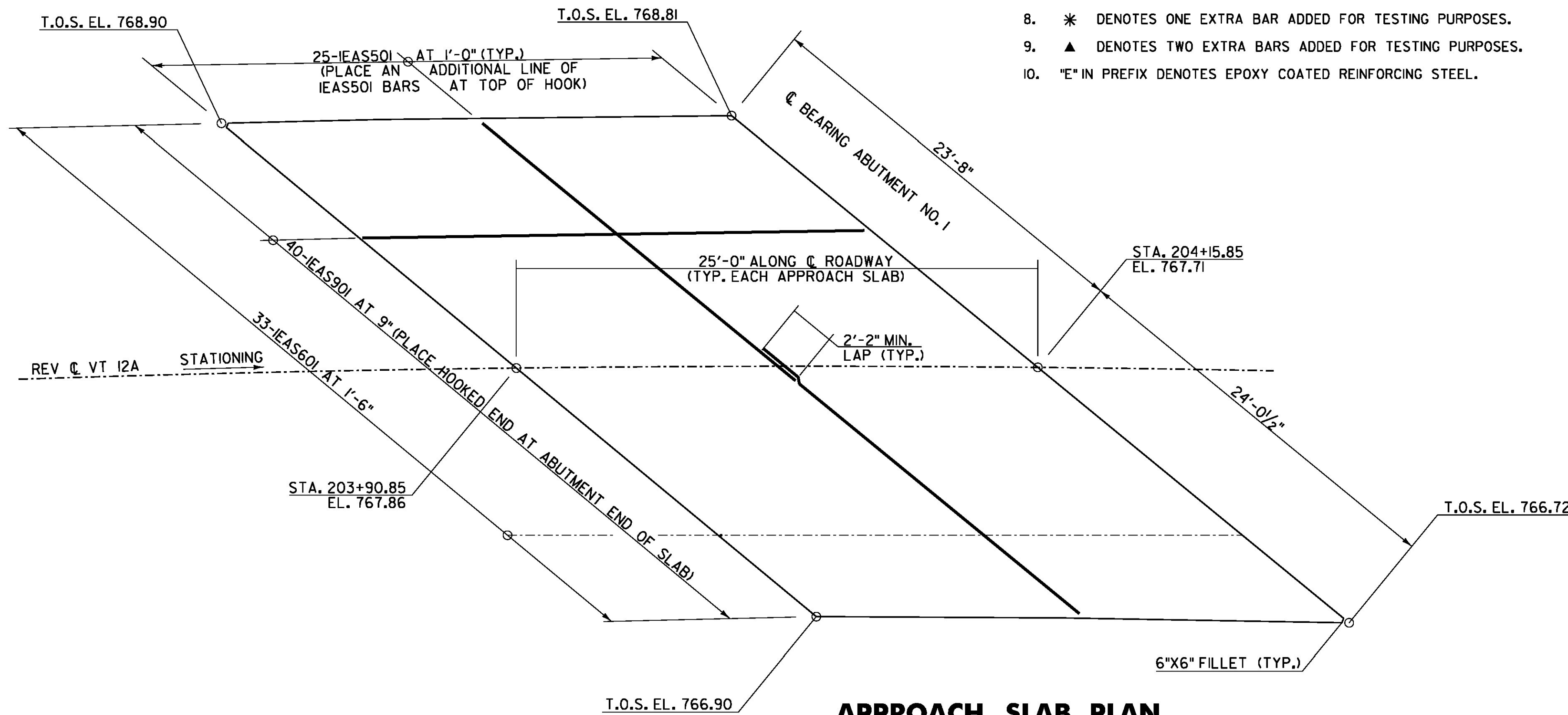
ITEM	NO.	PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
APPROACH SLAB NO. 1																		
1	52	5	24'-7"		IEAS501	STR												
2	33	6	2'-0"		IEAS601	STR				--								
3	41	9	25'-7"		IEAS901	I	1'-3"	24'-4"						--	0'-10"			
4																		
5																		

NOTES

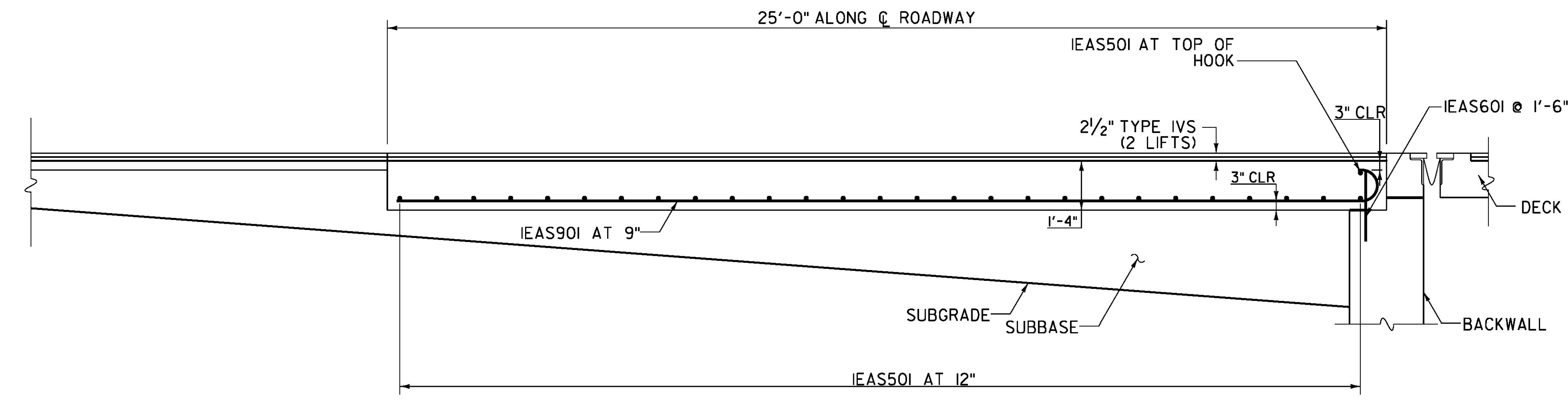
- UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
- FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
- BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
- "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
- "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
- WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
- * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
- ▲ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
- "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



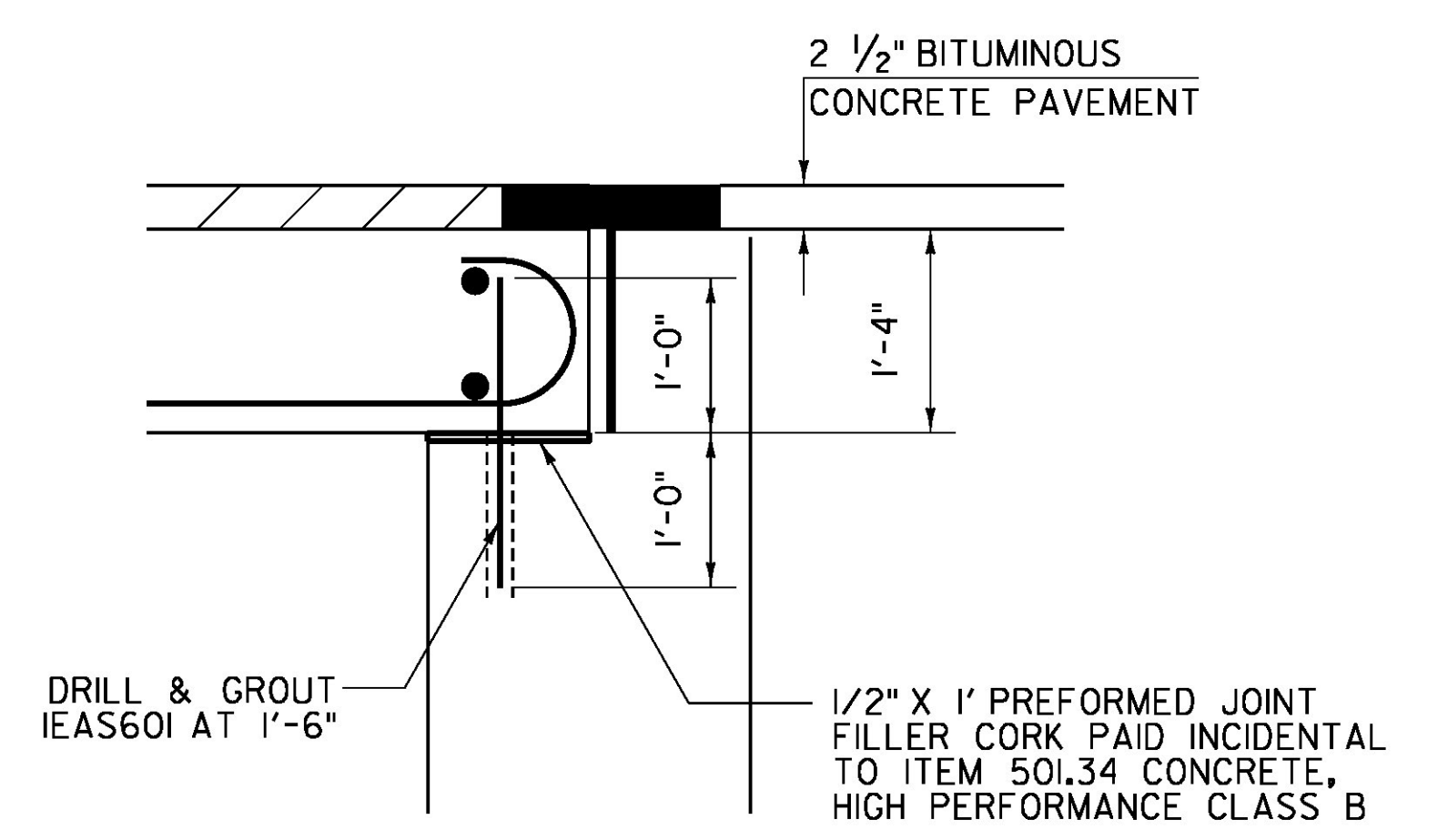
ASTM STANDARD REINFORCING BARS				
BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	CROSS SECTIONAL AREA SQ. INCHES	PERIMETER INCHES
#3	.376	.375	.11	1.178
#4	.668	.500	.20	1.571
#5	1.043	.625	.31	1.963
#6	1.502	.750	.44	2.356
#7	2.044	.875	.60	2.749
#8	2.670	1.000	.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09



APPROACH SLAB PLAN
SCALE 1/4" = 1'-0"



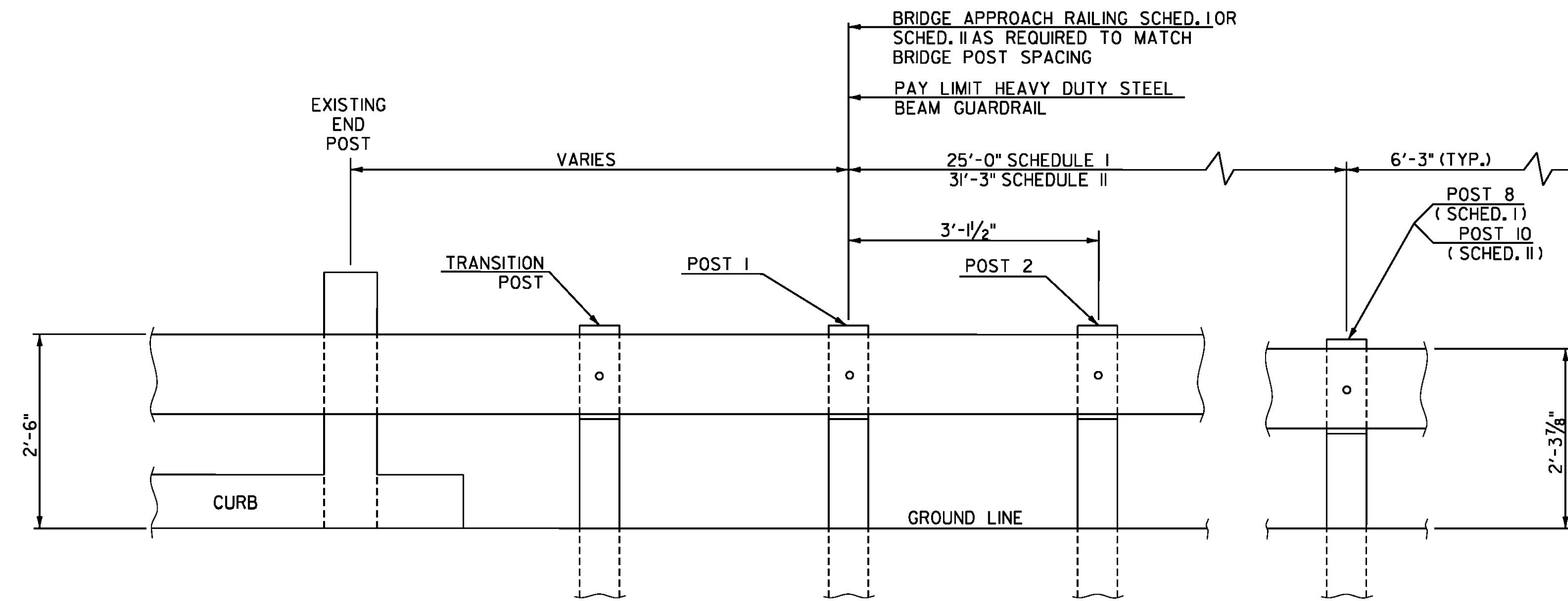
APPROACH SLAB DETAIL
SCALE 1/2" = 1'-0"



APPROACH SLAB SEAT DETAIL
SCALE 1" = 1'-0"

PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526typ.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	J. HUNGERFORD
BRIDGE 6 DETAIL SHEET 2	
PLOT DATE:	1/10/2014
DRAWN BY:	J. HUNGERFORD
CHECKED BY:	G. BOGUE
SHEET	26 OF 72





SCHEDULE I		
POST NO.	SPACING	PAYMENT FACTOR
1	3'-1/2"	1.4 x 12'-6"
2	3'-1/2"	
3	3'-1/2"	
4	3'-1/2"	
5	4'-2"	1.2 x 12'-6"
6	4'-2"	
7	4'-2"	
8	4'-2"	
9	6'-3" (TYP.)	1.0 (TYP.)
TOTAL PAY LENGTH = 32' - 6"		

SCHEDULE II		
POST NO.	SPACING	PAYMENT FACTOR
1	3'-1/2"	1.4 x 18'-9"
2	3'-1/2"	
3	3'-1/2"	
4	3'-1/2"	
5	3'-1/2"	1.2 x 12'-6"
6	3'-1/2"	
7	4'-2"	
8	4'-2"	
9	4'-2"	1.0 (TYP.)
10	4'-2"	
II	6'-3" (TYP.)	1.0 (TYP.)
TOTAL PAY LENGTH = 41' - 3"		

SCHEDULE I APPROACH RAILING SHALL BE USED WHEN A RAIL PANEL SPLICE OCCURS AT POST NO. 1.
 SCHEDULE II APPROACH RAILING SHALL BE USED WHEN A RAIL PANEL SPLICE OCCURS AT THE BRIDGE END POST.

BRIDGE APPROACH RAILING

GENERAL NOTES

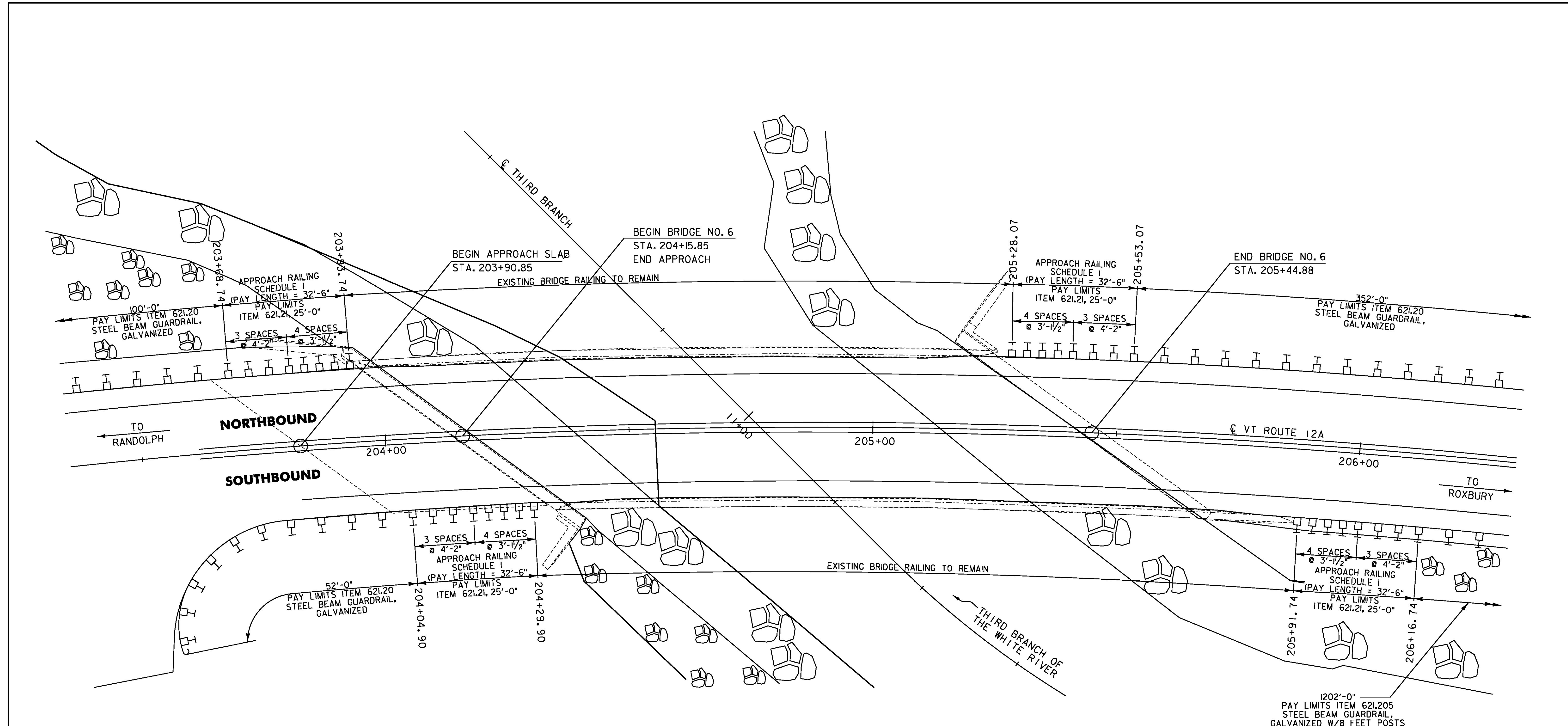
- SEE VAOT STANDARDS G-1 AND G-1d FOR ADDITIONAL DETAILS.
- BRIDGE APPROACH RAILING HEIGHT SHALL BE TRANSITIONED TO NORMAL ROADWAY GUARDRAIL HEIGHT IN 25'.
- APPROACH RAILING SHALL BE HEAVY DUTY STEEL BEAM GUARDRAIL, GALVANIZED FOR 25' FROM THE ENDS OF THE BRIDGE UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER.
- FOR BRIDGE RAILING, THE TRANSITION POST SHALL HAVE AN OFFSET BLOCK AND BE LOCATED AS CLOSE AS PRACTICABLE TO THE MIDPOINT BETWEEN THE BRIDGE END POST AND APPROACH RAILING POST 1.
- SPLICES SHALL LAP IN DIRECTION OF TRAFFIC FLOW.
- SEE STANDARD SHEET G-1 FOR CONNECTION OF STEEL BEAM TO OFFSET BLOCK AND OFFSET BLOCK TO BRIDGE POST.
- SEE STANDARD SHEET G-1 FOR DELINEATION DETAILS AND PLACEMENT.
- ERECT DELINEATORS ON EVERY FIFTH POST OR APPROXIMATELY 31'-3" APART. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.
- ~~ALL HEAVY DUTY STEEL BEAM BRIDGE RAILING, OFFSET BLOCKS AND RELATED HARDWARE SHALL BE PAID FOR UNDER THE APPROPRIATE BRIDGE RAILING ITEMS AS DENOTED IN THE PLANS.~~
- ALL STEEL POSTS, PLATES, OFFSET BLOCKS AND FIXTURES SHALL BE PROVIDED IN ACCORDANCE WITH SUBSECTION 732.04, UNLESS OTHERWISE NOTED, AND SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SUBSECTION 726.08.
- ALL WELDING SHALL CONFORM TO SUBSECTION 506.10.

PROJECT NAME: BRAINTREE
 PROJECT NUMBER: ER STP 0187(12)

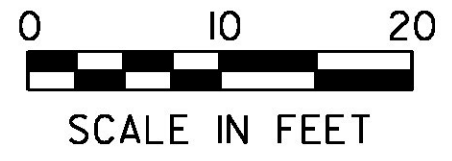
FILE NAME: z12c526typ.dgn
 PROJECT LEADER: G. EDWARDS
 DESIGNED BY: I. MAYNARD
 BRIDGE 6 DETAIL SHEET 3

PLOT DATE: 1/27/2014
 DRAWN BY: G. BURGMEIER
 CHECKED BY: M. FOISY
 SHEET 27 OF 72

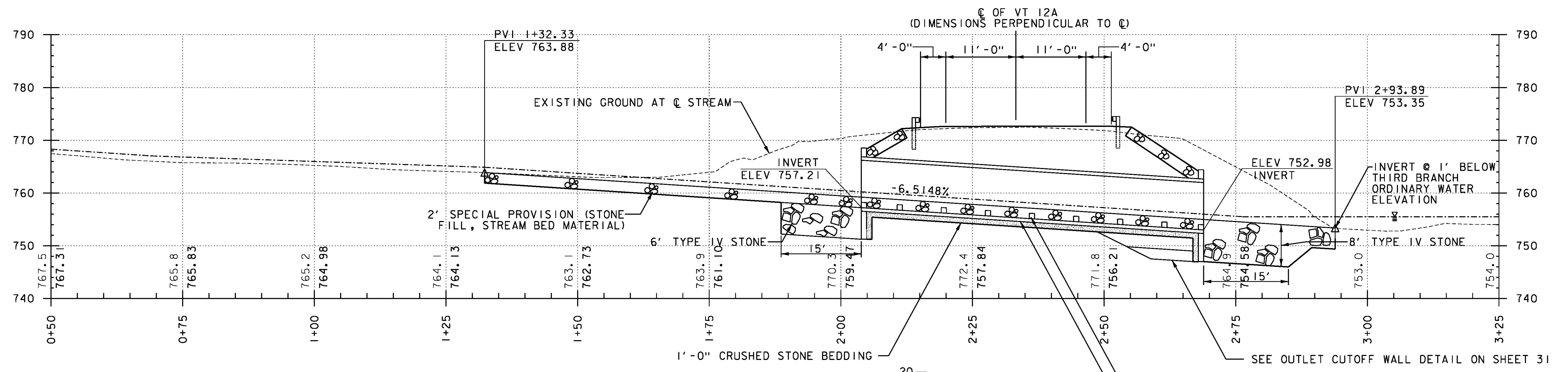
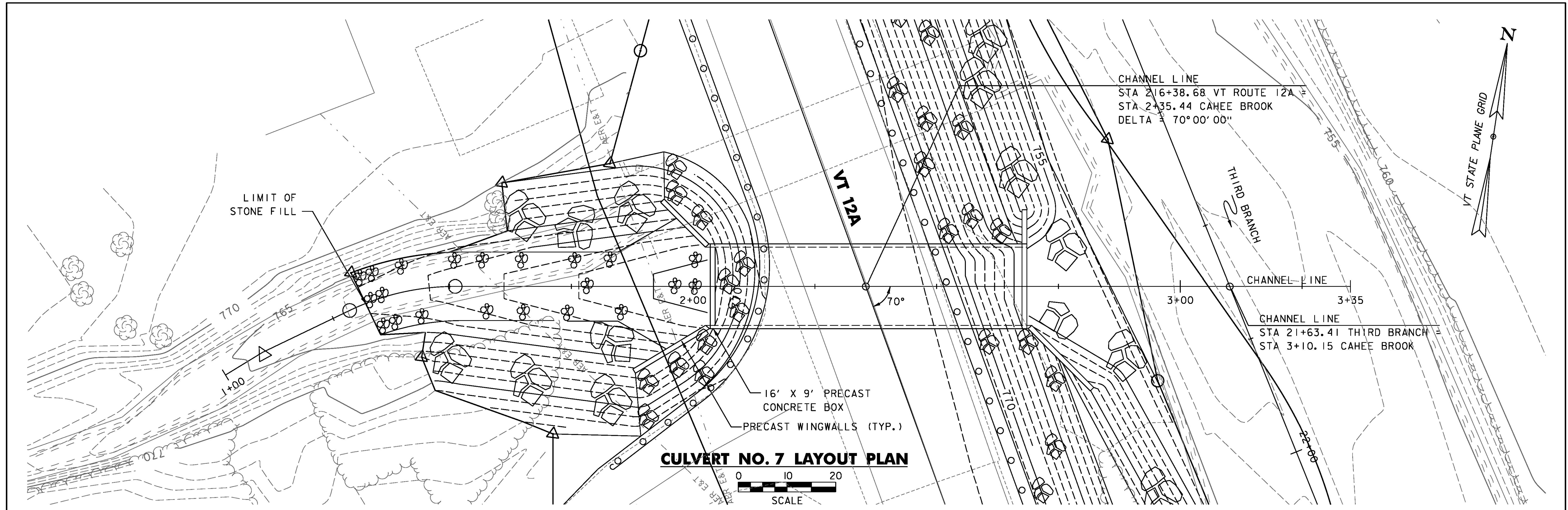




BR 6 BRAINTREE MM 3.879 = STA. 204+81.12



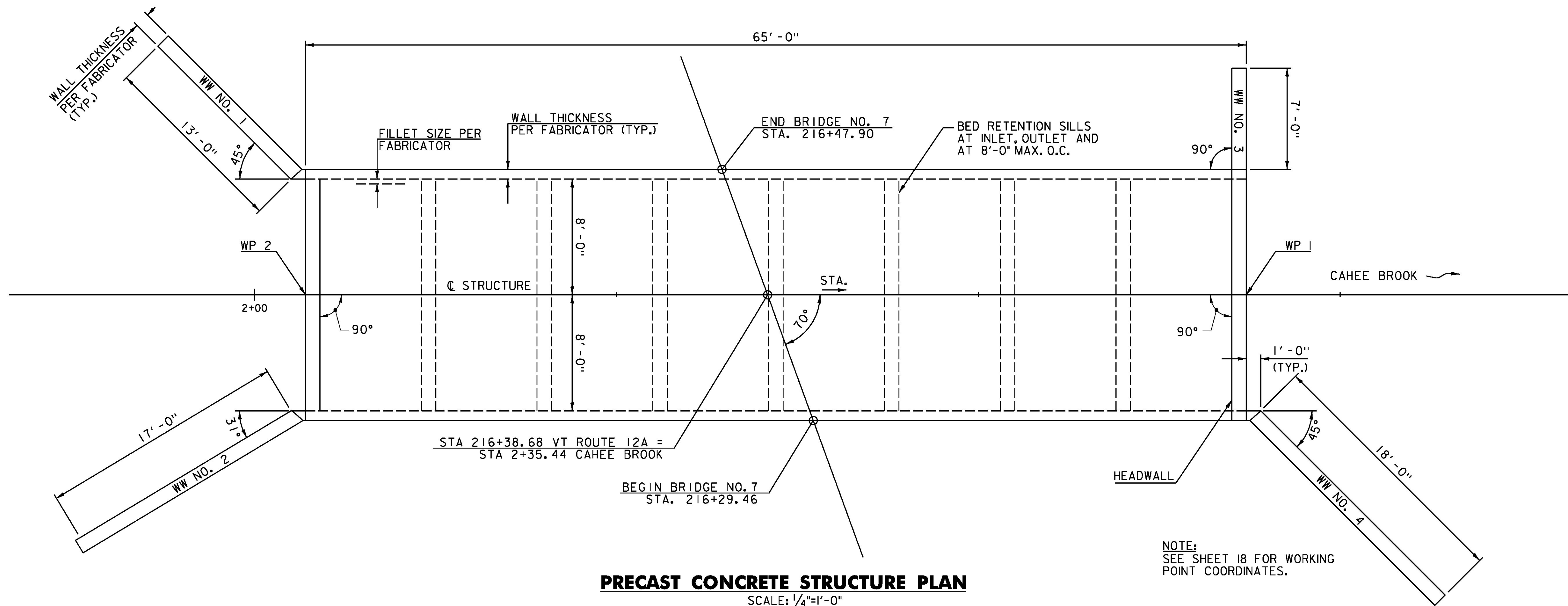
PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526typ.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
BRIDGE 6 DETAIL SHEET 4	
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
SHEET	28 OF 72



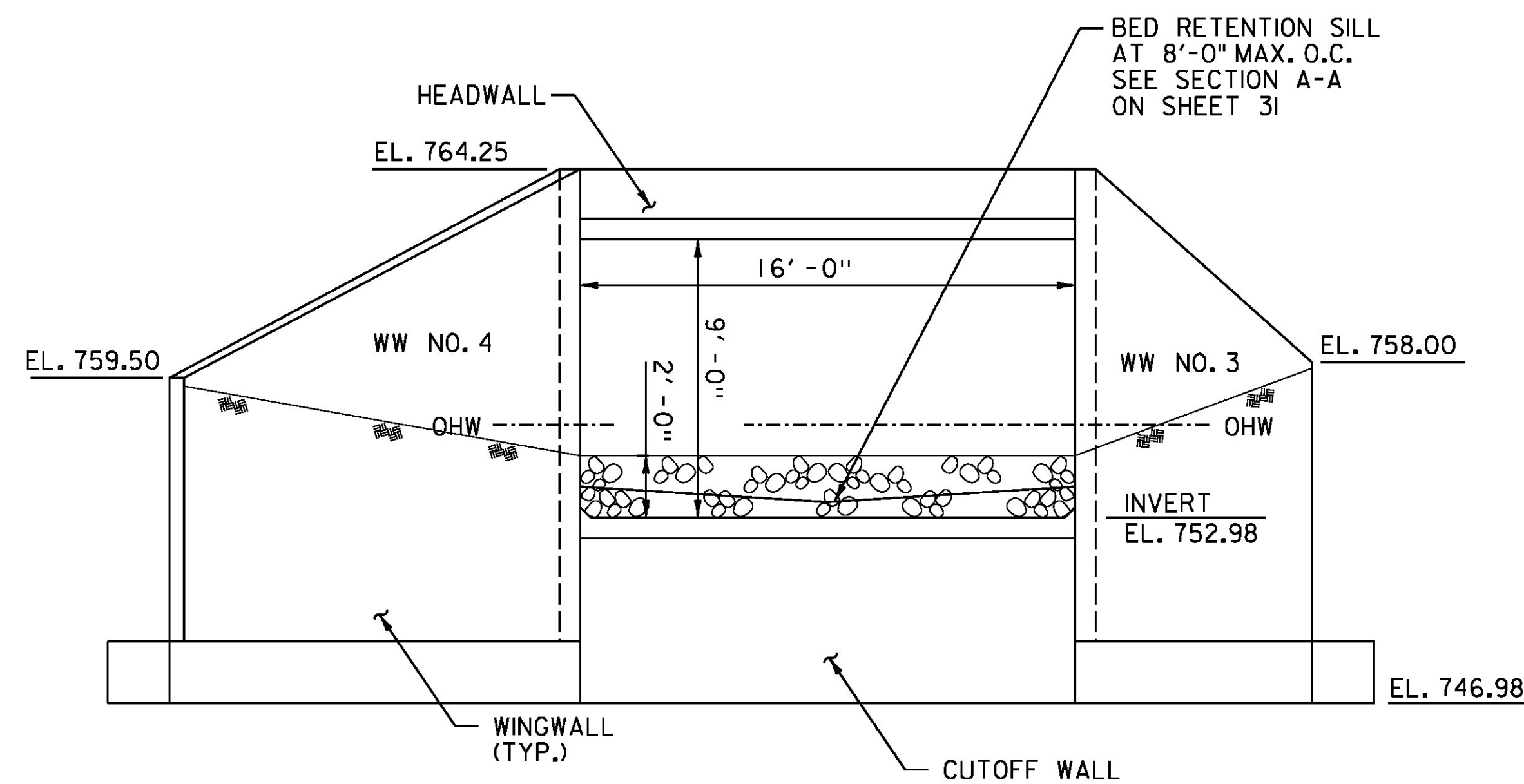
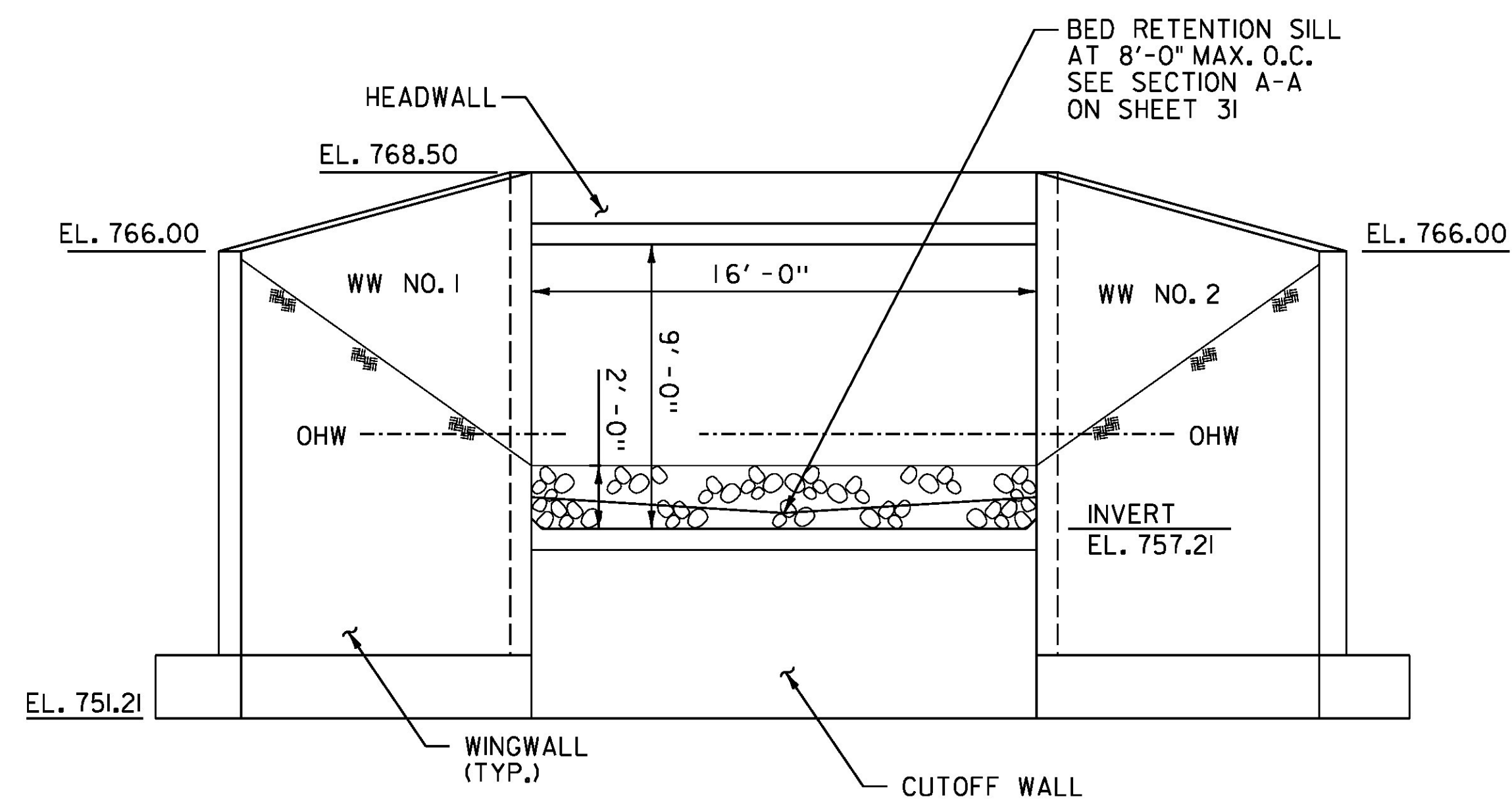
NOTE:
 1. ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.
 2. ELEVATIONS SHOW TO THE NEAREST HUNDREDTH ARE FINISHED GRADE ALONG PROPOSED CENTERLINE.

PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526culbdr.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
CULVERT PLAN & PROFILE SHEET	
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
SHEET	29 OF 72





NOTE:
SEE SHEET 18 FOR WORKING
POINT COORDINATES.

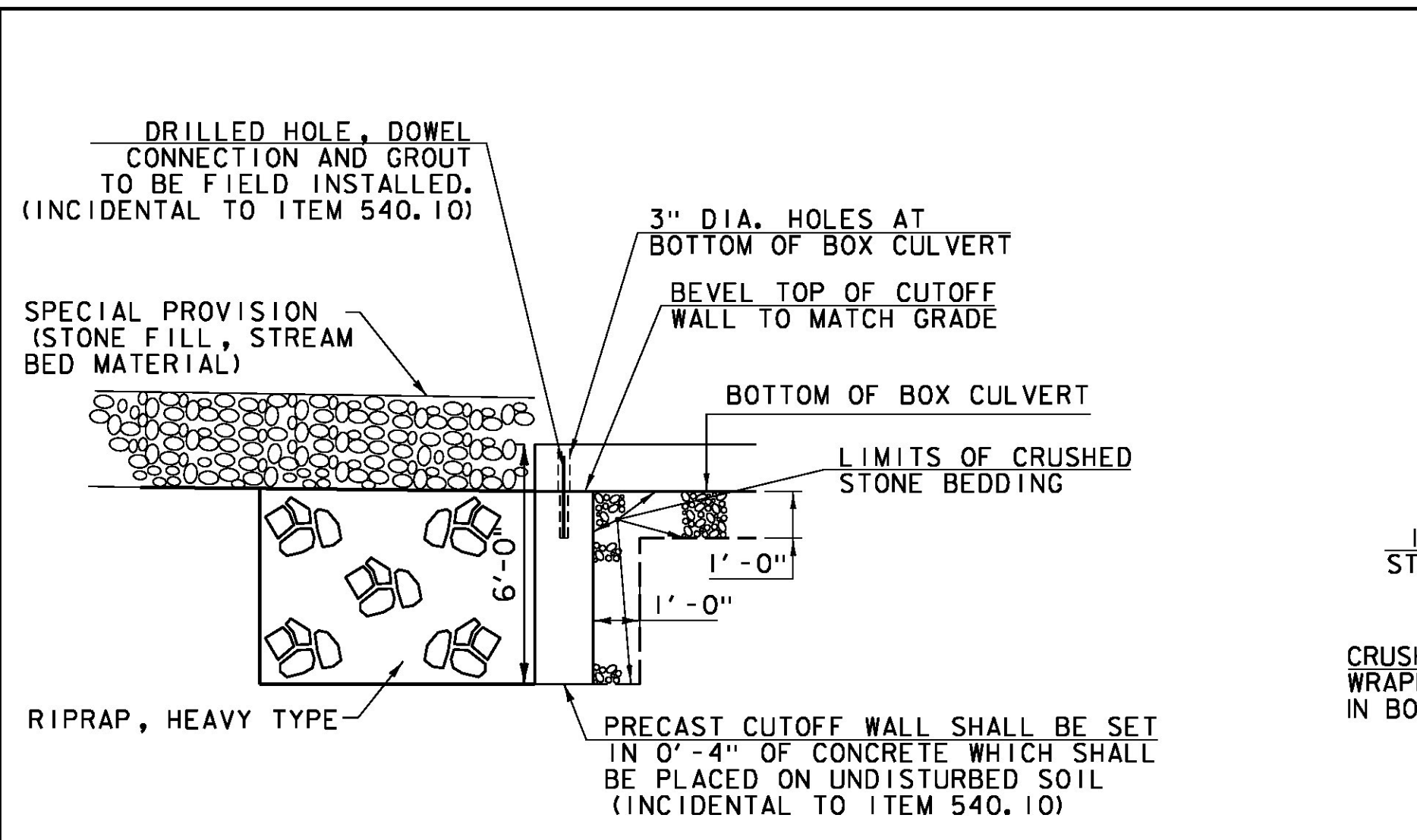


PROJECT NAME: BRAINTREE
PROJECT NUMBER: ER STP 0187(12)

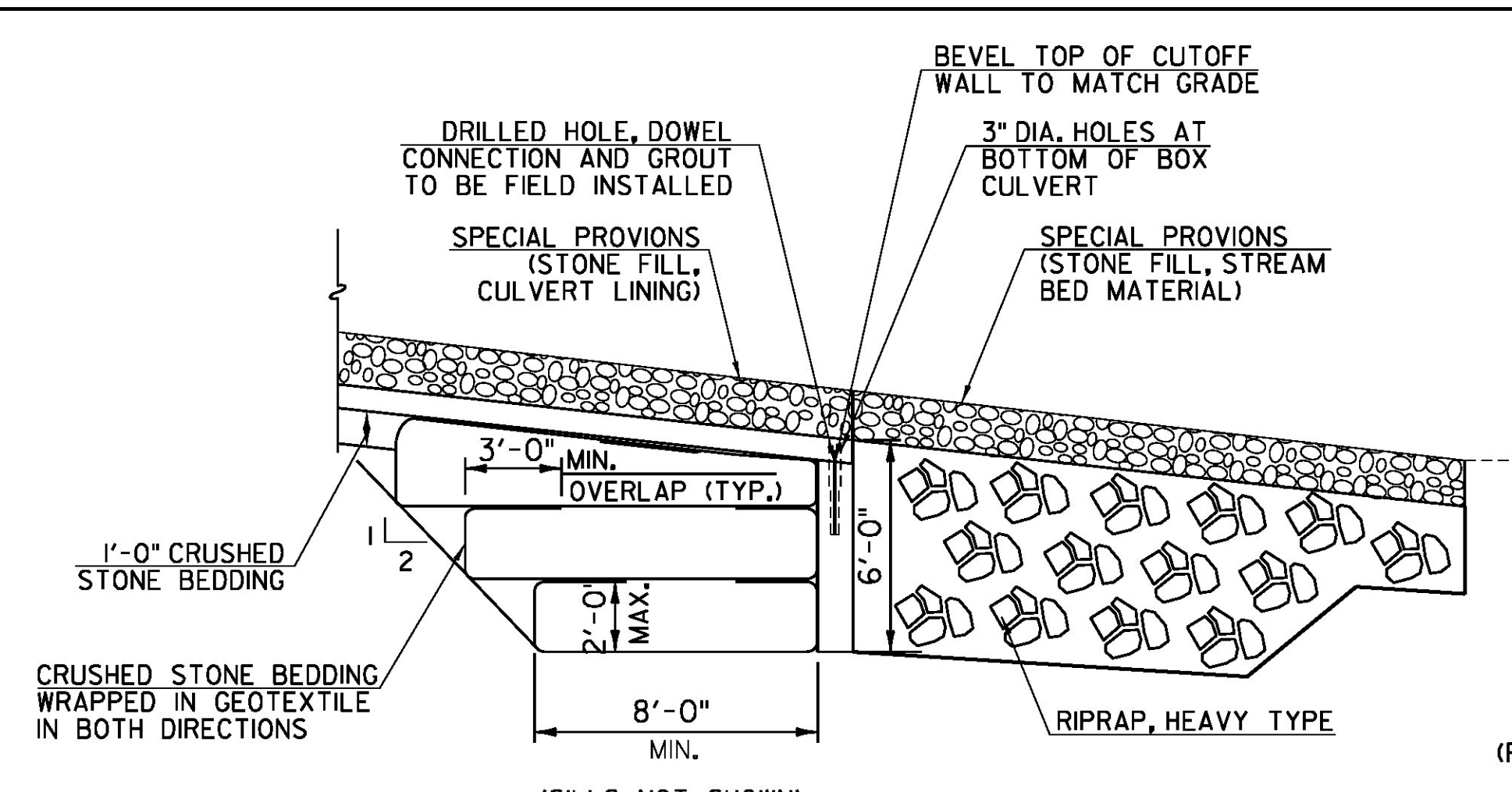
FILE NAME: z12c526typ.dgn
PROJECT LEADER: G. EDWARDS
DESIGNED BY: J. HUNGERFORD
BRIDGE 7 STRUCTURAL PLAN & ELEV.

PLOT DATE: 1/10/2014
DRAWN BY: J. HUNGERFORD
CHECKED BY: G. BOGUE
SHEET 30 OF 72

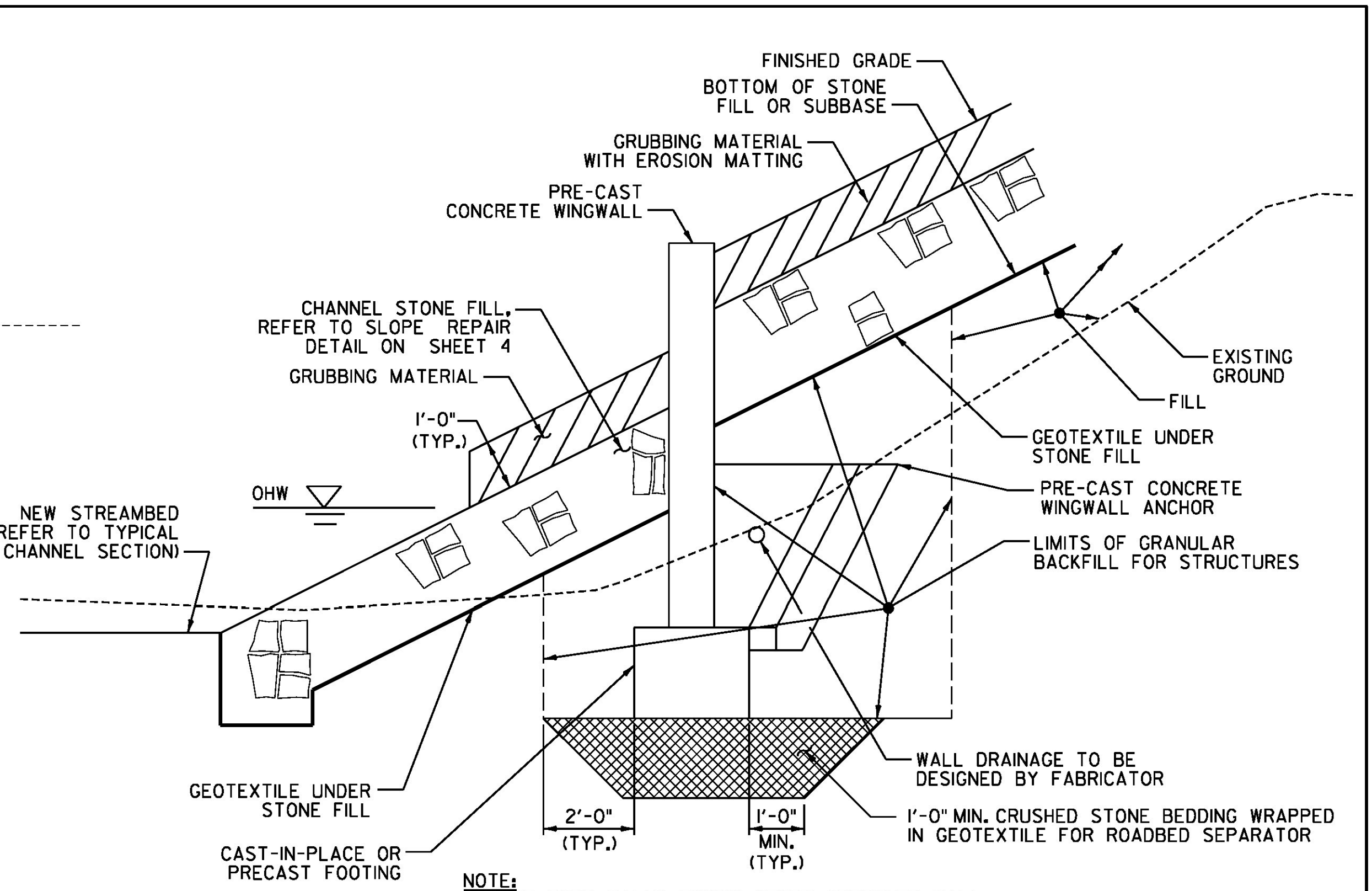




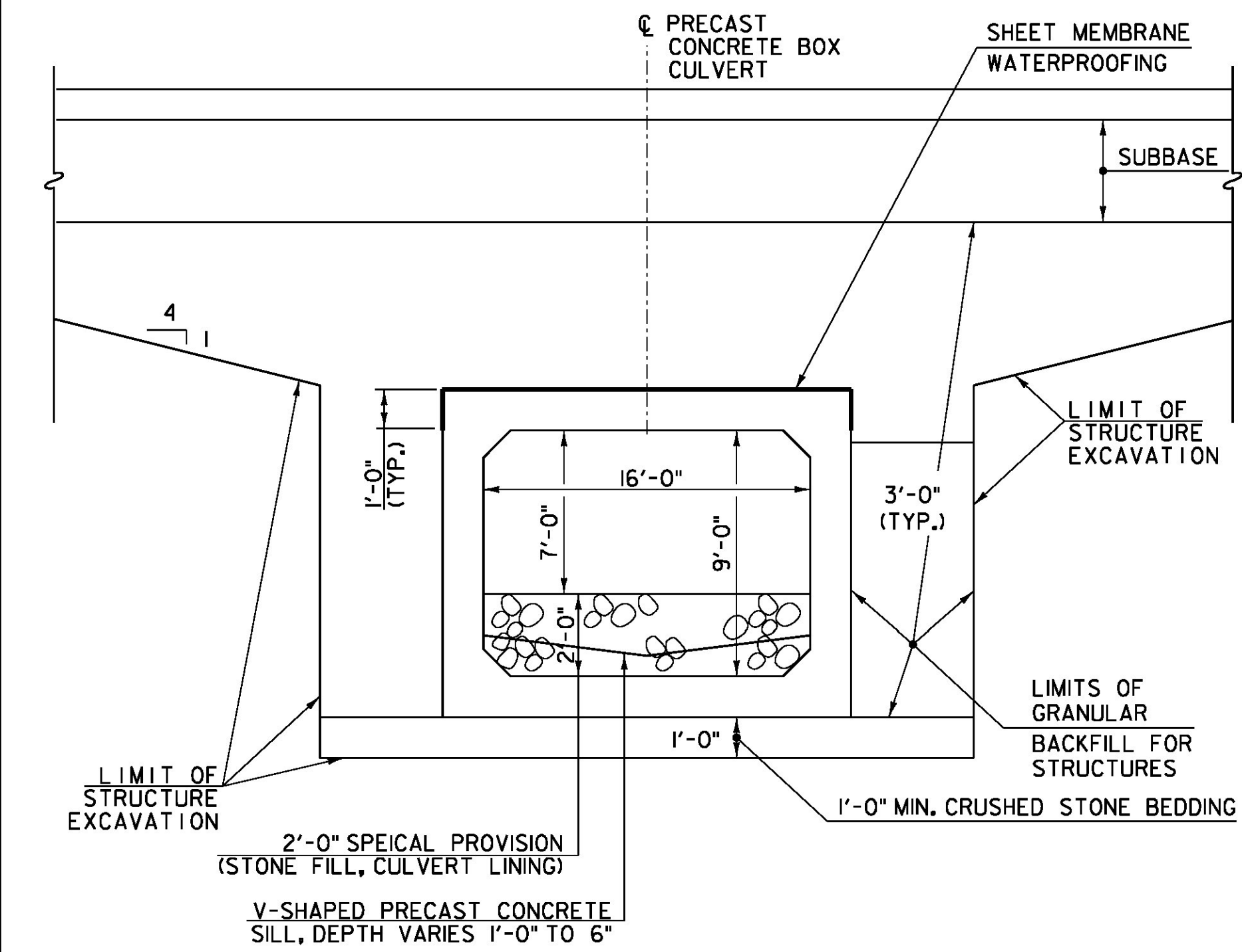
INLET CUTOFF WALL DETAIL
NOT TO SCALE



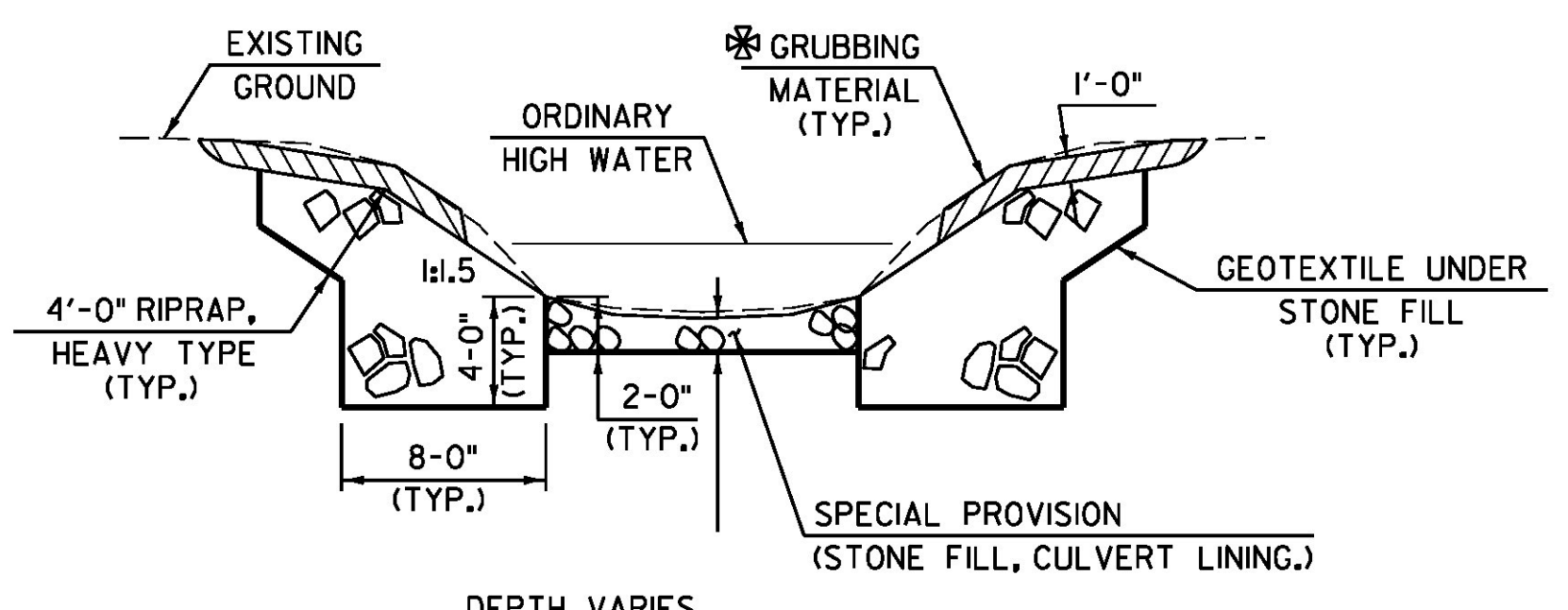
OUTLET CUTOFF WALL DETAIL
NOT TO SCALE



WINGWALL EARTHWORK SECTION
NOT TO SCALE



PRECAST CONCRETE BOX TYPICAL SECTION
NOT TO SCALE

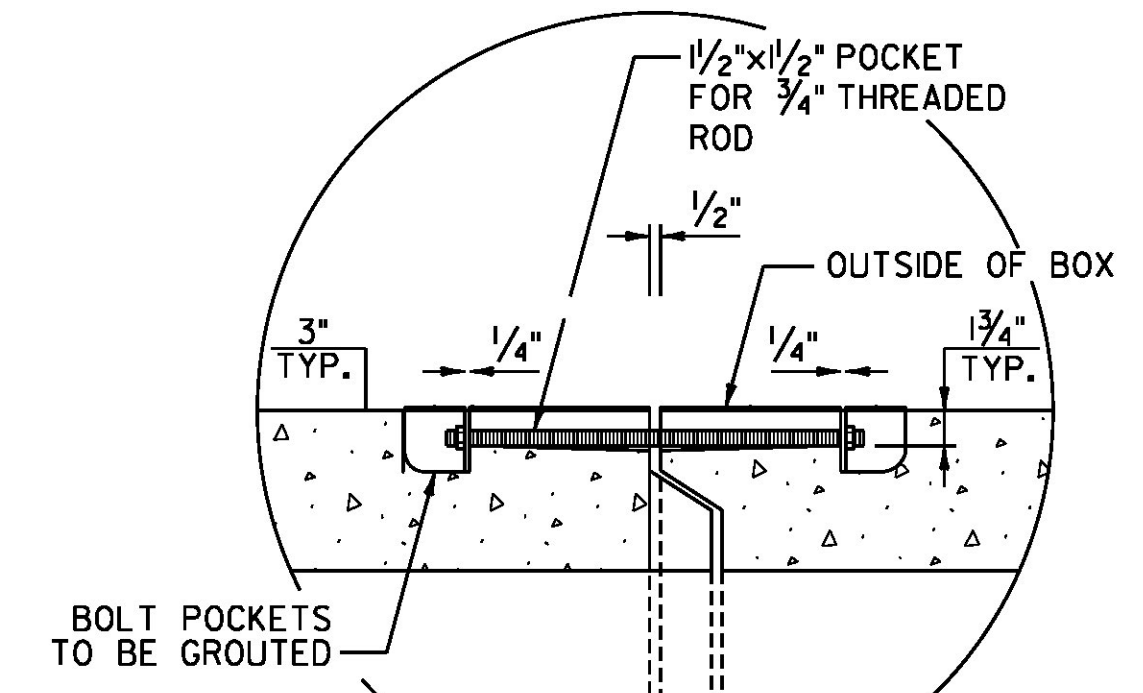


CHANNEL TYPICAL SECTION
NOT TO SCALE

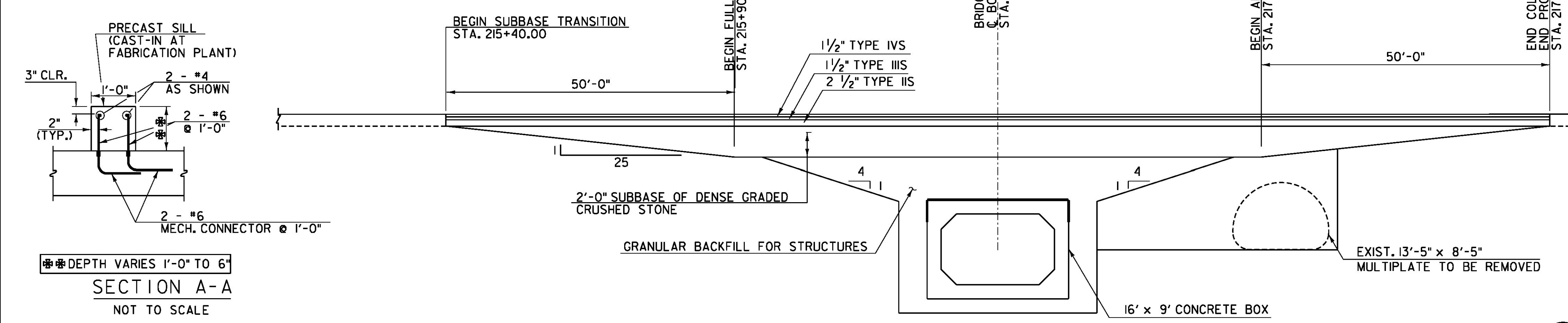
WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

FOUNDATION NOTES:

- FOUNDATIONS SHALL BE DESIGNED BASED ON THE BEARING PLOTS IN THE GEOTECHNICAL REPORT INCLUDED IN THE CONTRACT DOCUMENTS.
- THE COEFFICIENT OF FRICTION FOR SLIDING SHALL BE:
 PRECAST FOOTINGS.....0.40
 CAST-IN-PLACE FOOTINGS.....0.55
 THE LATERAL EARTH PRESSURE COEFFICIENTS SHALL BE:
 $K_0 = 0.44$ (BOX)
 $K_0 = 0.63$ (WINGWALLS WITH 1.5H TO 1V BACKFILL SLOPE)
 $K_0 = 0.42$ (WINGWALLS WITH 2H TO 1V BACKFILL SLOPE)
 DESIGN UNIT WEIGHT OF BACKFILL = 140 POUNDS PER CUBIC FOOT
- IF LOOSE OR SOFT SOILS ARE ENCOUNTERED, THE EXISTING MATERIALS SHALL BE UNDERCUT 12" AND A GEOTEXTILE MEETING THE REQUIREMENTS OF SECTION 649 FOR GEOTEXTILE FOR ROAD BED SEPARATOR, SHALL BE PLACED ON THE EXCAVATED SURFACE AND BACKFILLED WITH ITEM 204.30, GRANULAR BACKFILL FOR STRUCTURES.



PERMANENT CLOSURE DETAIL
NOT TO SCALE



TYPICAL APPROACH SECTION
NOT TO SCALE

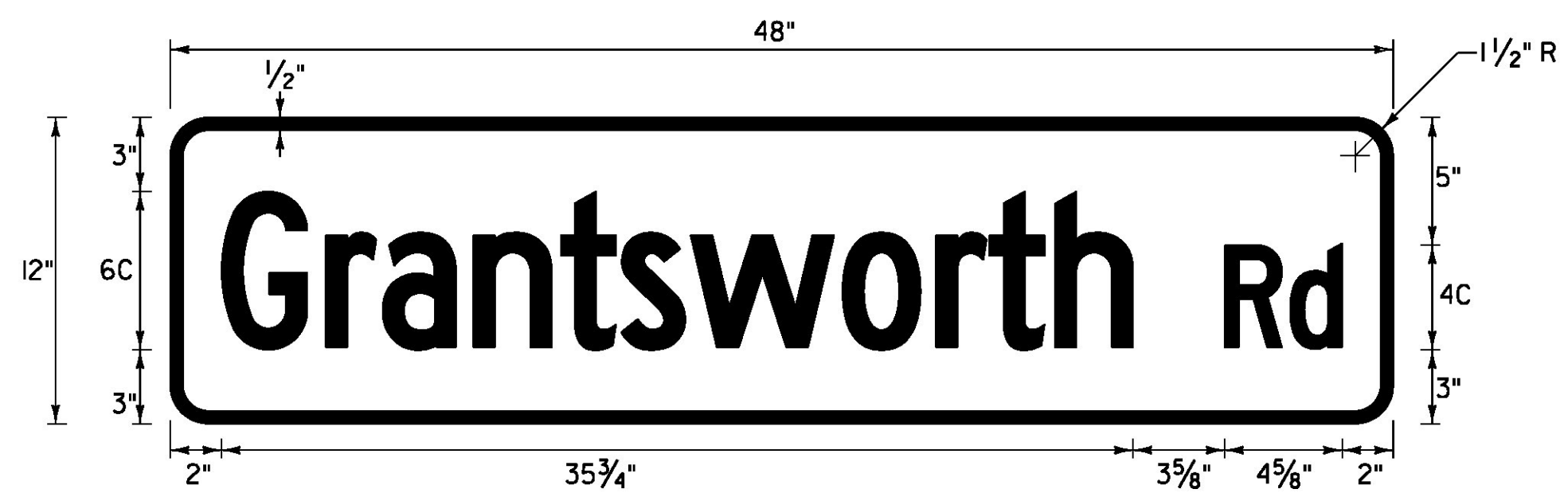
PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526typ.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	J. HUNGERFORD
BRIDGE 7 DETAILS SHEET	
PLOT DATE:	1/27/2014
DRAWN BY:	J. HUNGERFORD
CHECKED BY:	G. BOGUE
SHEET	31 OF 72



TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS E A WIDTH (ft) HEIGHT (ft)		NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS														REMARKS	SIGN DETAIL																																																																																																																																																																										
				"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	NO. OF POSTS	FLANGED CHANNEL			SQUARE STEEL (ft)			TUBULAR ALUMINUM Ø (ft)			TUBULAR STEEL Ø (ft)					W-SHAPE STEEL			DETAIL IN SHSM BOOK	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER																																																																																																																																																																					
											1.12	2.0	3.0	1.75	2.0	2.5	3.0	4.0	4.0	4.0	3.0	3.5	4.0		5.0	24"	30"				WEIGHT	POST SIZE																																																																																																																																																																			
				lb/ft	lb/ft	lb/ft	ANCHOR	SLEEVE	FOUND-ATION	lb/ft	lb/ft	lb/ft	lb/ft	lb/ft	lb/ft	lb/ft	lb/ft	lb/ft	lb/ft	lb/ft	lb/ft	lb/ft																																																																																																																																																																													
BRAINTREE																																																																																																																																																																																																			
203+18, RT		48	12	4.00					2				X	X															D3-1		33																																																																																																																																																																				
203+35, RT		24	30	5.00					1				X	X																VR-017		E-141																																																																																																																																																																			
203+64, RT		30	30	6.25					1				X	X																RI-1	X																																																																																																																																																																				
		6	10	0.42																										VR-700		E-138																																																																																																																																																																			
204+26, RT		6	8	0.33					1			X		X																	VR-701		E-134																																																																																																																																																																		
205+32, LT		6	8	0.33					1			X		X																	VR-701		E-134																																																																																																																																																																		
212+25, RT		36	36	9.00					2				X	X																	W3-5	X																																																																																																																																																																			
215+65, LT		24	30	5.00					1				X	X																	R2-1	X																																																																																																																																																																			
215+72, RT		30	36	7.50					1				X	X																		R2-1	X																																																																																																																																																																		
		6	10	0.42									X	X																		D3-1		33																																																																																																																																																																	
215+91, LT		36	12	3.00					1				X	X																		VR-700		E-138																																																																																																																																																																	
216+15, RT		6	8	0.33					1			X		X																		VR-701		E-134																																																																																																																																																																	
216+71, LT		6	8	0.33					1			X		X																		VR-701		E-134																																																																																																																																																																	
SUBTOTAL				41.91								44	156																																																																																																																																																																																						
ROUNDING				3.09								1	4																																																																																																																																																																																						
TOTAL				45.00								45	160																																																																																																																																																																																						
<p>"SHSM"-STANDARD HIGHWAY SIGNS AND MARKINGS</p> <p>FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."</p>																																																																																																																																																																																																			
<table border="0" style="width:100%"> <tr> <td>TOTALS</td> <td>SF</td> <td>SF</td> <td>EA.</td> <td>SF</td> <td>FT</td> <td>FT</td> <td>FT</td> <td>FT</td> <td>FT</td> <td>EA</td> <td>LB</td> <td>LB</td> <td>LB</td> <td>EA.</td> <td>LB</td> <td>EA.</td> <td>EA.</td> <td>LB</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>45</td> <td></td> <td></td> <td></td> <td>205</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>																												TOTALS	SF	SF	EA.	SF	FT	FT	FT	FT	FT	EA	LB	LB	LB	EA.	LB	EA.	EA.	LB																45				205																																																																																																																																	
TOTALS	SF	SF	EA.	SF	FT	FT	FT	FT	FT	EA	LB	LB	LB	EA.	LB	EA.	EA.	LB																																																																																																																																																																																	
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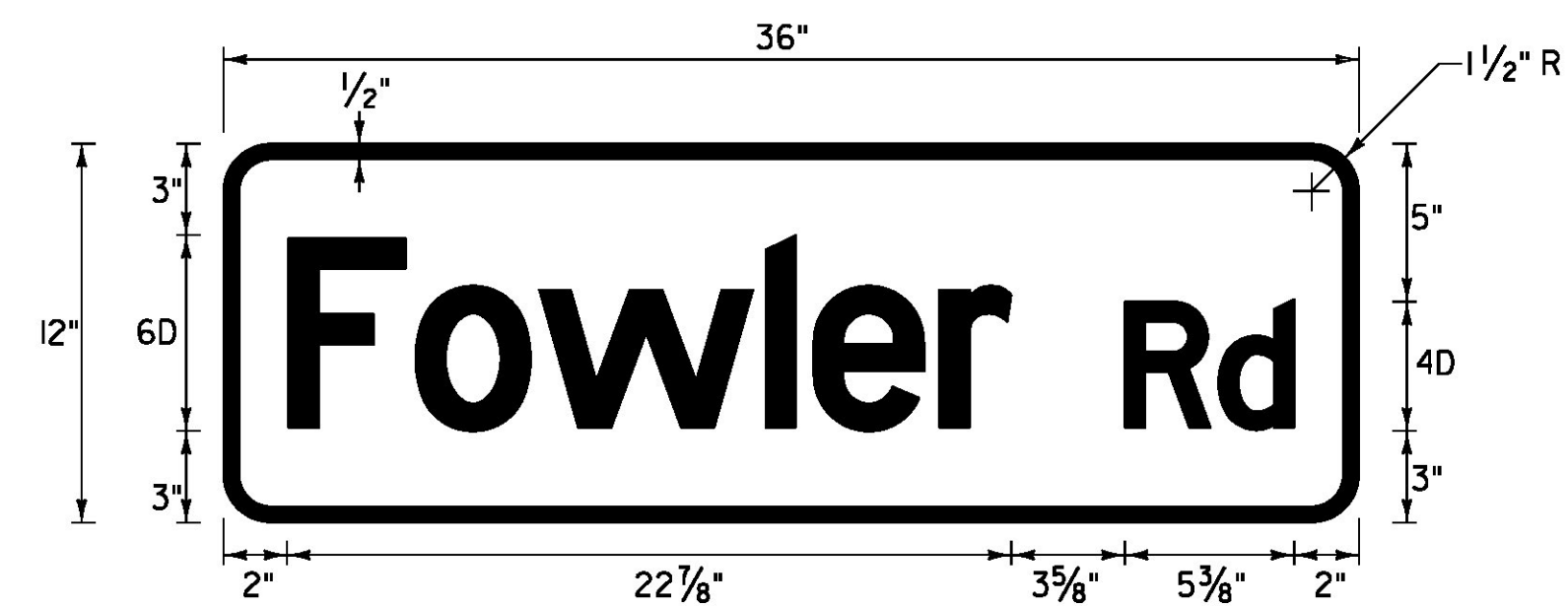


D3-1

LOCATION: BRAintree
STA. 203+18, RT

COLOR: WHITE BORDER AND TEXT (RETROREFLECTIVE)
GREEN BACKGROUND (RETROREFLECTIVE)

MATERIAL: 0.125" FLAT SHEET ALUMINUM



D3-1

LOCATION: BRAintree
STA. 215+91, LT

COLOR: WHITE BORDER AND TEXT (RETROREFLECTIVE)
GREEN BACKGROUND (RETROREFLECTIVE)

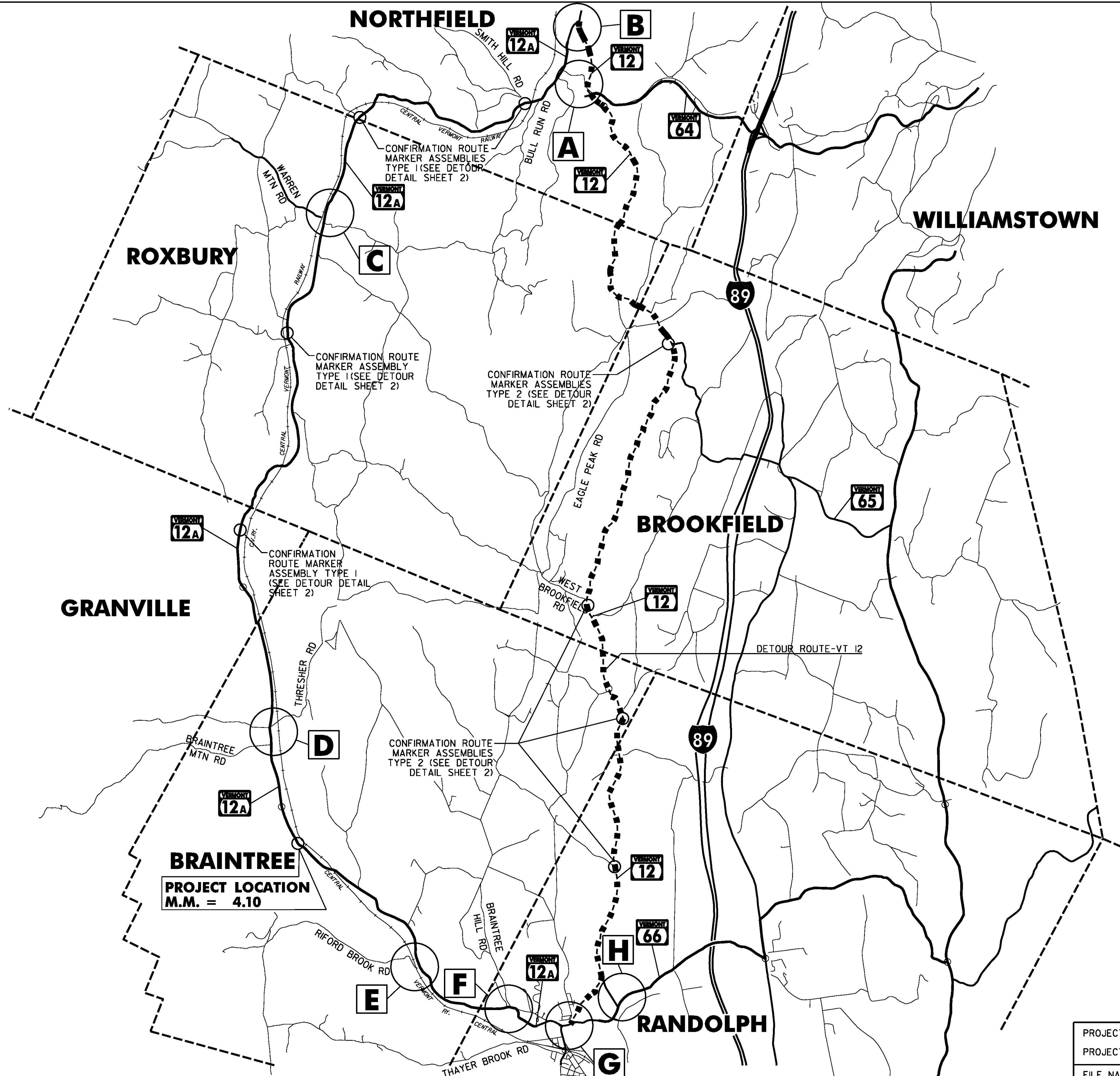
MATERIAL: 0.125" FLAT SHEET ALUMINUM

TRAFFIC SIGN NOTES

1. ALL SIGN LETTERING, DIGITS, ARROWS, AND DESIGN OF SYMBOLS FOR SIGNS REFERENCED IN THESE PLANS SHALL CONFORM WITH THE "STANDARD ALPHABET FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AS ADOPTED BY THE U.S. DEPARTMENT OF TRANSPORTATION AND THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) UNLESS OTHERWISE DETAILED WITHIN THESE PLANS.
2. ALL COLORS SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) AND APPROVED BY FHWA UNLESS OTHERWISE NOTED.
3. ALL SHEETING SHALL BE TYPE III MINIMUM PER SUBSECTION 750.08 RETROREFLECTIVE SHEETING (ASTM D 4956).
4. ALL STREET NAME SIGNS ARE TWO-SIDED UNLESS NOTED OTHERWISE.
5. WHEN INSTALLING STREET NAME SIGNS (D3-1) USE 12" BRACKETS.

PROJECT NAME:	BRAintree
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME: z12c526frm.dgn	PLOT DATE: 1/10/2014
PROJECT LEADER: G. EDWARDS	DRAWN BY: G. BURGMEIER
DESIGNED BY: I. MAYNARD	CHECKED BY: M. FOISY
TRAFFIC SIGN DETAIL SHEET	SHEET 33 OF 72





GRANVILLE

ROXBURY

NORTHFIELD

WILLIAMSTOWN

BROOKFIELD

RANDOLPH

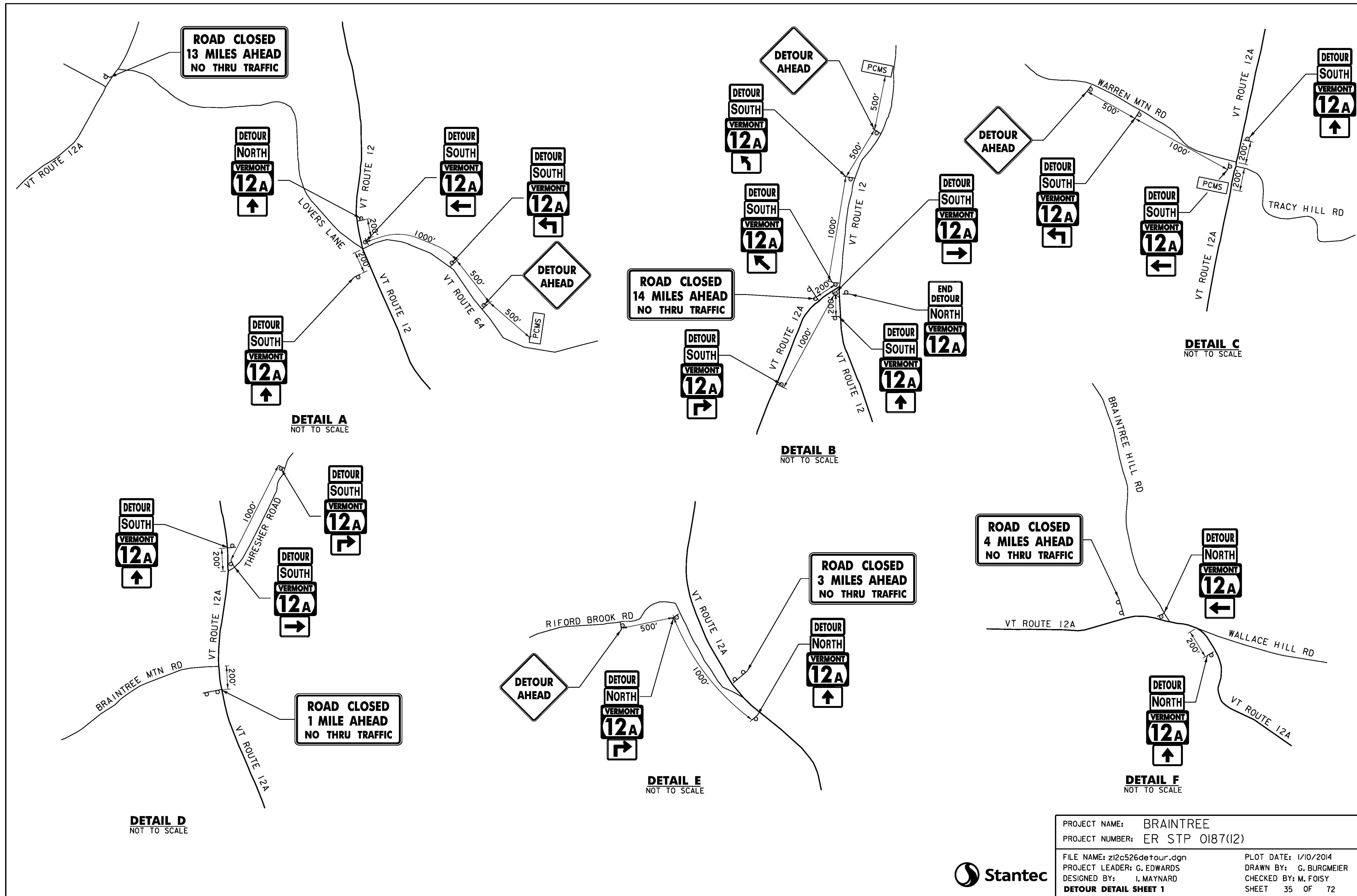
BRAINTREE

DETOUR PLAN

NOT TO SCALE



PROJECT NAME:	BRAINTREE	PLOT DATE:	1/10/2014
PROJECT NUMBER:	ER STP 0187(12)	DRAWN BY:	G. BURGMEIER
FILE NAME:	z12c526detour.dgn	DESIGNED BY:	I. MAYNARD
PROJECT LEADER:	G. EDWARDS	CHECKED BY:	M. FOISY
DETOUR PLAN		SHEET	34 OF 72



DETAIL A
NOT TO SCALE

DETAIL B
NOT TO SCALE

DETAIL C
NOT TO SCALE

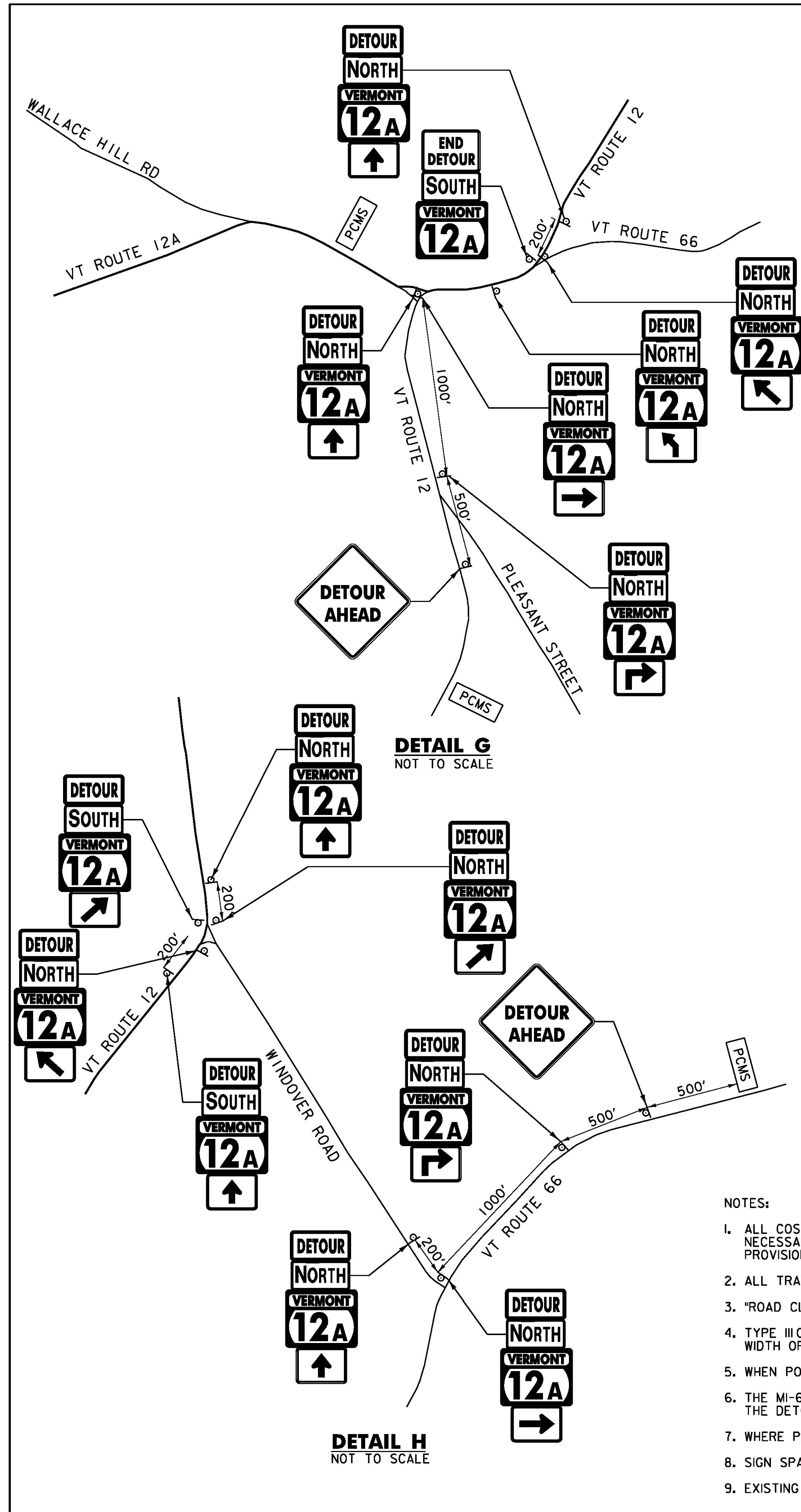
DETAIL D
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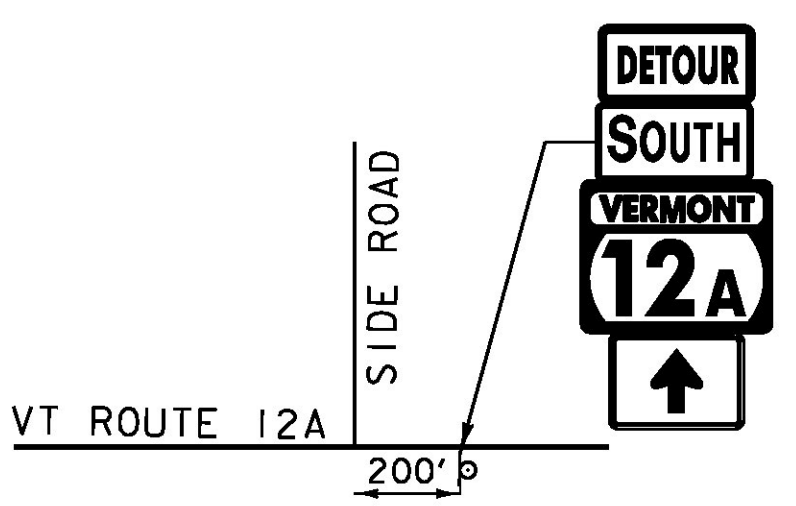
DETAIL F
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PROJECT NAME: BRAINTREE	
PROJECT NUMBER: ER STP 0187(12)	
FILE NAME: z12c526detour.dgn	PLOT DATE: 1/10/2014
PROJECT LEADER: G. EDWARDS	DRAWN BY: G. BURGMIEER
DESIGNED BY: I. MAYNARD	CHECKED BY: M. FOISY
DETOUR DETAIL SHEET 1	SHEET 35 OF 72

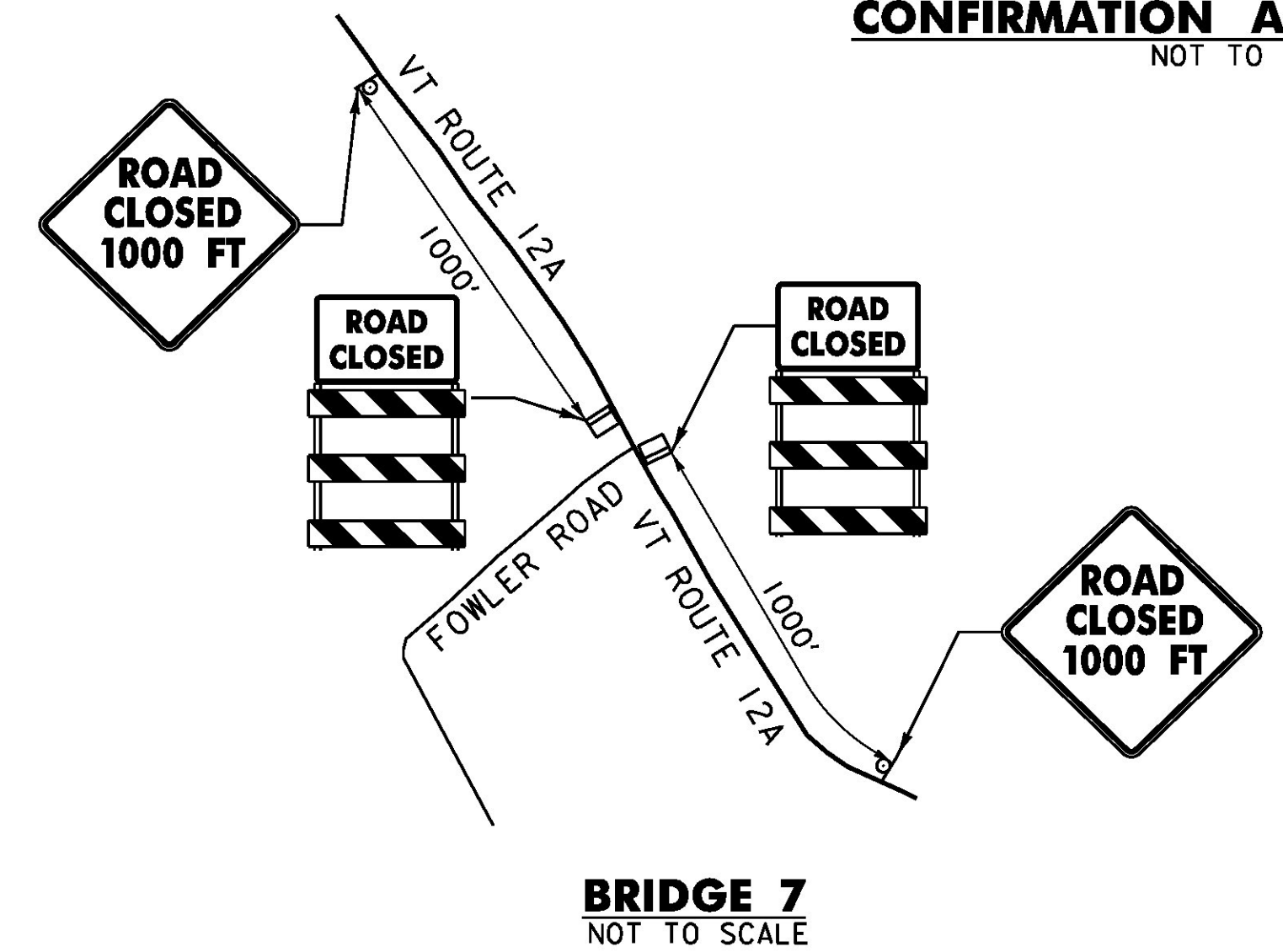
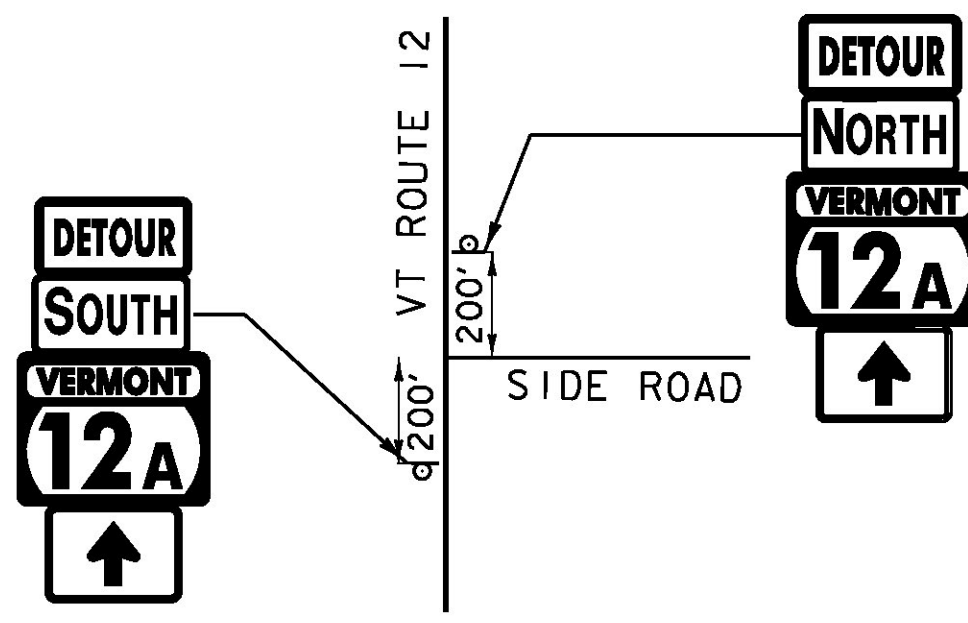




CONFIRMATION ASSEMBLY TYPE 1
NOT TO SCALE



CONFIRMATION ASSEMBLY TYPE 2
NOT TO SCALE



MESSAGES FOR PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) - REGIONAL DETOUR

STARTING 2 WEEKS PRIOR TO CLOSURE

MESSAGE 1	MESSAGE 3***
(ROUTE) ** VT 12A ROAD CLOSED	MMMM DD (DATE) * TO MMMM DD (DATE) *

DURING CLOSURE

MESSAGE 1	MESSAGE 2
(ROUTE) ** VT 12A ROAD CLOSED	W BRAIN- TREE AT FOWLDR RD

* - DATE SHALL BE SPELLED OUT (I.E. JUNE 10 NOT 6/10)
** - ROUTE 12A SHALL SPECIFY N (NORTH) OR S (SOUTH) AS APPROPRIATE FOR THE DETOUR.

- NOTES:
- ALL COSTS OF INSTALLING, MAINTAINING, AND REMOVING THE SIGNS AND BARRICADES IN THIS TRAFFIC CONTROL PLAN AS NECESSARY TO MEET PROJECT CONDITIONS WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
 - ALL TRAFFIC SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION.
 - "ROAD CLOSED" SIGNS SHALL BE MOUNTED AND MAINTAINED ON LIGHTED TYPE III BARRICADES.
 - TYPE III CONSTRUCTION BARRICADES SHALL BE PLACED SO AS TO PHYSICALLY EXCLUDE TRAFFIC FROM THE ENTIRE ROADWAY WIDTH OR AT THE DISCRETION OF THE ENGINEER.
 - WHEN POSSIBLE LOCATE THE "ROAD CLOSED 1000 FT" SIGN NEAR A LOCATION WHERE DRIVERS CAN TURN AROUND.
 - THE M1-6A, THE M3-1 AND THE M3-3 SIGNS SHALL BECOME THE PROPERTY OF THE STATE AFTER THEY ARE REMOVED FROM THE DETOUR. THE CONTRACTOR SHALL DELIVER THE SIGNS TO THE TOWN AT THE TOWN GARAGE.
 - WHERE POSSIBLE LOCATE DETOUR ROUTE MARKER ASSEMBLIES ADJACENT TO EXISTING ROUTE MARKER ASSEMBLIES.
 - SIGN SPACING IS FOR REFERENCE ONLY. FIELD ADJUSTMENTS WILL LIKELY BE NECESSARY, AS APPROVED BY THE ENGINEER.
 - EXISTING SIGNS IN CONFLICT WITH THIS DETOUR PLAN SHOULD BE COVERED WHEN NECESSARY, AS APPROVED BY THE ENGINEER.

PCMS = PORTABLE CHANGEABLE MESSAGE SIGN

ID NUMBER	SIGN TEXT	SIZE OF SIGN		NUMBER OF SIGNS REQ'D.	AREA OF EACH SIGN (SF)	COLOR	REMARKS
		WIDTH	HEIGHT				
W20-2	DETOUR AHEAD	48"	48"	6	16.00	B/F/O	INSTALL ON 2 POSTS
W20-3	ROAD CLOSED 1000 FT	48"	48"	2	16.00	B/F/O	INSTALL ON 2 POSTS
M6-3	↑	21"	15"	24	2.19	B/F/O	MOUNT BELOW M1-6A
M6-1R	→	21"	15"	4	2.19	B/F/O	MOUNT BELOW M1-6A
M6-1L	←	21"	15"	3	2.19	B/F/O	MOUNT BELOW M1-6A
M5-1L	↙	21"	15"	2	2.19	B/F/O	MOUNT BELOW M1-6A
M5-1R	↘	21"	15"	5	2.19	B/F/O	MOUNT BELOW M1-6A
M6-2R	↗	21"	15"	2	2.19	B/F/O	MOUNT BELOW M1-6A
M5-2L	↖	21"	15"	2	2.19	B/F/O	MOUNT BELOW M1-6A
M6-2L	↖	21"	15"	3	2.19	B/F/O	MOUNT BELOW M1-6A
M4-8	DETOUR	24"	12"	43	2.00	B/F/O	MOUNT ABOVE M3-1 OR M3-3
M4-8a	END DETOUR	24"	18"	2	3.00	B/F/O	MOUNT ABOVE M3-1 OR M3-3
M3-1	NORTH	24"	12"	22	2.00	W/G	MOUNT ABOVE M1-6A
M3-3	SOUTH	24"	12"	25	2.00	W/G	MOUNT ABOVE M1-6A
M1-6A	VERMONT 12A	30"	24"	47	5.00	W/G	
R11-2C	ROAD CLOSED	48"	30"	2	10.00	B/W	INSTALL ON 2 POSTS
R11-3B	ROAD CLOSED X MILES AHEAD NO THRU TRAFFIC	60"	30"	5	12.50	B/W	INSTALL ON 2 POSTS

B/F/O = BLACK ON RETROREFLECTIVE ORANGE BACKGROUND
W/G = RETROREFLECTIVE WHITE ON RETROREFLECTIVE GREEN BACKGROUND
B/W = BLACK ON RETROREFLECTIVE WHITE BACKGROUND

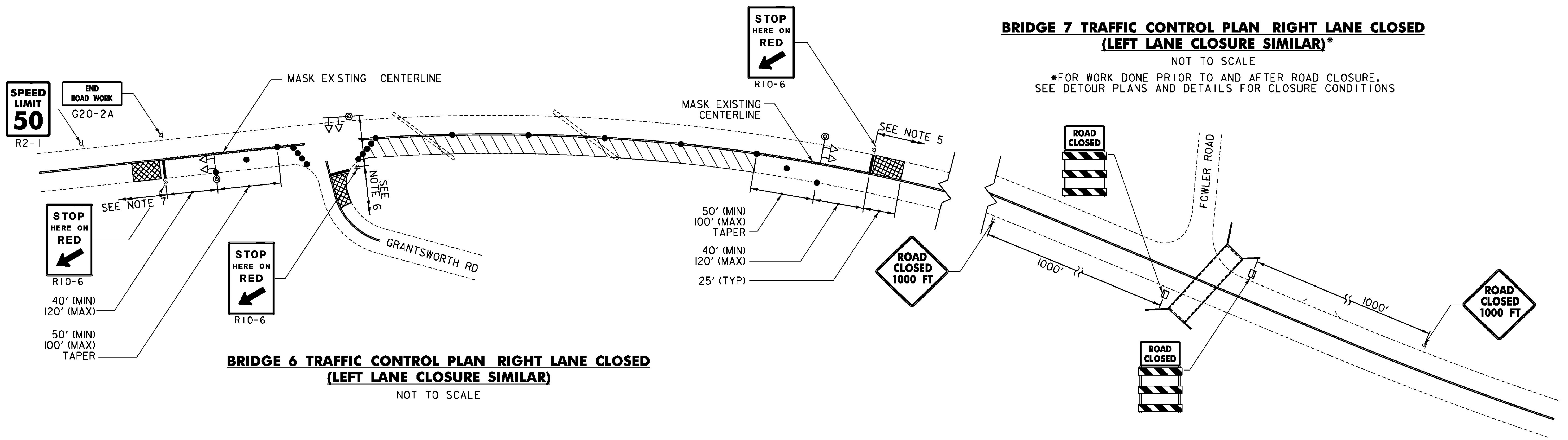
PROJECT NAME: BRAINTREE
PROJECT NUMBER: ER STP 0187(12)
FILE NAME: z12c526detour.dgn
PROJECT LEADER: G. EDWARDS
DESIGNED BY: I. MAYNARD
DETOUR DETAIL SHEET 2
PLOT DATE: 1/10/2014
DRAWN BY: G. BURGMIEIER
CHECKED BY: M. FOISY
SHEET 36 OF 72



**BRIDGE 7 TRAFFIC CONTROL PLAN RIGHT LANE CLOSED
(LEFT LANE CLOSURE SIMILAR)***

NOT TO SCALE

*FOR WORK DONE PRIOR TO AND AFTER ROAD CLOSURE.
SEE DETOUR PLANS AND DETAILS FOR CLOSURE CONDITIONS

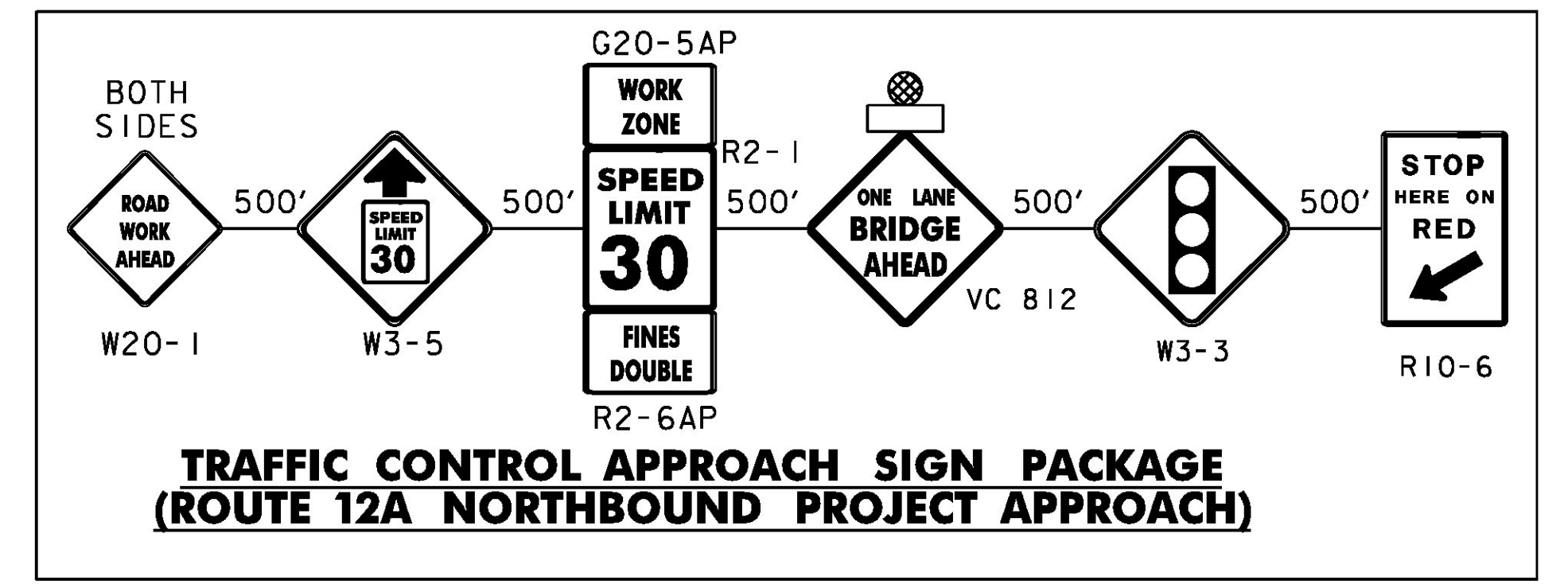
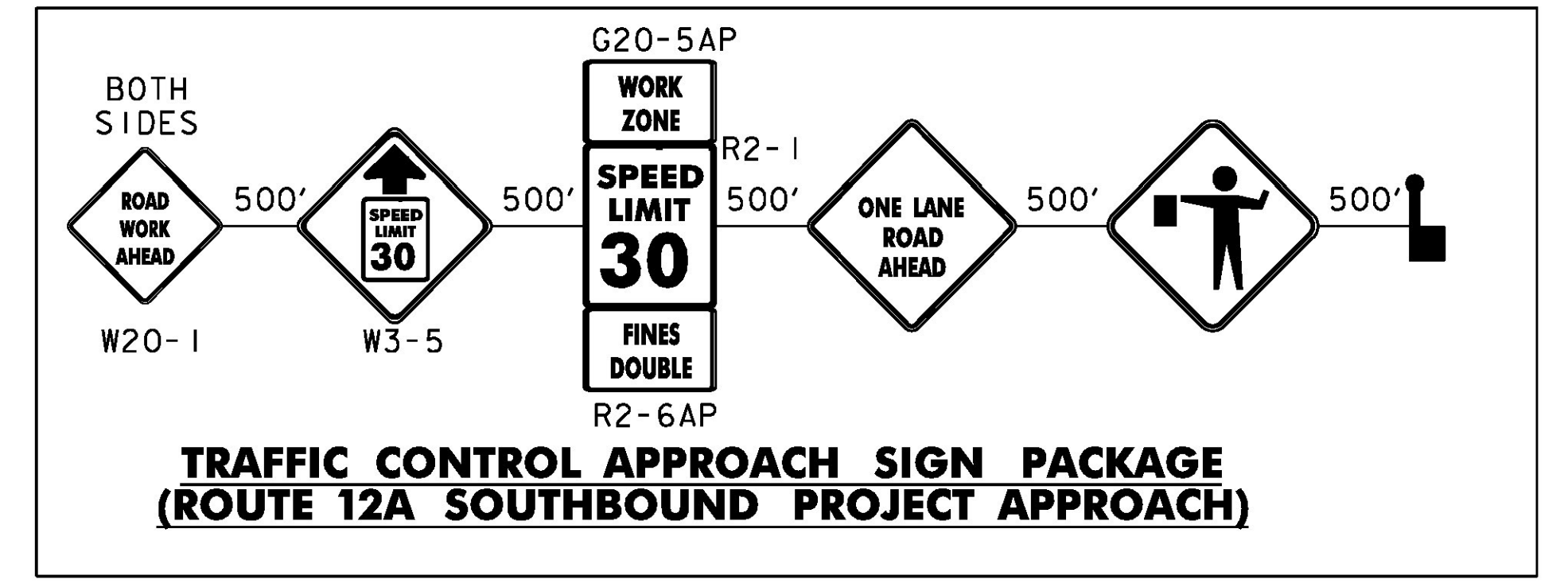
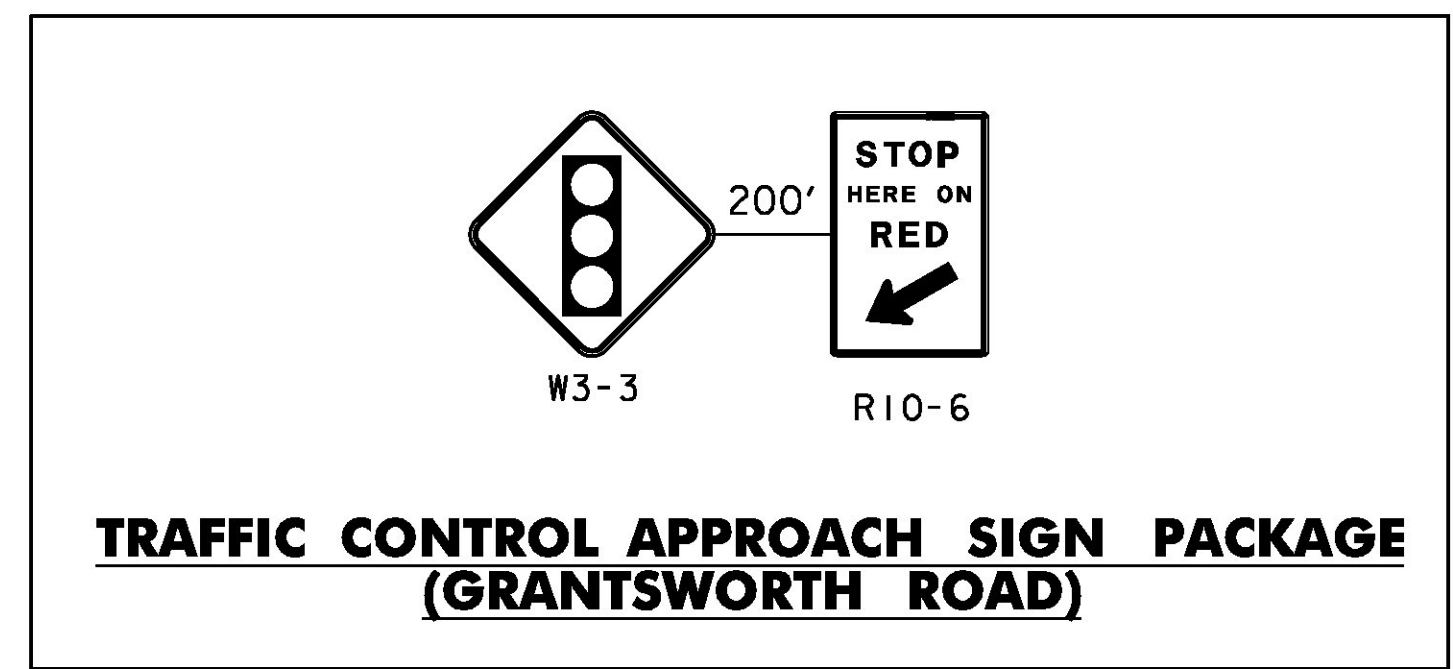
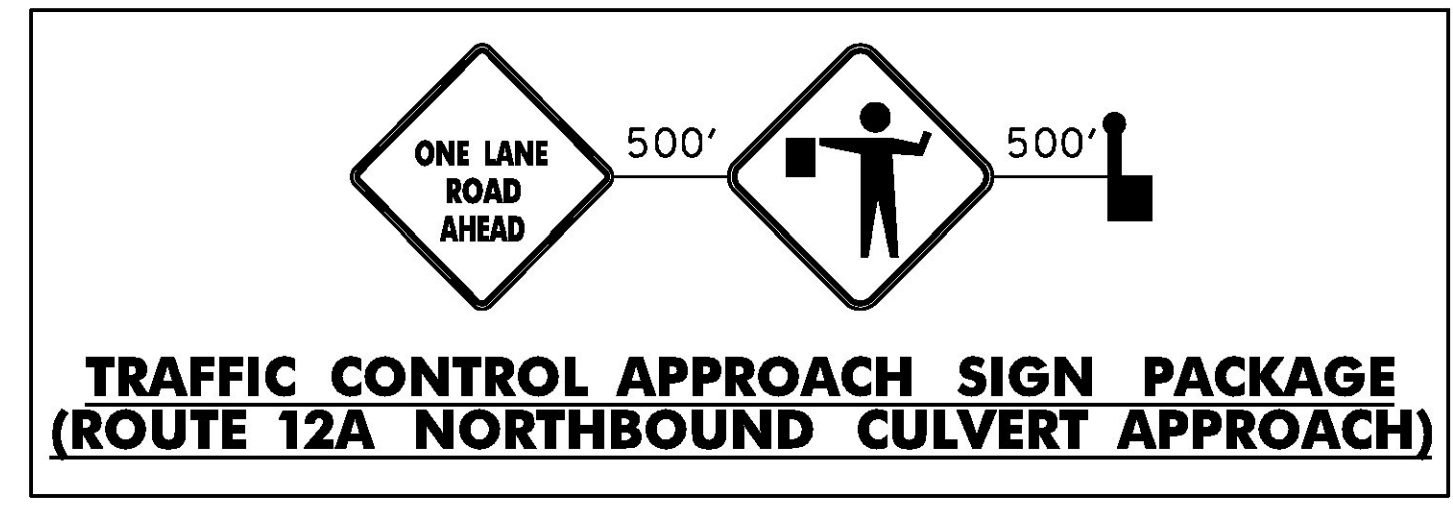


**BRIDGE 6 TRAFFIC CONTROL PLAN RIGHT LANE CLOSED
(LEFT LANE CLOSURE SIMILAR)**

NOT TO SCALE

LEGEND	
●	RETROREFLECTIVE PLASTIC DRUM
⊕	TEMPORARY TRAFFIC SIGNAL
⊗	TEMPORARY CONSTRUCTION SIGN
⚡	FLASHING BEACON
▨	WORK ZONE
▩	VEHICLE DETECTION ZONE
⚓	FLAGGER

- NOTES:**
- SEE SHEET 38 FOR TEMPORARY TRAFFIC SIGNAL NOTES AND GENERAL TRAFFIC CONTROL NOTES.
 - REFER TO STANDARDS T-1 AND T-10 FOR CONSTRUCTION APPROACH SIGNS CRITERIA.
 - ALL SIGNS ARE TO BE LOCATED ON THE RIGHT SIDE OF THE ROAD APPROACHING THE CONSTRUCTION AREA UNLESS OTHERWISE NOTED.
 - REFER TO "TRAFFIC CONTROL APPROACH SIGN PACKAGE (ROUTE 12A SOUTHBOUND PROJECT APPROACH)" ON THIS SHEET FOR APPROACH SIGNS NOT SHOWN.
 - REFER TO "TRAFFIC CONTROL APPROACH SIGN PACKAGE (ROUTE 12A NORTHBOUND CULVERT APPROACH)" ON THIS SHEET FOR APPROACH SIGNS NOT SHOWN.
 - REFER TO "TRAFFIC CONTROL APPROACH SIGN PACKAGE (GRANTSWORTH ROAD)" ON THIS SHEET FOR APPROACH SIGNS NOT SHOWN.
 - REFER TO "TRAFFIC CONTROL APPROACH SIGN PACKAGE (ROUTE 12A NORTHBOUND PROJECT APPROACH)" ON THIS SHEET FOR APPROACH SIGNS NOT SHOWN.
 - ALL SIGNS, PAVEMENT MARKINGS, BARRELS, BARRICADES, AND OTHER INCIDENTALS REQUIRED FOR TRAFFIC CONTROL SHALL BE PAID FOR UNDER CONTRACT ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
 - ACCESS TO ALL EXISTING SIDE ROADS, DRIVES, AND PARKING AREAS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
 - EXISTING SPEED LIMIT SIGNS SHALL BE COVERED WITHIN THE PROJECT LIMITS FOR THE DURATION OF LANE CLOSURES.
 - ALL STOP SIGNS AND ANY TRAFFIC SIGNS MADE IRRELEVANT DUE TO THE TEMPORARY SIGNAL OR OTHER TRAFFIC CONTROL MEASURES SHALL BE COVERED DURING OPERATION OF THE TEMPORARY SIGNAL OR AT THE DISCRETION OF THE ENGINEER. THE COST OF COVERING AND UNCOVERING SIGNS SHALL BE PAID INCIDENTAL TO CONTRACT ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).



PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526+cp.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
TRAFFIC CONTROL PLAN	
PLOT DATE:	1/10/2014
DRAWN BY:	I. MAYNARD
CHECKED BY:	M. FOISY
SHEET	37 OF 72

TEMPORARY TRAFFIC SIGNAL NOTES:

1. DESIGN OF THE SIGNAL SUPPORTS AND ANY REQUIRED GUYING IS THE RESPONSIBILITY OF THE CONTRACTOR.
2. SIGNAL TIMING/TIMING ADJUSTMENTS REQUESTED BY THE ENGINEER SHALL BE ACCOMPLISHED WITHIN A 48 HOUR PERIOD AND PAYMENT SHALL BE INCIDENTAL TO ITEM 678.40, "TEMPORARY TRAFFIC SIGNAL SYSTEM". THE CONTRACTOR SHALL MAKE SEVERAL TRIAL RUNS TO DETERMINE THE PROPER ALL-RED CLEARANCE INTERVAL.
3. SIGNAL FACES SHALL BE LED AND CONSIST OF 12" LENSES. (RED, YELLOW, AND GREEN)
4. THE BOTTOM OF THE HOUSING OF A SIGNAL FACE SUSPENDED OVER A ROADWAY SHALL NOT BE LESS THAN 16.5 FEET NOR MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. THE BOTTOM OF A SIGNAL FACE NOT MOUNTED OVER A ROADWAY SHALL NOT BE LESS THAN 8 FEET NOR MORE THAN 15 FEET ABOVE THE GROUND. CAUTION SHOULD BE USED TO INSURE COMPLIANCE WITH THE HEIGHT REQUIREMENTS IN THE EVENT THE NEW APPROACH GRADES DIFFER SIGNIFICANTLY FROM THE OLD ROAD GRADE.
5. SIGNAL FACES FOR ANY ONE APPROACH SHALL NOT BE LESS THAN 8 FEET APART MEASURED HORIZONTALLY BETWEEN CENTER FACES.
6. SIGNAL HEADS MAY BE HUNG ON A SPAN WIRE OR ON A CANTILEVER MAST ARM. AT LEAST ONE SIGNAL HEAD SHALL BE UNMISTAKABLY IN LINE WITH THE CENTER OF APPROACHING TRAFFIC AT ALL TIMES. THE SECOND SIGNAL HEAD MAY BE POST MOUNTED, LOCATED AT A DISTANCE OF NO GREATER THAN 14.5 FEET FROM THE CENTER OF THE APPROACH LANE WHEN THE STOP BAR IS 40 FEET FROM THE SIGNAL HEAD. CONSULT THE LATEST EDITION OF THE M.U.T.C.D. FOR ADDITIONAL INFORMATION CONCERNING SIGNAL PLACEMENT.
7. SIGNAL HEAD PLACEMENT IS CRITICAL. HEADS SHALL BE ADJUSTED TO REFLECT LANE LOCATION CHANGES.
8. THE SIGNAL SYSTEM SHALL CONSIST OF CONTROLLER, SIGNAL HEADS, DETECTION, POLES, SIGNS AND POSTS, WARNING SIGNS, LUMINAIRES, FLASHING BEACONS, ASSOCIATED PAVEMENT MARKINGS, AND MISCELLANEOUS SIGNAL EQUIPMENT TO PROVIDE FOR AN ADEQUATE OPERATION. THE SYSTEM ALSO INCLUDES PERMITS AND COSTS ASSOCIATED WITH PROVIDING ELECTRICAL POWER.
9. INSTALL WIRING BETWEEN SIGNAL POLES BY WHATEVER MEANS POSSIBLE OR CONVENIENT TO PROVIDE FOR A SAFE INSTALLATION. ATTACHMENT TO UTILITY POLES TO BE COORDINATED BY THE CONTRACTOR WITH THE UTILITY COMPANY.
10. PLACE TEMPORARY POLES BEHIND GUARDRAIL WHERE POSSIBLE.
11. POLES SUPPORTING SPAN WIRES AND/OR MAST ARMS SHALL BE ADEQUATELY BRACED OR GUYED AND SHALL NOT BE PLACED SO AS TO CREATE A HAZARD TO THE TRAVELING PUBLIC INCLUDING PEDESTRIANS.
12. ALL TEMPORARY SIGNAL EQUIPMENT, SIGNS, ETC., SHALL BELONG TO THE CONTRACTOR AT THE END OF THE PROJECT AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR REMOVAL INCLUDING ANY TEMPORARY PAVEMENT MARKINGS, UTILITY POLES, WIRES, ETC.
13. A 250 WATT MER/150 WATT HPS LUMINAIRE AND MAST ARM SHALL BE PROVIDED ON A POLE ON EACH APPROACH AT A MOUNTING HEIGHT OF 30 FEET ABOVE ROADWAY CENTERLINE. THE INTENT IS TO LIGHT UP THE AREA AROUND THE SIGNAL HEADS AND STOP BAR FOR INCREASED VISIBILITY. THE ENGINEER SHALL DETERMINE THE ADEQUACY OF THE LIGHTING AND DIRECT CHANGES IF THE LIGHTING IS INSUFFICIENT. LIGHTING SHALL BE PAID INCIDENTAL TO ITEM 678.40, "TEMPORARY TRAFFIC SIGNAL SYSTEM".
14. STOP BARS SHALL BE LOCATED A MINIMUM OF 40' AND A MAXIMUM OF 180' FROM THE NEAREST SIGNAL HEAD.
15. SEE STD. E-121 FOR SIGN PLACEMENT. SEE STDS. E-171A AND E-172 FOR ADDITIONAL INFORMATION ON SIGNALS.
16. ALL ELECTRICAL WORK SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND STATE INSPECTOR.
17. CONSTRUCTION APPROACH SIGNS SHALL BE PROVIDED ON EACH APPROACH PER THE APPLICABLE "TRAFFIC CONTROL APPROACH SIGN PACKAGE." ADDITIONAL CONSTRUCTION APPROACH SIGNS SHALL BE INSTALLED AS REQUIRED BY THE ENGINEER PER STANDARD T-10. PAYMENT FOR THESE SIGNS, REFLECTORIZED PLASTIC DRUMS, ETC., SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING SIGNAL PHASING AND TIMING. THE CONTRACTOR SHALL SUBMIT PHASING DIAGRAM INCLUDING TIMING TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL MAKE SIGNALS OPERATIONAL ONLY AFTER RECEIVING APPROVAL OF THE PHASING AND TIMING DIAGRAM BY THE ENGINEER. DEVELOPMENT OF THE PHASING DIAGRAM AND TIMING SHALL BE PAID INCIDENTAL TO ITEM 678.40, "TEMPORARY TRAFFIC SIGNAL SYSTEM".

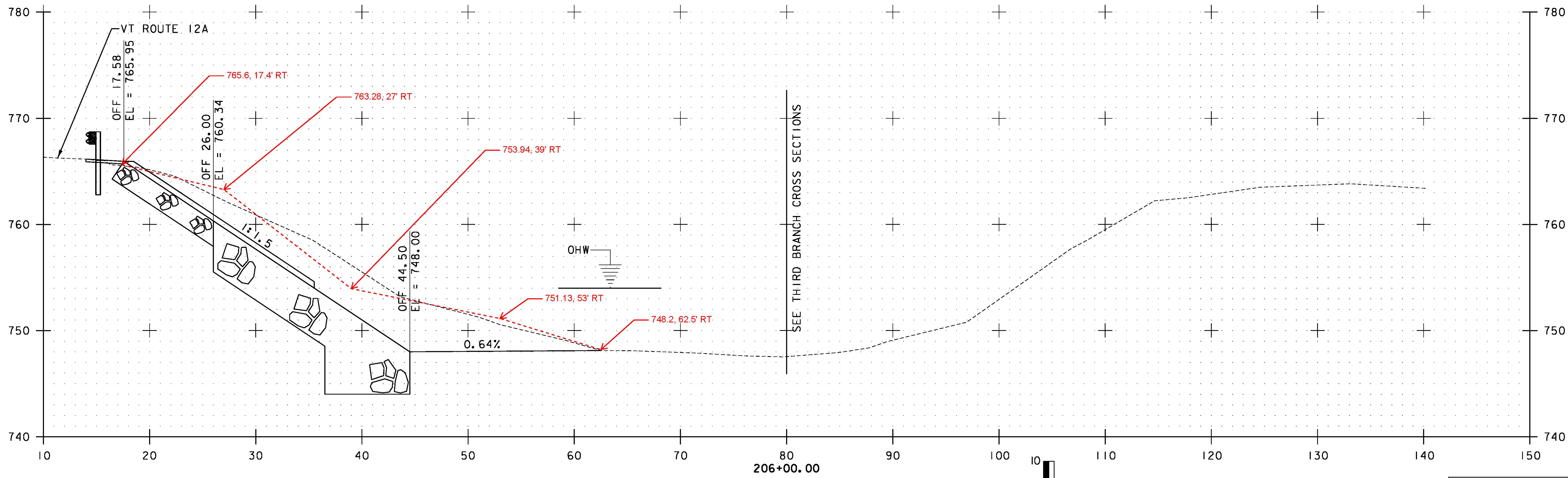
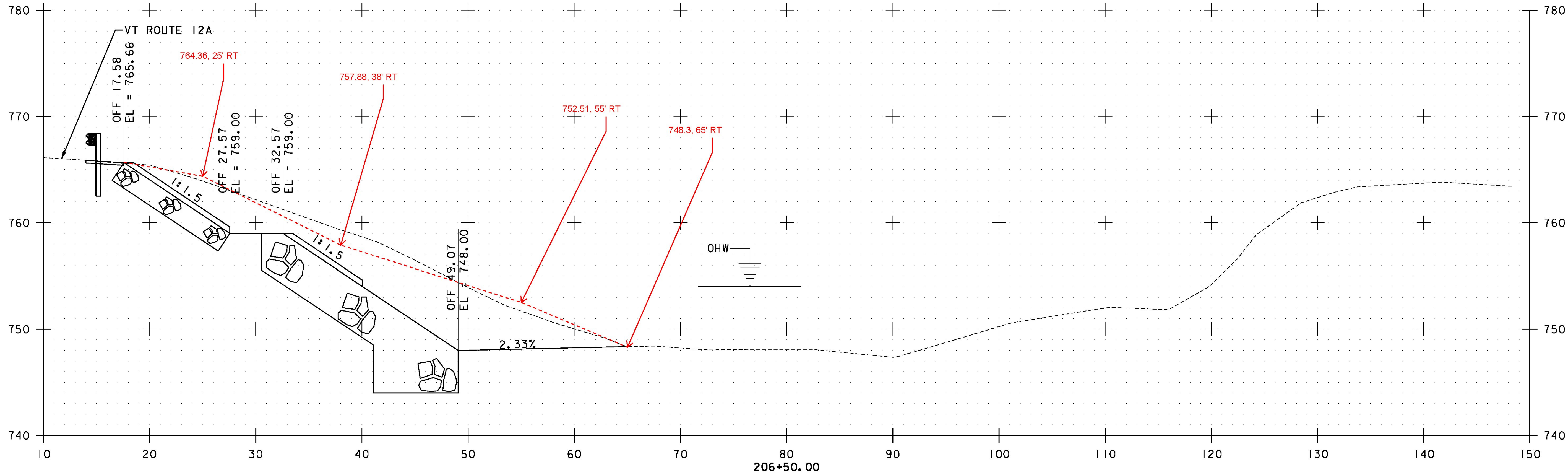
GENERAL TRAFFIC CONTROL NOTES

1. THE TRAFFIC CONTROL PLAN SHOWN IS A SCHEMATIC ONLY AND SHOULD BE USED AS A REFERENCE. SITE CONDITIONS MAY WARRANT ADDITIONAL CONSIDERATIONS FOR SAFETY. MINIMUM VERTICAL CLEARANCE OVER LIVE TRAFFIC SHALL BE SHOWN ON TRAFFIC CONTROL PLAN SUBMITTALS. PLANS SHALL BE SUBMITTED IN ACCORDANCE WITH SUBSECTION 105.03 AND SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN AN APPROPRIATE DISCIPLINE IN THE STATE OF VERMONT. PAYMENT FOR PREPARING AND SUBMITTING THE TRAFFIC CONTROL PLAN, AND MAKING ANY NECESSARY REVISIONS TO THE PLAN, WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE). NO WORK SHALL COMMENCE UNTIL THE CONTRACTOR HAS AN APPROVED TRAFFIC CONTROL PLAN. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
2. CONSTRUCTION SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS OR CORNER SIGHT DISTANCE FROM HIGHWAYS, STREETS, ROADS OR DRIVES. DISTANCES FOR CONSTRUCTION SIGN POSITIONS ON THESE PLANS ARE PROVIDED FOR REFERENCE ONLY. FIELD ADJUSTMENTS MAY BE MADE AS DEEMED APPROPRIATE BY THE ENGINEER.
3. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION FOR TEMPORARY TRAFFIC CONTROL DEVICES.
4. SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM D4956) TYPE VII, VIII OR IX REQUIREMENTS, UNLESS OTHERWISE NOTED.
5. ROLL UP SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING ASTM D4956 TYPE VI.
6. SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES, DURING PERIODS OF INACTIVITY OR UPON COMPLETION OF THE WORK. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.
7. FIXED SIGNS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE EDGE OF PAVEMENT. THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST SIX FEET OUTSIDE THE SHOULDER POINT OR FOUR FEET OUTSIDE GUARDRAIL.
8. PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY AND A ONE FOOT MINIMUM ABOVE TRAVELED WAY. ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARDRAIL.
9. WHERE SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL BE "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 COMPLIANT. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POST(S). WHEN ANCHORS ARE INSTALLED STUB SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.
10. THE NUMBER OF CHANNELIZING DEVICES, TYPE III BARRICADES AND OTHER TRAFFIC CONTROL DEVICES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR, CURVE, ETC.). WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
11. THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE USED AT THE DISCRETION OF THE ENGINEER, AND IN ACCORDANCE WITH SECTION 6F.60 OF THE MUTCD.
12. THE CONTRACTOR SHALL SHIFT TRAFFIC IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. ALL EQUIPMENT SHALL BE MOVED TO A LOCATION OFF PAVED SHOULDERS AND OUT OF THE CLEAR ZONE DURING NON-WORK PERIODS, AND DELINEATED BY BARRELS OR CONES. UNLESS COVERED UNDER INDIVIDUAL PAY ITEMS OR NOTED OTHERWISE, ALL COSTS FOR WORK SHOWN ON SHEETS 34, 35, 36 AND 37 FOR TEMPORARY TRAFFIC CONTROL DEVICES INCLUDING BARRICADES, ENERGY ABSORPTION ATTENUATORS, RETROREFLECTIVE DRUMS, SIGNS, AND SIGN POSTS WILL BE CONSIDERED TO BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
13. TEMPORARY TRAFFIC CONTROL DETAILS AND THE COSTS ASSOCIATED WITH PROVIDING A TRAFFIC CONTROL PACKAGE FOR NIGHT WORK, IF PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER, WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
14. FOWLER ROAD TEMPORARY RELOCATION TO BE IN PLACE PRIOR TO EXCAVATION FOR REMOVAL OF EXISTING CULVERT. ITEM 649.11, GEOTEXTILE FOR ROADBED SEPARATOR, SHALL BE PLACED ON NATIVE GROUND PRIOR TO THE CONSTRUCTION OF THE TEMPORARY FOWLER ROAD. THE TEMPORARY FOWLER ROAD SHALL BE CONSTRUCTED PER THE DETAIL ON SHEET 4. AFTER THE REMOVAL OF THE RELOCATED FOWLER ROAD THE SITE SHALL BE RESTORED TO THE ORIGINAL CONDITIONS TO THE SATISFACTION OF THE ENGINEER.

PROJECT NAME: BRAINTREE
PROJECT NUMBER: ER STP 0187(12)

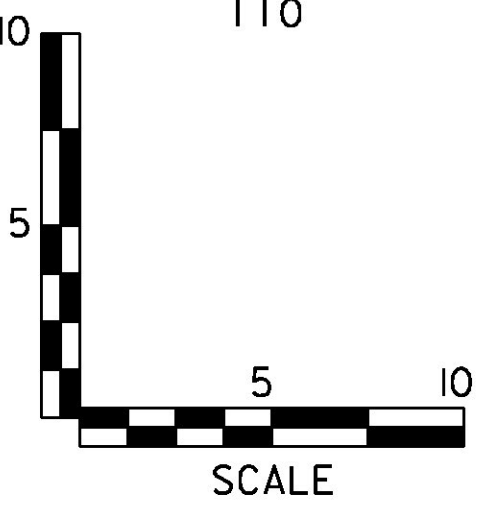
FILE NAME: z12c526+cp.dgn PLOT DATE: 1/27/2014
PROJECT LEADER: G. EDWARDS DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD CHECKED BY: M. FOISY
TRAFFIC CONTROL NOTES SHEET 38 OF 72



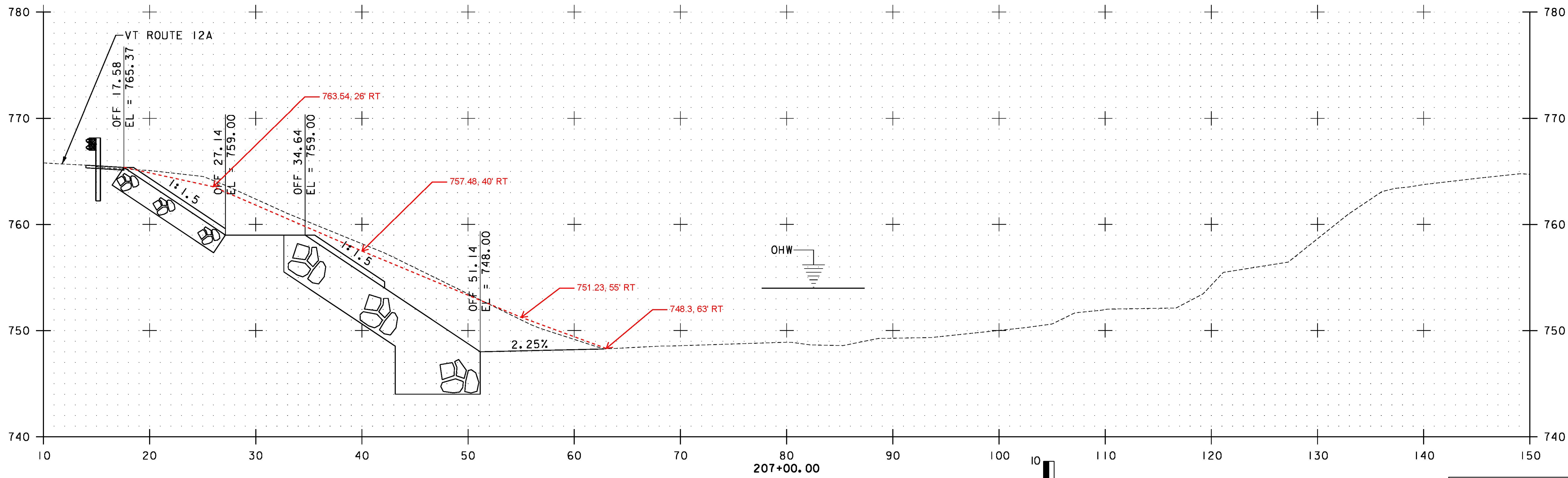
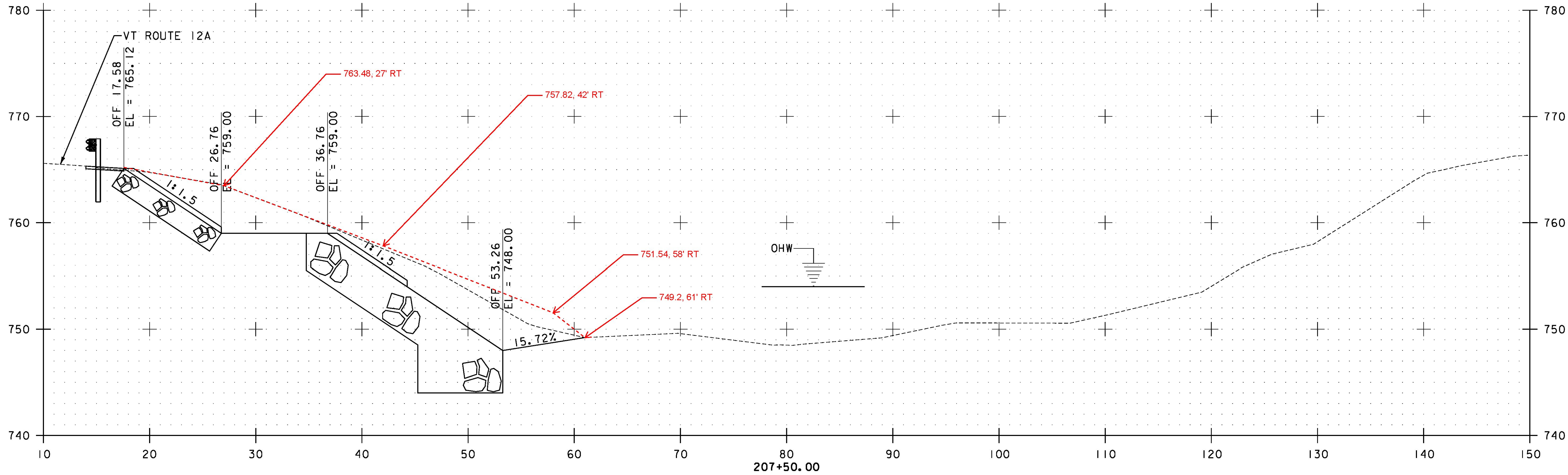


STA. 206+00.00 TO STA. 206+50.00

PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526xs.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
ROUTE 12A SECTIONS SHEET 1	SHEET 39 OF 72

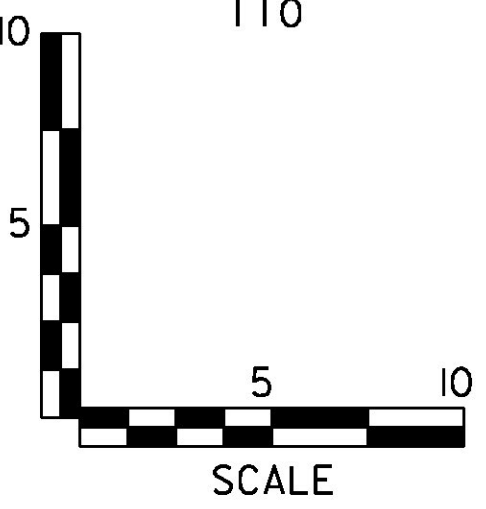


NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES

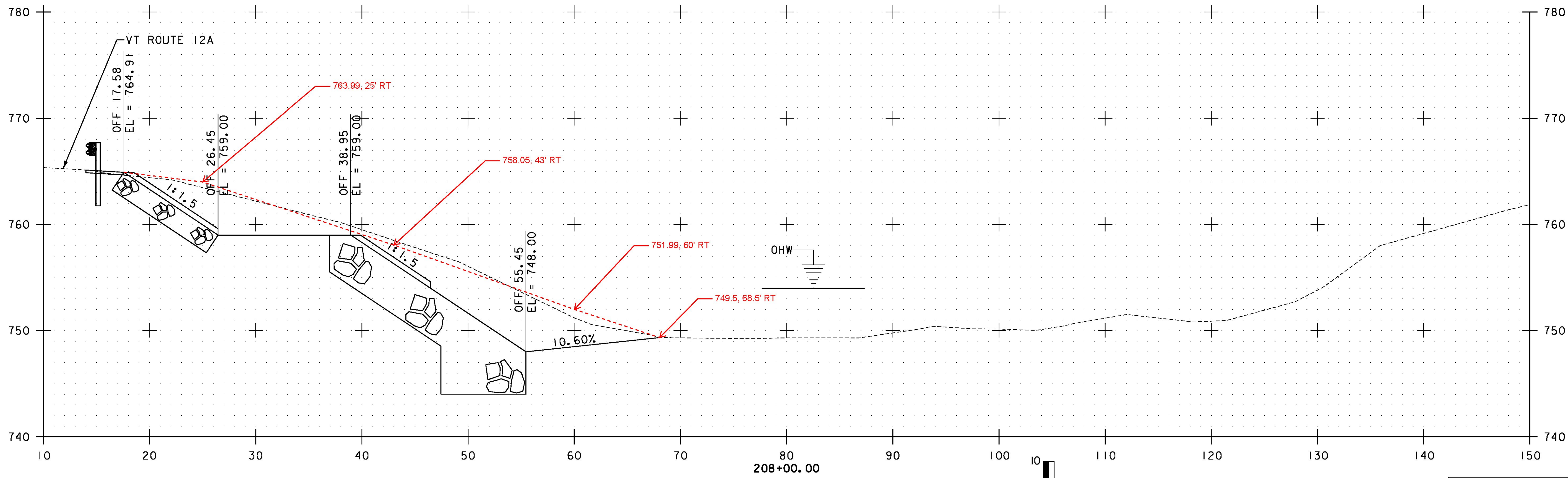
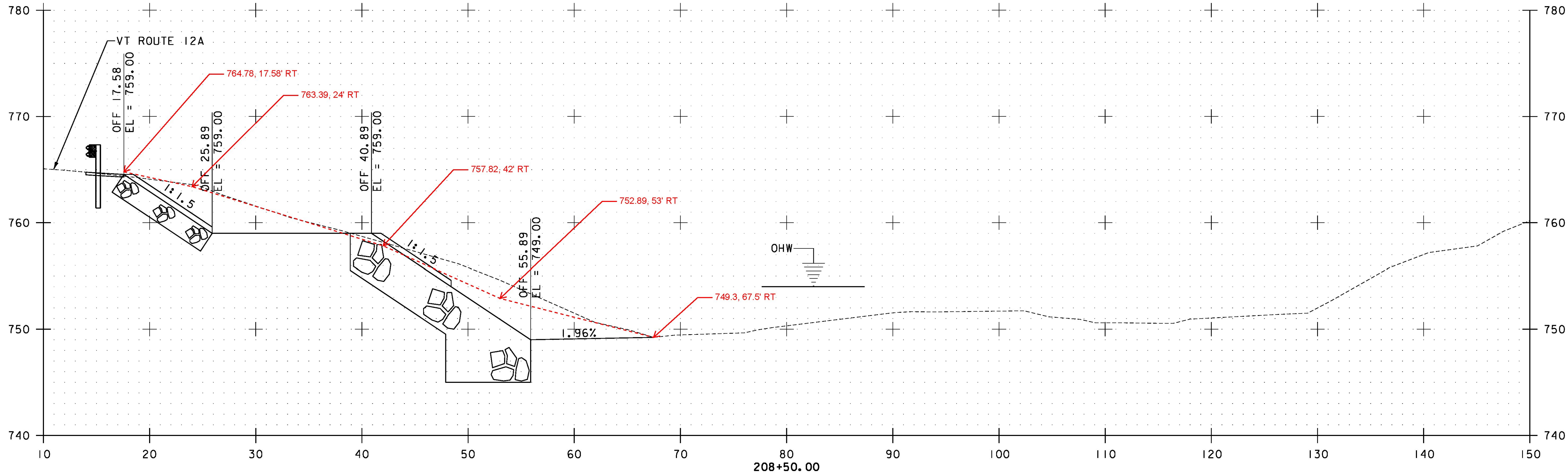


STA. 207+00.00 TO STA. 207+50.00

PROJECT NAME:	BRAINTREE	PLOT DATE:	1/10/2014
PROJECT NUMBER:	ER STP 0187(I2)	DRAWN BY:	G. BURGMEIER
FILE NAME:	z12c526xs.dgn	DESIGNED BY:	I. MAYNARD
PROJECT LEADER:	G. EDWARDS	CHECKED BY:	M. FOISY
ROUTE 12A SECTIONS SHEET 2		SHEET 40 OF 72	

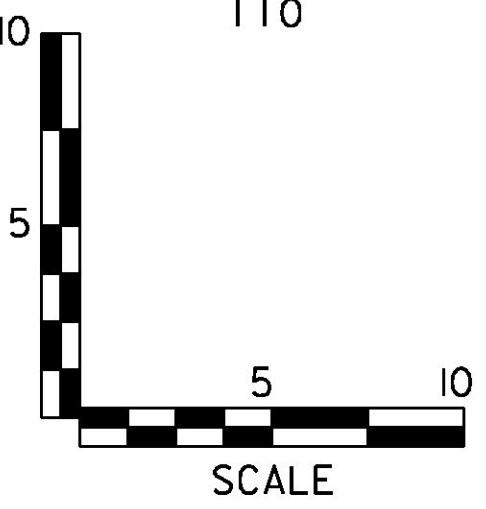


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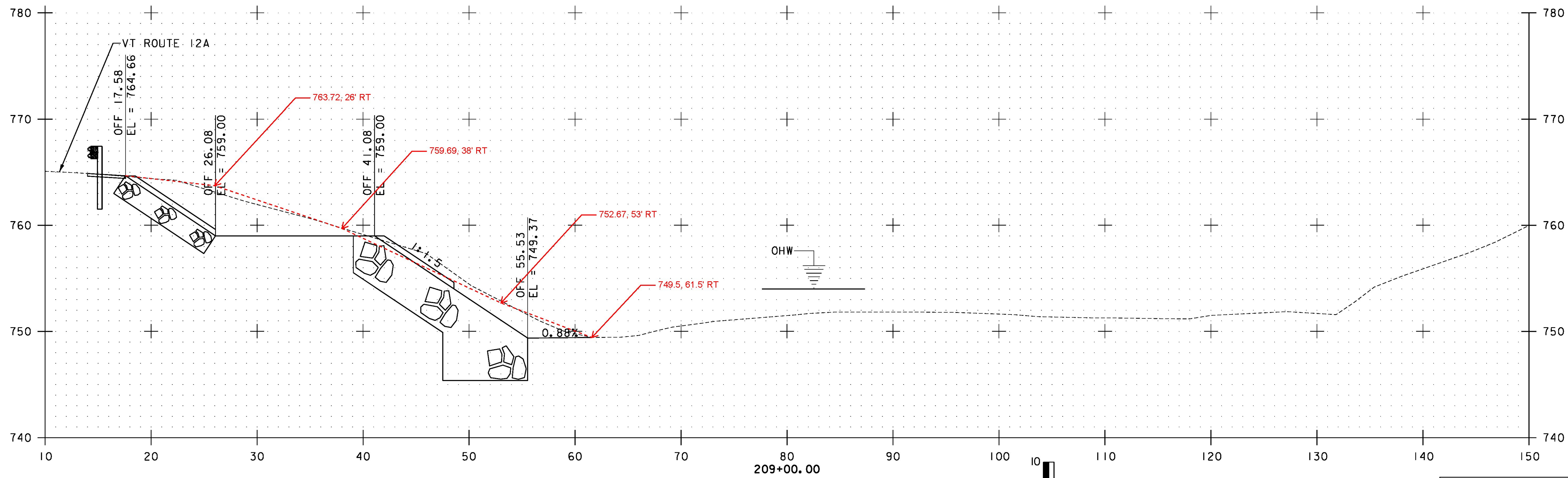
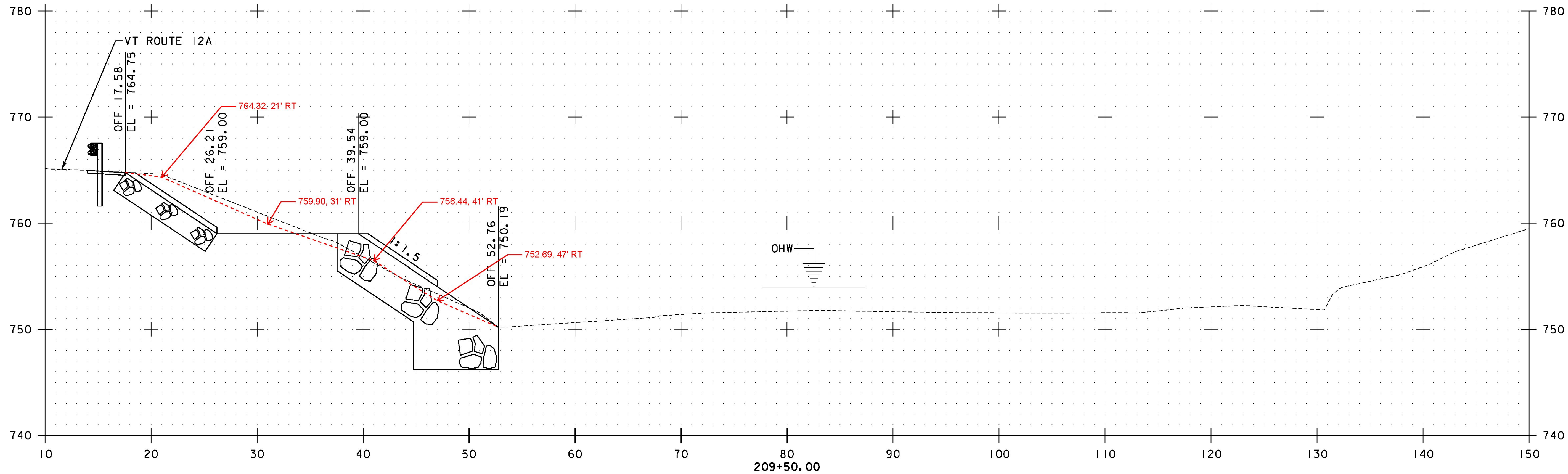


STA. 208+00.00 TO STA. 208+50.00

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ROUTE 12A SECTIONS SHEET 3	SHEET 41 OF 72

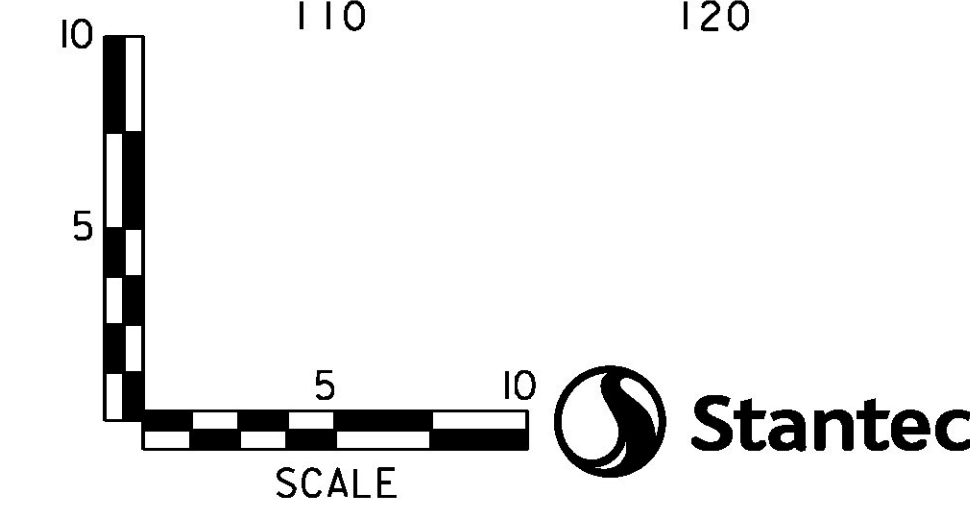


NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES

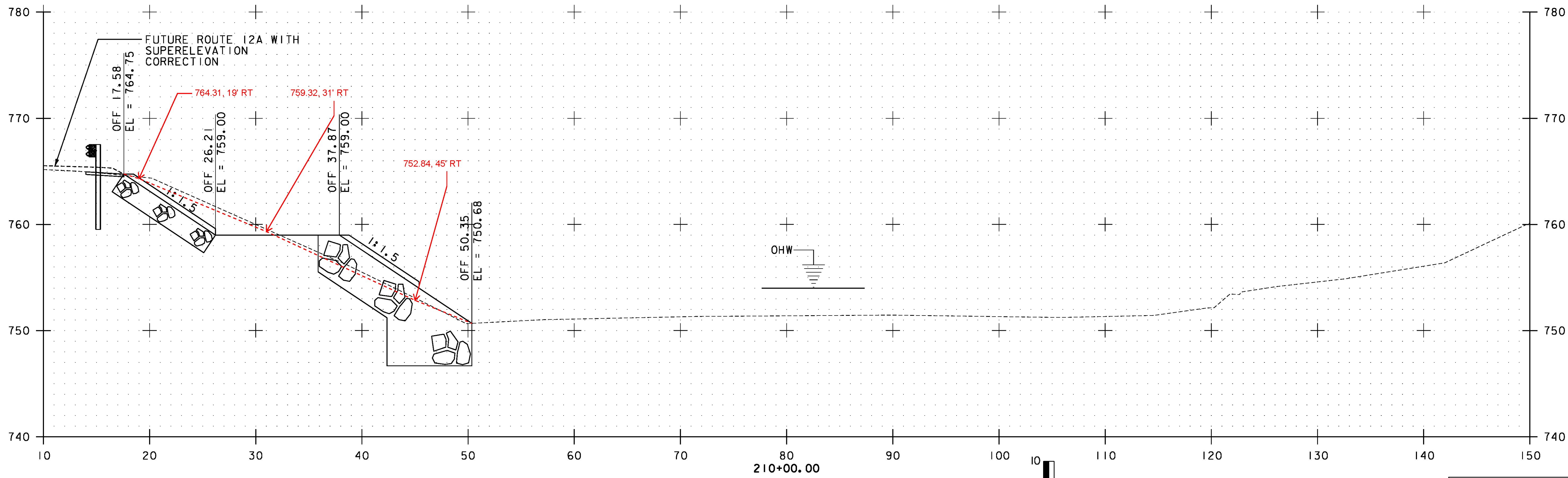
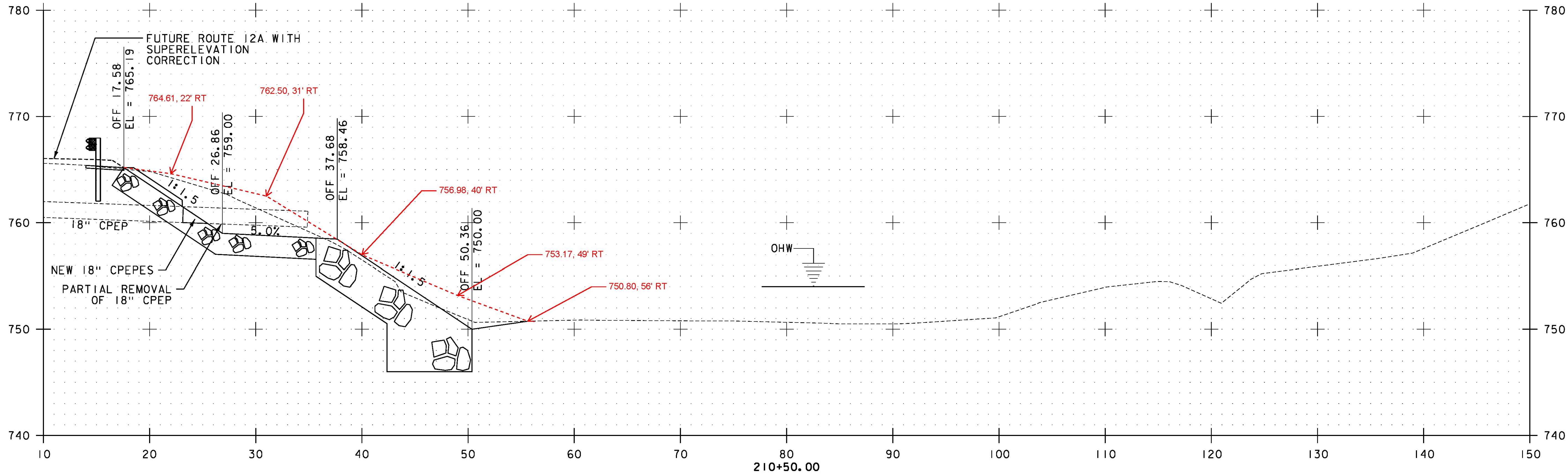


STA. 209+00.00 TO STA. 209+50.00

PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526xs.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
ROUTE 12A SECTIONS SHEET 4	
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
SHEET	42 OF 72

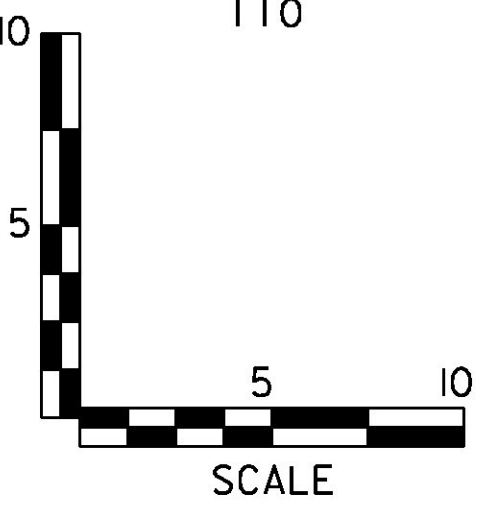


NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES

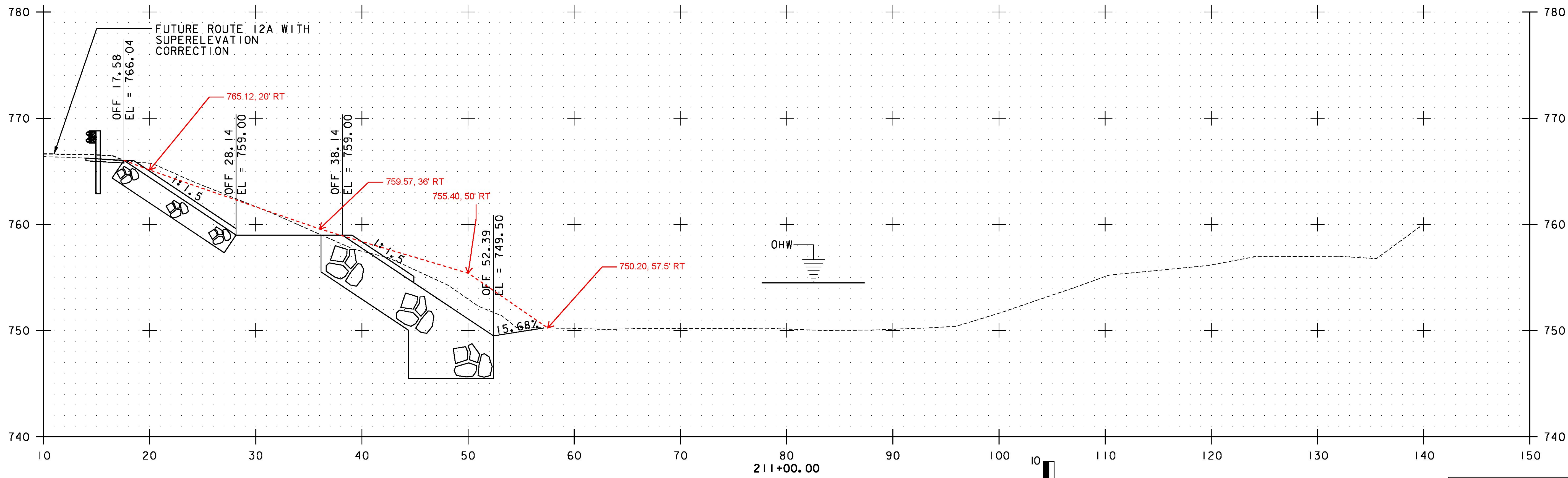
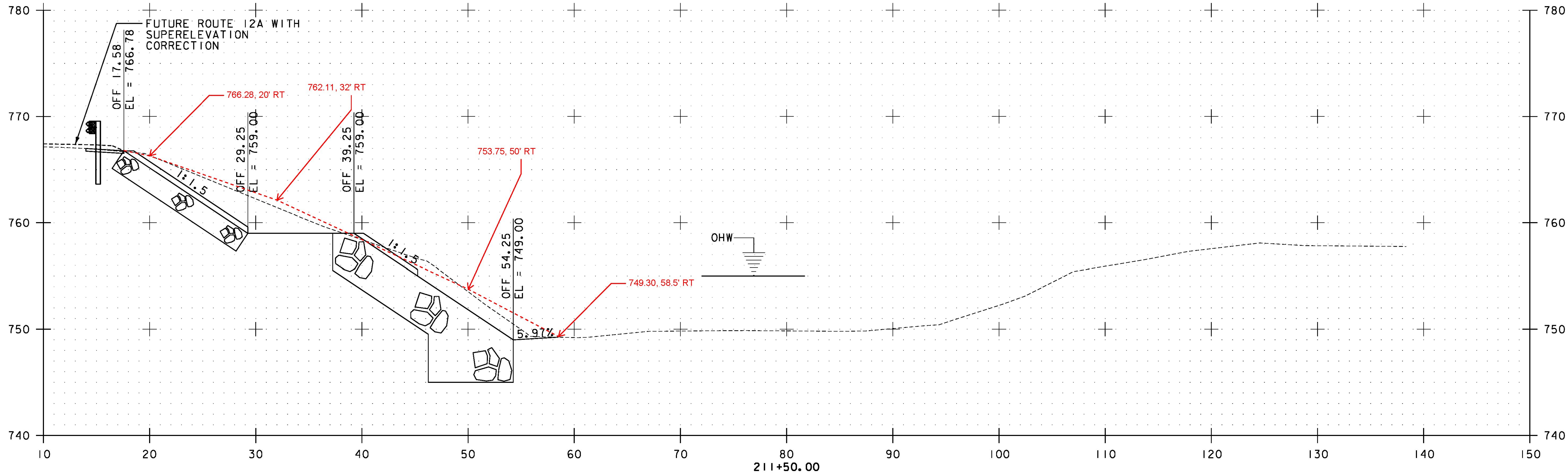


STA. 210+00.00 TO STA. 210+50.00

PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526xs.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
ROUTE 12A SECTIONS SHEET 5	SHEET 43 OF 72

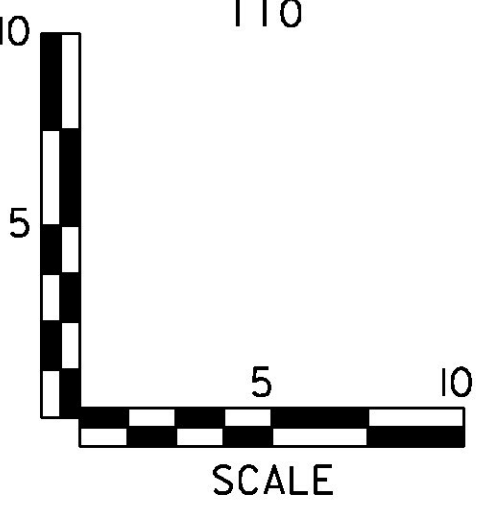


NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES

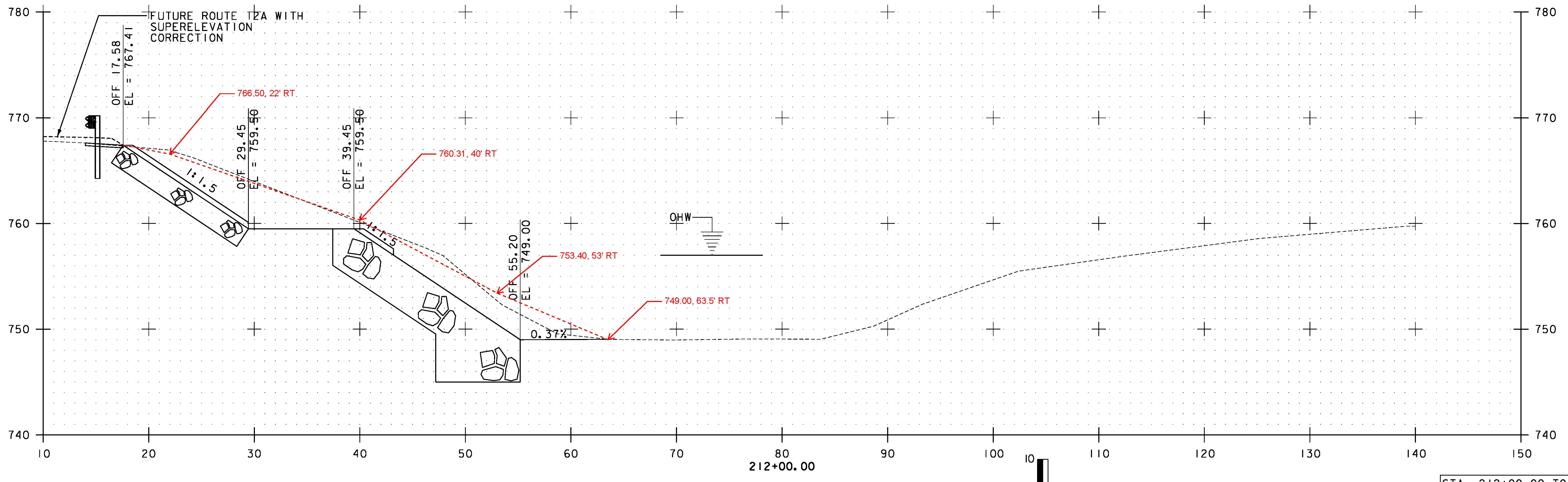
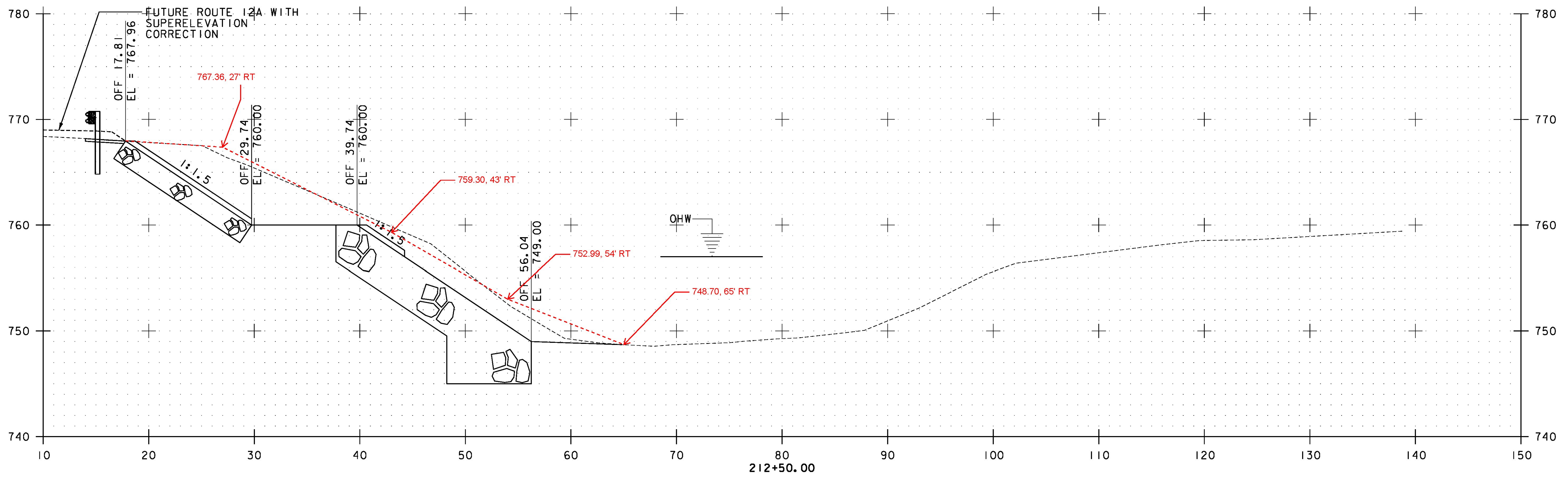


STA. 211+00.00 TO STA. 211+50.00

PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526xs.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
ROUTE 12A SECTIONS SHEET 6	SHEET 44 OF 72

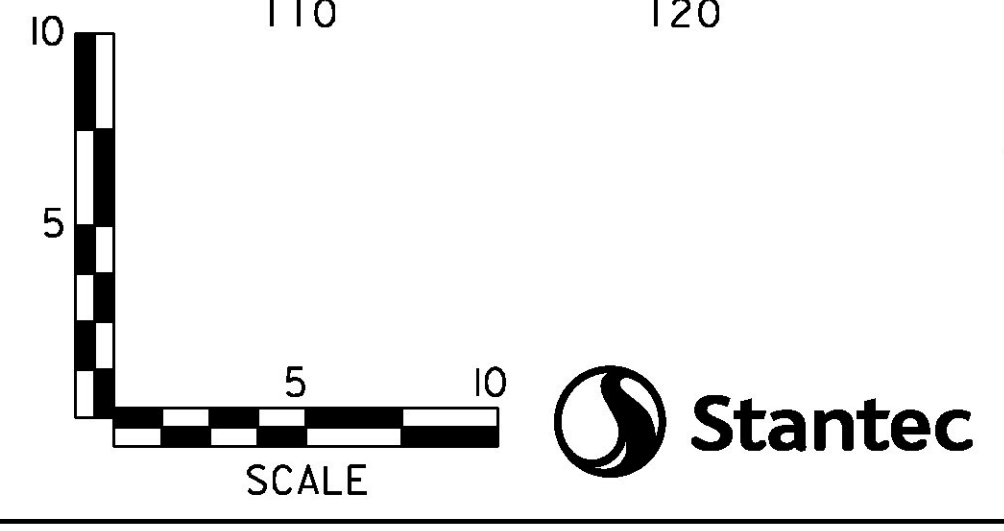


NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES

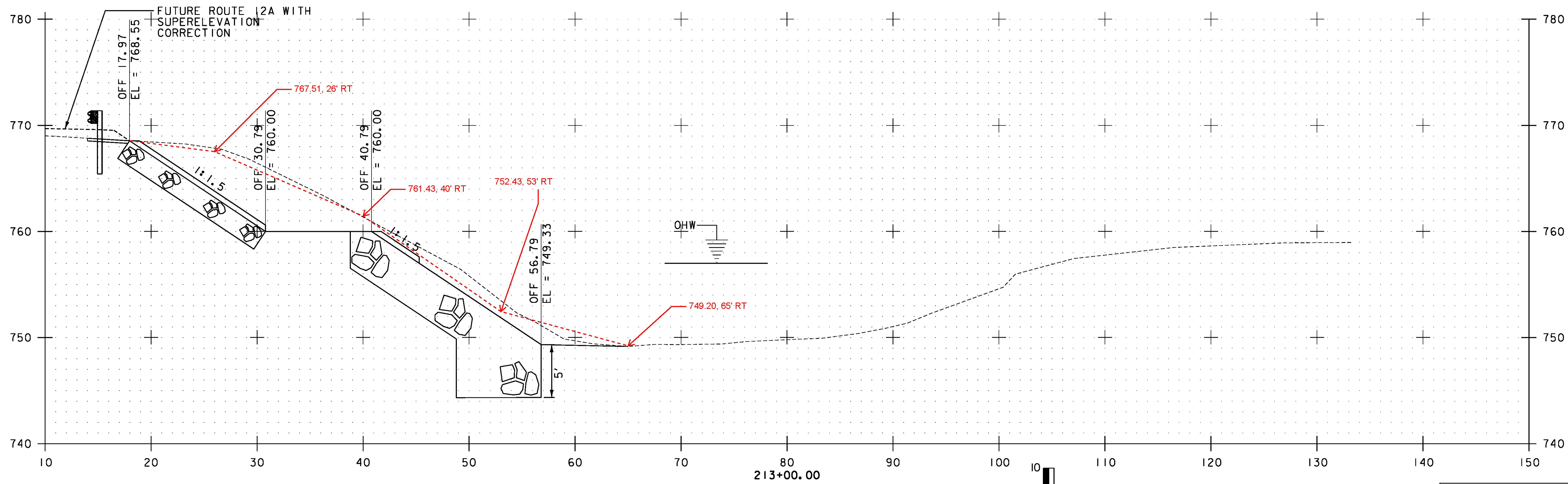
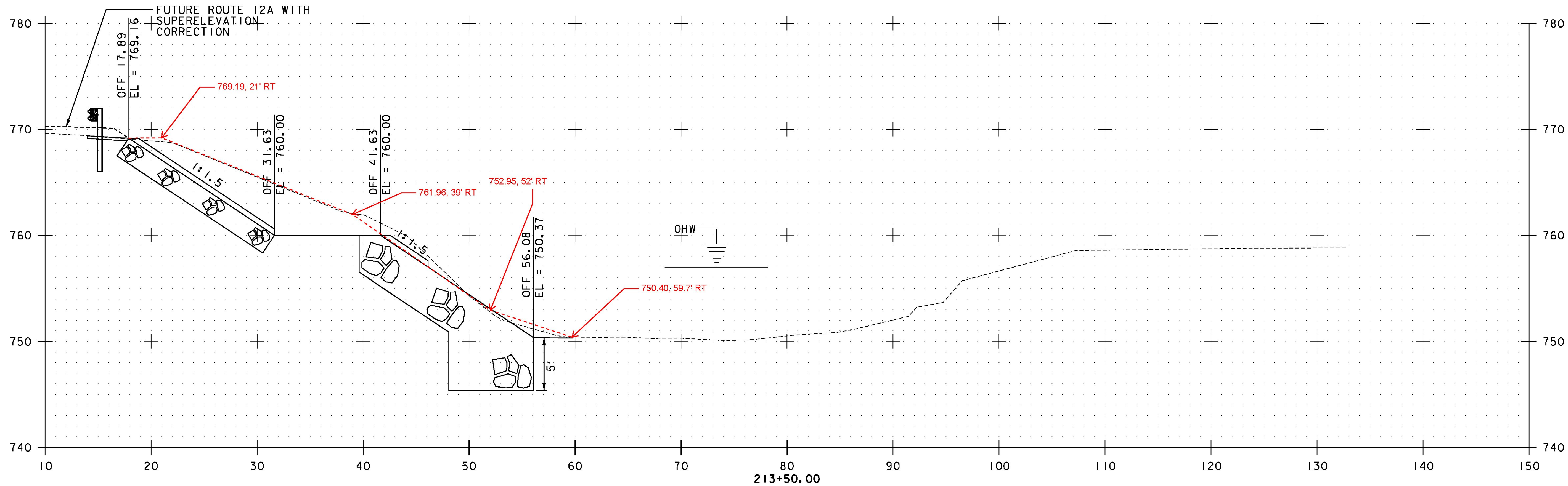


STA. 212+00.00 TO STA. 212+50.00

PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526xs.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
ROUTE 12A SECTIONS SHEET 7	
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
SHEET	45 OF 72



NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES

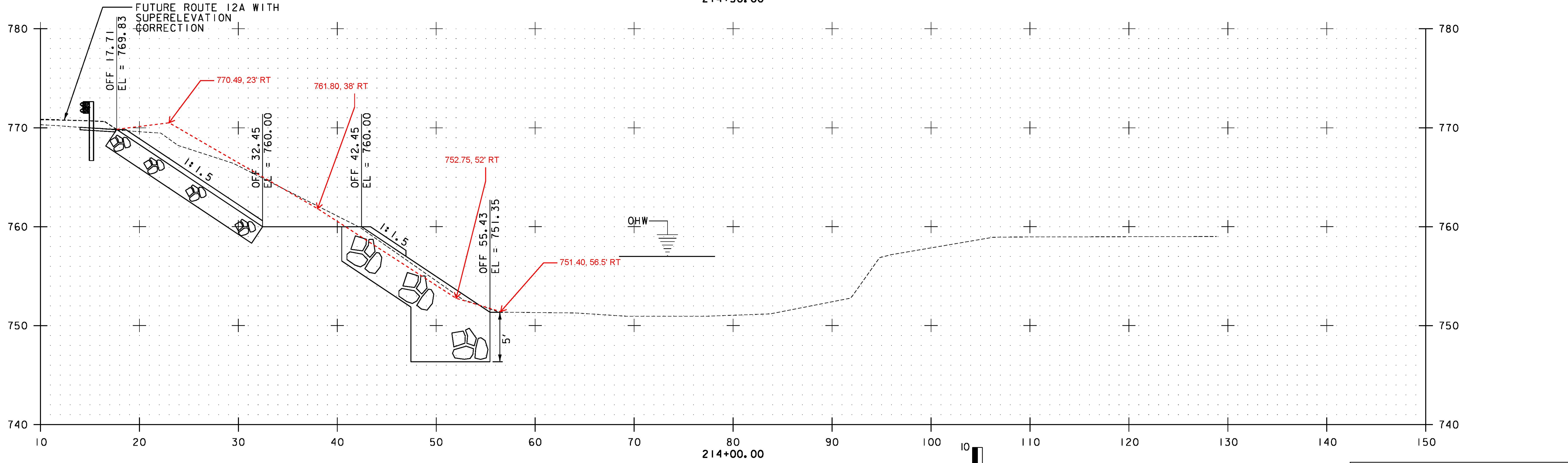
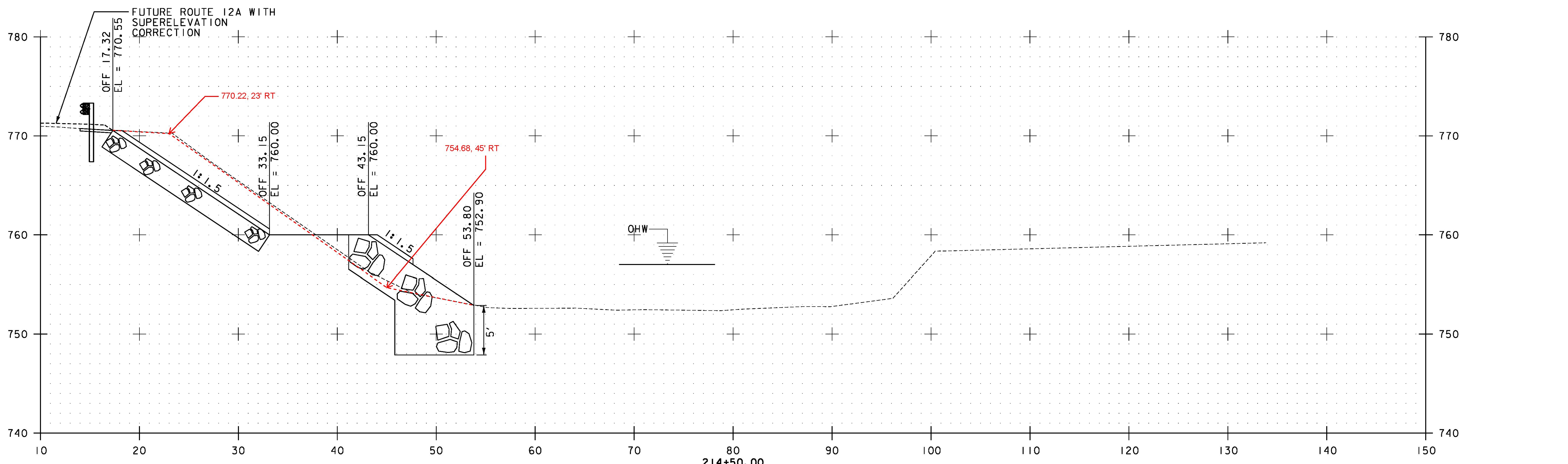


STA. 213+00.00 TO STA. 213+50.00

PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526xs.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
ROUTE 12A SECTIONS SHEET 8	
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
SHEET	46 OF 72

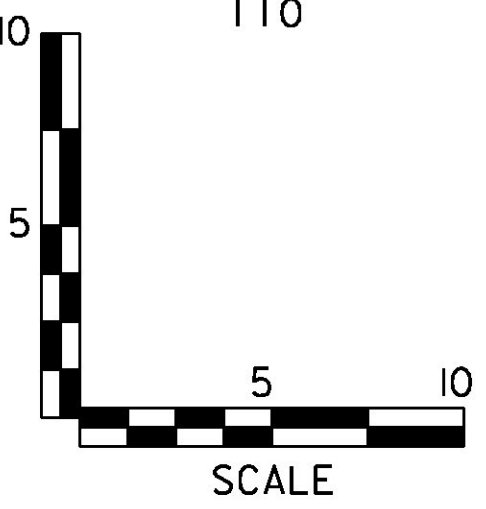


NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES

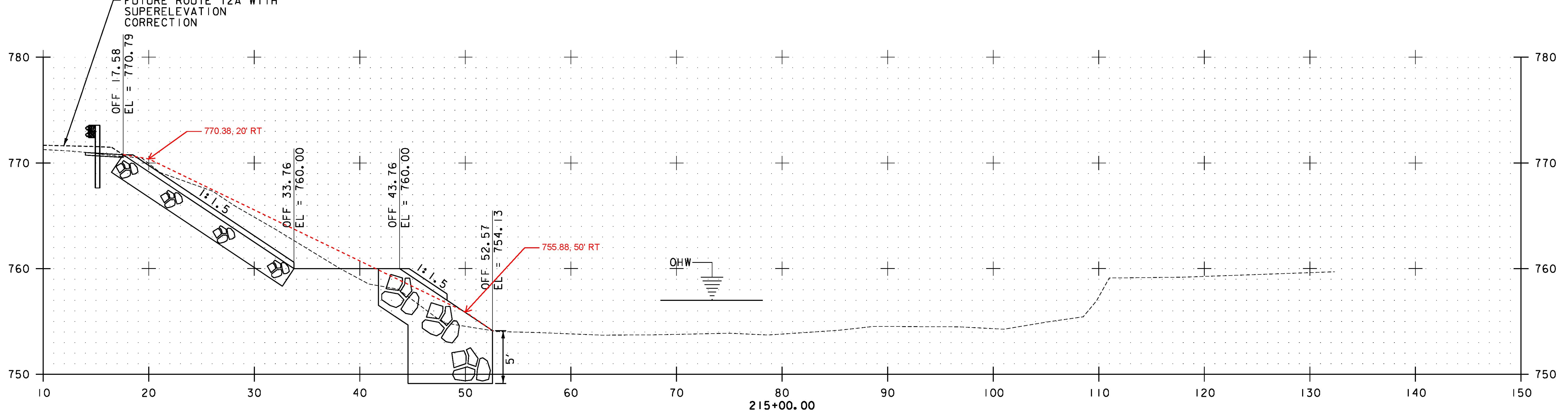
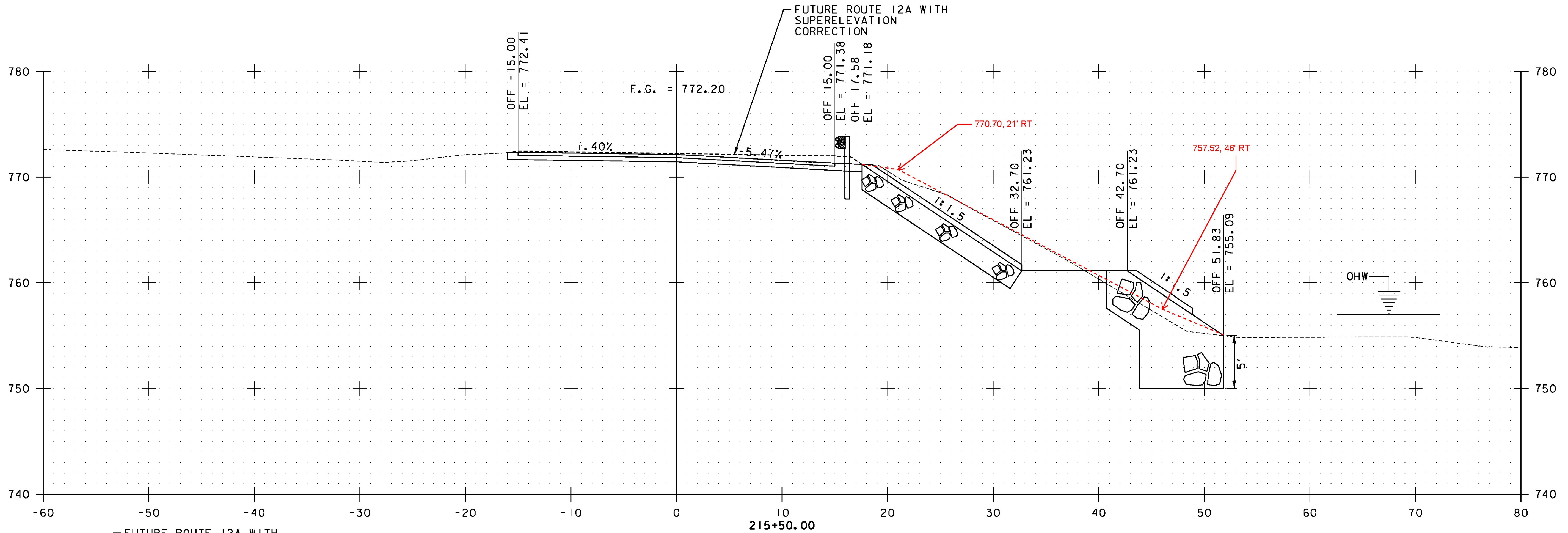


STA. 214+00.00 TO STA. 214+50.00

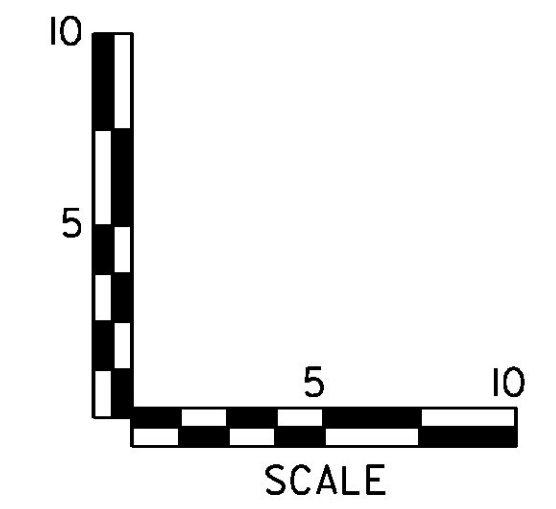
PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526xs.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
ROUTE 12A SECTIONS SHEET 9	SHEET 47 OF 72



NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES

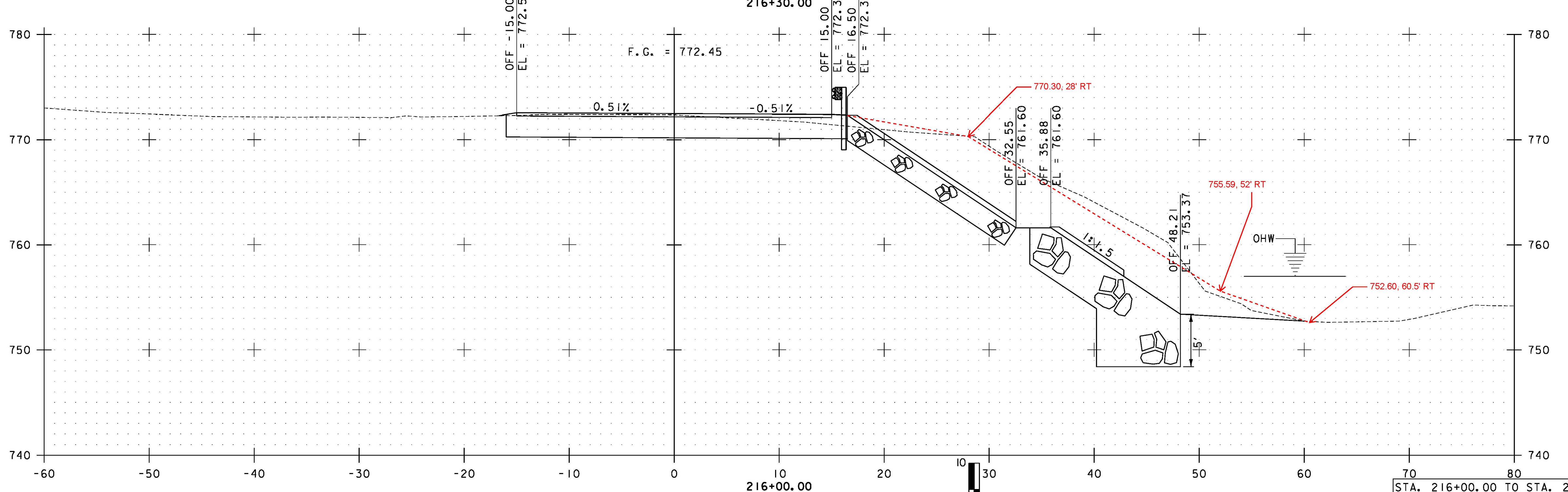
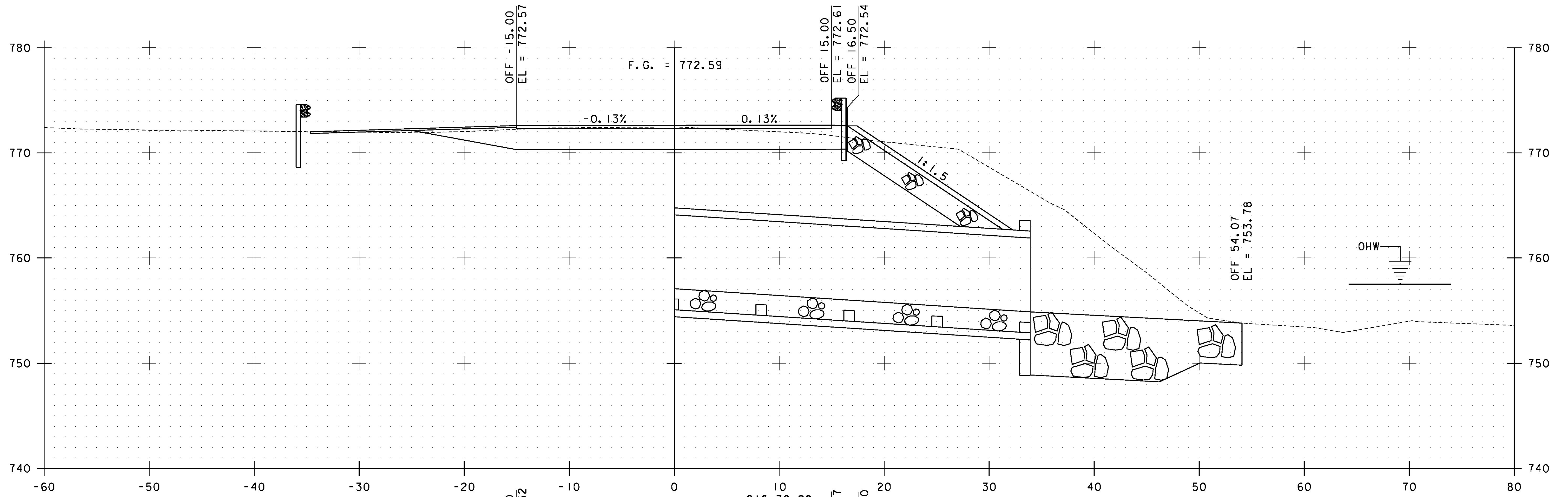


NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES



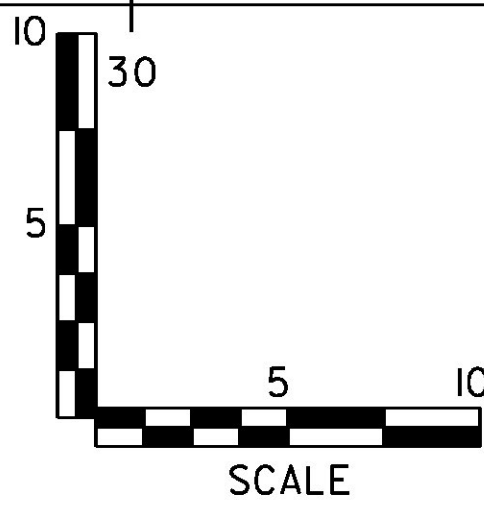
PROJECT NAME: BRAINTREE	
PROJECT NUMBER: ER STP 0187(I2)	
FILE NAME: z12c526xs.dgn	PLOT DATE: 1/10/2014
PROJECT LEADER: G. EDWARDS	DRAWN BY: G. BURGMEIER
DESIGNED BY: I. MAYNARD	CHECKED BY: M. FOISY
ROUTE 12A SECTIONS SHEET 10	
SHEET 48 OF 72	

STA. 215+00.00 TO STA. 215+50.00

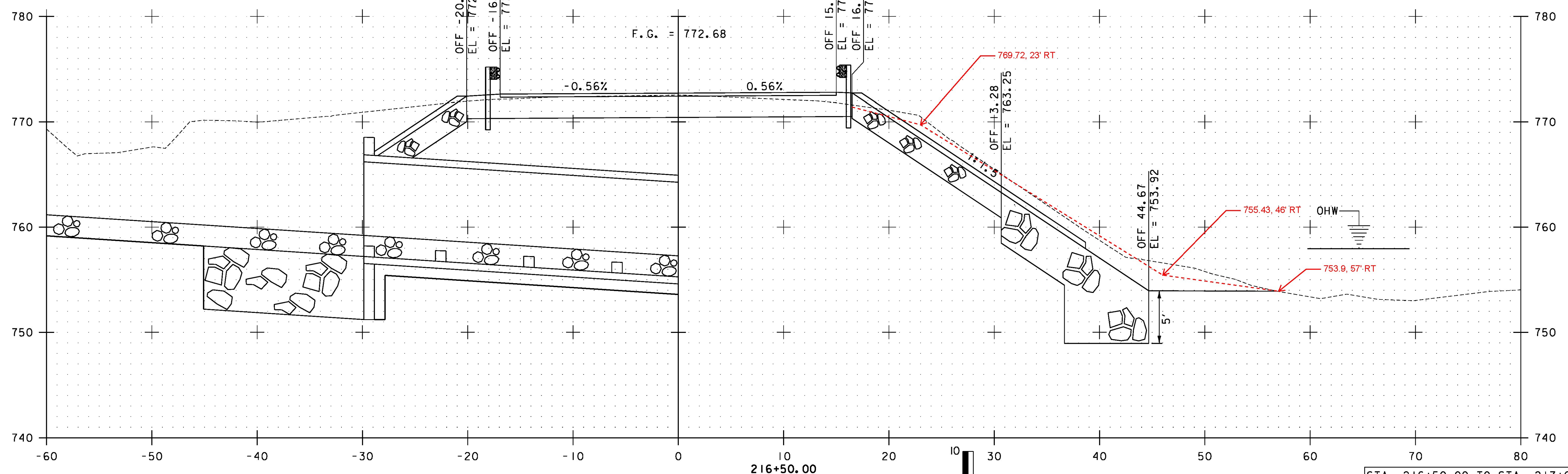
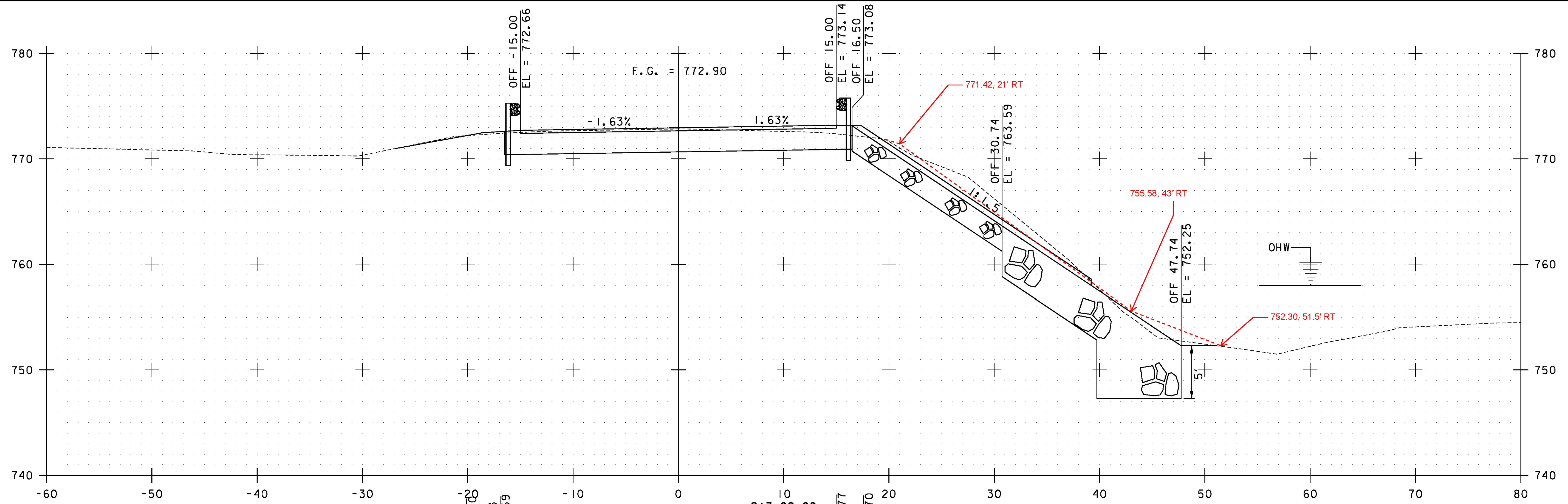


STA. 216+00.00 TO STA. 216+30.00

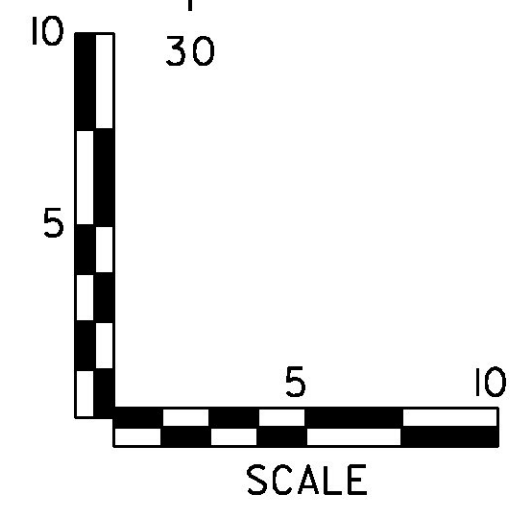
NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES



PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(I2)
FILE NAME:	z12c526xs.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
ROUTE 12A SECTIONS SHEET 11	
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
SHEET	49 OF 72

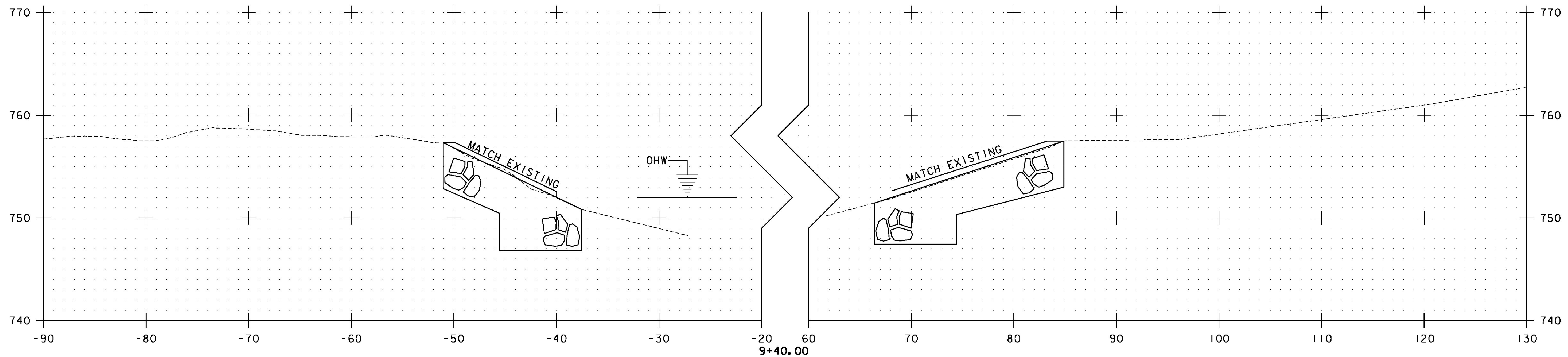
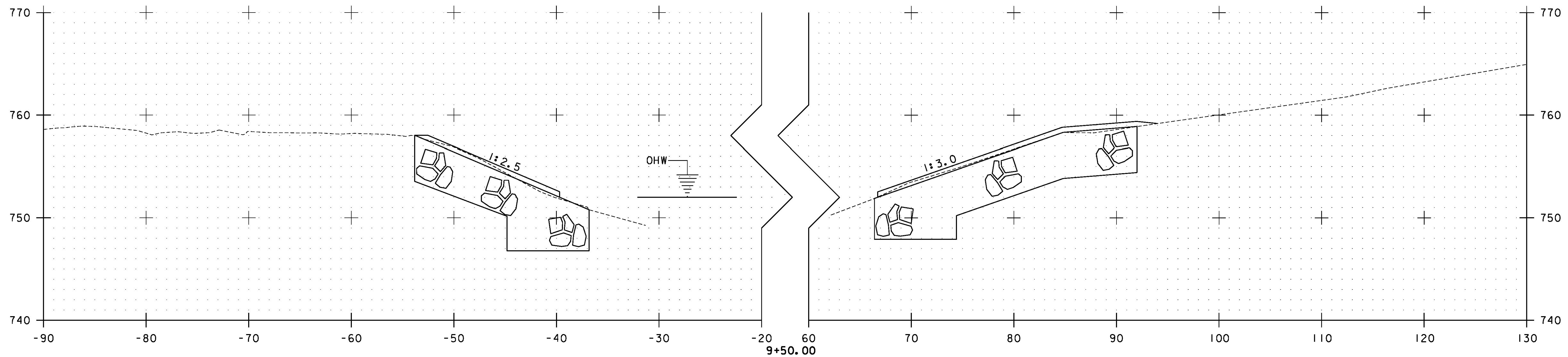


NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES



PROJECT NAME: BRAINTREE	
PROJECT NUMBER: ER STP 0187(I2)	
FILE NAME: z12c526xs.dgn	PLOT DATE: 1/10/2014
PROJECT LEADER: G. EDWARDS	DRAWN BY: G. BURGMEIER
DESIGNED BY: I. MAYNARD	CHECKED BY: M. FOISY
ROUTE 12A SECTIONS SHEET 12	
SHEET 50 OF 72	

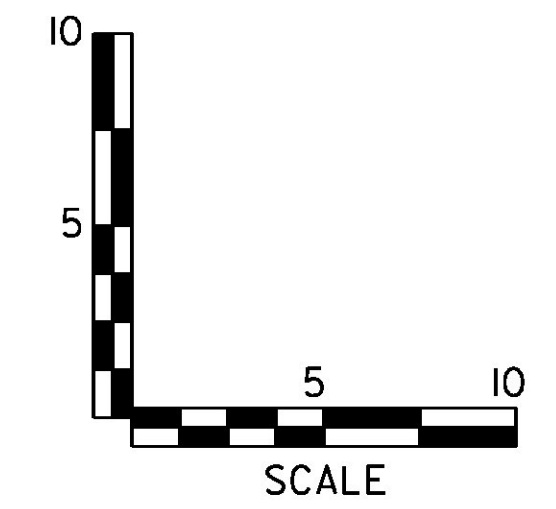
STA. 216+50.00 TO STA. 217+00.00

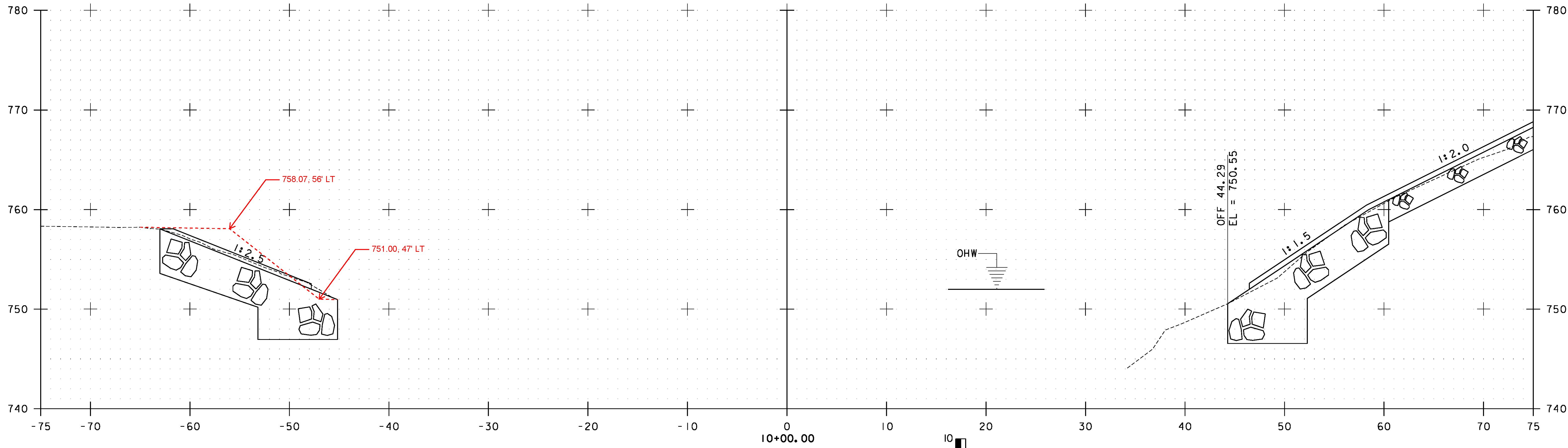
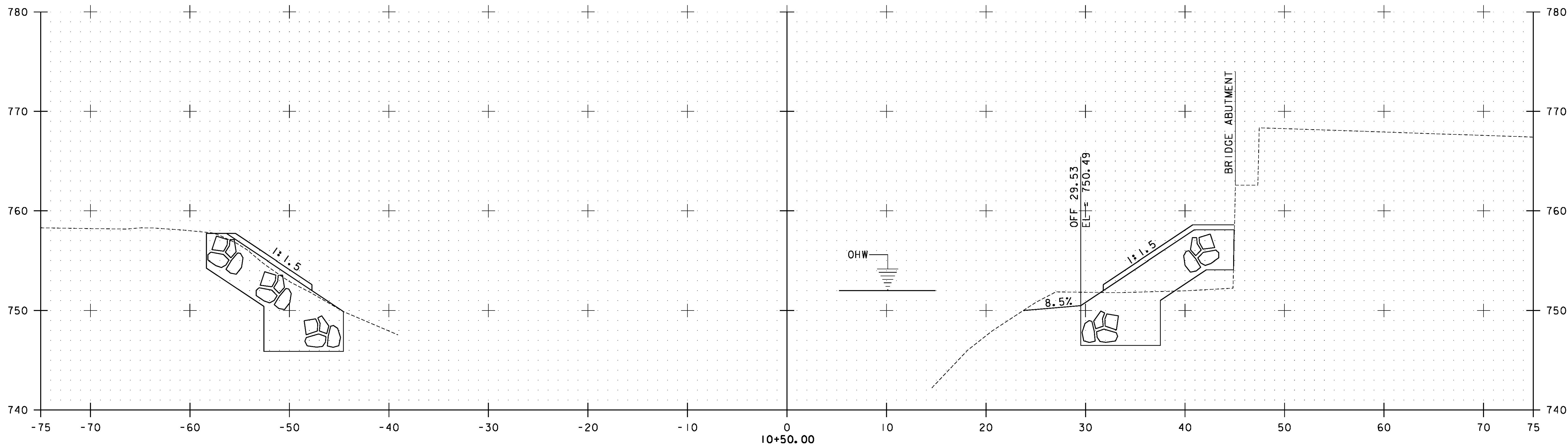


STA. 9+40.00 TO STA. 9+50.00

PROJECT NAME:	BRAINTREE	PLOT DATE:	1/10/2014
PROJECT NUMBER:	ER STP 0187(I2)	DRAWN BY:	G. BURGMEIER
FILE NAME:	z12c526xs.dgn	DESIGNED BY:	I. MAYNARD
PROJECT LEADER:	G. EDWARDS	CHECKED BY:	M. FOISY
THIRD BRANCH SECTIONS SHEET 1		SHEET	51 OF 72

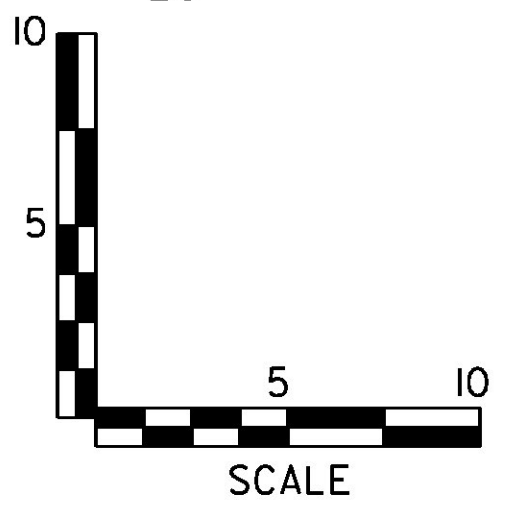
NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES



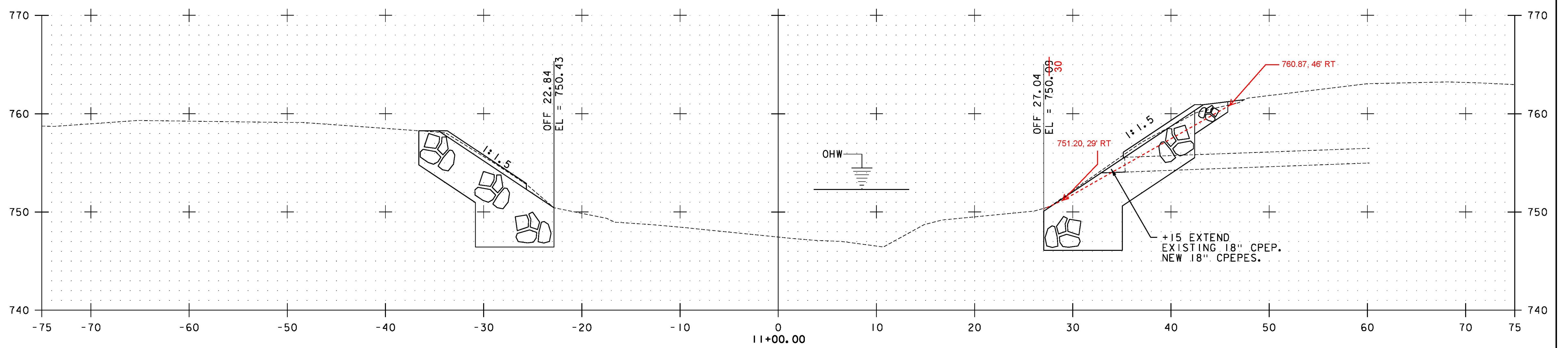
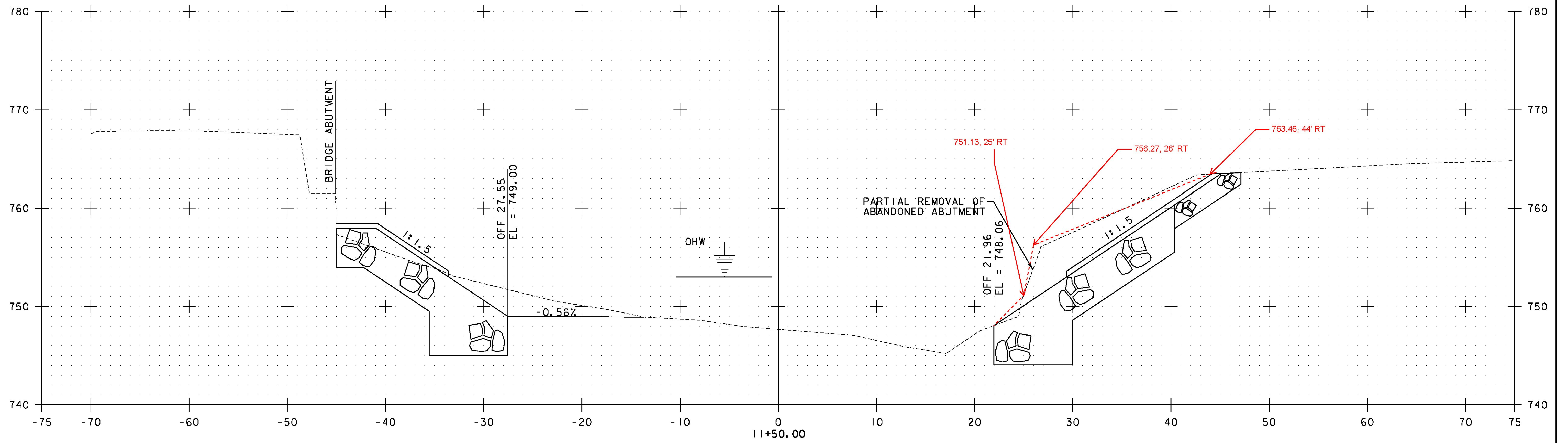


STA. 10+00.00 TO STA. 10+50.00

PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526xs.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
THIRD BRANCH SECTIONS SHEET 2	
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
SHEET	52 OF 72

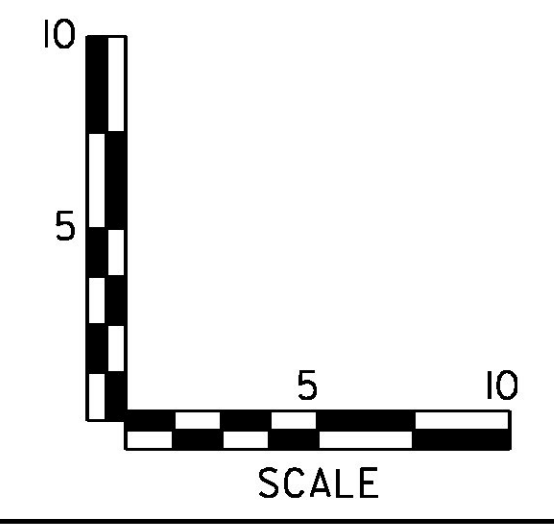


NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES

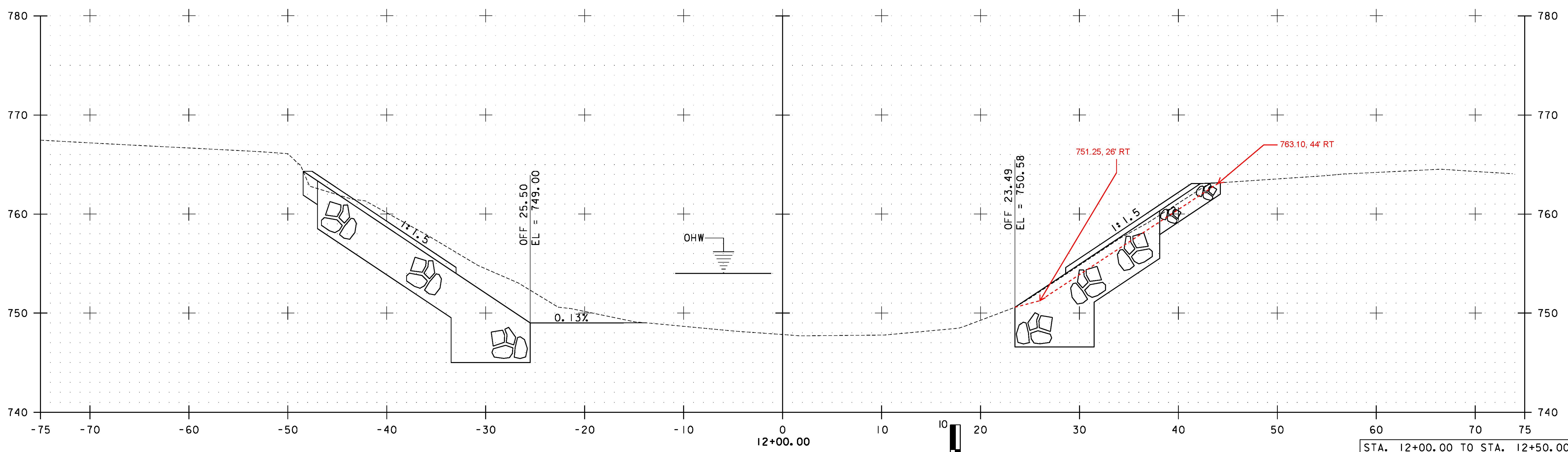
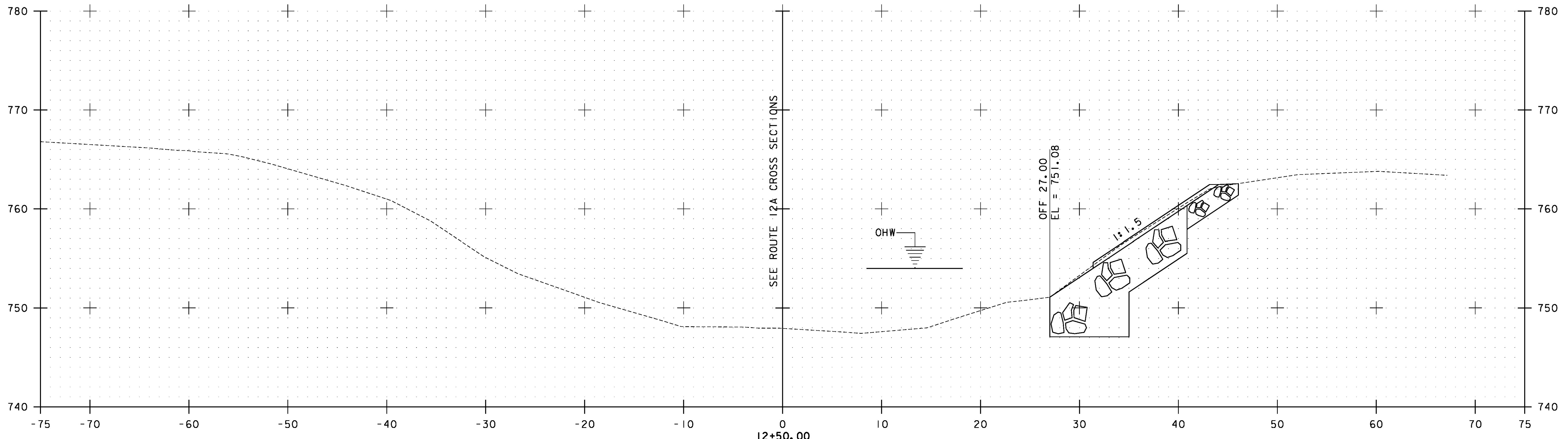


STA. 11+00.00 TO STA. 11+50.00

PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526xs.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
THIRD BRANCH SECTIONS SHEET 3	
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
SHEET	53 OF 72

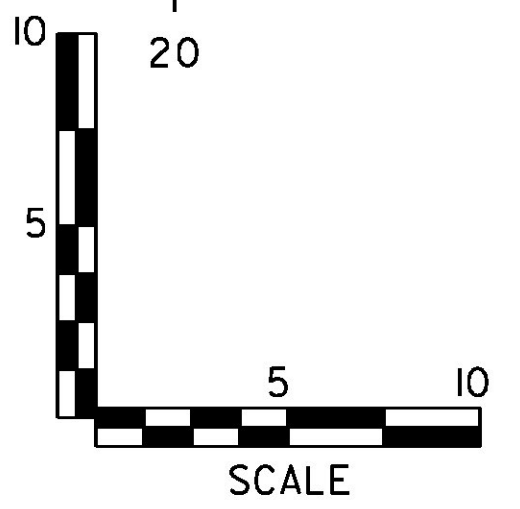


NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES

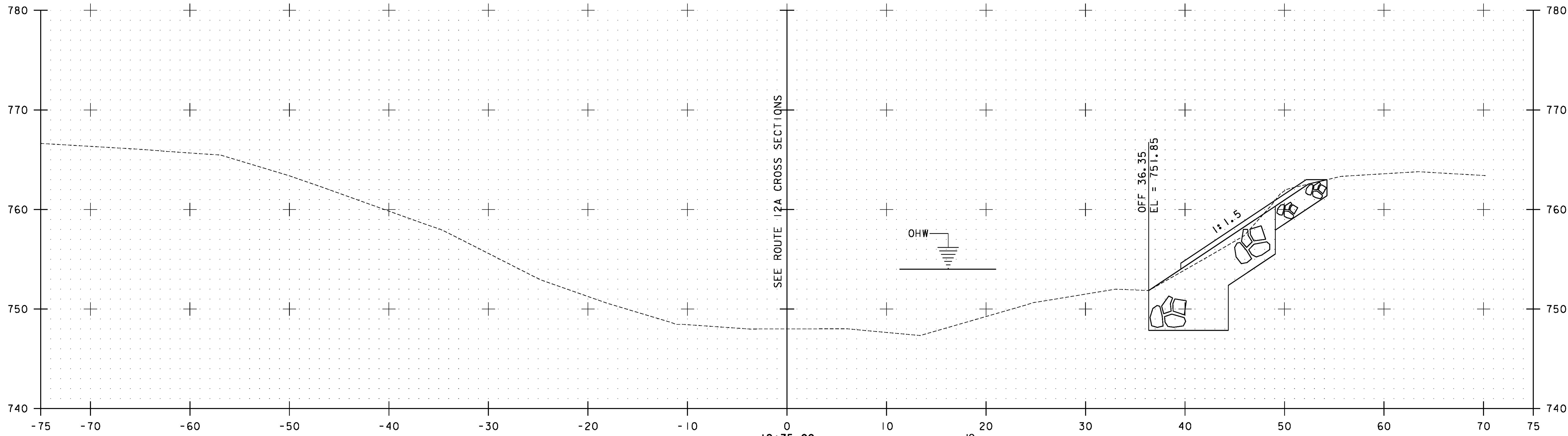
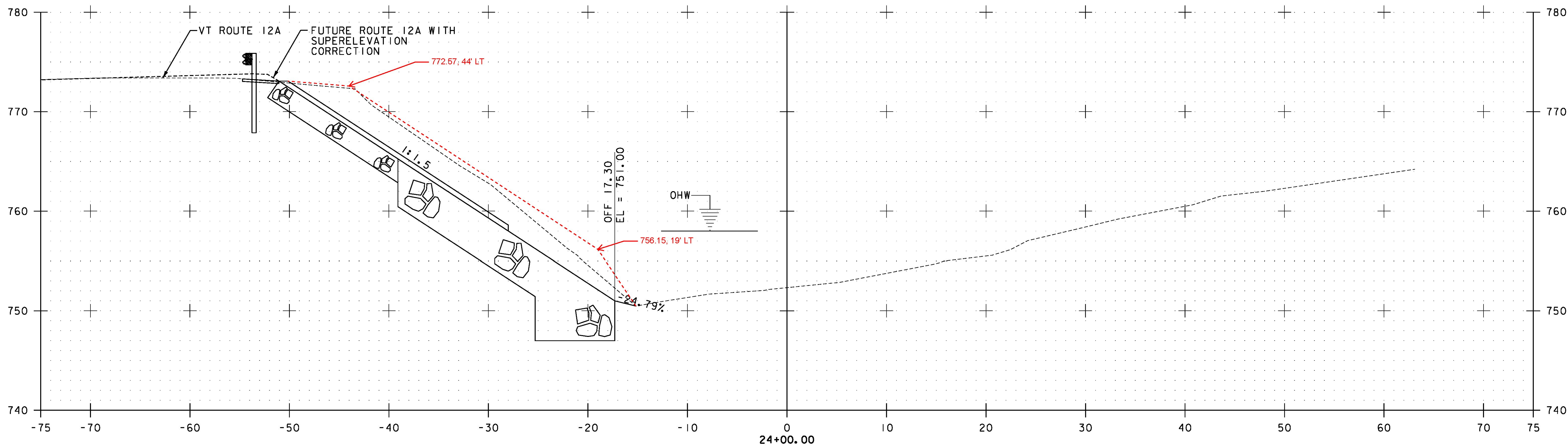


STA. 12+00.00 TO STA. 12+50.00

NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES



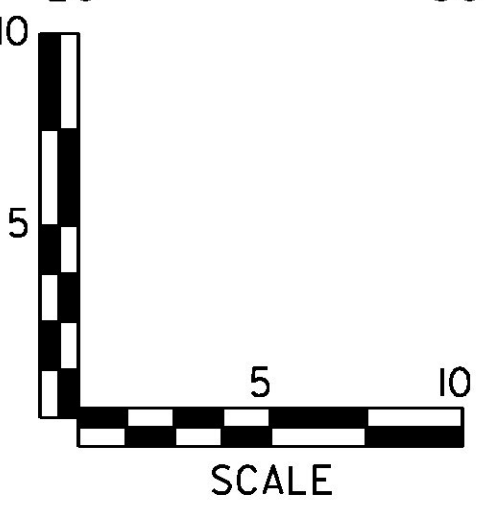
PROJECT NAME: BRAINTREE	PLOT DATE: 1/10/2014
PROJECT NUMBER: ER STP 0187(12)	DRAWN BY: G. BURGMEIER
FILE NAME: z12c526xs.dgn	DESIGNED BY: I. MAYNARD
PROJECT LEADER: G. EDWARDS	CHECKED BY: M. FOISY
THIRD BRANCH SECTIONS SHEET 4	
SHEET 54 OF 72	



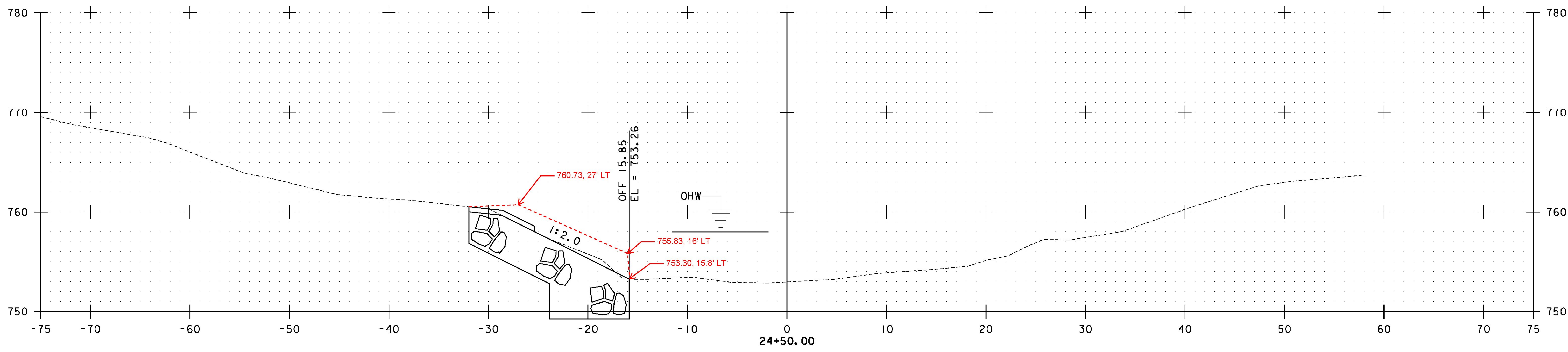
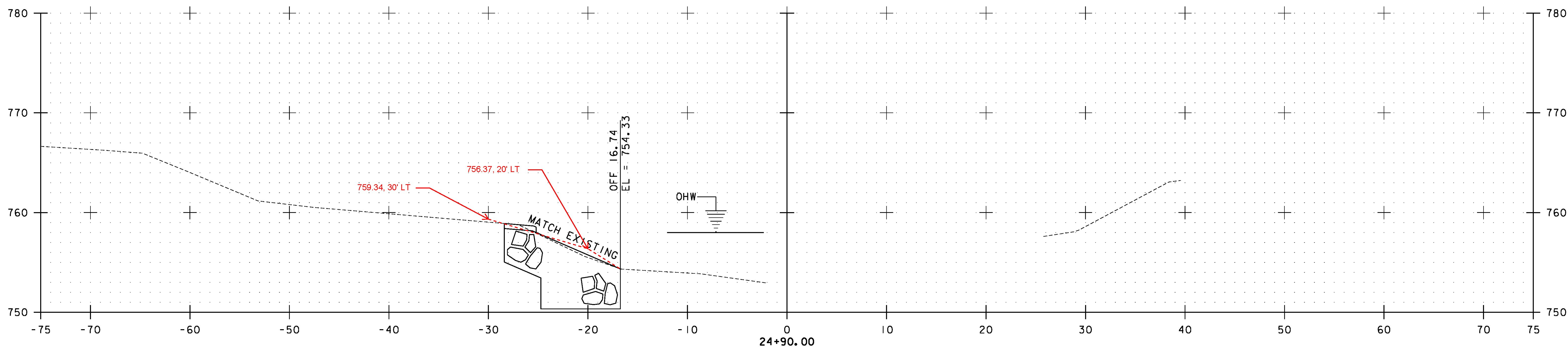
12+75.00
FOR SLOPE STABILIZATION BETWEEN 12+75 AND 24+00
SEE ROUTE 12A CROSS SECTIONS

STA. 12+75.00 AND STA. 24+00.00

NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES

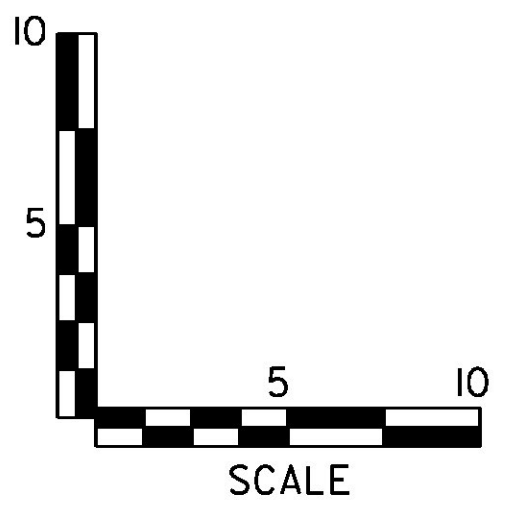


PROJECT NAME:	BRAINTREE	PLOT DATE:	1/27/2014
PROJECT NUMBER:	ER STP 0187(12)	DRAWN BY:	G. BURGMEIER
FILE NAME:	z12c526xs.dgn	DESIGNED BY:	I. MAYNARD
PROJECT LEADER:	G. EDWARDS	CHECKED BY:	M. FOISY
THIRD BRANCH SECTIONS SHEET 5		SHEET 55 OF 72	

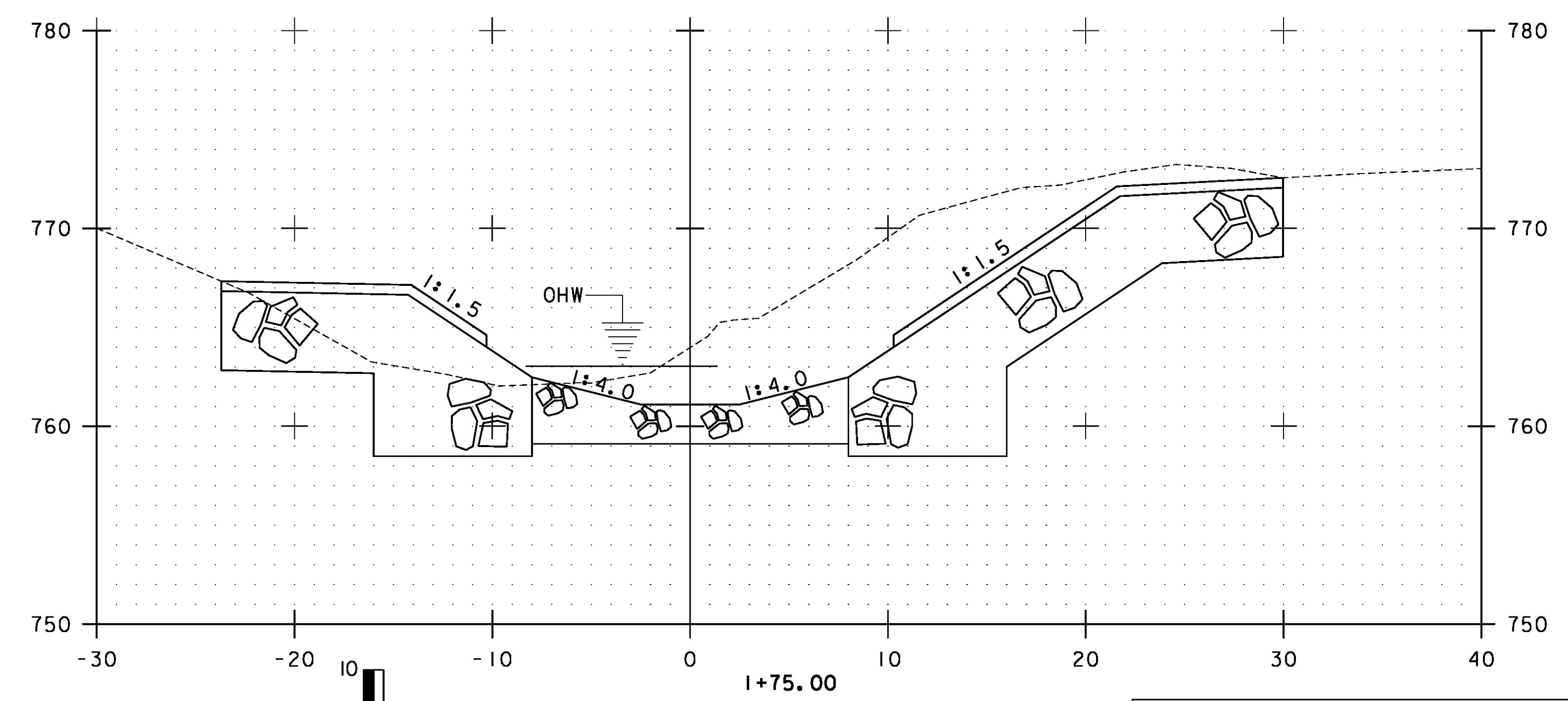
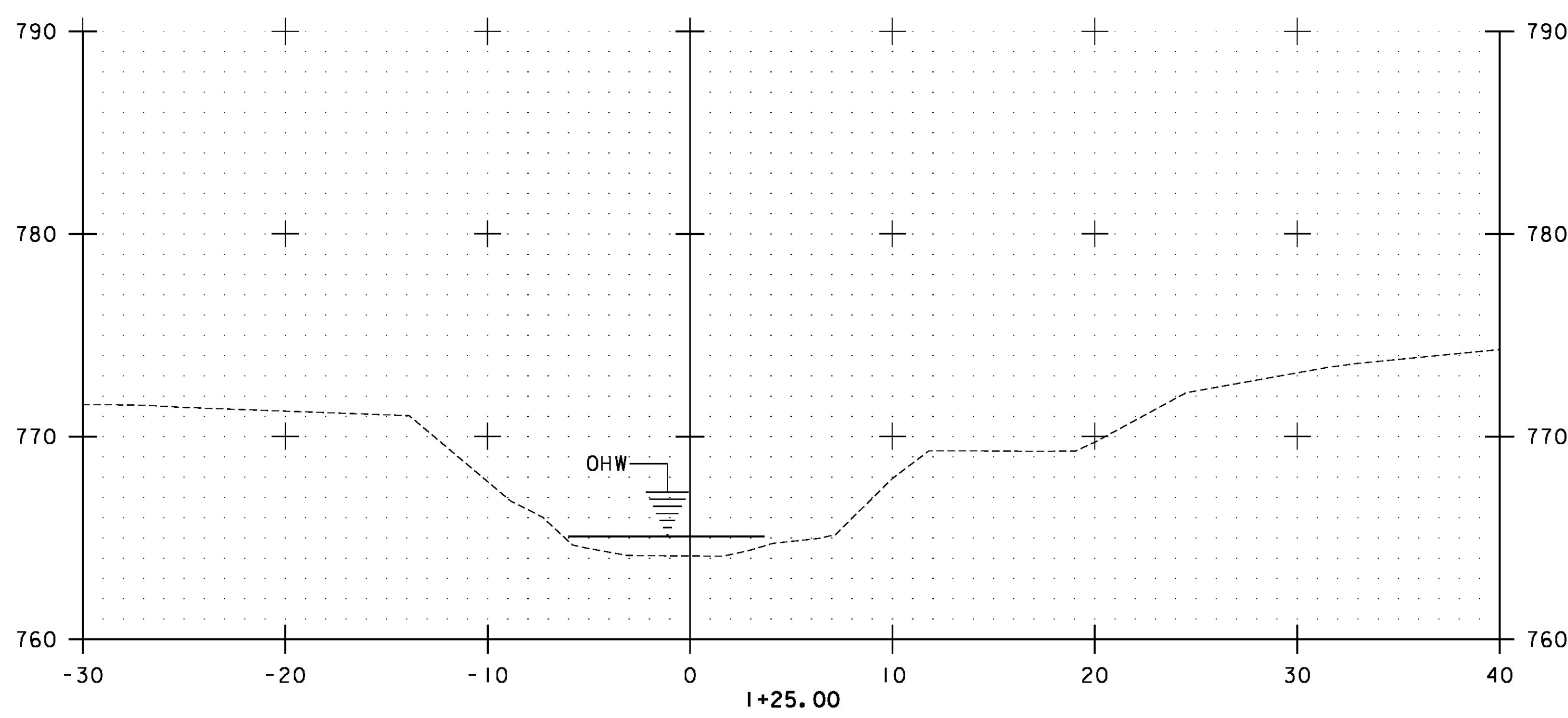
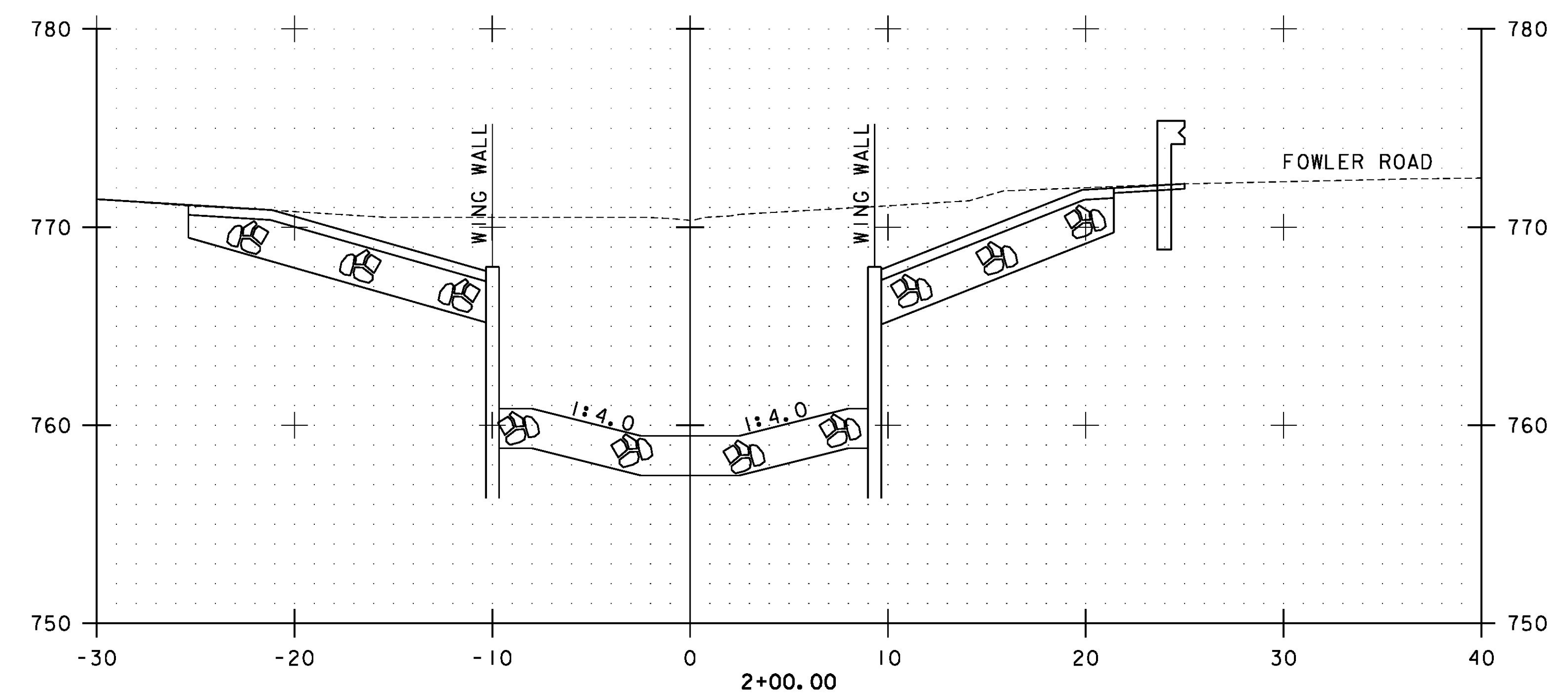
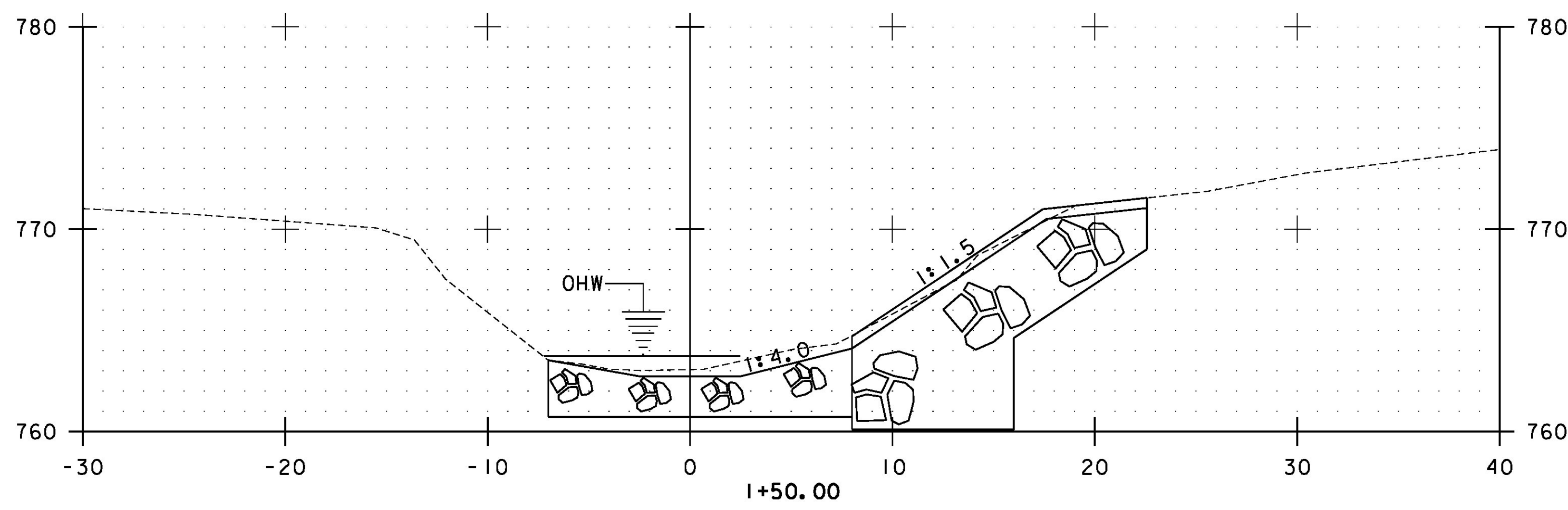


STA. 24+50.00 TO STA. 24+90.00

PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(I2)
FILE NAME:	z12c526xs.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
THIRD BRANCH SECTIONS SHEET 6	
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
SHEET	56 OF 72

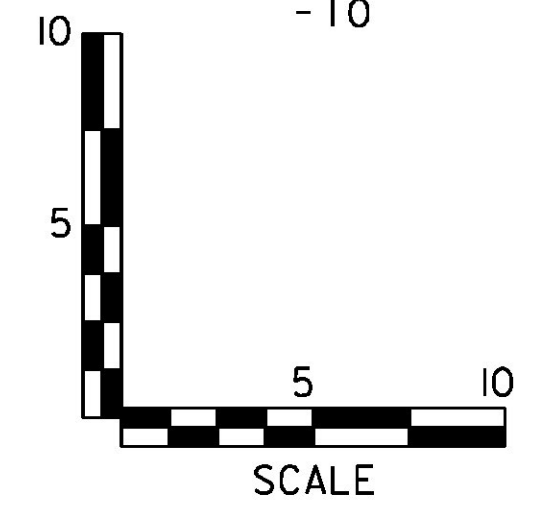


NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES

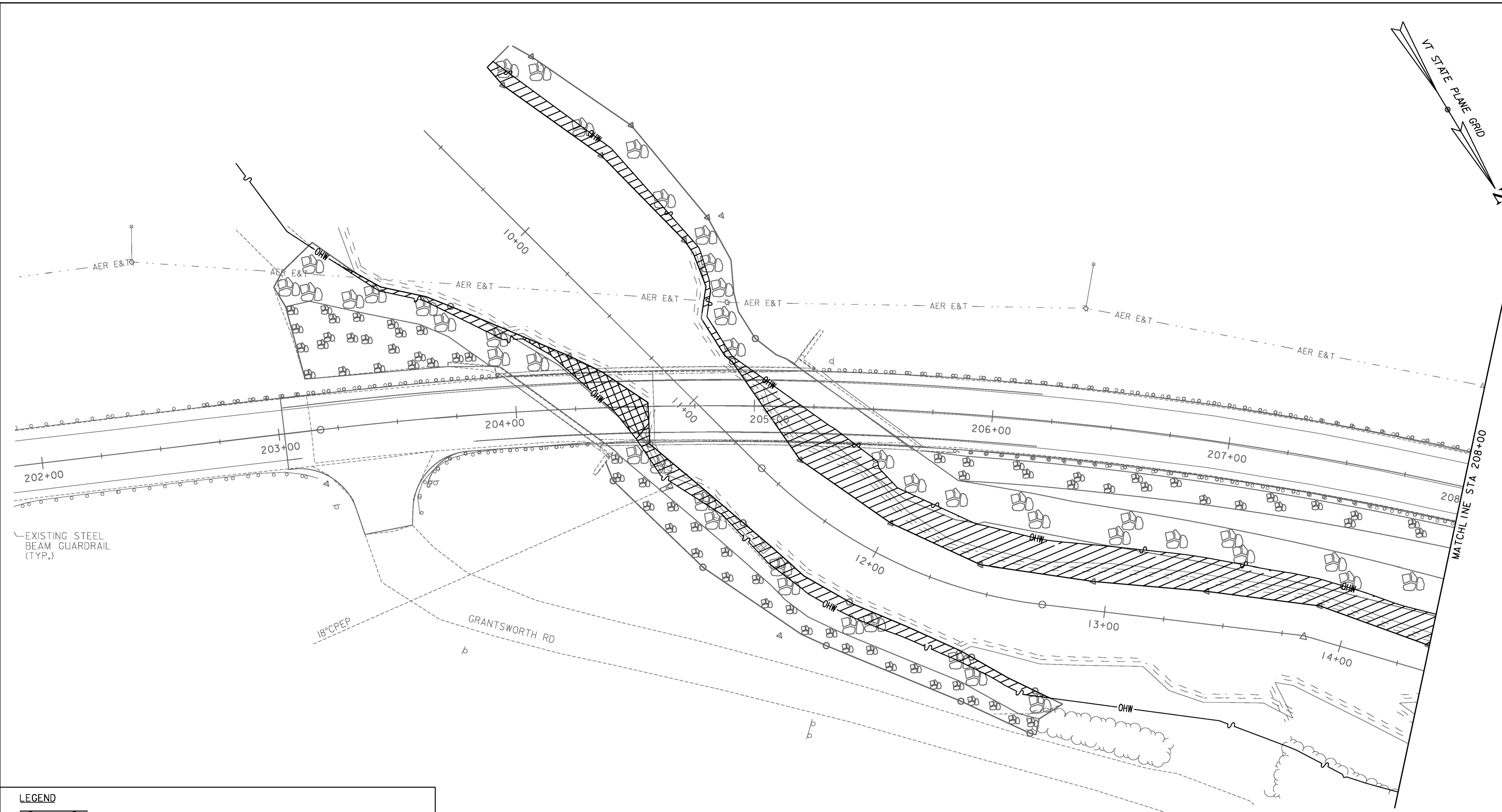
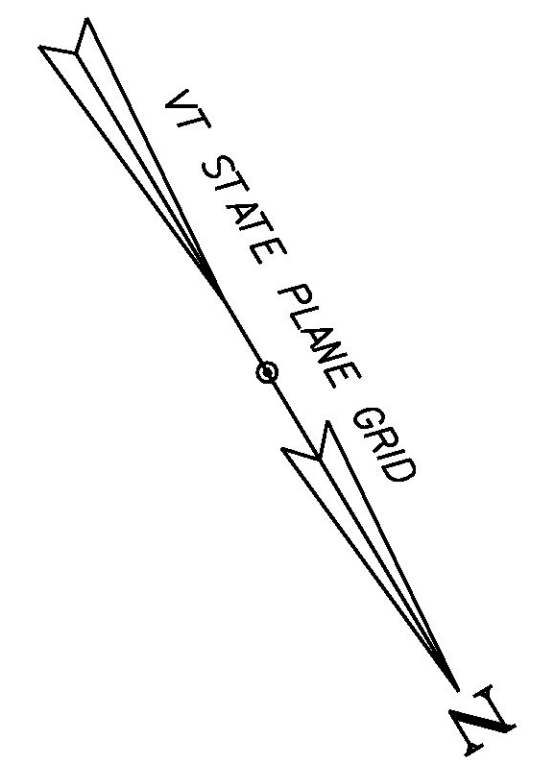


STA. 1+25.00 TO STA. 2+00.00

PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526xs.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
CADRE BROOK SECTIONS SHEET 1	
PLOT DATE:	1/10/2014
DRAWN BY:	G. BURGMEIER
CHECKED BY:	M. FOISY
SHEET	57 OF 72



NOTE: REFER TO SHEET 4 FOR MATERIAL TYPES

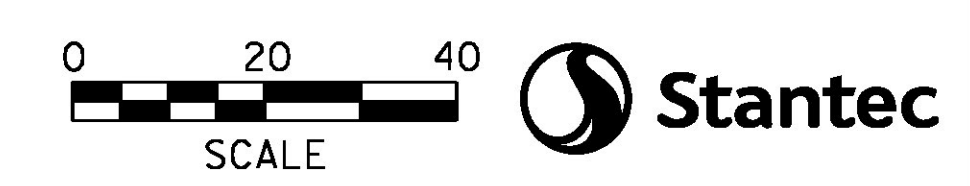


LEGEND

	= RIPRAP, HEAVY TYPE
	= STONE FILL TYPE II WITH GRUBBING MATERIAL
	= SPECIAL PROVISION (STONE FILL, STREAM BED MATERIAL)
	= FILTER CURTAIN
	= BARRIER FENCE
	= CUT LIMIT
	= FILL LIMIT
	= ORDINARY HIGH WATER

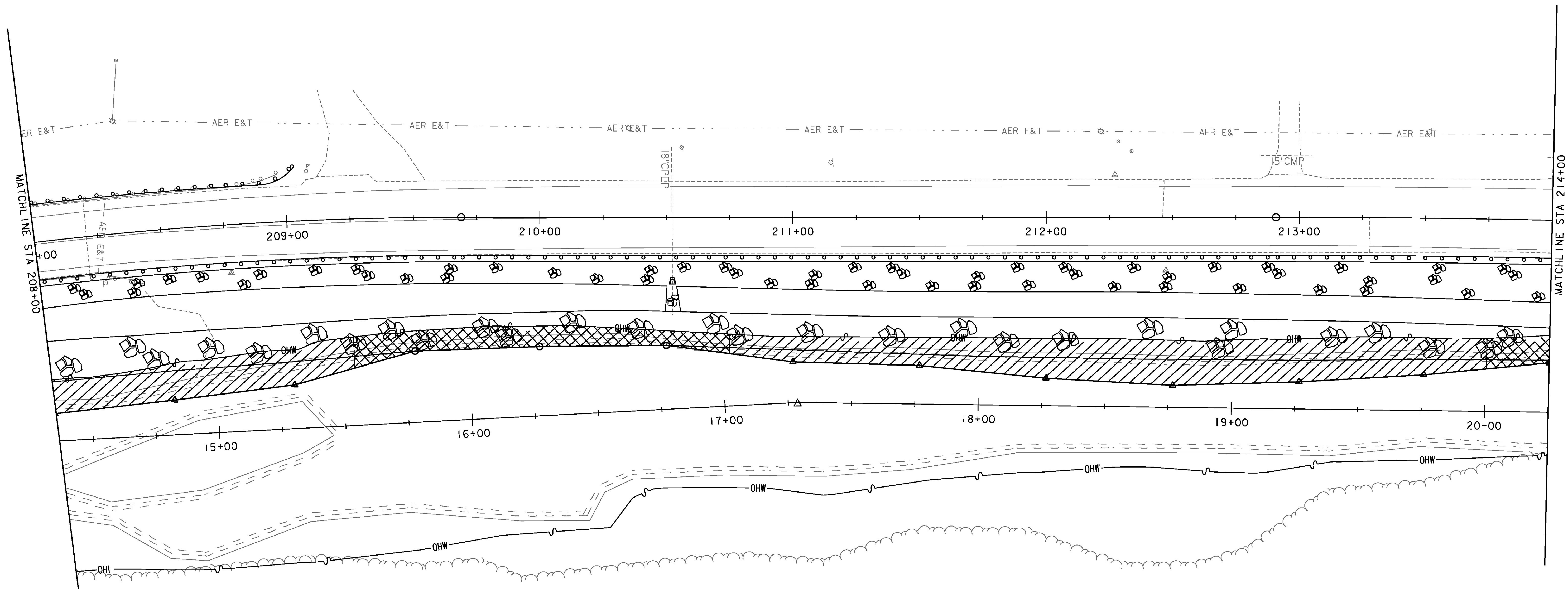
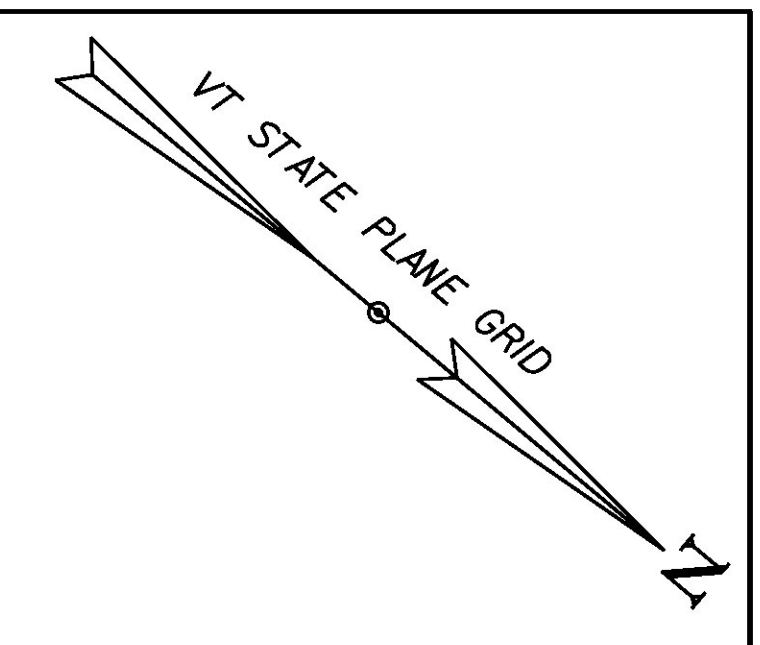
IMPACT SUMMARY SHEET

	RESTORATION BELOW OHW: 6240 SF
	PERMANENT IMPACTS BELOW OHW: 470 SF



PROJECT NAME: BRAINTREE	PLOT DATE: 1/10/2014
PROJECT NUMBER: ER STP 0187(12)	DRAWN BY: G. BURGMEIER
FILE NAME: z12c5261mpBdr.dgn	CHECKED BY: M. FOISY
DESIGNED BY: I. MAYNARD	SHEET 58 OF 72
IMPACT SHEET 1	

MATCH LINE STA 208+00

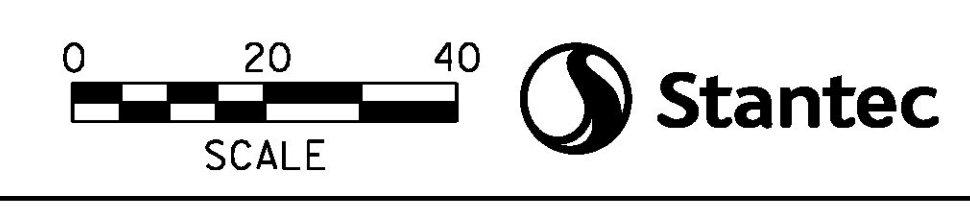


LEGEND

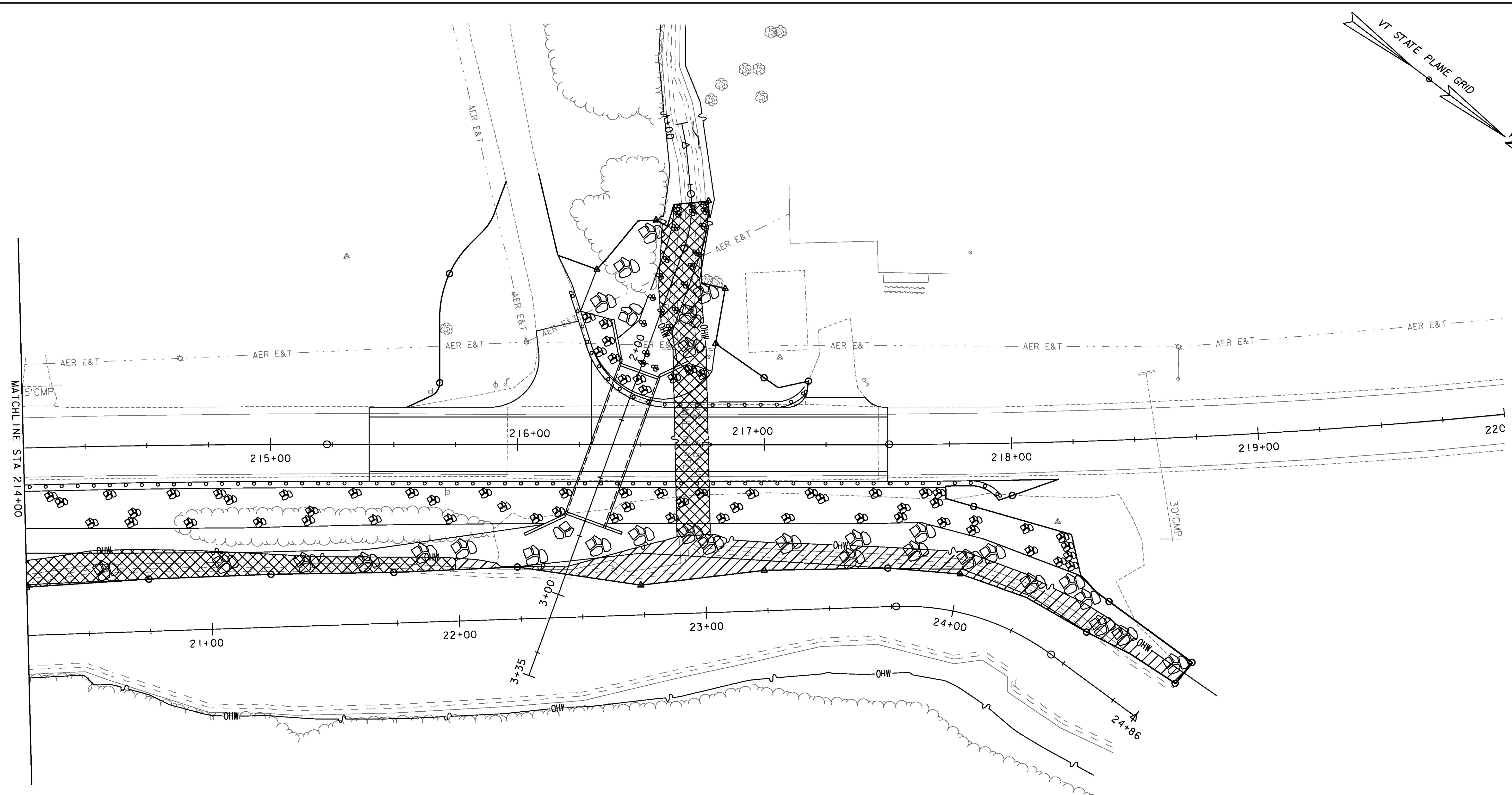
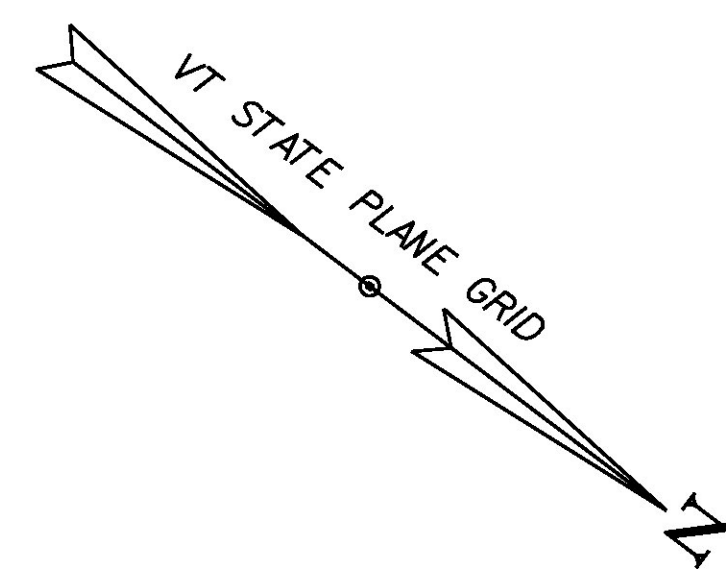
	= RIPRAP, HEAVY TYPE
	= STONE FILL TYPE II WITH GRUBBING MATERIAL
	= SPECIAL PROVISION (STONE FILL, STREAM BED MATERIAL)
	= FILTER CURTAIN
	= BARRIER FENCE
	= CUT LIMIT
	= FILL LIMIT
	= ORDINARY HIGH WATER

IMPACT SUMMARY SHEET 1

	RESTORATION BELOW OHW: 5880 SF
	PERMANENT IMPACTS BELOW OHW: 1470 SF



PROJECT NAME: BRAINTREE	PLOT DATE: 1/10/2014
PROJECT NUMBER: ER STP 0187(12)	DRAWN BY: G. BURGMEIER
FILE NAME: z12c5261mpBdr.dgn	CHECKED BY: M. FOISY
DESIGNED BY: I. MAYNARD	SHEET 59 OF 72
IMPACT SHEET 2	



LEGEND

	= RIPRAP, HEAVY TYPE
	= STONE FILL TYPE II WITH GRUBBING MATERIAL
	= SPECIAL PROVISION (STONE FILL, STREAM BED MATERIAL)
	= FILTER CURTAIN
	= BARRIER FENCE
	= CUT LIMIT
	= FILL LIMIT
	= ORDINARY HIGH WATER

IMPACT SUMMARY SHEET 1

	RESTORATION BELOW OHW: 2730 SF
	PERMANENT IMPACTS BELOW OHW: 3600 SF

IMPACT SUMMARY: PROJECT TOTALS

	RESTORATION BELOW OHW:	SHEET 1: 6240 SF SHEET 2: 5880 SF SHEET 3: 2730 SF TOTAL: 14850 SF
	PERMANENT IMPACTS BELOW OHW:	SHEET 1: 470 SF SHEET 2: 1470 SF SHEET 3: 3600 SF TOTAL: 5540 SF

0 20 40
SCALE

PROJECT NAME: BRAINTREE	PLOT DATE: 1/10/2014
PROJECT NUMBER: ER STP 0187(12)	DRAWN BY: G. BURGMEIER
FILE NAME: z12c5261mpBdr.dgn	CHECKED BY: M. FOISY
PROJECT LEADER: G. EDWARDS	SHEET 60 OF 72
DESIGNED BY: I. MAYNARD	
IMPACT SHEET 3	

1. PROJECT DESCRIPTION

THE BRAINTREE ER-STP 0187(12) PROJECT IS LOCATED AT THE INTERSECTION OF ROUTE 12A AND FOWLER ROAD IN BRAINTREE. IT INVOLVES THE REPLACEMENT OF THE EAST APPROACH SLAB TO BRIDGE 6 (MM 3.879), NEW MEMBRANE ON BRIDGE 6, REINFORCING THE BANK OF THE THIRD BRANCH OF THE WHITE RIVER ALONG ROUTE 12A WITH STONE FILL FOR A DISTANCE OF ABOUT 1600' AND REPLACING BRIDGE 7 (MM 4.098) CARRYING CAHEE BROOK WITH A CONCRETE BOX CULVERT.

2. AREA OF DISTURBANCE

THE TOTAL DISTURBANCE ASSOCIATED WITH CONSTRUCTION OF THIS PROJECT IS APPROX. 2.8 ACRES. SEE BREAKDOWN OF DISTURBANCE PER AREA IN # 5 BELOW AS WELL AS THE INCLUDED PLANS.

3. CONSTRUCTION SEQUENCE

THE CONTRACTOR SHALL SEQUENCE CONSTRUCTION ACTIVITIES TO MINIMIZE THE EXTENT OF DISTURBED SOILS LEFT OPEN TO EROSION AT ANY GIVEN TIME. A PROPOSED GENERAL SEQUENCE FOR EACH OF THE MAJOR CONSTRUCTION ACTIVITIES IS AS FOLLOWS:

- **BRIDGE 6 APPROACH SLAB AND MEMBRANE AND RIVER STABILIZATION ON THE EAST BANK OF THE THIRD BRANCH OF THE WHITE RIVER.**
 - 1) ESTABLISH PERIMETER CONTROLS AND MARK BOUNDARIES FOR SENSITIVE RESOURCE AREAS, SUCH AS WETLANDS AND RIPARIAN BUFFER ZONES.
 - 2) INSTALL SEDIMENT CONTROL MEASURES.
 - 3) CLEARING.
 - 4) BEGIN CUT & FILL OPERATIONS, LIMIT AREA OF DISTURBANCE TO < 1 ACRE.
 - 5) CONCURRENTLY INSTALL TEMPORARY AND PERMANENT STABILIZATION AND EPSC MEASURES AND AS WORK PROGRESSES SO THAT EMBANKMENT IS STABILIZED PRIOR TO ALLOWING RUNOFF TO DISCHARGE TO IT.
 - 6) INSTALL CULVERT EXTENSION FOR CULVERT UNDER GRANTSWORTH ROAD.
 - 7) PLACE STONE FILL ON SLOPES AS WORK PROGRESSES.
 - 8) PLACE SUBBASE MATERIAL FOR ROADWAY AND FINAL GRADE AND STABILIZE ALL EARTH DISTURBANCE AS WORK PROGRESSES.
 - 9) PAVE ROADWAY.
- **BRIDGE 7 REPLACEMENT.**
 - 1) ESTABLISH PERIMETER CONTROLS AND MARK BOUNDARIES FOR SENSITIVE RESOURCE AREAS, SUCH AS WETLANDS AND RIPARIAN BUFFER ZONES.
 - 2) INSTALL SEDIMENT CONTROL MEASURES.
 - 3) CLEARING.
 - 4) CONSTRUCT TEMPORARY RELOCATION OF FOWLER ROAD.
 - 5) CONSTRUCT BRIDGE 7 WHILE MAINTAINING CAHEE BROOK FLOW THROUGH EXISTING CULVERT.
 - 6) DIVERT CAHEE BROOK TO THE NEW CULVERT, REMOVE OLD CULVERT.
 - 7) CONCURRENTLY INSTALL TEMPORARY STABILIZATION AND EPSC MEASURES AS WORK PROGRESSES.
 - 8) PLACE SUBBASE MATERIAL FOR ROADWAY.
 - 9) PAVE ROADWAY
- **STREAM STABILIZATION ALONG THE WEST BANK OF THE THIRD BRANCH OF THE WHITE RIVER.**
 - 1) ESTABLISH PERIMETER CONTROLS AND MARK BOUNDARIES FOR SENSITIVE RESOURCE AREAS, SUCH AS WETLANDS AND RIPARIAN BUFFER ZONES.
 - 2) INSTALL SEDIMENT CONTROL MEASURES.
 - 3) CLEARING.
 - 4) BEGIN CUT & FILL OPERATIONS, LIMIT AREA OF DISTURBANCE TO < 1 ACRE.
 - 5) STABILIZE SLOPES BY PLACING STONE FILL ON SLOPES AS WORK PROGRESSES.
 - 6) CONCURRENTLY INSTALL TEMPORARY AND PERMANENT STABILIZATION AND EPSC MEASURES AND AS WORK PROGRESSES SO THAT EMBANKMENT IS STABILIZED PRIOR TO ALLOWING RUNOFF TO DISCHARGE TO IT. SLOPES ARE TO NOT TO BE LEFT EXPOSED IF A RAIN EVENT IS ANTICIPATED.
 - 7) FINAL GRADE SIDE SLOPES.
 - 8) APPLY PERMANENT STABILIZATION MEASURES TO ALL REMAINING EXPOSED SOIL AREAS.

4. STABILIZATION OF EXPOSED SOILS

- SEED AND MULCH WILL BE USED FOR BOTH PERMANENT AND TEMPORARY STABILIZATION MEASURES. ROLLED EROSION CONTROL PRODUCT (RECP) WILL BE USED IN PLACE OF MULCH FOR SLOPES GREATER THAN 1V:3H.
- DISTURBED AREAS AND SOIL STOCKPILES THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS SHALL BE TEMPORARILY STABILIZED WITH MULCH/RECP WITHIN 48 HOURS.
- DISTURBED AREAS AND SOIL STOCKPILES THAT WILL NOT BE WORKED FOR MORE THAN 30 DAYS SHALL BE TEMPORARILY STABILIZED WITH SEED AND MULCH/RECP WITHIN 48 HOURS.
- EXPOSED AREAS THAT HAVE ACHIEVED FINAL GRADE SHALL BE PERMANENTLY STABILIZED WITHIN 48 HOURS.
- IN AREAS WHERE VEGETATIVE COVER WILL PROVIDE PERMANENT STABILIZATION, SEEDING TO BE COMPLETED BETWEEN APRIL 15 AND SEPTEMBER 15.

5. DRAINAGE AREAS AND DISCHARGE POINTS

THIS PROJECT IS BEING CONSTRUCTED ALONG AN EXISTING ROADWAY CORRIDOR WHICH WAS DISTURBED BY TROPICAL STORM IRENE. THE EXISTING GRADE IS RELATIVELY FLAT.

THE PROJECT HAS THREE NON-DISCRETE DISCHARGE POINTS TO THE RECEIVING WATER, THE THIRD BRANCH OF THE WHITE RIVER AND CAHEE BROOK. EACH DISCHARGE CORRESPONDS TO A DRAINAGE AREA IN WHICH THE PROJECT HAS BEEN DIVIDED.

- **DRAINAGE AREA 1**
LOCATED DIRECTLY EAST OF THE THIRD BRANCH OF THE WHITE RIVER AND INCLUDES DISTURBANCE OF 0.417 ACRES. RUNOFF WILL FLOW FROM EAST TO WEST OVER THE PROPOSED STONE STABILIZATION AND INTO THE ROARING BRANCH.
- **DRAINAGE AREA 2**
LOCATED ON CAHEE BROOK AND INCLUDES DISTURBANCE OF 0.462 ACRES. RUNOFF WILL FLOW OVER THE STONE STABILIZED BANKS INTO CAHEE BROOK.
- **DRAINAGE AREA 3**
CONSISTS OF THE STABILIZATION ALONG THE WEST BANK OF THE THIRD BRANCH OF THE WHITE RIVER AND INCLUDES A DISTURBANCE OF 1.884 ACRES. RUNOFF WILL FLOW FROM ROUTE 12A EAST OVER THE STABILIZED RIVER BANK INTO THE THIRD BRANCH OF THE WHITE RIVER.

DRAINAGE AREA SUMMARY

DRAINAGE AREA	TOTAL DISTURB. (ACRES)	LIMIT OF CONCURRENT DISTURBANCE (ACRES)	RECEIVING WATER
1	0.417	0.417 ACRE	THIRD BRANCH
2	0.462	0.462 ACRE	CAHEE BROOK
3	1.884	1 ACRES	THIRD BRANCH

SEE THE EPSC PLAN SHEETS FOR FURTHER DETAIL REGARDING DRAINAGE AREAS AND RELATED SLOPE AND SOIL ERODIBILITY.

6. WASTE, BORROW, AND STAGING AREAS

- OFF-SITE WASTE AND BORROW AREAS HAVE NOT BEEN IDENTIFIED FOR THIS PROJECT. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND PERMIT, AS NECESSARY, ANY OFF-SITE WASTE AND BORROW AREAS THAT ARE NEEDED. ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES NECESSARY FOR WASTE, BORROW, AND STAGING AREAS OUTSIDE THE PROJECT LIMITS SHALL BE PAID FOR PER SUBSECTION 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- LOCATE ADDITIONAL AREAS FOR DISPOSAL OF STUMPS, EXCESS SOILS AND COLLECTED SEDIMENT, IF NECESSARY. DISPOSE OF THESE MATERIALS IN A MANNER THAT WILL NOT RESULT IN SEDIMENTS ENTERING WATERS OF THE STATE.
- DISPOSAL SITES REQUIRE RELATIVELY LEVEL TERRAIN WITH AN ISOLATION DISTANCE OF AT LEAST 100 FT FROM ANY SURFACE WATERS, INCLUDING WETLANDS.
- VEHICLE AND EQUIPMENT STORAGE AREAS OR AREAS ADJACENT TO CONSTRUCTION TRAILERS OR OTHER HIGH TRAFFIC AREAS SHALL BE COVERED WITH GEOTEXTILE FABRIC AND 12" OF GRAVEL. FOLLOWING COMPLETION OF CONSTRUCTION, ALL NON-NATIVE MATERIALS SHALL BE REMOVED FROM THE STAGING AREA. COMPACTED, RUTTED, OR OTHERWISE DISTURBED SOILS SHALL BE TILLED, RAKED, SEEDED AND MULCHED.
- ERODIBLE MATERIALS STOCKPILED WITHIN THE MATERIAL STORAGE AREAS SHALL BE ISOLATED WITH SILT FENCE OR OTHER ACCEPTABLE SEDIMENT BARRIER. SOIL STOCKPILED ON THE SITE SHALL BE SEEDED AND MULCHED.

7. WINTER CONSTRUCTION REQUIREMENTS

IT IS NOT ANTICIPATED THAT CONSTRUCTION ACTIVITIES WILL CONTINUE INTO THE WINTER CONSTRUCTION SEASON, DEPENDING ON ACTUAL FIELD AND WEATHER CONDITIONS. IF ACTIVITIES ARE ON-GOING BETWEEN OCTOBER 15 AND APRIL 15, THE CONTRACTOR SHALL FOLLOW REQUIREMENTS FOR WINTER CONSTRUCTION, AS DEFINED IN SPECIFIC PERMIT CONDITIONS AND AS FOLLOWS:

CONTRACTOR RESPONSIBILITIES, LIMITATIONS & PROHIBITIONS

1. GENERAL NOTES

- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO AMEND/UPDATE ALL PLANS AND EXISTING PERMITS WHEN ADDING DETAILED CONSTRUCTION PHASING OR ANYTHING ELSE THAT MAY DEVIATE FROM THE APPROVED PLANS AS DIRECTED BY THE RESIDENT ENGINEER.
- OTHER THAN THOSE SHOWN ON THE PLANS ALL LAND DISTURBANCES WITHIN 50 FT OF ALL WATER BODIES, MEASURED FROM THE TOP OF BANK, AND WETLANDS, ARE PROHIBITED WITHOUT FURTHER REGULATORY REVIEW.
- CONTRACTOR TO MAINTAIN ALL EXISTING STREAMS AND RIPARIAN BUFFER ZONES IN THEIR NATURAL CONDITION.
- OFF-SITE DISCHARGES OF ANY MATERIAL OTHER THAN STORMWATER, SUCH AS VEHICLE AND EQUIPMENT MAINTENANCE SPILLS, FUELS, WASH WATER, CONSTRUCTION DEBRIS, OIL, WET CONCRETE (INCLUDING WASHOUT WATER FROM CONCRETE BATCH TRUCKS OR EQUIPMENT USED TO MIX CONCRETE), AND OTHER SUBSTANCES, ARE PROHIBITED.
- THE FAILURE TO PROMPTLY ABATE THE DISCHARGE OF SEDIMENT OR ANY OTHER WASTE WHICH CAUSES A VISIBLE DISCOLORATION OF SURFACE WATERS (INCLUDING WETLANDS), OR IS FOUND TO BE VIOLATING WATER QUALITY STANDARDS BASED ON MONITORING, IS PROHIBITED. ANY CORRECTIVE ACTION UNDERTAKEN TO REMOVE SEDIMENT FROM A WETLAND IS ALSO PROHIBITED.
- WEATHER CONDITIONS WILL BE MONITORED DURING THE CONSTRUCTION SEASON. IF AN EXTENDED RAIN PERIOD OR HEAVY RAIN IS PREDICTED, EXPOSED SOIL AREAS WILL BE MULCHED PRIOR TO AND DAILY DURING THE RAIN EVENT. IF DETERMINED NECESSARY BY THE RESIDENT ENGINEER, WORK MAY BE SUSPENDED OR LIMITED DURING THE STORM.

2. EPSC PLAN

THE CONTRACTOR SHALL SUBMIT AN EPSC PLAN IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE PLAN AT A MINIMUM SHALL TAKE INTO CONSIDERATION THE FOLLOWING:

- **DRAINAGE AREA 1**
 - THE DISTURBANCE AT ANY ONE TIME IN THIS AREA SHALL BE LIMITED TO 0.5 ACRES.
 - ACCESS TO THE AREA, INCLUDING TEMPORARY AND PERMANENT STABILIZATION OF THE PROPOSED ACCESS DURING AND THEN FOLLOWING CONSTRUCTION OF THE PROJECT
 - STORMWATER RUNOFF TO BE CONTROLLED PRIOR TO, DURING, AND THEN FOLLOWING THE FULL COMPLETION OF STONE-FACING THE RIVER EMBANKMENT ON THE EAST BANK OF THE RIVER.
- **DRAINAGE AREA 2**
 - THE DISTURBANCE AT ANY ONE TIME IN THIS AREA SHALL BE LIMITED TO 0.5 ACRE.
 - DIVERSION OF CAHEE BROOK.
 - ACCESS TO THE AREA, INCLUDING TEMPORARY AND PERMANENT STABILIZATION OF THE PROPOSED ACCESS DURING AND THEN FOLLOWING CONSTRUCTION OF THE PROJECT
 - STORMWATER RUNOFF TO BE CONTROLLED PRIOR TO, DURING, AND THEN FOLLOWING THE FULL COMPLETION OF STONE-FACING THE BROOK EMBANKMENT.
- **DRAINAGE AREA 3**
 - THE DISTURBANCE AT ANY ONE TIME IN THIS AREA SHALL BE LIMITED TO 1 ACRE.
 - ACCESS TO THE AREA, INCLUDING TEMPORARY AND PERMANENT STABILIZATION OF THE PROPOSED ACCESS DURING AND THEN FOLLOWING CONSTRUCTION OF THE PROJECT
 - STORMWATER RUNOFF TO BE CONTROLLED PRIOR TO, DURING, AND THEN FOLLOWING THE FULL COMPLETION OF STONE-FACING THE RIVER EMBANKMENT ON THE WEST BANK OF THE RIVER.

THE EPSC PLAN SHALL ALSO INCLUDE INFORMATION REGARDING:

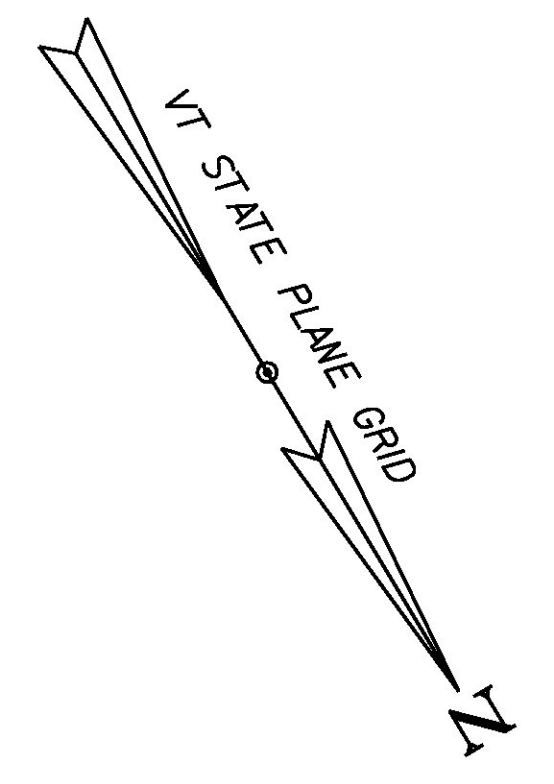
- STREAM DIVERSION PLANS
- METHOD FOR TREATMENT OF DISCHARGE FROM DEWATERING.
- CONSTRUCTION OF HAUL ROADS.

3. INSPECTION & MONITORING NOTES

- CONTRACTOR TO CONDUCT INSPECTIONS AND MONITORING IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND PERMIT SPECIFIC REQUIREMENTS.
- THE CONTRACTOR SHALL KEEP TWO (2) TURBIDITY MONITORS ONSITE AND HAVE PERSONNEL ON HAND THAT ARE TRAINED IN THEIR OPERATION.

PROJECT NAME: BRAINTREE	
PROJECT NUMBER: ER STP 0187(12)	
FILE NAME: z12c526frm.dgn	PLOT DATE: 1/10/2014
PROJECT LEADER: G. EDWARDS	DRAWN BY: G. BURGMEIER
DESIGNED BY: I. MAYNARD	CHECKED BY: M. FOISY
EPSC NARRATIVE	SHEET 61 OF 72





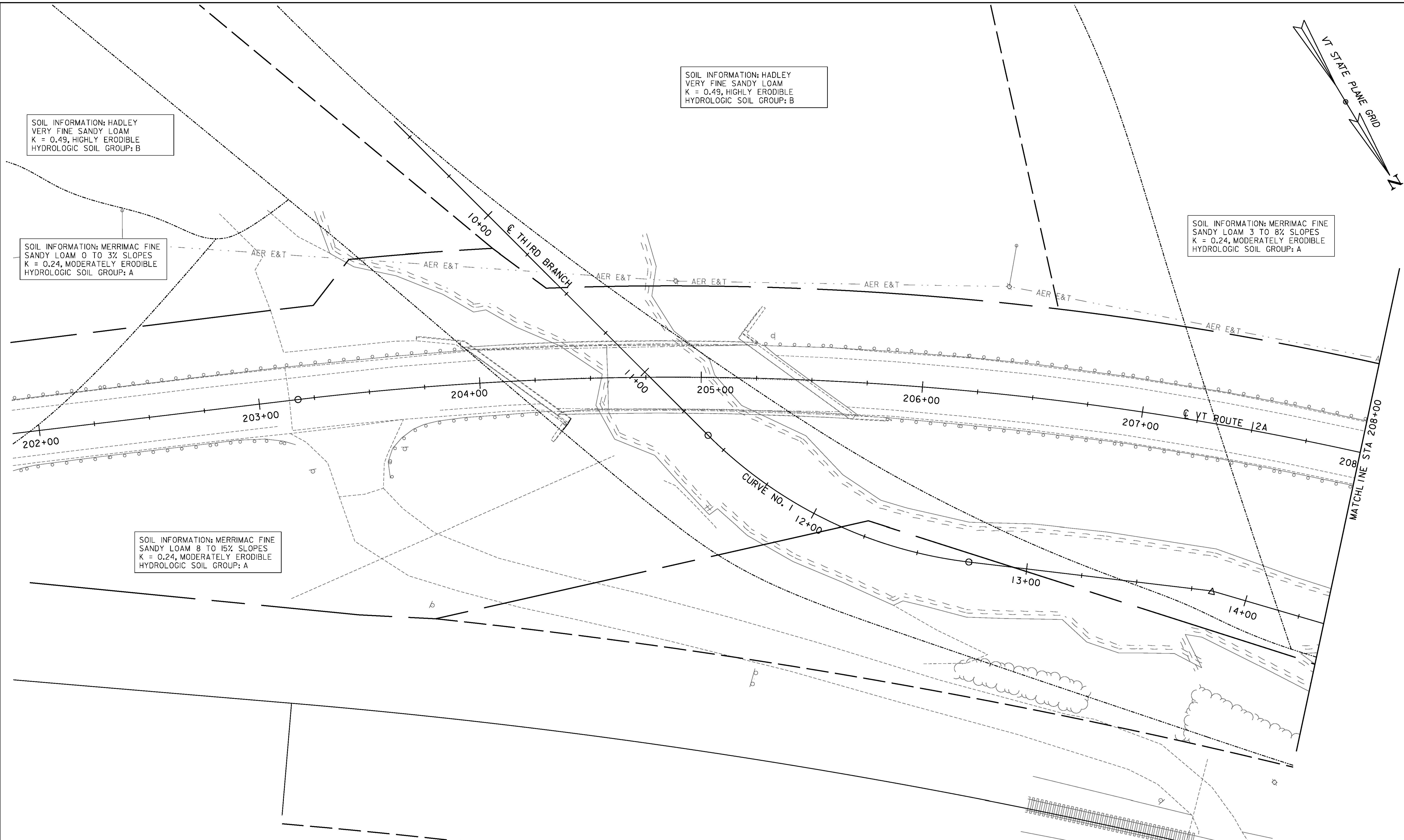
SOIL INFORMATION: HADLEY
VERY FINE SANDY LOAM
K = 0.49, HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: B

SOIL INFORMATION: HADLEY
VERY FINE SANDY LOAM
K = 0.49, HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: B

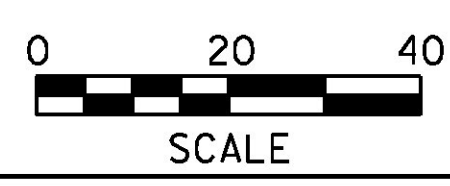
SOIL INFORMATION: MERRIMAC FINE
SANDY LOAM 0 TO 3% SLOPES
K = 0.24, MODERATELY ERODIBLE
HYDROLOGIC SOIL GROUP: A

SOIL INFORMATION: MERRIMAC FINE
SANDY LOAM 3 TO 8% SLOPES
K = 0.24, MODERATELY ERODIBLE
HYDROLOGIC SOIL GROUP: A

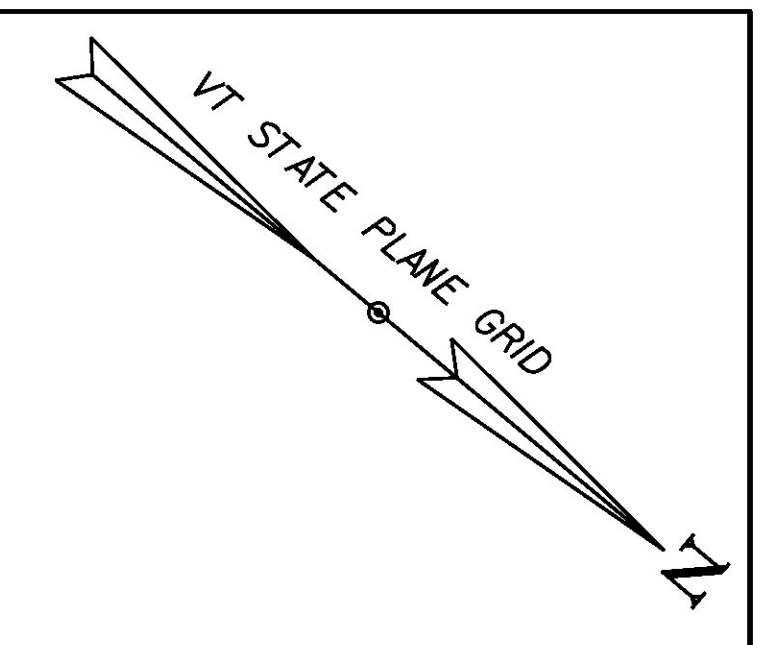
SOIL INFORMATION: MERRIMAC FINE
SANDY LOAM 8 TO 15% SLOPES
K = 0.24, MODERATELY ERODIBLE
HYDROLOGIC SOIL GROUP: A



- NOTES:
- SEE SHEET 10 FOR EPSC LAYOUT PLAN SYMBOLY.
 - RE-VEGETATION ON TOP OF STONE FILL SHALL BE GRUBBING MATERIAL, SEED AND MULCH. ALL OTHER AREAS TO BE TOPSOIL, SEED AND MULCH.



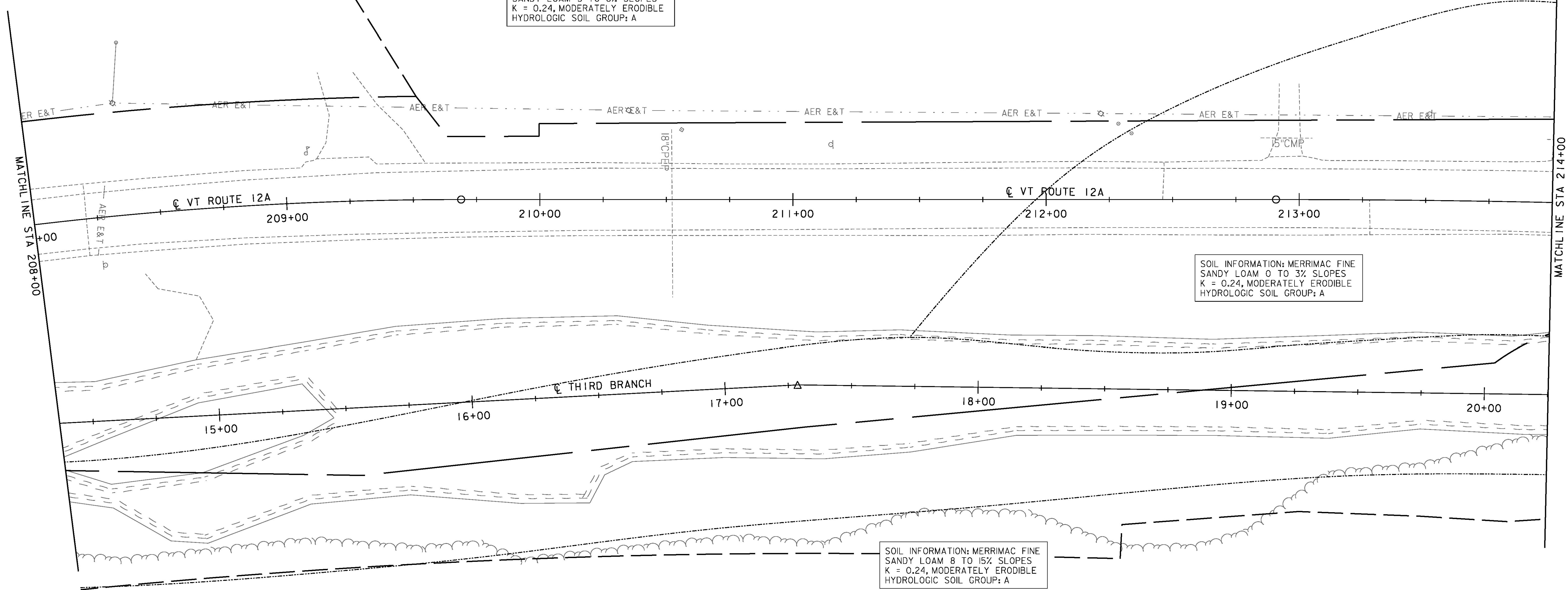
PROJECT NAME:	BRAINTREE	PLOT DATE:	1/10/2014
PROJECT NUMBER:	ER STP 0187(12)	DRAWN BY:	I. MAYNARD
FILE NAME:	z12c526eroBdr.dgn	CHECKED BY:	M. FOISY
PROJECT LEADER:	G. EDWARDS	EPSC EXISTING LAYOUT SHEET 1	SHEET 62 OF 72



SOIL INFORMATION: MERRIMAC FINE SANDY LOAM 3 TO 8% SLOPES
K = 0.24, MODERATELY ERODIBLE
HYDROLOGIC SOIL GROUP: A

SOIL INFORMATION: MERRIMAC FINE SANDY LOAM 0 TO 3% SLOPES
K = 0.24, MODERATELY ERODIBLE
HYDROLOGIC SOIL GROUP: A

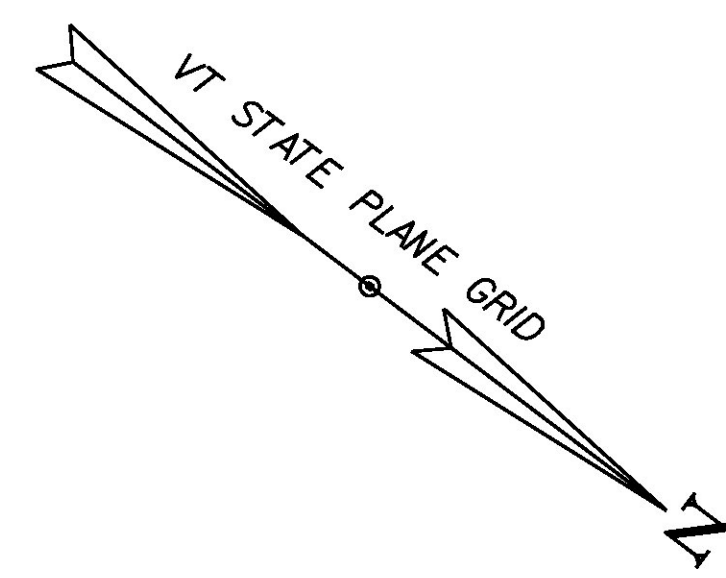
SOIL INFORMATION: MERRIMAC FINE SANDY LOAM 8 TO 15% SLOPES
K = 0.24, MODERATELY ERODIBLE
HYDROLOGIC SOIL GROUP: A



- NOTES:
1. SEE SHEET 10 FOR EPSC LAYOUT PLAN SYMBOLOLOGY.
 2. RE-VEGETATION ON TOP OF STONE FILL SHALL BE GRUBBING MATERIAL, SEED AND MULCH. ALL OTHER AREAS TO BE TOPSOIL, SEED AND MULCH.

0 20 40
SCALE

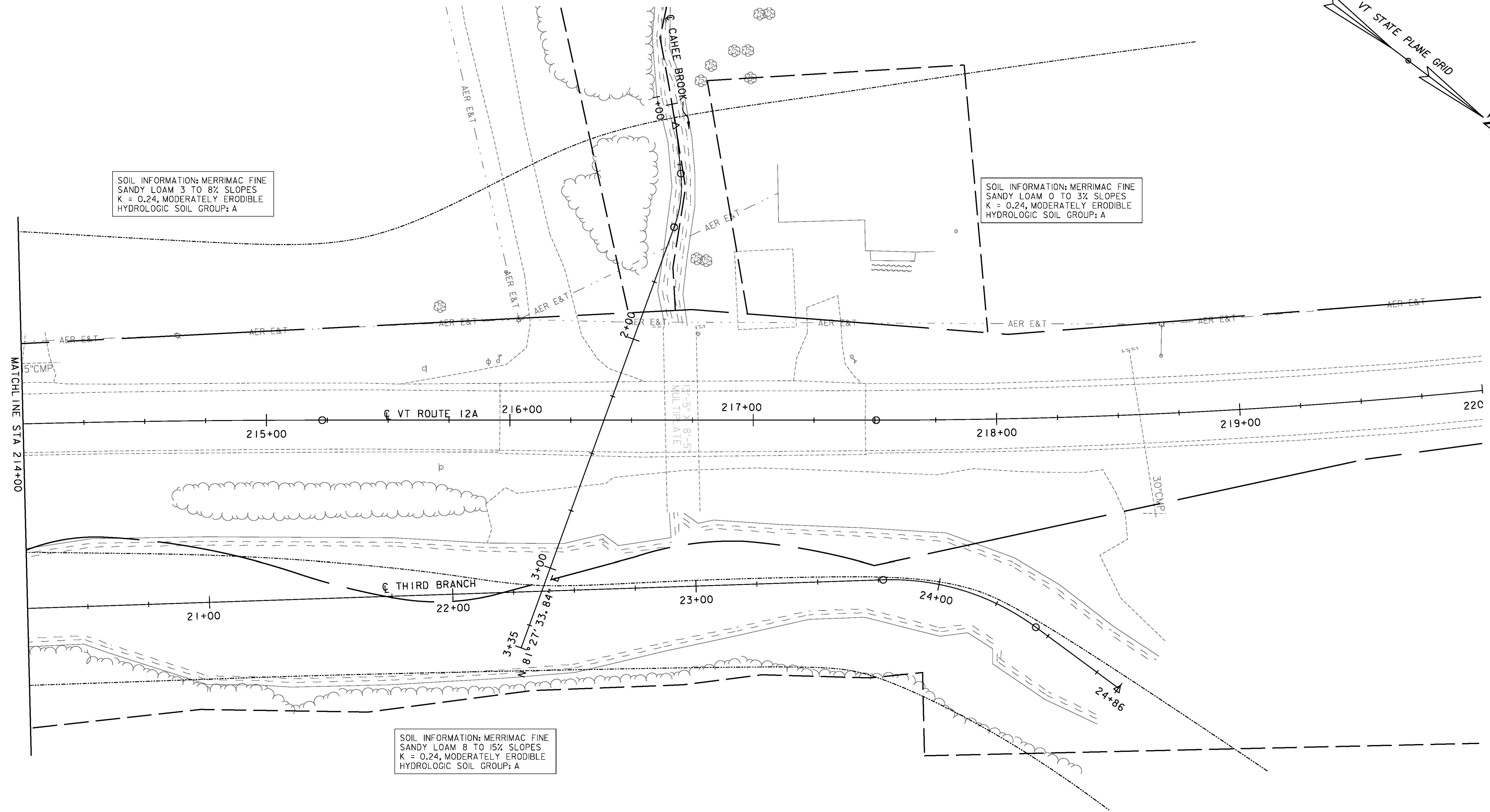
PROJECT NAME: BRAINTREE	PLOT DATE: 1/10/2014
PROJECT NUMBER: ER STP 0187(12)	DRAWN BY: I. MAYNARD
FILE NAME: z12c526eroBdr.dgn	CHECKED BY: M. FOISY
DESIGNED BY: I. MAYNARD	SHEET 63 OF 72
EPSC EXISTING LAYOUT SHEET 2	



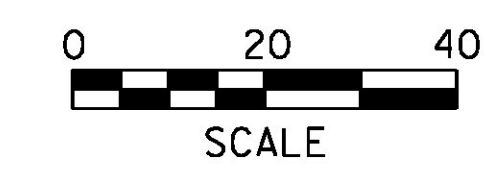
SOIL INFORMATION: MERRIMAC FINE SANDY LOAM 3 TO 8% SLOPES
K = 0.24, MODERATELY ERODIBLE
HYDROLOGIC SOIL GROUP: A

SOIL INFORMATION: MERRIMAC FINE SANDY LOAM 0 TO 3% SLOPES
K = 0.24, MODERATELY ERODIBLE
HYDROLOGIC SOIL GROUP: A

SOIL INFORMATION: MERRIMAC FINE SANDY LOAM 8 TO 15% SLOPES
K = 0.24, MODERATELY ERODIBLE
HYDROLOGIC SOIL GROUP: A



- NOTES:
1. SEE SHEET 10 FOR EPSC LAYOUT PLAN SYMBOLOGY.
 2. RE-VEGETATION ON TOP OF STONE FILL SHALL BE GRUBBING MATERIAL, SEED AND MULCH. ALL OTHER AREAS TO BE TOPSOIL, SEED AND MULCH.



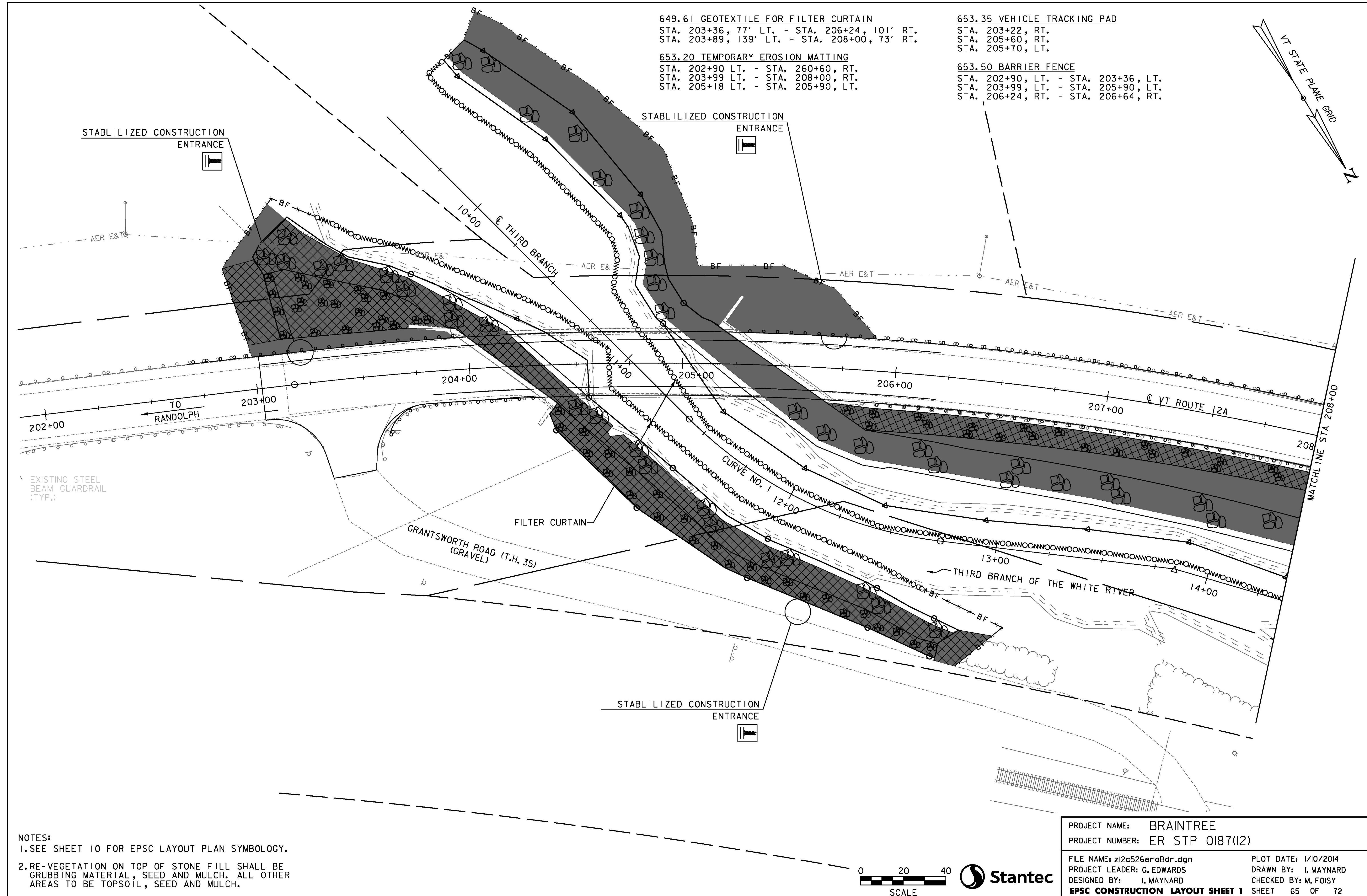
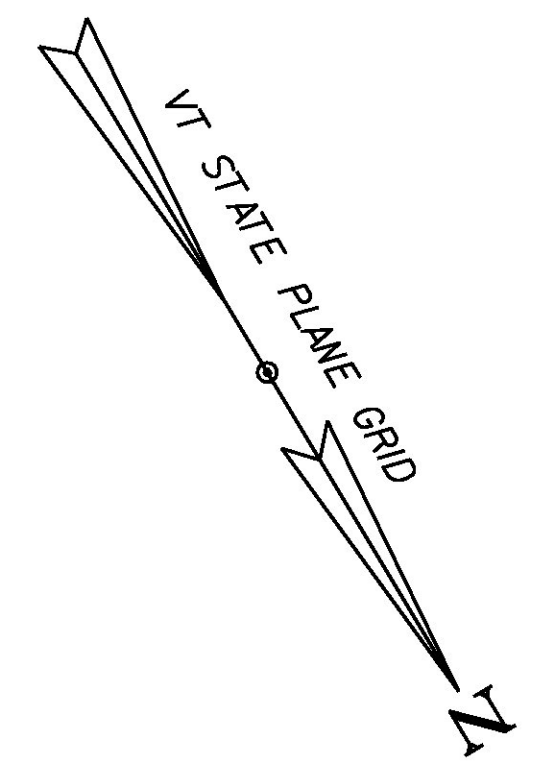
PROJECT NAME:	BRAINTREE	PLOT DATE:	1/10/2014
PROJECT NUMBER:	ER STP 0187(12)	DRAWN BY:	I. MAYNARD
FILE NAME:	z12c526eroBdr.dgn	DESIGNED BY:	I. MAYNARD
PROJECT LEADER:	G. EDWARDS	CHECKED BY:	M. FOISY
EPSC EXISTING LAYOUT SHEET 3		SHEET	64 OF 72

649.61 GEOTEXTILE FOR FILTER CURTAIN
 STA. 203+36, 77' LT. - STA. 206+24, 101' RT.
 STA. 203+89, 139' LT. - STA. 208+00, 73' RT.

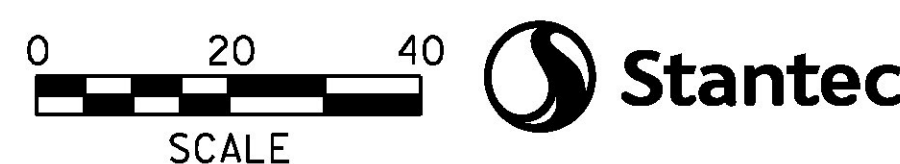
653.20 TEMPORARY EROSION MATTING
 STA. 202+90 LT. - STA. 260+60, RT.
 STA. 203+99 LT. - STA. 208+00, RT.
 STA. 205+18 LT. - STA. 205+90, LT.

653.35 VEHICLE TRACKING PAD
 STA. 203+22, RT.
 STA. 205+60, RT.
 STA. 205+70, LT.

653.50 BARRIER FENCE
 STA. 202+90, LT. - STA. 203+36, LT.
 STA. 203+99, LT. - STA. 205+90, LT.
 STA. 206+24, RT. - STA. 206+64, RT.

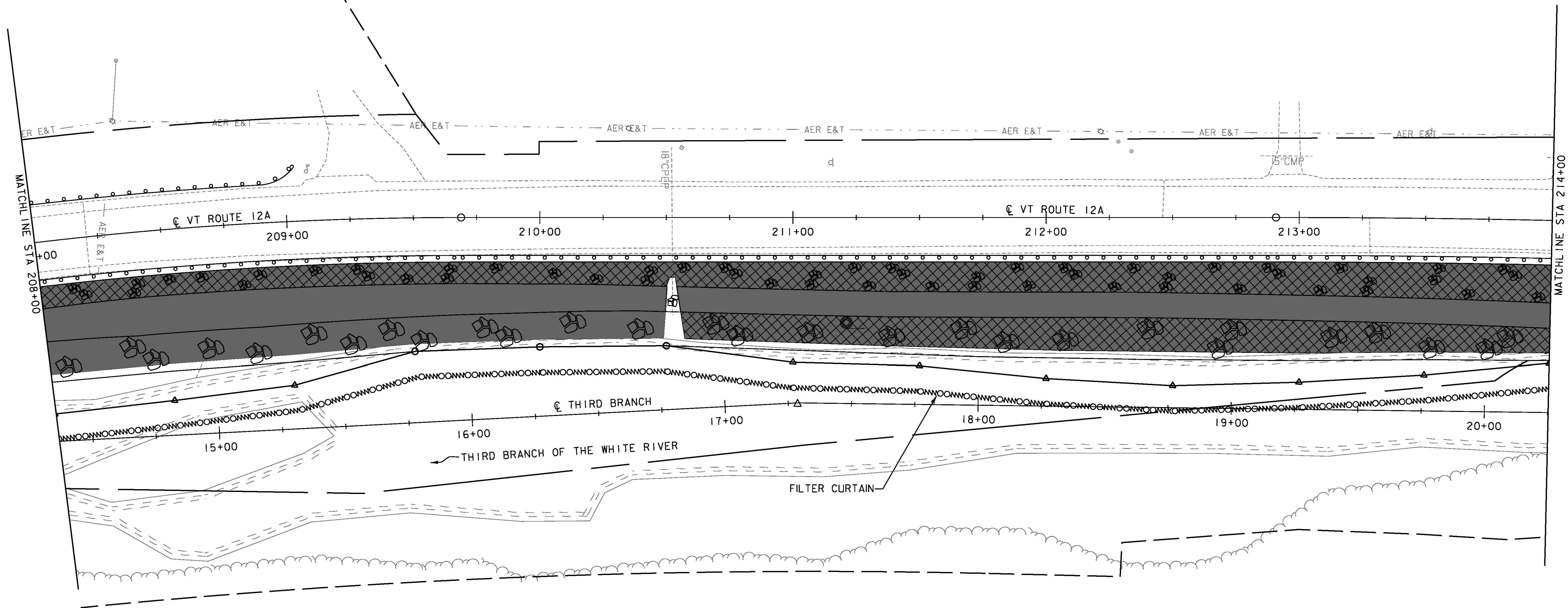
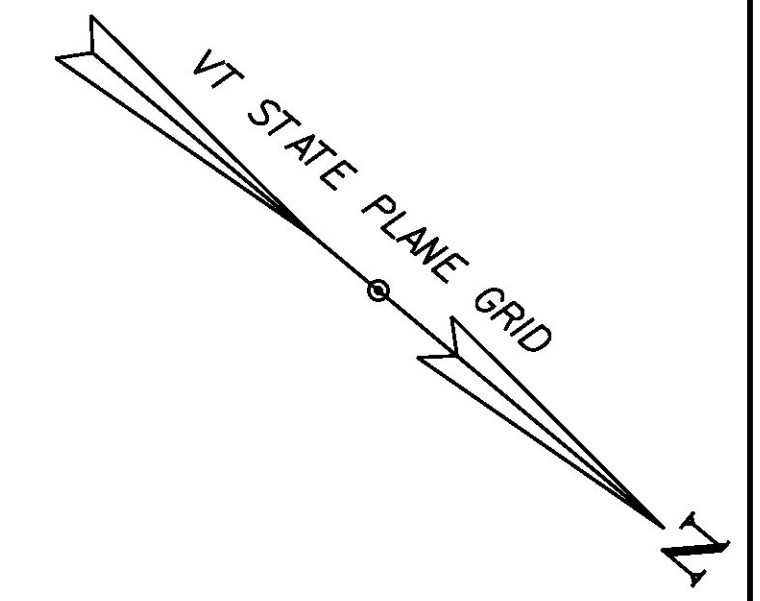


NOTES:
 1. SEE SHEET 10 FOR EPSC LAYOUT PLAN SYMBOLOGY.
 2. RE-VEGETATION ON TOP OF STONE FILL SHALL BE GRUBBING MATERIAL, SEED AND MULCH. ALL OTHER AREAS TO BE TOPSOIL, SEED AND MULCH.

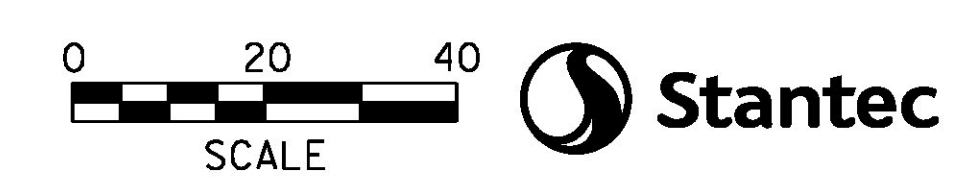


PROJECT NAME: BRAINTREE	
PROJECT NUMBER: ER STP 0187(12)	
FILE NAME: z12c526eroBdr.dgn	PLOT DATE: 1/10/2014
PROJECT LEADER: G. EDWARDS	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: M. FOISY
EPSC CONSTRUCTION LAYOUT SHEET 1 SHEET 65 OF 72	

649.61 GEOTEXTILE FOR FILTER CURTAIN
 STA. 208+00, 73' RT. - STA. 214+00, 66' RT.
 653.20 TEMPORARY EROSION MATTING
 STA. 208+00, RT. - 214+00, RT.



NOTES:
 1. SEE SHEET 10 FOR EPSC LAYOUT PLAN SYMBOLGY.
 2. RE-VEGETATION ON TOP OF STONE FILL SHALL BE GRUBBING MATERIAL, SEED AND MULCH. ALL OTHER AREAS TO BE TOPSOIL, SEED AND MULCH.



PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526eroBdr.dgn
PROJECT LEADER:	G. EDWARDS
DESIGNED BY:	I. MAYNARD
EPSC CONSTRUCTION LAYOUT SHEET 2	SHEET 66 OF 72
PLOT DATE:	1/10/2014
DRAWN BY:	I. MAYNARD
CHECKED BY:	M. FOISY

649.515 GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED

STA. 216+42, 50' LT. - STA. 216+61, 116' LT.
 STA. 216+67, 45' LT. - STA. 216+79, 119' LT.

649.61 GEOTEXTILE FOR FILTER CURTAIN

STA. 214+00, 66' RT. - STA. 218+69, 106' RT.

653.20 TEMPORARY EROSION MATTING

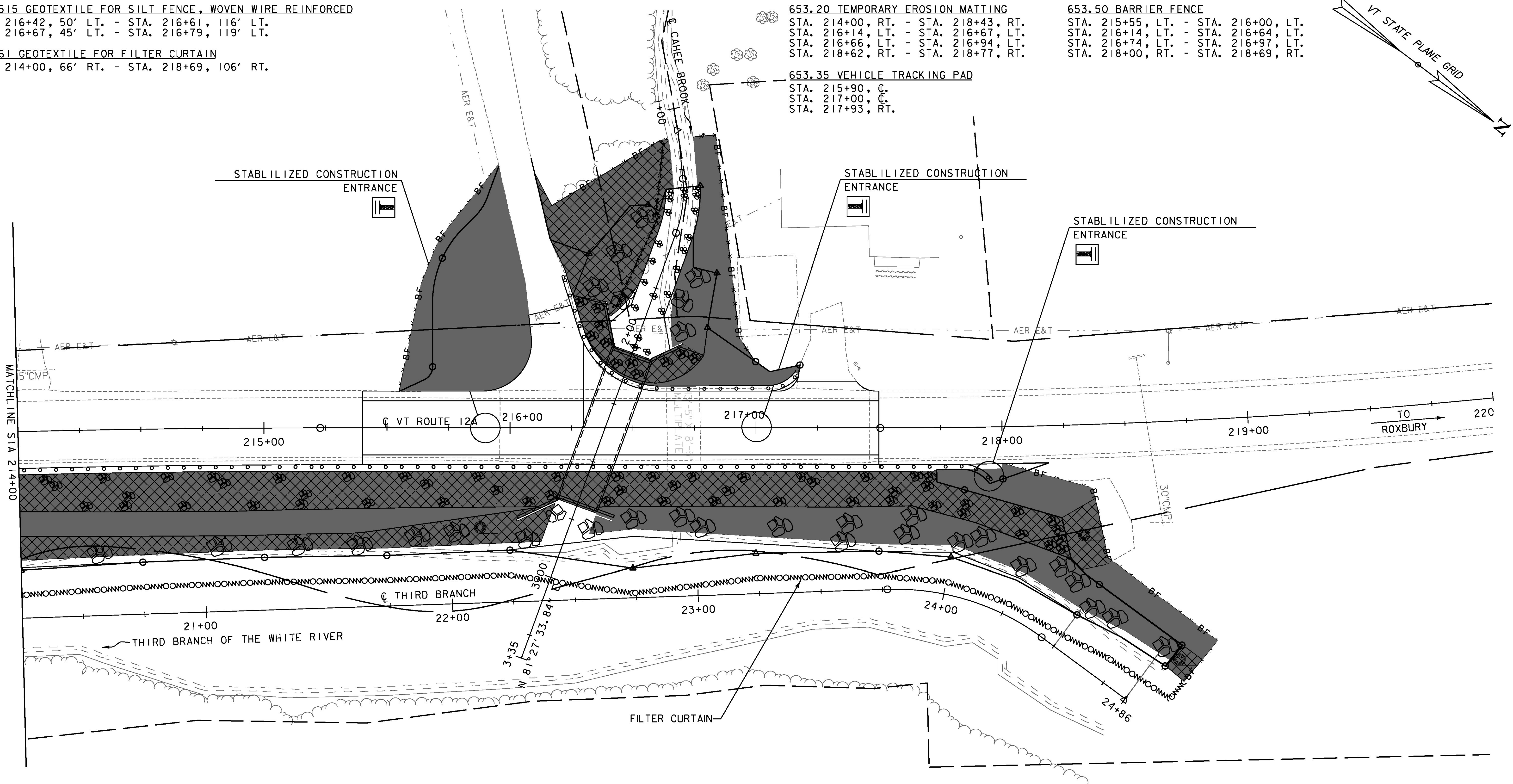
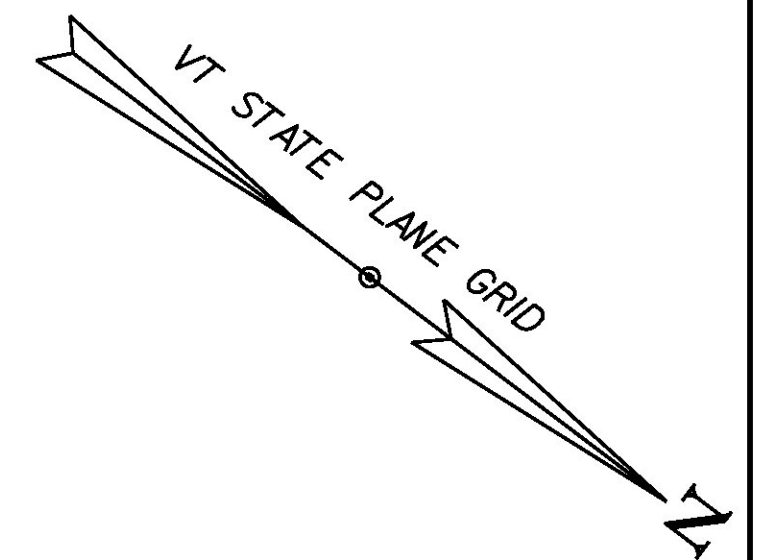
STA. 214+00, RT. - STA. 218+43, RT.
 STA. 216+14, LT. - STA. 216+67, LT.
 STA. 216+66, LT. - STA. 216+94, LT.
 STA. 218+62, RT. - STA. 218+77, RT.

653.35 VEHICLE TRACKING PAD

STA. 215+90, C.
 STA. 217+00, C.
 STA. 217+93, RT.

653.50 BARRIER FENCE

STA. 215+55, LT. - STA. 216+00, LT.
 STA. 216+14, LT. - STA. 216+64, LT.
 STA. 216+74, LT. - STA. 216+97, LT.
 STA. 218+00, RT. - STA. 218+69, RT.



NOTES:

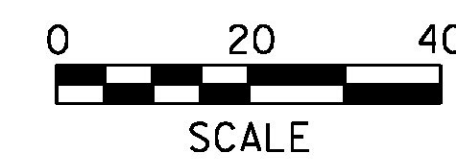
1. SEE SHEET 10 FOR EPSC LAYOUT PLAN SYMBOLOGY.
2. RE-VEGETATION ON TOP OF STONE FILL SHALL BE GRUBBING MATERIAL, SEED AND MULCH. ALL OTHER AREAS TO BE TOPSOIL, SEED AND MULCH.

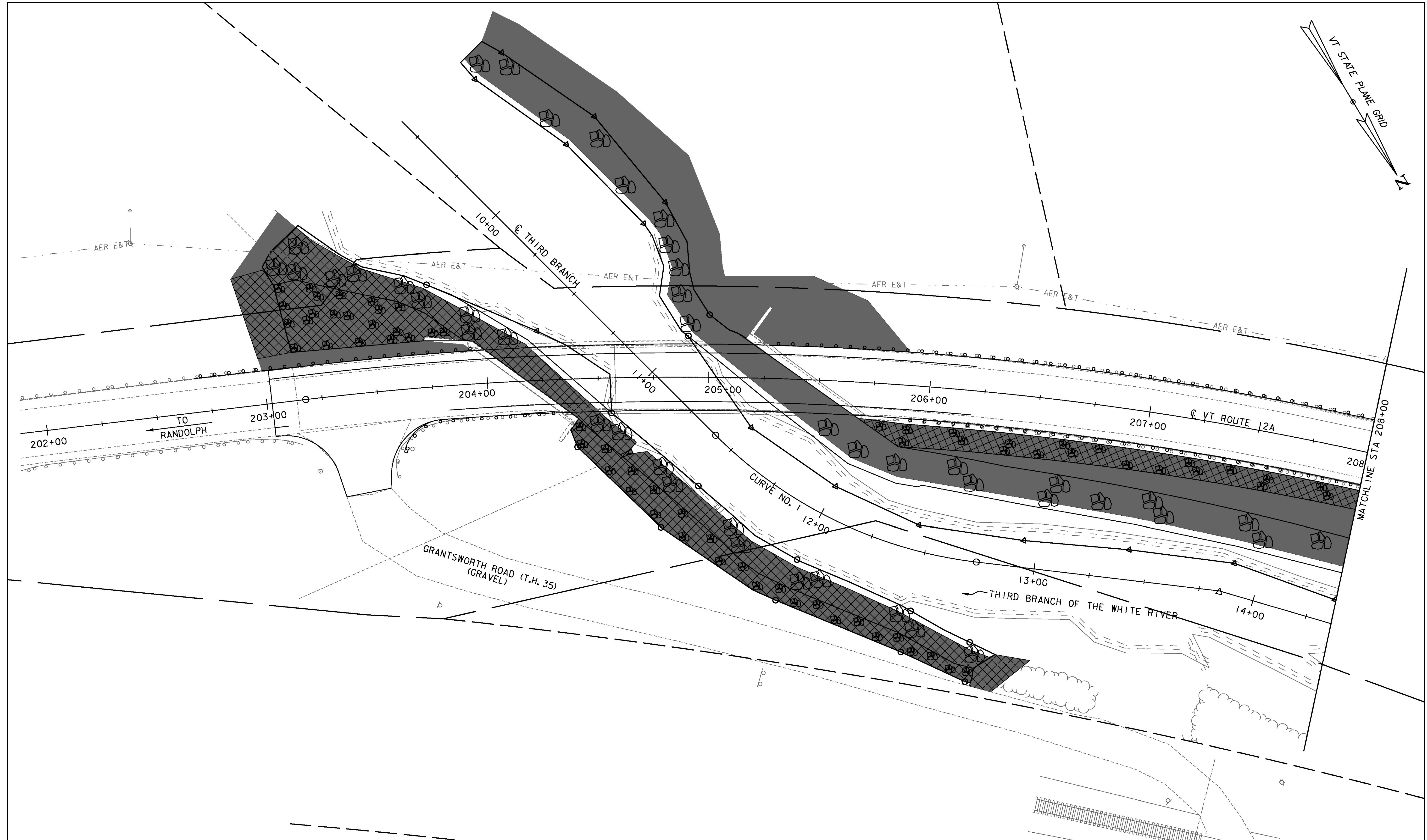
DE-WATERING NOTES

1. DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.
2. TEMPORARY DEWATERING MAY BE NECESSARY TO LIMIT DISTURBANCE AND TO MAINTAIN INTEGRITY OF EXCAVATION. IF NECESSARY, TEMPORARY DEWATERING SHALL BE ACCOMPLISHED BY OPEN PUMPING FROM SHALLOW SUMPS, TEMPORARY DITCHES, AND TRENCHES WITHIN AND AROUND THE EXCAVATION LIMITS. SUMPS SHALL BE PROVIDED WITH FILTERS SUITABLE TO PREVENT PUMPING OF FINE-GRADED SOIL PARTICLES. THE WATER TRAPPED BY THE TEMPORARY DEWATERING CONTROLS SHALL BE DISCHARGED TO SETTLING BASINS OR AN APPROVED FILTER SOCK SO THAT THE FINE PARTICLES SUSPENDED IN THE DISCHARGE HAVE ADEQUATE TIME TO "SETTLE OUT" PRIOR TO DISCHARGE. ALL EFFLUENT OR DISCHARGE SHALL COMPLY WITH ALL APPLICABLE PERMITS AND REGULATIONS.

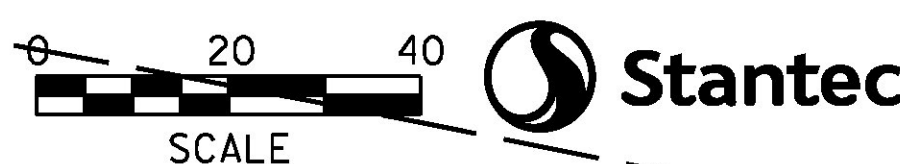
PROJECT NAME: BRAINTREE
 PROJECT NUMBER: ER STP 0187(12)

FILE NAME: z12c526eroBdr.dgn PLOT DATE: 1/10/2014
 PROJECT LEADER: G. EDWARDS DRAWN BY: I. MAYNARD
 DESIGNED BY: I. MAYNARD CHECKED BY: M. FOISY
EPSC CONSTRUCTION LAYOUT SHEET 3 SHEET 67 OF 72

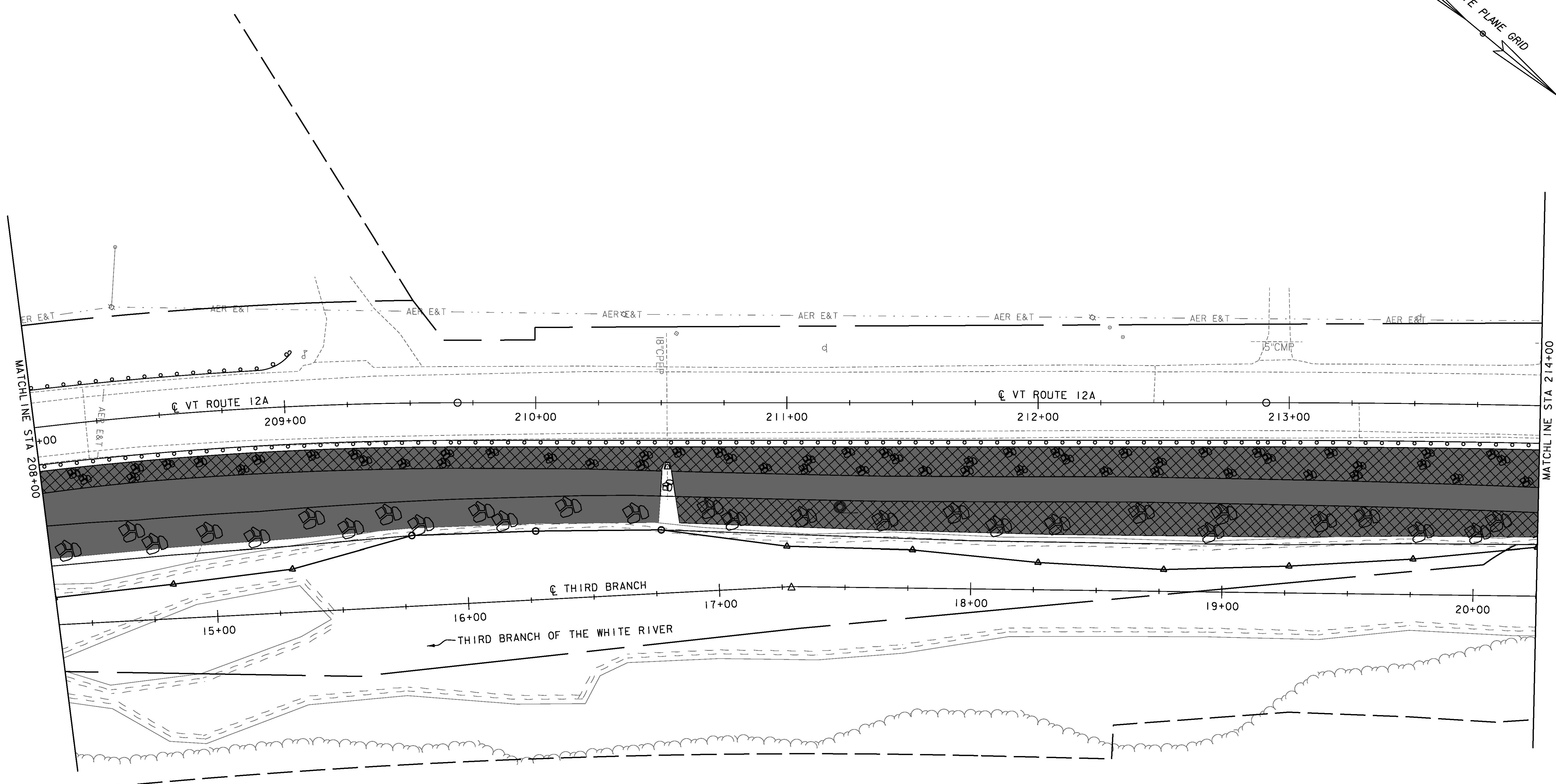
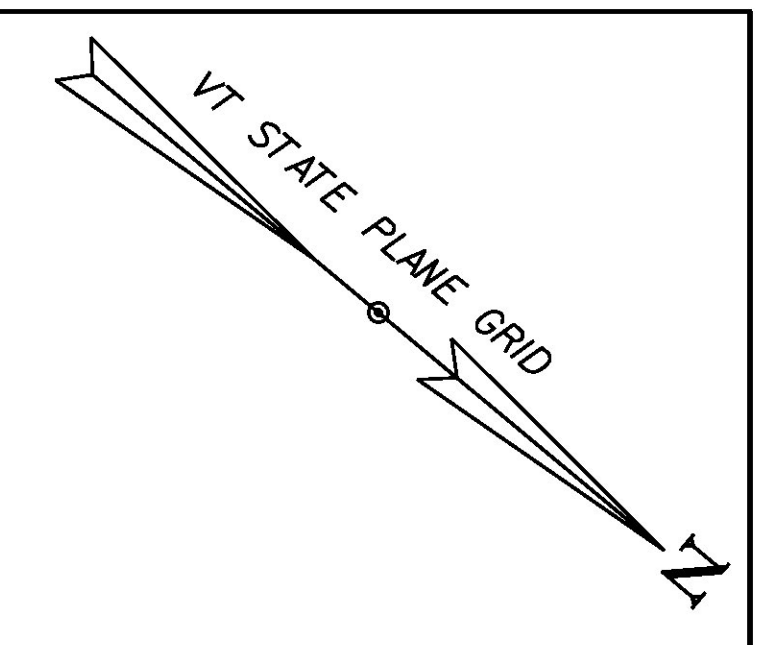




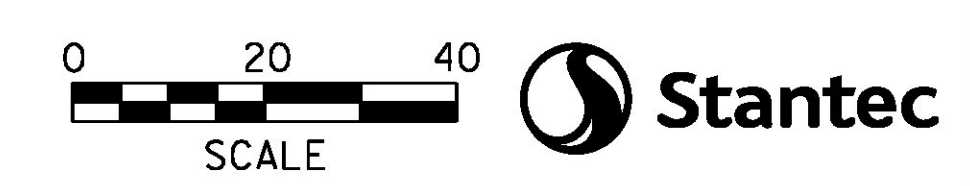
NOTES:
 1. SEE SHEET 10 FOR EPSC LAYOUT PLAN SYMBOLOLOGY.
 2. RE-VEGETATION ON TOP OF STONE FILL SHALL BE GRUBBING MATERIAL, SEED AND MULCH. ALL OTHER AREAS TO BE TOPSOIL, SEED AND MULCH.



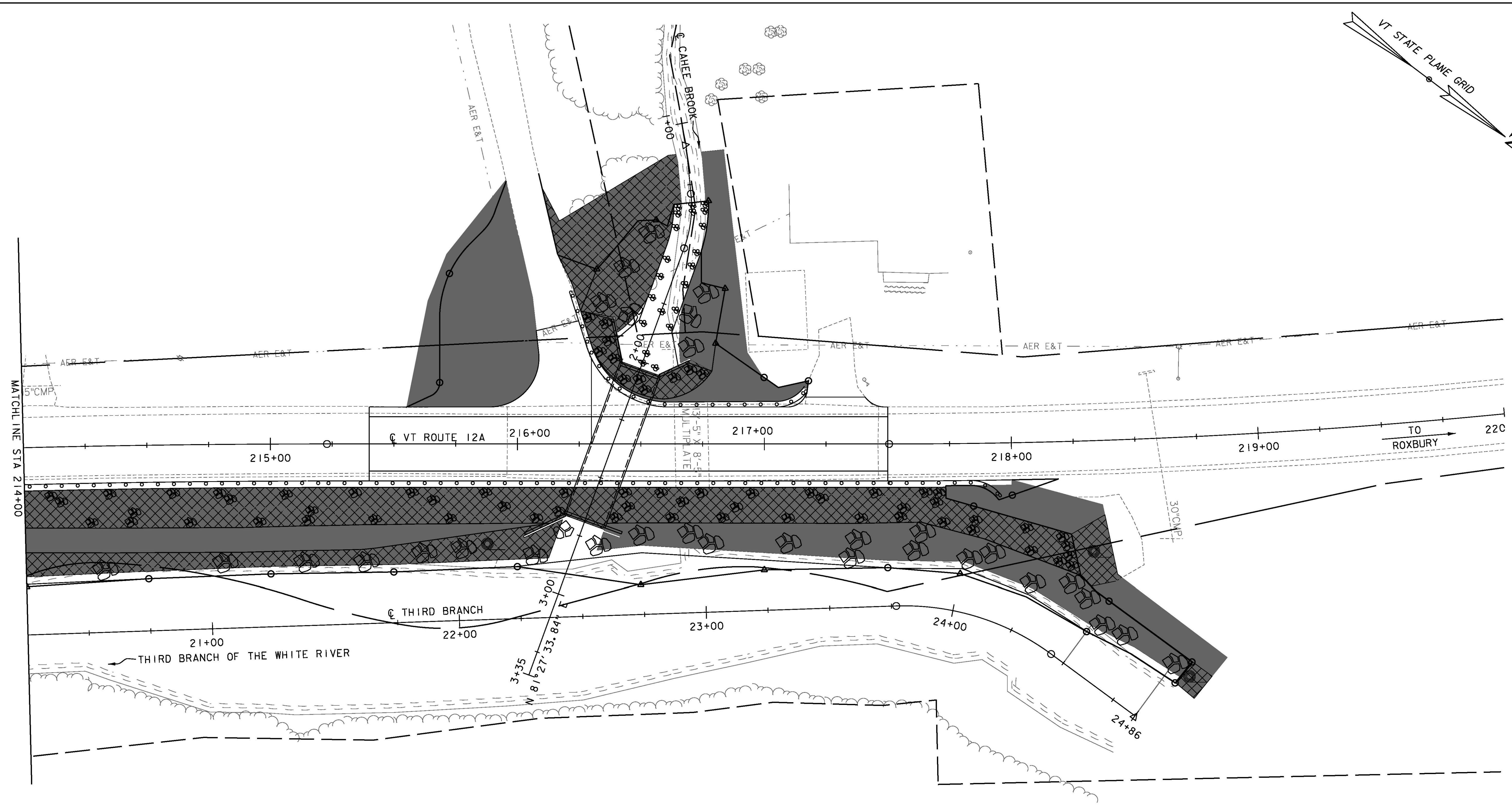
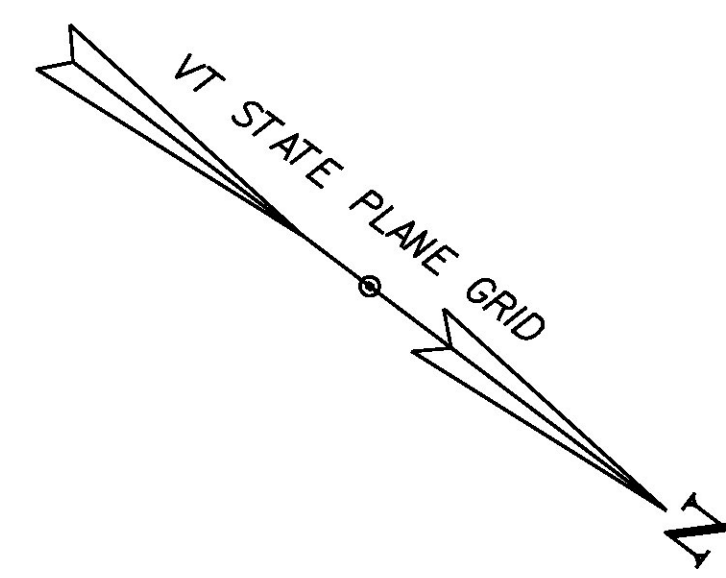
PROJECT NAME:	BRAINTREE	PLOT DATE:	1/10/2014
PROJECT NUMBER:	ER STP 0187(12)	DRAWN BY:	I. MAYNARD
FILE NAME:	z12c526eroBdr.dgn	DESIGNED BY:	I. MAYNARD
PROJECT LEADER:	G. EDWARDS	CHECKED BY:	M. FOISY
EPSC FINAL LAYOUT SHEET		SHEET 68 OF 72	



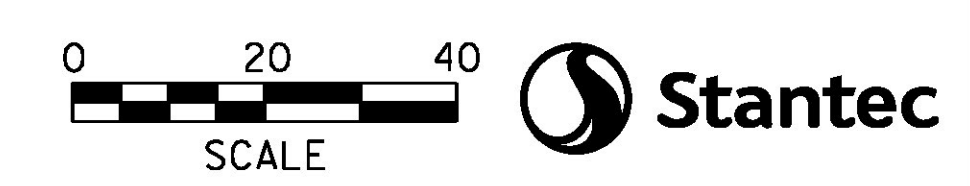
NOTES:
 1. SEE SHEET 10 FOR EPSC LAYOUT PLAN SYMBOLGY.
 2. RE-VEGETATION ON TOP OF STONE FILL SHALL BE GRUBBING MATERIAL, SEED AND MULCH. ALL OTHER AREAS TO BE TOPSOIL, SEED AND MULCH.



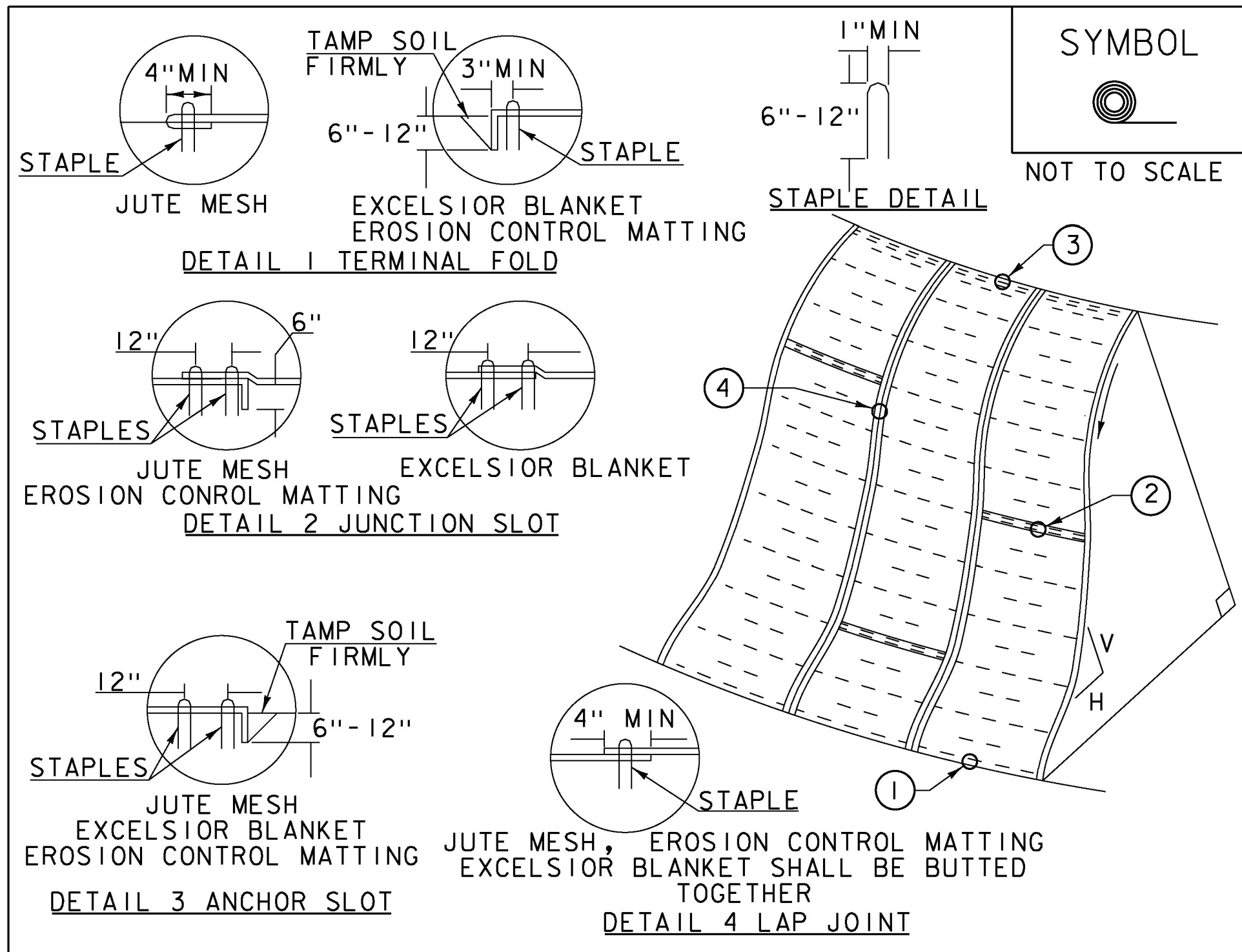
PROJECT NAME:	BRAINTREE	PLOT DATE:	1/10/2014
PROJECT NUMBER:	ER STP 0187(12)	DRAWN BY:	I. MAYNARD
FILE NAME:	z12c526eroBdr.dgn	CHECKED BY:	M. FOISY
DESIGNED BY:	I. MAYNARD	SHEET	69 OF 72
EPSC FINAL LAYOUT SHEET 2			



- NOTES:
1. SEE SHEET 10 FOR EPSC LAYOUT PLAN SYMBOLOGY.
 2. RE-VEGETATION ON TOP OF STONE FILL SHALL BE GRUBBING MATERIAL, SEED AND MULCH. ALL OTHER AREAS TO BE TOPSOIL, SEED AND MULCH.



PROJECT NAME:	BRAINTREE	PLOT DATE:	1/10/2014
PROJECT NUMBER:	ER STP 0187(12)	DRAWN BY:	I. MAYNARD
FILE NAME:	z12c526eroBdr.dgn	DESIGNED BY:	I. MAYNARD
PROJECT LEADER:	G. EDWARDS	CHECKED BY:	M. FOISY
EPSC FINAL LAYOUT SHEET 3		SHEET 70 OF 72	



CONSTRUCTION SPECIFICATIONS

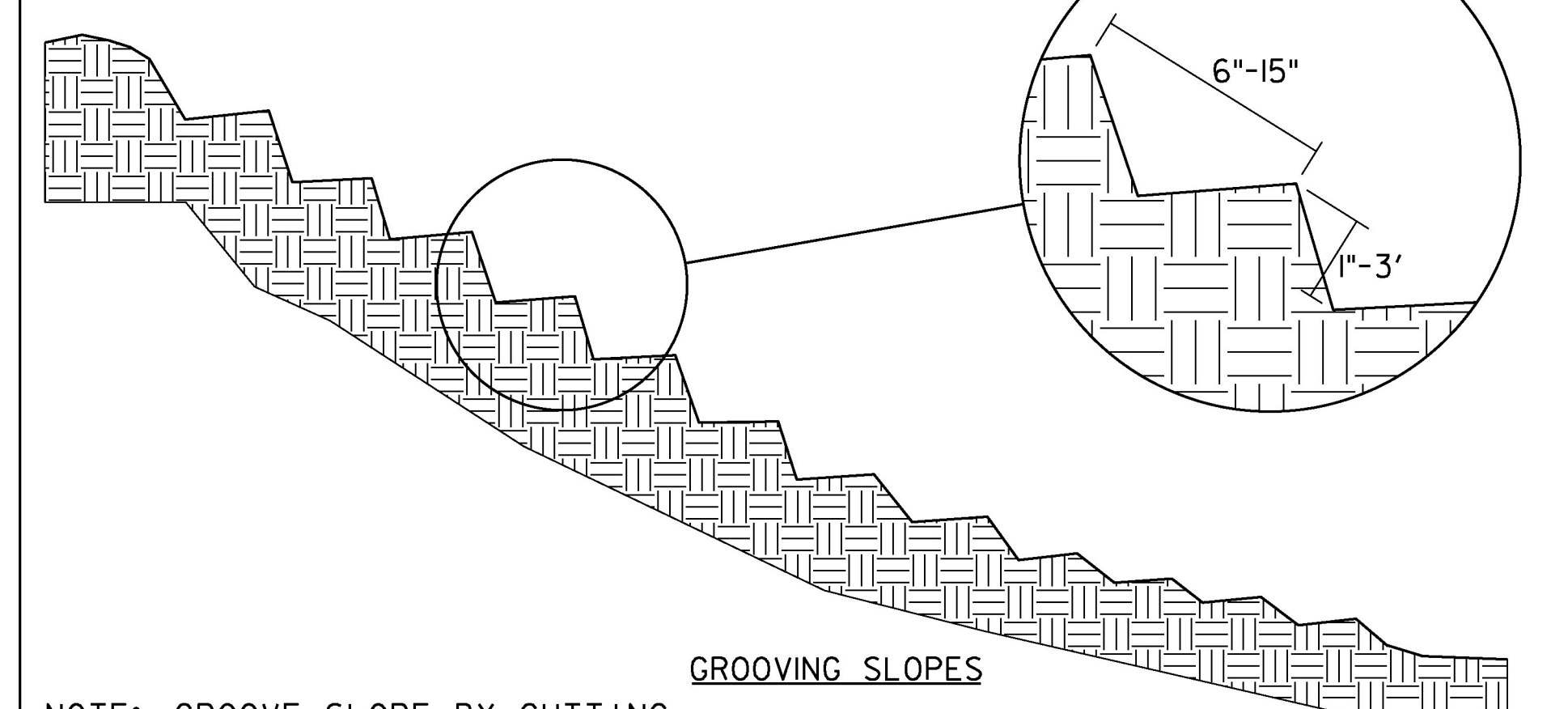
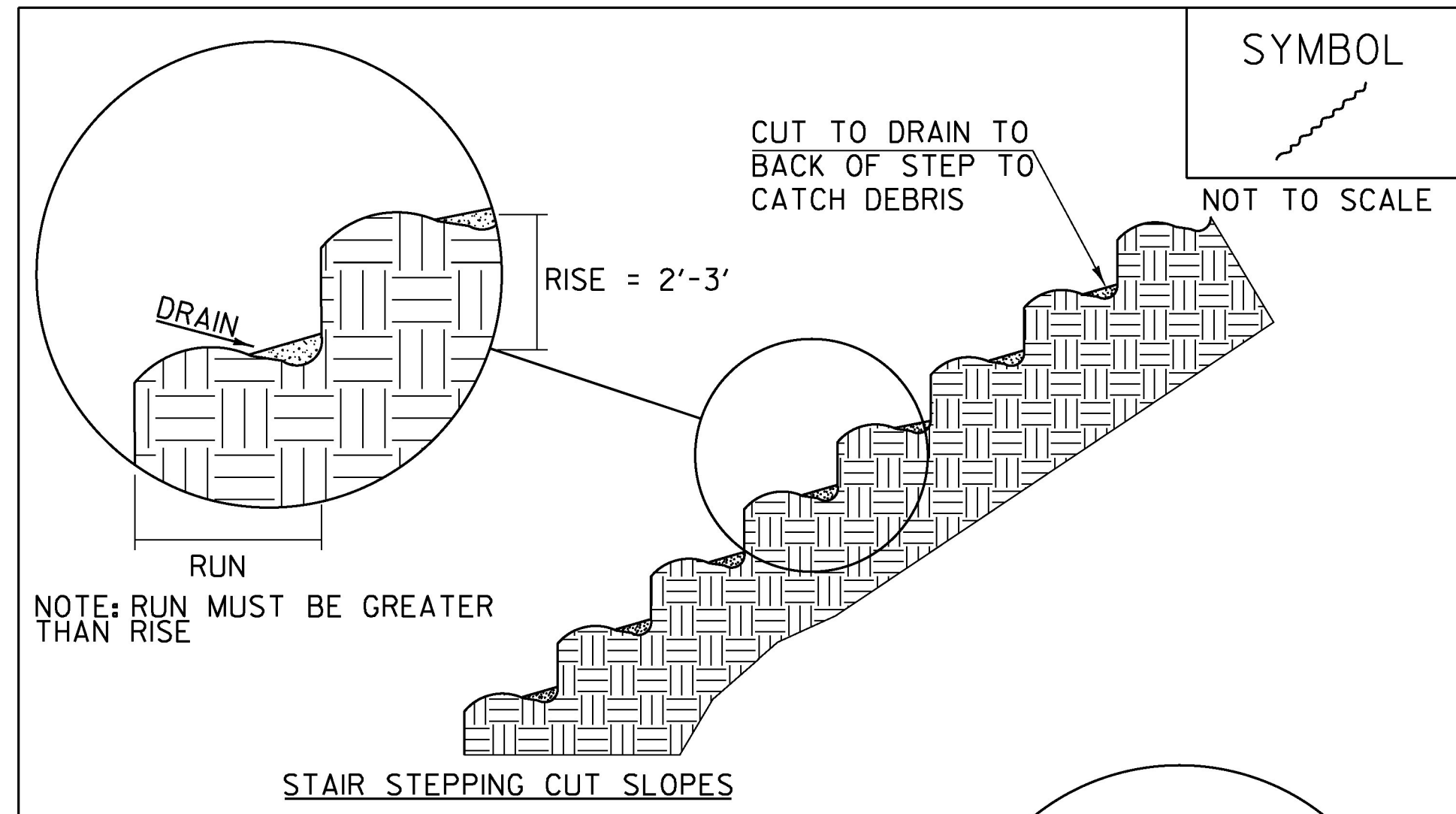
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

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

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20)

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF



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

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

SURFACE ROUGHENING

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

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

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

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

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

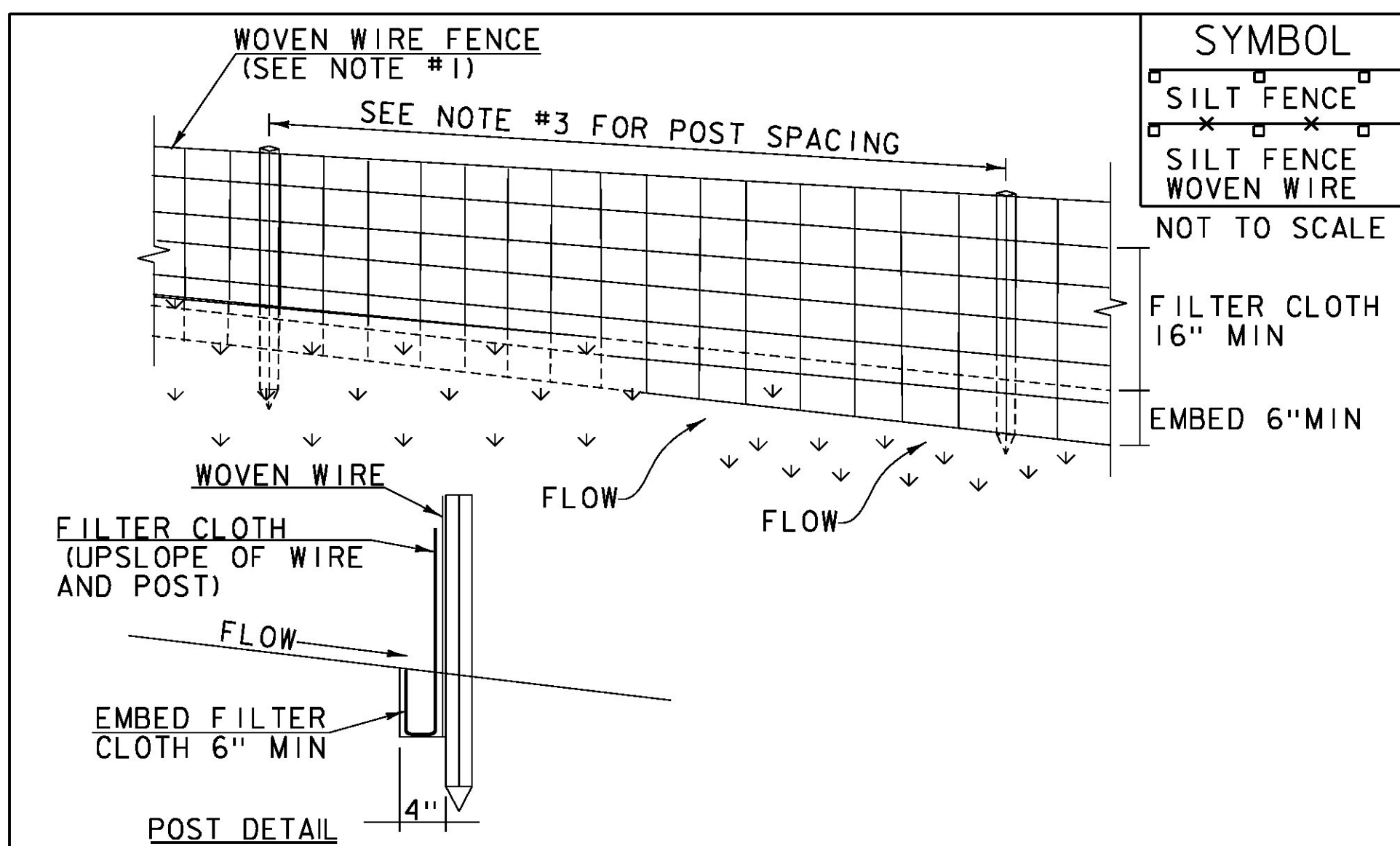
ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

REVISIONS	

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

PROJECT NAME: BRAINTREE
PROJECT NUMBER: ER STP 0187(12)
FILE NAME: z12c526erodet.dgn PLOT DATE: 1/10/2014
PROJECT LEADER: VTRANS DRAWN BY: VTRANS
DESIGNED BY: VTRANS CHECKED BY: VTRANS
EPSC DETAILS SHEET 1 SHEET 71 OF 72



SYMBOL	
[Symbol]	SILT FENCE
[Symbol]	SILT FENCE WOVEN WIRE

- CONSTRUCTION SPECIFICATIONS**
- 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.
 - FILTER CLOTH SHALL BE EITHER FILTER X, MIRAF1100X, STABILINKA T140N OR APPROVED EQUIVALENT.
 - 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'.
 - 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.
 - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
 - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

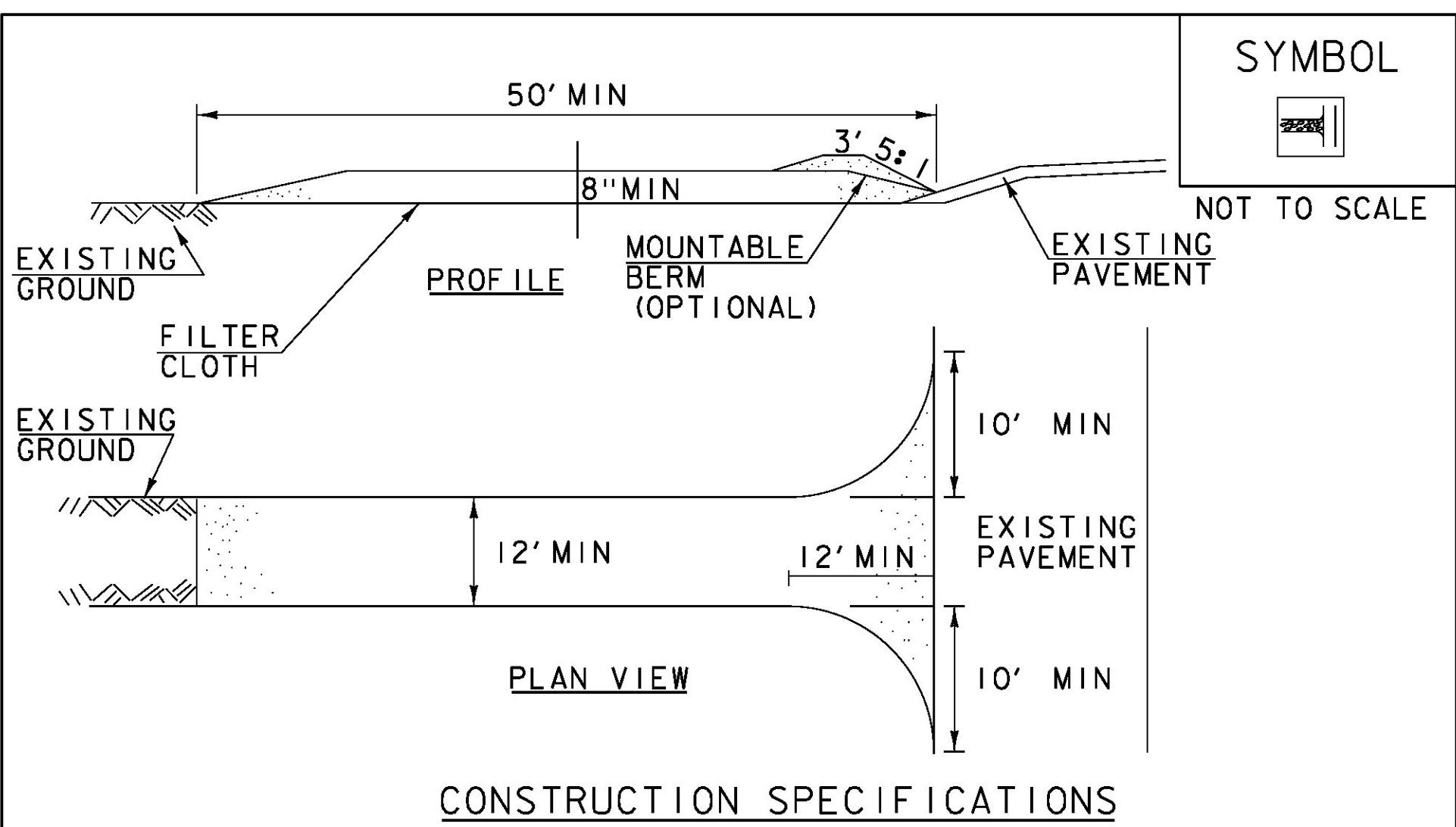
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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.

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

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



SYMBOL	
[Symbol]	STABILIZED CONSTRUCTION ENTRANCE

- CONSTRUCTION SPECIFICATIONS**
- STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
 - LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
 - THICKNESS- NOT LESS THAN 8".
 - WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
 - GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
 - 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.
 - 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.
 - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
 - PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

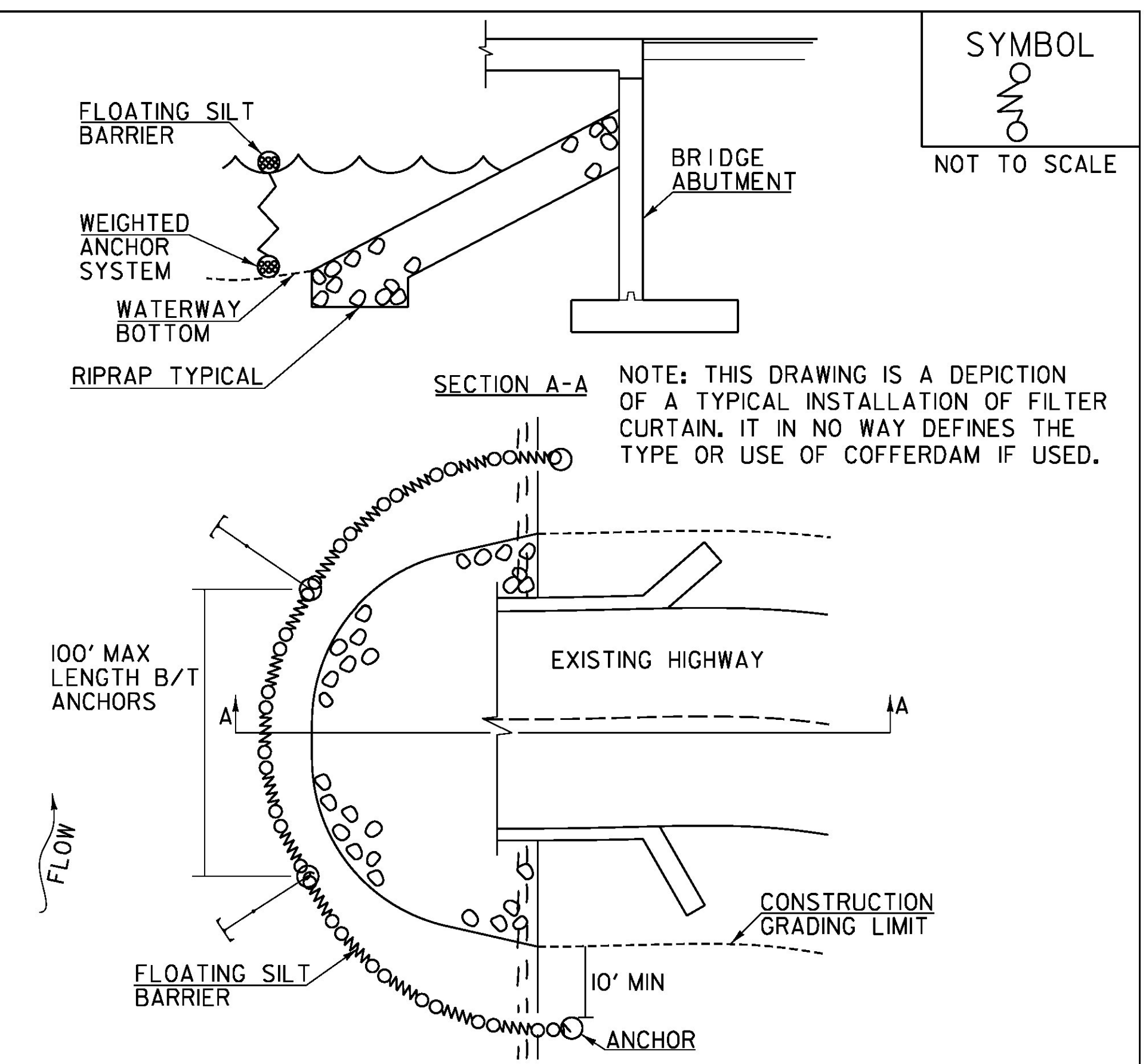
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

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



SYMBOL	
[Symbol]	FILTER CURTAIN

- CONSTRUCTION SPECIFICATIONS**
- FILTER CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FEET/SECOND.
 - MAXIMUM 100' LENGTH BETWEEN ANCHORS.
 - LAST SECTION SHALL TERMINATE A MINIMUM OF 10' BEYOND LIMIT OF DISTURBANCE.
 - THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE WHICH ALLOWS THE CURTAIN TO CONFORM TO THE BOTTOM OF THE WATERWAY.
 - THE CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE MINIMIZING THE ESCAPE OF SEDIMENTS INTO WATERWAY.

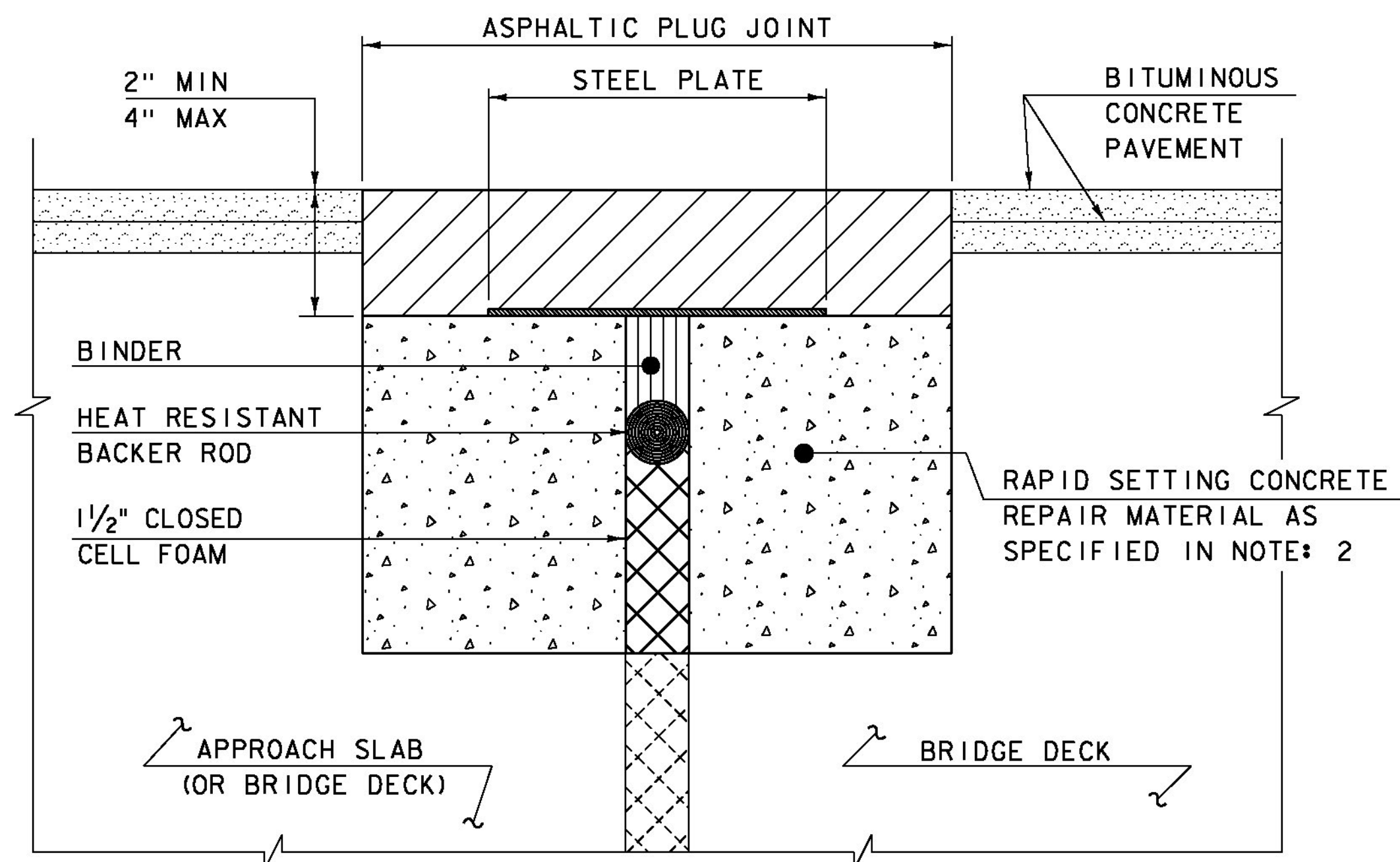
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FILTER CURTAIN

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF
SEPTEMBER 4, 2009	WHF

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.61).

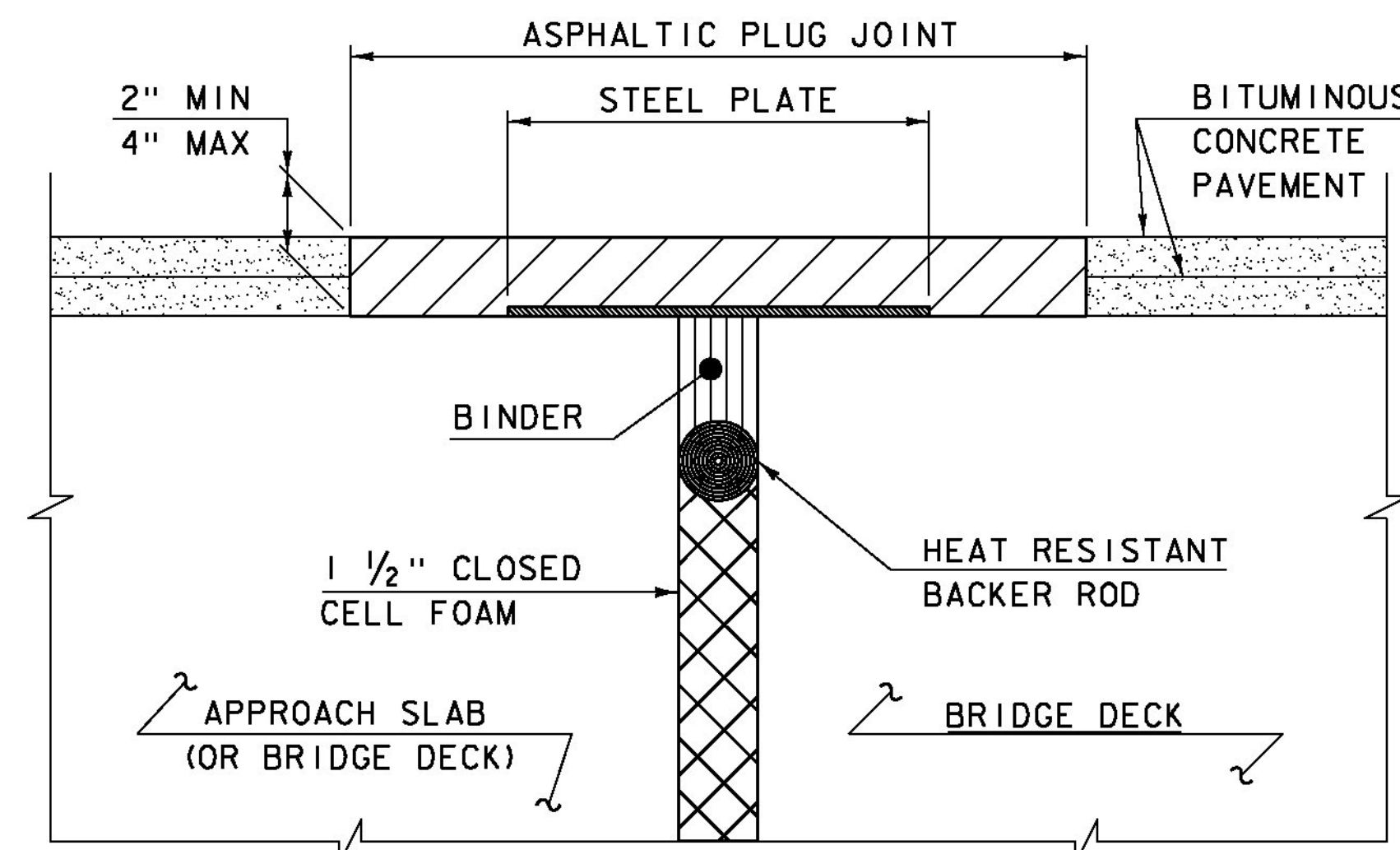
PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	ER STP 0187(12)
FILE NAME:	z12c526erodet.dgn
PROJECT LEADER:	VTRANS
DESIGNED BY:	VTRANS
EPSC DETAILS SHEET 2	
PLOT DATE:	1/10/2014
DRAWN BY:	VTRANS
CHECKED BY:	VTRANS
SHEET	72 OF 72



ASPHALTIC PLUG JOINT DETAIL - REHAB

NOTES:

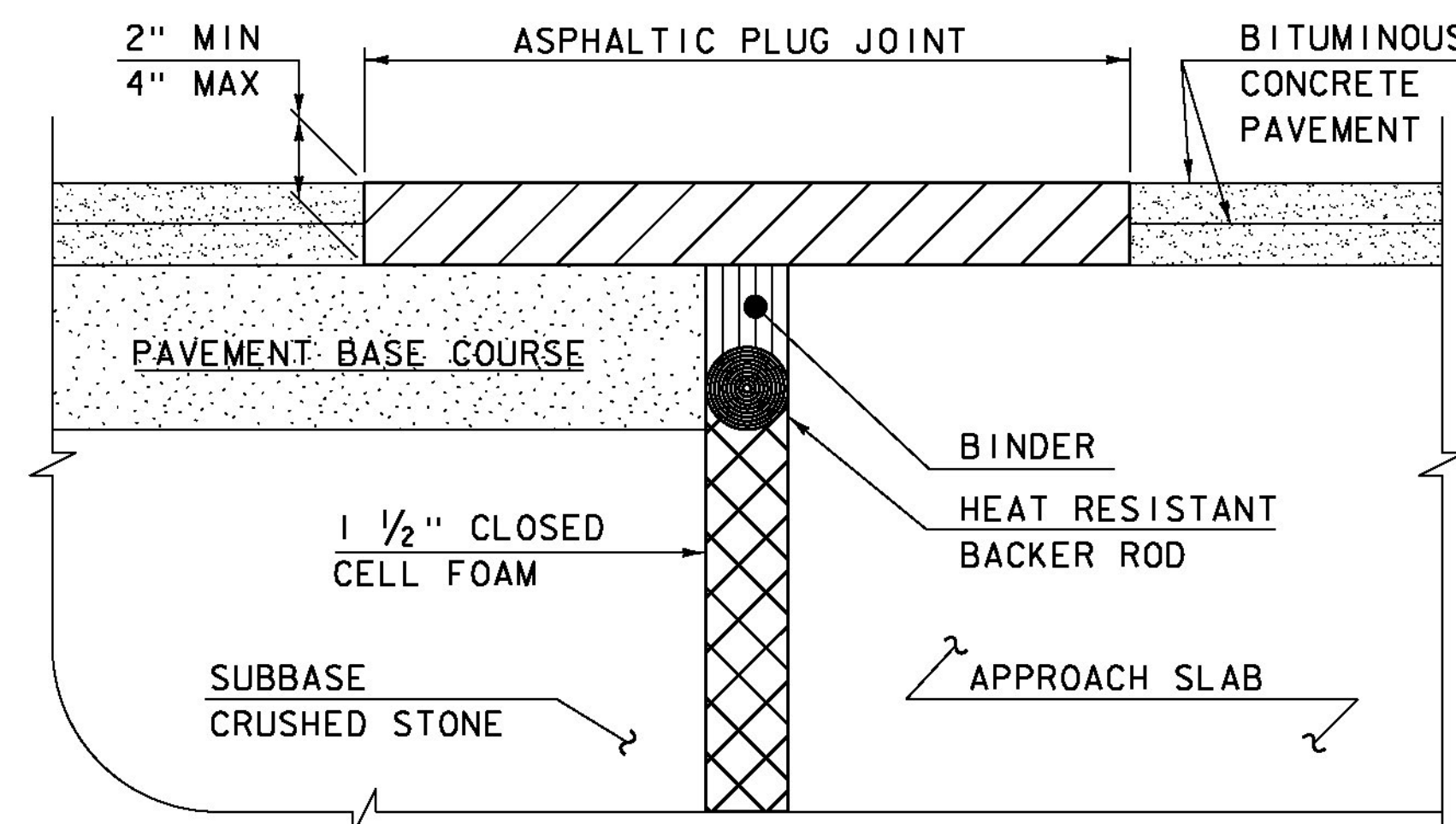
1. THE CONTRACTOR SHALL REMOVE ALL ASPHALTIC PLUG JOINT MATERIAL AND DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER. REMOVAL OF THE FIRST 4 INCHES OF MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 516.10 BRIDGE EXPANSION JOINT, ASPHALTIC PLUG. ANY REMOVAL OF MATERIAL GREATER THAN 4 INCHES SHALL BE INCLUDED IN THE BID PRICE OF ITEM 580.20 RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.
2. THE CONTRACTOR SHALL REPLACE REMOVED MATERIAL THAT IS LESS THAN 4" FROM FINISHED GRADE WITH ASPHALTIC PLUG JOINT MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 707.15. ALL REMOVED MATERIAL THAT IS GREATER THAN 4 INCHES FROM FINISHED GRADE SHALL BE REPLACED WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
3. REINFORCING STEEL NOT SHOWN FOR CLARITY.
4. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.



ASPHALTIC PLUG JOINT DETAIL "A" - NEW

NOTE:

PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.



ASPHALTIC PLUG JOINT DETAIL "B" - NEW

ASPHALTIC PLUG JOINT NOTES

INSTALLATION:

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
5. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
6. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

WEATHER LIMITATIONS

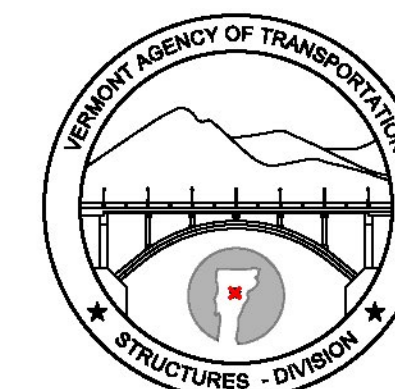
APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:

1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

DETAILS ON THIS SHEET ARE NOT TO SCALE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
AUGUST 29, 2011	ADD DETAIL "B" AND REV. NOTES

**BRIDGE JOINT
ASPHALTIC PLUG**



**STRUCTURES
DETAIL
SD-516.10**