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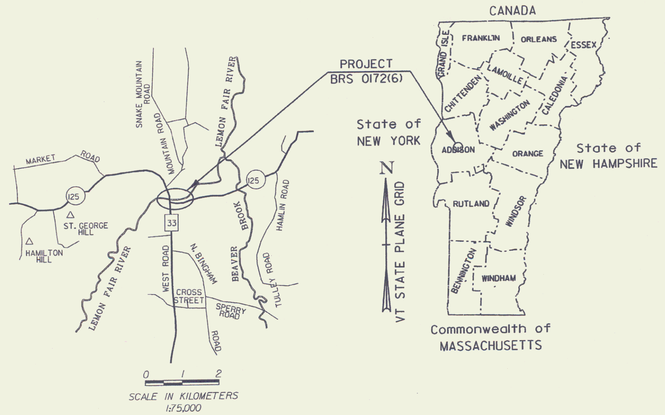
STATE OF VERMONT
AGENCY OF TRANSPORTATION

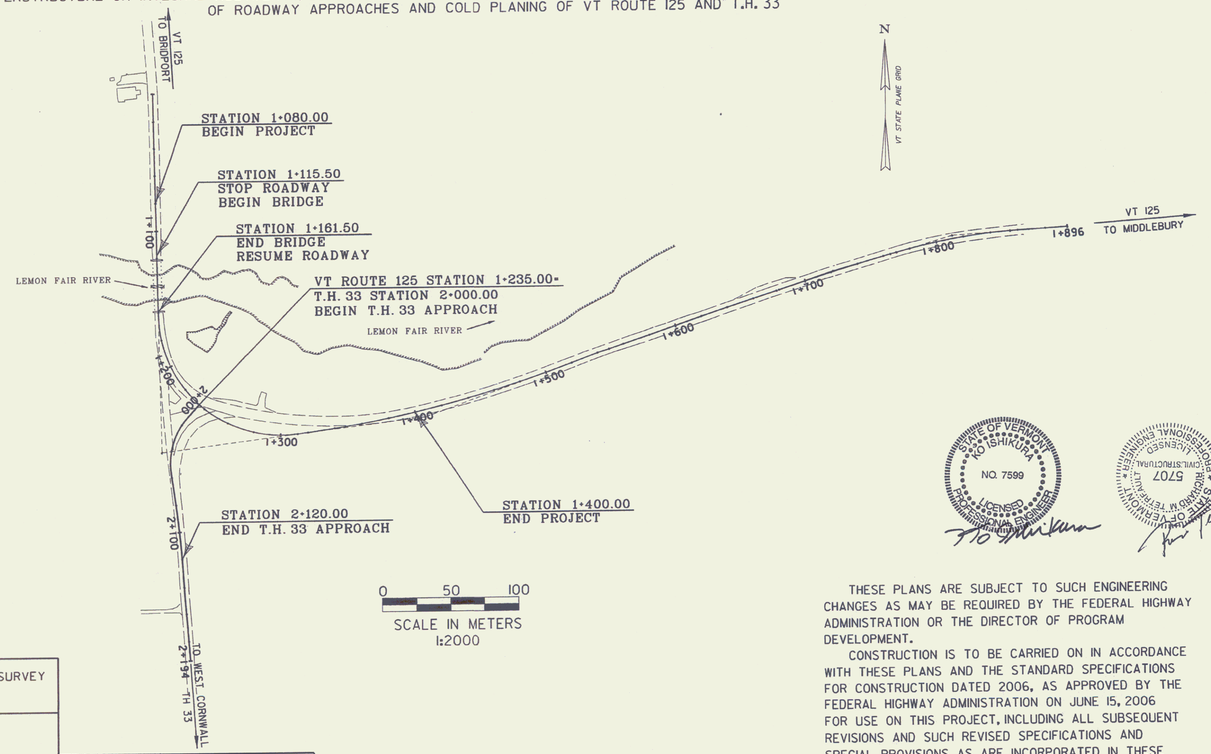


PROPOSED IMPROVEMENT
TOWN OF CORNWALL
BRIDGE PROJECT
COUNTY OF ADDISON
VT ROUTE 125 (MAJOR COLLECTOR) BRIDGE NO. 9

BEGINNING AT A POINT ON VT ROUTE 125 APPROXIMATELY 0.60 KILOMETERS EAST OF THE BRIDPORT/CORNWALL TOWN LINE
EXTENDING SOUTHERLY THEN EASTERLY ALONG VT ROUTE 125 FOR A DISTANCE OF 320 METERS AND ON TOWN HIGHWAY 33, BEGINNING
AT ITS INTERSECTION WITH VT 125 AND EXTENDING SOUTHERLY FOR A DISTANCE OF 90 METERS

LENGTH OF ROADWAY	= 274.00 m	0.274 km
LENGTH OF BRIDGE	= 46.00 m	0.046 km
LENGTH OF PROJECT	= 320.00 m	0.320 km

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REPLACEMENT OF BRIDGE #9, CONSTRUCTION OF A SINGLE SPAN PLATE GIRDER SUPERSTRUCTURE ON INTEGRAL ABUTMENTS, CONSTRUCTION OF TEMPORARY BRIDGE AND TEMPORARY DETOUR APPROACHES, RECONSTRUCTION OF ROADWAY APPROACHES AND COLD PLANING OF VT ROUTE 125 AND T.H. 33



RECORD PLANS

CONTRACTOR: AL ST ONGE CONTRACTOR INC. – MONTGOMERY, VT

RESIDENT ENGINEER: JOE KNIPES

CONSTRUCTION BEGAN: JUNE 3, 2010

CONSTRUCTION COMPLETE: NOVEMBER 18, 2011

RECORD PLANS BY: JOE KNIPES & JENNA HYDE

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

BY _____ RESIDENT ENGINEER

DATE 5-31-13

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.

CONVENTIONAL SYMBOLS

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

SURVEYED BY : VTRANS & VT SURVEY
SURVEYED DATE : VARIOUS

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83 (92)

Green International Affiliates, Inc.
Civil and Structural Engineers Westford, MA

STATE OF VERMONT · YO ISHIKURA · NO. 7599 · LICENSED PROFESSIONAL ENGINEER

5707 · STATE OF VERMONT · CHRISTOPHER M. PETERSON · LICENSED PROFESSIONAL ENGINEER

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

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

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

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 2-25-10

PROJECT MANAGER : MARTHA EVANS-MONGEON

PROJECT NAME : CORNWALL
PROJECT NUMBER : BRS 0172 (6)

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FINAL HYDRAULICS REPORT

Metric

HYDROLOGIC DATA

DRAINAGE AREA = 176 Km^2
CHARACTER OF TERRAIN: ROLLING (HILLS) TO LEVEL (FLOODPLAIN)
CHARACTER & TYPE OF STREAM: PERENNIAL, NOT INCISED, SINUOUS, NOT BRAIDED, NOT ANABRANCHED
NATURE OF STREAMBED: SILT-CLAY

Q2.33= 33.7 m^3/s Q50= 113.1 m^3/s
Q10= 72.4 m^3/s Q100= 132.0 m^3/s
Q25= 91.9 m^3/s Q500= 199.8 m^3/s

DATE OF FLOOD OF RECORD: NO RECORD
WATER SURFACE ELEV: UNKNOWN ESTIMATED DISCHARGE:
NATURAL STREAM VELOCITY @ Q50: 0.65 m/s
ICE CONDITIONS: SLIGHT DEBRIS: SLIGHT
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? NO
IS ORDINARY RISE RAPID? NO
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? YES
IF YES, DESCRIBE: THERE IS A LARGE WETLAND AREA UPSTREAM OF THE BRIDGE SITE WHICH PROVIDES SIGNIFICANT FLOOD STORAGE THEREBY REDUCING PEAK FLOWS
WATERSHED STORAGE: 2.8% HEADWATERS: UNIFORM THROUGHOUT WATERSHED: IMMEDIATELY ABOVE SITE: YES

EXISTING STRUCTURE

STRUCTURE TYPE: 2 SPAN MULTI-BEAM YEAR BUILT: 1936
CLEAR SPAN (NORMAL TO STREAM): 36.5 m
VERTICAL CLEARANCE ABOVE STREAMBED: 5.2 m
WATERWAY OF FULL OPENING: 149.11 m^2
DISPOSITION OF STRUCTURE: REMOVE

TYPE OF MATERIAL UNDER SUBSTRUCTURE: SILT-CLAY

WATER SURFACE ELEV. @ Q2.33= 43.51 m VELOCITY= 0.64 m/s
Q10= 44.55 m VELOCITY= 0.82 m/s
Q25= 44.97 m VELOCITY= 0.88 m/s
Q50= 45.39 m VELOCITY= 0.95 m/s
Q100= 45.73 m VELOCITY= 1.00 m/s

LONG TERM STREAM BED CHANGES: CHANNEL HAS SCOURED OR DEGRADED 0.8m SINCE 1936 BASED ON 1936 BRIDGE PLANS
IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY: N/A
RELIEF ELEVATION: 46.86 m DISCHARGE OVER ROAD @ Q100: 0

UPSTREAM STRUCTURE: TOWN: SHOREHAM DISTANCE: 8.23 km
HIGHWAY NO.: VT 74 STRUCTURE NO.: 2
STRUCTURE TYPE: 3 SPAN STEEL BEAM
CLEAR SPAN: 55.5 m CLEAR HEIGHT: 2.7 m
YEAR BUILT: 1939 FULL WATERWAY: <149.85 m^2

DOWNSTREAM STRUCTURE: TOWN: WEYBRIDGE DISTANCE: 4.66 km
HIGHWAY NO.: T.H. 17 STRUCTURE NO.: 10
STRUCTURE TYPE: ROLLED BEAM
CLEAR SPAN: 22.5 m CLEAR HEIGHT: 2.1 m
YEAR BUILT: 1968 FULL WATERWAY: <47.25 m^2

PROPOSED STRUCTURE

STRUCTURE TYPE: SINGLE SPAN MULTI-PLATE GIRDER

CLEAR SPAN (NORMAL TO STREAM): 44.0 m
VERTICAL CLEARANCE ABOVE STREAMBED: 5.1 m
WATERWAY OF FULL OPENING: 147.36 m^2

WATER SURFACE ELEV. @ Q2.33= 43.51 m VELOCITY= 0.64 m/s
Q10= 44.55 m VELOCITY= 0.82 m/s
Q25= 44.96 m VELOCITY= 0.89 m/s
Q50= 45.38 m VELOCITY= 0.95 m/s
Q100= 45.72 m VELOCITY= 1.00 m/s

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY: N/A
RELIEF ELEVATION: 47.44 m DISCHARGE OVER ROAD @ Q100: 0

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 46.105 m
VERTICAL CLEARANCE @ Q50: 0.735 m (average)

SCOUR: CONTRACTION SCOUR = 1.03 m (Q100) & 2.50 m (Q500)
REQUIRED CHANNEL PROTECTION: TYPE II STONE IN FRONT OF ABUTMENTS

PERMIT INFORMATION

AVERAGE DAILY FLOW: 2.6 m^3/s
ORDINARY LOW WATER: 42.37 m DEPTH: 1.33 m
ORDINARY HIGH WATER: 42.74 m DEPTH: 1.70 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: SINGLE SPAN
CLEAR SPAN (NORMAL TO STREAM): 36.5 m (MIN)
VERTICAL CLEARANCE ABOVE STREAM BED: 5.2 m (MIN)
WATERWAY AREA OF FULL OPENING: 149.11 m^2 (MIN)

ADDITIONAL COMMENTS

DESIGN CRITERIA:
1. DESIGN LIVE LOAD AASHTO MS22.5
2. DESIGN SPAN 45.9 m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE N/A
4. ULTIMATE CAPACITY OF PILE 1912 kN TYPE HP360x132 ESTIMATED LENGTH 25-27 m (NOT INCLUDING EMBEDMENT)
5. STRUCTURAL STEEL AASHTO GRADE M 270M/M 270 GR 345W
6. REINFORCING STEEL GRADE 420
7. CONCRETE, HIGH PERFORMANCE CLASS A f'_c : 30 MPa
   CONCRETE, HIGH PERFORMANCE CLASS B f'_c : 25 MPa

TRAFFIC MAINTENANCE:
1. IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE ____ OR ON TEMPORARY BRIDGE X
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY TWO-WAY TRAFFIC CONTROL SIGNALS REQUIRED NO
   MINIMUM
   ARE SIDEWALKS REQUIRED? NO IF SO, ON WHAT SIDE?

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	M	MS	3S2	6 AXLE	3A.STR.	4A.STR.	5A.SEMI
INVENTORY A=2.17 B=1.00	26	48					
POSTED A=1.55 B=1.40	37	67	73		64	65	71
OPERATING A=1.30 B=1.67		80	87	95	77	77	

STRENGTH RF = $\frac{\phi M_N - 1.3\,M_{DL}}{A \times M_{LL+I}}$ SERVICEABILITY RF = $B\left[\frac{.95\,F_y S_{LL+I} - M_{DL}\frac{S_{LL+I}}{S_{DL}} - M_{SDL}\frac{S_{LL+I}}{S_{SDL}}}{1.67\,M_{LL+I}}\right]$

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2009	2700	300	67	10.2	310
2029	3300	370	67	13.6	500

20 year ESAL for flexible pavement from 2009 to 2029: 2,393,000
40 year ESAL for flexible pavement from 2009 to 2049: 5,638,000
Design speed: 50 km/h

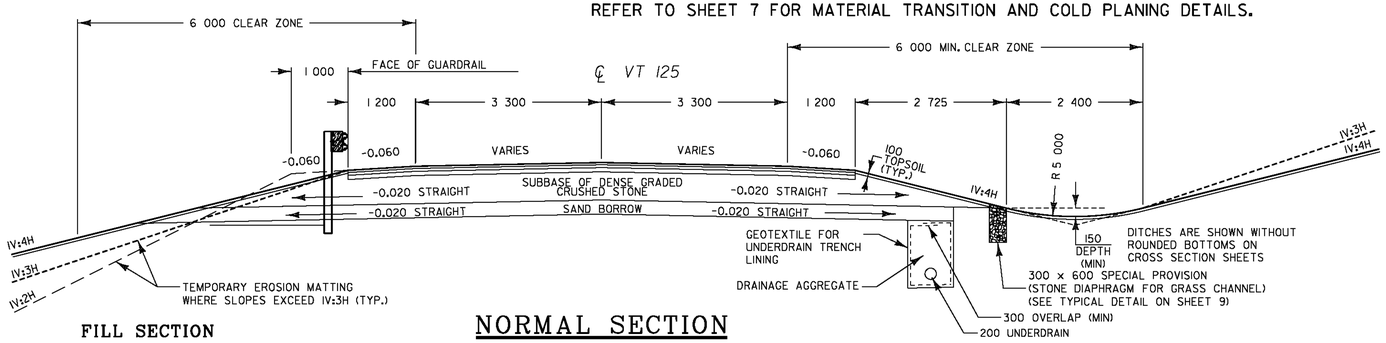
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CORNWALL	Bridge No. 9
Highway No. VT ROUTE 125	Log Sta. / Surv. Sta.
PRELIMINARY INFORMATION SHEET	
VT ROUTE 125 OVER LEMON FAIR RIVER	
Designed By	Drawn By
Checked By Date	Bridge Design Supervisor Date
PROJECT CORNWALL	PROJECT NO. BRS 0172(6)
I.G.C. Info.	
Bridge Sheet No.	Sheet 2 of 144

MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH ALL LAYERS)	+/-5
SUBBASE	+/-30
SAND BORROW	+/-30

TYPICAL SECTIONS VT ROUTE 125

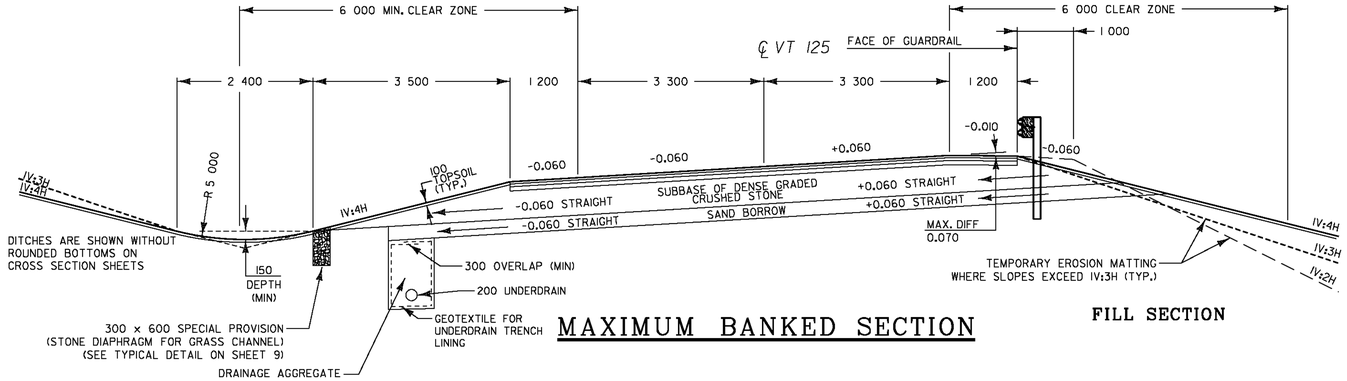
40 BITUMINOUS CONCRETE PAVEMENT TYPE IV IN ONE LIFT•
50 BITUMINOUS CONCRETE PAVEMENT TYPE II IN ONE LIFT•
75 BITUMINOUS CONCRETE PAVEMENT TYPE I IN ONE LIFT•
500 SUBBASE OF DENSE GRADED CRUSHED STONE
250 SAND BORROW
•FOR PG GRADE SEE SECTION 406 OF THE GENERAL SPECIAL PROVISIONS.
REFER TO SHEET 7 FOR MATERIAL TRANSITION AND COLD PLANING DETAILS.



FILL SECTION

NORMAL SECTION

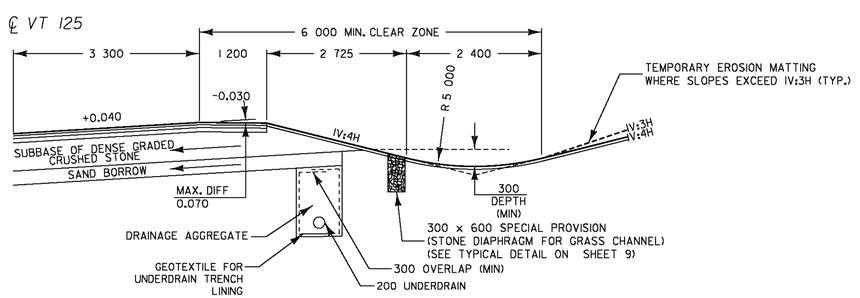
CUT SECTION



MAXIMUM BANKED SECTION

CUT SECTION

FILL SECTION



CUT SECTION

DETAIL OF DITCH FOR BANKING ≥ 0.040

SEEDING FORMULA
RURAL AREAS

% MASS	kg/hA	NAME	PUR %	GERM %
37.5	26.0	CREEPING RED FESCUE	98	85
37.5	26.0	TALL FESCUE	95	90
5.0	4.0	RED TOP	95	90
15.0	10.0	BIRDSFOOT TREFOIL	98	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.0	70.0			

GENERAL NOTES

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

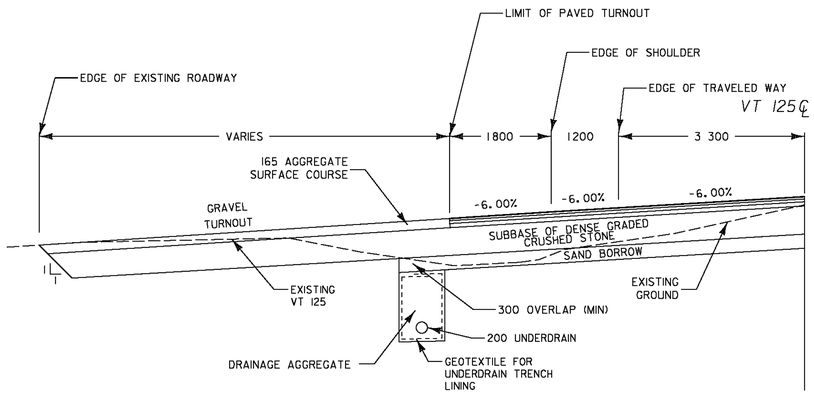
SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 kg/hA. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 4500 kg/hA, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 kg/hA, OR AS DIRECTED BY THE ENGINEER.

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



TYPICAL GRAVEL TURNOUT SECTION

0 1 2 3 4 5
SCALE = 1:50

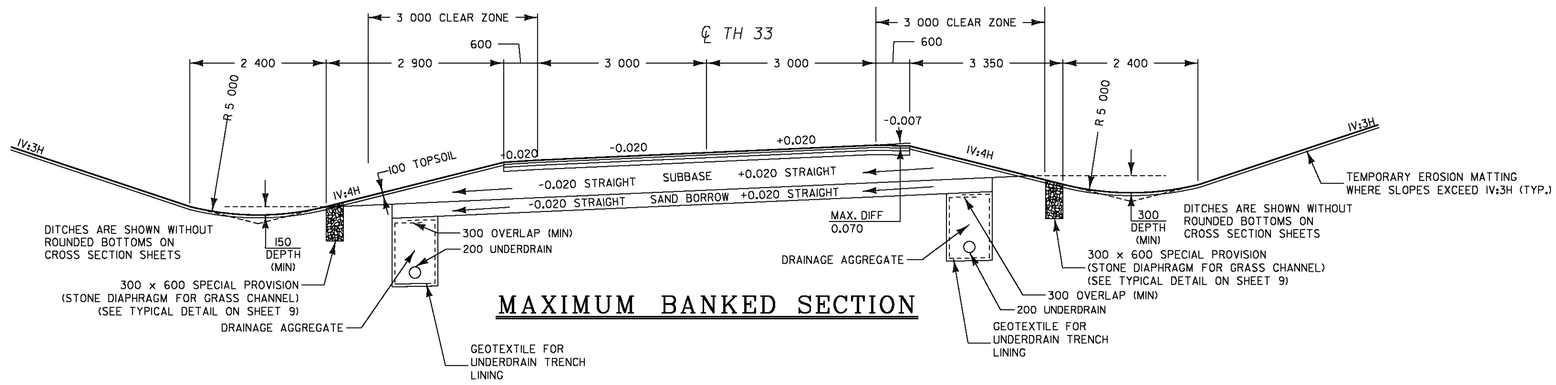
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042typxs.DGN	
IPARM FILE NAME:	PLOT DATE: 2/12/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TYPICAL SECTIONS VT 125	SHEET: 3 OF 144

MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH ALL LAYERS)	+/-5
SUBBASE	+/-30
SAND BORROW	+/-30

TYPICAL SECTION T.H. 33

40 BITUMINOUS CONCRETE PAVEMENT TYPE IV IN ONE LIFT•
50 BITUMINOUS CONCRETE PAVEMENT TYPE II IN ONE LIFT•
75 BITUMINOUS CONCRETE PAVEMENT TYPE I IN ONE LIFT•
500 SUBBASE OF DENSE GRADED CRUSHED STONE
250 SAND BORROW
•FOR PG GRADE SEE SECTION 406 OF THE GENERAL SPECIAL PROVISIONS
REFER TO SHEET 7 FOR MATERIAL TRANSITION AND COLD PLANING DETAILS.



MAXIMUM BANKED SECTION

NOTE: SLOPE ROUNDING SHALL NOT BE APPLIED TO ALL SECTIONS. REFER TO CROSS SECTIONS FOR LOCATIONS WHERE SLOPE ROUNDING IS NOT TO BE APPLIED.

0 1 2 3 4 5
SCALE = 1:50

DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83(92)

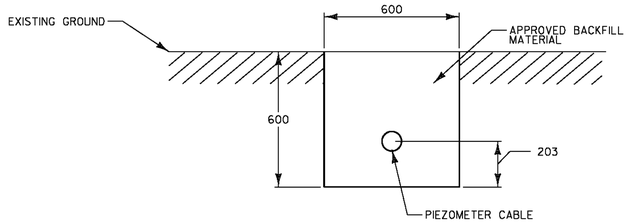
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042typxs.DGN	
IPARM FILE NAME:	PLOT DATE: 2/4/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TYPICAL SECTION T.H. 33	SHEET: 4 OF 144

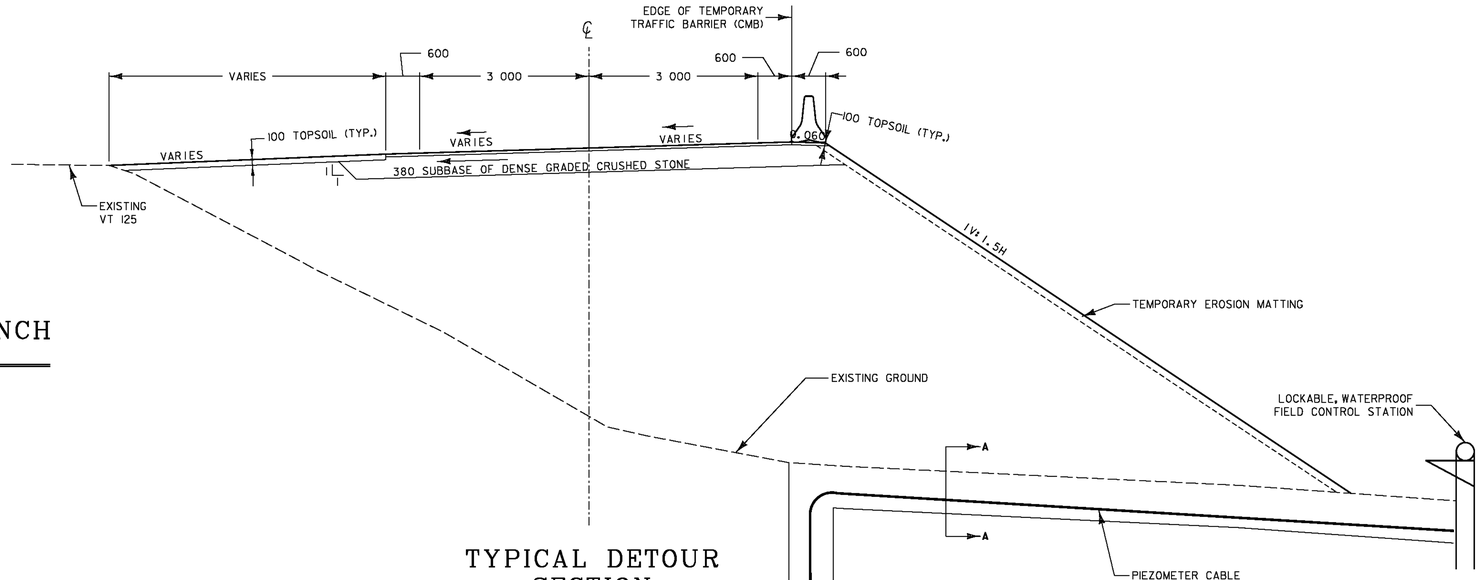
TYPICAL SECTIONS
TEMPORARY DETOUR

MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH ALL LAYERS)	+/-5
SUBBASE	+/-30
SAND BORROW	+/-30

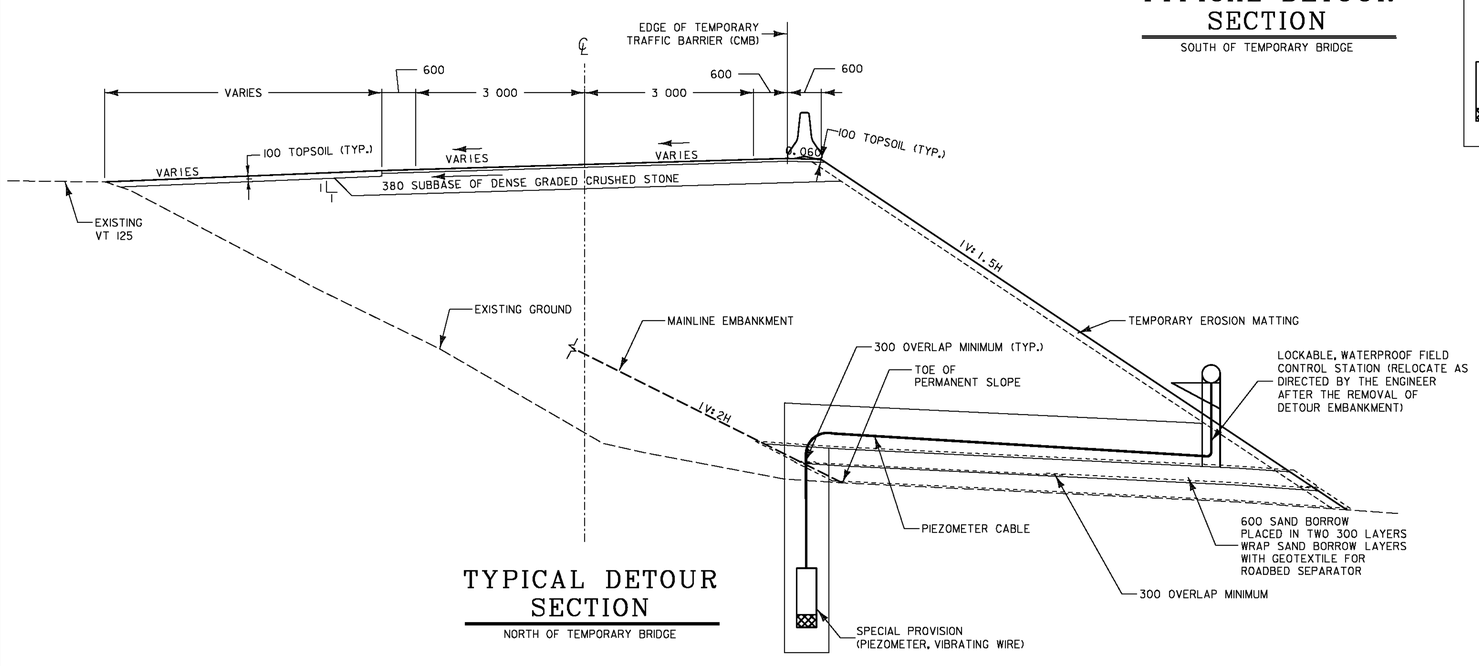
50 BITUMINOUS CONCRETE PAVEMENT TYPE III IN ONE LIFT (SEE GENERAL NOTE 2 AND 3)
380 SUBBASE OF DENSE GRADED CRUSHED STONE (SEE GENERAL NOTE 2 AND 3)



TYPICAL PIEZOMETER CABLE TRENCH
SECTION A-A



TYPICAL DETOUR
SECTION
SOUTH OF TEMPORARY BRIDGE



TYPICAL DETOUR
SECTION
NORTH OF TEMPORARY BRIDGE

GENERAL NOTES:

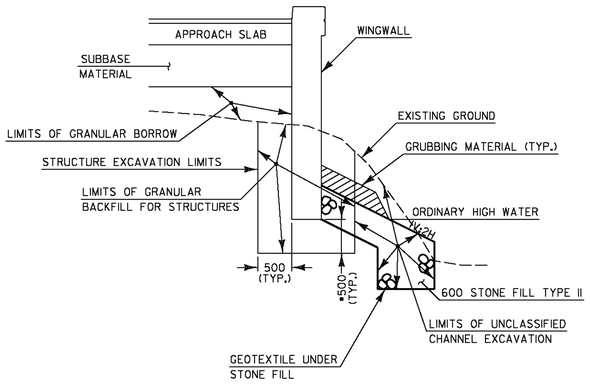
1) VT 125 TEMPORARY DETOUR IS TO BE CONSTRUCTED IN ACCORDANCE WITH STD. E-107 AND THE STANDARD SPECIFICATIONS AND AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE TEMPORARY 100 MM YELLOW ℄ AND 100 MM WIDE WHITE EDGELINES FOR THE ENTIRE PAVED PORTION OF THE DETOUR. THE CONTRACTOR SHALL ALSO PROVIDE TEMPORARY STOP BAR AND SIGNAGE FOR THE T.H. 33 APPROACH AND ALL OTHER TEMPORARY MARKINGS REQUIRED . THE CONTRACTOR SHALL SUBMIT TEMPORARY SIGNING AND PAVEMENT MARKING PLANS TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL REMOVE EXISTING PAVEMENT MARKINGS AS REQUIRED.
2) WHEN TRANSITIONING BACK TO THE EXISTING VT 125 ALIGNMENT, 380 SUBBASE IS NOT REQUIRED WITHIN LIMITS DEFINED BY EXISTING VT 125 PAVEMENT EDGES.
3) THE CONTRACTOR IS HEREBY NOTIFIED THAT DIFFERENTIAL SETTLEMENT OF UP TO 200 MM IS POSSIBLE WITHIN THE NORTHERN TEMPORARY DETOUR APPROACH. THE CONTRACTOR SHALL MONITOR THE APPROACH FOR SETTLEMENT AND MAINTAIN PROPOSED DETOUR GRADES FOR THE DURATION OF THE PROJECT. FURNISH AND PLACE ADDITIONAL BITUMINOUS CONCRETE PAVEMENT AS REQUIRED OR DIRECTED BY THE ENGINEER TO MAINTAIN PAVEMENT GRADES.
4) PAYMENT FOR ITEM 528.11 TWO-WAY TEMPORARY BRIDGE WILL BE FULL COMPENSATION FOR DESIGNING, DETAILING, CONSTRUCTING, MAINTAINING, AND REMOVING THE TEMPORARY BRIDGE AND ITS APPROACHES, INCLUDING BUT NOT LIMITED TO: FURNISHING, PLACING AND REMOVING PAVEMENT AND PAVEMENT MARKINGS INCLUDING TEMPORARY PAVEMENT MARKINGS ON T.H. 33; PLACING OF ONE OR MORE APPLICTIONS OF ADDITIONAL PAVEMENTS AND PAVEMENT MARKINGS TO ADDRESS SETTLEMENT; FURNISHING, PLACING, MAINTAINING, RELOCATING AND REMOVING TEMPORARY TRAFFIC BARRIERS; FURNISHING, PLACING AND REMOVING SUBASE OF DENSE GRADED CRUSHED STONE; FURNISHING, PLACING AND REMOVING TOPSOIL, STONE FILL FOR SLOPE STABILIZATION AND TEMPORARY EROSION CONTROL MATTING AND GEOTEXTILE FOR STONE FILL FOR TEMPORARY BRIDGE; FURNISHING AND PLACING OF EARTH BORROW IN ACCORDANCE WITH SECTION 203 OF THE STANDARD SPECIFICATIONS ABOVE THE PROPOSED FINISHED PERMANENT CONDITION EMBANKMENT GRADE; REMOVAL OF TEMPORARY EMBANKMENTS TO THE PROPOSED FINISHED PERMANENT CONDITION EMBANKMENT GRADES; REMOVAL OF SAND BORROW AND GEOTEXTILE FOR ROADBED SEPARATOR; REMOVAL OF SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN WITHIN THE LIMIT OF THE TEMPORARY DETOUR EMBANKMENT TO A DEPTH OF 100 MM BELOW THE FINISHED GRADE; AND PAYMENT FOR RELOCATING THE PIEZOMETER AND FIELD CONTROL STATION.
5) PAYMENT FOR PIEZOMETER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.620 SPECIAL PROVISION (PIEZOMETER, VIBRATING WIRE)
6) PAYMENT FOR 600 LAYER OF SAND BORROW SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 203.31 SAND BORROW.
7) PAYMENT FOR GEOTEXTILE FOR ROADBED SEPARATOR SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 649.11 GEOTEXTILE FOR ROADBED SEPARATOR.
8) REFER TO SHEETS 84 & 85 FOR SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) & SPECIAL PROVISION (IMPACT DISPLACEMENT PIER) DETAILS AND SHEET 87 -91 FOR SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) & SPECIAL PROVISION (IMPACT DISPLACEMENT PIER LAYOUT.

0 1 2 3 4 5
SCALE = 1:50

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042typxs.DGN	
IPARM FILE NAME:	PLOT DATE: 2/15/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TYPICAL SECTIONS TEMPORARY DETOUR	SHEET: 5 OF 144

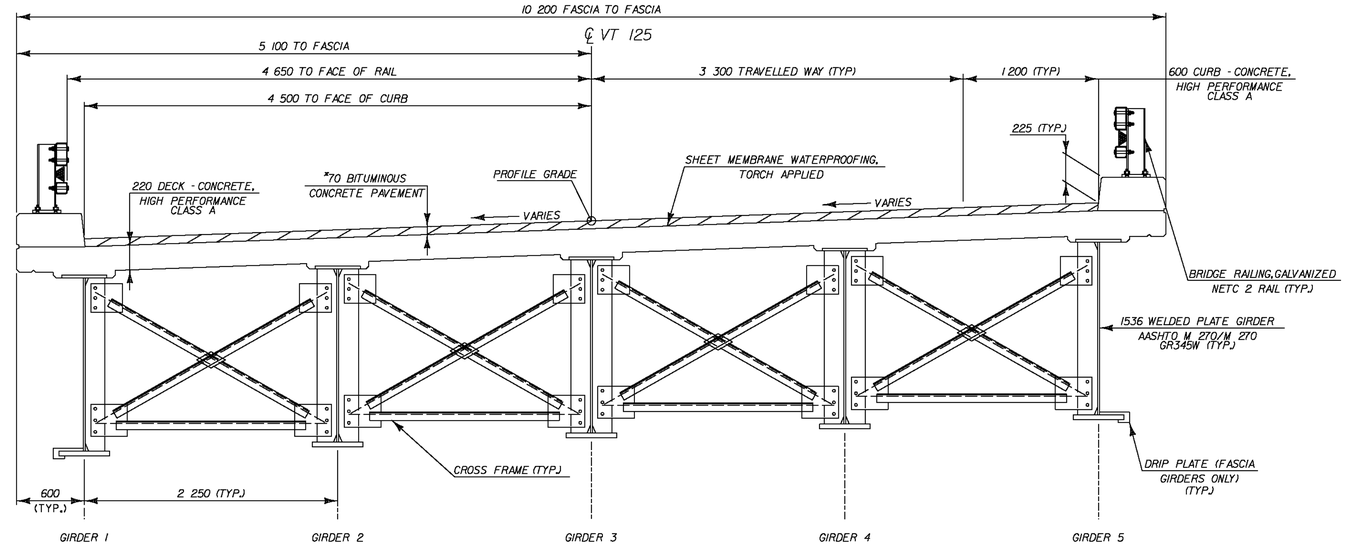
TYPICAL DETAILS



•500 UNDERCUT IF DETERMINED NECESSARY BY THE RESIDENT ENGINEER.

TYPICAL WINGWALL SECTION

NOT TO SCALE



*(SECOND LIFT: 40 TYPE IV
FIRST LIFT: 30 TYPE IV)

NOTE : SEE SHEET 94 FOR ADDITIONAL DETAILS

TYPICAL BRIDGE SECTION

0 1.0 2.0

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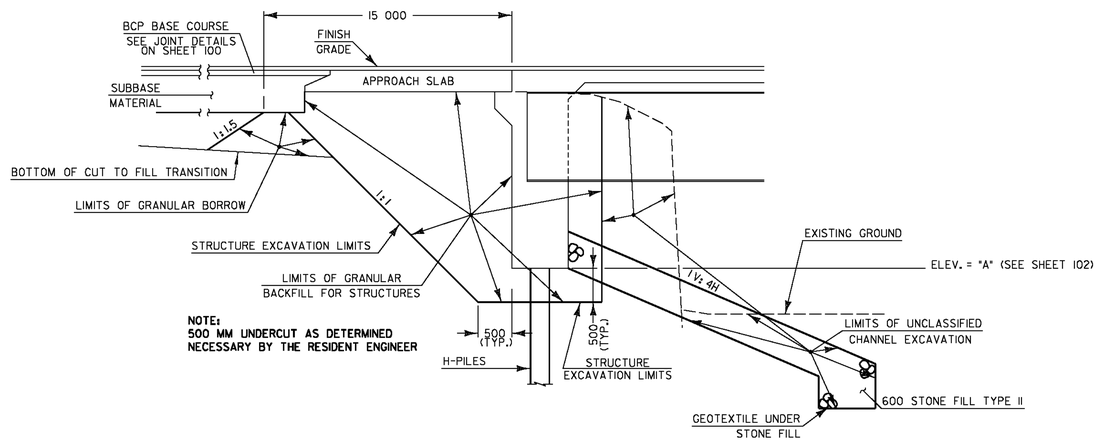


TYPICAL ABUTMENT SECTION

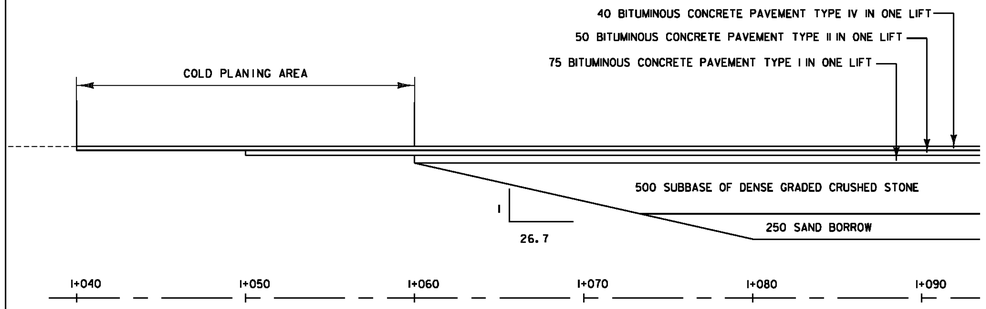
NOT TO SCALE

DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042typxs.DGN	
IPARM FILE NAME:	PLOT DATE: 2/11/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: PAG
TYPICAL DETAILS SHEET 1	SHEET: 6 OF 144

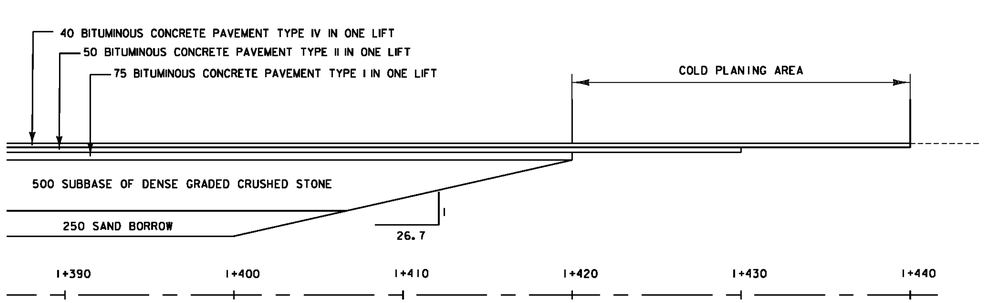
TYPICAL DETAILS

Metric



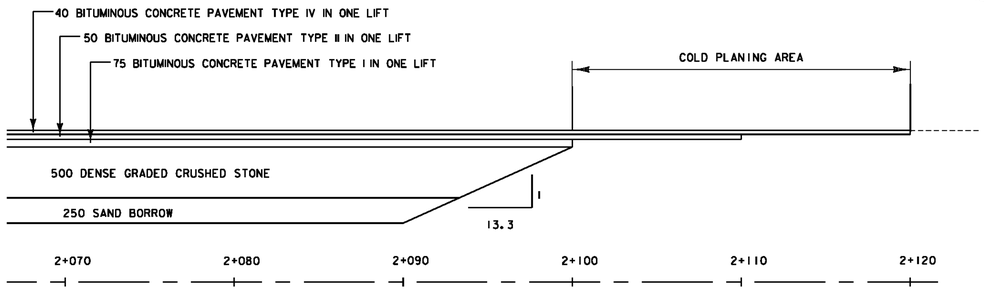
MATERIAL TRANSITION DETAIL
VT ROUTE 125 (NORTH END)

NOT TO SCALE



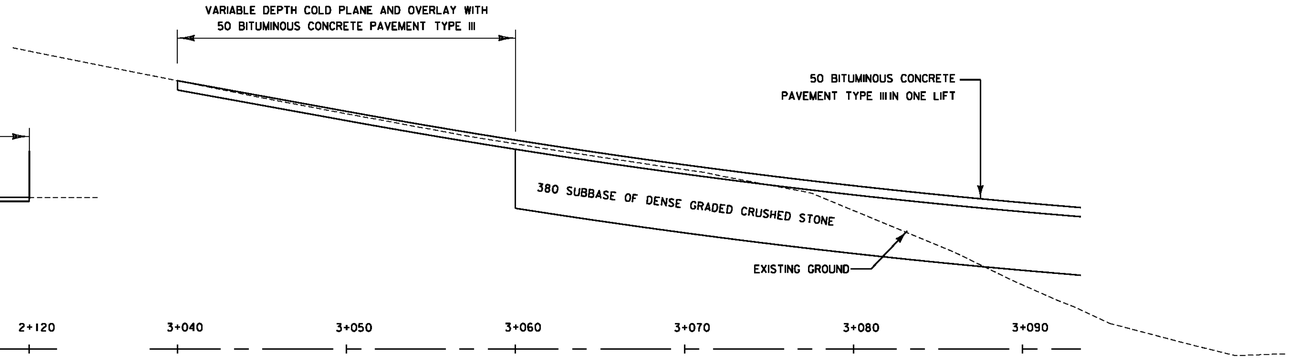
MATERIAL TRANSITION DETAIL
VT ROUTE 125 (SOUTH END)

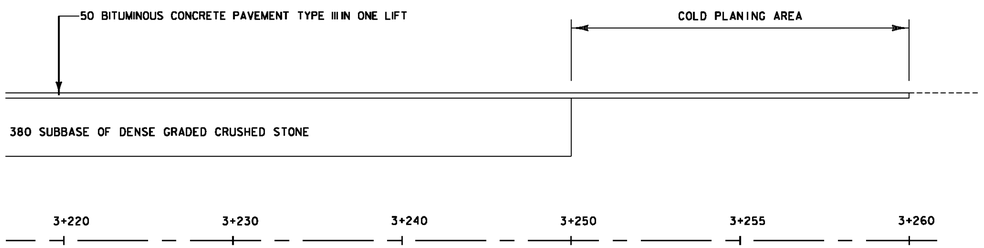
NOT TO SCALE



MATERIAL TRANSITION DETAIL
T. H. 33

NOT TO SCALE



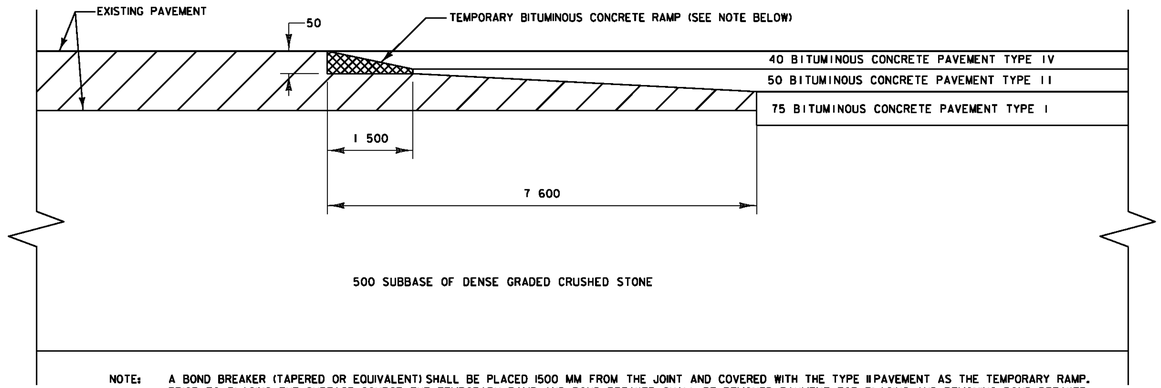


MATERIAL TRANSITION DETAIL
VT ROUTE 125 DETOUR (SOUTH END)

NOT TO SCALE

MATERIAL TRANSITION DETAIL
VT ROUTE 125 DETOUR (NORTH END)

NOT TO SCALE



NOTE: A BOND BREAKER (TAPERED OR EQUIVALENT) SHALL BE PLACED 1500 MM FROM THE JOINT AND COVERED WITH THE TYPE II PAVEMENT AS THE TEMPORARY RAMP. PRIOR TO PLACING THE SURFACE COURSE, THE TEMPORARY RAMP AND BOND BREAKER SHALL BE REMOVED. PAYMENT FOR PLACING AND REMOVING BOND BREAKER AND RAMP SHALL BE CONSIDERED INCIDENTAL TO PAY ITEM 210.10 COLD PLANING, BITUMINOUS PAVEMENT.

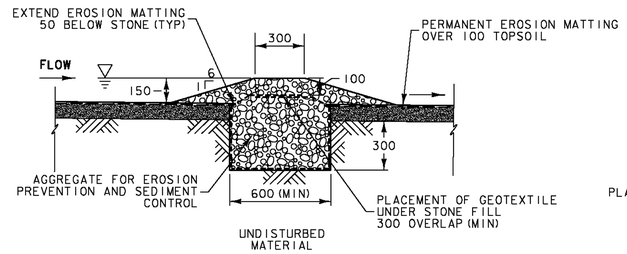
COLD PLANING DETAILS

NOT TO SCALE

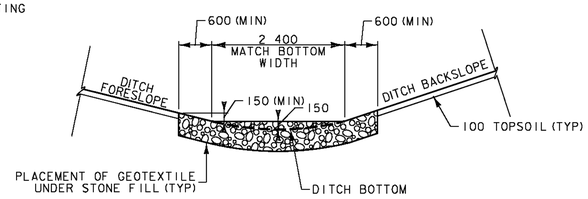
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042typxs.DGN	
IPARM FILE NAME:	PLOT DATE: 3/15/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: E. ATKINS
TYPICAL DETAILS SHEET 2	SHEET: 7 OF 144

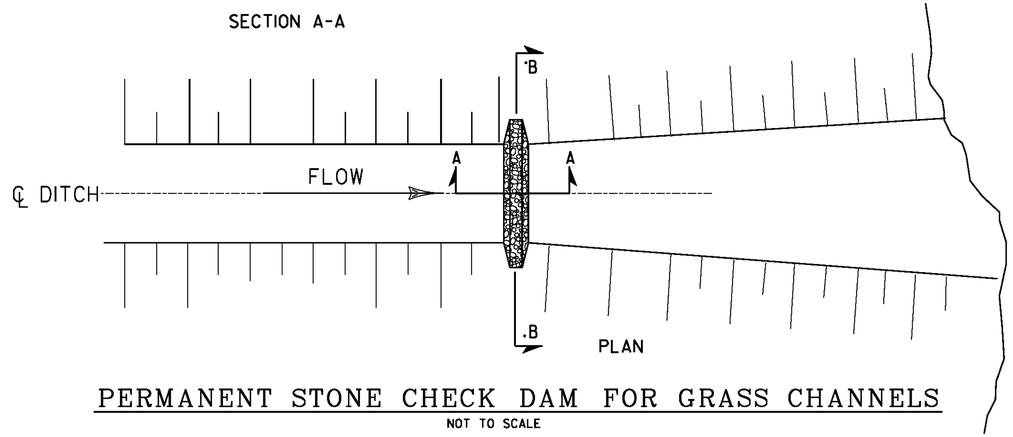
TYPICAL DETAILS



SECTION A-A



SECTION B-B



PERMANENT STONE CHECK DAM FOR GRASS CHANNELS

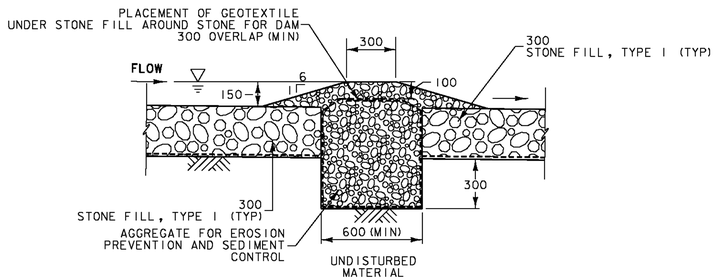
NOT TO SCALE

APPLICATION NOTES:

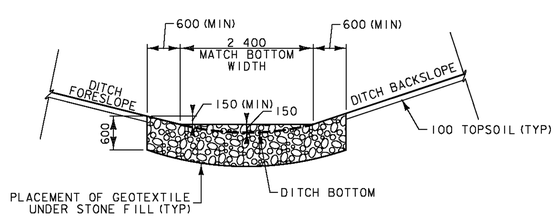
A. THESE CHECK DAMS ARE REQUIRED AS PART OF THE EROSION CONTROL AND PERMANENT STORMWATER MITIGATION REQUIREMENTS FOR THIS PROJECT.

GENERAL NOTES:

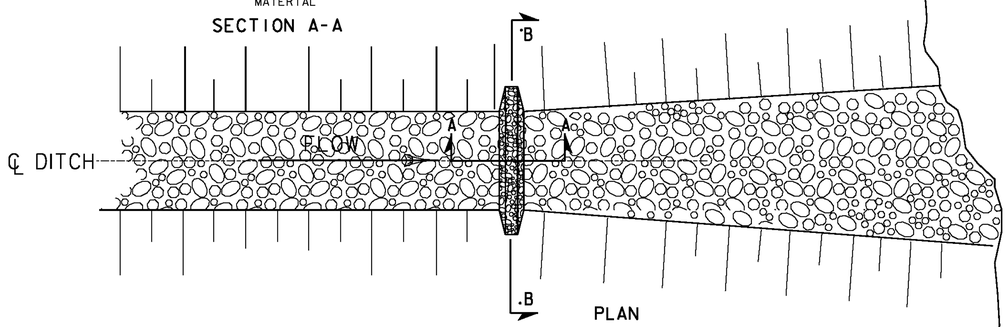
1. GEOTEXTILE UNDER STONE FILL SHALL BE INSTALLED AS INDICATED IN THE DETAILS. IT SHALL BE PLACED DIRECTLY IN THE BOTTOM OF THE PREPARED TRENCH AND WRAPPED AROUND THE AGGREGATE FOR EROSION PREVENTION AND SEDIMENT CONTROL AS SHOWN. PLACE AGGREGATE FOR EROSION PREVENTION AND SEDIMENT CONTROL OVER THE FABRIC AS SHOWN IN THE DETAILS TO CONCEAL THE FABRIC.
2. STONE FOR THE CHECK DAMS SHALL MEET THE GRADATION REQUIREMENTS OF AGGREGATE FOR EROSION PREVENTION AND SEDIMENT CONTROL AS SPECIFIED IN TABLE 704.17A IN THE STANDARD SPECIFICATIONS. PAYMENT FOR STONE SHALL BE MADE UNDER ITEM 900.608 SPECIAL PROVISION (PERMANENT STONE CHECK DAM, TYPE I).
3. PAYMENT FOR EXCAVATION BELOW THE BOTTOM OF TOPSOIL (FOR GRASS CHANNELS) OR STONE FILL, TYPE I (STONE LINED DITCHES) REQUIRED TO CONSTRUCT THE CHECKDAM SHALL BE MADE UNDER TRENCH EXCAVATION OF EARTH. EXCAVATION ABOVE THE BOTTOM OF TOPSOIL SHALL BE PAID UNDER COMMON EXCAVATION.
4. THE EROSION MATTING FOR THE GRASS CHANNEL SHALL EXTEND BELOW THE STONE AND BE ANCHORED BY THE WEIGHT OF THE STONE AS SHOWN IN THE DETAIL.
5. REFER TO THE EROSION CONTROL NARRATIVE FOR INSPECTION AND MAINTENANCE REQUIREMENTS.



SECTION A-A



SECTION B-B



PERMANENT STONE CHECK DAM FOR STONE DITCHES

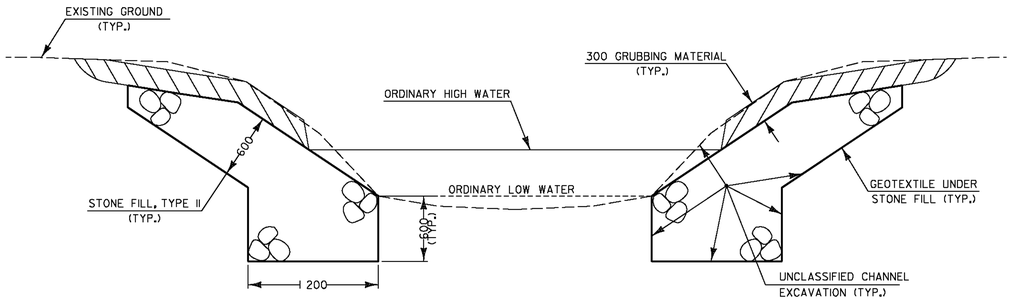
NOT TO SCALE

DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042typxs.DGN	
IPARM FILE NAME:	PLOT DATE: 2/4/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: E. ATKINS
TYPICAL DETAILS SHEET 3	SHEET: 8 OF 144

TYPICAL DETAILS

VAOT Metric

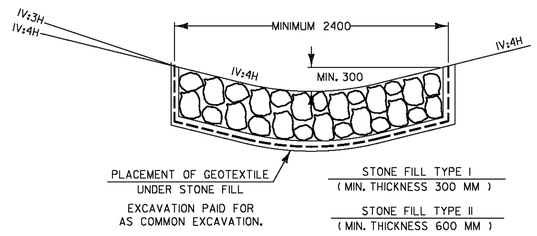


NOTES:

1. GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.
2. THE STONE FILL SHALL BE PLACED TO THE ORDINARY LOW WATER LINE AS SHOWN ON THE CHANNEL CROSS SECTIONS.

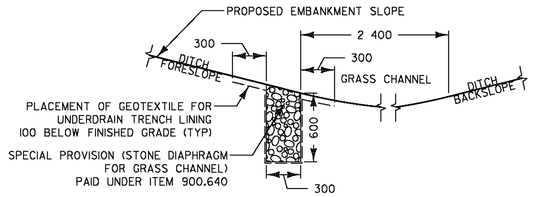
TYPICAL STREAM CHANNEL SECTION

NOT TO SCALE



TYPICAL STONE LINED DITCH

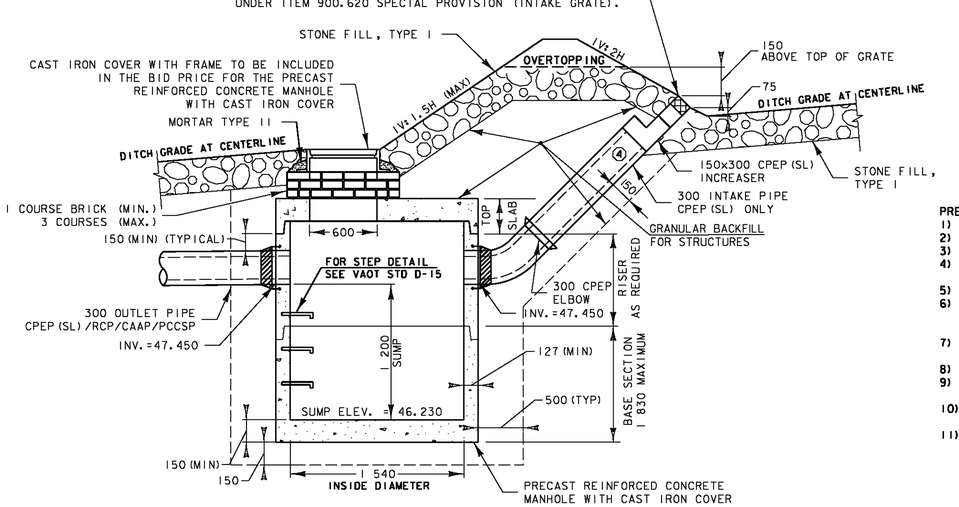
NOT TO SCALE



NOTE:
EXCAVATION SHALL BE PAID UNDER
ITEM 204.20 TRENCH EXCAVATION OF EARTH

SPECIAL PROVISION (STONE DIAPHRAGM FOR GRASS CHANNEL)

NOT TO SCALE



PRECAST CONCRETE MANHOLE NOTES:

1) PRECAST CONCRETE SECTIONS SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND ASTM C-478.
2) MINIMUM CONCRETE COMPRESSIVE STRENGTH: 27.5 MPA (4,000) PSI AT 28-DAYS
3) STEEL REINFORCING SHALL CONFORM TO ASTM A185 OR A82 FOR HS25 LOADING.
4) MANHOLE STEPS SHALL BE 355MM WIDE STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC CONFORMING TO ASTM C-478 AND SHALL BE CAST INTO MANHOLE SECTIONS BY THE PRECAST CONCRETE MANUFACTURER.
5) FACE OF PIPE SHALL NOT PROJECT MORE THAN 50MM OR LESS THAN 25MM FROM INSIDE WALL OF STRUCTURE.
6) ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 300MM OF OUTSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 75MM TO JOINTS.
7) FITTING FRAME TO FINAL GRADE MAY BE DONE WITH BRICK OR PRECAST CONCRETE GRADE RINGS OF APPROPRIATE THICKNESS (3 COURSES MAX).
8) ALL PIPE INVERTS AND PENETRATION ANGLES SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
9) PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT AND BE ASSEMBLED USING A BUTYL RUBBER OR APPROVED EQUAL SEALANT.
10) PROVIDE FLEXIBLE RUBBER SLEEVES CONFORMING TO ASTM C-923, RESILIENT, OF SIZE REQUIRED, FOR EACH PIPE CONNECTING TO STRUCTURE. SLEEVES SHALL BE CAST INTO PRECAST STRUCTURE BY THE MANUFACTURER FOR ALL PIPE PENETRATIONS.
11) PAYMENT FOR DESIGN, FABRICATION, DELIVERY AND INSTALLATION OF THE PRECAST CONCRETE PRETREATMENT CHAMBER SHALL BE MADE UNDER THE PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER ITEM (604.21). PAYMENT FOR MORTAR TYPE IV, BRICK OR CONCRETE GRADE RINGS, TONGUE AND GROOVE JOINT, BUTYL RUBBER OR EQUIVALENT SEALANT, AND FLEXIBLE RUBBER SLEEVES SHALL BE CONSIDERED INCIDENTAL TO ITEM 604.21.

PRECAST CONCRETE PRETREATMENT CHAMBER

NOT TO SCALE

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042typxs.DGN	
IPARM FILE NAME:	PLOT DATE: 3/15/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: E. ATKINS
TYPICAL DETAILS SHEET 4	SHEET: 9 OF 144

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

Metric

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	-	COMMON EXCAVATION		
						10000					10000		CM	COMMON EXCAVATION	203.15	500	4611.6	CM	VT 125
						100					100		CM	SOLID ROCK EXCAVATION	203.16	EST.	3855.1	CM	TH 33
						50			280		330		CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27	20	1033.3	CM	100 TOP SOIL
						5					5		CM	EXCAVATION OF SURFACES AND PAVEMENTS	203.28	0.4	500	CM	ROUNDING
						1350					1350		CM	EARTH BORROW	203.30	37.9	10000	CM	TOTAL
						1250					1250		CM	SAND BORROW	203.31	30.8	UNCLASSIFIED CHANNEL EXCAVATION		
						150					150		CM	GRANULAR BORROW	203.32	13.7	35	CM	ROADWAY
						660					660		CM	TRENCH EXCAVATION OF EARTH	204.20	18.5	275	CM	BRIDGE
						15					15		CM	TRENCH EXCAVATION OF ROCK	204.21	3	20	CM	ROUNDING
						1					1		CM	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-	330	CM	TOTAL
						50			490		540		CM	STRUCTURE EXCAVATION	204.25	12.5	EXCAVATION OF SURFACES AND PAVEMENTS		
						30			350		380		CM	GRANULAR BACKFILL FOR STRUCTURES	204.30	10.9	4.6	CM	VT 125
						420					420		SM	COLD PLANING, BITUMINOUS PAVEMENT	210.10	10.4	0.4	CM	ROUNDING
						2500					2500		CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	62.3	5	CM	TOTAL
						65					65		CM	AGGREGATE SURFACE COURSE	401.10	6.3	EARTH BORROW		
						1775			125		1900		KG	EMULSIFIED ASPHALT	404.65	48	1310.8	CM	VT 125
						1510			91		1601		T	BITUMINOUS CONCRETE PAVEMENT	406.25	6.6	1.3	CM	TH33
						1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	-	37.9	CM	ROUNDING
									218		218		CM	CONCRETE, HIGH PERFORMANCE CLASS A	501.33	2	1350.0	CM	TOTAL
						7			40		47		CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	1.55	SAND BORROW		
									24		24		M	PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES	503.20	-	963.5	CM	VT 125
									1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10	-	255.7	CM	TH 33
									270		270		M	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 360 X 132	505.28	-	30.8	CM	ROUNDING
									2		2		EACH	DYNAMIC PILE LOADING TEST	505.45	-	1250	CM	TOTAL
									93045		93045		KG	STRUCTURAL STEEL, PLATE GIRDER	506.55	4.8	GRANULAR BORROW		
						540			32555		33095		KG	EPOXY COATED REINFORCING STEEL	507.17	6.5	136.3	CM	VT 125
									1		1		LS	SHEAR CONNECTORS (1240-22 X 178)	508.15	-	13.7	CM	ROUNDING
						5			145		150		L	WATER REPELLENT, SILANE	514.10	14.3	150	CM	TOTAL
									480		480		SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	3.6	TRENCH EXCAVATION OF EARTH		
									115.02		115.02		M	BRIDGE RAILING, GALVANIZED NETC 2 RAIL	525.33	-	533.1	CM	UNDERDRAIN
									1		1		LS	TWO-WAY TEMPORARY BRIDGE (600 SM - EST.)	528.11	-	44.4	CM	PROPOSED DRAINAGE
									233		233		SM	REMOVAL OF BRIDGE PAVEMENT	529.10	0.5	64	CM	STONE DIAPHRAGMS
									1		1		EACH	REMOVAL OF STRUCTURE (250 SM - EST.)	529.15	-	18.5	CM	ROUNDING
									10		10		EACH	BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT	531.14	-	660	CM	TOTAL
						2.5					2.5		M	300 CPEP(SL)	601.2605	-	STRUCTURE EXCAVATION		
																			ROADWAY
																	32.1	CM	HEADWALL #1
																	15.4	CM	HEADWALL #2
																			BRIDGE
																	256.0	CM	ABUTMENT # 1
																	224.0	CM	ABUTMENT # 2
																	12.5	CM	ROUNDING
																	540.0	CM	TOTAL
																	SUBBASE OF DENSE GRADED CRUSHED STONE		
																	1953.4	CM	VT 125
																	484.3	CM	TH33
																	62.3	CM	ROUNDING
																	2500	CM	TOTAL

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: Z85E042QTY.XLS
PROJECT MANAGER: MARTHA EVANS-MONGEON
DESIGNED BY: E. ATKINS
QUANTITY SHEET #1

PLOT DATE: 03/15/2010
DRAWN BY: A. ACHARYA
CHECKED BY: K. ISHIKURA
SHEET 10 OF 144

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS
11.8				
11.8				
11.8				
11.8				
19				
19				
19.5				
19.5				
1				
1				
1				
1				
445				
65				
11				
		2600		
		13.5		
		225		
			530	
21				
510				
78.105				
4				
5				
4				
243.4				
400				
3000				

TOTALS

GRAND TOTAL	FINAL
11.8	
11.8	
11.8	
11.8	
19	
19	
19.5	
19.5	
1	
1	
1	
1	
445	
65	
11	
2600	
13.5	
225	
530	
21	
510	
78.105	
4	
5	
4	
243.4	
400	
3000	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER	ROUND
	BEGIN OPTION AA		
M	300 CAAP 1.52 (68 X 12)	601.0205	-
M	300 PCCSP 1.63 (68 X 12)	601.0405	-
M	300 RCP CLASS III	601.0805	-
M	300 CPEP(SL)	601.2605	-
	END OPTION AA		
	BEGIN OPTION BB		
M	450 CAAP 1.52 (68 X 12)	601.0215	-
M	450 PCCSP 1.63 (68 X 12)	601.0415	-
	END OPTION BB		
	BEGIN OPTION CC		
M	900 CAAP 1.52 (75 X 25)	601.0310	-
M	900 PCCSP 2.01 (68 X 12)	601.0446	-
	END OPTION CC		
EACH	300 CPEP ELBOW	601.5802	-
	BEGIN OPTION DD		
EACH	450 CSPES 1.63 (68 X 12)	601.6015	-
EACH	450 CAAPES 1.52 (68 X 12)	601.6215	-
	END OPTION DD		
	BEGIN OPTION EE		
EACH	900 CSPES 2.01 (68 X 12)	601.6046	-
EACH	900 CAAPES 1.91 (68 X 12)	601.6246	-
	END OPTION EE		
EACH	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER	604.21	-
M	200 MM UNDERDRAIN PIPE	605.11	4.2
M	200 MM UNDERDRAIN CARRIER PIPE	605.21	3.4
EACH	UNDERDRAIN FLUSHING BASIN	605.95	-
CM	DUST CONTROL WITH WATER	609.10	143.2
T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	0.4
CM	STONE FILL, TYPE I	613.10	20.8
CM	STONE FILL, TYPE II	613.11	4.8
EACH	YIELDING MARKER POSTS	619.17	-
M	REMOVAL OF EXISTING FENCE	620.55	9
M	STEEL BEAM GUARDRAIL, GALVANIZED	621.20	-
EACH	MANUFACTURED TERMINAL SECTION, FLARED	621.50	-
EACH	ENERGY ABSORPTION ATTENUATOR	621.56	-
EACH	GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL	621.72	-
M	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	-
HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST
HR	FLAGGERS	630.15	EST

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
EMULSIFIED ASPHALT		
1734	KG	HIGHWAY
118	KG	BRIDGE
48	KG	ROUNDING
1900	TON	TOTAL
BITUMINOUS CONCRETE PAVEMENT		
		HIGHWAY VT 125 NORTH OF BRIDGE
58.1	TON	TYPE IV
63.7	TON	TYPE II
80.1	TON	TYPE I
		HIGHWAY VT 125 SOUTH OF BRIDGE
236.1	TON	TYPE IV
285.7	TON	TYPE II
413.1	TON	TYPE I
		HIGHWAY TH 33 STA. 2+005 - 2+120
84.3	TON	TYPE IV
97.6	TON	TYPE II
133.8	TON	TYPE I
		ADDITIONAL PAVEMENT FOR SETTLEMENT
54.1	TON	VT 125 STA 1+280 - STA. 1+330
		BRIDGE
37.6	TON	TYPE IV
50.2	TON	TYPE IV
6.6	TON	ROUNDING
1601	TON	TOTAL

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: Z85E042QTY.XLS
PROJECT MANAGER: MARTHA EVANS-MONGEON
DESIGNED BY: E. ATKINS
QUANTITY SHEET #2

PLOT DATE: 02/17/2010
DRAWN BY: A. ACHARYA
CHECKED BY: K. ISHIKURA

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

Metric

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
									1	1		LS	FIELD OFFICE, ENGINEERS	631.10	-			
									1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16	-			
									1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17	-			
									1	1		LU	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.25	-			
						1040				1040		HR	EMPLOYEE TRAINEESHIP	634.10	EST			
					1					1		LS	MOBILIZATION/DEMOBILIZATION	635.11	-			
					1					1		LS	TRAFFIC CONTROL	641.10	-			
					1070					1070		M	DURABLE 100 MM WHITE LINE	646.400	53			
					1040					1040		M	DURABLE 100 MM YELLOW LINE	646.410	50			
					10					10		M	DURABLE 600 MM STOP BAR	646.480	1.4			
					4					4		EACH	DURABLE LETTER OR SYMBOL	646.490	-			
					1070					1070		M	TEMPORARY 100 MM WHITE LINE	646.600	53			
					1040					1040		M	TEMPORARY 100 MM YELLOW LINE	646.610	50			
					10					10		M	TEMPORARY 600 MM STOP BAR	646.680	1.4			
					4					4		EACH	TEMPORARY LETTER OR SYMBOL	646.690	-			
					1150					1150		SM	GEOTEXTILE FOR ROADBED SEPARATOR	649.11	24			
					2050			1650		3700		SM	GEOTEXTILE UNDER STONE FILL	649.31	123			
							265			265		SM	GEOTEXTILE FOR SILT FENCE	649.51	5			
							715			715		SM	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515	8			
							575			575		SM	GEOTEXTILE FOR FILTER CURTAIN	649.61	29			
							100			100		KG	SEED	651.15	28			
							100			100		KG	SEED, WINTER RYE	651.17	28			
							600			600		KG	FERTILIZER	651.18	21			
							5			5		T	AGRICULTURAL LIMESTONE	651.20	0.35			
							5			5		T	HAY MULCH	651.25	0.35			
							1100			1100		CM	TOPSOIL	651.35	67			
					10			870		880		SM	GRUBBING MATERIAL	651.40	14.4			
							1			1		LS	EPSC PLAN	652.10	-			
							200			200		HR	MONITORING EPSC PLAN	652.20	EST			
							1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30	-			
							4000			4000		SM	TEMPORARY EROSION MATTING	653.20	135			
							1200			1200		SM	PERMANENT EROSION MATTING	653.21	132			
							15			15		CM	TEMPORARY STONE CHECK DAM, TYPE I	653.25	2			
							30			30		CM	VEHICLE TRACKING PAD	653.35	6			
							1			1		EACH	INLET PROTECTION DEVICE, TYPE I	653.40	-			
							4			4		EACH	FILTER BAG	653.45	-			
							910			910		M	BARRIER FENCE	653.50	20			
							50			50		M	PROJECT DEMARCATION FENCE	653.55	5			
					10.46					10.46		SM	TRAFFIC SIGNS, TYPE A	675.20	-			
					123.99					123.99		M	SQUARE TUBE SIGN POST AND ANCHOR	675.341	-			

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: Z85E042QTY.XLS
PROJECT MANAGER: MARTHA EVANS-MONGEON
DESIGNED BY: E. ATKINS
QUANTITY SHEET #3

PLOT DATE: 03/15/2010
DRAWN BY: A. ACHARYA
CHECKED BY: K. ISHIKURA
SHEET 12 OF 144

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 4

Metric

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					28					28		EACH	REMOVING SIGNS	675.50	-			
					1					1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
							10			10		CM	SPECIAL PROVISION (PERMANENT STONE CHECK DAM, TYPE I)	900.608	0.77			
					1					1		EACH	SPECIAL PROVISION (IMPACT DISPLACEMENT PIER MODULUS LOAD TEST)	900.620	-			
					1					1		EACH	SPECIAL PROVISION (INTAKE GRATE)	900.620	-			
					6					6		EACH	SPECIAL PROVISION (PIEZOMETER, VIBRATING WIRE)	900.620	-			
					3					3		EACH	SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN MOBILIZATION)	900.620	-			
					10					10		EACH	SPECIAL PROVISION (SETTLEMENT PLATFORM, TYPE I)	900.620	-			
					264					264		M	SPECIAL PROVISION (IMPACT DISPLACEMENT PIER OBSTRUCTION REMOVAL)	900.640	-			
					4252					4252		M	SPECIAL PROVISION (IMPACT DISPLACEMENT PIER)	900.640	-			
					31					31		M	SPECIAL PROVISION (INCLINOMETER CASING)	900.640	-			
					464					464		M	SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN OBSTRUCTION REMOVAL)	900.640	-			
					11000					11000		M	SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN)	900.640	-			
					250					250		M	SPECIAL PROVISION (STONE DIAPHRAGM FOR GRASS CHANNEL)	900.640	13			
					1					1		LS	SPECIAL PROVISION (IMPACT DISPLACEMENT PIER DESIGN)	900.645	-			
					1					1		LS	SPECIAL PROVISION (IMPACT DISPLACEMENT PIER MOBILIZATION)	900.645	-			

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: Z85E042QTY.XLS
PROJECT MANAGER: MARTHA EVANS-MONGEON
DESIGNED BY: E. ATKINS
QUANTITY SHEET #4

PLOT DATE: 03/17/2010
DRAWN BY: A. ACHARYA
CHECKED BY: K. ISHIKURA

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 5

Metric

SUMMARY OF BRIDGE QUANTITIES									TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
TEMPORARY BRIDGE	SUPER STRUCTURE	ABUTMENT #1	ABUTMENT #2	APPROACH SLAB #1	APPROACH SLAB #2	CHANNEL	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER		QUANTITIES	UNIT	ITEMS
					280	280	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27				
		260	230				490	CM	STRUCTURE EXCAVATION	204.25				
		160	190				350	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30				
	105			10	10		125	KG	EMULSIFIED ASPHALT	404.65				
	71			10	10		91	T	BITUMINOUS CONCRETE PAVEMENT	406.25				
	128	45	45				218	CM	CONCRETE, HIGH PERFORMANCE CLASS A	501.33				
				20	20		40	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34				
		12	12				24	M	PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES	503.20				
		0.5	0.5				1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10				
		135	135				270	M	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 360 X 132	505.28				
		1	1				2	EACH	DYNAMIC PILE LOADING TEST	505.45				
	93045						93045	KG	STRUCTURAL STEEL, PLATE GIRDER	506.55				
	20750	4425	4570	1375	1435		32555	KG	EPOXY COATED REINFORCING STEEL	507.17				
	1						1	LS	SHEAR CONNECTORS (1240-22 X 178)	508.15				
	85	30	30				145	L	WATER REPELLENT, SILANE	514.10				
	480						480	SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20				
	115.02						115.02	M	BRIDGE RAILING, GALVANIZED NETC 2 RAIL	525.33				
1							1	LS	TWO-WAY TEMPORARY BRIDGE (600 SM - EST.)	528.11				
	233						233	SM	REMOVAL OF BRIDGE PAVEMENT	529.10				
	1						1	EACH	REMOVAL OF STRUCTURE (250 SM - EST.)	529.15				
		5	5				10	EACH	BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT	531.14				
						530	530	CM	STONE FILL, TYPE II	613.11				
						1650	1650	SM	GEOTEXTILE UNDER STONE FILL	649.31				
						870	870	SM	GRUBBING MATERIAL	651.40				

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: Z85E042QTY.XLS
PROJECT MANAGER: MARTHA EVANS-MONGEON
DESIGNED BY: E. ATKINS
QUANTITY SHEET #5

PLOT DATE: 03/15/2010
DRAWN BY: A. ACHARYA
CHECKED BY: K. ISHIKURA
SHEET 14 OF 144

STATE OF VERMONT
AGENCY OF TRANSPORTATION

ITEM DETAIL SHEET

VAOT Metric

STEEL BEAM GUARD RAIL, GALVANIZED

BEGIN STATION km + m	END STATION km + m	POSITION LEFT m	POSITION RIGHT m	END TREATMENT BEGIN EA	END TREATMENT END EA
1+173.93	1+201.05		28.575		1
1+175.26	1+227.42	49.530			1
TOTALS		49.530	28.575		2
TOTALS	STEEL BEAM GUARDRAIL, GALVANIZED = 78.105				

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL

BEGIN STATION km + m	END STATION km + m	POSITION LEFT m	POSITION RIGHT m	MTS • BEG EA	MTS • END EA
1+101.80	1+109.42		7.62	1	
1+101.80	1+109.42	7.62			1
1+166.67	1+173.93		7.62		1
1+167.23	1+175.26	7.62		1	
TOTALS		2 EACH	2 EACH		
TOTALS	GUARDRAIL APPROACH SECTION, = 4 EACH GALVANIZED NETC 2 RAIL				

• MANUFACTURED TERMINAL = 4 EACH SECTION, FLARED

UNDERDRAIN

	BEGIN STATION km + m	END STATION km + m	TYPE	POSITION	DIA. mm	LENGTH m	TRENCH EARTH m^3	TRENCH ROCK m^3	200 RISER LEN. m	FB EA	MKR PST EA
	TH 33	VT 125									
1	2+025.0	1+260.0	U	LT-RT	200	33.6	41.7		1.2	1	1
2	1+241.0	1+260.0	U	LT	200	17.3	20.77		1.5	1	1
5	1+260.0	1+300.0	U	LT	200	37.4	41.36		1.5	1	1
6	1+300.0	1+350.0	U	LT	200	48.9	52.2		1.2	1	1
8	1+260.0	1+340.0	U	RT	200	83.6	88.8		1.2	1	1
9	1+340.0	1+380.0	U	RT	200	39.9	48.2		1.5	1	1
10	1+380.0	1+420.0	U	RT	200	40.5	97.4				
	TH 33	TH 33									
12	2+100.0	2+030.0	U	RT	200	72.2	92.3		1.2	1	1
	TH 33	TH 33									
13	2+100.0	2+030.0	U	LT	200	67.4	87.4		1.2	1	1
	TOTAL	UNDERDRAIN			200	440.8	501.9		10.5	8	8
	TH 33	TH 33									
3	2+030.0	2+020.0	C	RT	200	11.7	5.4		1.2	1	2
	TH 33	TH 33									
4	2+030.0	2+023.0	C	LT	200	6.5	3.0		1.2	1	2
7	1+350.0	1+364.1	C	LT	200	14.5	7.2				
11	1+420.0	1+420.0	C	RT-LT	200	14.8	15.6		1.2	1	2
	TOTAL	CARRIER			200	47.5	31.2		3.6	3	6
	TOTAL	200 MM CARRIER PIPE FOR RISERS							14.1		
	TOTAL	200 MM UNDERDRAIN = 440.8									
	TOTAL	200 MM CARRIER PIPE = 61.6									
	TOTAL	UNDERDRAIN FLUSHING BASIN = 11									
	TOTAL	YIELDING MARKER POSTS									
		FOR UNDERDRAINS = 14									
		FOR DRAINAGES = 7									
					21						

BEGIN STATION km + m	END STATION km + m	POSITION LEFT m	POSITION RIGHT m	REMARKS
				SEE DRAINAGE SUMMARY SHEET

BEGIN STATION km + m	END STATION km + m	POSITION LEFT m	POSITION RIGHT m	REMARKS

PROJECT NAME :	PROJECT NO. :
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042qty.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY
SQUAD LEADER: MARTHA EVANS-MONGEON
ITEM DETAIL SHEET

PLOT DATE: 2/11/2010
SURVEY DATE: 1996 & 1999
DRAWN BY: ERIK ATKINS
SHEET: 15 OF 144

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE DETAIL SHEET

VAOT Metric

DRAINAGE STRUCTURES

STATION km + m	STATION km + m	POS.	ASKEW	INLET/OUTLET TYPE		DITCH		PIPE ARCH			PIPE		ALLOWABLE OPTIONS						PIPE ELBOW	ES	CB	PRCD I	DEPTH MH	CONC. H.P. CL B	REINF STEEL	DI GRATE	CHAN ELEV	CRM	TRENCH EXCAVATION		COMM EXC	UNC CHAN EXC	STRUCT EXCAV	GRAN BKFILL STRUCT	GRAN BORR	EROS MATT	STONE FILL		MARKER POSTS				REMARKS
				INLET	OUTLET	IN	OUT	SPAN mm	RISE mm	L m	D mm	L m	PCCSP mm	CAAP mm	RCP CL	CSP mm	CPEP SL mm	PCCSP PI mm	NO. DEG	EA	EA		mm	m^3	kg	TYPE	EA	m^3	EARTH m^3	ROCK m^3	m^3	m^3	m^3	m^3	m^3	m^2	m^3	TYPE	LT ea	RT ea			
EXISTING DRAINAGE																																									
1	1+218.1	1+208.2	RT		DITCH	DITCH																								6.4												EXISTING 150 CMP TO BE REMOVED.
2	1+307.3	1+309.0	LT		WETLAND	WETLAND																								3.7												EXISTING 600 MASONRY BOX CULVERT TO BE REMOVED.
3	1+361.8	1+364.4	RT/LT		WETLAND	WETLAND																								2.0												EXISTING 450 CMP TO BE REMOVED.
4	1+466.5	1+465.1	RT/LT		WETLAND	WETLAND																																				EXISTING 900 RCP CULVERT TO BE RETAINED.
5	2+135.4	2+131.3	RT		DITCH	DITCH																																				EXISTING 300 CMP TO BE RETAINED.
PROPOSED DRAINAGE																																									
(1)	2+032.188	2+021.532	RT		MANHOLE	DITCH					300	11.8	1.63	1.52	III		X						2100						13.2											2		SEE SHEET 9 FOR PRECAST CONCRETE
																																										PRETREATMENT CHAMBER DETAIL.
(2)	1+300.000	1+306.220	RT/LT		CHANNEL	DITCH					900	19.5	2.01	1.52						1				4.3	362.9				11.0				32.1	19.1			7.3	1	1	1		PROVIDE 50 MM CAMBER PRIOR TO BACKFILLING.
																																										CONSTRUCT REINFORCED CONCRETE STRAIGHT HEADWALL
																																										SEE STD. D-33.
(3)	1+360.558	1+364.673	RT/LT		CHANNEL	DITCH					450	19.0	1.63	1.52						1				1.6	170.6				18.7				15.4	9.9			1.35	1	1	1		PROVIDE 50 MM CAMBER PRIOR TO BACKFILLING.
																																										CONSTRUCT REINFORCED CONCRETE STRAIGHT HEADWALL
																																										SEE STD. D-33
(4)	2+034.716	2+032.188	RT		DITCH	MANHOLE					300	2.5					X		1-45				SEE DRAINAGE SUMMARY SHEET						1.5											1		
TOTALS											300	11.8	PCCSP (1.63)							2				5.9	533.5				44.4	12.1			47.5	29.0			8.65		2	5			
											450	19.0	PCCSP (1.63)																															
											900	19.5	PCCSP (2.01)																															
											300	11.8	CAAP (1.52)																															
											450	19.0	CAAP (1.52)																															
											900	19.5	CAAP (1.52)																															
											300	11.8	RCP CLASS III																															
											300	14.3	CPEP (SL)						1-45																									

PROJECT NAME : CORNWALL	PROJECT NO. : BRS 0172(6)
DESIGN FILE NAME: z85e042qty.dgn	
IPARM FILE NAME:	PLOT DATE: 3/15/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996 & 1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
DRAINAGE DETAIL SHEET	SHEET: 16 OF 144

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EARTHWORKS

1) VT 125

STATION	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA S.M.	TOTAL EXCAVATION EARTH AND ROCK VOLUME C.M.	ROCK EXCAVATION AREA S.M.	ROCK EXCAVATION VOLUME C.M.	EMBANKMENT AREA S.M.	EMBANKMENT VOLUME C.M.	AREA S.M.	VOLUME C.M.
1+040		0.000				0.000			
	20.0		17.75				3.18		
1+060	**	1.775				0.318			
	20.0		105.40				13.80		
1+080	**	8.765				1.062			
	20.0		168.59				30.72		
1+100	**	8.094				2.010			
	9.5		75.67				16.37		
1+109.5	**	7.837				1.436			
	6.0		49.61				5.31		
1+115.5		8.700				0.333			
	4.5		32.14				0.75		
1+120		5.584				0.000			
	20.0		55.84				0.00		
1+140		0.000				0.000			
	20.0		11.46				27.38		
1+160		1.146				2.738			
	1.5		7.35				5.25		
1+161.5	**	8.660				4.257			
	18.5		94.13				119.66		
1+180	**	1.516				8.679			
	20.0		15.67				200.79		
1+200	**	0.051				11.400		CUT =	4,611.7
	20.0		100.91				157.56	FILL=	1,139.8
1+220	**	10.040				4.356		F-FAC=	1.15
	20.0		235.80				44.91		
1+240		13.540				0.135		EX_C=	3,300.8
	20.0		702.66				1.68		
1+260		56.726				0.033			
	20.0		810.75				0.81		
1+280		24.349				0.048			
	20.0		248.30				130.24		
1+300		0.481				12.976			
	2.713		0.65				22.92		
1+302.713		0.000				3.917			
	17.287		94.52				50.88		
1+320		10.935				1.969			
	20.0		313.63				21.12		
1+340		20.428				0.143			
	20.0		232.98				59.08		
1+360		2.870				5.765			
	2.585		7.65				21.06		
1+362.585		3.046				10.526			
	17.415		97.44				114.59		
1+380		8.144				2.634			
	20.0		412.00				46.91		
1+400		33.056				2.057			
	20.0		525.66				32.73		
1+420		19.510				1.216			
	20.0		195.10				12.16		
1+440		0.000				0.000			

2) TH 33

STATION	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA S.M.	TOTAL EXCAVATION EARTH AND ROCK VOLUME C.M.	ROCK EXCAVATION AREA S.M.	ROCK EXCAVATION VOLUME C.M.	EMBANKMENT AREA S.M.	EMBANKMENT VOLUME C.M.	AREA S.M.	VOLUME C.M.
2+004.5		52.501				0.000			
	15.5		813.77				0.00		
2+020		52.501				0.000			
	20.0		963.93				0.00		
2+040		43.892				0.000			
	20.0		876.83				0.00		
2+060		43.791				0.000		CUT =	3,855.1
	20.0		718.74				0.00	FILL=	1.1
2+080		28.083				0.000		F-FAC=	1.15
	10.0		247.10				0.00		
2+090		21.337				0.000		EX_C=	3,853.8
	10.0		149.37				0.38		
2+100		8.536				0.075			
	20.0		85.36				0.75		
2+120		0.000				0.000			

3) DETOUR *

STATION	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA S.M.	TOTAL EXCAVATION EARTH AND ROCK VOLUME C.M.	ROCK EXCAVATION AREA S.M.	ROCK EXCAVATION VOLUME C.M.	EMBANKMENT AREA S.M.	EMBANKMENT VOLUME C.M.	AREA S.M.	VOLUME C.M.
3+040		0.423				0.000			
	20.0		12.06				3.39		
3+060		0.783				0.339			
	20.0		12.86				65.48		
3+080		0.503				6.209			
	20.0		5.03				343.95		
3+100		0.000				28.186			
	12.764		0.00				437.15		
3+112.764		0.000				40.311			
	7.236		0.00				145.85		
3+120.0		0.000				0.000			
	20.0		0.00				0.00	CUT =	205.4
3+140		0.000				0.000		FILL=	2,590.2
	20.0		0.00				0.00	F-FAC=	1.15
3+160		0.000				0.000			
	10.676		0.00				252.83	FILL=	2,773.3
3+170.676		0.000				47.365			
	9.324		0.00				443.18		
3+180		0.000				47.698			
	20.0		5.42				669.79		
3+200		0.542				19.281			
	20.0		25.47				196.65		
3+220		2.005				0.384			
	20.0		68.51				22.51		
3+240		4.846				1.867			
	10.0		50.13				9.36		
3+250		5.179				0.005			
	10.0		25.90				0.03		
3+260		0.000				0.000			

* INCIDENTAL TO ITEM 528.11

4) REMOVAL OF DETOUR *

-THE AMOUNT TO BE EXCAVATED WHEN DETOUR IS NO LONGER NEEDED WILL BE ADDED TO COMMON EXCAVATION FOR DETOUR

* INCIDENTAL TO ITEM 528.11

TOTAL EARTH BORROW = 2978.7 C.M.

AMOUNT TO STAY IN PLACE FOR VT 125 = 528.8 C.M.

EXCAVATION NEEDED FOR REMOVAL OF DETOUR= 2449.9 C.M.

5) 100 TOPSOIL

-EXCAVATION FOR 100 TOPSOIL

ROADWAY = 1033.3 C.M.

DETOUR = 149.3 C.M.

TOTAL COMMON EXCAVATION = 1182.6 C.M.

NOTES:

1) ** ITEM 203.30 EARTH BORROW VOLUME ONLY TAKEN ON LEFT SIDE OF ROADWAY AT THESE STATIONS DUE TO REUSE OF DETOUR BORROW.
2) COMMON EXCAVATION VALUES BASED ON EXISTING CONDITIONS. INCLUDED IN THE TOTAL IS EARTH BORROW TO BE EXCAVATED DUE TO REMOVAL OF DETOUR.
3) EXCESS MATERIAL SHALL BE RE-USED ON SITE WHEN APPROVED BY THE ENGINEER.

SUMMARY AND BALANCES

STATION TO STATION		TOT EXC. EARTH & ROCK C.M.	ROCK EXCAV C.M.	EMBANK C.M.	EXCESSES CUT	EXCESSES FILL	ACCUMULATIVE EXCESSES CUT	ACCUMULATIVE EXCESSES FILL
1+040	1+440	4,611.7		1139.8	3,300.8		3,300.8	
2+004.5	2+120	3,855.1		1.1	3,853.8		7,154.6	
	TOPSOIL	1,033.3		0.0	1,033.3		8,187.9	
	SUB-TOTAL	9,500.1 (SEE NOTE 1)		1,141.0	8,187.9			

1. QUANTITY TO BE PAID UNDER ITEM 203.15 COMMON EXCAVATION

3+040	3+260	205.4		2,590.2		2773.3		2773.3
REMOVAL OF DETOUR		2,449.9		0.0	2,449.9		2,449.9	
	TOPSOIL	149.3		0.0	149.3		2,599.2	
	SUB-TOTAL	2,804.6 (SEE NOTE 2)		2,590.2	2,599.2	2773.3		

2. QUANTITY SHALL BE INCIDENTAL TO PAY ITEM 528.11 TWO-WAY TEMPORARY BRIDGE

ESTIMATED QUANTITY OF SOLID ROCK EXCAVATION								
			100					
	TOTALS	12,404.6	100.0	3,731.1	10,787.1	2773.3		

REMARKS

EARTH AND ROCK EXCAVATION	12,405
SOLID ROCK EXCAVATION	100
EARTH EXCAVATION	12,305
BACKFILL FOR TRENCH EXCAVATION (CB , MH, AND PIPES)	24
PLANIMETERED FILL	3,731
LESS FACTORED SOLID ROCK	
LESS DISPLACEMENT OF ANY LARGE STRUCTURES	
NET PLANIMETERED FILL	3,755
FACTOR	1.15
PLANIMETERED FILL INCLUDING FACTOR	4,318
MATERIALS AVAILABLE FOR FILLS	
EARTH EXCAVATION	12,305
UNCLASSIFIED CHANNEL EXCAVATION	310
STRUCTURE EXCAVATION	528
TRENCH EXCAVATION OF EARTH	642
TRENCH EXCAVATION OF ROCK	12
TOTAL MATERIAL AVAILABLE FOR FILL	13,797
TOTAL FILL INCLUDING FACTOR	4,318
TOTAL MATERIAL FOR FILL	13,797
BORROW	4,318
EXCESS EXCAVATION	9,478

PROJECT NAME: **CORNWALL**
PROJECT NUMBER: **BRS 0172(6)**

FILE NAME: **z85e042earthworks.xls**
PROJECT LEADER: **MARTHA EVANS-MONGEON**
DESIGNED BY: **E.ATKINS/W.WONG**
EARTHWORK DETAIL SHEET

PLOT DATE: **8/28/2007**
DRAWN BY: **V.KAPLAN**
CHECKED BY: **K.ISHIKURA**
SHEET **17** OF **144**

GPS CONTROL POINTS

TRAV. 1

VTAT DISK STAMPED
"LEMON FAIR AZ MK"

N = 166531.783
E = 439175.480
Z = 59.740

VTPID - VT0153
GENERAL LOCATION, 5 MI (8.0 KM) WEST OF MIDDLEBURY, 3 MI (4.8 KM) WEST OF BRIDPORT.

TO REACH, FROM THE JUNCTION OF VT ROUTE 30 AND VT ROUTE 125 IN MIDDLEBURY, PROCEED WEST ON ROUTE 125 FOR 5.3 MI (8.5 KM) TO THE MARK ON THE LEFT.

THE MARK IS LOCATED 315 FT (96.0 M) WEST OF THE CORNWALL/BRIDPORT TOWN LINE, 96.1 FT (29.3 M) SOUTHEAST OF UTILITY POLE NUMBER 49, 25.6 FT (7.8 M) SOUTH OF THE CENTERLINE OF ROUTE 125, AND 1 FT (0.3 M) NORTH OF A FIBERGLASS WITNESS POST.

TRAV. 2

VTAT DISK STAMPED
"LEMON FAIR 1995"

N = 165432.306
E = 439683.347
Z = 63.140

VTPID - 0152
GENERAL LOCATION, 5 MI (8.0 KM) WEST OF MIDDLEBURY, 3 MI (4.8 KM) EAST OF BRIDPORT.

TO REACH, FROM THE JUNCTION OF VT ROUTE 30 AND VT ROUTE 125 IN MIDDLEBURY, PROCEED WEST ON ROUTE 125 FOR 4.7 MI (7.6 KM) TO A SIDE ROAD LEFT CALLED WEST ST. PROCEED SOUTH ON WEST ST FOR 0.3 MI (0.5 KM) TO A GRAVEL DRIVE AND THE MARK ON THE LEFT AND EAST.

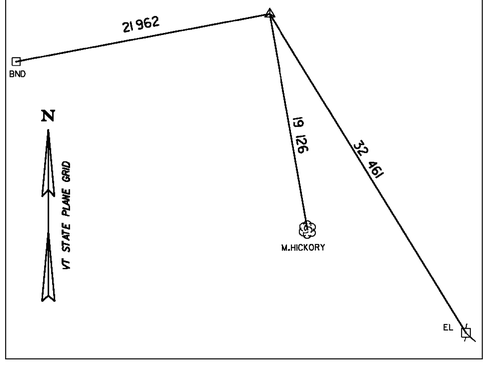
THE MARK IS LOCATED 25 FT (7.6 M) EAST OF THE CENTERLINE OF THE ROAD, 18 FT (5.5 M) NORTH OF THE CENTERLINE OF THE GRAVEL DRIVE 4 FT (1.2 M) WEST OF A FENCE CORNER, AND 2 FT (0.6 M) WEST OF A FIBERGLASS WITNESS POST.

• DESCRIPTIONS PROVIDED BY AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT.

TRAVERSE TIES

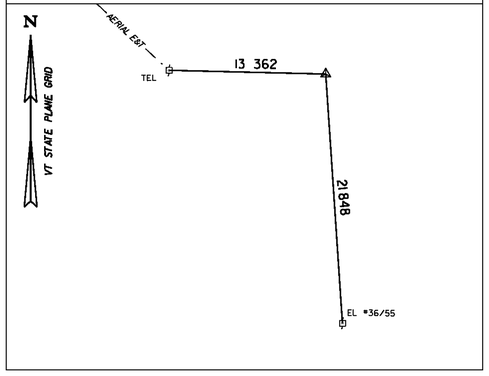
TRAV. 7

N = 166509.1388
E = 439358.5463
Z = 63.500



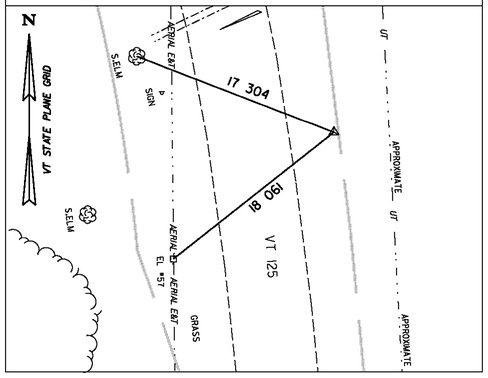
TRAV. 6

N = 166343.2069
E = 439534.2342
Z = 69.696



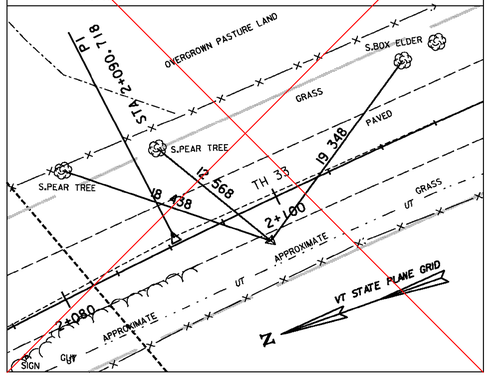
TRAV. 5

N = 166170.3197
E = 439635.1399
Z = 58.921



TRAV. 4

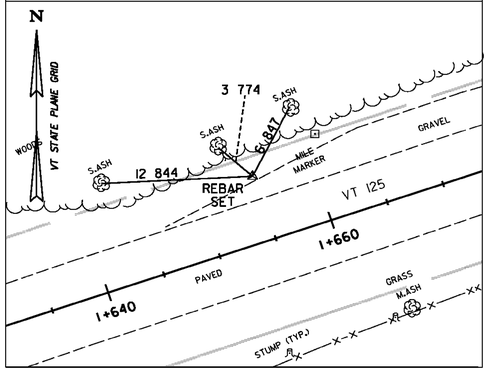
N = 165753.2227
E = 439650.5615
Z = 54.404



TRAVERSE TIES

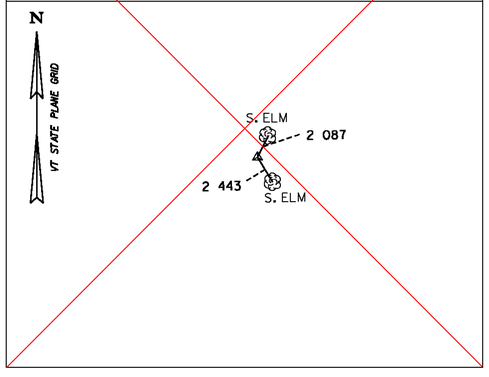
TRAV. 50

N = 165920.3837
E = 440067.4537
Z = 54.723



TRAV. 51

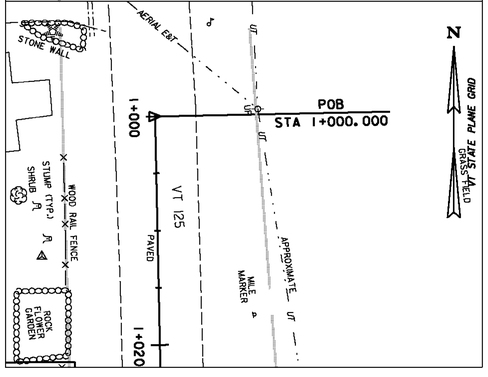
N = 166009.5762
E = 440484.8726
Z = 45.165



ALIGNMENT TIES

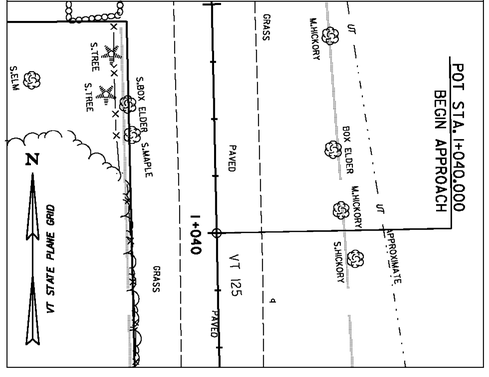
VT 125 POB STA. 1+000.000

N = 166071.2122
E = 439636.1740



VT 125 POT STA. 1+040.000

N = 166031.2207
E = 439637.0001



0 10 20 30
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

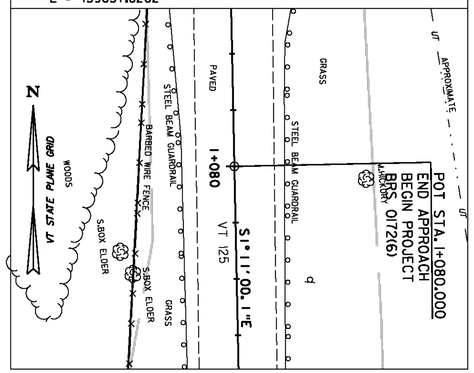
PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042tie.dgn	
IPARM FILE NAME:	PLOT DATE: 2/4/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TIE SHEET 1 OF 4	SHEET: 18 OF 144

ALIGNMENT TIES

VT 125 POT STA. 1+080.000

N = 165991.2292

E = 439637.8262



VT 125 POT STA. 1+109.500

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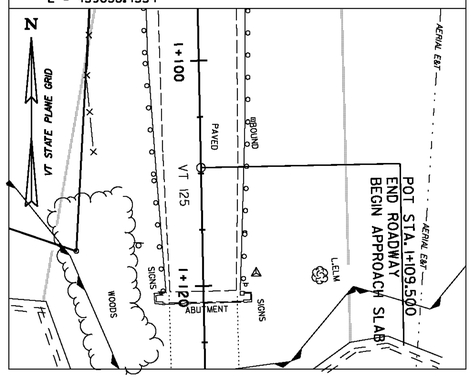

VT 125 POT STA. 1+115.500

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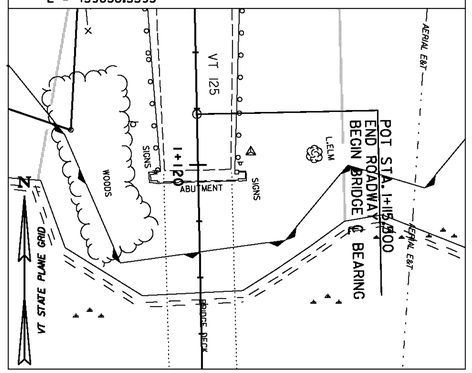
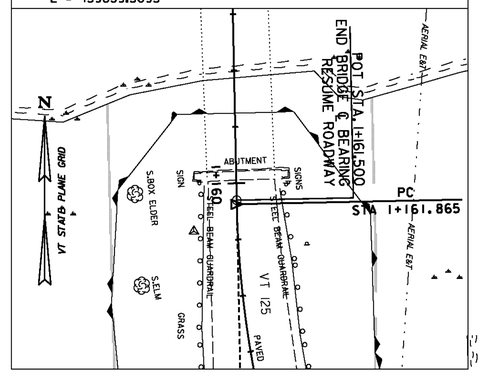


VT 125 POT STA. 1+161.500

N = 165909.7466

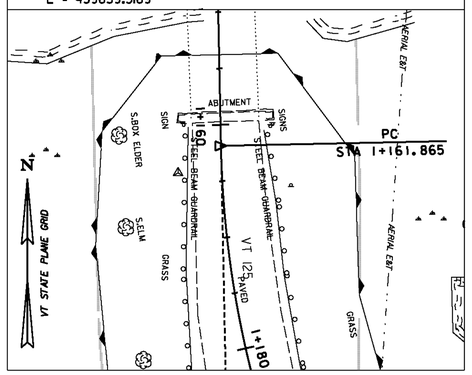
E = 439639.5093



VT 125 PC STA. 1+161.865

N = 165909.3818

E = 439639.5169



VT 125 POC STA. 1+167.500

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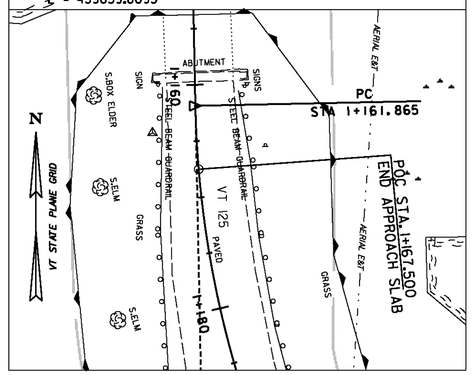
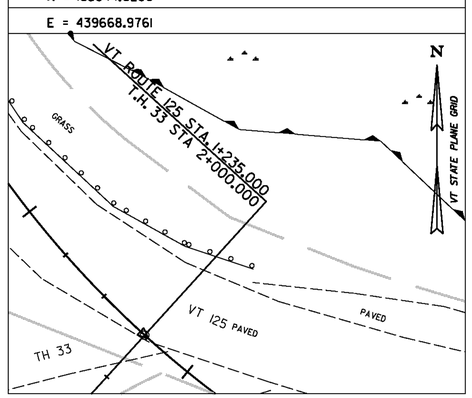
E = 439639.8095



VT 125 POC STA. 1+235.000
T.H. 33 POT STA. 2+000.000

N = 165844.6286

E = 439668.9761



VT 125 PCC STA. 1+312.485

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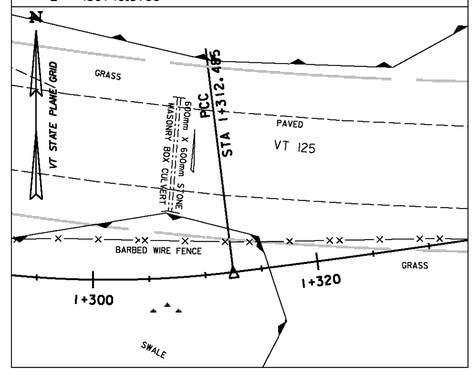
E = 439740.5768



VT 125 POC STA. 1+400.000

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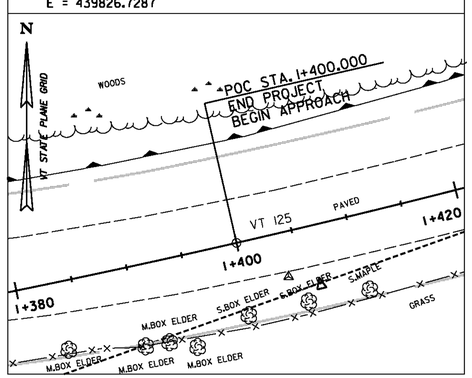
E = 439826.7287



VT 125 POC STA. 1+440.000

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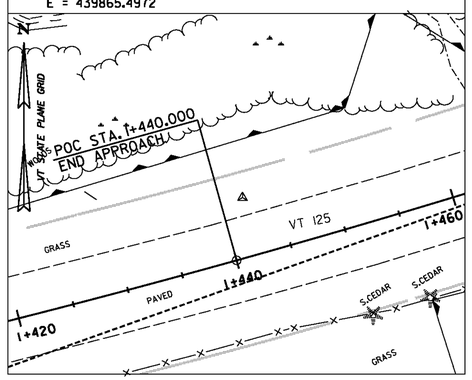
E = 439865.4972



0 10 20 30

SCALE IN METERS

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

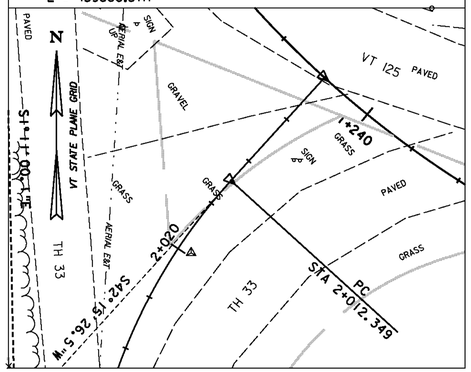
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042tie.dgn	
IPARM FILE NAME:	PLOT DATE: 2/4/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TIE SHEET 2 OF 4	SHEET: 19 OF 144

ALIGNMENT TIES

TH 33 PC STA. 2+012.349

N = 165835.4886

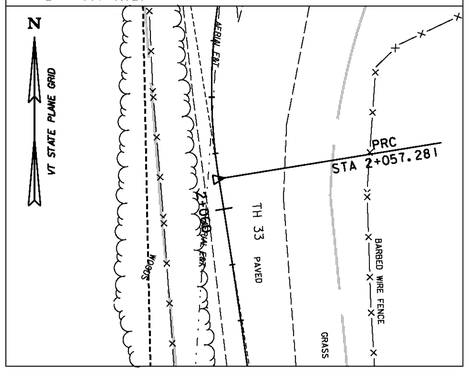
E = 439660.6717



TH 33 PRC STA. 2+057.281

N = 165793.8453

E = 439648.3257



TH 33 POC STA. 2+120.000

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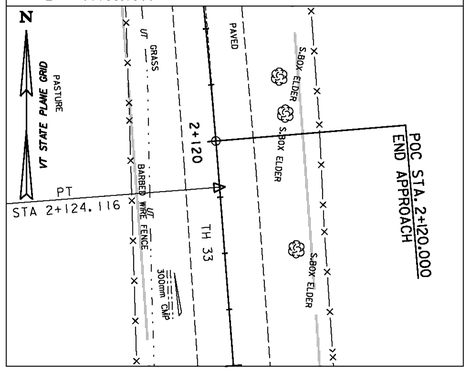

TH 33 PT STA. 2+124.116

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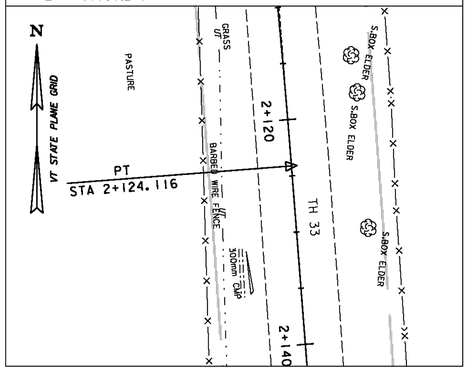
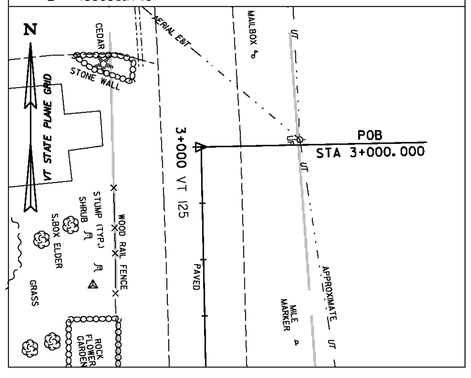
E = 439656.2797



DETOUR POB STA. 3+000.000

N = 166071.2112

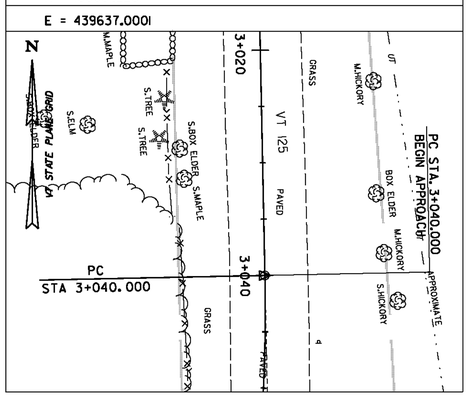
E = 439636.1740



DETOUR PC STA. 3+040.000 VT 125 POT STA. 1+040.000

N = 166031.2201

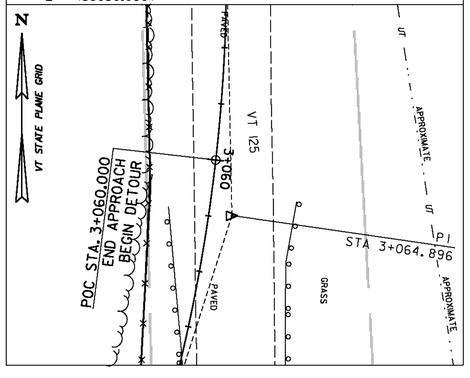
E = 439637.0001



DETOUR POC STA. 3+060.000

N = 166011.2557

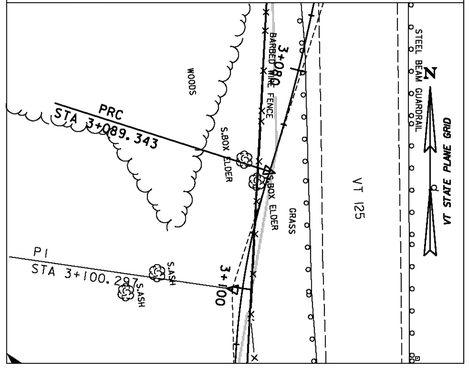
E = 439636.0807



DETOUR PRC STA. 3+089.343

N = 165982.6063

E = 439629.9595



0 10 20 30

SCALE IN METERS

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

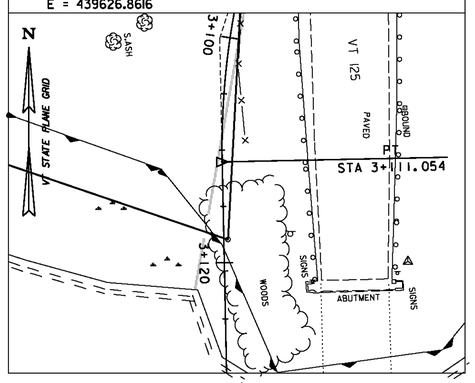
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042tie.dgn	
IPARM FILE NAME:	PLOT DATE: 2/4/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TIE SHEET 3 OF 4	SHEET: 20 OF 144

ALIGNMENT TIES

DETOUR PT STA. 3+111.054

N = 165961.2160

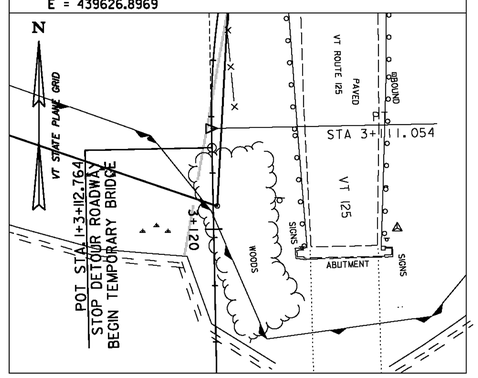
E = 439626.8616



DETOUR POT STA. 3+112.764

N = 165959.5063

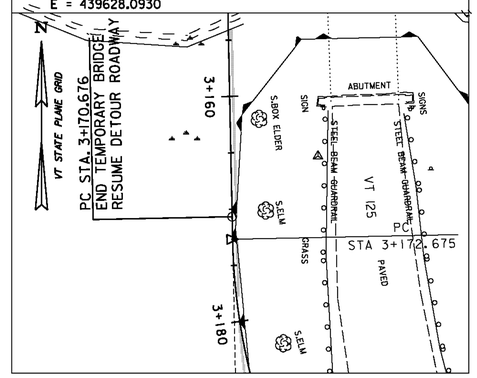
E = 439626.8969



DETOUR POT STA. 3+170.676

N = 165901.6067

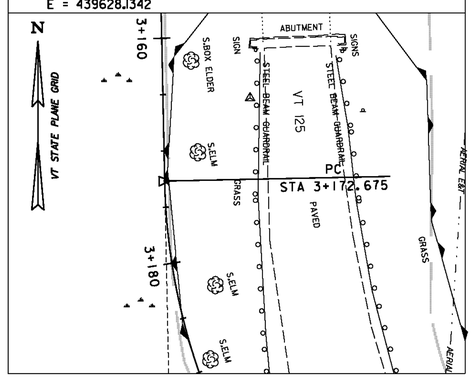
E = 439628.0930



DETOUR PC STA. 3+172.675

N = 165899.6083

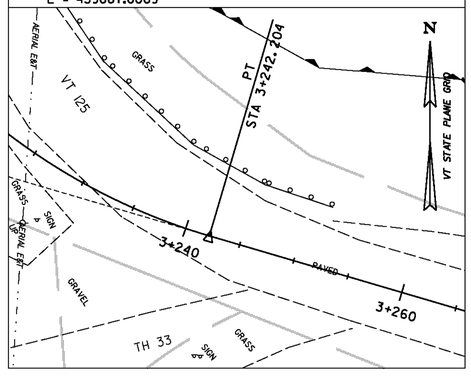
E = 439628.1342



DETOUR PT STA. 3+242.204

N = 165847.9780

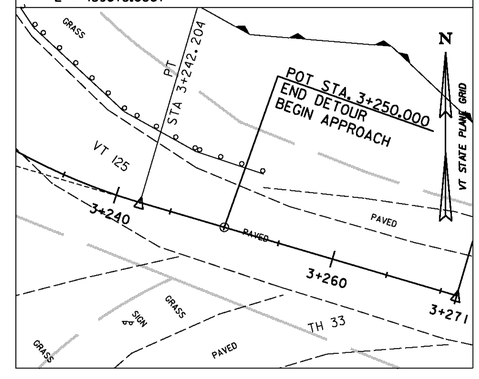
E = 439667.6069



DETOUR POT STA. 3+250.000

N = 165845.7786

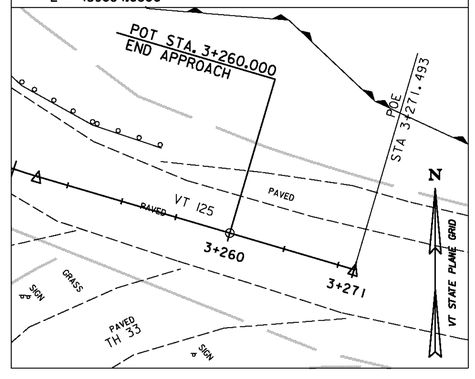
E = 439675.0867



DETOUR POT STA. 3+260.000

N = 165842.9576

E = 439684.6806



0 10 20 30

SCALE IN METERS

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042tie.dgn	
IPARM FILE NAME:	PLOT DATE: 2/4/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TIE SHEET 4 OF 4	SHEET: 21 OF 144

VTrans Metric

CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS

1+040.00 ~ 1+100.00
1+081.4 LT (M) HICKORY
1+087.4 RT (S) BOX ELDER
1+089.3 RT (S) BOX ELDER
1+097.3 RT S. ASH

COLD PLANING, BITUMINOUS PAVEMENT

1+040.00 ~ 1+060.00

STONE FILL, TYPE I

1+040.0 LT. ~ 1+100.0 LT.
1+040.0 RT. ~ 1+080.0 RT.

REMOVAL OF EXISTING FENCE

1+040.0 RT ~ 1+100.0 RT

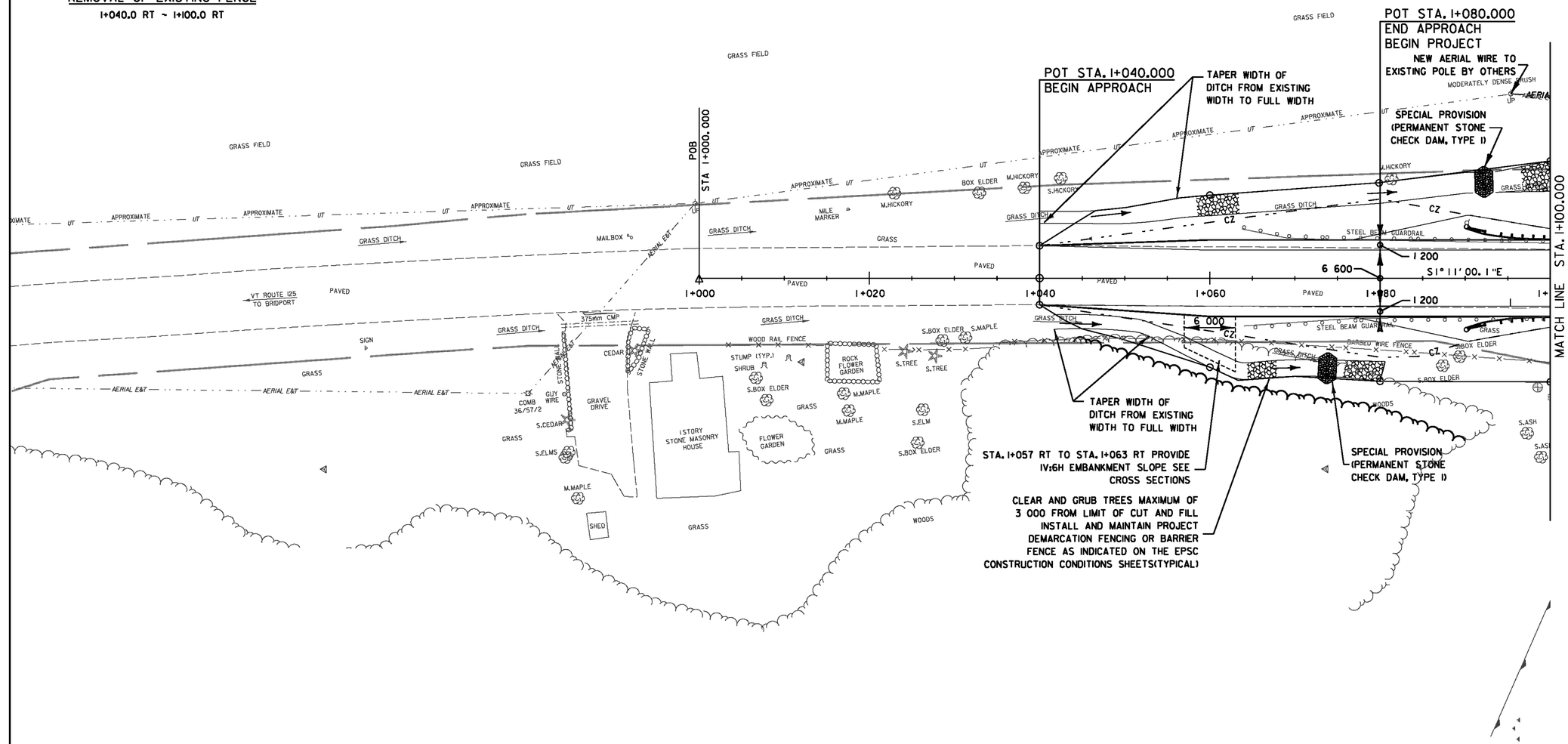
MANUFACTURED TERMINAL SECTION, FLARED

1+090.40 RT. ~ 1+100.00 RT.
1+090.40 LT. ~ 1+100.00 LT.

REMOVAL AND DISPOSAL OF GUARDRAIL

1+063.6 LT. ~ 1+100.0 LT.
1+064.0 RT. ~ 1+100.0 RT.

VT STATE PLANE GRID



0 10 20 30
SCALE IN METERS

LEGEND

STONE LINED DITCH
EROSION MATTING LINED DITCH

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042bdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/4/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
ROADWAY LAYOUT SHEET 1	SHEET: 22 OF 144

Metric

CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS

I+100.00 ~ I+260.000
I+119.3 LT (L) ELM
I+160.8 RT (S) BOX ELDER
I+168.3 RT (S) ELM
I+179.1 RT (S) ELM
I+184.8 RT (S) ELM
I+186.5 RT (S) ELM
I+186.9 RT (S) ELM
I+189.1 RT (S) ELM

BRIDGE RAILING, GALVANIZED NETC 2 RAIL

I+109.42 LT. ~ I+167.23 LT.
I+109.42 RT. ~ I+166.67 RT.

EXISTING DRAINAGE

[1] I+208.2 RT. ~ I+218.1 RT.
EXISTING 150 mm CMP - REMOVE

NEW DRAINAGE

(1) TH 33 2+032.188 RT. ~ TH 33 2+021.532 RT.
NEW 300mm x 11.8m OUTLET PIPE
CPEP (SL)/RCP/CAAP/PCCSP
W/MH @ 2+032.188RT.

200 MM UNDERDRAIN PIPE

△1 TH 33 2+025.0 LT. ~ VT 125 I+260.0 RT.
NEW 200mm x 33.7m UNDERDRAIN
w/ FB @ TH 33 2+025.0 LT.

△2 I+241.0 LT. ~ I+260.0 LT.
NEW 200mm x 54.6 m UNDERDRAIN
w/ FB @ I+241.0 LT.

VT STATE PLANE GRID

VT ROUTE 125 STA. I+235.000=
T.H. 33 STA. 2+000.000
BEGIN T.H. 33 APPROACH

MATCH LINE STA. I+260.000

MATCH LINE STA. 2+030.000

MATCH LINE STA. I+100.000

POT STA. I+115.500
STOP ROADWAY
BEGIN BRIDGE

POT STA. I+161.500
END BRIDGE
RESUME ROADWAY

BM #2
CHISEL SQ. SET
NE CORNER OF
BACK OF THE
BRIDGE CURB
ELEV.= 48.413

VT RTE 125 @
CURVE DATA
Δ = 95°53'15.8"LT
R = 90 000
T = 99 758
L = 150 620
E = 44 357
BANK = 0.060 m/m

PC STA 2+012.349
R 16 200
R 15 000

S87°34' 26. 9"E

S1°11'00.1"E

LEMON FAIR RIVER

CLASS II WETLAND

STONE FILL, TYPE I
LEVEL SPREADER

UTILITY POLE AND
AERIAL WIRES BY OTHERS
(SEE SPECIAL PROVISIONS)

EXISTING POLE AND OVERHEAD WIRE
TO BE RELOCATED BY OTHERS

STONE FILL
TYPE II(TYP.)

EXISTING PIER TO BE
REMOVED TO THE STREAMBED

STONE FILL
TYPE II(TYP.)

TEMPORARY DETOUR CENTERLINE
SEE TEMPORARY DETOUR LAYOUT SHEET

CHANNEL BASELINE M.L.POT STA. I+110.000
CHAN. STA. 10+000.000

CLEAR AND GRUB TREES MAXIMUM OF
3 000 FROM LIMIT OF CUT AND FILL
INSTALL AND MAINTAIN PROJECT
DEMARCATION FENCING OR BARRIER
FENCE AS INDICATED ON THE EPSC
CONSTRUCTION CONDITIONS SHEETS(TYPICAL)

CENTERLINE CHANNEL @ I+211 RT
ELEVATION=46.500

CENTERLINE OF
GRASS SWALE
LOCAL DEPRESSION
ELEV.=46.350
BEGIN GRASS SWALE
AT 0.006 m/m
DITCH GRADE=46.650

MODERATELY DENSE BRUSH

200 MM UNDERDRAIN CARRIER PIPE

△3 TH 33 2+030.0 RT. ~ TH 33 2+020.0 RT.
NEW 200mm x 11.7 m UNDERDRAIN CARRIER PIPE
W/ FB @ TH 33 2+030.0 RT.

△4 TH 33 2+030.0 LT. ~ TH 33 2+023.0 LT.
NEW 200mm x 6.5 m UNDERDRAIN CARRIER PIPE
W/ FB @ TH 33 2+030.0 LT.

STONE FILL, TYPE I

VT 125 I+208 RT. ~ VT RTE 125 I+212 RT.
VT RTE 125 I+217.0 LT. ~ I+231.0 LT - LEVEL SPREADER
TH 33 2+019 RT. ~ 2+030 RT.
TH 33 2+020 LT. ~ 2+030 LT.

REMOVAL OF EXISTING FENCE

I+100.0 RT. ~ I+108.0 RT.
I+189.8 RT. ~ TH 33 2+030.0 RT.
TH 33 2+030.0 LT. ~ VT 125 I+260 RT.

STEEL BEAM GUARDRAIL, GALVANIZED

I+173.93 RT. ~ I+201.05 RT.
I+175.26 LT. ~ I+227.42 LT.

0 10 20 30
SCALE IN METERS

MANUFACTURED TERMINAL SECTION, FLARED

I+100.00 RT. ~ I+101.80 RT.
I+100.00 LT. ~ I+101.80 LT.
I+201.05 RT. ~ I+211.73 RT. (DELTA=10.68M)
I+227.42 LT. ~ I+239.55 LT. (DELTA=12.13M)

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL

I+101.80 LT. ~ I+109.42 LT.
I+101.80 RT. ~ I+109.42 RT.
I+166.67 RT. ~ I+173.93 RT. (DELTA=7.26)
I+167.23 LT. ~ I+175.26 LT. (DELTA=8.03)

LEGEND

STONE LINED DITCH
EROSION MATTING LINED DITCH

REMOVAL AND DISPOSAL OF GUARDRAIL

I+100 LT. ~ I+120.8 LT.
I+100 RT. ~ I+120.6 RT.
I+160.1 RT. ~ I+210.3 RT.
I+160.6 LT. ~ I+238.6 LT.

SPECIAL PROVISION (STONE DIAPHRAGM FOR GRASS CHANNEL)

VT 125 I+218.0 LT. ~ I+260.0 LT
TH 33 2+020 LT. ~ VT 125 I+260.0 RT.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042bdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/11/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
ROADWAY LAYOUT SHEET 2	SHEET: 23 OF 144

CLEARING AND GRUBBING
INCLUDING INDIVIDUAL TREES AND STUMPS

1+260.00 ~ 1+380.00
1+345.4 RT (M) ASH
1+366.1RT (M) BOX ELDER
1+373.4 RT (M) BOX ELDER

EXCAVATION OF SURFACES AND PAVEMENTS

1+296.0 LT ~ 1+304.0 LT

AGGREGATE SURFACE COURSE

1+260 LT.~ 1+304 LT.- 358.0 SM

EXISTING DRAINAGE

[2] 1+307.3 LT.~ 1+309.0 LT.
EXISTING 600 mm STONE BOX CULVERT - REMOVE

[3] 1+361.8 RT.~ 1+364.4 LT.
EXISTING 450 mm CMP - REMOVE

NEW DRAINAGE

[2] 1+300.000 RT.~ 1+306.220 LT.
NEW 900 mm x 19.5 m CAAP/PCCSP
W/ REINF. CONC. STRAIGHT HEADWALL @ INLET
W/ CAAPES/PCCSPES @ OUTLET

[3] 1+360.558 RT.~ 1+364.673 LT
NEW 450 mm x 18.9 m CAAP/PCCSP
W/ REINF. CONC. STRAIGHT HEADWALL @ INLET
W/ CAAPES/PCCSPES @ OUTLET

200 MM UNDERDRAIN PIPE

[5] 1+260.0 LT.~ 1+300.0 LT.
NEW 200mm x 54.6m UNDERDRAIN
W/ FB @ 1+300.0 LT.

[6] 1+300.0 LT.~ 1+350.0 LT.
NEW 200mm x 48.8m UNDERDRAIN
W/ FB @ 1+350.0 LT.

[8] 1+260.0 RT.~ 1+340.0 RT.
NEW 200mm x 83.6m UNDERDRAIN
W/ FB @ 1+260.0 RT.

[9] 1+340.0 RT.~ 1+380.0 RT.
NEW 200mm X 80.4m UNDERDRAIN
w/ FB @ 1+340.0 RT.

200 MM UNDERDRAIN CARRIER PIPE

[7] 1+350.0 LT.~ 1+364.1LT.
NEW 200mm X 14.5m UNDERDRAIN CARRIER PIPE

STONE FILL, TYPE I

1+300.0 RT.- 3 600 WIDE x 1000 LONG
1+306.5 LT.- 2 400 WIDE x 8 600 LONG
1+360.0 RT.- 1800 WIDE x 1000 LONG
1+364.7 LT.- 0 900 WIDE x 3 000 LONG

REMOVAL OF EXISTING FENCE

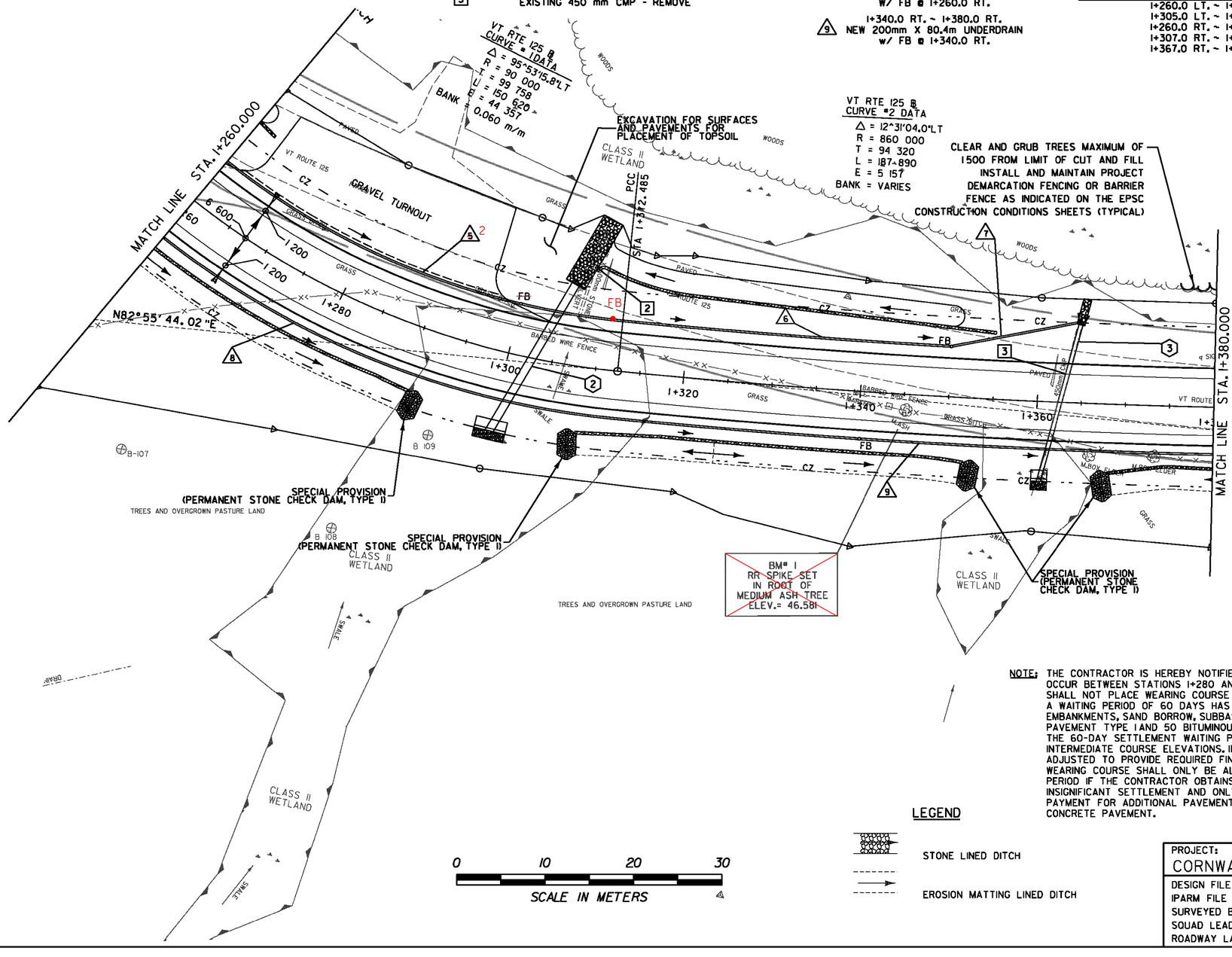
1+260.0 RT.~ 1+380.0 RT.

GRUBBING MATERIAL

1+298.0 RT.~ 1+302.0 RT.
1+360.0 RT.~ 1+362.0 RT.

SPECIAL PROVISION (STONE DIAPHRAGM FOR GRASS CHANNEL)

1+260.0 LT.~ 1+263.0 LT.
1+305.0 LT.~ 1+355.0 LT.
1+260.0 RT.~ 1+290.0 RT.
1+307.0 RT.~ 1+352.0 RT.
1+367.0 RT.~ 1+380.0 RT.



NOTE: THE CONTRACTOR IS HEREBY NOTIFIED THAT APPROXIMATELY 50 MM OF SETTLEMENT MAY OCCUR BETWEEN STATIONS 1+280 AND 1+330. TO ALLOW FOR SETTLEMENT THE CONTRACTOR SHALL NOT PLACE WEARING COURSE OF PAVEMENT BETWEEN STATIONS 1+280 ~ 1+330 UNTIL A WAITING PERIOD OF 60 DAYS HAS PASSED AFTER THE CONSTRUCTION OF THE EMBANKMENTS, SAND BORROW, SUBBASE AND PLACEMENT OF 75 BITUMINOUS CONCRETE PAVEMENT TYPE I AND 50 BITUMINOUS CONCRETE PAVEMENT TYPE II. UPON COMPLETION OF THE 60-DAY SETTLEMENT WAITING PERIOD THE CONTRACTOR SHALL VERIFY TOP OF INTERMEDIATE COURSE ELEVATIONS. IF NEEDED, DEPTH OF WEARING COURSE SHALL BE ADJUSTED TO PROVIDE REQUIRED FINAL PAVEMENT ELEVATIONS. PLACEMENT OF THE WEARING COURSE SHALL ONLY BE ALLOWED PRIOR TO THE END OF THE 60-DAY WAITING PERIOD IF THE CONTRACTOR OBTAINS SUFFICIENT SETTLEMENT DATA THAT INDICATES INSIGNIFICANT SETTLEMENT AND ONLY WHEN IT IS APPROVED BY THE RESIDENT ENGINEER. PAYMENT FOR ADDITIONAL PAVEMENT SHALL BE MADE UNDER ITEM 406.25 BITUMINOUS CONCRETE PAVEMENT.

LEGEND

STONE LINED DITCH

EROSION MATTING LINED DITCH

0 10 20 30
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042bdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/15/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
ROADWAY LAYOUT SHEET 3	SHEET: 24 OF 144

Metric

CLEARING AND GRUBBING INCLUDING INDIVIDUAL TREES AND STUMPS

I+380.00 ~ I+440.00
I+383.5 RT (M) BOX ELDER
I+390.2 RT (M) BOX ELDER
I+392.3 RT (M) BOX ELDER
I+394.6 RT (M) BOX ELDER
I+399.6 RT (S) BOX ELDER
I+405.1 RT (S) BOX ELDER
I+410.5 RT (S) MAPLE

COLD PLANING, BITUMINOUS PAVEMENT

I+420.00 ~ I+440.00

EXISTING DRAINAGE

[4] I+465.1 LT. ~ I+466.5 RT.
EXISTING 900mm RCP - RETAIN

200 MM UNDERDRAIN PIPE

[10] I+380.0 RT. ~ I+420.0 RT.
NEW 200mm x 80.4 UNDERDRAIN

200 MM UNDERDRAIN CARRIER PIPE

[II] I+420.0 RT. ~ I+420.0 LT.
NEW 200mm x 14.8 UNDERDRAIN CARRIER PIPE W/ FB @ I+420.0 RT.

STONE FILL, TYPE I

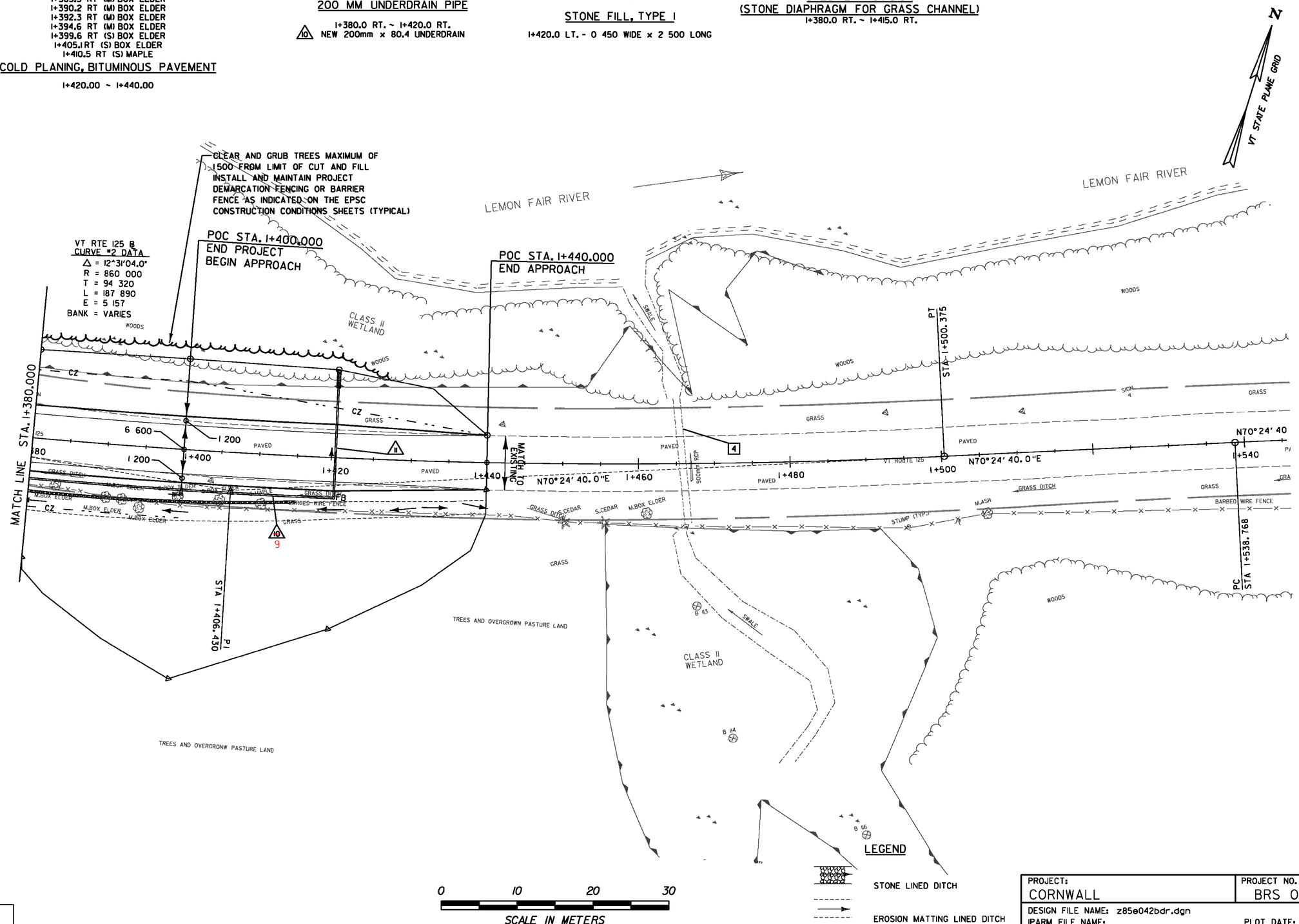
I+420.0 LT. - 0 450 WIDE x 2 500 LONG

REMOVAL OF EXISTING FENCE

I+380.0 RT ~ I+440.0 RT

SPECIAL PROVISION (STONE DIAPHRAGM FOR GRASS CHANNEL)

I+380.0 RT. ~ I+415.0 RT.



LEGEND

STONE LINED DITCH

EROSION MATTING LINED DITCH

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042bdr.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY — PLOT DATE: 2/11/2010
SQUAD LEADER: MARTHA EVANS-MONGEON — SURVEY DATE: 1996&1999
ROADWAY LAYOUT SHEET 4 — DRAWN BY: ERIK ATKINS
SHEET: 25 OF 144

CLEARING AND GRUBBING
INCLUDING INDIVIDUAL TREES AND STUMPS

2+030.00 ~ 2+120.00
2+084.9 LT (S) PEAR TREE
2+092.9 LT (S) PEAR TREE

COLD PLANING, BITUMINOUS PAVEMENT

2+100.00 ~ 2+120.00

EXISTING DRAINAGE

[5] 2+131.3 RT ~ 2+135.4 RT
EXISTING 300 mm CMP - RETAIN

NEW DRAINAGE

2+032.188 RT. ~ 2+030.0 RT.
(1) NEW 300mm x 11.8m OUTLET PIPE CPEP (SL)/RCP/CAAP/PCCSP W/PRECAST CONCRETE PRETREATMENT CHAMBER @ 2+032.188 RT. (SEE SHEET 9)

2+034.716 RT. ~ 2+032.188 RT.
(4) NEW 300mm x 2.5m INTAKE PIPE CPEP (SL) ONLY SEE PRECAST CONCRETE PRETREATMENT CHAMBER DETAIL ON SHEET 9

200 MM UNDERDRAIN PIPE

2+100.0 RT. ~ 2+030.0 RT.
(12) NEW 200mm x 72.2m UNDERDRAIN W/ FB @ 2+100.0 RT.

2+100.0 LT. ~ 2+030.0 LT.
(13) NEW 200mm x 67.5m UNDERDRAIN W/ FB @ 2+100.0 LT.

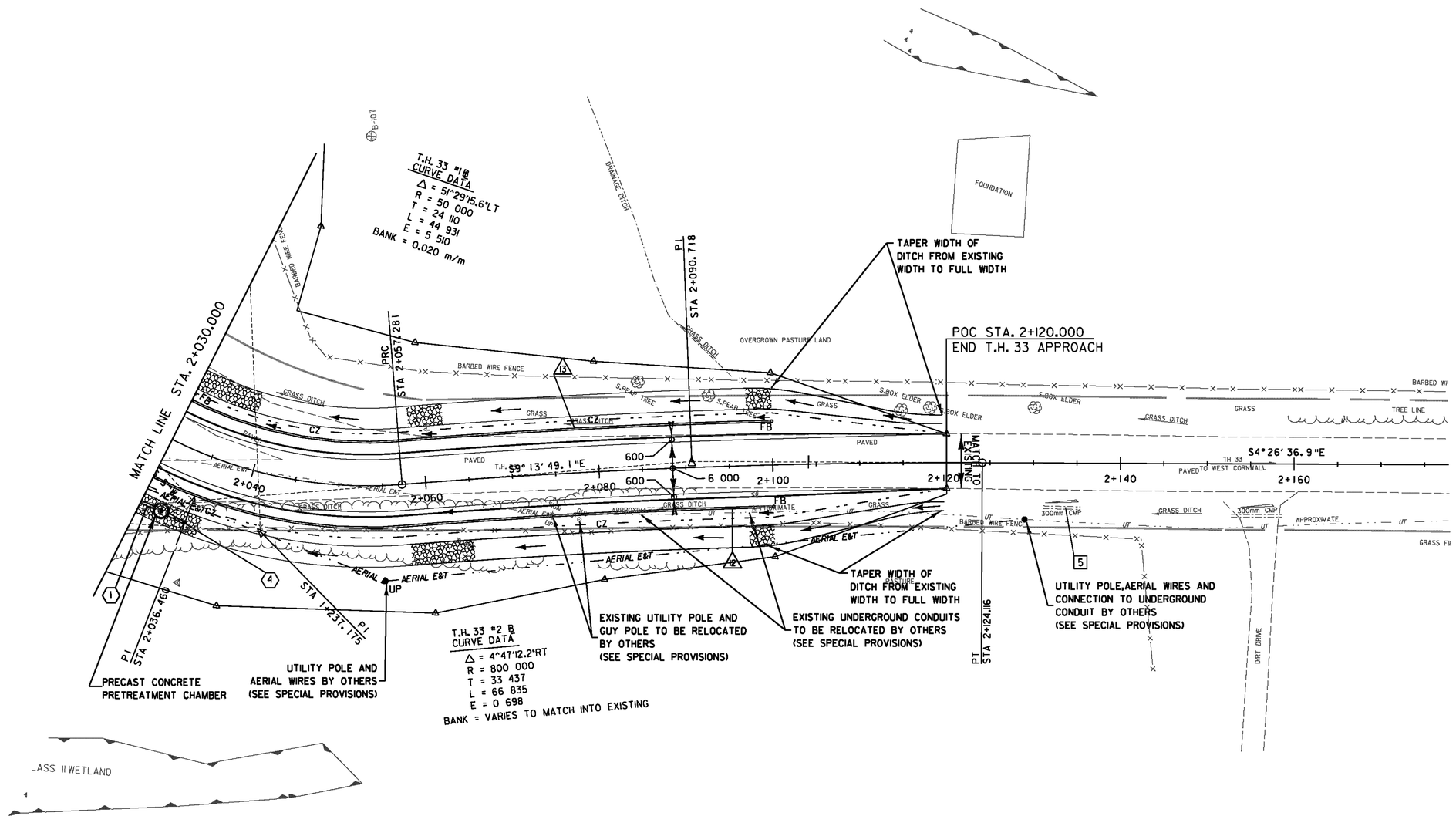
STONE FILL, TYPE I

2+030 RT. ~ 2+100 RT.
2+030 LT. ~ 2+100 LT.

REMOVAL OF EXISTING FENCE

2+030 RT. ~ 2+124.1RT.
2+030 LT. ~ 2+124.1LT.

VT STATE PLANE GRID



LEGEND

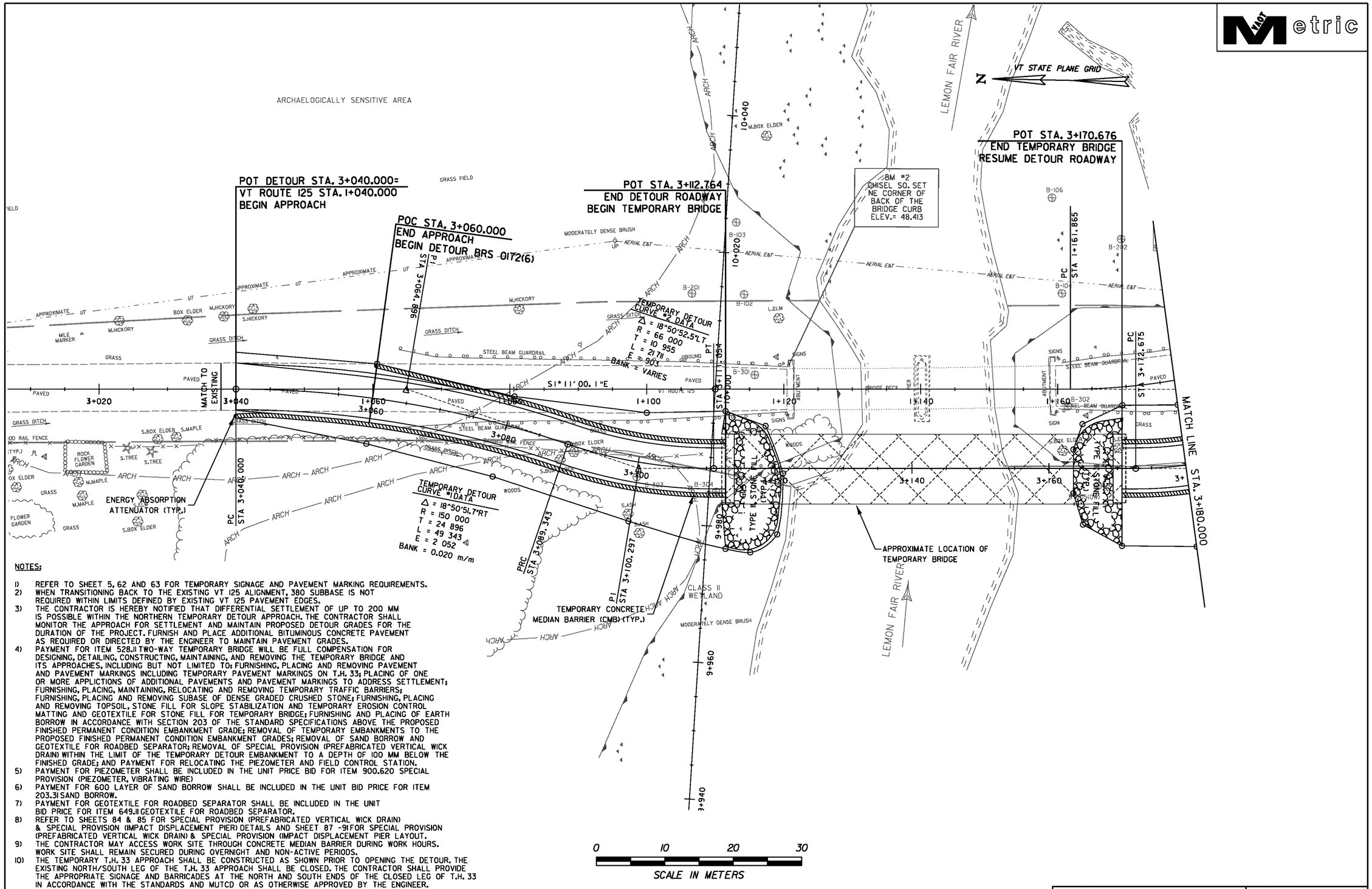
STONE LINED DITCH

EROSION MATTING LINED DITCH

0 10 20 30
SCALE IN METERS

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042bdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/11/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
ROADWAY LAYOUT SHEET 5	SHEET: 26 OF 144



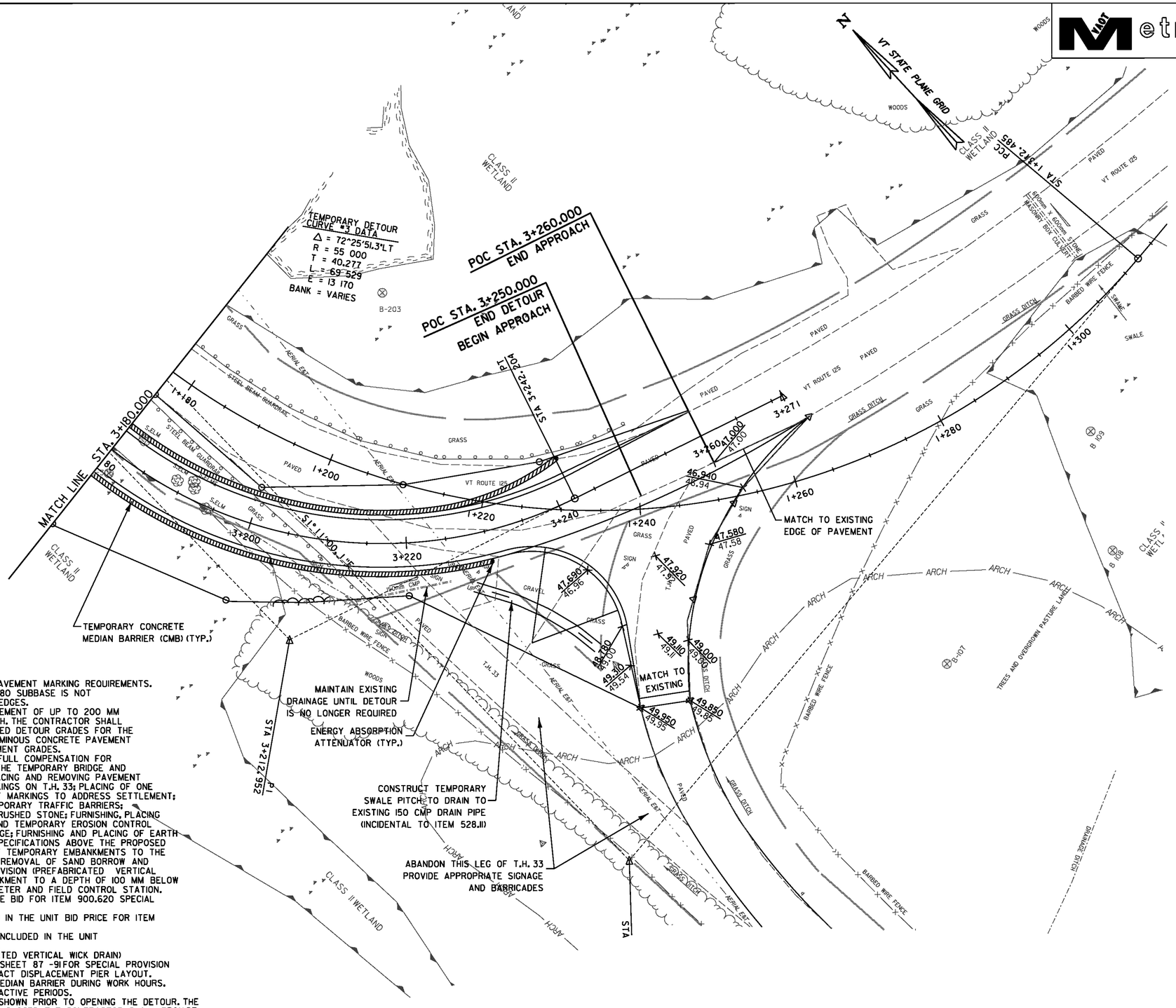
NOTES:

1) REFER TO SHEET 5, 62 AND 63 FOR TEMPORARY SIGNAGE AND PAVEMENT MARKING REQUIREMENTS.
2) WHEN TRANSITIONING BACK TO THE EXISTING VT 125 ALIGNMENT, 380 SUBBASE IS NOT REQUIRED WITHIN LIMITS DEFINED BY EXISTING VT 125 PAVEMENT EDGES.
3) THE CONTRACTOR IS HEREBY NOTIFIED THAT DIFFERENTIAL SETTLEMENT OF UP TO 200 MM IS POSSIBLE WITHIN THE NORTHERN TEMPORARY DETOUR APPROACH. THE CONTRACTOR SHALL MONITOR THE APPROACH FOR SETTLEMENT AND MAINTAIN PROPOSED DETOUR GRADES FOR THE DURATION OF THE PROJECT. FURNISH AND PLACE ADDITIONAL BITUMINOUS CONCRETE PAVEMENT AS REQUIRED OR DIRECTED BY THE ENGINEER TO MAINTAIN PAVEMENT GRADES.
4) PAYMENT FOR ITEM 528.11 TWO-WAY TEMPORARY BRIDGE WILL BE FULL COMPENSATION FOR DESIGNING, DETAILING, CONSTRUCTING, MAINTAINING, AND REMOVING THE TEMPORARY BRIDGE AND ITS APPROACHES, INCLUDING BUT NOT LIMITED TO: FURNISHING, PLACING AND REMOVING PAVEMENT AND PAVEMENT MARKINGS INCLUDING TEMPORARY PAVEMENT MARKINGS ON T.H. 33; PLACING OF ONE OR MORE APPLICTIONS OF ADDITIONAL PAVEMENTS AND PAVEMENT MARKINGS TO ADDRESS SETTLEMENT; FURNISHING, PLACING, MAINTAINING, RELOCATING AND REMOVING TEMPORARY TRAFFIC BARRIERS; FURNISHING, PLACING AND REMOVING SUBASE OF DENSE GRADED CRUSHED STONE; FURNISHING, PLACING AND REMOVING TOPSOIL, STONE FILL FOR SLOPE STABILIZATION AND TEMPORARY EROSION CONTROL MATTING AND GEOTEXTILE FOR STONE FILL FOR TEMPORARY BRIDGE; FURNISHING AND PLACING OF EARTH BORROW IN ACCORDANCE WITH SECTION 203 OF THE STANDARD SPECIFICATIONS ABOVE THE PROPOSED FINISHED PERMANENT CONDITION EMBANKMENT GRADE; REMOVAL OF TEMPORARY EMBANKMENTS TO THE PROPOSED FINISHED PERMANENT CONDITION EMBANKMENT GRADES; REMOVAL OF SAND BORROW AND GEOTEXTILE FOR ROADBED SEPARATOR; REMOVAL OF SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) WITHIN THE LIMIT OF THE TEMPORARY DETOUR EMBANKMENT TO A DEPTH OF 100 MM BELOW THE FINISHED GRADE; AND PAYMENT FOR RELOCATING THE PIEZOMETER AND FIELD CONTROL STATION.
5) PAYMENT FOR PIEZOMETER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.620 SPECIAL PROVISION (PIEZOMETER, VIBRATING WIRE)
6) PAYMENT FOR 600 LAYER OF SAND BORROW SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 203.31 SAND BORROW.
7) PAYMENT FOR GEOTEXTILE FOR ROADBED SEPARATOR SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 649.11 GEOTEXTILE FOR ROADBED SEPARATOR.
8) REFER TO SHEETS 84 & 85 FOR SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) & SPECIAL PROVISION (IMPACT DISPLACEMENT PIER) DETAILS AND SHEET 87 -91 FOR SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) & SPECIAL PROVISION (IMPACT DISPLACEMENT PIER LAYOUT.
9) THE CONTRACTOR MAY ACCESS WORK SITE THROUGH CONCRETE MEDIAN BARRIER DURING WORK HOURS. WORK SITE SHALL REMAIN SECURED DURING OVERNIGHT AND NON-ACTIVE PERIODS.
10) THE TEMPORARY T.H. 33 APPROACH SHALL BE CONSTRUCTED AS SHOWN PRIOR TO OPENING THE DETOUR. THE EXISTING NORTH/SOUTH LEG OF THE T.H. 33 APPROACH SHALL BE CLOSED. THE CONTRACTOR SHALL PROVIDE THE APPROPRIATE SIGNAGE AND BARRICADES AT THE NORTH AND SOUTH ENDS OF THE CLOSED LEG OF T.H. 33 IN ACCORDANCE WITH THE STANDARDS AND MUTCD OR AS OTHERWISE APPROVED BY THE ENGINEER.

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042debdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/15/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TEMPORARY DETOUR LAYOUT SHEET 1	SHEET: 27 OF 144

VAOT Metric



NOTES:

1) REFER TO SHEET 5, 62 AND 63 FOR TEMPORARY SIGNAGE AND PAVEMENT MARKING REQUIREMENTS.
2) WHEN TRANSITIONING BACK TO THE EXISTING VT 125 ALIGNMENT, 380 SUBBASE IS NOT REQUIRED WITHIN LIMITS DEFINED BY EXISTING VT 125 PAVEMENT EDGES.
3) THE CONTRACTOR IS HEREBY NOTIFIED THAT DIFFERENTIAL SETTLEMENT OF UP TO 200 MM IS POSSIBLE WITHIN THE NORTHERN TEMPORARY DETOUR APPROACH. THE CONTRACTOR SHALL MONITOR THE APPROACH FOR SETTLEMENT AND MAINTAIN PROPOSED DETOUR GRADES FOR THE DURATION OF THE PROJECT. FURNISH AND PLACE ADDITIONAL BITUMINOUS CONCRETE PAVEMENT AS REQUIRED OR DIRECTED BY THE ENGINEER TO MAINTAIN PAVEMENT GRADES.
4) PAYMENT FOR ITEM 528.11 TWO-WAY TEMPORARY BRIDGE WILL BE FULL COMPENSATION FOR DESIGNING, DETAILING, CONSTRUCTING, MAINTAINING, AND REMOVING THE TEMPORARY BRIDGE AND ITS APPROACHES, INCLUDING BUT NOT LIMITED TO: FURNISHING, PLACING AND REMOVING PAVEMENT AND PAVEMENT MARKINGS INCLUDING TEMPORARY PAVEMENT MARKINGS ON T.H. 33; PLACING OF ONE OR MORE APPLICTIONS OF ADDITIONAL PAVEMENTS AND PAVEMENT MARKINGS TO ADDRESS SETTLEMENT; FURNISHING, PLACING, MAINTAINING, RELOCATING AND REMOVING TEMPORARY TRAFFIC BARRIERS; FURNISHING, PLACING AND REMOVING SUBASE OF DENSE GRADED CRUSHED STONE; FURNISHING, PLACING AND REMOVING TOPSOIL, STONE FILL FOR SLOPE STABILIZATION AND TEMPORARY EROSION CONTROL MATTING AND GEOTEXTILE FOR STONE FILL FOR TEMPORARY BRIDGE; FURNISHING AND PLACING OF EARTH BORROW IN ACCORDANCE WITH SECTION 203 OF THE STANDARD SPECIFICATIONS ABOVE THE PROPOSED FINISHED PERMANENT CONDITION EMBANKMENT GRADE; REMOVAL OF TEMPORARY EMBANKMENTS TO THE PROPOSED FINISHED PERMANENT CONDITION EMBANKMENT GRADES; REMOVAL OF SAND BORROW AND GEOTEXTILE FOR ROADBED SEPARATOR; REMOVAL OF SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN WITHIN THE LIMIT OF THE TEMPORARY DETOUR EMBANKMENT TO A DEPTH OF 100 MM BELOW THE FINISHED GRADE; AND PAYMENT FOR RELOCATING THE PIEZOMETER AND FIELD CONTROL STATION.
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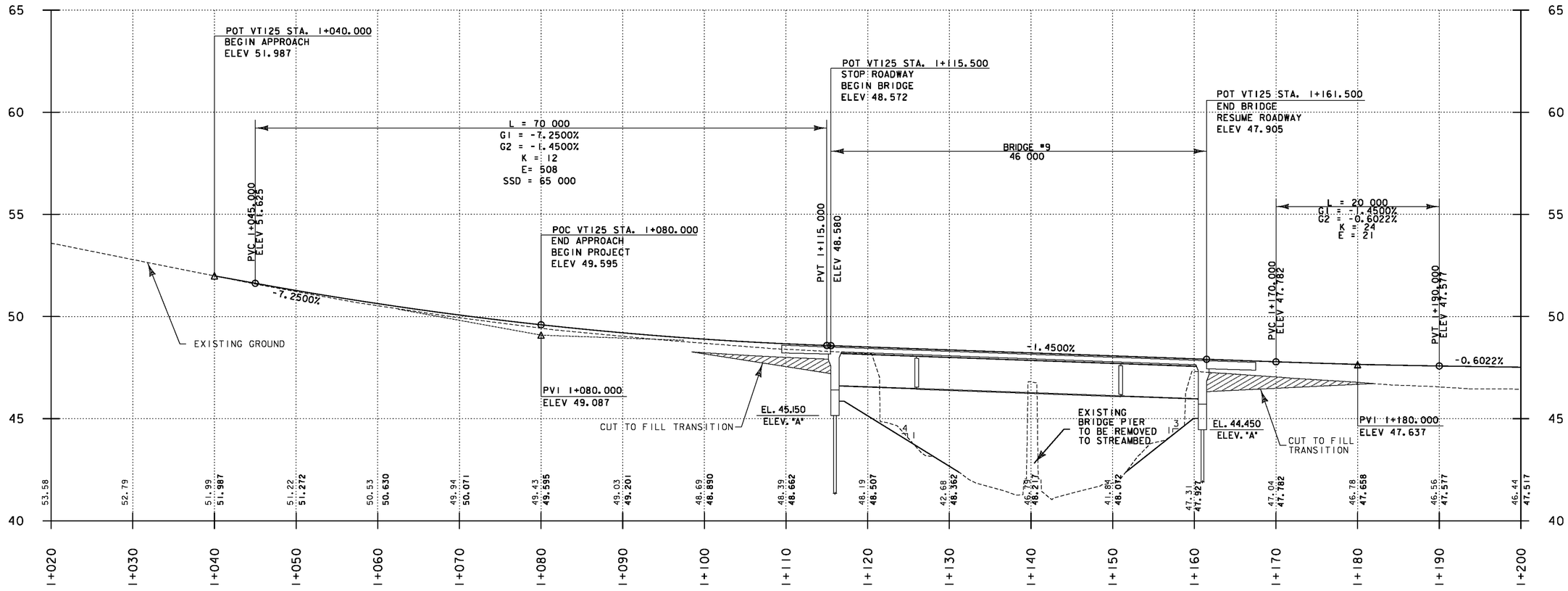
0 10 20 30

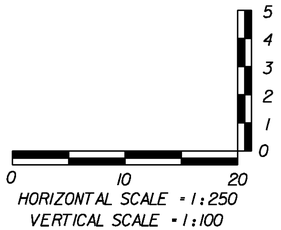
SCALE IN METERS

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042debdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/15/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TEMPORARY DETOUR LAYOUT SHEET 2	SHEET: 28 OF 144

VT 125 Profile





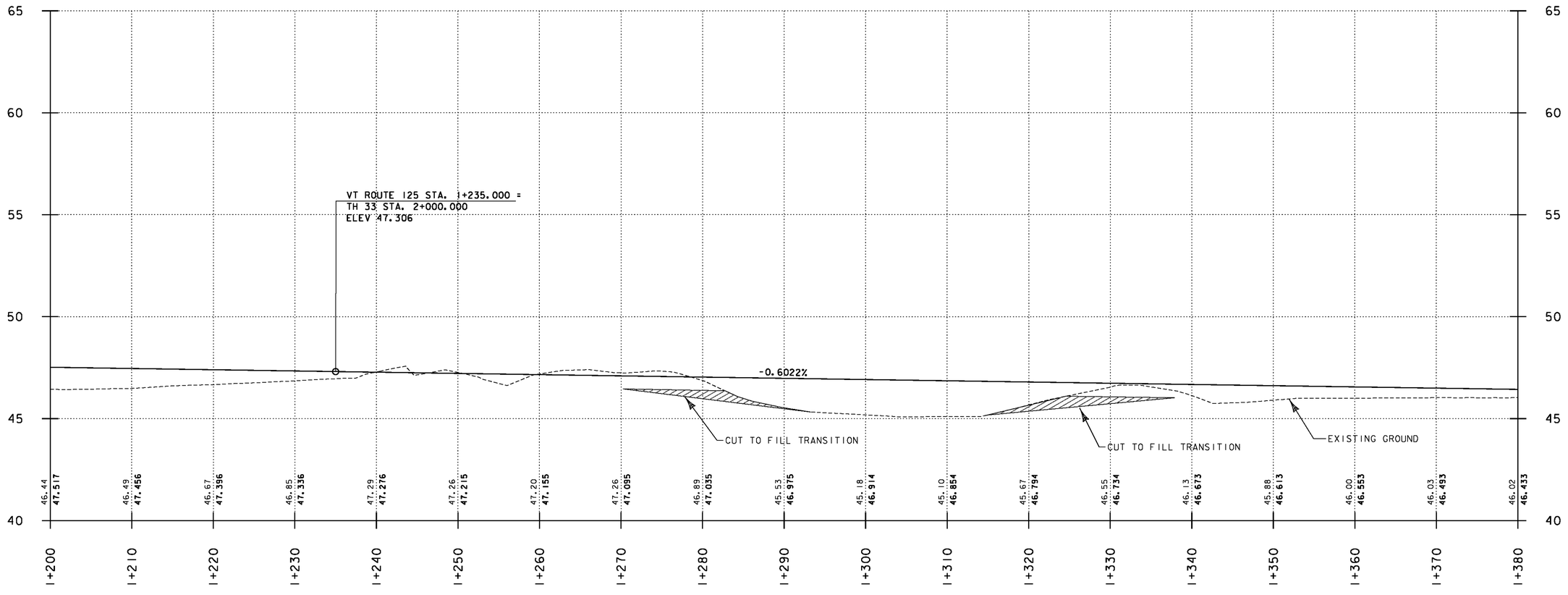
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

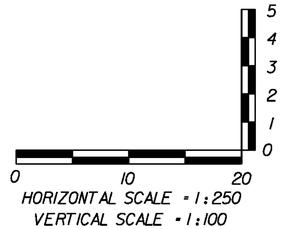
THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST THOUSANDTH ARE THE PROPOSED PROFILE GRADES FOR THE NEW ALIGNMENT.

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	
SURVEYED BY: VTRANS & VT SURVEY	PLOT DATE: 2/16/2010
SQUAD LEADER: MARTHA EVANS-MONGEON	SURVEY DATE: 1996&1999
VT 125 PROFILE SHEET 1	DRAWN BY: ERIK ATKINS
	SHEET: 29 OF 144

Metric

VT 125 Profile





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

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

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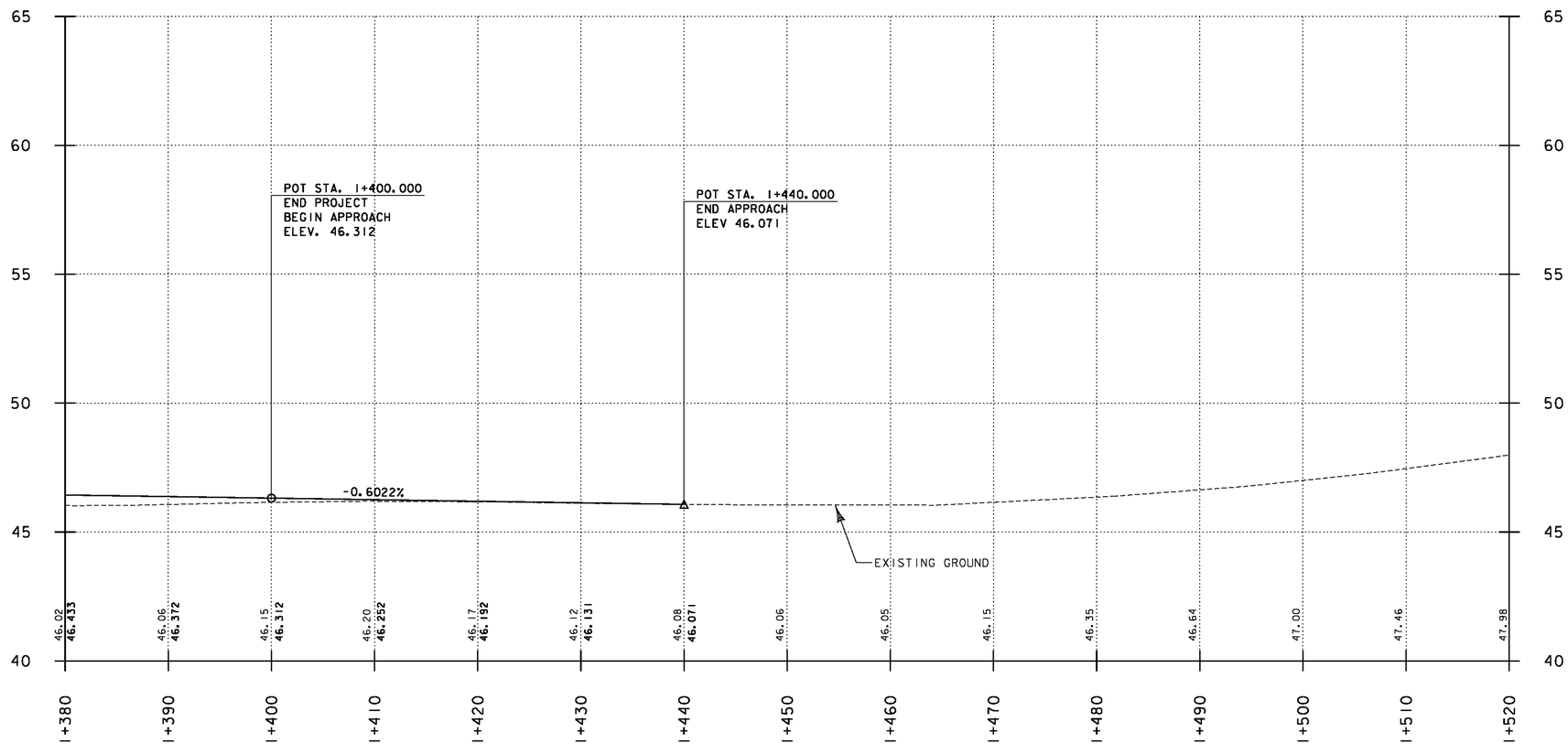
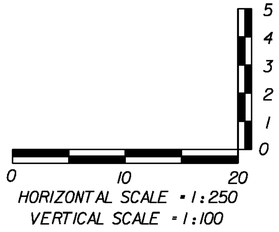
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
VT 125 PROFILE SHEET 2	SHEET: 30 OF 144

VT 125 Profile





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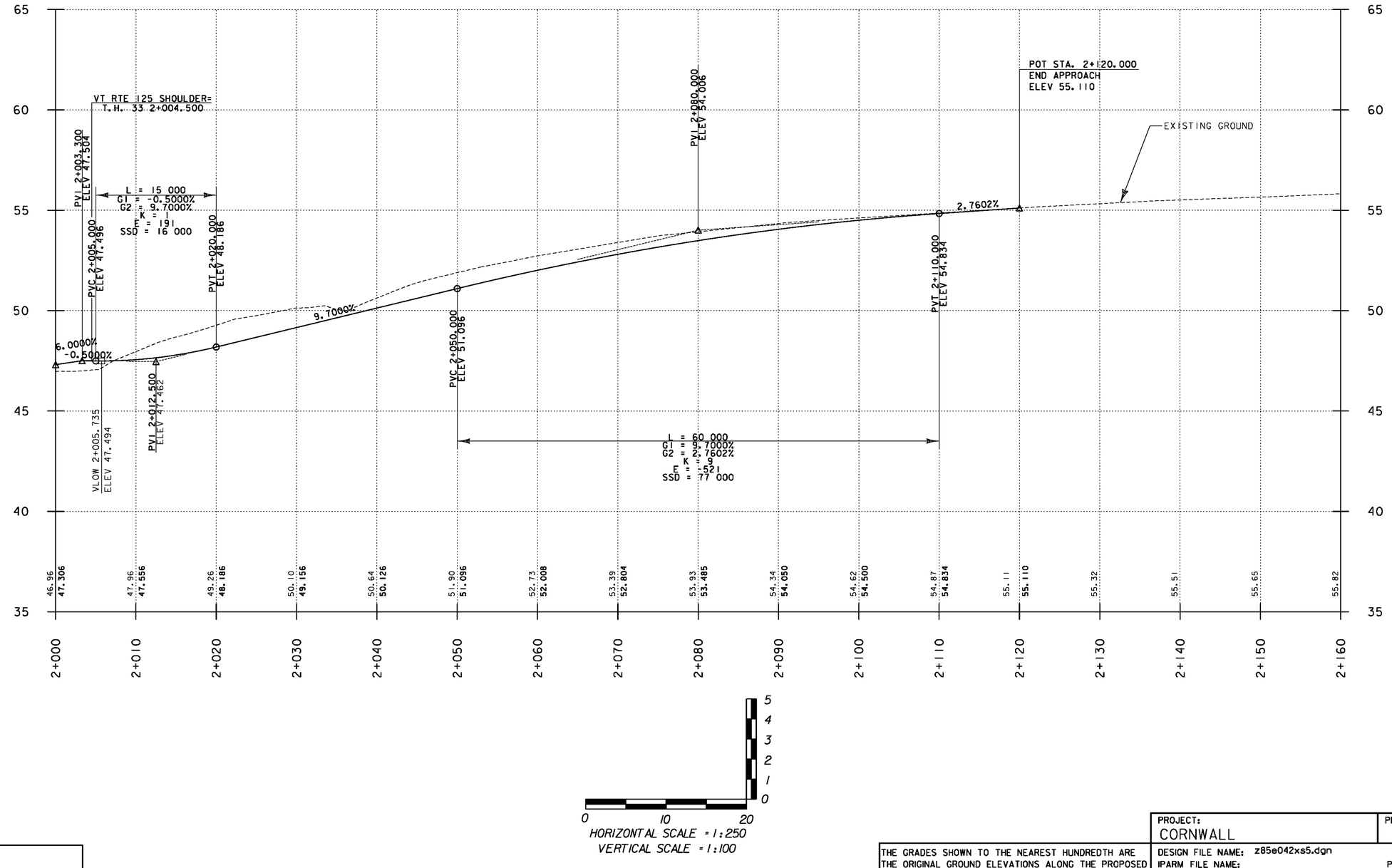
DESIGN FILE NAME: z85e042xs5.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY
SQUAD LEADER: MARTHA EVANS-MONGEON
VT 125 PROFILE SHEET 3

PLOT DATE: 2/5/2010
SURVEY DATE: 1996&1999
DRAWN BY: ERIK ATKINS
SHEET: 31 OF 144

TH33 Profile



DATUM	
VERTICAL	NAVD 88
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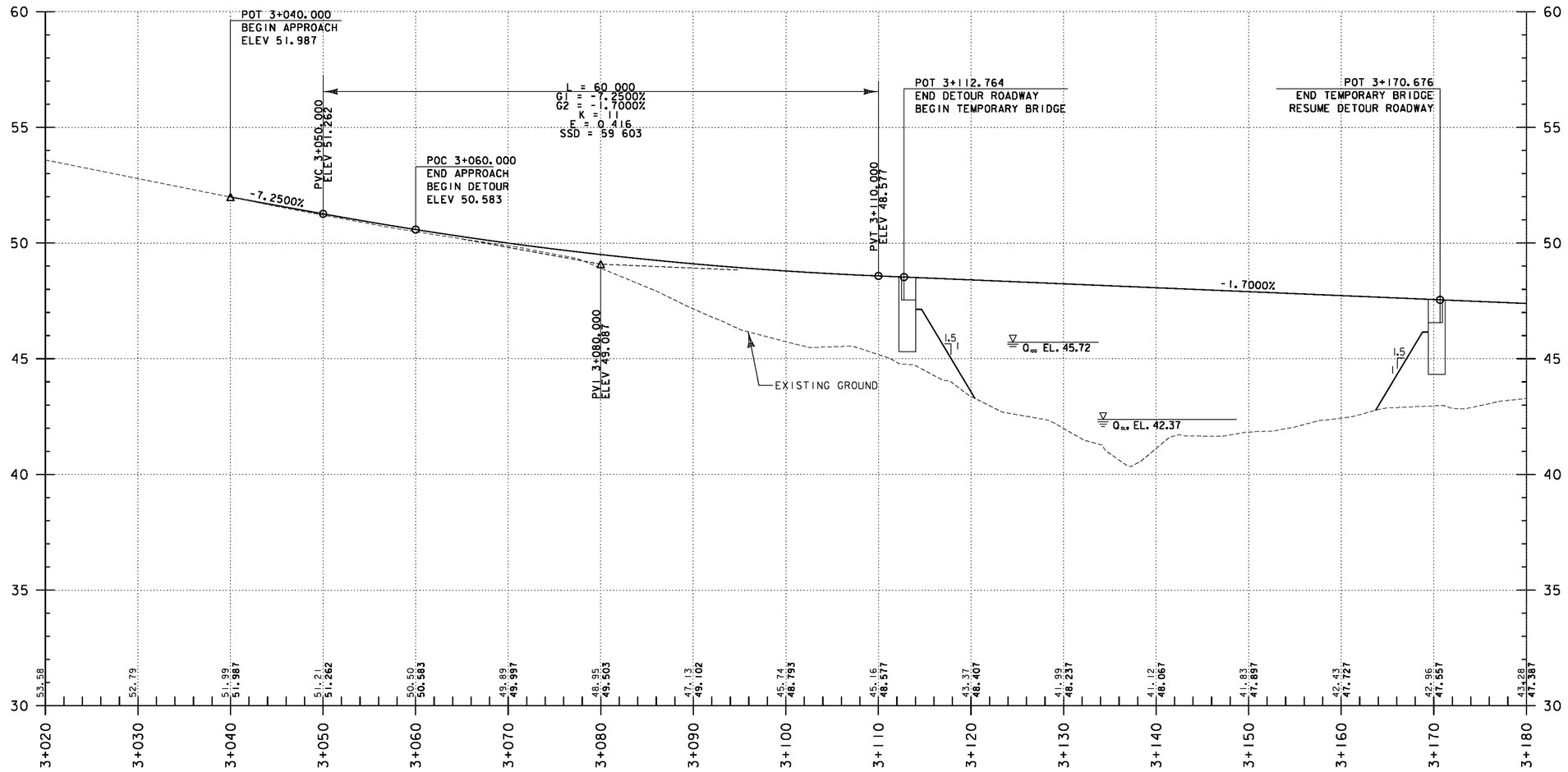
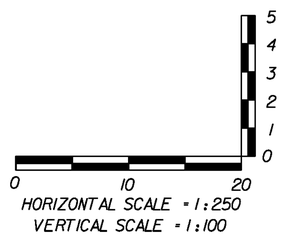
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/11/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TH 33 PROFILE SHEET	SHEET: 32 OF 144

Temporary Detour Profile





NOTE:

THE TEMPORARY DETOUR PROFILE SHOWN IS A SUGGESTED PROFILE FOR BIDDING PURPOSES. THE CONTRACTOR IS REQUIRED TO SUBMIT A DESIGN FOR THE TEMPORARY DETOUR APPROACHES AND BRIDGE TO VTRANS FOR APPROVAL IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

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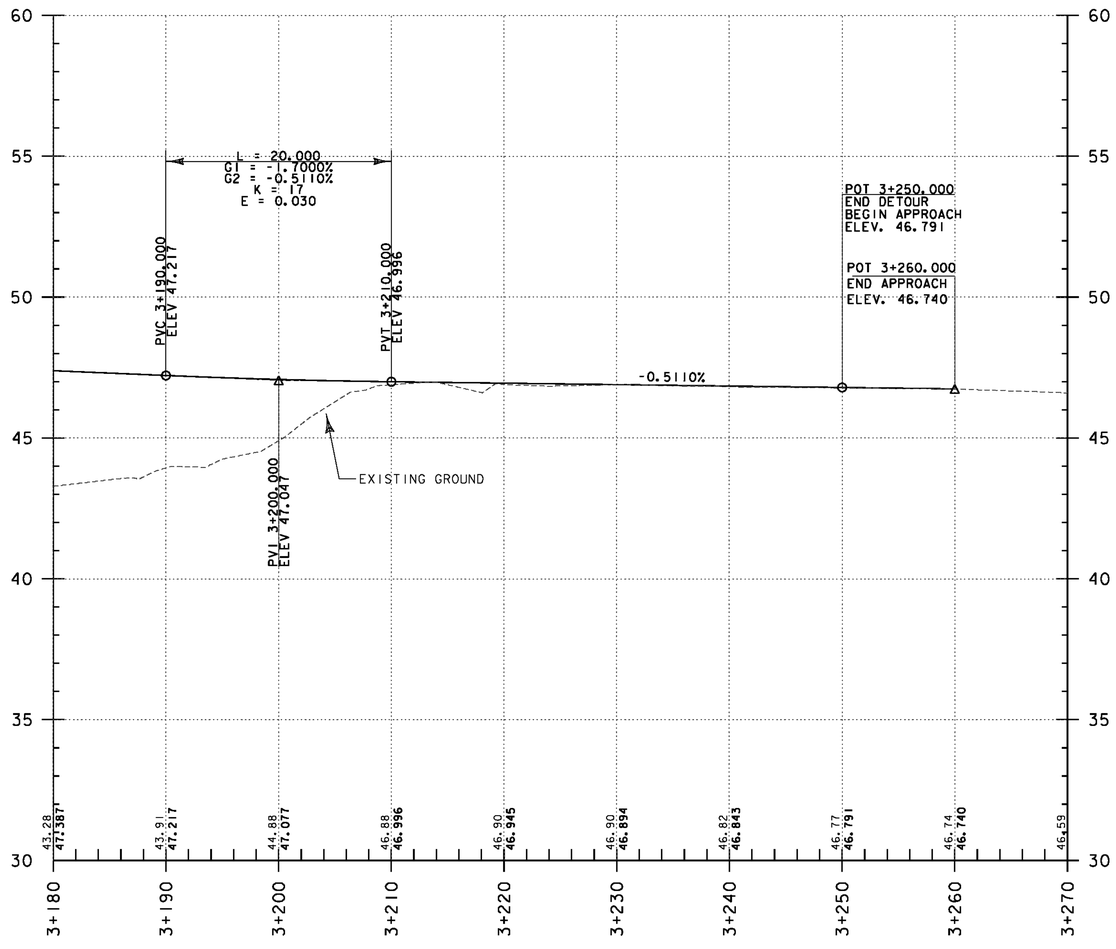
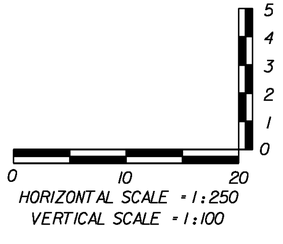
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TEMPORARY DETOUR PROFILE SHEET 1	SHEET: 33 OF 144

Temporary Detour Profile





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SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TEMPORARY DETOUR PROFILE SHEET 2	SHEET: 34 OF 144

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THE PROPOSED IMPROVEMENTS FOR VT 125 IN CORNWALL WILL INCLUDE THE REPLACEMENT OF THE EXISTING TWO-SPAN BRIDGE OVER THE LEMON FAIR RIVER IN ADDITION TO HORIZONTAL AND VERTICAL ALIGNMENT IMPROVEMENTS TO VT 125 AND TH 33. THE PROPOSED BRIDGE WILL BE LOCATED IN THE SAME LOCATION AS THE EXISTING BRIDGE. IN ADDITION TO THE BRIDGE REPLACEMENT AND ROADWAY RE-ALIGNMENT IMPROVEMENTS, THE INTERSECTION WITH TOWN HIGHWAY (TH) 33 WILL BE IMPROVED.

THE PROPOSED VT 125 WILL GENERALLY FOLLOW THE EXISTING ROADWAY ALIGNMENT NORTH OF THE LEMON FAIR RIVER; HOWEVER, THE PROPOSED HORIZONTAL ALIGNMENT SOUTH OF THE RIVER WILL BE IMPROVED TO ACCOMMODATE A HIGHER DESIGN SPEED. THE IMPROVEMENTS TO THE HORIZONTAL ALIGNMENT WILL CARRY THE PROPOSED ROADWAY FURTHER SOUTH TO ACCOMMODATE A LARGER CURVE. THE END OF TH 33 WILL BE REALIGNED TO INTERSECT THE NEW VT125 AT A PERPENDICULAR ANGLE AND TO MINIMIZE IMPACTS TO AN ARCHAEOLOGICALLY SENSITIVE AREA.

A TWO-WAY TEMPORARY DETOUR AND TEMPORARY BRIDGE IS ALSO PROPOSED TO ALLOW FOR THE CONSTRUCTION OF THE PROPOSED BRIDGE AND APPROACHES. TO LIMIT TEMPORARY WETLAND IMPACTS, THE TEMPORARY BRIDGE WILL BE LOCATED IMMEDIATELY UPSTREAM OF THE PROPOSED BRIDGE. THE TEMPORARY DETOUR BEGINS NORTH OF THE LEMON FAIR RIVER AT THE BEGINNING OF THE PROPOSED ROADWAY AND CONTINUES OVER THE RIVER AND MERGES BACK INTO THE EXISTING ROADWAY BEFORE TH 33. IT IS ANTICIPATED THAT THE TEMPORARY BRIDGE AND APPROACHES WILL BE IN PLACE FOR APPROXIMATELY ONE YEAR. THE TEMPORARY BRIDGE AND APPROACHES WILL BE REMOVED ONCE THE NEW BRIDGE AND APPROACHES ARE CONSTRUCTED. THIS PROJECT IS ESTIMATED TO LAST FOR TWO CONSTRUCTION SEASONS.

TOTAL AREA OF SITE DISTURBANCE (INCLUDING TEMPORARY IMPACTS) IS APPROXIMATELY 1.42 HECTARE (3.50 ACRES).

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)

THE PROPOSED PROJECT SITE IS APPROXIMATELY 1.42 HECTARES (3.5 ACRES) AND IS PREDOMINANTLY BORDERED BY PASTURE LAND, CLASS II WETLANDS, AND THE LEMON FAIR RIVER. THE EXISTING SITE TOPOGRAPHY IS DEFINED BY THE LEMON FAIR RIVER VALLEY. VALLEY SLOPES WITHIN THE PROJECT SITE ARE GENERALLY IN THE RANGE OF 15% TO 30% WITH FLAT AREAS LOCATED AT HIGHER ELEVATIONS AND AT THE RIVER WHERE CLASS II WETLANDS HAVE FORMED WITHIN THE 100-YEAR FLOOD PLAIN.

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

EXISTING STORMWATER RUNOFF FROM THE PROJECT SITE IS INITIALLY COLLECTED BY THE BORDERING CLASS II WETLANDS, WHICH ALSO BORDERS THE LEMON FAIR RIVER; THE RUNOFF WILL EVENTUALLY PASS THROUGH THE WETLANDS AND INTO THE LEMON FAIR RIVER; THEREFORE THE LEMON FAIR RIVER IS CONSIDERED AS THE RECEIVING WATER FOR THE PROJECT. THE LEMON FAIR RIVER IS NOT AN OUTSTANDING RESOURCE WATER ACCORDING TO THE WATER RESOURCES PANEL AND IT IS ALSO NOT A CLASS A WATER, OR AN IMPAIRED WATER IN NEED OF TMDL ACCORDING TO THE 303(d) LIST PART A, 2004. THE PROJECT SITE IS IN CLOSE PROXIMITY TO CLASS II WETLANDS; TEMPORARY AND PERMANENT IMPACTS TO THE CLASS II WETLANDS ARE ANTICIPATED. THERE ARE ALSO TWO EXISTING CULVERTS UNDER VT 125 WITHIN THE PROJECT SITE WHICH COLLECTS RUNOFFS FROM THE CLASS II WETLANDS LOCATED SOUTH OF VT125 AND DISCHARGES TO THE LEMON FAIR RIVER. NEW CULVERTS ARE PROPOSED TO REPLACE THE EXISTING CULVERTS TO ACCOMMODATE THE ROADWAY ALIGNMENT IMPROVEMENTS WHILE MAINTAINING THE EXISTING DRAINAGE PATTERNS.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

FROM THE PROJECT BEGINNING, THE EXISTING VT 125 DESCENDS SOUTH TOWARDS THE RIVER AT A SLOPE OF APPROXIMATELY 7%. IN THIS AREA THE EXISTING EMBANKMENT SLOPES ARE GENERALLY 3H:1V BUT ARE AS STEEP AS 2H:1V AT THE RIVER. THE EXISTING PROFILE GRADE OF VT 125 FOR THE PORTION SOUTH OF THE RIVER IS MUCH MORE FLAT WITH PROFILE GRADES LESS THAN 1%. ROADSIDE DITCHES ARE GENERALLY SUBSTANDARD AND FOLLOW THE EXISTING PROFILE GRADE OF THE ROADWAY. THE ROADWAY EMBANKMENTS ON THE NORTH SIDE OF VT 125 ARE GENERALLY SHALLOW. THE EXISTING HILLSIDE (SOUTH SIDE OF VT 125) SLOPES TOWARDS VT 125 AND IS MARKED WITH TWO TO THREE STREAMLETS WHICH CONVEY STORMWATER RUNOFF TO THE EXISTING CULVERTS UNDER VT 125. TH 33 DESCENDS TO THE EXISTING INTERSECTION WITH VT 125 AT A SLOPE OF APPROXIMATELY 10%. SUBSTANDARD ROADSIDE DITCHES GENERALLY PARALLEL BOTH SIDES OF TH 33 AS IT APPROACHES VT 125. THERE ARE NO EXISTING BUILDINGS LOCATED WITHIN THE PROJECT SITE. THERE ARE EXISTING AERIAL AND UNDERGROUND UTILITY CABLES LOCATED WITHIN THE PROJECT SITE AND UTILITY RELOCATION BY THE UTILITY OWNER IS ANTICIPATED.

1.2.4 VEGETATION

THE EXISTING EMBANKMENTS ALONG VT 125 ARE GENERALLY WELL VEGETATED WITH GRASSES, SHRUBS, AND TREES AND SHOW NO SIGNIFICANT SIGNS OF EROSION. THE EXISTING ROADSIDE GRASS DITCHES ARE ERODED IN SOME AREAS BECAUSE THEY ARE NOT HYDRAULICALLY ADEQUATE. THE WEST SIDE OF TH 33 IS MAINLY OPEN PASTURELAND WHILE THE EAST SIDE IS GENERALLY WHAT APPEARS TO BE OVERGROWN PASTURELAND WITH TREES, SHRUBS, AND GRASSES. THE ROADSIDE GRASS DITCHES SHOW NO SIGNIFICANT SIGNS OF EROSION. ALL VEGETATION WITHIN THE PROPOSED DISTURBANCE AREAS SHALL BE REMOVED. SEED AND MULCH SHALL BE USED TO RE-ESTABLISH THE DISTURBED AREAS. SEEDING SHALL CONFORM TO THE VTRANS STANDARD RURAL SEEDING FORMULA.

1.2.5 SOILS

A REVIEW OF THE NATIONAL RESOURCES CONSERVATION SERVICE (NRCS) SOIL SURVEY MAPS WAS CONDUCTED TO DETERMINE THE TYPES AND LOCATIONS OF THE SOILS UNDERLYING THE PROJECT AREA. SOIL SURVEY GIS DATA FROM THE VERMONT CENTER FOR GEOGRAPHIC INFORMATION (VCGI) WAS DOWNLOADED AND OVERLAID ONTO THE DESIGN PLANS TO DETERMINE THE EXTENTS OF THE SOILS. THE ENTIRE PROJECT SITE IS UNDERLAIN WITH SOILS CHARACTERIZED AS HAVING HIGH SOIL ERODABILITY COEFFICIENTS ('K' VALUE). ALL OF THE SOILS HAVE A 'K' VALUE OF 0.49. IN ADDITION, THE COVINGTON AND LIVINGTON CLAYS ARE POORLY DRAINED WHILE VERGENNES CLAYS ARE MODERATELY WELL DRAINED. TABLE 1 OUTLINES THE SOILS THAT WERE DETERMINED TO BE LOCATED WITHIN THE PROPOSED PROJECT LIMITS.

TABLE 1 - SOIL TYPES

Sta ~ Sta	Designation (musym)	Name (compname)	Hyd. Group	Drainage
1+040~1+115.5	VgD	Vergennes Clay 12-25% Slope	C	Moderately Well Drained
1+161.5~1+200	Lk	Livingston Clay, Flooded	D	Very Poorly Drained
1+200~1+240	VgD	Vergennes Clay, 12-25% Slope	C	Moderately Well Drained
1+240~1+440	VgC	Vergennes Clay, 6-12% Slope	C	Moderately Well Drained
TH33 2+000~2+035	VgC	Vergennes Clay, 6-12% Slope	C	Moderately Well Drained
TH33 2+035~2+120	VgB	Vergennes Clay, 2-6% Slope	C	Moderately Well Drained

THE COVINGTON AND LIVINGSTON CLAYS ARE EACH FOUND NEAR THE RIVER IN THE LOWER FLOODED REGIONS THAT ARE CLASS II WETLANDS. THE MAJORITY OF THE DISTURBED SITE WILL BE OVER VERGENNES CLAYS.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING: K<0.22 = LOW EROSION POTENTIAL; 0.22<K<0.37 = MODERATE EROSION POTENTIAL; K>0.37 = HIGH EROSION POTENTIAL.

1.2.6 SENSITIVE RESOURCE AREAS

A CATEGORICAL EXCLUSION ENVIRONMENTAL ANALYSIS SHEET WAS COMPLETED FOR THIS PROJECT.
CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: YES
PRIME AGRICULTURAL LAND: YES
THREATENED AND ENDANGERED SPECIES: YES
WATER RESOURCE: LEMON FAIR RIVER
WETLANDS: CLASS II WETLANDS

1.3 CONSTRUCTION SEQUENCE

THE CONTRACTOR SHALL FOLLOW THE PROJECT SEQUENCE PROVIDED ON SHEET 86 AS SUMMERIZED BELOW OR DEVELOP ONE THAT MUST BE APPROVED BY THE ENGINEER.
PHASE 1:
1. CLEAN AND GRUB AREAS OF PROPOSED DETOUR EMBANKMENT.
2. CONSTRUCT SOUTHERN DETOUR EMBANKMENT.
3. CONSTRUCT NORTHERN DETOUR EMBANKMENT AND TEMPORARY BRIDGE.
4. DIVERT MAINLINE TRAFFIC TO DETOUR ALIGNMENT.
PHASE 2:
5. DEMOLISH EXISTING BRIDGE AND ABUTMENTS
6. CONSTRUCT PROPOSED BRIDGE ABUTMENTS, WINGWALLS, SUPERSTRUCTURE, AND MAINLINE APPROACHES.
7. DIVERT DETOUR TRAFFIC TO MAINLINE ALIGNMENT.
8. REMOVE TEMPORARY BRIDGE AND RECONSTRUCT DETOUR EMBANKMENTS TO FINAL CONDITIONS.

1.4 RISK EVALUATION

THE PROJECT IMPACT AREA IS GREATER THAN ONE ACRE; THEREFORE, THIS PROJECT FALLS UNDER THE JURISDICTION OF CONSTRUCTION GENERAL PERMIT 3-9020 (2006). THE PROJECT RISK WAS EVALUATED UTILIZING APPENDIX A OF THE GENERAL PERMIT 3-9020 (2006). UNDER PART I - BASIC RISK EVALUATION, THE PROJECT OBTAINED A SCORE OF 2 DUE TO THE FOLLOWING FACTORS: THE PROJECT WILL DISTURB MORE THAN 2 ACRES OF LAND AND THE PROJECT WILL HAVE STORMWATER DISCHARGES FROM THE CONSTRUCTION SITE TO THE RECEIVING WATER THAT DO NOT FIRST PASS THROUGH A 50 FT VEGETATED BUFFER AREA. UNDER PART II - DETAILED RISK EVALUATION, THE PROJECT OBTAINED A SCORE OF 2 DUE TO THE PROJECT HAVING MORE THAN ONE ACRE OF DISTURBANCE ON BOTH THE SOILS THAT ARE GREATER THAN 15% SLOPE AND THE SOILS WITH A HIGH (K>0.36) ERODIBILITY RATING. UNDER THE DETAILED RISK MITIGATION FACTOR EVALUATION, THE PROJECT OBTAINED A SCORE OF 2 BY LIMITING THE CONCURRENT EARTH DISTURBANCE TO 2 ACRES OR LESS AND BY SPECIFYING A MAXIMUM OF 7 CONSECUTIVE DAYS BEFORE TEMPORARY OR FINAL STABILIZATION OF DISTURBED EARTH. THE OVERALL RISK SCORE ACHIEVED IS 2, WHICH CLASSIFIES THE PROJECT AS A MODERATE RISK PROJECT.

ANY MODIFICATIONS TO THE PROJECT SHALL RESULT IN A RE-EVALUATION OF THE RISK AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-FILING SHOULD THE RISK CHANGE.

1.5 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS AND PROJECT SPECIFICATIONS DEPICT THE PROPOSED EROSION CONTROL MEASURES TO BE EMPLOYED AS PART OF THE PROJECT. THESES MEASURES ARE UTILIZED TO LIMIT SEDIMENT TRANSPORT DURING CONSTRUCTION AND TO PREVENT EROSION UNDER FINAL CONDITIONS. IT IS CRITICAL THAT THESE MEASURES ARE IMPLEMENTED AND MAINTAINED FOR THE DURATION OF THE PROJECT IN ORDER TO SUSTAIN THE DESIGNATED RISK EVALUATION. ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

IT IS ANTICIPATED THAT CONSTRUCTION STAGING CAN BE ACCOMPLISHED WITHIN THE EXISTING LIMITS OF WORK. ALL MATERIAL HANDLING AND DISPOSAL WORK SHALL BE IN ACCORDANCE WITH SECTION 105 OF THE STANDARD SPECIFICATIONS AND THE VERMONT AGENCY OF NATURAL RESOURCES (VANR) REQUIREMENTS. WHEREVER POSSIBLE, EXCAVATED SOIL MATERIAL SHALL BE RE-USED WHEN APPROVED BY AND AT THE DISCRETION OF THE ENGINEER TO FORM EMBANKMENTS AND AS OTHER BORROW MATERIALS. EXCESS MATERIALS SHALL BE DISPOSED OF IN WASTE SITES APPROVED BY THE AGENCY TO RECEIVE THESE MATERIALS. THE CONTRACTOR SHALL SUBMIT TO THE AGENCY, FOR REVIEW AND APPROVAL, A "WASTE BORROW STAGING REVIEW SHEET" FOR EACH DISPOSAL SITE(S) HE/SHE WISHES TO USE FOR THIS PROJECT. ANY ADDITIONAL PERMITTING REQUIRED FOR THE DISPOSAL SITES OR PROOF OF COMPLIANCE FOR THESE WASTE SITES MUST BE FURNISHED BY THE CONTRACTOR PRIOR TO USE. TEMPORARY AND PERMANENT STABILIZATION OF ALL STAGING AREAS AND WASTE DISPOSAL AREAS SHALL BE IN ACCORDANCE WITH SECTION 105 OF THE STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH THE CGP-9020 AND VANR REQUIREMENTS.

1.5.1 MARK SITE BOUNDARIES

PROJECT DEMARCATION FENCING, DENOTED -PDF- ON THE PLANS IS USED TO DELINEATE A PHYSICAL BOUNDARY TO WHICH THE CONTRACTOR MUST NOT DISTURB BEYOND. THE PDF MUST BE INSTALLED PRIOR TO THE START OF CONSTRUCTION. WHENEVER DAMAGED, THE CONTRACTOR MUST IMMEDIATELY REPAIR THE PDF.

1.5.2 LIMIT DISTURBANCE AREA

THE CONTRACTOR SHALL LIMIT CONCURRENT EARTH DISTURBANCE TO 2 ACRES OR LESS AT ANY ONE TIME.

1.5.3 STABILIZED CONSTRUCTION EXIT

STABILIZED CONSTRUCTION ENTRANCES (VEHICLE TRACKING PAD) SHALL BE INSTALLED AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

1.5.4 INSTALL SILT FENCE

SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. WOVEN WIRE REINFORCED SILT FENCE SHALL BE REQUIRED WITHIN 30 000 UPSLOPE OF RECEIVING WATERS.

1.5.5 DIVERT UPLAND RUNOFF

DUE TO EXISTING SITE TOPOGRAPHY AND DRAINAGE PATTERNS, SIGNIFICANT UPLAND RUNOFF IS NOT ANTICIPATED TO FLOW OVER DISTURBED SURFACES. IN ADDITION, TEMPORARY STONE CHECK DAMS SHALL BE INSTALLED AS SHOWN ON THE PLANS TO DIVERT UPLAND RUNOFF.

1.5.6 SLOW DOWN CHANNELIZED RUNOFF

STONE CHECK DAMS SHALL BE INSTALLED AS SHOWN ON THE PLANS.
STONE LINED DITCHES SHALL BE INSTALLED WHERE INDICATED ON THE PLANS.

1.5.7 CONSTRUCT PERMANENT CONTROLS

TYPE I AND II STONE FOR SLOPE LINING AND CHANNEL PROTECTION
SEED AND MULCH
PERMANENT EROSION MATTING FOR GRASS CHANNEL LINING
TEMPORARY EROSION MATTING FOR SLOPE STABILIZATION
PERMANENT STONE CHECK DAMS
HEADWALLS AND DRAINAGE PIPE ENDS
STREAM BANK VEGETATION WILL BE INTRODUCED IN THE GRUBBING MATERIAL THAT IS TO BE PLACED OVER THE STREAM BANK STONE FILL AND AT CULVERT INLETS.

1.5.8 STABILIZE EXPOSED SOILS

THE CONTRACTOR SHALL IMMEDIATELY ROUGHEN ALL DISTURBED SOIL SURFACES TO THE SATISFACTION OF THE ENGINEER BY THE USE OF TRACK DRIVEN BULLDOZERS, SHEEPSFOOT ROLLERS OR OTHER APPROVED METHODS. THE CONTRACTOR SHALL APPLY DUST CONTROL MEASURES OVER EXPOSED SURFACES NOT INTENDED TO BE VEGETATED.

SEED AND MULCH (TEMPORARY SEEDING SHALL BE WINTER RYE; PERMANENT SEEDING SHALL CONFORM TO THE VTRANS STANDARD RURAL SEEDING FORMULA; SEEDING AND MULCHING SHALL CONFORM TO THE VTRANS STANDARD APPLICATION RATES AND PROCEDURES AS STIPULATED UNDER THE GENERAL NOTES ON SHEET 3.)

TEMPORARY EROSION MATTING SHALL BE PLACED ON ALL SLOPES EQUAL TO OR GREATER THAN 3H:1V.
ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY OR FINAL STABILIZATION WITHIN 7 DAYS OF THE INITIAL DISTURBANCE. AFTER THIS TIME, ANY DISTURBANCE IN THE AREA MUST BE STABILIZED AT THE END OF EACH WORK DAY. THE FOLLOWING EXCEPTIONS APPLY:

i) STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECAST FOR THE NEXT 24 HOURS.
ii) STABILIZATION IS NOT REQUIRED IF THE WORK IS OCCURRING IN A SELF-CONTAINED EXCAVATION WITH A DEPTH OF 600 OR GREATER.

1.5.9 WINTER STABILIZATION

THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A WINTER EPSC PLAN TO VANR AND THE ENGINEER FOR APPROVAL IF THE CONTRACTOR PROPOSES LAND DISTURBANCE BETWEEN OCTOBER 15 AND APRIL 15. TO ASSURE A VIGOROUS CATCH OF VEGETATIVE COVER, SEEDING AND MULCHING SHALL BE COMPLETED BY SEPTEMBER 15TH TO THE EXTENT POSSIBLE, OR AS DIRECTED BY THE ENGINEER.

1.5.10 STABILIZE SOIL AT FINAL GRADE

SEED AND MULCH (TEMPORARY SEEDING SHALL BE WINTER RYE; PERMANENT SEEDING SHALL CONFORM TO THE VTRANS STANDARD RURAL SEEDING FORMULA).

TEMPORARY EROSION MATTING SHALL BE USED TO STABILIZE ALL SLOPES EQUAL TO OR GREATER THAN 3H:1V OR WITH STONE FILL FOR SLOPE STABILIZATION WHERE INDICATED ON THE PLANS.

1.5.11 DE-WATERING ACTIVITIES

FILTER BAGS OR ENGINEER APPROVED EQUAL METHOD SHALL BE REQUIRED FOR ALL DEWATERING OPERATIONS. THEIR PLACEMENT, MAINTENANCE AND USE SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

1.5.12 INSPECT AND MAINTAIN YOUR SITE

THE ON-SITE PLAN COORDINATOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL STRUCTURES AND MEASURES AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND AS SOON AS POSSIBLE BUT NOT MORE THAN 24 HOURS AFTER ANY STORM EVENT. INSPECTION FREQUENCY MAY BE REDUCED TO LESS THAN ONE (1) PER MONTH IF THE ENTIRE SITE IS TEMPORARY STABILIZED. ALL EROSION AND SEDIMENT CONTROL STRUCTURES AND MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED FOR THE DURATION OF THE PROJECT. ACCUMULATED SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED WASTE SITE.

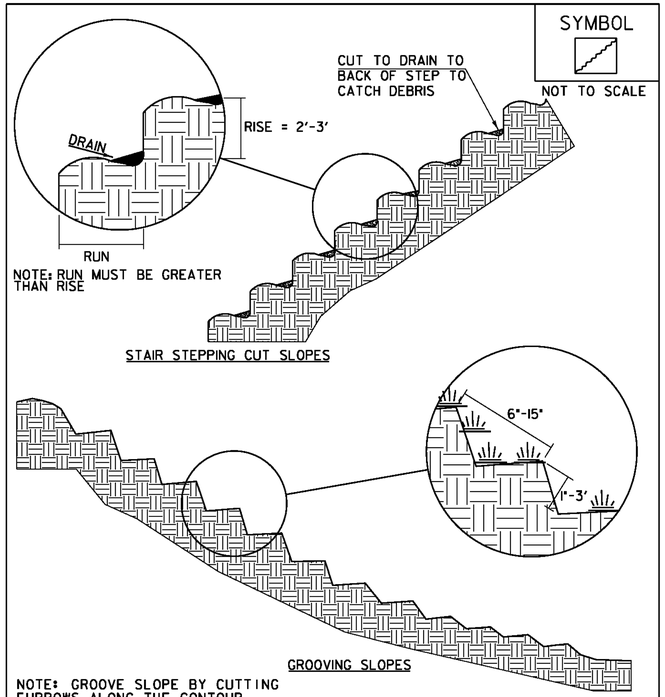
DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT: CORNWALL
PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042ecnarr.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY
SQUAD LEADER: MARTHA EVANS-MONGEON
EPSC NARRATIVE
PLOT DATE: 2/11/2010
SURVEY DATE: 1996&1999
DRAWN BY: W. WONG
SHEET: 35 OF 144

Metric

SYMBOL

NOT TO SCALE



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

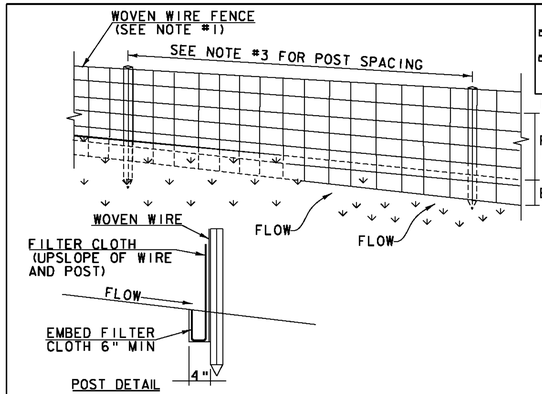
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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



SYMBOL

SILT FENCE

SILT FENCE WOVEN WIRE

NOT TO SCALE

FILTER CLOTH 16" MIN

EMBED 6"MIN

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

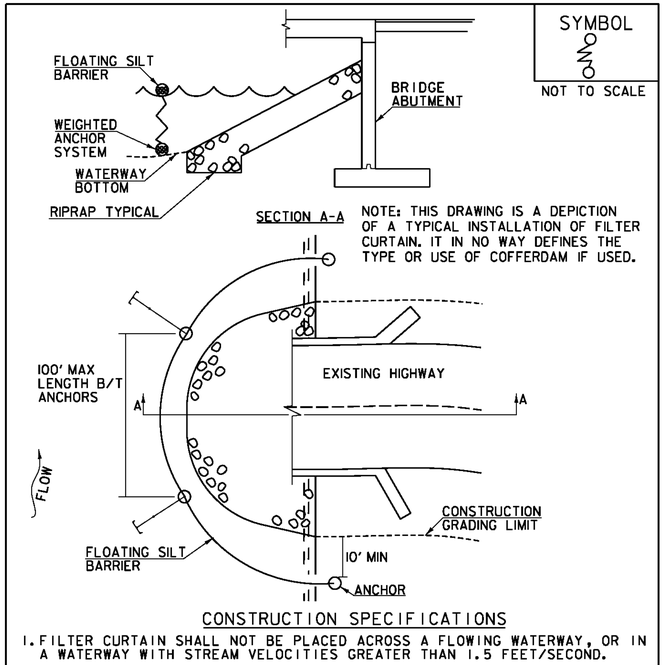
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

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

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

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



SYMBOL

NOT TO SCALE

NOTE: THIS DRAWING IS A DEPICTION OF A TYPICAL INSTALLATION OF FILTER CURTAIN. IT IN NO WAY DEFINES THE TYPE OR USE OF COFFERDAM IF USED.

CONSTRUCTION SPECIFICATIONS

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

FILTER CURTAIN

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

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

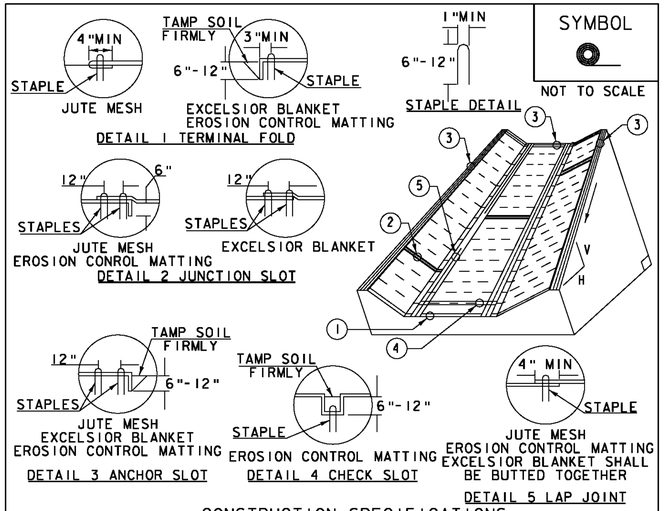
DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

DETAILS ARE NOT TO SCALE

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042erodets.DGN
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY
SQUAD LEADER: MARTHA EVANS-MONGEON
EPSC DETAIL SHEET 1
PLOT DATE: 2/5/2010
SURVEY DATE: 1996&1999
DRAWN BY: W. WONG
SHEET: 36 OF 144

Metric



SYMBOL

NOT TO SCALE

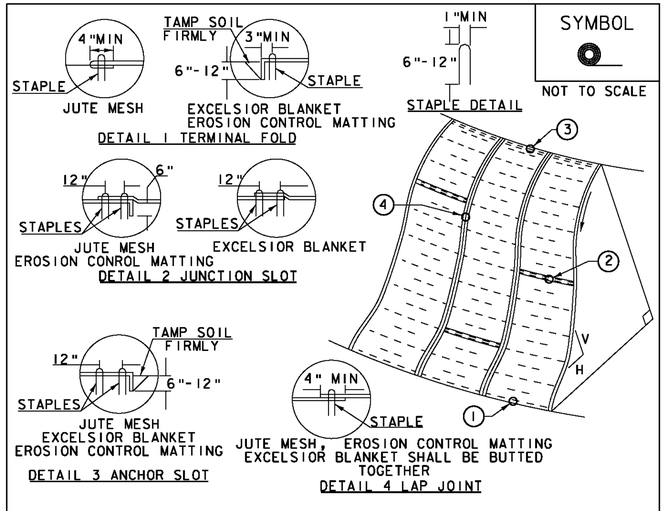
CONSTRUCTION SPECIFICATIONS

1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
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) DITCH

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

REVISIONS	
MARCH 8, 2007	JMF
APRIL 16, 2007	WHF
JANUARY 13, 2009	WHF



SYMBOL

NOT TO SCALE

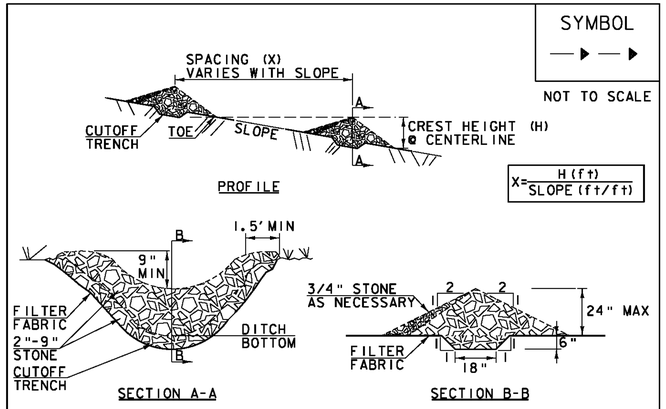
CONSTRUCTION SPECIFICATIONS

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

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

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

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

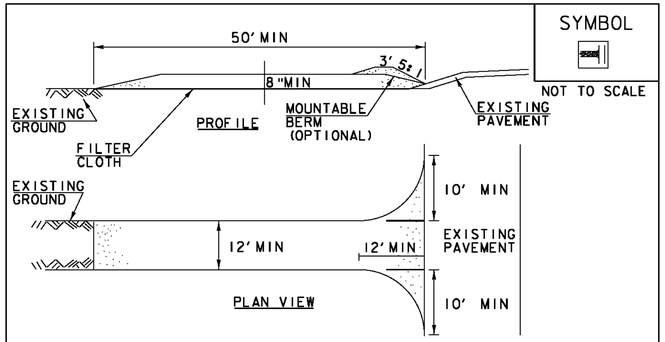
REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

DETAILS ARE NOT TO SCALE

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042erodets.DGN	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: W. WONG
EPSC DETAIL SHEET 2	SHEET: 37 OF 144

Metric



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

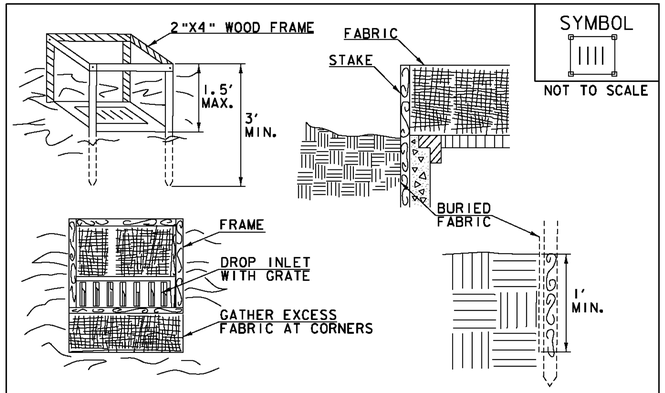
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STABILIZED CONSTRUCTION ENTRANCE

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

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

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3'.
4. SPACE STAKES EVENLY AROUND INLET 3' APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRE

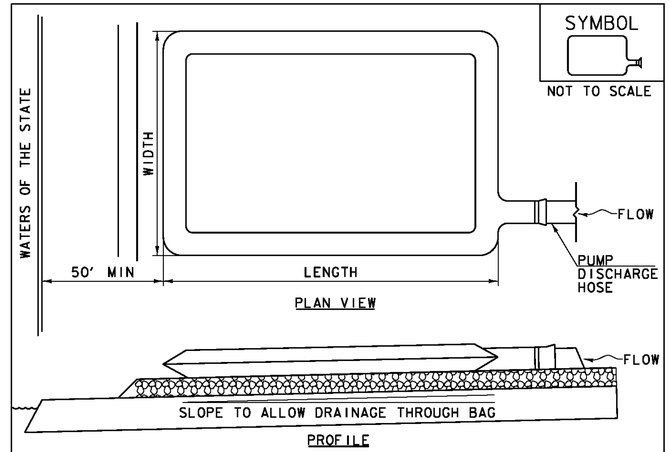
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FILTER FABRIC DROP INLET PROTECTION

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).

REVISIONS	
MARCH 7, 2008	WHF
JANUARY 13, 2009	WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

FILTER BAG

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

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

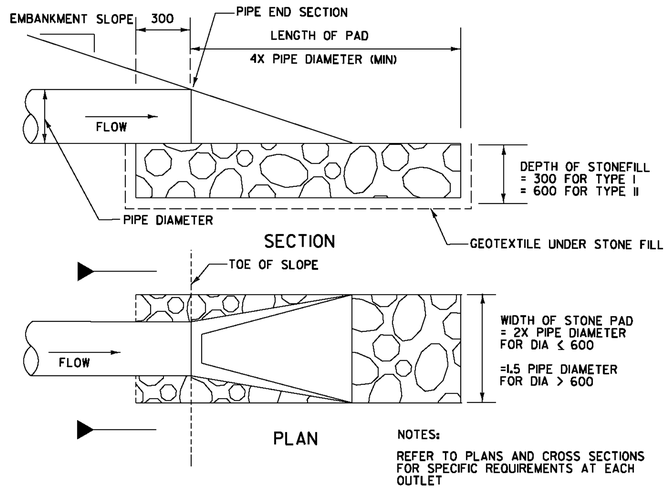
REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

DETAILS ARE NOT TO SCALE

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042erodets.DGN
IPARM FILE NAME:
PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY
SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON
DRAWN BY: W. WONG
EPSC DETAIL SHEET 3
SHEET: 38 OF 144



TYPICAL PIPE OUTLET PROTECTION

EROSION CONTROL LEGEND

- BARRIER FENCE
- BRANCH PACKING
- BRUSH LAYER
- TEMPORARY CHECK DAMS (SPACED AS INDICATED ON PLANS)
- CONSTRUCTION ROAD STABILIZATION
- CURB DROP INLET PROTECTION
- DIVERSION
- DUST CONTROL
- EARTH DIKE
- EXCAVATED DROP INLET PROTECTION
- FIBER ROLL
- FILTER FABRIC DROP INLET PROTECTION
- GRADE STABILIZATION STRUCTURE
- GRASSED WATERWAY
- LINED WATERWAY
- LIVE CUTTINGS/LIVE STAKES PLANTING
- LIVE FASCINE
- OPTIONAL SEDIMENT TRAP DEWATERING DEVICE
- PAVED FLUME
- PERIMETER DIKE OR SWALE
- PIPE OUTLET SEDIMENT TRAP
- PIPE SLOPE DRAIN FLEXIBLE
- RIP RAP OUTLET PROTECTION
- ROCK DAM
- ROLLED EROSION CONTROL PRODUCT (RECP)
- SEDIMENT BASIN
- SEDIMENT TRAP
- SEGMENTED RETAINING WALL
- SILT FENCE
- SILT FENCE, WOVEN WIRE REINFORCED
- STABILIZED CONSTRUCTION ENTRANCE
- STONE & BLOCK DROP INLET PROTECTION STRUCTURE
- SURFACE ROUGHENING
- TEMPORARY SWALE
- FILTER CURTAIN
- WATER BAR
- VEHICLE TRACKING PAD
- INDIVIDUAL STONE CHECK DAM (TEMPORARY UNLESS OTHERWISE NOTED)
- APPROXIMATE LOCATION OF FILTER BAG
- DITCH FLOW
- LIMIT OF WORK
- PROPOSED 5m INTERVAL CONTOUR
- PROPOSED 1m INTERVAL CONTOUR
- STONE LINED DITCH
- GRASS LINED DITCH W/PERMANENT EROSION MATTING
- PROJECT DEMARCATION FENCING (LIMIT OF DISTURBANCE)
- ARCHAEOLOGICALLY SENSITIVE AREA
- SOIL TYPE BOUNDARY
- EXISTING 5m INTERVAL CONTOUR
- EXISTING 1m INTERVAL CONTOUR
- EXIST. PROPERTY/ROW LINE
- WETLAND
- EDGE OF WATER
- WETLAND BUFFER
- RIPARIAN BUFFER

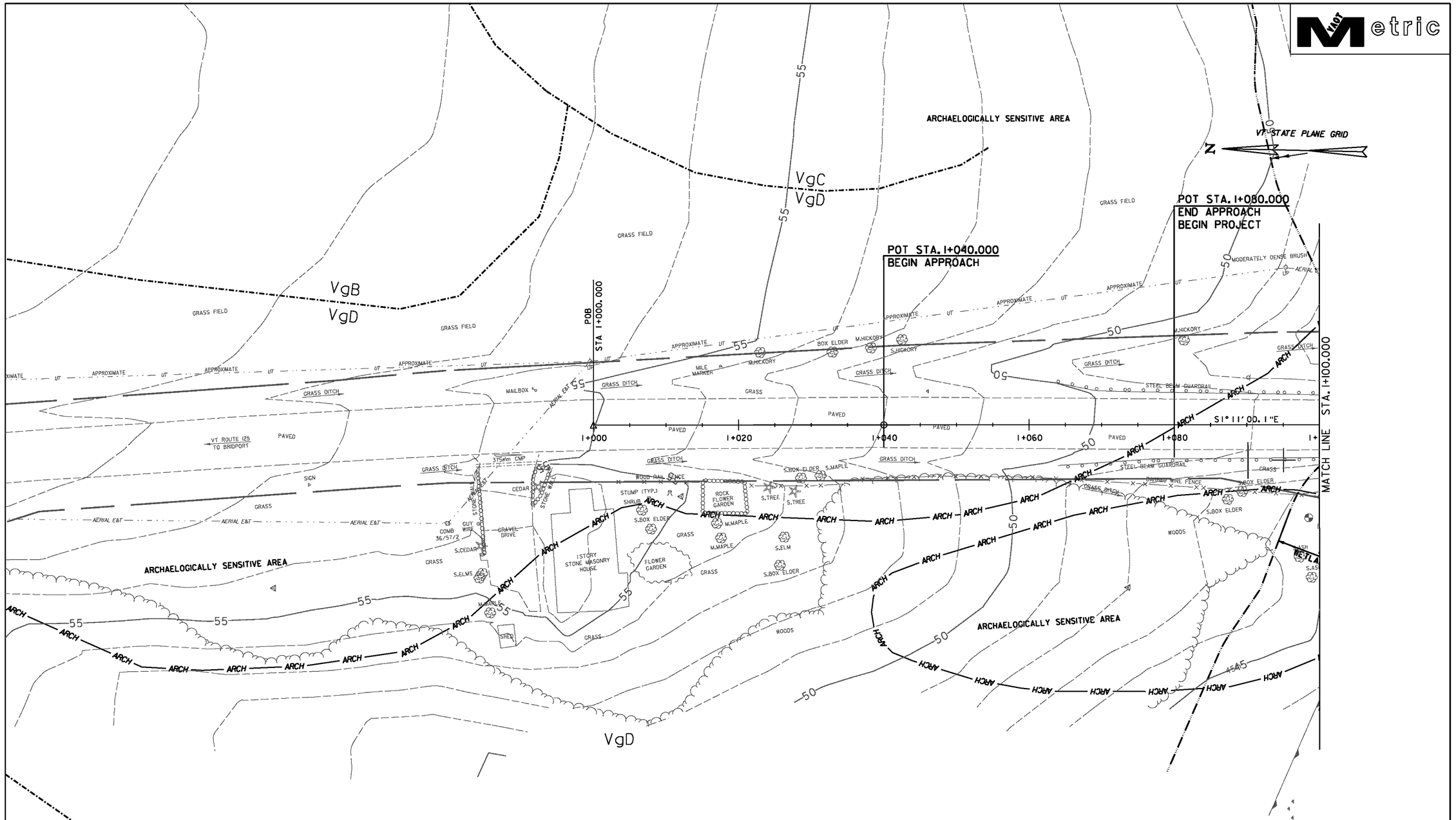
SOIL LEGEND

SOIL DESIGNATION		HYDROLOGIC SOIL GROUP CLASSIFICATION	SOIL ERODABILITY COEFFICIENTS
Cv =	COVINGTON SILTY CLAY, FLOODED	D	0.49 (HIGHLY ERODABLE)
Lk =	LIVINGSTON CLAY, FLOODED	D	0.49 (HIGHLY ERODABLE)
VgB =	VERGENNES CLAY, 2 TO 6 PERCENT SLOPES	C	0.49 (HIGHLY ERODABLE)
VgC =	VERGENNES CLAY, 6 TO 12 PERCENT SLOPES	C	0.49 (HIGHLY ERODABLE)
VgD =	VERGENNES CLAY, 12 TO 25 PERCENT SLOPES	C	0.49 (HIGHLY ERODABLE)

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT: CORNWALL
PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042erodets.DGN
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY
SQUAD LEADER: MARTHA EVANS-MONGEON
EPSC LEGEND
PLOT DATE: 2/5/2010
SURVEY DATE: 1996&1999
DRAWN BY: W. WONG
SHEET: 39 OF 144

VAOT Metric



GENERAL NOTES:

1) SEE EPSC DETAIL SHEETS FOR LEGEND OF SYMBOLS AND CONSTRUCTION DETAILS.

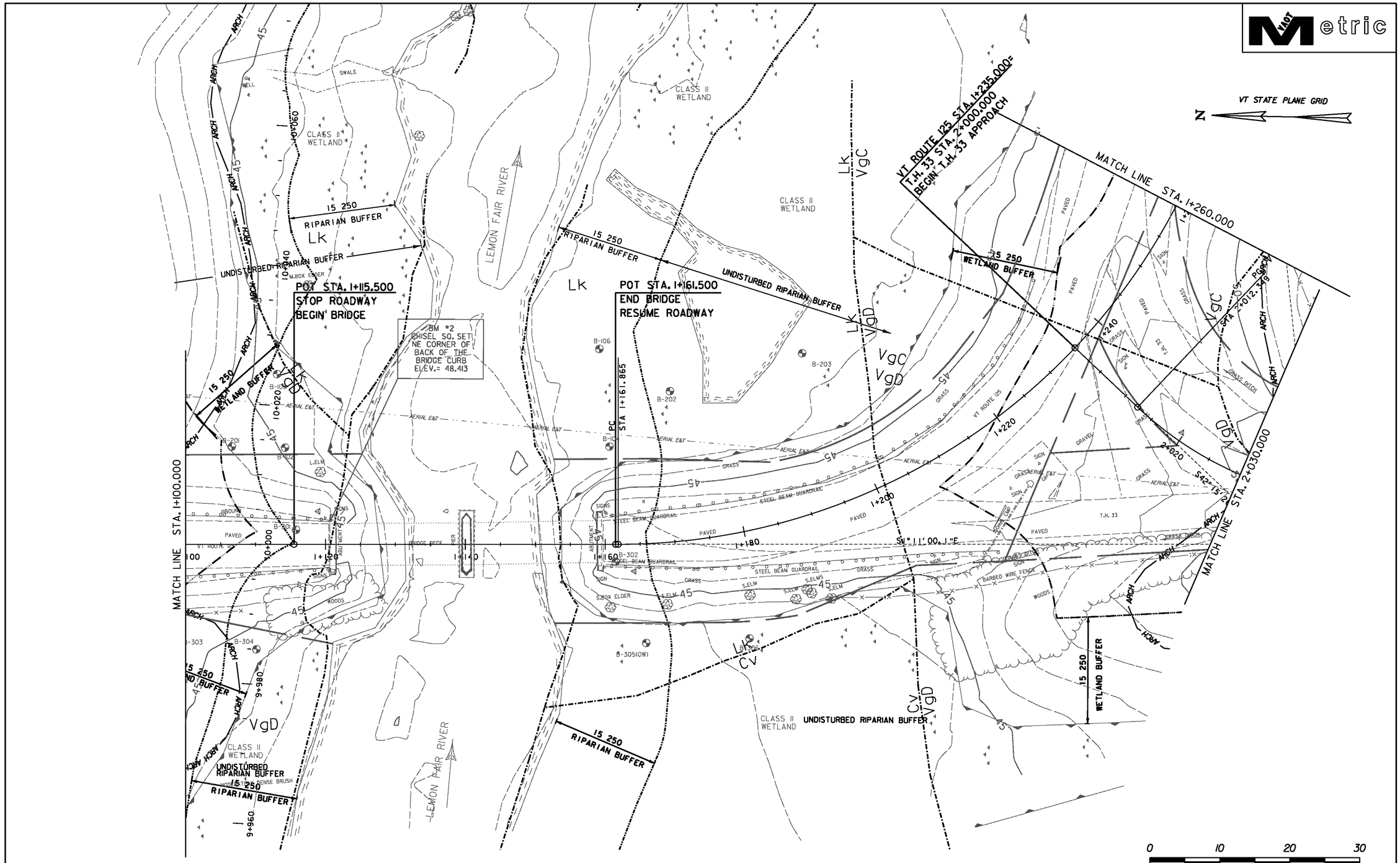
2) ALL SEDIMENT AND EROSION PREVENTION CONTROL MEASURES SHALL BE COMPLETED AND IN PLACE BEFORE THE BEGINNING OF WORK.

3) THE CONTRACTOR MAY USE THE PERMANENT GRASS LINED DITCHES TEMPORARILY FOR FLOW PROTECTION. HOWEVER, THE GRASS WATERWAYS SHALL BE CLEANED AND RE-BUILT TO THE FINAL DITCH CONDITIONS BEFORE THE COMPLETION OF THE PROJECT.

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042erosbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC EXISTING CONDITIONS SHEET 1	SHEET: 40 OF 144

VAOT Metric



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042erosbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC EXISTING CONDITIONS SHEET 2	SHEET: 41 OF 144

VAOT Metric

N

VT STATE PLANE GRID

LEMON FAIR RIVER

LK

VgC

15 250 RIPARIAN BUFFER

UNDISTURBED RIPARIAN BUFFER

WOODS

CLASS II WETLAND

PCC STA 1+372.485

MATCH LINE STA. 1+260.000

VT ROUTE 125

PAVED

GRASS

GRASS DITCH

BROOM + BOOMER + STONE BOX CULVERT

BARBED WIRE FENCE

SWALE

1+280

1+300

1+320

1+340

1+360

1+380.000

WETLAND BUFFER

15 250

45

50

ARCH

B-107

B 109

B 108

TREES AND OVERGROWN PASTURE LAND

DRAINAGE DITCH

BM# 1
RR SPIKE SET
IN ROOT OF
MEDIUM ASH TREE
ELEV.= 465.581

VgC

PAVED

4" SIDEWALK CMP

M.ASH

M.BOX ELDER

GRASS

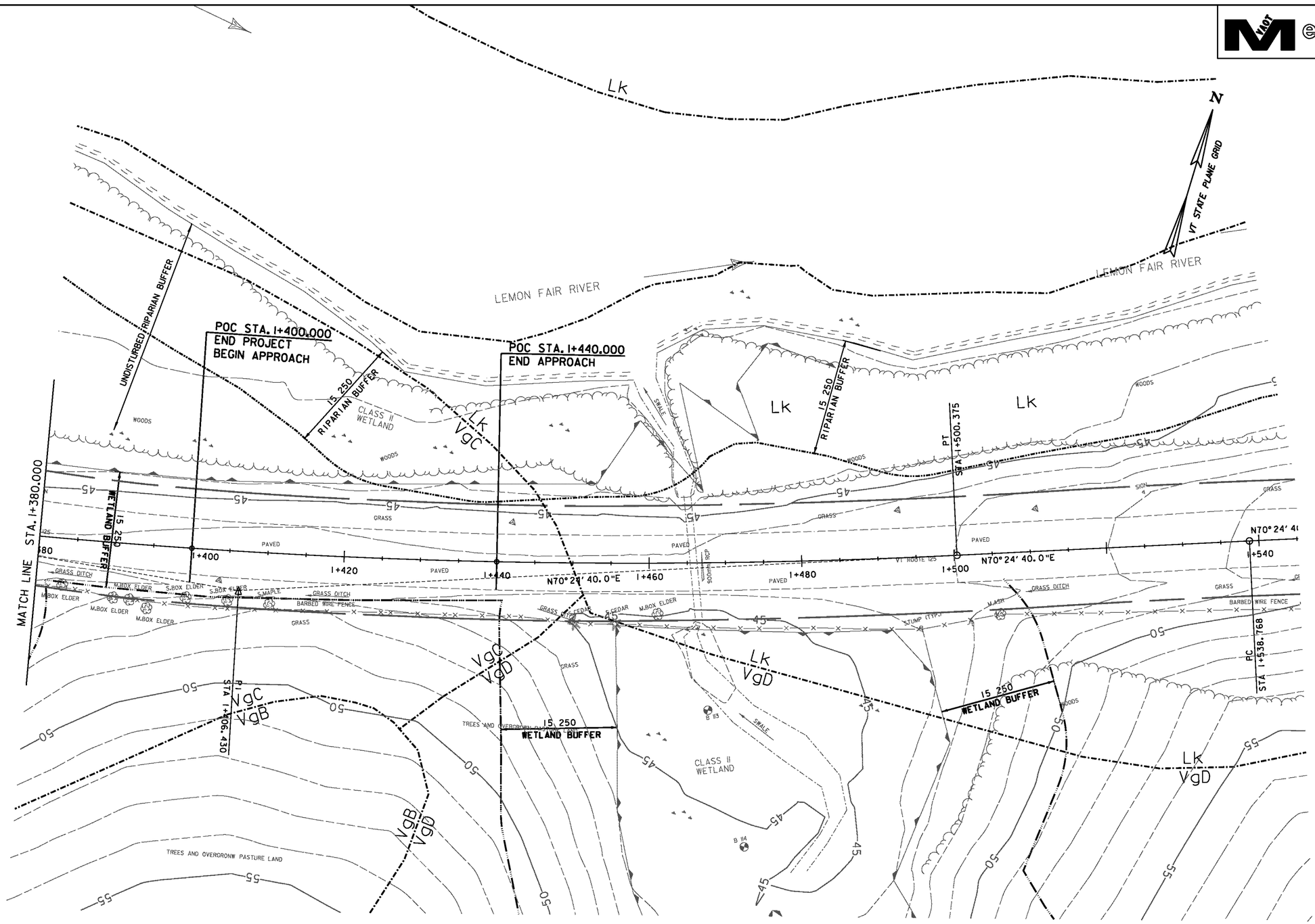
0 10 20 30

SCALE IN METERS

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

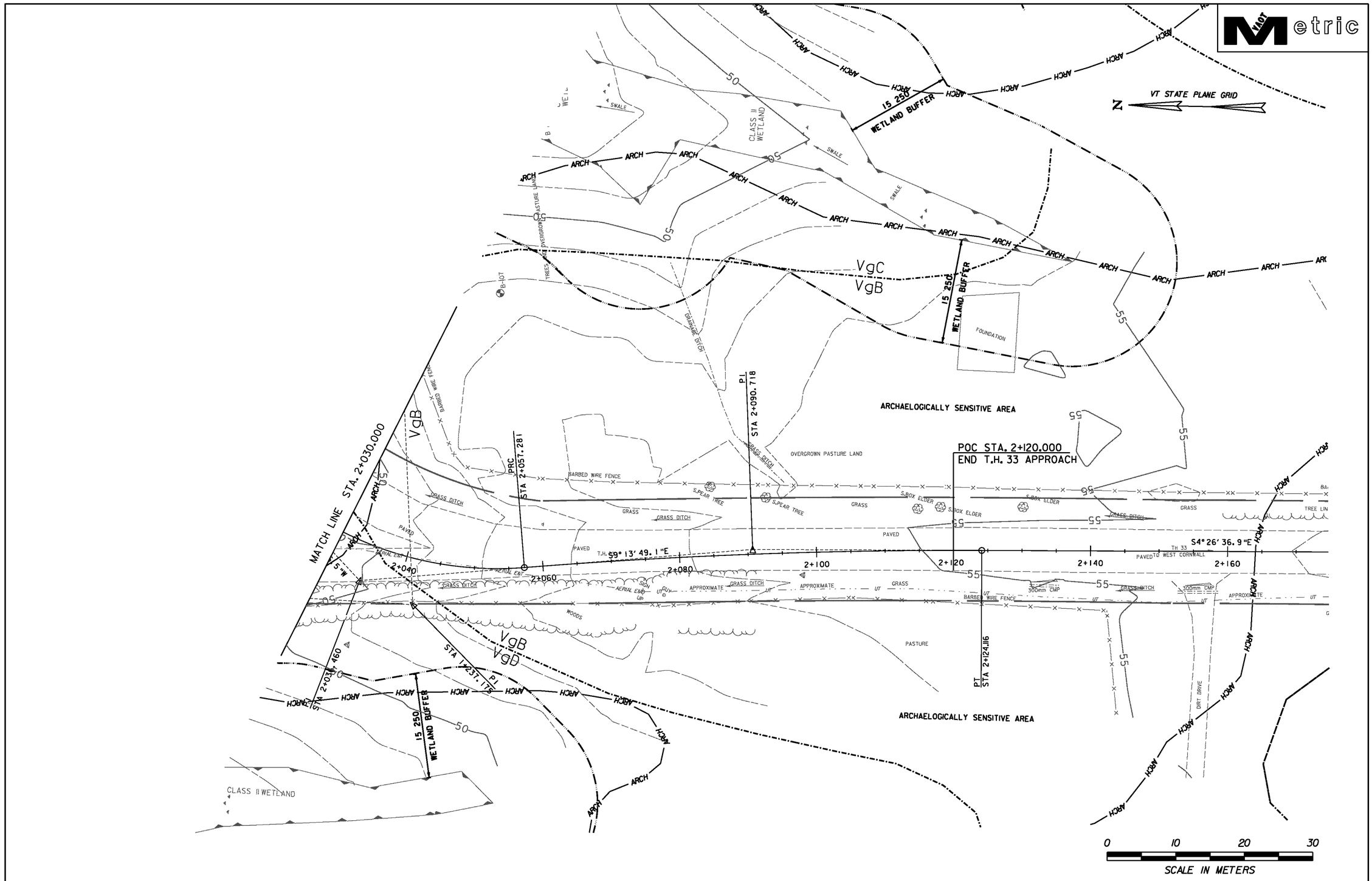
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042erosbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC EXISTING CONDITIONS SHEET 3	SHEET: 42 OF 144

VAOT Metric



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042erosbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC EXISTING CONDTIONS SHEET 4	SHEET: 43 OF 144



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042erosbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC EXISTING CONDITIONS SHEET 5	SHEET: 44 OF 144

VAOT Metric

GEOTEXTILE FOR SILT FENCE
I+050 LT ~ I+086 LT
I+064 RT ~ I+082 RT

GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
I+086 LT ~ I+100 LT
I+082 RT ~ I+100 RT

SEED
I+040 LT ~ I+100 LT
I+040 RT ~ I+100 RT

SEED, WINTER RYE
I+040 LT ~ I+100 LT
I+040 RT ~ I+100 RT

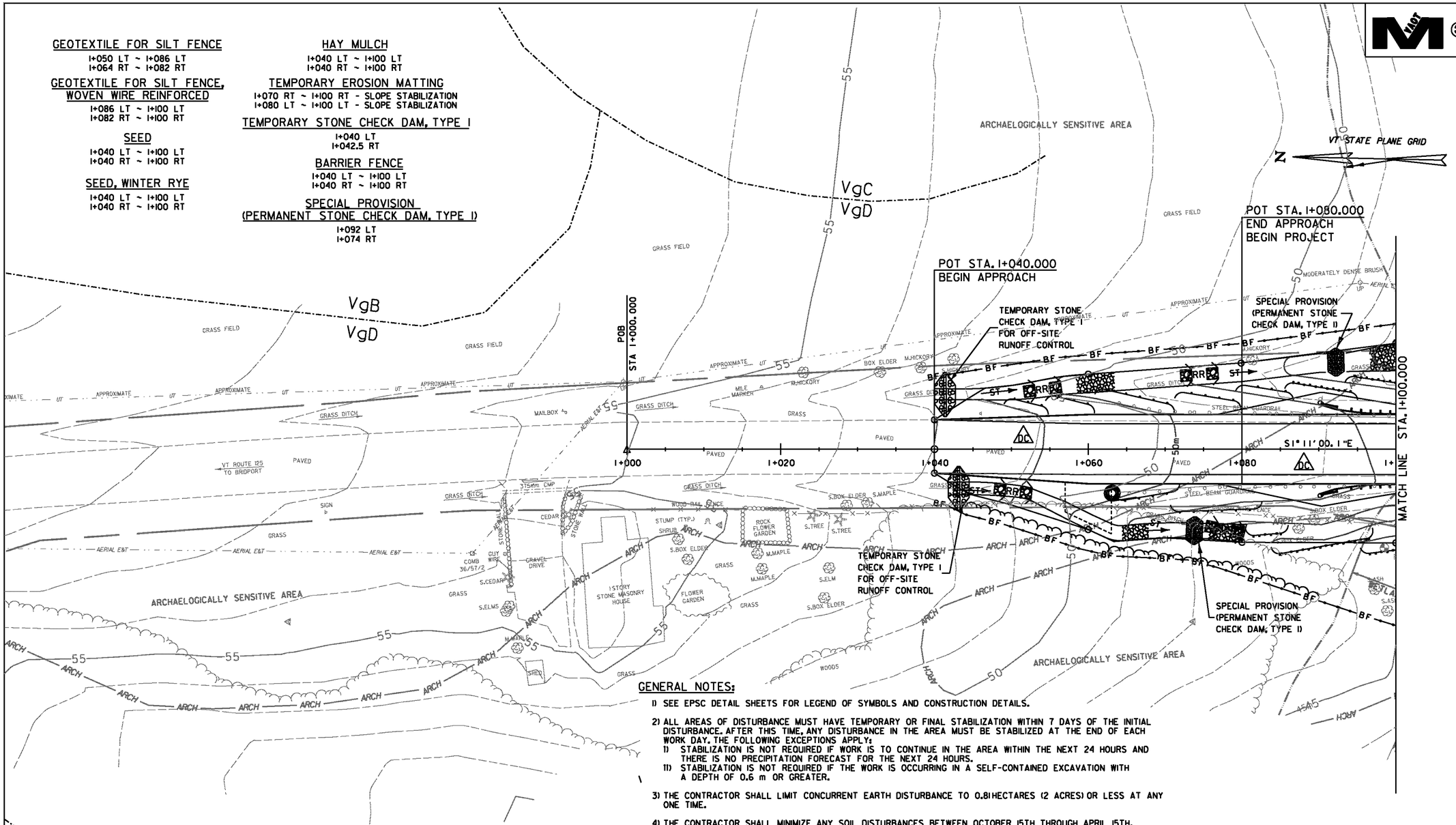
HAY MULCH
I+040 LT ~ I+100 LT
I+040 RT ~ I+100 RT

TEMPORARY EROSION MATTING
I+070 RT ~ I+100 RT - SLOPE STABILIZATION
I+080 LT ~ I+100 LT - SLOPE STABILIZATION

TEMPORARY STONE CHECK DAM, TYPE I
I+040 LT
I+042.5 RT

BARRIER FENCE
I+040 LT ~ I+100 LT
I+040 RT ~ I+100 RT

SPECIAL PROVISION (PERMANENT STONE CHECK DAM, TYPE I)
I+092 LT
I+074 RT



GENERAL NOTES:

I) SEE EPSC DETAIL SHEETS FOR LEGEND OF SYMBOLS AND CONSTRUCTION DETAILS.

2) ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY OR FINAL STABILIZATION WITHIN 7 DAYS OF THE INITIAL DISTURBANCE. AFTER THIS TIME, ANY DISTURBANCE IN THE AREA MUST BE STABILIZED AT THE END OF EACH WORK DAY. THE FOLLOWING EXCEPTIONS APPLY:
   i) STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECAST FOR THE NEXT 24 HOURS.
   ii) STABILIZATION IS NOT REQUIRED IF THE WORK IS OCCURRING IN A SELF-CONTAINED EXCAVATION WITH A DEPTH OF 0.6 m OR GREATER.

3) THE CONTRACTOR SHALL LIMIT CONCURRENT EARTH DISTURBANCE TO 0.81 HECTARES (2 ACRES) OR LESS AT ANY ONE TIME.

4) THE CONTRACTOR SHALL MINIMIZE ANY SOIL DISTURBANCES BETWEEN OCTOBER 15TH THROUGH APRIL 15TH. TO ASSURE A VIGOROUS CATCH OF VEGETATIVE COVER, SEEDING AND MULCHING SHALL BE COMPLETED BY SEPTEMBER 15TH TO THE EXTENT POSSIBLE, OR AS DIRECTED BY THE ENGINEER.

5) THE ON-SITE PLAN COORDINATOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL STRUCTURES AND MEASURES AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND AS SOON AS POSSIBLE BUT NOT MORE THEN 24 HOURS AFTER ANY STORM EVENT. INSPECTION FREQUENCY MAY BE REDUCED TO LESS THAN ONE (1) PER MONTH IF THE ENTIRE SITE IS TEMPORARY STABILIZED.

6) THE CONTRACTOR SHALL IMMEDIATELY ROUGHEN ALL DISTURBED SOIL SURFACES TO THE SATISFACTION OF THE ENGINEER BY THE USE OF TRACK DRIVEN BULLDOZERS, SHEEPSFOOT ROLLERS OR OTHER APPROVED METHODS.

7) THE CONTRACTOR SHALL APPLY DUST CONTROL MEASURES OVER EXPOSED SURFACES NOT INTENDED TO BE VEGETATED.

8) FILTER BAGS OR ENGINEER APPROVED EQUAL METHOD SHALL BE REQUIRED FOR ALL DEWATERING OPERATIONS. THEIR PLACEMENT, MAINTENANCE AND USE SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

9) THE CONTRACTOR SHALL INSTALL PERMANENT EROSION CONTROL MEASURES (I.E. CHECKDAMS, EROSION MATTING, STONE OUTLET PROTECTION, STONE FILL FOR SLOPES AND DITCHES) IMMEDIATELY UPON COMPLETION OF GRADING.

10) THE CONTRACTOR MAY USE THE PERMANENT GRASS LINED DITCHES TEMPORARILY FOR FLOW PROTECTION. HOWEVER, THE GRASS WATERWAYS SHALL BE CLEANED AND RE-BUILT TO THE FINAL DITCH CONDITIONS BEFORE THE COMPLETION OF THE PROJECT.

11) THE LOCATIONS OF VEHICLE TRACKING PADS ARE SUGGESTED ONLY. THE CONTRACTOR SHALL DETERMINE ACTUAL LOCATION OF VEHICLE TRACKING PADS NEEDED TO PERFORM THE WORK.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

ON-SITE PLAN COORDINATOR

NAME TITLE PHONE •

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042erosbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/11/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC CONSTRUCTION CONDITIONS SHEET I	SHEET: 45 OF 144

VTrans Metric

GEOTEXTILE FOR SILT FENCE
TH 33 2+030 LT ~ VT 125 1+260 RT

GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
VT 125 1+100 LT ~ VT 125 1+110 LT
VT 125 1+100 RT ~ VT 125 1+110 RT
VT 125 1+165 RT ~ TH 33 2+030RT
VT 125 1+169 LT ~ VT 125 1+260 LT

GEOTEXTILE FOR FILTER CURTAIN
CHANNEL @ 9+986 RT ~ 10+015 RT
CHANNEL @ 9+995 RT ~ 10+008 RT
CHANNEL @ 9+984 RT ~ 10+023 RT

SEED
VT 125 1+100 LT ~ VT 125 1+260 LT
VT 125 1+100 RT ~ TH 33 2+030 RT
TH 33 2+030 LT ~ VT 125 1+260 RT

SEED, WINTER RYE
VT 125 1+100 LT ~ VT 125 1+260 LT
VT 125 1+100 RT ~ TH 33 2+030 RT
TH 33 2+030 LT ~ VT 125 1+260 RT

HAY MULCH
VT 125 1+100 LT ~ VT 125 1+260 LT
VT 125 1+100 RT ~ TH 33 2+030 RT
TH 33 2+030 LT ~ VT 125 1+260 RT

TEMPORARY EROSION MATTING
1+100.0 RT. ~ 1+109.50 RT. - SLOPE STABILIZATION
1+100.0 LT. ~ 1+109.50 LT. - SLOPE STABILIZATION
1+167.5 RT. ~ 1+190 RT. - SLOPE STABILIZATION
1+167.5 LT. ~ 1+260 LT. - SLOPE STABILIZATION
TH 33 2+020.0 LT. ~ VT 125 1+260.0 RT. - SLOPE STABILIZATION

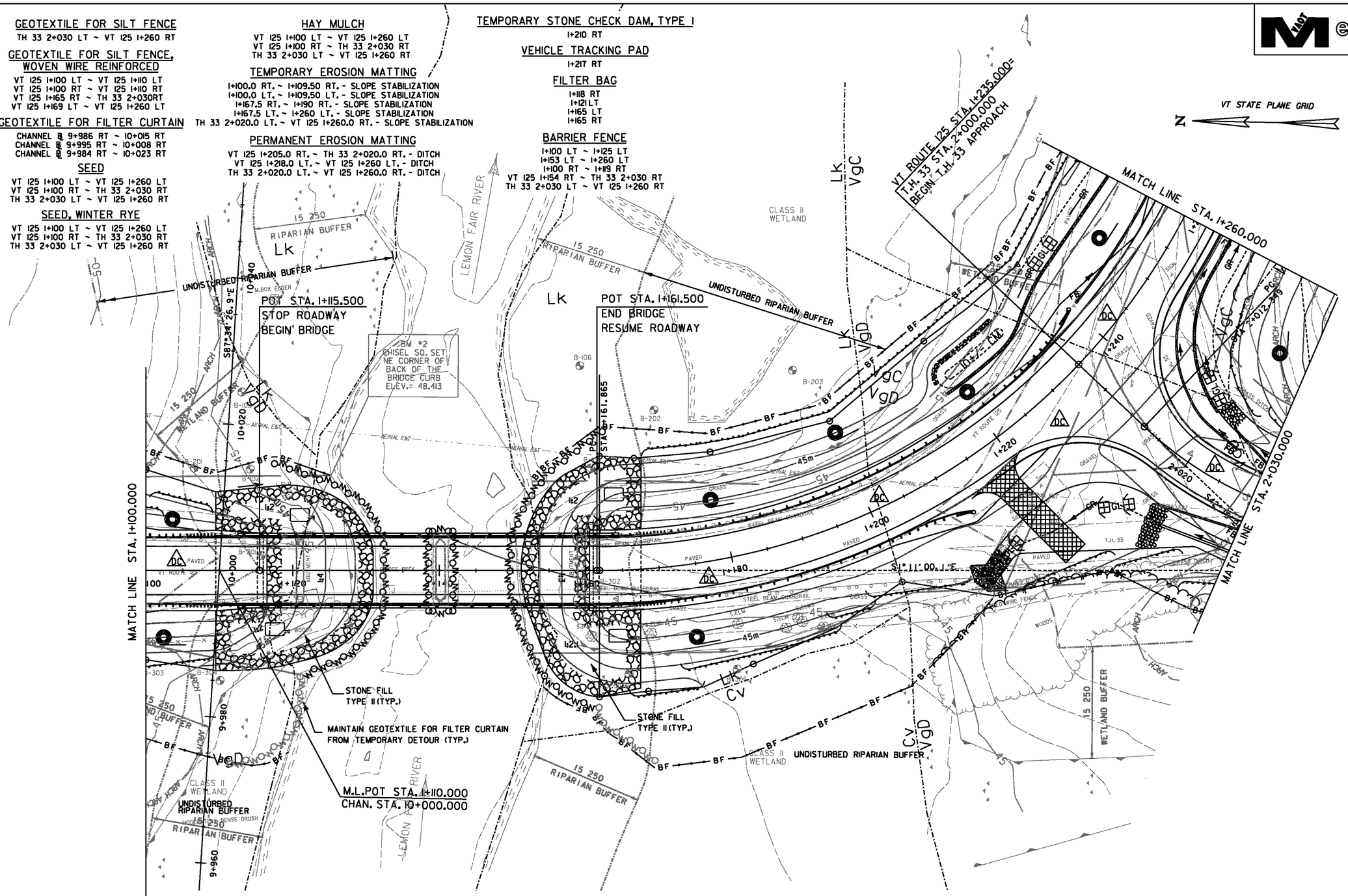
PERMANENT EROSION MATTING
VT 125 1+205.0 RT. ~ TH 33 2+020.0 RT. - DITCH
VT 125 1+218.0 LT. ~ VT 125 1+260 LT. - DITCH
TH 33 2+020.0 LT. ~ VT 125 1+260.0 RT. - DITCH

TEMPORARY STONE CHECK DAM, TYPE I
1+210 RT

VEHICLE TRACKING PAD
1+217 RT

FILTER BAG
1+118 RT
1+121 LT
1+165 LT
1+165 RT

BARRIER FENCE
1+100 LT ~ 1+125 LT
1+153 LT ~ 1+260 LT
1+100 RT ~ 1+119 RT
VT 125 1+154 RT ~ TH 33 2+030 RT
TH 33 2+030 LT ~ VT 125 1+260 RT



0 10 20 30
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042erosbdr.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY — SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON — DRAWN BY: ERIK ATKINS
EPSC CONSTRUCTION CONDITIONS SHEET 2 — PLOT DATE: 2/5/2010
SHEET: 46 OF 144

VAOT Metric

GEOTEXTILE FOR SILT FENCE
I+260 RT~ I+262 RT

GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
I+260 LT ~ I+380 LT
I+262 RT~ I+380 RT

SEED
I+260 LT ~ I+380 LT
I+260 RT ~ I+380 RT

SEED, WINTER RYE
I+260 LT ~ I+380 LT
I+260 RT ~ I+380 RT

HAY MULCH
I+260 LT ~ I+380 LT
I+260 RT ~ I+380 RT

TEMPORARY EROSION MATTING
I+260.0 RT. ~ I+290.0 RT. - SLOPE STABILIZATION
I+309.0 RT. ~ I+350.0 RT. - SLOPE STABILIZATION
I+365.0 RT. - I+380.0 RT. - SLOPE STABILIZATION
I+260.0 LT. ~ I+264.0 LT. - SLOPE STABILIZATION
I+360.0 LT. ~ I+380.0 LT. - SLOPE STABILIZATION

PERMANENT EROSION MATTING
I+260.0 RT. ~ I+290.0 RT. - DITCH
I+309.0 LT. ~ I+350.0 LT. - DITCH
I+309.0 RT. ~ I+380.0 RT. - DITCH

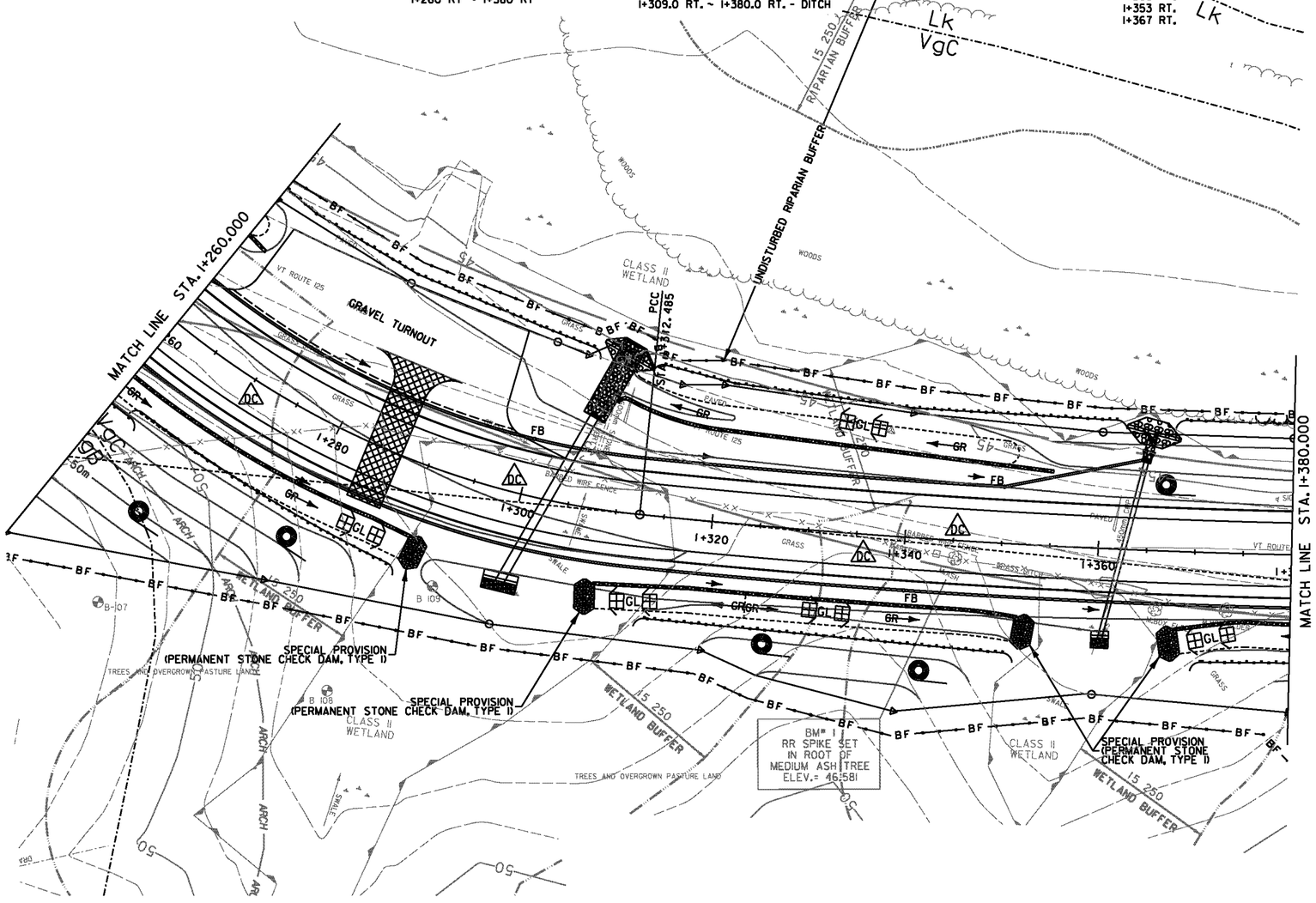
TEMPORARY STONE CHECK DAM, TYPE I
I+310 LT
I+366 LT

VEHICLE TRACKING PAD
I+285 LT

BARRIER FENCE
I+260 LT ~ I+380 LT
I+260 RT ~ I+380 RT

SPECIAL PROVISION (PERMANENT STONE CHECK DAM, TYPE I)
I+292 RT.
I+308 RT.
I+353 RT.
I+367 RT.

N
VT STATE PLANE GRID



0 10 20 30
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042erosbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC CONSTRUCTION CONDITIONS SHEET 3	SHEET: 47 OF 144

VAOT Metric

GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
I+380 LT ~ I+434 LT
I+380 RT ~ I+440 RT

SEED
I+380 LT ~ I+440 LT
I+380 RT ~ I+442 RT

SEED, WINTER RYE
I+380 LT ~ I+440 LT
I+380 RT ~ I+440 RT

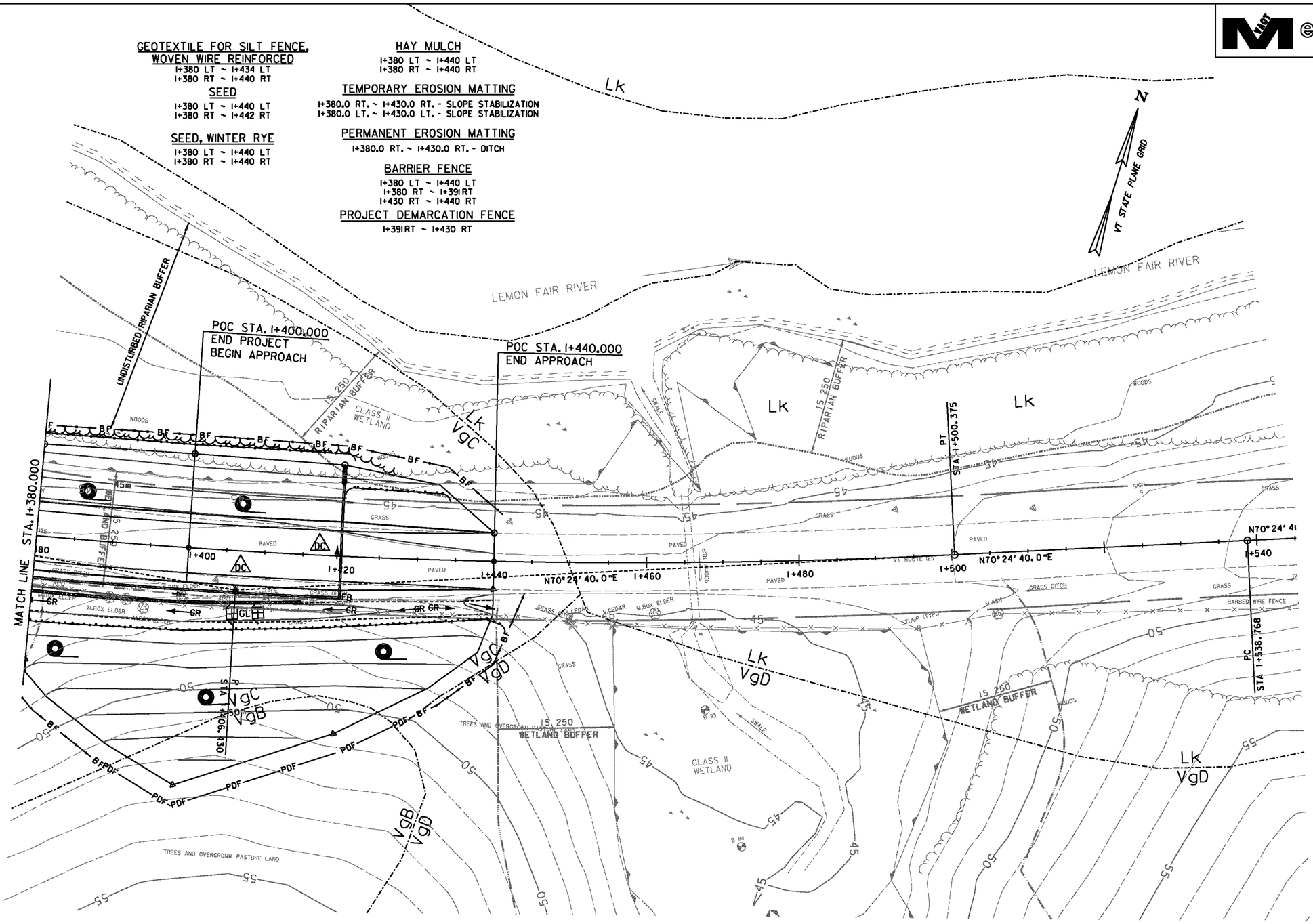
HAY MULCH
I+380 LT ~ I+440 LT
I+380 RT ~ I+440 RT

TEMPORARY EROSION MATTING
I+380.0 RT. ~ I+430.0 RT. - SLOPE STABILIZATION
I+380.0 LT. ~ I+430.0 LT. - SLOPE STABILIZATION

PERMANENT EROSION MATTING
I+380.0 RT. ~ I+430.0 RT. - DITCH

BARRIER FENCE
I+380 LT ~ I+440 LT
I+380 RT ~ I+391RT
I+430 RT ~ I+440 RT

PROJECT DEMARCATION FENCE
I+391RT ~ I+430 RT



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042erosbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC CONSTRUCTION CONDITIONS SHEET 4	SHEET: 48 OF 144

VT STATE PLANE GRID

N

GEOTEXTILE FOR SILT FENCE
2+030 LT ~ 2+109 LT
2+072 RT ~ 2+103 RT

GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
2+030 RT ~ 2+072 RT

SEED
2+030 LT ~ 2+100 LT
2+030 RT ~ 2+100 RT

SEED, WINTER RYE
2+030 LT ~ 2+100 LT
2+030 RT ~ 2+100 RT

HAY MULCH
2+030 LT ~ 2+100 LT
2+030 RT ~ 2+100 RT

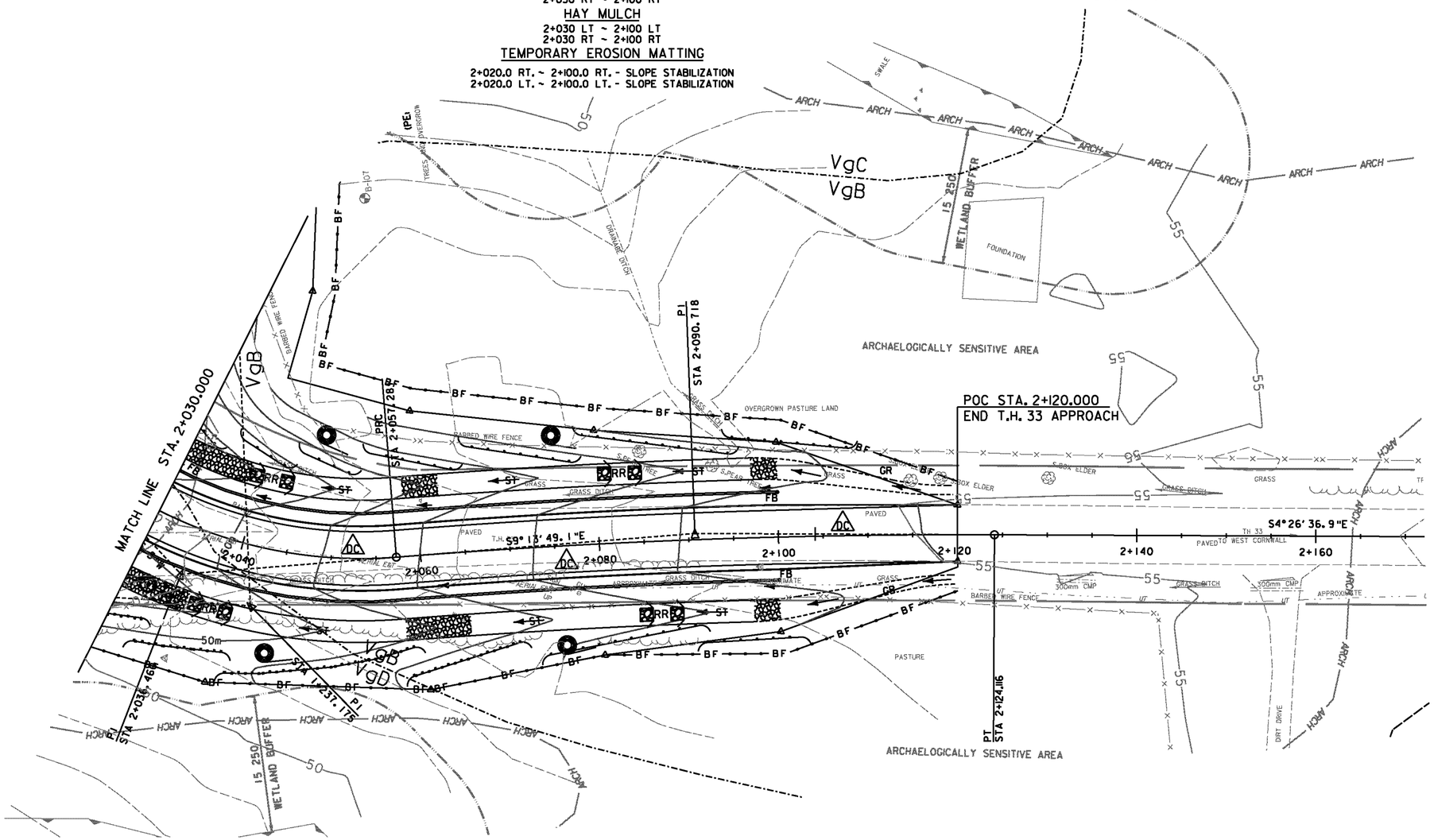
TEMPORARY EROSION MATTING
2+020.0 RT.~ 2+100.0 RT.- SLOPE STABILIZATION
2+020.0 LT.~ 2+100.0 LT.- SLOPE STABILIZATION

PERMANENT EROSION MATTING
2+100.0 RT.~ 2+120.0 RT.- DITCH
2+100.0 LT.~ 2+120.0 LT.- DITCH

INLET PROTECTION DEVICE, TYPE I (FILTER FABRIC)
2+035 RT

BARRIER FENCE
2+030 LT ~ 2+120 LT
2+030 RT ~ 2+120 RT

SPECIAL PROVISION
(PERMANENT STONE CHECK DAM, TYPE I)
2+034.0 RT.



0 10 20 30

SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042erosbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/11/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC CONSTRUCTION CONDITIONS SHEET 5	SHEET: 49 OF 144

VTrans Metric

GEOTEXTILE FOR SILT FENCE
3+040 LT ~ 3+082 LT
3+066 RT ~ 3+082 RT

GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
3+082 LT ~ 3+122 LT
3+082 RT ~ 3+113 RT

GEOTEXTILE FOR FILTER CURTAIN
CHANNEL @ 9+973 RT ~ 9+996 RT
CHANNEL @ 9+977 RT ~ 9+997 RT

SEED
3+040 LT ~ 3+180 LT
3+040 RT ~ 3+180 RT

SEED, WINTER RYE
3+040 LT ~ 3+180 LT
3+040 RT ~ 3+180 RT

HAY MULCH
3+040 LT ~ 3+180 LT
3+040 RT ~ 3+180 RT

TEMPORARY STONE CHECK DAM, TYPE I
3+047 ~ 3+103 RT
SPACED AT EVERY 6M (10 EACH)

TEMPORARY EROSION MATTING
3+040.000 RT ~ 3+112.764 RT - SLOPE STABILIZATION
3+170.676 RT ~ 3+180 RT - SLOPE STABILIZATION

VEHICLE TRACKING PAD
3+077 LT

BARRIER FENCE
LIMITS DEFINED ON CONSTRUCTION AND STABILIZATION SHEETS FOR ROADWAY

POT DETOUR STA. 3+040.000=
VT ROUTE 125 STA. 1+040.000
BEGIN APPROACH

POC STA. 3+060.000
END APPROACH
BEGIN DETOUR BRS 0172(6)

POT STA. 3+112.764
END DETOUR ROADWAY
BEGIN TEMPORARY BRIDGE

POT STA. 3+170.676
END TEMPORARY BRIDGE
RESUME DETOUR ROADWAY

BM #2
CHISEL SQ. SET
NE CORNER OF
BACK OF THE
BRIDGE CURB
ELEV.= 48.413

MAINTAIN GEOTEXTILE FOR FILTER CURTAIN FOR ROAD (TYP.)

MATCH LINE STA. 3+180.000

VT STATE PLANE GRID

CLASS II WETLAND

RIPARIAN BUFFER 15 250

ARCHAELOGICALLY SENSITIVE AREA

LEMON FAIR RIVER

0 10 20 30
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042erodebdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC TEMP. DETOUR CONST. COND. SHEET 1	SHEET: 50 OF 144

VAOT Metric

GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
3+161 LT ~ 3+260 LT
3+170 RT ~ 3+217 RT

SEED
3+180 LT ~ 3+260 LT
3+180 RT ~ 3+260 RT

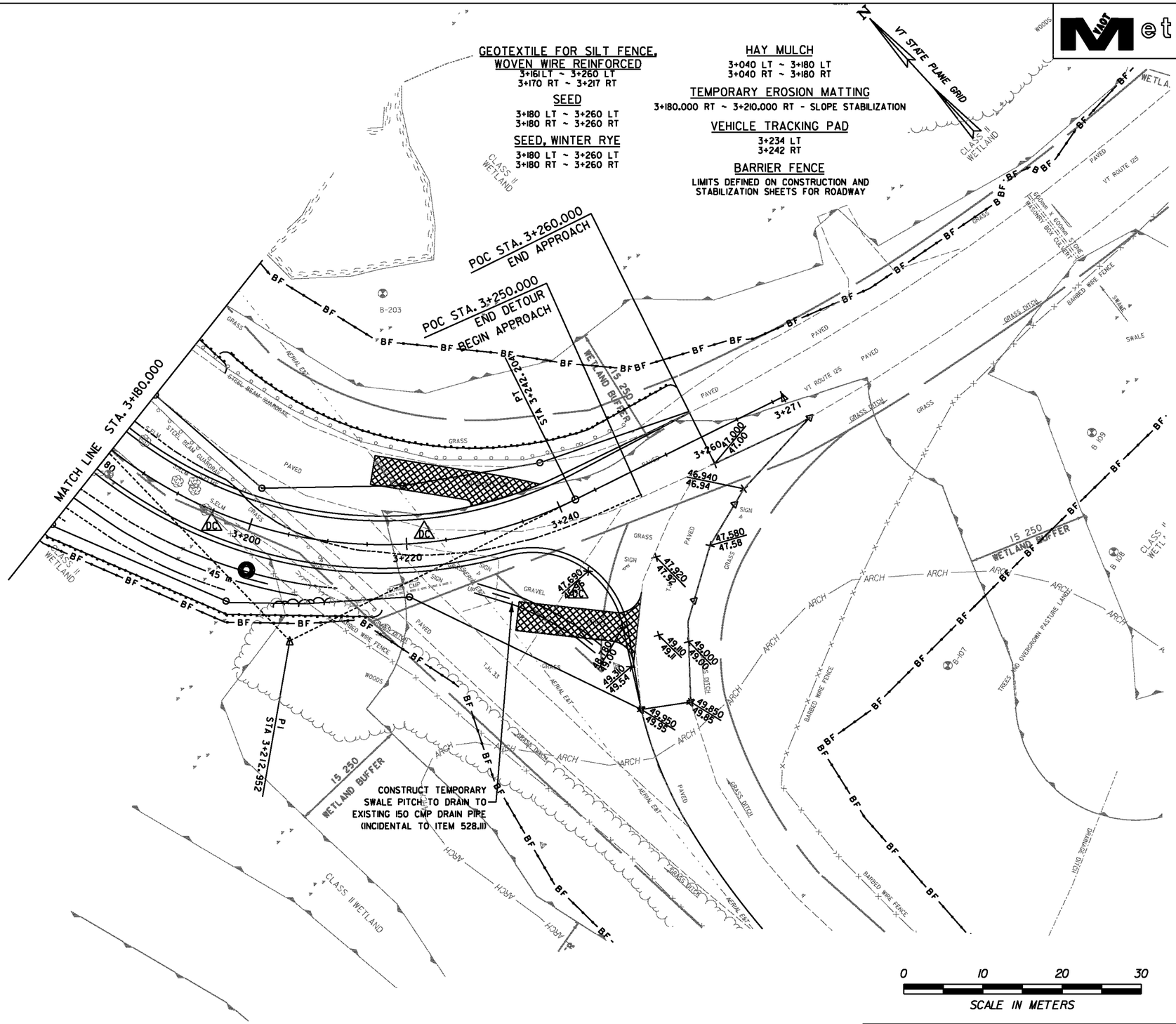
SEED, WINTER RYE
3+180 LT ~ 3+260 LT
3+180 RT ~ 3+260 RT

HAY MULCH
3+040 LT ~ 3+180 LT
3+040 RT ~ 3+180 RT

TEMPORARY EROSION MATTING
3+180.000 RT ~ 3+210.000 RT - SLOPE STABILIZATION

VEHICLE TRACKING PAD
3+234 LT
3+242 RT

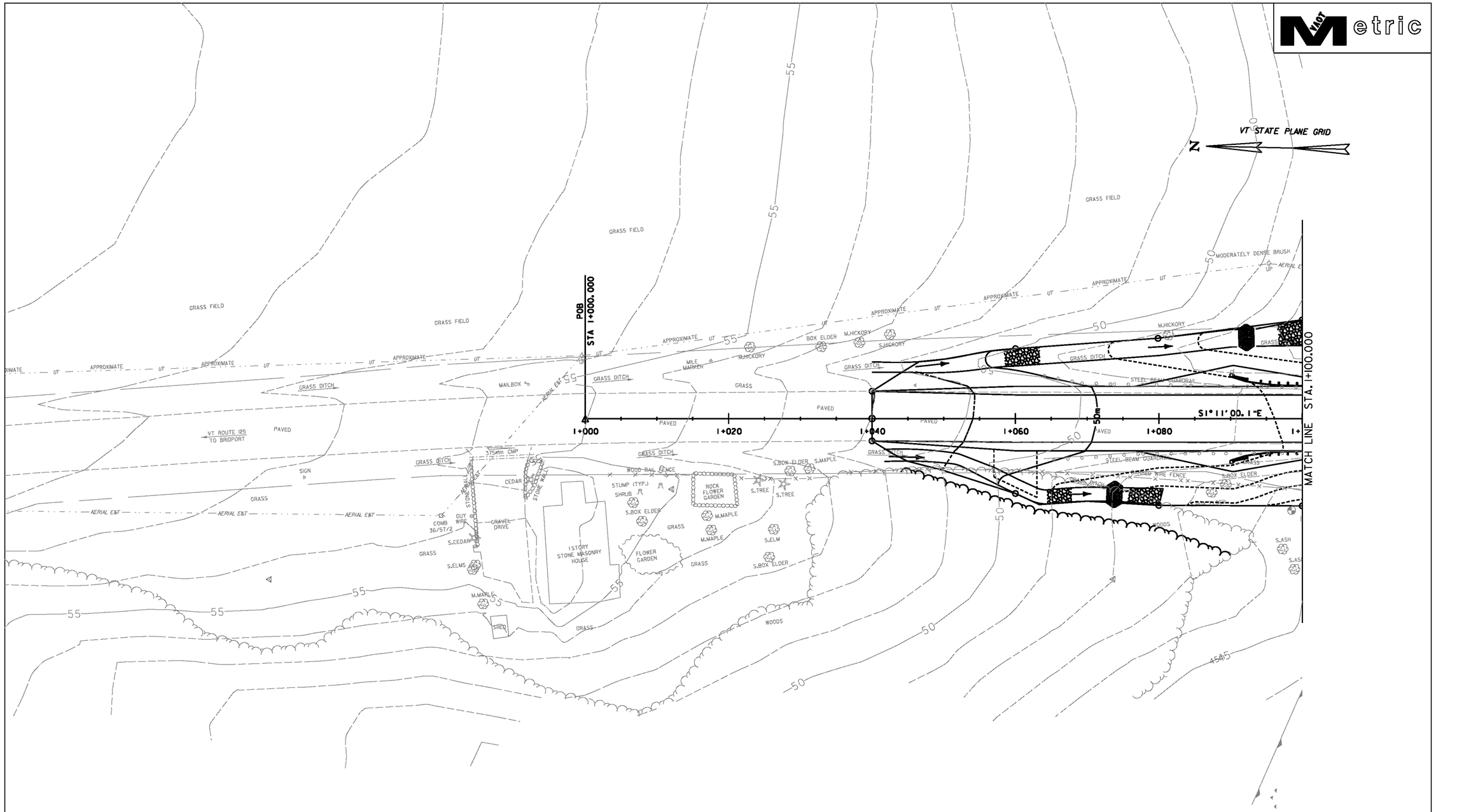
BARRIER FENCE
LIMITS DEFINED ON CONSTRUCTION AND STABILIZATION SHEETS FOR ROADWAY



DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042erodebdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC TEMP. DETOUR CONST. COND. SHEET 2	SHEET: 51 OF 144

VTrans Metric



0 10 20 30

SCALE IN METERS

NOTE:
SEE CROSS SECTIONS FOR ADDITIONAL GRADING.

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042finalbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC FINAL CONDITIONS SHEET 1	SHEET: 52 OF 144

VAOT Metric

VT STATE PLANE GRID

N

MATCH LINE STA. 1+260.000

MATCH LINE STA. 1+100.000

MATCH LINE STA. 2+030.000

CLASS II WETLAND

LEMON FAIR RIVER

BM #2
CHISEL SQ. SET
NE CORNER OF
BACK OF THE
BRIDGE CURB
ELEV.= 48.413

PC STA 1+161.865

PT STA 2+012.348

S1° 11' 00.1"E

B-103 B-201 B-102 B-301 B-303 B-106 B-202 B-302 B-203 B-306

1+100 1+120 1+140 1+160 1+180 1+200 1+220 1+240

2+020

45m

VT ROUTE 15

T.H. 33

PAVED

GRASS

GRAVEL

STEEL BEAM GUARDRAIL

CONCRETE BRIDGE

WOODS

BARBED WIRE FENCE

AERIAL E&T

SWALE

MODERATELY DENSE BRUSH

0 10 20 30

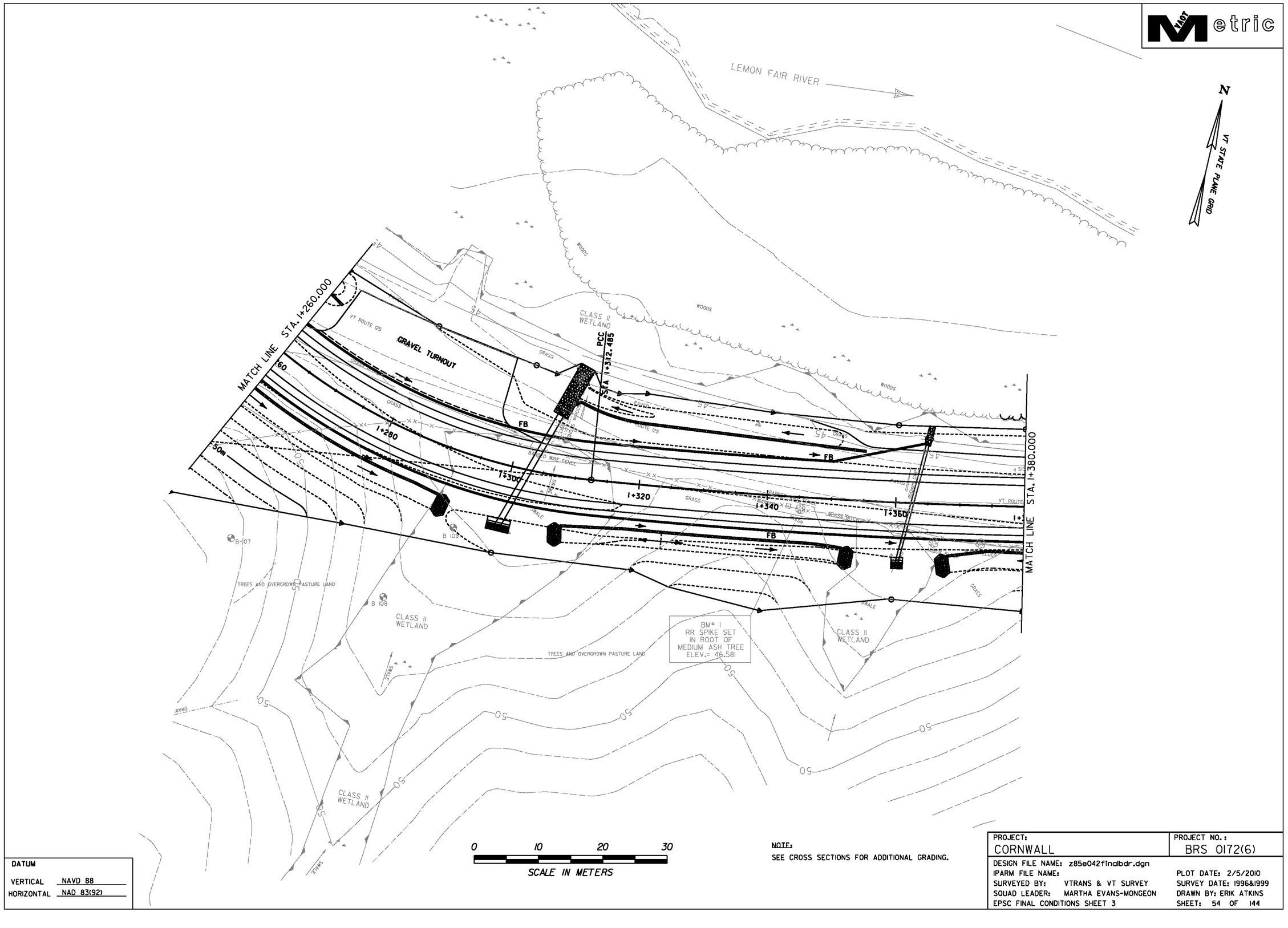
SCALE IN METERS

NOTE:
SEE CROSS SECTIONS FOR ADDITIONAL GRADING.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042finalbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC FINAL CONDITIONS SHEET 2	SHEET: 53 OF 144

VTrans Metric

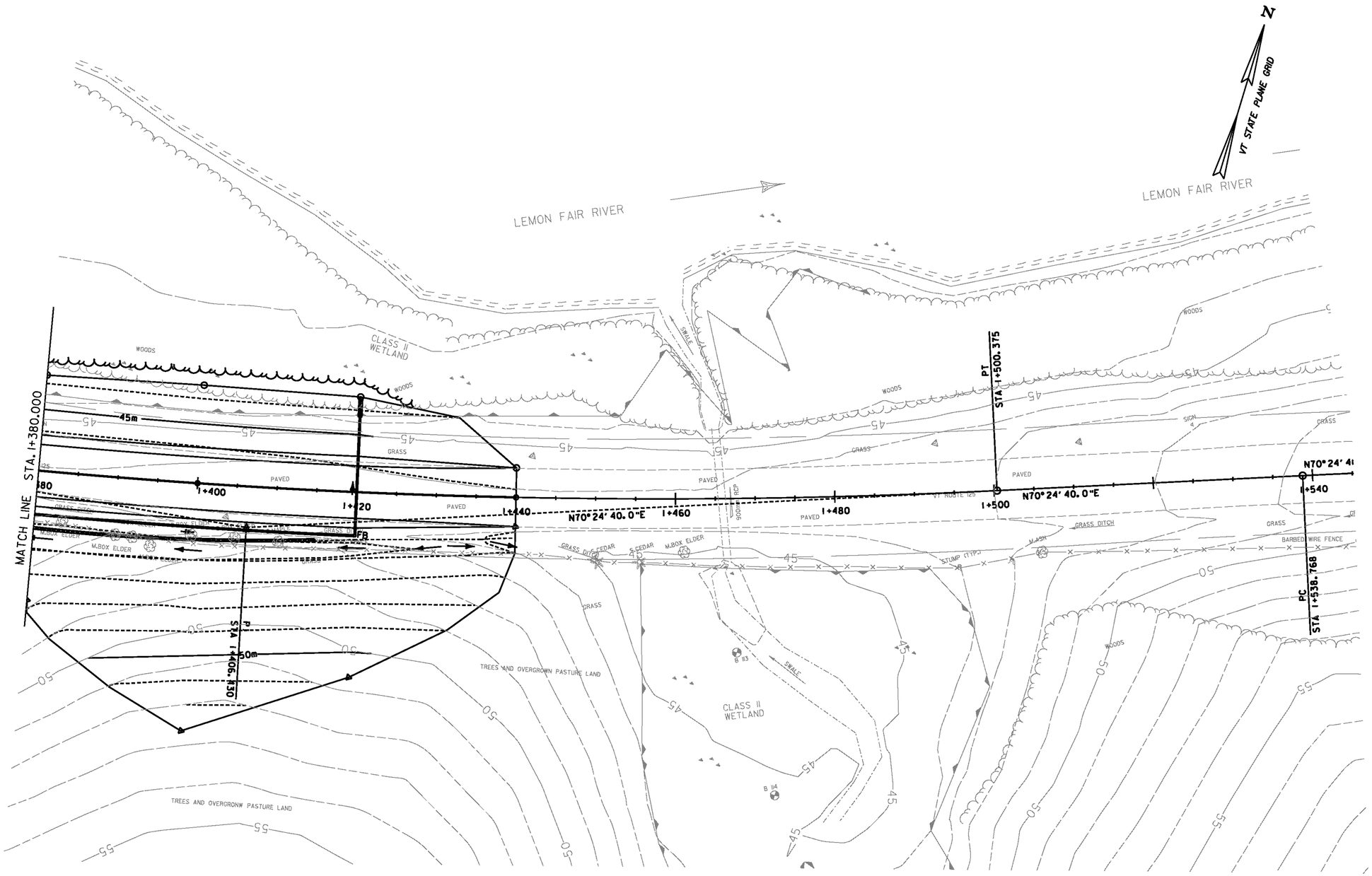


NOTE:
SEE CROSS SECTIONS FOR ADDITIONAL GRADING.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042finalbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC FINAL CONDITIONS SHEET 3	SHEET: 54 OF 144

VAOT Metric



0 10 20 30

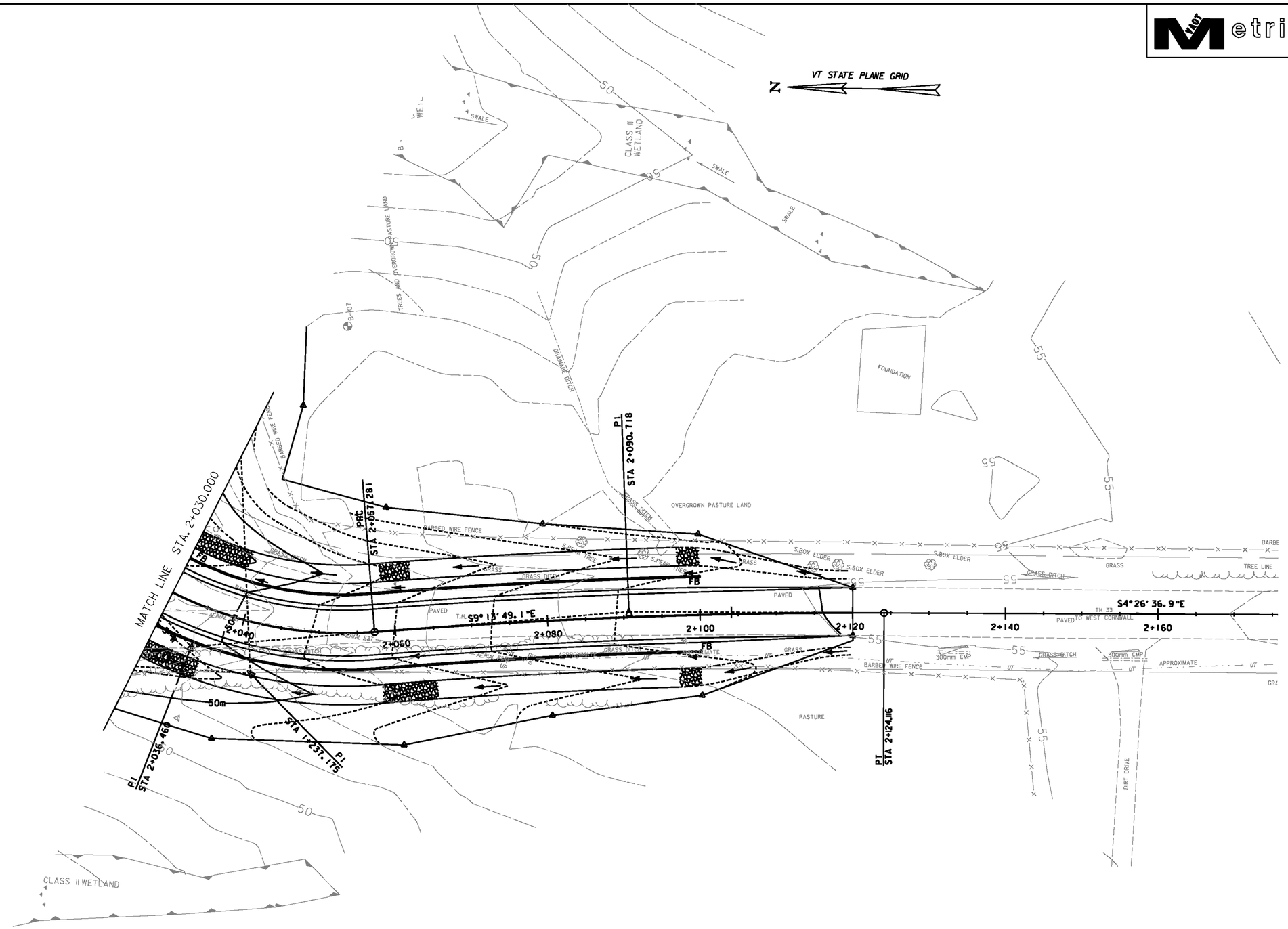
SCALE IN METERS

NOTE:
SEE CROSS SECTIONS FOR ADDITIONAL GRADING.

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042finalbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC FINAL CONDITIONS SHEET 4	SHEET: 55 OF 144



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

0 10 20 30

SCALE IN METERS

NOTE:
SEE CROSS SECTIONS FOR ADDITIONAL GRADING.

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042finalbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
EPSC FINAL CONDITIONS SHEET 5	SHEET: 56 OF 144

DURABLE 100 MM WHITE LINE

1+040 LT ~ 1+100 LT: EDGE LINE (3.3m LT)
1+040 RT ~ 1+100 RT: EDGE LINE (3.3m RT)

TEMPORARY 100 MM WHITE LINE

1+040 LT ~ 1+100 LT: EDGE LINE (3.3m LT)
1+040 RT ~ 1+100 RT: EDGE LINE (3.3m RT)

REMOVING SIGNS

6 EACH

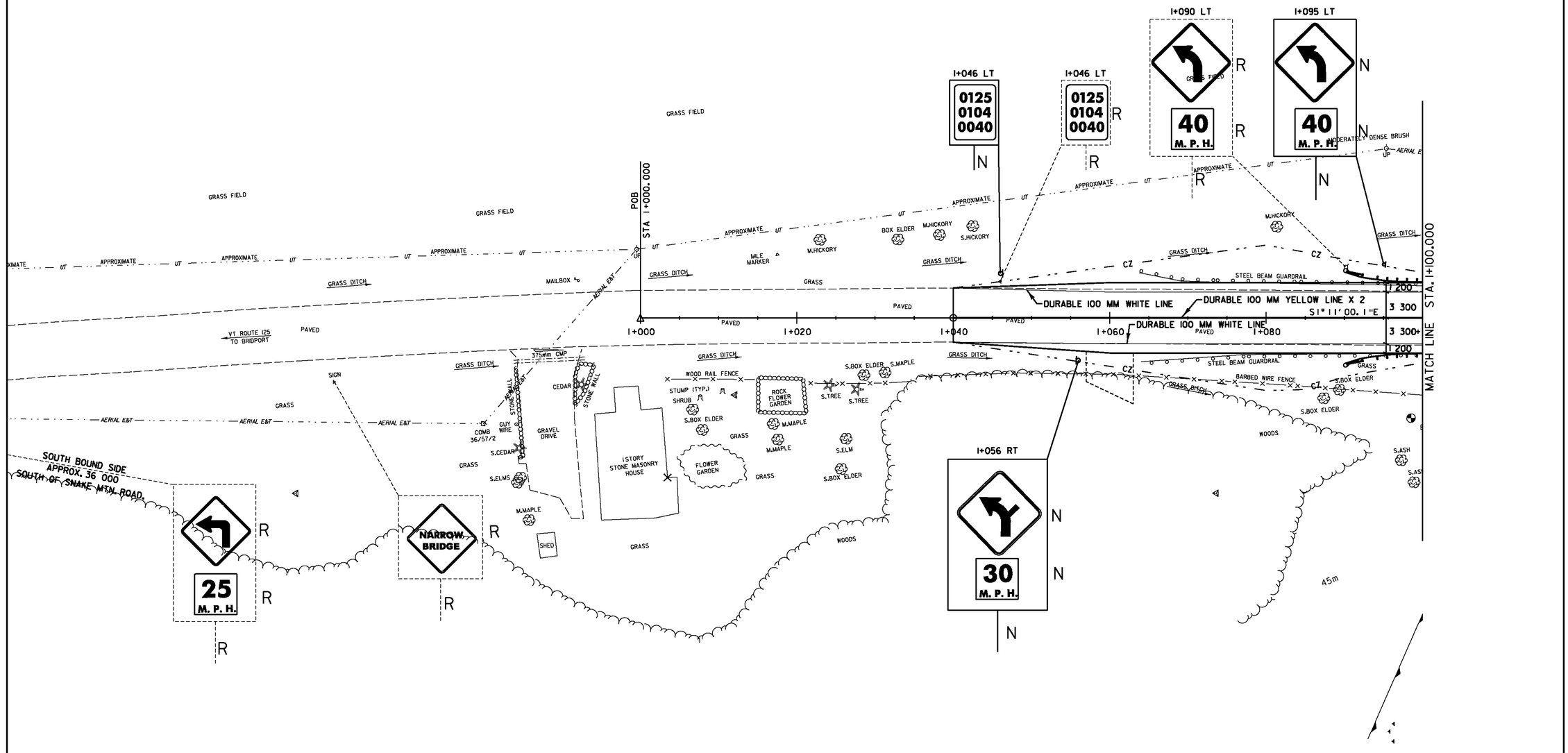
DURABLE 100 MM YELLOW LINE

1+040 ℄ ~ 1+100 ℄: SOLID DOUBLE LINE

TEMPORARY 100 MM YELLOW LINE

1+040 ℄ ~ 1+100 ℄: SOLID DOUBLE LINE

VT STATE PLANE GRID



SIGN LEGEND

- [ ] = EXISTING SIGN
- [ ] = NEW SIGN
- R = REMOVE
- N = NEW

0 10 20 30
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042tsbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/17/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
PVMT MARKINGS AND SIGNS LAYOUT SHEET 1	SHEET: 57 OF 144

DURABLE 100 MM WHITE LINE

VT 125 1+000 LT ~ VT 125 1+260 LT: EDGE LINE (3.3m LT)
VT 125 1+000 RT ~ VT 125 1+219 RT: EDGE LINE (3.3m RT)
VT 125 1+219 RT ~ TH 33 2+016.3 RT: EDGE LINE (RADIUS)
TH 33 2+016.3 RT ~ TH 33 2+030 RT: EDGE LINE (3.0m RT)
TH 33 2+016.3 LT ~ TH 33 2+030 LT: EDGE LINE (3.0m LT)
VT 125 1+251.3 RT ~ TH 33 2+016.3 LT: EDGE LINE (RADIUS)
VT 125 1+251.3 RT ~ VT 125 1+260 RT: EDGE LINE (3.3m RT)

DURABLE 100 MM YELLOW LINE

VT 125 1+000 ℄ ~ VT 125 1+225 ℄ SOLID DOUBLE LINE
VT 125 1+245 ℄ ~ VT 125 1+260 ℄ SOLID DOUBLE LINE
TH 33 2+006 ℄ ~ TH 33 2+030 ℄ SOLID DOUBLE LINE

DURABLE 600 MM STOP BAR

TH 33 2+006 LT. - 8 640 LONG

DURABLE LETTER OR SYMBOL

TH 33 2+007.2 LT - 2+009.7 LT - 4 EACH

TEMPORARY 100 MM WHITE LINE

VT 125 1+000 LT ~ VT 125 1+260 LT: EDGE LINE (3.3m LT)
VT 125 1+000 RT ~ VT 125 1+219 RT: EDGE LINE (3.3m RT)
VT 125 1+219 RT ~ TH 33 2+016.3 RT: EDGE LINE (RADIUS)
TH 33 2+016.3 RT ~ TH 33 2+030 RT: EDGE LINE (3.0m RT)
TH 33 2+016.3 LT ~ TH 33 2+030 LT: EDGE LINE (3.0m LT)
VT 125 1+251.3 RT ~ TH 33 2+016.3 LT: EDGE LINE (RADIUS)
VT 125 1+251.3 RT ~ VT 125 1+260 RT: EDGE LINE (3.3m RT)

TEMPORARY 100 MM YELLOW LINE

VT 125 1+000 ℄ ~ VT 125 1+225 ℄ SOLID DOUBLE LINE
VT 125 1+245 ℄ ~ VT 125 1+260 ℄ SOLID DOUBLE LINE
TH 33 2+006 ℄ ~ TH 33 2+030 ℄ SOLID DOUBLE LINE

TEMPORARY 600 MM STOP BAR

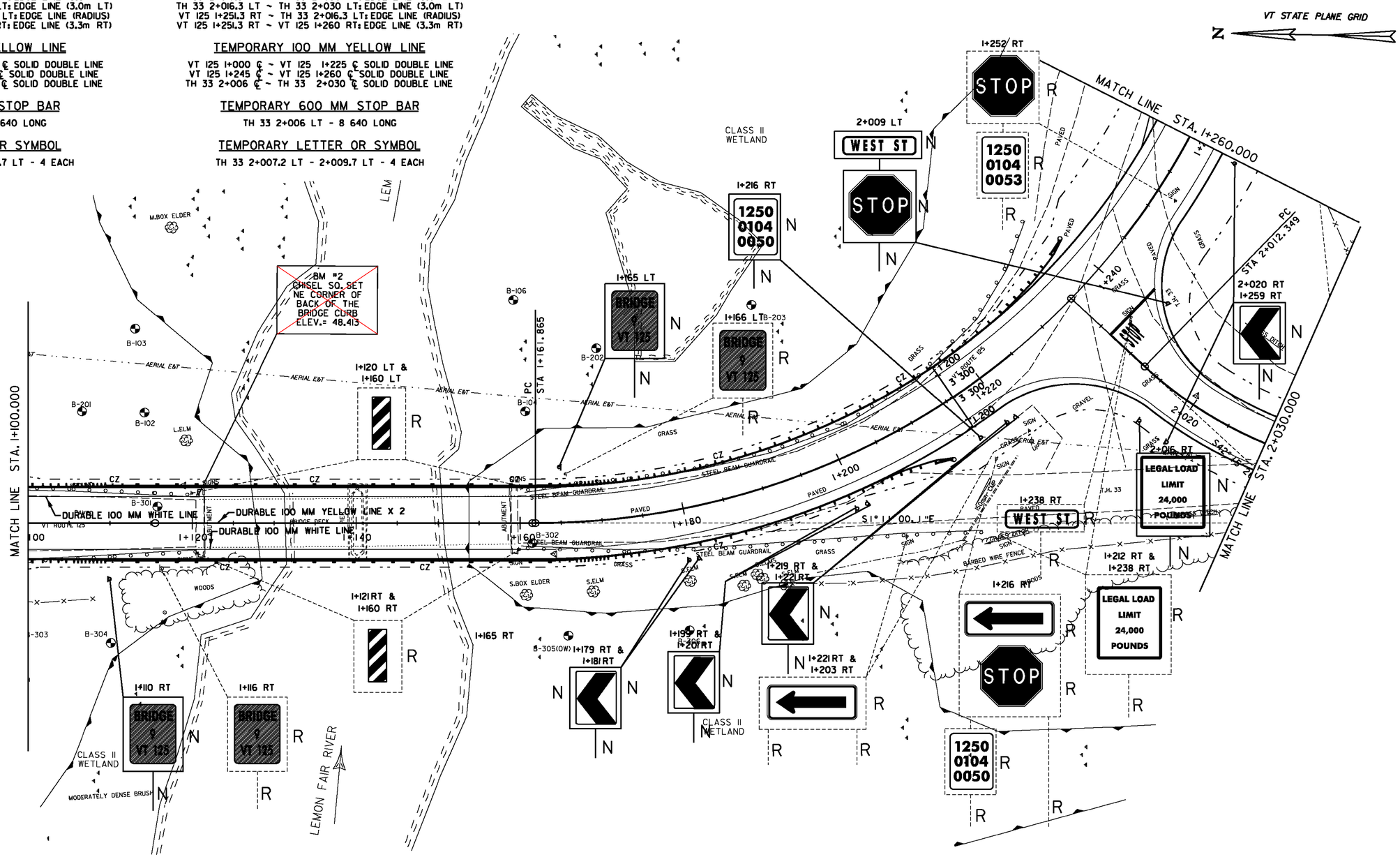
TH 33 2+006 LT - 8 640 LONG

TEMPORARY LETTER OR SYMBOL

TH 33 2+007.2 LT - 2+009.7 LT - 4 EACH

REMOVING SIGNS

16 EACH



SIGN LEGEND

= EXISTING SIGN
= NEW SIGN
R = REMOVE
N = NEW

0 10 20 30
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042tsbdr.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY — PLOT DATE: 3/15/2010
SQUAD LEADER: MARTHA EVANS-MONGEON — SURVEY DATE: 1996&1999
PVMT MARKINGS AND SIGNS LAYOUT SHEET 2 — DRAWN BY: ERIK ATKINS
SHEET: 58 OF 144

DURABLE 100 MM WHITE LINE

1+260 LT ~ 1+380 LT: EDGE LINE (3.3m LT)
1+260 RT ~ 1+380 RT: EDGE LINE (3.3m RT)

DURABLE 100 MM YELLOW LINE

1+260 ℄ ~ 1+380 ℄ SOLID DOUBLE LINE

TEMPORARY 100 MM WHITE LINE

1+260 LT ~ 1+380 LT: EDGE LINE (3.3m LT)
1+260 RT ~ 1+380 RT: EDGE LINE (3.3m RT)

TEMPORARY 100 MM YELLOW LINE

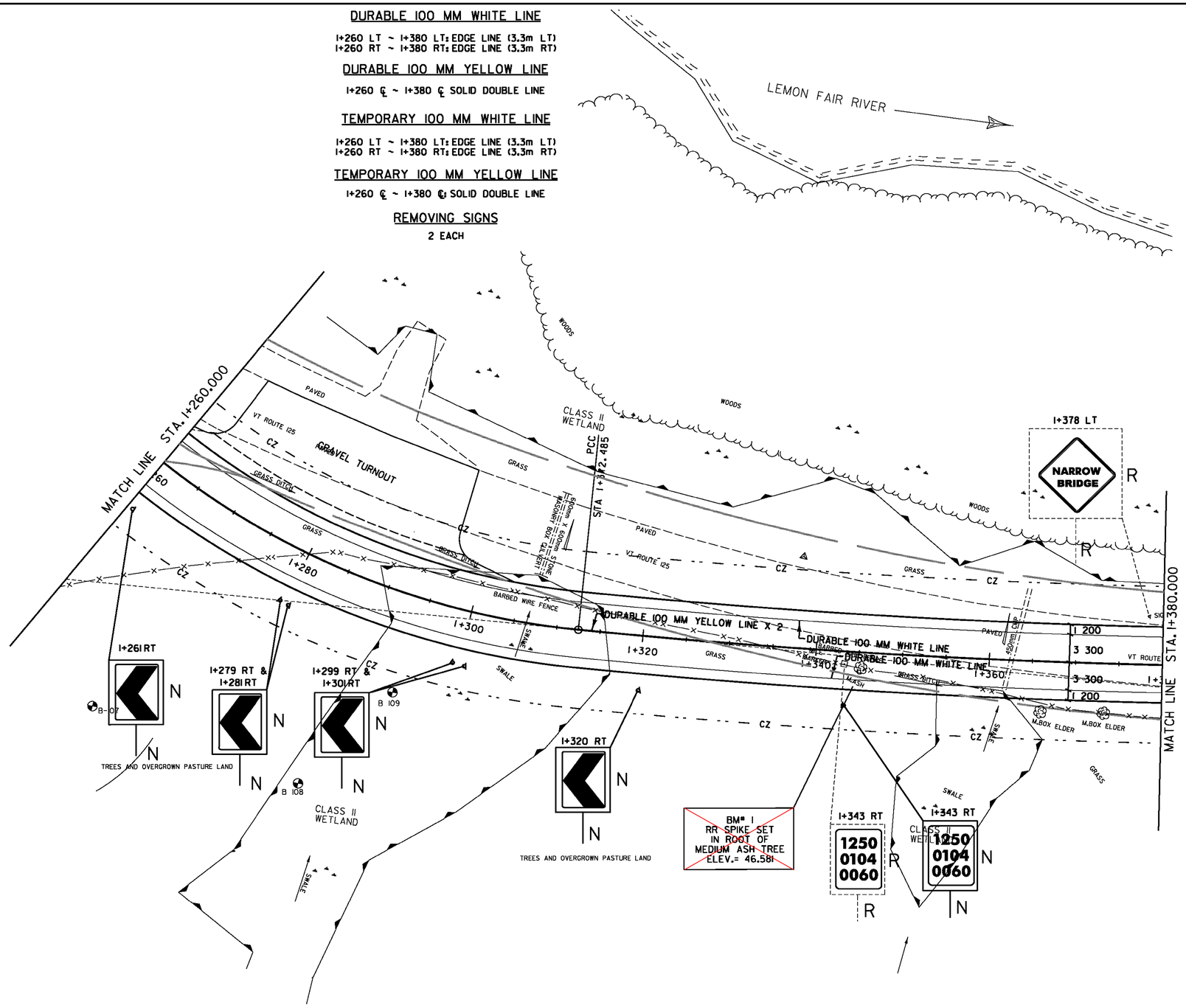
1+260 ℄ ~ 1+380 ℄: SOLID DOUBLE LINE

REMOVING SIGNS

2 EACH

VAOT Metric

N
VT STATE PLANE GRID



SIGN LEGEND

- ⬚ = EXISTING SIGN
- ▯ = NEW SIGN
- R = REMOVE
- N = NEW

0 10 20 30
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042tsbdr.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY — SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON — DRAWN BY: ERIK ATKINS
PVMT MARKINGS AND SIGNS LAYOUT SHEET 3 — PLOT DATE: 3/15/2010
SHEET: 59 OF 144

VAOT Metric

DURABLE 100 MM WHITE LINE

I+380 LT ~ I+440 LT: EDGE LINE (3.3m LT)
I+380 RT ~ I+440 RT: EDGE LINE (3.3m RT)

DURABLE 100 MM YELLOW LINE

I+380 ℄ ~ I+440 ℄: SOLID DOUBLE LINE

TEMPORARY 100 MM WHITE LINE

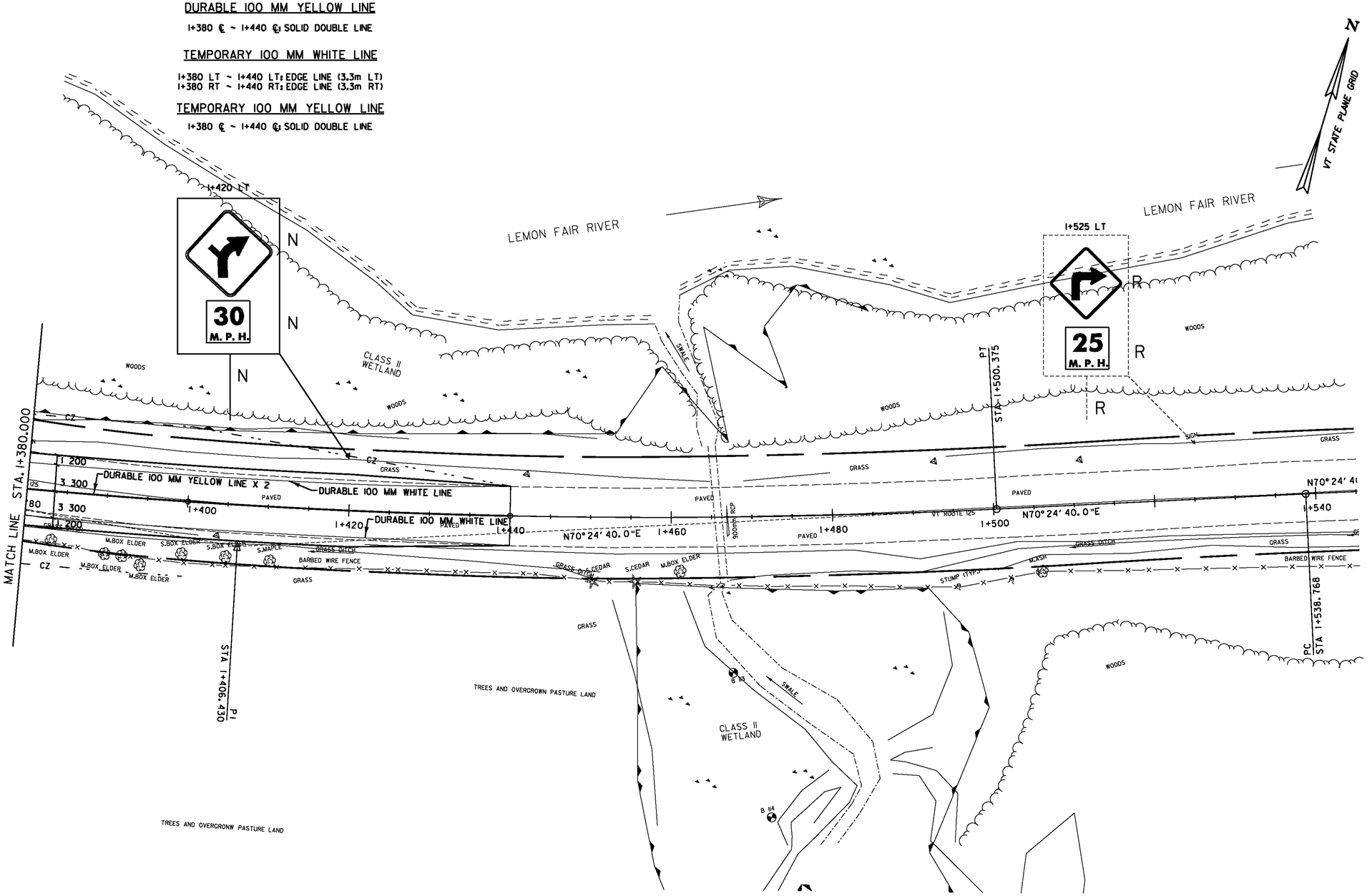
I+380 LT ~ I+440 LT: EDGE LINE (3.3m LT)
I+380 RT ~ I+440 RT: EDGE LINE (3.3m RT)

TEMPORARY 100 MM YELLOW LINE

I+380 ℄ ~ I+440 ℄: SOLID DOUBLE LINE

REMOVING SIGNS

2 EACH



SIGN LEGEND

- = EXISTING SIGN
- = NEW SIGN
- R = REMOVE
- N = NEW

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

0 10 20 30
SCALE IN METERS

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042tsbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/11/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
PVMT MARKINGS AND SIGNS LAYOUT SHEET 4	SHEET: 60 OF 144

VAOT Metric

DURABLE 100 MM WHITE LINE

TH 33 2+030 RT ~ TH 33 2+120 RT: EDGE LINE (3.0m RT)
TH 33 2+030 LT ~ TH 33 2+120 LT: EDGE LINE (3.0m LT)

DURABLE 100 MM YELLOW LINE

TH 33 2+030 ℄ ~ TH 33 2+120 ℄: SOLID DOUBLE LINE

TEMPORARY 100 MM WHITE LINE

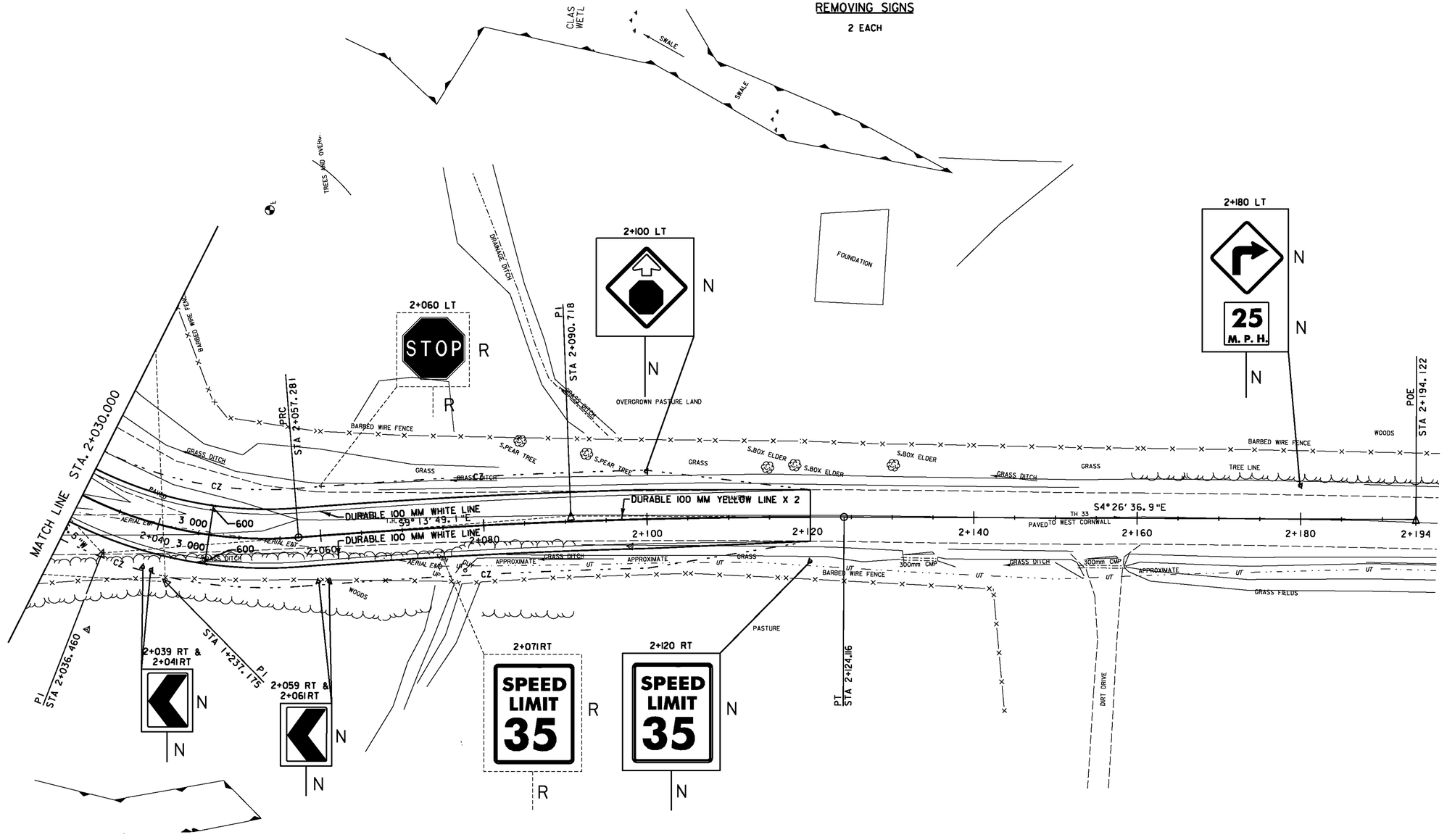
TH 33 2+030 RT ~ TH 33 2+120 RT: EDGE LINE (3.0m RT)
TH 33 2+030 LT ~ TH 33 2+120 LT: EDGE LINE (3.0m LT)

TEMPORARY 100 MM YELLOW LINE

TH 33 2+030 ℄ ~ TH 33 2+120 ℄: SOLID DOUBLE LINE

REMOVING SIGNS

2 EACH



SIGN LEGEND

- [ ] = EXISTING SIGN
- [ ] = NEW SIGN
- R = REMOVE
- N = NEW

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

0 10 20 30
SCALE IN METERS

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042tsbdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/11/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
PVMT MARKINGS AND SIGNS LAYOUT SHEET 5	SHEET: 61 OF 144

VT STATE PLANE GRID

N

CLASS II WETLAND

LEMON FAIR RIVER

M.BOX ELDER

GRASS FIELD

BM #2
CHISEL SQ. SET
NE CORNER OF
BACK OF THE
BRIDGE CURB
ELEV.= 48.413

B-106

B-103

B-202

MODERATELY DENSE BRUSH

APPROXIMATE UT

AERIAL E&T

B-201

B-102

B-104

M.HICKORY

BOX ELDER

S.HICKORY

L.ELM

MILE MARKER

GRASS DITCH

STEEL BEAM GUARDRAIL

PI STA 3+064.896

PT STA 3+111.054

PC STA 3+172.675

MATCH LINE STA. 3+180.000

GRASS

PAVED

VT ROUTE 125

RBOUND

SIGNS

B-301

ABUTMENT

BRIDGE DECK

PIER

B-302

SIGN

3+020

3+040

3+060

3+080

3+100

3+120

3+140

3+160

3+

B-303

B-304

B-305(OW)

PC STA 3+040.000

PRC STA 3+089.343

PI STA 3+100.297

WOODS

S.BOX ELDER

S.MAPLE

S.TREE

ROCK FLOWER GARDEN

M.MAPLE

S.ELM

S.ASH

FLOWER GARDEN

(TYP.) RAIL FENCE

BARBED WIRE FENCE

NOTES:

1) VT 125 TEMPORARY DETOUR IS TO BE CONSTRUCTED IN ACCORDANCE WITH STD. E-107, SHEET 5 AND THE STANDARD SPECIFICATIONS AND AS APPROVED BY THE ENGINEER FOR A 40 KM/H (25 MPH) ROADWAY. THE CONTRACTOR SHALL PROVIDE TEMPORARY 100 MM YELLOW ℄ AND 100 MM WIDE WHITE EDGELINES FOR THE ENTIRE PAVED PORTION OF THE DETOUR. THE CONTRACTOR SHALL ALSO PROVIDE TEMPORARY STOP BAR AND SIGNAGE FOR THE T.H. 33 APPROACH AND ALL OTHER TEMPORARY MARKINGS REQUIRED. THE CONTRACTOR SHALL SUBMIT TEMPORARY SIGNING AND PAVEMENT MARKING PLANS TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL REMOVE EXISTING PAVEMENT MARKINGS AS REQUIRED.
2) THE COST OF FURNISHING, INSTALLING, MAINTAINING AND REMOVING ALL CONSTRUCTION APPROACH SIGNS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM 641.10 TRAFFIC CONTROL. DURING ALL PHASES OF CONSTRUCTION, THE REQUIREMENTS SET FORTH IN THE LATEST VERSION OF MUTCD AND THE AASHTO ROADSIDE DESIGN GUIDE SHALL BE MET. WHEN THE PROJECT IS CLOSED DOWN FOR TEMPORARY PERIODS, THE SIGNS SHALL BE COVERED IN A WORKMANLIKE MANNER. (SEE VT STD. E-100)
3) PAYMENT FOR PLACEMENT & REMOVAL OF DETOUR PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKINGS AND TEMPORARY STOP BAR ON T.H. 33 SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 528.11 TWO-WAY TEMPORARY BRIDGE.

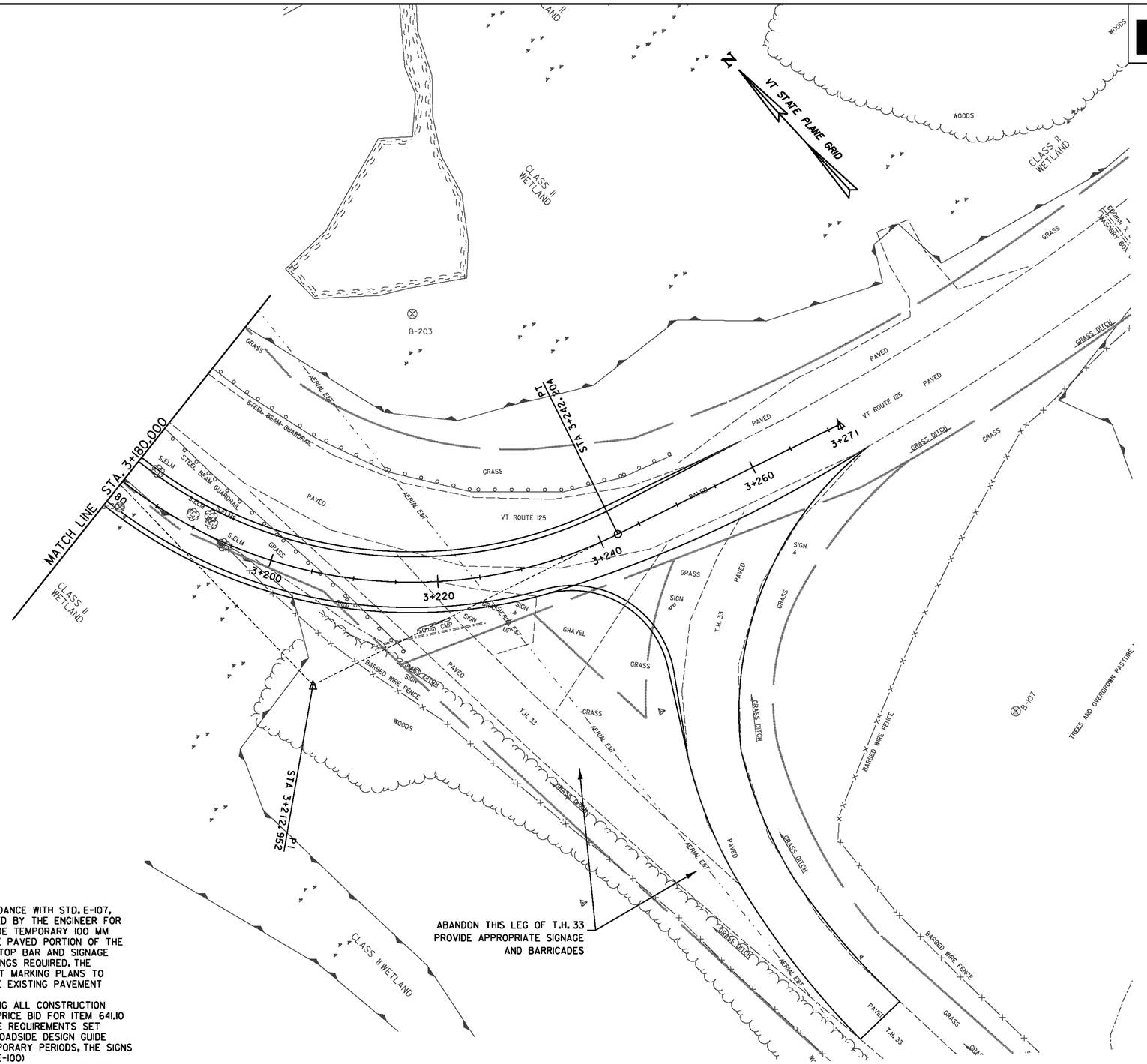
0 10 20 30

SCALE IN METERS

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042tsdebdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/11/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TEMP DET PVMNT MARKINGS & SIGNS SHT 1	SHEET: 62 OF 144

VAOT Metric



NOTES:

1) VT 125 TEMPORARY DETOUR IS TO BE CONSTRUCTED IN ACCORDANCE WITH STD. E-107, SHEET 5 AND THE STANDARD SPECIFICATIONS AND AS APPROVED BY THE ENGINEER FOR A 40 KM/H (25 MPH) ROADWAY. THE CONTRACTOR SHALL PROVIDE TEMPORARY 100 MM YELLOW ℄ AND 100 MM WIDE WHITE EDGELINES FOR THE ENTIRE PAVED PORTION OF THE DETOUR. THE CONTRACTOR SHALL ALSO PROVIDE TEMPORARY STOP BAR AND SIGNAGE FOR THE T.H. 33 APPROACH AND ALL OTHER TEMPORARY MARKINGS REQUIRED. THE CONTRACTOR SHALL SUBMIT TEMPORARY SIGNING AND PAVEMENT MARKING PLANS TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL REMOVE EXISTING PAVEMENT MARKINGS AS REQUIRED.
2) THE COST OF FURNISHING, INSTALLING, MAINTAINING AND REMOVING ALL CONSTRUCTION APPROACH SIGNS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM 641.10 TRAFFIC CONTROL. DURING ALL PHASES OF CONSTRUCTION, THE REQUIREMENTS SET FORTH IN THE LATEST VERSION OF MUTCD AND THE AASHTO ROADSIDE DESIGN GUIDE SHALL BE MET. WHEN THE PROJECT IS CLOSED DOWN FOR TEMPORARY PERIODS, THE SIGNS SHALL BE COVERED IN A WORKMANLIKE MANNER. (SEE VT STD. E-100)
3) PAYMENT FOR PLACEMENT & REMOVAL OF DETOUR PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKINGS AND TEMPORARY STOP BAR ON T.H. 33 SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 528.11 TWO-WAY TEMPORARY BRIDGE.

0 10 20 30

SCALE IN METERS

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042tsdebdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/11/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TEMP DET PVMT MARKINGS & SIGNS SHEET 2	SHEET: 63 OF 144

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 1

Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 2.8	50 3.6	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	FOUNDATION	TUBULAR STEEL Ø (mm) kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS SHS = STANDARD HIGHWAY SIGN	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																								
VT125																																			
1+046 LT	1250 0104 0040	1	150	250	0.038						1				X			1																	E-138
1+056 RT	W1-10L	1	750	750	0.563						1					X		1																W1-10L		SHS
	30 M.P.H.	1	450	450	0.203																												W13-1 SUBMOUNT W/ PREVIOUS SIGN		SHS
1+095 LT	W1-2L	1	750	750	0.563						1					X		1																W1-2L		SHS
	40 M.P.H.	1	450	450	0.203																												W-13-1 SUBMOUNT W/ PREVIOUS SIGN		SHS
1+110 RT	SPEED LIMIT 45	1	150	200	0.030						1				X			1																VD-701		E-134
1+165 LT	SPEED LIMIT 45	1	150	200	0.030						1				X			1																VD-701		E-134
1+179 RT	W1-8	1	450	600	0.270						1					X		1																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1+181 RT	W1-8	1	450	600	0.270						1					X		1																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1+199 RT	W1-8	1	450	600	0.270						1					X		1																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1+201 RT	W1-8	1	450	600	0.270						1					X		1																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1+216 RT	1250 0104 0050	1	150	250	0.038						1				X			1																		E-138
1+219 RT	W1-8	1	450	600	0.270						1					X		1																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1+221 RT	W1-8	1	450	600	0.270						1					X		1																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
												m	m	m	m	m	m	EA	kg	kg	kg		kg	kg	kg	kg							
SHEET 1 TOTALS		m² 3.288		m²	EA.	m²						m			m 40.26	8.93			kg			EA.	kg				EA.	EA.	kg				

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."

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042tssum.dgn	
IPARM FILE NAME:	PLOT DATE: 3/16/2010
SURVEYED BY: VTRANS & VTSURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TRAFFIC SIGN SUMMARY SHEET 1	SHEET: 64 OF 144

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 2

Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 2.8	50 3.6	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS SHS = STANDARD HIGHWAY SIGN	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																								
1+259 RT		1	450	600	0.270						1					X		1																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1+261 RT		1	450	600	0.270						1					X		1																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1+279 RT		1	450	600	0.270						1					X		1																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1+281 RT		1	450	600	0.270						1					X		1																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1+299 RT		1	450	600	0.270						1					X		1																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1+301 RT		1	450	600	0.270						1					X		1																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1+320 RT		1	450	600	0.270						1					X		1																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1+343 RT	1250 0104 0060	1	150	250	0.038						1				X			1																		E-138
1+420 LT		1	750	750	0.563						1					X		1																W1-10R		SHS
	30 M.P.H.	1	450	450	0.203																													W13-1 SUBMOUNT W/ PREVIOUS SIGN		SHS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 3

Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 2.8	50 3.6	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS SHS = STANDARD HIGHWAY SIGN	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																								
T. H. 33																																			
2+011 LT	WEST ST	1	600	150	0.090											X		1															D1-1		SHS
	STOP		750	750	0.563																												R1-1		SHS
2+016 RT	LEGAL LOAD LIMIT 24,000 POUNDS	1	600	750	0.450						1					X		1															VR-017		E-141
2+020 RT		1	450	600	0.270						1					X		1															W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
2+039 RT		1	450	600	0.270						1					X		1															W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
2+041 RT		2	450	600	0.270						1					X		1															W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
2+059 RT		1	450	600	0.270						1					X		1															W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
2+061 RT		1	450	600	0.270						1					X		1															W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
2+100 LT		1	900	900	0.810						1					X		1															W3-1A		SHS
2+120 RT	SPEED LIMIT 35	1	600	750	0.450						1				X			1															R2-1		SHS
2+180 LT		1	750	750	0.563						1					X		1															W1-1R		SHS
	25 M.P.H.	1	450	450	0.203																												W13-1 SUBMOUNT W/ PREVIOUS SIGN		SHS
					m²	m²	EA.	m²				m			m				EA	kg				kg					EA.					EA.	EA.	kg
SHEET 3 TOTALS					4.479										22.39	14.10																				
TOTALS (ALL SHEETS)					m² 10.460	m²	EA.	m²				m			m 123.99					kg				kg					EA.					EA.	EA.	kg

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."

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042tssum.dgn	
IPARM FILE NAME:	PLOT DATE: 3/16/2010
SURVEYED BY: VTRANS & VTSURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TRAFFIC SIGN SUMMARY SHEET 3	SHEET: 66 OF 144

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COLOR

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

DEFINITIONS (AASHTO)

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

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

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

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

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

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

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

VARVED - Alternate layers of silt and clay.

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

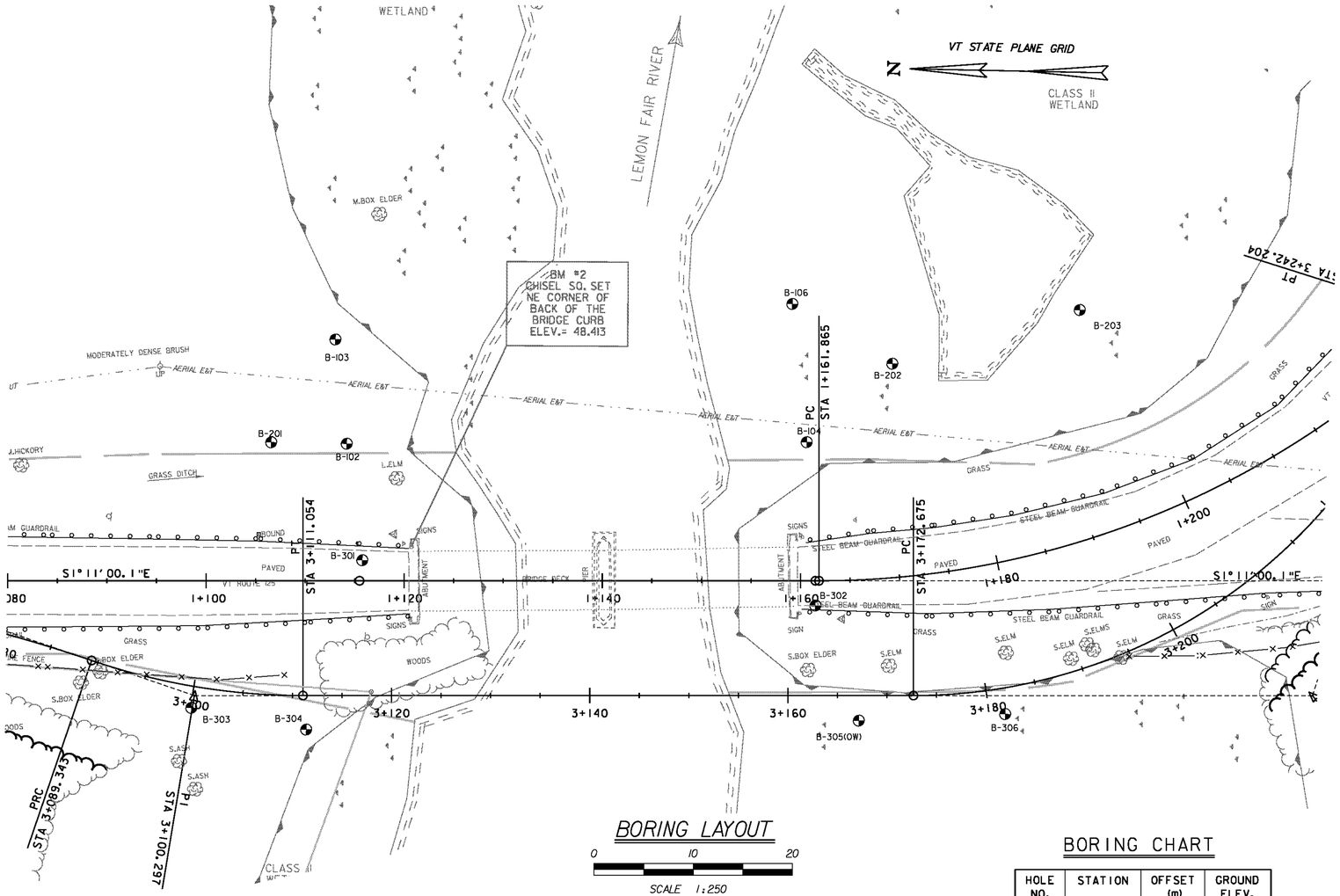
MUCK - Soft organic soil (containing > 10% organic material.

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

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

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

DIP - Inclination of bed with a horizontal plane.



BORING LAYOUT

0 10 20

SCALE 1:250

GENERAL NOTES

1. The 100 series test borings were drilled by the Agency between the period from 9/14/00 through 11/2/00 and were observed and logged by VTRANS personnel.
2. The 200 series test borings were drilled by New Hampshire Boring, Inc. of Londonderry, New Hampshire between the period from 9/10/01 through 9/25/01 and were observed and logged by GZA personnel.
3. The 300 series test borings were drilled by New Hampshire Boring, Inc. of Londonderry, New Hampshire between the period from 7/19/04 through 8/12/04 and were observed and logged by GZA personnel.
4. 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.
5. 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.
6. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
7. 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.
8. 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.
9. The approximate location of test borings B201, B202, B203, B301, B302, B303, B304, B305, and B306 were determined by tape measurements from existing site and topographic features. The ground surface elevations at the location of the test borings were determined by interpolation from the existing ground surface contours. This data should be considered accurate only to the degree implied by the method.

BORING CHART

HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.
B102	1+114.2	-13.8	44.85
B103	1+113.1	-24.4	44.27
B104	1+160.6	-14.0	42.49
B106	1+159.2	-28.0	42.47
B201	1+106.6	-13.9	45.92
B202	1+171.0	-21.5	42.68
B203	1+197.6	-22.0	42.76
B301	1+115.8	-2.1	48.29
B302	1+161.5	2.5	47.28
B303	1+098.5	12.8	45.63
B304	1+110.1	15.0	44.28
B305	1+165.3	14.2	42.56
B306	1+178.0	15.1	43.26

BORING LAYOUT SHEET 1

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042Borings.dgn IPARM FILE NAME:	PLOT DATE: 2/5/2010
	SHEET: 67 OF 144

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
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R.Q.D. (%)	ROCK DESCRIPTION
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UNDRAINED SHEAR STRENGTH IN kPa	CONSISTENCY
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25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

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

COLOR

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

DEFINITIONS (AASHTO)

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

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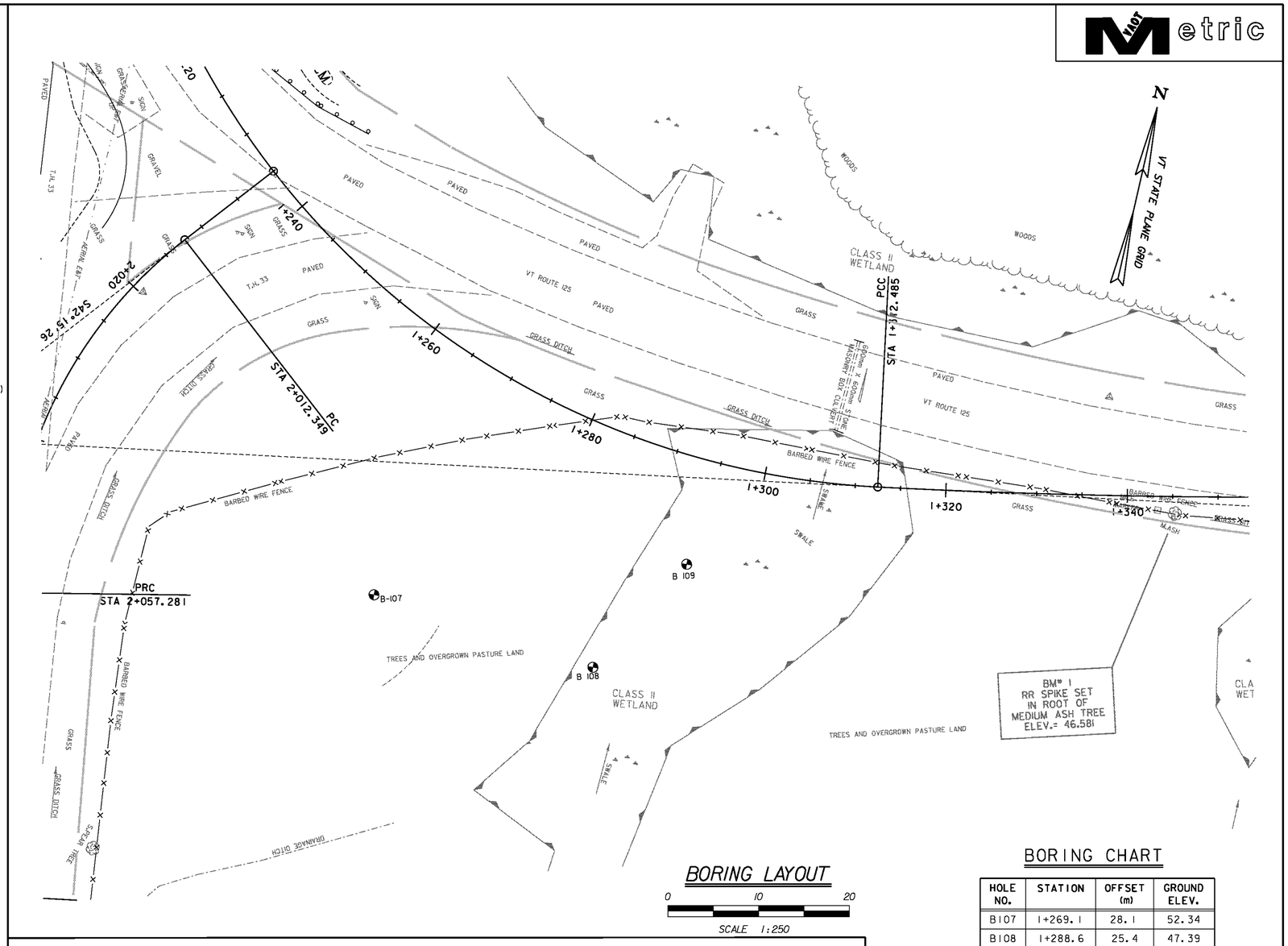

BORING LAYOUT

0 10 20

SCALE 1:250

BORING CHART

HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.
B107	1+269.1	28.1	52.34
B108	1+288.6	25.4	47.39
B109	1+294.1	11.6	46.19

GENERAL NOTES

1. The 100 series test borings were drilled by the Agency between the period from 9/14/00 through 11/02/00 and were observed and logged by VTRANS personnel.
2. The 200 series test borings were drilled by New Hampshire Boring, Inc. of Londonderry, New Hampshire between the period from 9/10/01 through 9/25/01 and were observed and logged by GZA personnel.
3. The 300 series test borings were drilled by New Hampshire Boring, Inc. of Londonderry, New Hampshire between the period from 7/19/04 through 8/12/04 and were observed and logged by GZA personnel.
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BORING LAYOUT SHEET 2

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042Borings.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
	SHEET: 68 OF 144

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

HOLE NO.: B-102
SHEET 1 OF 3
DATE STARTED: 9/14/00
DATE COMPLETED: 09/25/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+114.20
GROUND EL.:

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -13.8
G.W. DEPTH:

BORING CREW
CREW CHIEF: YOUNG
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: UNI-MOG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-7-6, Cl, brn, MTW, Rec. = 0.25m	2	45.9		2.9	97.1	62	33
		A-7-6, Cl, Lt-gry, MTW, Rec. = 0.60m, Mottled Material	15	27.2	0.5	4.1	95.4	43	22
		A-7-6, Cl, Lt-gry, MTW, Rec. = 0.29m, Mottled Material	15	28.6	0.3	4.3	95.4	41	21
		A-7-6, Cl, Lt-gry, MTW, Rec. = 0.60m	17	32.4	0.3	1.7	98	49	27
5		A-7-6, Cl, Lt-gry, MTW, Rec. = 0.36m	11	32.2		0.8	99.2	49	28
		A-6, Cl, gry, MTW, Rec. = 0.38m	3	47.4		0.8	99.2	37	20
		A-6, Si Cl, gry, MTW, Rec. = 0.38m	14	35.8	0.4	7.1	92.5	27	13
		A-4, Sa Si, gry, Moist Rec. = 0.45m	32	20.3		29	71		
		A-4, Si Sa, gry, MTW Rec. = 0.38m	20	21.5	0.9	56	43.1		
10		A-4, Sa Si, gry, Moist Rec. = 0.35m	9	16.7	0.3	27	72.7		
		A-2-4, Si Sa, gry, MTW Rec. = 0.51m	25	20.7	0.3	75.3	24.4		
		A-4, Sa Si, gry, MTW Rec. = 0.60m	4	25.2	6.6	23.5	69.9	20	4
		A-3, Sa, gry, MTW Rec. = 0.38m	14	20.5	2.2	89.6	8.2		

NOTE : ASSUME BM ELEV. 100.000 m

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

HOLE NO.: B-102
SHEET 2 OF 3
DATE STARTED: 9/14/00
DATE COMPLETED: 09/25/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+114.20
GROUND EL.:

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -13.8
G.W. DEPTH:

BORING CREW
CREW CHIEF: YOUNG
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: UNI-MOG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, SaSi, gry, MTW Rec. = 0.60m		21.5	8	31.4	68.6		
		A-4, SaSi, gry, Moist, Rec. = 0.57m	9	20	1.5	31.9	66.6		
		A-3, Sa, gry, MTW Rec. = 0.60m	21	20.9	0.1	95.5	4.4		
		BXWDC, 19.05m-19.25m							
20		A-4, SiSa, gry, Moist, Rec. = 0.15m	19	12.8	13.9	50	36.1		
		A-2-4, SiSa, gry, Moist, Rec. = 0.30m	33	12.7	10.6	55.9	33.5		
		BXWDC, 22.09m-23.00m Poss. Boulder, No sample							
		A-1-a, SaGr, gry, Moist, Rec. = 0.17m	R	17.4	61.6	33.4	5		
25		BXWDC, 24.15m-25.00m, Poss. Boulder							
		A-3, Sa, gry, Moist, Rec. = 0.30m	R	19.5	0.1	95.3	4.6		
		A-1-b, Sa, gry, Moist, Rec. = 0.30m	R	13.6	1.5	92.4	6.1		
		A-4, SiSa, gry, Moist, Rec. = 0.58m	61	13.6	3.8	59.2	37		

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

HOLE NO.: B-102
SHEET 3 OF 3
DATE STARTED: 9/14/00
DATE COMPLETED: 09/25/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+114.20
GROUND EL.:

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -13.8
G.W. DEPTH:

BORING CREW
CREW CHIEF: YOUNG
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: UNI-MOG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4, SiSa, gry, Moist Rec. = 0.51m	39	15.6	1.6	68.8	29.6		
		No sample	R						
		A-4, SiSa, gry, Moist Rec. = 0.46m	R	14.6	2.5	59.5	38		
35		A-4, SiSa, gry, Moist Rec. = 0.31m	R	13.4	0.5	54.3	45.2		
		A-4, SiSa, gry, Moist Rec. = 0.40m	R	17.6	0.4	60.8	38.8		
		A-4, SaSi, gry, Moist Rec. = 0.06m	R	12.8	3.1	29.1	67.8		
		A-2-4, SiGr HP, gry, Dry, BXWDC, 38.6m-41.0m, Very hard silt & stones, Sampled from core barrel.		4.4	56.5	15.7	27.8		
40		Hole stopped @ 41.00m							

DRILLER'S NOTES:

1. Pulled casing at 19.30m and changed bit.
2. Casing plugged at 24.65m, pulled casing at 25.14m and changed bit

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

BORING LOG SHEET 1

PROJECT: CORNWALL	PROJECT NO.: BRS 0172 (6)
DESIGN FILE NAME: z85e042bor logs.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY:	SURVEY DATE:
SQUAD LEADER: C.C. BENDA	DRAWN BY: J. TOUCHETTE
DRAWN DATE 03/97	SHEET: 69 OF 144

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

HOLE NO.: B-103
SHEET 1 OF 4
DATE STARTED: 9/27/00
DATE COMPLETED: 10/6/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+113.10
GROUND EL.:

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -24.4
G.W. DEPTH: 0.32

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: UNI-MOG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL/SHELBY TUBE

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	D R	A-7-6, Cl, 1.00m-1.58m, Rec. = 0.46m, 5.77% Organic, Shelby Tube U1		36	0.2	4.4	95.4	54	26
		VS: Could only penetrate 0.2m							
		A-7-6, Cl, 3.00m-3.59m, Rec. = 0.59m, Shelby Tube U2		35.4		1.1	98.9	51	29
		VS: 13.0 KPa/remold-13.5 KPa							
5		A-6, SiCl, 5.00m-5.59m, Rec. = 0.59m, Shelby Tube U3		33.1		0.9	99.1	36	18
		VS: 15.0 KPa/remold-5.5 KPa							
	SHELBY TUBE	7.00m-7.43m, Shelby Tube No Rec.							
		VS: 15.5 KPa/remold-6.0 KPa Vane came back heavily damaged							
	SHELBY TUBE	9.00m-9.28m, Shelby Tube No Rec.							
10		VS: 50.5 KPa/remold-11.0 KPa							
		A-2-4, Sa, gry, Moist, Rec. = 0.38m	18	19	1.6	86.6	11.8		
		A-2-4, Sa, gry, Moist, Rec. = 0.59m	21	19.6	2.9	84.8	12.3		

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

HOLE NO.: B-103
SHEET 2 OF 4
DATE STARTED: 9/27/00
DATE COMPLETED: 10/6/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+113.10
GROUND EL.:

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -24.4
G.W. DEPTH: 0.32

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: UNI-MOG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL/SHELBY TUBE

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, SaSi, gry, WTW, Rec. = 0.57m	6	20.8	0.5	24.7	74.8		
		A-4, SiSa, gry, WTW, Rec. = 0.41m	17	22.4	1.2	53.2	45.6		
		A-3, Sa, gry, WTW, Rec. = 0.46m	35	20.9	0.1	95.3	4.6		
20		A-4, SaSi, gry, WTW, Rec. = 0.60m	24	22.3	3.5	31.5	65		
		A-2-4, GrSa, gry, Moist, Rec. = 0.29m	41	13.6	28.5	58.4	13.1		
		No sample, in gravel							
		BXDC, 23.21m-24.60m, Boulders							
25		A-2-4, Sa, gry, Moist, Rec. = 0.23m	22	18.1	6	79.8	14.2		
		A-4, SiSa, gry, Moist, Rec. = 0.45m	36	14.1	4	58.2	37.8		
		A-2-4, SiSa, gry, Moist, Rec. = 0.31m	R	17.4	1.1	76	22.9		

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

HOLE NO.: B-103
SHEET 3 OF 4
DATE STARTED: 9/27/00
DATE COMPLETED: 10/6/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+113.10
GROUND EL.:

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -24.4
G.W. DEPTH: 0.32

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: UNI-MOG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL/SHELBY TUBE

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No Rec., Stone in sampler.	R						
35		A-3, Sa, gry, Moist, Rec. = 0.44m	R	13.4	0.5	93.1	6.4		
		BXDC, 37.05m-37.50m, Cleaned out casing.							
		A-1-b, GrSa, gry, Moist, Rec. = 0.33m, Broken Rock was within sample.	R	12.1	22.9	69	8.1		
40		No Rec.	R						
		A-4, SaGrSi HP, gry, Dry, Rec. = 0.10m	R	7.1	37.3	24.2	38.5		

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

HOLE NO.: B-103
SHEET 4 OF 4
DATE STARTED: 9/27/00
DATE COMPLETED: 10/6/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+113.10
GROUND EL.:

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -14.00
G.W. DEPTH: 0.32

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: UNI-MOG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL/SHELBY TUBE

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		BXDC, 45.70m-47.20m, Boulders							
50		Hole stopped @ 47.20m							

DRILLER'S NOTES:

1. Monitoring well installed at 7.62m, the well casing extends 0.98m above the ground elevation.
2. Water table is 0.32m below ground surface on 11/16/00
3. Changed to smaller casing at 16.50m.
4. 21.0m of sand in casing at 28.5m - added drilling mud, pulled casing back and readvanced casing to 28.50m.
5. Water table is 0.12m below ground surface on 03/15/01

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

BORING LOG SHEET 2

PROJECT: CORNWALL
PROJECT NO.: BRS 0172 (6)

DESIGN FILE NAME: z85e042borlogs.dgn
IPARM FILE NAME:
SURVEYED BY:
SQUAD LEADER: C.C. BENDA
DATE: 03/01
PLOT DATE: 2/5/2010
SURVEY DATE:
DRAWN BY: J. TOUCHETTE
SHEET: 70 OF 144

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

HOLE NO.: B-104
SHEET 1 OF 3
DATE STARTED: 11/2/00
DATE COMPLETED: 11/09/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+160.60
GROUND EL.:

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -14.0
G.W. DEPTH: 0.00

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: CHABOT
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH ▽	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No Sample, Ledge Fill							
		A-8, Organic Silt, brn, Sat, Rec. = 0.23m, Tested 22.04% Organic	2	141.3					
		A-8, Organic Silt, brn, Sat, Rec. = 0.28m, Tested 26.4% Organic	WH	246.3					
5		A-4, SiSa, gry, MTW, Rec. = 0.48m	10	22.1	0.2	61.1	38.7		
		A-4, SaSi, gry, MTW, Rec. = 0.24m	18	21.5		33.9	66.1		
		A-4, SiSa, gry, MTW, Rec. = 0.44m	14	22.1	0.8	59.1	40.1		
		A-3, Sa, gry, MTW, Rec. = 0.15m	7	21.5	4.7	91.9	3.4		
		A-3, Sa, gry, Moist, Rec. = 0.40m	8	20.2	1.4	96.9	1.7		
10		A-3, Sa, gry, Moist, Rec. = 0.33m	5	19.9	6.2	91.4	2.4		
		No Sample, Flowing sand, Casing plugged.							
		A-2-4, Sa, gry, Moist, Rec. = 0.44m	8	19.5	9.6	77.7	12.7		
		A-4, Si, gry, MTW, Rec. = 0.46m	23	28.2	0.8	9	90.2		

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

HOLE NO.: B-104
SHEET 2 OF 3
DATE STARTED: 11/2/00
DATE COMPLETED: 11/09/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+160.60
GROUND EL.:

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -14.0
G.W. DEPTH: 0.00

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: CHABOT
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, SiSa, gry, Moist, Rec. = 0.56m	36	19.2	2.4	60.6	37		
		A-2-4, Sa, gry, Moist, Rec. = 0.60m	20	14.2	8.8	78	13.2		
		A-4, SaSi, gry, MTW, Rec. = 0.43m	5	22.4	0.3	34	65.7		
20		A-4, SaSi, gry, Moist, Rec. = 0.22m	14	16.7	18.2	27.4	54.4		
		A-3, GrSa, gry, Moist, Rec. = 0.58m	35	14	20.2	72.3	7.5		
		No sample, Stone in sampler.							
		No sample, Stone in sampler.	R						
25		BXDC, 24.90m-25.60m, Boulders							
		BXDC, 26.92m-27.22m, Boulders							
		A-2-4, SiSa, gry, Moist, Rec. = 0.60m	R	14.3	3.4	65.6	31		

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

HOLE NO.: B-104
SHEET 3 OF 3
DATE STARTED: 11/2/00
DATE COMPLETED: 11/09/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+160.60
GROUND EL.:

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -14.0
G.W. DEPTH: 0.00

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: CHABOT
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4, SiSa, gry, Moist, Rec. = 0.60m	92	13.1	0.9	65.9	33.2		
		A-3, Sa, gry, Moist, Rec. = 0.60m	95	18.4		93.5	6.5		
35									
		No sample, Flowing sand up in casing.							
		A-4, SaSi, gry, Dry, Rec. = 0.51m	53	9	4.9	30.6	64.5		
40		Hole stopped @ 39.60m							

DRILLER'S NOTES:

1. At 22.50m changed over to 88mm casing.
2. Changed casing bit at 26.00m
3. Water flowing above casing at 22.50m, Measured 13.9 gpm.
4. Flow stopped at 28.00m.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

BORING LOG SHEET 3

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172 (6)

DESIGN FILE NAME: z85e042borlogs.dgn
IPARM FILE NAME:
SURVEYED BY:
SQUAD LEADER: C.C. BENDA
DATE: 03/01

PLOT DATE: 2/5/2010
SURVEY DATE:
DRAWN BY: J. TOUCHETTE
SHEET: 71 OF 144

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

HOLE NO.: B-106
SHEET 1 OF 4
DATE STARTED: 10/17/00
DATE COMPLETED: 10/26/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+159.20
GROUND EL.: 42.62

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -28.00
G.W. DEPTH: 0.00

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH ▽	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-8, Organic Silt, brn, Sat, Rec. = 0.15m Tested 33.5% Organic	3	393.4					
		A-8, Organic Silt, brn, Sat, Rec. = 0.17m Tested 24.1% Organic	WH	319.7					
		A-8, Organic Silt, brn, Sat, Rec. = 0.60m Tested 20.6% Organic	2	322.8					
		A-4, Silt with Little Organics, brn-gry, Sat, Rec. = 0.45m Tested 15.4% Organic	3	113.4					
5		A-2-4, SiSa, gry, WTW, Rec. = 0.30m	5	45.4	0.9	67.3	31.8		
		A-3, GrSa, gry, Moist, Rec. = 0.40m	18	14	31	64.2	4.8		
		A-3, Sa, gry, WTW, Rec. = 0.60m	28	20.8	2.8	93.5	3.7		
		A-3, Sa, gry, WTW, Rec. = 0.12m	7	24.6		95.4	4.6		
		A-1-b, Sa, gry, WTW, Rec. = 0.10m	11	21.4	7.7	91.3	1		
10		A-3, Sa, gry, WTW, Rec. = 0.28m	9	21	1	97.6	1.4		
		A-3, Sa, gry, Moist, Rec. = 0.33m	16	20.4	1.2	97.3	1.5		
		A-2-4, Sa, gry, Moist, Rec. = 0.50m	33	20.2	0.4	88.4	11.2		
		A-2-4, SiSa, gry, Moist, Rec. = 0.60m	8	17.4	2.2	76.7	21.1		

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

HOLE NO.: B-106
SHEET 2 OF 4
DATE STARTED: 10/17/00
DATE COMPLETED: 10/26/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+159.20
GROUND EL.: 42.62

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -28.00
G.W. DEPTH: 0.00

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, SaSi, gry, WTW, Rec. = 0.20m	6	20.8	1.6	41.4	57		
		A-3, GrSa, gry, Moist, Rec. = 0.22m	3	14.7	27.3	66.3	6.4		
		A-2-4, SiSa, gry, Moist, Rec. = 0.60m	4	19	2.1	65.9	32		
20		A-2-4, SiSa, gry, Moist, Rec. = 0.60m	23	14.4	19.9	47	33.1		
		BXDC, 21.5m-22.8m, Boulders							
		No Rec.	38						
		A-2-4, GrSa, gry, Dry, Rec. = 0.50m	24	9.2	34.6	46.7	18.7		
25		No sample, Stone in casing.							
		A-1-a, SaGr, gry, Dry, Rec. = 0.49m	74	9.5	61.5	32.3	6.2		
		A-2-4, GrSa, gry, Moist, Rec. = 0.33m	R	13.1	26.9	53.2	19.9		

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

HOLE NO.: B-106
SHEET 3 OF 4
DATE STARTED: 10/17/00
DATE COMPLETED: 10/26/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+159.20
GROUND EL.: 42.62

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -28.00
G.W. DEPTH: 0.00

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, SiSa, gry, Moist, Rec. = 0.36m	R	13.3	1	50.4	48.6		
		A-4, SiSa, gry, Moist, Rec. = 0.60m	R	13.8	1	53.3	45.7		
35		A-2-4, Sa, gry, WTW, Rec. = 0.23m	R	21.9	0.2	81.5	18.3		
		No Rec.	R						
40		Visual Classification: A-4, Si, brn, Moist, Insufficient sample for testing.	R						

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

HOLE NO.: B-106
SHEET 4 OF 4
DATE STARTED: 10/17/00
DATE COMPLETED: 10/26/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+159.20
GROUND EL.: 42.62

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: -28.00
G.W. DEPTH: 0.00

BORING CREW
CREW CHIEF: YOUNG
DRILLER: CHABOT
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
			R						
		Visual Classification: Broken Rock, Insufficient sample for testing.							
50		Hole stopped @ 45.60m							

DRILLER'S NOTES:

1. Monitoring well installed.
   0.21m of well casing extends above ground elevation.
2. Water table observed at ground surface on 03/15/01.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

BORING LOG SHEET 4

PROJECT: CORNWALL
PROJECT NO.: BRS 0172 (6)

DESIGN FILE NAME: z85e042borlogs.dgn
IPARM FILE NAME:
SURVEYED BY:
SQUAD LEADER: C.C. BENDA
DATE: 03/01

PLOT DATE: 3/15/2010
SURVEY DATE:
DRAWN BY: J. TOUCHETTE
SHEET: 72 OF 144

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

HOLE NO.: B-107
SHEET 1 OF 1
DATE STARTED: 10/5/00
DATE COMPLETED: 10/20/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+269.10
GROUND EL.: 52.45

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: 28.1
C.W. DEPTH: 3.32 below surface 11/16/00

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: TRUCK
BORING TYPE: WASHBORE/HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		Advanced casing to 3.0m							
		A-7-6, Shelby Tube, 3.0m-3.6m, Rec. = 0.60m, Trace of Organics (2.4%)		50.2		0.2	99.8	76	47
		77mm x 155mm 4.0m: VS: 56.5 KPa/remold 0 KPa 51mm x 103mm 4.5m: VS: 72 KPa/remold 37 KPa							
5		A-7-5, Shelby Tube, 5.0m-5.6m, Rec. = 0.58m		45		0.2	99.8	84	54
		51mm x 103mm 6.5m: VS: 72 KPa/remold 33.5 KPa							
		A-7-5, Shelby Tube, 7.0m-7.6m, Rec. = 0.59m		42.7		0.4	99.6	76	45
		51mm x 103mm 8.5m: VS: 105.5 KPa/remold 35.5 KPa							
		No sample, Boulder							
10	SHELBY TUBE	Shelby Tube, 10.0m-10.5m, Rec. = 0.20m							
		51mm x 103mm 11.5m: VS: 151 KPa/remold 43 KPa							
		A-6, SiCl, gry, MTW, Rec. = 0.60m	9	30		3	97	37	18
		A-4, Si, gry, MTW, Rec. = 0.60m	11	24.2		1	99	25	4
		51mm x 103mm 14.3m: VS: 33.5 KPa/remold 8.5 KPa							
		Hole stopped @ 14.8m							

DRILLER'S NOTES:

1. Installed monitoring well at 14.8m, casing extends 0.88m above the ground elevation.
2. Ground water depth at 6.70m below ground surface on 10/20/00.
3. Lost last 20' of hollow auger, at 20' below surface.
4. 77mm x 155mm vane broke off at 4.6m, pulled casing and offset new hole 1.0m.
5. At 6.0m: Pulled 112mm casing and switched to hollow stem auger.
6. At 12.0m: Sample possesses a sandy varved layer at 12.2m, 6mm thick at an angle of 20 degrees.
7. Ground water depth at 3.75m below ground surface on 03/15/01.

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

HOLE NO.: B-108
SHEET 1 OF 1
DATE STARTED: 10/25/00
DATE COMPLETED: 10/25/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+288.60
GROUND EL.: 47.39

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: 25.4
C.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		Visual Classification: A-7-6, Cl, brn-gry, MTW, Rec. = 0.43m	11	35.6					
		A-7-6, Cl, Lt/gry, MTW, Rec. = 0.57m	11	41.3	2.2	2.2	95.6	74	44
		Visual Classification: A-7-6, Cl, Lt/gry, MTW, Rec. = 0.59m	7	49.8					
		A-7-6, Cl, Lt/gry, MTW, Rec. = 0.60m	7	49.8		1	99	80	50
5		Visual Classification: A-7-6, Cl, Lt/gry, MTW, Rec. = 0.60m	6	45.6					
		Hole stopped @ 5.20m							
10									

DRILLER'S NOTES:

1. No water encountered.

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

HOLE NO.: B-109
SHEET 1 OF 1
DATE STARTED: 10/25/00
DATE COMPLETED: 10/26/00

PROJECT NAME: CORNWALL
SITE NAME: BR 9
STATION: 1+294.1
GROUND EL.: 46.25

PROJECT NUMBER: BRS 0172 (6)
SITE NO.: VT 125
OFFSET: 11.6
C.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-7-6, Cl, brn-gry, MTW, Rec. = 0.33m	21	29		7.8	99.2	55	28
		Visual Classification: A-7-6, Cl, brn-gry, MTW, Rec. = 0.47m	21	34.8					
		A-7-6, Cl, brn-gry, MTW, Rec. = 0.58m	8	40		0.8	99.2	75	45
		Visual Classification: A-7-6, Cl, brn-gry, MTW, Rec. = 0.60m	8	45.5					
5		A-7-6, Cl, brn-gry, MTW, Rec. = 0.57m	8	48.8		0.8	99.2	75	46
		Hole stopped @ 5.20m							
10									

DRILLER'S NOTES:

1. No water encountered.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

BORING LOG SHEET 5

PROJECT: CORNWALL	PROJECT NO.: BRS 0172 (6)
DESIGN FILE NAME: z85e042borlogs.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY:	SURVEY DATE:
SQUAD LEADER: C. C. BENDA	DRAWN BY: J. HODKINSON
DATE: 03/01	SHEET: 73 OF 144

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)S
Cornwall, Vermont

Boring No.: B-201(OW)
Page: 1 of 3
File No.: 22721.3
Check: TAD

Contractor: NH Boring
Foreman: Bob Doherty
Logged by: Jay Hodkinson
Date Start/Finish: 9-18-01 / 9-21-01
Boring Location: Sta. 1+106.6, 13.9 mL
GS Elev.: 49.0+/- Datum: NAVD 88

	Auger/ Casing	Sampler
Type:	HW	SS
I.D.:	102mm	35mm
Hammer Wt.:	136.1kg	63.5kg
Hammer Fall:	0.76m	0.76m
Rig Type:	CME 45	

GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
9/21/01	1530	1.33m	deep well	15 min
9/21/01		2.20m	shallow	15 min
9/24/01	1430	1.25m	deep	3 days
9/24/01		2.25m	shallow	3 days

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
1	S-1	0.61/ 0.30	1.52- 2.13	5-5 6-8	11	Stiff, brown, Silty CLAY, mottled. (A-7-6)	SILTY CLAY		FILTER SAND
2	S-2	0.61/ 0.20	2.13- 2.74	11-12 11-12	23	Very stiff, brown, Silty CLAY, with fine SAND and Silt seams, mottled. (A-7-5)			
3	S-3	0.61/ 0.56	2.74- 3.35	4-6 5-7	11	Stiff, brown, Silty CLAY, with Silt seams, mottled. (A-7-6)			25mm SCH. 40 PVC RISERS
4	S-4	0.61/ 0.61	3.35- 3.96	14-11 13-13	24	Very stiff, brown, Silty CLAY with Silt seams and lenses, mottled. (A-7-6)			3.96m
5	S-5	0.61/ 0.61	3.96- 4.57	5-6 5-6	11	Stiff, brown, Silty CLAY with Silt seams and lenses, mottled. (A-7-6)			BENTONITE SEAL
	S-6	0.61/ 0.61	4.57- 5.18	7-7 5-6	12	Stiff, brown, Silty CLAY with Silt seams and lenses, mottled. (A-7-6)			4.88m
6									FILTER SAND
	S-7	0.61/ 0.51	6.10- 6.71	2-2 2-3	4	Soft, gray, SILT & CLAY, with 51mm (2 inch) seam of brown, SILT and fine SAND. (A-6)	6.10m		6.10m
7	S-8	0.61/ 0.61	6.71- 7.32	3-3 2-3	5	Medium stiff, gray, Clayey SILT, trace fine Sand. (A-5)			25mm SCH. 40 PVC 0.01 SLOTTED SCREEN
	U-1	0.61/ 0.56	7.32- 7.92	push		VS: 68.03 kPa, vane tip at 7.16m (23.5 feet). Gray, Silty CLAY. (A-7-6) Tv=24.90 kPa (520 psf) Pp=47.88 kPa (1,000 psf)	CLAYEY SILT	1 2	
8									FILTER SAND
9									9.14m

REMARKS
1. VS=Vane Shear Test. Split spoon sample was driven through soil disturbed by VS test.
2. Tv=Torvane, Pp= Pocket Penetrometer

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-201(OW)

SOIL BL WELL CORNWALL2002.GPJ GZA_NH.GDT 9/6/02

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)S
Cornwall, Vermont

Boring No.: B-201(OW)
Page: 2 of 3
File No.: 22721.3
Check: TAD

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
10	S-9	0.61/ 0.61	9.14- 9.75	4-7 9-7	16	Very stiff, gray, Clayey SILT, trace fine Sand. (A-5)	CLAYEY SILT		25mm SCH. 40 PVC RISER
							10.36m	3	
11	S-10	0.61/ 0.51	10.67- 11.28	5-1 9-4	10	Loose, gray, fine SAND and Silt, trace Gravel. (A-4)			FILTER SAND
12	S-11	0.61/ 0.43	12.19- 12.80	9-7 7-6	14	Medium dense, gray, fine SAND, some Silt, trace Gravel. (A-2-7)			12.19m
									BENTONITE SEAL
13	S-12	0.61/ 0.28	13.72- 14.33	8-5 6-7	11	Medium dense, gray, fine SAND, some Silt. (A-2-7)			13.72m
14									
15	S-13	0.61/ 0.25	15.24- 15.85	4-4 4-4	8	Loose, gray, fine SAND and Silt. (A-4)	SILTY SAND		DRILL CUTTINGS
16									
17	S-14	0.61/ 0.23	16.76- 17.37	7-4 6-11	10	Loose, gray, fine SAND and Silt. (A-4)			
18									
19	S-15	0.61/ 0.51	18.29- 18.90	5-4 3-1	7	Loose, gray, fine SAND, some Silt. (A-2-7)			25mm SCH. 40 PVC RISERS

REMARKS
3. Drilling change at 10.36m (34 feet) below ground surface.

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-201(OW)

SOIL BL WELL CORNWALL2002.GPJ GZA_NH.GDT 9/6/02

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)S
Cornwall, Vermont

Boring No.: B-201(OW)
Page: 3 of 3
File No.: 22721.3
Check: TAD

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
20	S-16	0.61/ 0.15	19.81- 20.42	2-2 2-5	4	Very loose, gray, SILT and fine Sand. (A-5)	SILTY SAND		DRILL CUTTINGS
21	S-17	0.61/ 0.03	21.34- 21.95	18-17 12-10	29	Medium dense, gray, fine to coarse SAND, some Gravel, little Silt. (A-1-b)	21.03m	4	
22									23.47m
23	S-18	0.61/ 0.15	22.86- 23.47	13-12 20-28	32	Dense, gray, fine to coarse SAND, some Silt, little Gravel. (A-2-4)			FILTER SAND
24							GLACIAL TILL		24.30m
25	S-19	0.25/ 0.05	24.38- 24.64	14-43 100/ 152mm	143	Very dense, gray, fine to coarse SAND, some Gravel, little Silt. (A-1-b)			25mm SCH. 40 PVC 0.01 SLOTTED SCREEN
26	S-20	0.61/ 0.25	25.91- 26.52	16-9 12-13	21	Medium dense, gray, fine to medium SAND, some Silt, little Gravel. (A-2-4)			25.91m
						Bottom of boring at 26.52m (87 feet) below ground surface. No refusal.	26.52m		
27									
28									
29									
30									

REMARKS
4. Drilling change at 21.03m (69 feet).

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-201(OW)

SOIL BL WELL CORNWALL2002.GPJ GZA_NH.GDT 9/6/02

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

BORING LOG SHEET 6

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172 (6)

DESIGN FILE NAME: z85e042bor logs.dgn
IPARM FILE NAME:
SURVEYED BY:
SQUAD LEADER: C. C. BENDA
DATE: 03/01

PLOT DATE: 2/5/2010
SURVEY DATE:
DRAWN BY: J. HODKINSON
SHEET: 74 OF 144

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)S
Cornwall, Vermont

Boring No.: B-202(OW)
Page: 1 of 3
File No.: 22721.3
Check: TAD

Contractor: NH Boring
Foreman: Bob Doherty
Logged by: Jay Hodkinson
Date Start/Finish: 9-13-01 / 9-17-01
Boring Location: Sta. 1+171.0, 21.5 mL
GS Elev.: 42.5+/- Datum: NAVD 88

	Auger/ Casing	Sampler
Type:	HW	SS
I.D.:	102mm	35mm
Hammer Wt.:	136.1kg	63.5kg
Hammer Fall:	0.76m	0.76m
Rig Type:	CME 45	

GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
9/13/01	1730	PVC+1.73m	deep well	4 hrs.
9/13/01	1730	PVC+.76m	shallow	4 hrs.

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
1						Attempted Shelby tube sample from 0.91 to 1.52m; no recovery.		1	FILTER SAND; 1.22m; BENTONITE SEAL; 1.52m
2	S-1	0.61/ 0.33	1.83- 2.44	push	0	VS: 3.7 kPa, vane tip at 1.98m (6.5 feet) Brown, ORGANIC SILT. (A-8)	ORGANIC SILT	2	FILTER SAND; 2.44m; BENTONITE SEAL; 3.05m; 25mm SCH. 40 PVC RISERS
3	U-1	0.61/ 0.33	3.05- 3.66	push		Brown, ORGANIC SILT, with wood fragments. (A-8)			
4	S-2	0.61/ 0.36	3.66- 4.27	push		VS: 14.9 kPa, vane tip at 4.11m (13.5 feet) Brown ORGANIC SILT, with wood fragments and roots (25mm (1 inch) layer of gray, fine to medium SAND, some Silt in spoon tip). (A-8)	4.27m		DRILL CUTTINGS
5									5.18m; FILTER SAND
6	S-3	0.61/ 0.36	6.10- 6.71	5-6 4-3	10	Medium dense, gray, fine SAND, some Silt, trace Gravel. (A-2-4)	SAND		6.10m; 25mm SCH. 40 PVC 0.01 SLOTTED SCREEN
7									
8	S-4	0.61/ 0.38	7.62- 8.23	8-8 5-5	13	Medium dense, gray, fine to medium SAND, little Silt. (A-3)			7.62m
9									

REMARKS
1. Change in wash color from brown to black with fragments of wood at 0.91m (3 feet).
2. VS-vane shear test; split spoon sample was driven through soil disturbed by VS test.

SOIL BL WELL CORNWALL2002.GPJ GZA_NH.GDT 9/6/02

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-202(OW)

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)S
Cornwall, Vermont

Boring No.: B-202(OW)
Page: 2 of 3
File No.: 22721.3
Check: TAD

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
10	S-5	0.61/ 0.51	9.14- 9.75	9-5 7-15	12	Medium dense, gray, fine to medium SAND, trace Gravel, trace Silt. (A-3)		3	DRILL CUTTINGS
11	S-6	0.61/ 0.20	10.67- 11.28	4-4 4-6	8	Loose, gray, fine to medium SAND, trace Gravel, trace Silt. (A-3)		4	
12	S-7	0.61/ 0.08	12.19- 12.80	5-5 4-4	9	Loose, gray, fine to medium SAND, trace Gravel, trace Silt. (A-3)			12.19m; BENTONITE SEAL
13	S-8	0.61/ 0.38	13.72- 14.33	6-6 4-9	10	Loose, gray, fine SAND and Silt, trace Gravel. (A-4)			13.72m
14							SAND		
15	S-9	0.61/ 0.25	15.24- 15.85	3-5 5-7	10	Loose, gray, fine SAND, some Silt, trace Gravel. (A-4)			
16									
17	S-10	0.61/ 0.28	16.76- 17.37	8-13 13-11	26	Medium dense, gray, fine to coarse SAND, some Gravel, little Silt. (A-1-b)			25mm SCH. 40 PVC RISER
18									
19	S-11	0.61/ 0.13	18.29- 18.90	10-18 26-30	44	Dense, gray, fine to coarse SAND, some Gravel, little Silt. (A-1-b)		5	DRILL CUTTINGS

REMARKS
3. Approximately 3.05m (10 feet) of "blow-in sand" when roller bit was inserted into borehole.
4. Approximately 0.3m (1 foot) of "blow-in sand" in spoon.
5. Water started to flow out of the casing between 16.76m (55 feet) and 18.29m (60 feet). Blow counts may be artificially high due to approximately 0.46m (18 inches) of "blow-in sand" in casing.

SOIL BL WELL CORNWALL2002.GPJ GZA_NH.GDT 9/6/02

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-202(OW)

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)S
Cornwall, Vermont

Boring No.: B-202(OW)
Page: 3 of 3
File No.: 22721.3
Check: TAD

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
20	S-12	0.61/ 0.05	19.81- 20.42	8-7 5-13	12	Medium dense, gray, fine to coarse SAND, some Silt, little Gravel. (A-2-4)			
21									
22	S-13	0.61/ 0.05	21.34- 21.95	6-4 13-19	17	Medium dense, gray, fine to coarse SAND, some Gravel, little Silt. (A-1-b)	SAND	6	25mm SCH. 40 PVC RISER
23	S-14	0.61/ 0.15	22.86- 23.47	4-4 5-7	9	Loose, gray, fine to coarse SAND, some Gravel, little Silt. (A-1-b)		6	22.86m; FILTER SAND; 23.47m
24							23.77m	7	
25	S-15	0.61/ 0.03	24.38- 24.99	13-5 9-12	14	Medium dense, gray, fine to coarse SAND, some Gravel, some Silt. (A-2-4)			25mm SCH. 40 PVC 0.01 SLOTTED SCREEN; 24.99m
26	S-16	0.61/ 0.10	25.91- 26.52	32-24 19-21	43	Dense, gray, fine to coarse SAND, some Gravel, some Silt. (A-2-4)	GLACIAL TILL	8	DRILL CUTTINGS
27									
28	S-17	0.61/ 0.25	27.43- 28.04	24-38 37-32	75	Very dense, gray, fine to coarse SAND, some Silt, little Gravel. (A-2-4)		9	
29						Bottom of boring at 28.04m (92 feet) below ground surface. No refusal.	28.04m		
30									

REMARKS
6. Approximately 0.20m (8 inches) of "blow-in-sand".
7. Change in drilling at 23.77m (78 feet).
8. 9/17/01: Wash down to 25.91m (85 feet); sampled 25.91m to 26.52m (85 to 87 feet).
9/18/01: Measured 1.54m (60.5 inches) above ground surface of hydraulic head in casing.
9. Water flowing out of hole at 25 gallon per minute.

SOIL BL WELL CORNWALL2002.GPJ GZA_NH.GDT 9/6/02

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-202(OW)

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

BORING LOG SHEET 7

PROJECT: CORNWALL	PROJECT NO.: BRS 0172 (6)
DESIGN FILE NAME: z85e042bor logs.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY:	SURVEY DATE:
SQUAD LEADER: C.C. BENDA	DRAWN BY: J.HODKINSON
DATE: 03/01	SHEET: 75 OF 144

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)S
Cornwall, Vermont

Boring No.: B-203
Page: 1 of 3
File No.: 22721.3
Check: TAD

Contractor: NH Boring
Foreman: Bob Doherty
Logged by: Jay Hodkinson
Date Start/Finish: 9-10-01 / 9-13-01
Boring Location: Sta. 1+197.6, 22.0 mL
GS Elev.: 42.9+/- Datum: NAVD 88

	Auger/ Casing	Sampler
Type:	HW	SS
I.D.:	102mm	35mm
Hammer Wt.:	136.1kg	63.5kg
Hammer Fall:	0.76m	0.76m
Rig Type:	CME 45	

GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
									No Equipment Installed
1	S-1	0.61/ 0.05	1.52- 2.13	push		VS: 16.5 kPa, Vane tip at 1.98m (6.5 feet). Gray-brown, CLAY & SILT, with layers of ORGANIC SILT. (A-7-6)	CLAY & SILT with Layers of ORGANIC SILT	1	
2									
3	S-2	0.61/ 0.38	3.05- 3.66	push		VS: 19.1 kPa, Vane tip at 3.51m (11.5 feet). Gray, CLAY & SILT, with layers of ORGANIC SILT. (A-7-6)			
4									
5	S-3	0.61/ 0.43	4.57- 5.18	3-1 2-1	3	Soft, gray, CLAY & SILT, with layers of ORGANIC SILT. (A-7-6)			
6							5.49m	2	
	S-4	0.61/ 0.33	6.10- 6.71	6-10 12-14	22	Medium dense, gray, fine to medium SAND, trace Silt. (A-3)	SAND	3	
7									
8	S-5	0.61/ 0.18	7.62- 8.23	6-9 14-18	23	Medium dense, gray, fine to medium SAND, little Silt. (A-3)			
9								4	

REMARKS

1. VS=Vane Shear Test. Split spoon sample was driven through the soil disturbed by the VS test.
2. Change in strata at 5.49m (18 feet) based on drill action.
3. Blow counts may be artificially high due to approximately 0.3m (1 foot) of "blow-in sands" in casing.
4. Water was at top of casing approximately 0.15m (6 inches) above ground surface approximately 14 hours of stabilization time.

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-203

SOIL BORE HOLE CORNWALL2002.GPJ GZA_NH.GDT 9/6/02

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)S
Cornwall, Vermont

Boring No.: B-203
Page: 2 of 3
File No.: 22721.3
Check: TAD

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
10	S-6	0.61/ 0.13	9.14- 9.75	5-5 8-19	13	Medium dense, gray, fine SAND and Silt, trace Gravel. (A-4)			
11	S-7	0.61/ 0.20	10.67- 11.28	4-4 4-4	8	Loose, gray, fine to medium SAND, trace Silt. (A-3)			
12	S-8	0.61/ 0.13	12.19- 12.80	WOR-3 5-5	8	Loose, gray, fine SAND, some Silt. (A-3)			
13	S-9	0.61/ 0.30	13.72- 14.33	4-3 3-3	6	Loose, gray, Clayey SILT, little fine Sand. (A-5)			
14							SAND		
15	S-10	0.61/ 0.41	15.24- 15.85	12-4 4-5	8	Loose, gray, fine SAND, some Silt, trace Gravel. (A-2-4)			
16									
17	S-11	0.30/ 0.15	16.76- 17.07	5-5 60/ 0mm	65	Very dense, gray, fine SAND, some Silt. (A-3)			
18									
19	S-12	0.61/ 0.25	18.29- 18.90	4-5 5-4	10	Loose, gray, fine SAND, some Silt. (A-3)		5	

REMARKS

5. Drilling change at 19.51m (64 feet).

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-203

SOIL BORE HOLE CORNWALL2002.GPJ GZA_NH.GDT 9/6/02

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)S
Cornwall, Vermont

Boring No.: B-203
Page: 3 of 3
File No.: 22721.3
Check: TAD

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
20	S-13	0.61/ 0.33	19.81- 20.42	44-53 51-54	104	Very dense, fine to medium SAND, some Silt, little Clay, trace Gravel. (A-2-4)			
21									
	S-14	0.61/ 0.33	21.34- 21.95	10-26 30-28	56	Very dense, fine to medium SAND, trace Silt with 0.10m (4 inch) layer of SAND and Silt, some Gravel. (A-1-b)	SAND		
22									
23	S-15	0.61/ 0.00	22.86- 23.47	8-10 13-25	23	No recovery.		6 7	
24									
	S-16	0.61/ 0.08	24.38- 24.99	26-13 13-18	26	Medium dense, gray, fine to coarse SAND, some Silt, little Gravel. (A-2-4)	24.38m		
25									
26	S-17	0.61/ 0.25	25.91- 26.52	24-32 28-34	60	Very dense, gray, fine to coarse SAND and Silt, little Gravel. (A-4)	GLACIAL TILL		
27									
	S-18	0.61/ 0.25	27.43- 28.04	34-46 32-30	78	Very dense, gray, fine to coarse SAND and Silt, little Gravel. (A-4)			
28						Bottom of boring at 28.04m (92 feet). No refusal.	28.04m		
29									
30									

REMARKS

6. Water flowing out of the borehole.
7. Approximately 0.46m (1.5 feet) of wash in sample.

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-203

SOIL BORE HOLE CORNWALL2002.GPJ GZA_NH.GDT 9/6/02

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

BORING LOG SHEET 8

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172 (6)

DESIGN FILE NAME: z85e042bor logs.dgn
IPARM FILE NAME:
SURVEYED BY:
SQUAD LEADER: C.C. BENDA
DATE: 03/01

PLOT DATE: 2/5/2010
SURVEY DATE:
DRAWN BY: J. HODKINSON
SHEET: 76 OF 144

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-301
Page: 1 of 4
File No.: 04.0023600.01
Check: JLH

Contractor: New Hampshire Boring, Inc.
Foreman: Marlisa Thompson
Logged by: Curtis George/Jay Hodkinson
Date Start/Finish: 7-26-04 / 7-29-04
Boring Location: Sta 1+115.6, 2 mL
GS Elev.: 48.31m Datum: NAVD 88

	Auger/ Casing	Sampler
Type:	HW	SS
I.D.:	102 mm	35 mm
Hammer Wt.:	136.1 kg	63.5 kg
Hammer Fall:	0.61 m	0.76 m
Rig Type:	CME 550 ATV	

GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
	Not Measured			

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
							ASPHALT 0.15m	1	No Equipment Installed
	S-1	0.61/ 0.05	3.05– 3.66	12–17 5–5	22	Medium dense, brown, fine to coarse SAND, some Clayey Silt, little Gravel. (A-2-4)	FILL		
							3.80m BOULDER	2	
	S-2	0.61/ 0.30	4.57– 5.18	16–5 2–1	7	Loose, brown, fine to medium SAND, some Silt, Ash and Wood Chips. (A-8)	4.30m FILL		
5							5.34m		
	S-3	0.61/ 0.61	6.10– 6.71	4–8 9–14	17	Very stiff, brown, SILT & CLAY, trace Organics with varved seams of fine Sand and Silt. (A-5)	SILT & CLAY		
	S-4	0.61/ 0.20	7.62– 8.23	WOH		VS = 168.0 kPa, vane tip at 8.1 meters. Very soft, brown, SILT & CLAY, trace fine to coarse Sand. (A-5)		3 4	
							9.53m		
	S-5	0.61/ 0.61	9.14– 9.75	3–3 1–1	4	Soft, gray, varved CLAY & SILT. (A-6)	CLAY & SILT		
	U-1	0.61/	9.75–	PUSH		Gray, CLAY & SILT. (A-6)			

45.15 BOT. OF PILE CAP ELEV. ABUT 1

1. During the first 65.6 meters of drilling, an Odex casing system was used to advance the borehole.
2. A boulder was encountered from 3.8 to 4.3 meters below ground surface.
3. WOH = Weight of Hammer
4. VS = Vane shear test. Split spoon was driven through soil disturbed by VS test.

REMARKS

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual.
Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-301

SOIL BH, WELL LOGSGPJ GZA_MK.GDT 3/29/07

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-301
Page: 2 of 4
File No.: 04.0023600.01
Check: JLH

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
		0.61	10.36						
	S-6	0.61/ 0.25	10.36– 10.97	WOH		VS = 75 kPA, vane tip at 11 meters. CLAY & SILT, trace Gravel. (A-6)	CLAY & SILT		
							11.89m		
	S-7	0.61/ 0.28	12.19– 12.80	4–5 5–7	10	Loose, gray, fine SAND and Silt. (A-4)			
	S-8	0.61/ 0.00	13.72– 14.33	7–6 8–5	14	No recovery.			
15	S-9	0.61/ 0.36	15.24– 15.85	8–8 15–13	23	Medium dense, gray, fine SAND, little Silt. (A-4)			
	S-10	0.61/ 0.41	16.76– 17.37	2–1 1–2	2	Soft, gray, SILT and fine Sand, trace Gravel. (A-4)	SILT & SAND		
	S-11	0.61/ 0.03	18.29– 18.90	5–7 8–8	15	Medium dense, gray, fine SAND and Silt. (A-4)			
20	S-12	0.61/ 0.25	19.81– 20.42	2–2 5–8	7	Loose, gray, fine SAND and Silt. (A-4)			
	S-13	0.61/	21.34–	12–15	31	Dense, gray, fine to medium SAND, little Silt.			

EST. RANGE OF PILE TIP ELEV. 18.15 TO 20.15 ABUT.

REMARKS

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual.
Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-301

SOIL BH, WELL LOGSGPJ GZA_MK.GDT 3/29/07

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-301
Page: 3 of 4
File No.: 04.0023600.01
Check: JLH

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
		0.30	21.95	16–11		(A-1-b)	SILT & SAND		
							22.56m		
	S-14	0.61/ 0.36	22.86– 23.47	11–11 15–21	26	Medium dense, gray, medium to coarse SAND and Gravel, trace Silt. (A-1-a)			
25	S-15	0.61/ 0.25	24.38– 24.99	14–14 14–20	28	Medium dense, gray, medium to coarse SAND and Gravel, trace Silt. (A-1-a)	SAND WITH GRAVEL		
	S-16	0.61/ 0.30	25.91– 26.52	12–11 28–57	39	Very dense, gray, fine to coarse SAND and Gravel, trace Silt. (A-1-a)			
	S-17	0.61/ 0.15	27.43– 28.04	13–17 15–29	32	Dense, gray, fine to coarse SAND and Gravel, trace Silt. (A-1-a)			
							28.19m		
	S-18A/B	0.61/ 0.25	28.96– 29.57	7–6 12–17	18	First 0.30 m: Medium dense, gray, fine SAND, little Silt. (A-1-b) Bottom 0.30 m: Medium dense, gray, medium to coarse SAND and Gravel, trace Silt. (A-1-a)			
30	S-19	0.61/ 0.46	30.48– 31.09	10–20 22–24	42	Dense, gray, fine SAND, some Silt, trace Gravel. (A-2-4)	SAND		
	S-20	0.61/ 0.61	32.00– 32.61	4–17 26–45	43	Dense, gray, fine SAND, some Silt. (A-2-4)			

REMARKS

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual.
Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-301

SOIL BH, WELL LOGSGPJ GZA_MK.GDT 3/29/07

BORING LOG SHEET 9

PROJECT: CORNWALL	PROJECT NO.: BRS 0172 (6)
DESIGN FILE NAME: z85e042bor logs.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY:	SURVEY DATE:
SQUAD LEADER: C.C. BENDA	DRAWN BY: J.HODKINSON
DATE: 03/01	SHEET: 77 OF 144

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-301
Page: 4 of 4
File No.: 04.0023600.01
Check: JLH

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
35	S-21	0.61/ 0.51	33.53- 34.14	WOH-3 15-29	18	Medium dense, gray, fine SAND, some Silt, trace Gravel. (A-2-4)			
	S-22	0.56/ 0.56	35.05- 35.61	38-70 88-58/102 mm	158	Very dense, gray, fine SAND, some Silt, trace Gravel. (A-2-4)			
	S-23	0.61/ 0.30	36.58- 37.19	26-34 42-49	76	Very dense, gray, fine SAND, little Silt, trace Gravel. (A-1-b)	SAND		
	S-24	0.61/ 0.41	38.10- 38.71	25-46 47-49	93	Very dense, gray, fine SAND, some Silt, trace Gravel. (A-2-4)			
40						Bottom of boring at 39.1 meters below ground surface. Rollerbit refusal encountered.	39.11m		

REMARKS

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-301

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-302
Page: 1 of 5
File No.: 04.0023600.01
Check: JLH

Contractor: New Hampshire Boring, Inc.
Foreman: Steve Carside
Logged by: Jay Hodkinson/Curtis George
Date Start/Finish: 8-3-04 / 8-12-04
Boring Location: Sta. 1+161.5, 2.5 mR
GS Elev.: 47.24m Datum: NAVD 88

	Auger/ Casing	Sampler
Type:	HW	SS
I.D.:	102 mm	35 mm
Hammer Wt.:	136.1 kg	63.5 kg
Hammer Fall:	0.76 m	0.76 m
Rig Type:	CME 550 ATV	

GROUNDWATER READINGS	Date	Time	Depth	Casing	Stab
		Not Measured			

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
	S-1A/B	0.61/ 0.25	0.00- 0.61	24-27 29-38	56	Top 0.3 meters: Very dense, black, ASPHALT. Bottom 0.22 meters: Very dense, gray, GRAVEL and Asphalt. (A-1-a)	ASPHALT 0.30m	1	No Equipment Installed
	S-2	0.61/ 0.30	1.52- 2.13	2-3 3-4	6	Medium stiff, gray, Silty CLAY, mottled. (A-7-6)			
	S-3	0.61/ 0.41	3.05- 3.66	4-6 6-5	12	Stiff, gray, Silty CLAY, trace Gravel, mottled. (A-7-6)	CLAY FILL		
5	S-4	0.61/ 0.36	4.57- 5.18	5-7 7-7	14	Stiff, gray-brown, Silty CLAY, trace Gravel, mottled. (A-7-6)			
	S-5	0.61/ 0.00	6.10- 6.71	7-4 1-1	5	No recovery.	5.79m	1	
	S-6	0.61/ 0.00	7.62- 8.23	10-3 2-11	5	No recovery.	SAND AND GRAVEL FILL		
	S-7	0.61/ 0.61	9.14- 9.75	2-2 3-4	5	Medium stiff, brown, Clayey ORGANIC SILT (27.9% organics). (A-8)	8.84m ORGANIC SILT	2	
	S-8	0.61/	9.75-	1-2	4	No recovery.			

44.45 BOT. OF PILE ELEV. ABUT. 2

REMARKS

1. Encountered varying sizes of cobbles during drilling.
2. Change in wash color.

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-302

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-302
Page: 2 of 5
File No.: 04.0023600.01
Check: JLH

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
		0.00	10.36	2-2			ORGANIC SILT 10.36m		
	S-9A/B	0.61/ 0.25	10.67- 11.28	4-3 11-13	14	Top 0.30 m: stiff, gray, Clayey SILT, little Gravel. (A-4) Bottom 0.30 m: medium dense, gray, fine SAND, little Silt.	CLAY & SILT 10.97m		
	S-10	0.61/ 0.28	12.19- 12.80	9-12 9-10	21	Medium dense, gray, fine SAND, little Silt. (A-1-b)			
15	S-11	0.00/ 0.00	13.72- 13.72	100/0"		Split spoon refusal. No recovery.		3	
	S-12	0.61/ 0.36	16.76- 17.37	4-4 5-5	9	Loose, gray, fine to coarse SAND, little Silt, trace Gravel. (A-1-b)	SILT & SAND		
	S-13	0.61/ 0.15	17.37- 17.98	4-4 5-7	9	Loose, gray, fine SAND, some Silt, trace Gravel. (A-4)			
	S-14	0.61/ 0.00	18.29- 18.90	4-4 1-4	5	No recovery.			
20	S-15	0.61/ 0.10	19.81- 20.42	4-4 6-5	10	Stiff, gray, Clayey SILT and fine Sand, trace Gravel. (A-5)			
	S-16	0.61/	21.34-	3-4	8	Loose, gray, fine SAND and Silt, trace Gravel.			

REMARKS

3. Encountered cobble while drilling.

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-302

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

BORING LOG SHEET 10

PROJECT: CORNWALL	PROJECT NO.: BRS 0172 (6)
DESIGN FILE NAME: z85e042bor logs.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY:	SURVEY DATE:
SQUAD LEADER: C.C. BENDA	DRAWN BY: J. HODKINSON
DATE: 03/01	SHEET: 78 OF 144

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-302
Page: 3 of 5
File No.: 04.0023600.01
Check: JLH

EST. RANGE OF PILE TIP ELEV. 17.45 TO 19.45
ABUT. 2

Depth (m)	No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
		0.30	21.95	4-7		(A-4)	SILT & SAND		
							22.10m		
	S-17	0.61/ 0.23	22.86- 23.47	6-10 14-13	24	Medium dense, gray, fine to coarse SAND and Gravel, trace Silt. (A-1-a)			
25	S-18	0.61/ 0.20	24.38- 24.99	4-10 16-15	26	Medium dense, gray, fine to coarse SAND and Gravel, trace Silt. (A-1-a)			
	S-19	0.61/ 0.18	25.91- 26.52	4-16 9-11	25	Medium dense, gray, fine to coarse SAND and Gravel, trace Silt. (A-1-a)			
	S-20	0.61/ 0.18	27.43- 28.04	2-7 10-19	17	Medium dense, gray, fine to coarse SAND, some Gravel, little Silt. (A-1-a)	SAND WITH GRAVEL		
	S-21	0.61/ 0.00	28.96- 29.57	13-16 17-21	33	No recovery.		4	
30	S-22	0.61/ 0.20	30.48- 31.09	13-11 11-24	22	Medium dense, gray, fine to coarse SAND, some Gravel, little Silt. (A-1-a)			
	S-23	0.61/ 0.46	32.00- 32.61	14-10 12-10	22	Medium dense, gray, fine to coarse SAND, some Gravel, little Silt. (A-1-a)			
							32.88m SAND		

REMARKS

4. Encountered a boulder at 29.9 meters below ground surface.

SOIL BL WELL LOGS.GPJ GZA_NH.GDT 3/20/07

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual.
Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-302

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-302
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File No.: 04.0023600.01
Check: JLH

Depth (m)	No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
35	S-24	0.61/ 0.61	33.53- 34.14	25-47 40-35	87	Very dense, gray, fine SAND, some Silt. (A-2-4)	SAND	5	
	S-25	0.61/ 0.51	35.05- 35.66	24-29 29-35	58	Very dense, gray, fine SAND, some Silt, trace Gravel.			
	S-26	0.41/ 0.41	36.58- 36.98	28-82 100/102 mm	82 100/102 mm	Very dense, gray, fine SAND, some Silt with a seam of Gravel and fine Sand, trace Silt.			
40									

REMARKS

5. Sample not taken due to boulder encountered at 38.1 meters below ground surface.

SOIL BL WELL LOGS.GPJ GZA_NH.GDT 3/20/07

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual.
Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-302

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-302
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CORE BORING REPORT

Depth (m)	Run No.	Depth (m)	Drilling Rate (min/ 0.30m)	Rec./ RQD (m)	Rec./ RQD (%)	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
40	C-1	39.17- 40.69	2.8 4.7 2.3 1.2 1.6	0.46/ 0.41	30/ 27	Cored through boulder from 39.2 to 39.6 meters. Hard, fresh, gray, fine-grained Dolinite Schist with Quartzite. Highly fractured. Gray, SILT, little fine to coarse Sand, little Gravel recovered in core barrel. (A-4)	39.17m SAND	6	
45						Bottom of boring at 44.2 meters below ground surface. No refusal.			

REMARKS

6. Samples were not collected from 41 to 44 meters due to hole collapse. Casing could not be advanced through the boulder at 39.2 meters below ground surface.

CORE BL WELL LOGS.GPJ GZA_NH.GDT 3/20/07

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual.
Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-302

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

BORING LOG SHEET 11

PROJECT: CORNWALL	PROJECT NO.: BRS 0172 (6)
DESIGN FILE NAME: z85e042bor logs.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY:	SURVEY DATE:
SQUAD LEADER: C.C. BENDA	DRAWN BY: J.HODKINSON
DRAWN DATE 03/97	SHEET: 79 OF 144

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-303
Page: 1 of 2
File No.: 04.0023600.01
Check: JLH

Contractor: New Hampshire Boring, Inc.
Foreman: Manlea Thompson
Logged by: Curtis George
Date Start/Finish: 7-27-04 / 7-28-04
Boring Location: Sta. 1+098.5, 12.8 mR
GS Elev.: 45.72m Datum: NAVD 88

	Auger/ Casing	Sampler
Type:	HW	SS
I.D.:	102 mm	35 mm
Hammer Wt.:	136.1 kg	63.5 kg
Hammer Fall:	0.76 m	0.76 m
Rig Type:	CME 550 ATV	

GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
		Not measured		

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
									No Equipment Installed
	S-1	0.61/ 0.36	1.52- 2.13	3-6 8-11	14	Stiff, brown, SILT & CLAY, trace Organics. (A-5)			
	S-2	0.61/ 0.46	3.05- 3.66	3-4 8-10	12	Stiff, brown, SILT & CLAY, trace Organics. (A-5)	SILT & CLAY SLIGHTLY ORGANIC		
	U-1	0.61/ 0.61	3.66- 4.27	PUSH		VS = 52 kPa, vane tip at 4.7 meters. Brown, Silty CLAY. (A-7-6)		1	
	S-3	0.61/ 0.41	4.27- 4.88	WOH		Very soft, brown, SILT & CLAY, trace Organics. (A-5)		2	
5							5.33m		
	S-4	0.61/ 0.61	6.10- 6.71	2-3 3-4	6	Medium, gray, varved CLAY & SILT. (A-6)			
	U-2	0.61/ 0.61	7.62- 8.23	PUSH		VS = 44 kPa, vane tip at 8.5 meters. Gray, CLAY & SILT. (A-6)	CLAY & SILT		
	S-5	0.61/ 0.41	8.23- 8.84	WOH		Very soft, gray, CLAY & SILT. (A-6)			

REMARKS
1. VS = Vane shear test. Split spoon sample was driven through soil disturbed by VS test.
2. WOH = Weight of Hammer

SOIL BL WELL LOGS.GPJ GZA_MA.GDT 3/20/07

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-303

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-303
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File No.: 04.0023600.01
Check: JLH

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
							8.91m		
	S-6	0.61/ 0.13	10.67- 11.28	4-4 4-6	8	Loose, gray, fine SAND and Silt. (A-4)			
	S-7	0.61/ 0.00	12.19- 12.80	7-6 6-6	12	No recovery.			
	S-8	0.61/ 0.20	13.72- 14.33	4-4 4-5	8	Loose, gray, fine SAND, little Silt. (A-1-b)			
15	S-9	0.61/ 0.51	15.24- 15.85	4-3 3-3	6	Loose, gray, SILT, some fine Sand. (A-4)	SILT & SAND		
	S-10	0.61/ 0.00	16.76- 17.37	11-10 10-10	20	No recovery.			
	S-11	0.61/ 0.51	18.29- 18.90	WOH-6 6-8	12	Stiff, gray, fine SAND, some Clayey Silt, little Gravel. (A-2-4)			
							19.50m		
20	S-12	0.61/ 0.30	19.81- 20.42	34-37 29-35	66	Very dense, gray, fine to coarse SAND, some Gravel, trace Silt. (A-1-a)	SAND WITH GRAVEL		
						Bottom of boring at 20.4 meters below ground surface. No refusal.	20.42m		

REMARKS

SOIL BL WELL LOGS.GPJ GZA_MA.GDT 3/20/07

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-303

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-304
Page: 1 of 4
File No.: 04.0023600.01
Check: JLH

Contractor: New Hampshire Boring, Inc.
Foreman: Steve Garside
Logged by: Curtis George
Date Start/Finish: 8-9-04 / 8-9-04
Boring Location: Sta. 1+110.1, 15.0 mR
GS Elev.: 44.20m Datum: NAVD 88

	Auger/ Casing	Sampler
Type:	HW	SS
I.D.:	102 mm	35 mm
Hammer Wt.:	136.1 kg	63.5 kg
Hammer Fall:	0.76 m	0.76 m
Rig Type:	CME 550 ATV	

GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
		Not measured		

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
									No Equipment Installed
	S-1	0.61/ 0.13	0.00- 0.61	1-1 2-2	3	Soft, black, Clayey ORGANIC SILT. (8.4% organics) (A-7-5)	ORGANIC SILT		
	S-2A/B	0.61/ 0.61	1.52- 2.13	5-9 9-10	18	Top 0.12 m: Very stiff, black, Clayey ORGANIC SILT. (4.6% Organics) (A-7-6) Bottom 0.49 m: Very stiff, brown and gray, SILT & CLAY with trace Organics. (A-4)	1.65m		
	S-3	0.61/ 0.51	3.05- 3.66	2-4 4-4	8	Stiff, brown and gray, Silty CLAY with trace Organics. (A-7-6)	SILTY CLAY SLIGHTLY ORGANIC		
	S-4	0.61/ 0.61	4.57- 5.18	4-4 4-5	8	Stiff, brown and gray, Silty CLAY with trace Organics. (A-7-6)			
5							5.33m		
	S-5	0.61/ 0.61	6.10- 6.71	WOR 1-1		Very soft, gray, Silty CLAY, trace fine to coarse Sand, trace Gravel. (A-7-6)		1	
	U-1	0.61/ 0.61	6.71- 7.32	PUSH		Gray, Silty CLAY. (A-7-6)	CLAY & SILT		
	S-6	0.61/ 0.61	7.62- 8.23	WOH/45 mm- 2		Soft, gray, Silty CLAY, trace fine to coarse Sand, trace Gravel. (A-7-6)			
	U-2	0.61/ 0.00	9.14- 9.75	PUSH		No recovery.	9.14m SILT & SAND		
	U-3	0.61/	9.75-	PUSH		No recovery.			

REMARKS
1. WOR = Weight of Rod, WOH = Weight of Hammer

SOIL BL WELL LOGS.GPJ GZA_MA.GDT 3/20/07

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-304

BORING LOG SHEET 12

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042bor logs.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY:	SURVEY DATE:
SQUAD LEADER: C.C. BENDA	DRAWN BY: C. GEORGE
DRAWN DATE 03/97	SHEET: 80 OF 144

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-304
Page: 2 of 4
File No.: 04.0023600.01
Check: JLH

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
		0.00	10.36						
	U-4 S-7	0.61/ 0.00 0.61/ 0.10	10.67- 11.28 10.70- 11.31	PUSH WOR 2-3		No recovery. Very loose, gray, fine SAND and Silt. (A-4)		2	
	S-8	0.61/ 0.20	12.19- 12.80	5-5 5-4	10	Loose, gray, SILT and fine SAND, trace Gravel. (A-4)			
	S-9	0.61/ 0.18	13.72- 14.33	12-10 8-4	18	Medium dense, gray, fine SAND and Silt. (A-4)	SILT & SAND		
15	S-10	0.61/ 0.00	15.24- 15.85	3-5 5-5	10	No recovery.			
	S-11	0.61/ 0.61	16.76- 17.37	8-8 9-9	17	Medium, gray, fine SAND, some Silt with a seam of fine to coarse Sand, trace Silt. (A-2-4)			
	S-12A/B	0.61/ 0.61	18.29- 18.90	WOR-6 36-33	42	Top 0.30 m: Very stiff, gray, SILT & CLAY, trace fine to coarse Sand, trace Gravel. (A-4) Bottom 0.30 m: Dense, gray, fine to coarse SAND, trace Gravel, trace Silt. (A-1-a)	18.59m		
20	S-13	0.61/ 0.20	19.81- 20.42	8-8 5-9	13	Medium dense, gray, fine to coarse SAND and Gravel, trace Silt. (A-1-a)	SAND WITH GRAVEL		
	S-14	0.61/	21.34-	5-10	21	Medium dense, gray, fine to coarse SAND and			

REMARKS

2. Sample S-7 was taken from soil disturbed by U-4.

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-304

SOIL BL WELL LOGS.GPJ GZA_MH.GDT 3/20/07

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-304
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File No.: 04.0023600.01
Check: JLH

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
		0.18	21.95	11-12		Gravel, trace Silt. (A-1-a)			
	S-15	0.61/ 0.61	22.86- 23.47	16-11 22-31	33	Dense, gray, fine to coarse SAND, little Gravel, trace Silt, slight plasticity. (A-1-a)	SAND WITH GRAVEL		
25	S-16	0.66/ 0.41	24.38- 25.04	38-23 19-17	42	Dense, gray, fine to coarse SAND, trace Gravel, trace Silt. (A-1-a)	25.60m	3	
								4	
	S-17	0.61/ 0.23	27.43- 28.04	20-25 20-15	45	Dense, gray, fine SAND and Silt, trace Gravel. (A-4)		5	
	S-18	0.61/ 0.51	28.96- 29.57	12-12 24-26	36	Dense, gray, fine SAND and Silt. (A-4)	SAND		
30	S-19	0.30/ 0.20	30.48- 30.78	107-92 100/0 mm	92 100/0 mm	Very dense, gray, fine SAND, some Silt, trace Gravel. (A-2-4)			
	S-20	0.46/ 0.36	32.00- 32.46	77-81 101-100/0 mm	182	Very dense, gray, fine SAND and Silt. (A-4)			

REMARKS

3. Did not sample due to bent rods.
4. Change in wash cuttings.
5. Blow counts are artificially high because drill rods were pressing against the casing at approximately 24.4 meters.

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-304

SOIL BL WELL LOGS.GPJ GZA_MH.GDT 3/20/07

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-304
Page: 4 of 4
File No.: 04.0023600.01
Check: JLH

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
	S-21	0.15/ 0.05	33.53- 33.68	189-100/0 mm	100/0 mm	Very dense, gray, fine SAND, some Silt, trace Gravel. (A-2-4)			
35	S-22	0.36/ 0.20	35.05- 35.41	19-136 100/51 mm	136 100/51 mm	Very dense, gray, fine to coarse SAND, little Silt, trace Gravel. (A-1-a)			
	S-23	0.18/ 0.05	36.58- 36.75	93-100/26 mm	100/26 mm	Very dense, gray, fine to coarse SAND, little Silt, trace Gravel. (A-1-a)	SAND		
	S-24	0.23/ 0.00	38.10- 38.33	138 136		No recovery.			
40						Bottom of boring at 40.2 meters. No refusal.	40.23m	6	

REMARKS

6. Sample could not be obtained due to blow-in Sand.

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-304

SOIL BL WELL LOGS.GPJ GZA_MH.GDT 3/20/07

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

BORING LOG SHEET 13

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042borlogs.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY:	SURVEY DATE:
SQUAD LEADER: C.C. BENDA	DRAWN BY: C. GEORGE
03/97	SHEET: 81 OF 144

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-305
Page: 1 of 3
File No.: 04.0023600.01
Check: JLH

Contractor: New Hampshire Boring, Inc.
Foreman: Steve Garside
Logged by: Curtis George
Date Start/Finish: 7-20-04 / 7-22-04
Boring Location: Sta. 1+165.3, 14.2 mR
GS Elev.: 42.67m Datum: NAVD 88

	Auger/ Casing	Sampler
Type:	HW	SS
I.D.:	102 mm	35 mm
Hammer Wt.:	136.1 kg	63.5 kg
Hammer Fall:	0.76 m	0.76 m
Rig Type:	CME 550 ATV	

GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
7/23/04	0800	0.40m	2.59m	1 day

Depth (m)	Sample Info: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
	S-1	0.61/ 0.08	0.00- 0.61	2-2 1-2	3	Soft, brown, Clayey ORGANIC SILT. (A-8)			Protective Standpipe
	S-2	0.61/ 0.08	1.22- 1.83	2-1 1-1	2	Soft, brown, Clayey ORGANIC SILT. (A-8)			
	S-3	0.61/ 0.08	2.13- 2.74	WOH		VS = 9.0 kPa, vane tip at 2.4 meters. Very soft, gray, SILT & CLAY, trace Organics. (A-4)	ORGANIC SILT	1 2	Filter Sand
	U-1	0.61/ 0.53	3.05- 3.66	PUSH		VS = 7 kPa, vane tip at 4.0 meters. Very soft, gray, Clayey ORGANIC SILT, trace Wood Chips. (22.5% organics) (A-8)			
	S-4	0.61/ 0.46	3.66- 4.27	WOH		Very soft, gray, Clayey ORGANIC SILT, trace Wood Chips. (A-8)			4.57 m
5	S-5	0.61/ 0.61	4.57- 5.18	WOH		Very soft, gray, Clayey ORGANIC SILT, trace Wood Chips. (A-8)	5.33m		
	S-6	0.61/ 0.00	6.10- 6.71	1-1 3-4	4	No recovery.	SAND & SILT		Drill Cuttings
	S-7	0.61/ 0.61	7.62- 8.23	9-10 11-11	21	Medium dense, gray, fine SAND, some Silt. (A-2-4)			
	S-8	0.61/ 0.30	9.14- 9.75	2-1 2-2	3	Soft, gray, Clayey SILT, trace Gravel. (A-4)	8.38m SILT		38-mm ID Solid Sch 40 PVC Well Riser

REMARKS
1. WOH = Weight of Hammer, WOR = Weight of Rod
2. VS = Vane shear test. Split spoon was driven through soil disturbed by VS test.

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-305

SOIL BL WELL LOGS.GPJ GZA_MK.GDT 3/20/07

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-305
Page: 2 of 3
File No.: 04.0023600.01
Check: JLH

Depth (m)	Sample Info: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
							0.91m SAND & SILT		
	S-9	0.61/ 0.46	10.67- 11.28	WOH-3 3-3	6	Loose, gray, fine SAND and Silt, trace Gravel. (A-4)			
							SAND & SILT		
	S-10	0.61/ 0.25	12.19- 12.80	1-2 6-9	8	Loose, gray, fine SAND and Silt, trace Gravel with a seam of Clayey Silt. (A-4)			12.2 m
							12.95m		
	S-11	0.61/ 0.51	13.72- 14.33	WOH-WOH 5-8		Medium stiff, gray, Clayey SILT, trace fine Sand, trace Gravel. (A-4)			13.7 m
15									Filter Sand
	S-12	0.61/ 0.61	15.24- 15.85	WOR WOH		Loose, gray, Clayey SILT, little fine Sand. (A-4)	SILT & SAND		
	S-13	0.61/ 0.00	16.76- 17.37	WOR 2-2		No recovery.			38-mm ID Slotted Sch 40 PVC Well Screen
							17.53m		
	S-14	0.61/ 0.15	18.29- 18.90	12-16 14-12	30	Medium dense, gray, fine to coarse SAND and Gravel, trace Silt. (A-1-a)		3 4	
							SAND WITH GRAVEL		19.6 m
20	S-15	0.61/ 0.15	19.81- 20.42	2-4 9-13	13	Medium dense, gray, fine to coarse SAND and Gravel, trace Silt. (A-1-a)			
	S-16	0.61/	21.34-	16-18	39	Dense, gray, fine to coarse SAND, little			

REMARKS
3. At 18.29 meters, Artesian conditions were encountered.
4. Pieces of Gravel stuck in the tip of the spoon.

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-305

SOIL BL WELL LOGS.GPJ GZA_MK.GDT 3/20/07

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-305
Page: 3 of 3
File No.: 04.0023600.01
Check: JLH

Depth (m)	Sample Info: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
		0.25	21.95	21-11		Gravel, trace Silt. (A-1-a)			
	S-17	0.38/ 0.25	22.86- 23.24	31-63 37-76	100	Very dense, gray, fine to coarse SAND and Gravel, trace Silt. (A-1-a)	SAND WITH GRAVEL		
	S-18	0.61/ 0.10	24.38- 24.99	5-75 54-32	129	Very dense, gray, fine to coarse SAND, some Gravel, trace Silt. (A-1-a)			
25						Bottom of boring at 24.99 m below ground surface. Casing broke in borehole. Unable to advance further.	24.99m		
30									

REMARKS

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-305

SOIL BL WELL LOGS.GPJ GZA_MK.GDT 3/20/07

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

BORING LOG SHEET 14

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042borlogs.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY:	SURVEY DATE:
SQUAD LEADER: C.C. BENDA 03/97	DRAWN BY: C. GEORGE
	SHEET: 82 OF 144

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-306
Page: 1 of 2
File No.: 04.0023600.01
Check: JLH

Contractor: New Hampshire Boring, Inc.
Foreman: Steve Garside
Logged by: Curtis George
Date Start/Finish: 7-19-04 / 7-20-04
Boring Location: Sta. 1+178.0, 15.1 mR
GS Elev.: 43.28m Datum: NAVD 88

	Auger/ Casing	Sampler
Type:	HW	SS
I.D.:	102 mm	35 mm
Hammer Wt.:	136.1 kg	63.5 kg
Hammer Fall:	0.76 m	0.76 m
Rig Type:	CME 550 ATV	

GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
		Not Measured		

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
	S-1	0.61/ 0.08	0.00- 0.61	3-3 4-2	7	Medium stiff, brown, Clayey ORGANIC SILT. (A-8)	ORGANIC SILT		No Equipment Installed
							1.00m		
	S-2	0.61/ 0.08	1.52- 2.13	8-4 1-1	5	Medium, brown, CLAY & SILT, trace Organics. (A-6)	CLAY & SILT SLIGHTLY ORGANIC		
	S-3	0.61/ 0.36	2.13- 2.74	WOH		VS = 15 kPa, vane tip at 2.4 m. Very soft, brown, SILT & CLAY, trace Organics. (A-4)		1 2	
							2.44m		
	S-4	0.61/ 0.03	3.05- 3.66	WOH		Very soft, brown, SILT & CLAY, trace Organics. (A-4)			
	S-5A/B	0.61/ 0.51	3.66- 4.27	12-13 13-14	26	VS = 6 kPa, vane tip at 4.0 m. Top 0.30 m: Medium stiff, brown, SILT & CLAY, trace Organics. (A-4) Bottom 0.30 m: Medium stiff, CLAY & SILT, some fine Sand. (A-6)			
5	S-6	0.61/ 0.61	4.57- 5.18	3-2 1-1	3	Soft, gray, SILT & CLAY with alternating seams of brown, fine Sand. (A-4)	SILT & CLAY		
	U-1	0.61/ 0.61	5.18- 5.79			Gray, SILT & CLAY. (A-4)			
	S-7	0.61/ 0.48	6.10- 6.71	WOR-3 3-8	6	Medium stiff, gray, varved, Silty CLAY with a 152-mm layer of gray, SILT, some fine Sand. (A-4 to A-7-6)			
	U-2	0.61/ 0.48	6.71- 7.32			Gray, varved, Silty CLAY with layers of gray, SILT, some fine Sand. (A-4 to A-7-6)			
	S-8	0.61/ 0.08	7.62- 8.23	2-3 5-5	8	Loose, gray, fine SAND and Silt. (A-4)	7.62m		
							SILT & SAND		
	S-9	0.61/ 0.61	9.14- 9.75	6-6 4-5	10	Loose, gray, fine SAND and Silt, trace Gravel. (A-4)			

REMARKS
1. WOH = Weight of Hammer
2. VS = Vane shear test. Split spoon was driven through soil disturbed by VS test.

SOIL BL WELL LOGSGPJ GZA_MK.GDT 3/29/07

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-306

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Cornwall BRS 0172(6)
Cornwall, Vermont

Boring No.: B-306
Page: 2 of 2
File No.: 04.0023600.01
Check: JLH

Depth (m)	Sample Information: No.	Pen./ Rec. (m)	Depth (m)	Blows (/0.15m)	N Value	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
	S-10	0.61/ 0.48	10.67- 11.28	4-1 4-1	5	Loose, gray, fine SAND and SILT. (A-4)			
	S-11	0.61/ 0.38	12.19- 12.80	4-5 5-6	10	Loose, gray, fine SAND, some Silt, trace Gravel. (A-2-4)	SILT & SAND		
	S-12A/B	0.61/ 0.61	13.72- 14.33	3-6 5-7	11	Top 0.30 m: Medium dense, gray, fine SAND, some Silt, trace Gravel. (A-2-4) Bottom 0.30 m: Gray, Clayey SILT with fine Sand seams. (A-4)			
							14.33m		
15						Bottom of boring at 14.3 meters. No refusal.			
20									

REMARKS

SOIL BL WELL LOGSGPJ GZA_MK.GDT 3/29/07

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

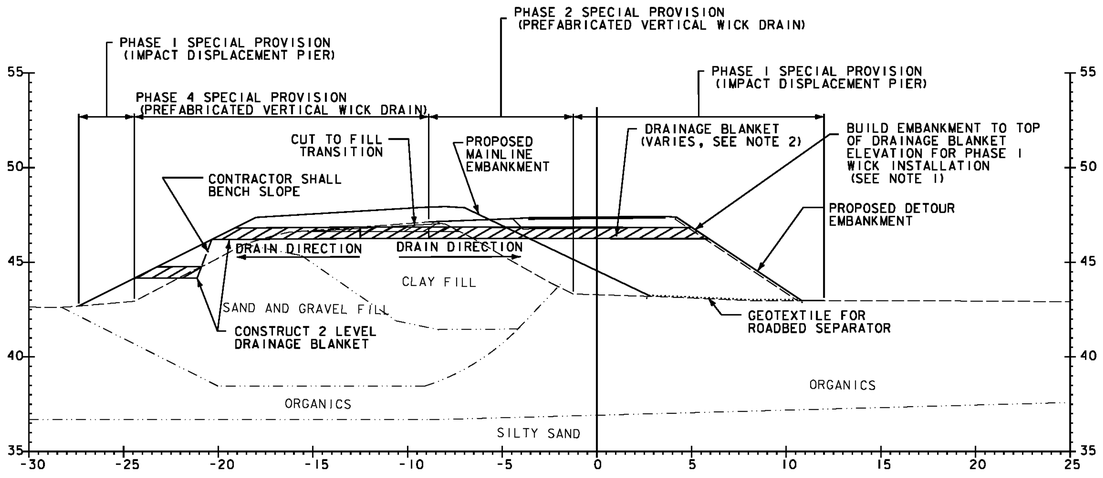
Boring No.: B-306

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

BORING LOG SHEET 15

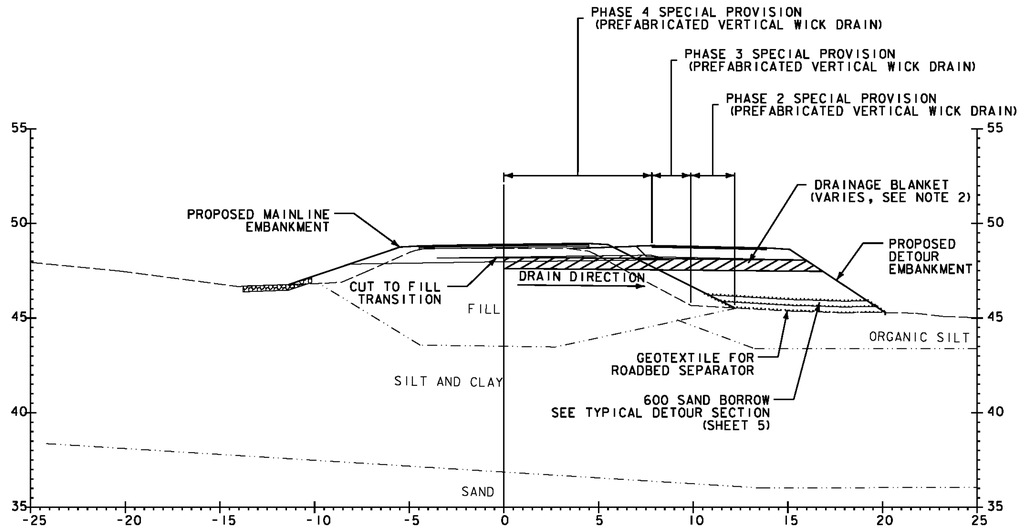
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172 (6)

DESIGN FILE NAME: z85e042bor logs.dgn
IPARM FILE NAME:
SURVEYED BY:
SQUAD LEADER: C. C. BENDA
DATE: 03/01
PLOT DATE: 2/5/2010
SURVEY DATE:
DRAWN BY: C. GEORGE
SHEET: 83 OF 144



TYPICAL SOUTH EMBANKMENT SECTION

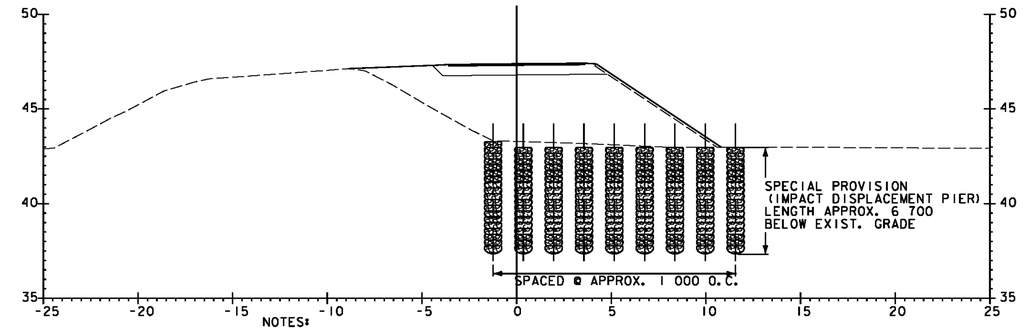
(SECTION 3+180 SHOWN)
NOT TO SCALE



TYPICAL NORTH EMBANKMENT SECTION

(SECTION 1+100 SHOWN)
NOT TO SCALE

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

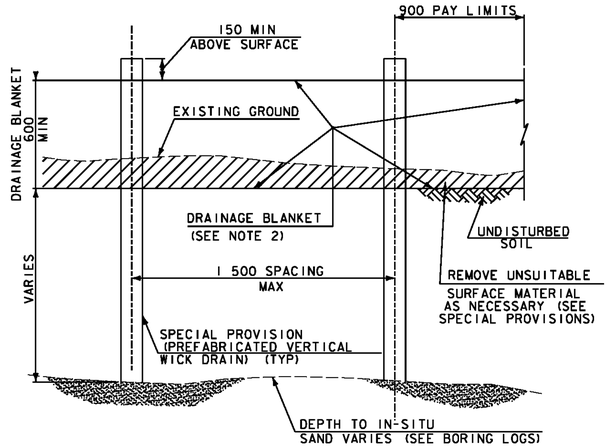


NOTES:

1) APPROXIMATE LIMITS OF SPECIAL PROVISION (IMPACT DISPLACEMENT PIER) (IDP)
   APPROXIMATE REPLACEMENT RATIO (Ra) = 18%
   RAP DIAMETER = 508 mm
   APPROXIMATE IDP DEPTH = 6.7 m
2) DEPTHS, SPACING, AND DIAMETER WILL BE BASED ON THE CONTRACTOR'S APPROVED FINAL DESIGN, SEE SPECIAL PROVISIONS.
3) REFER TO SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

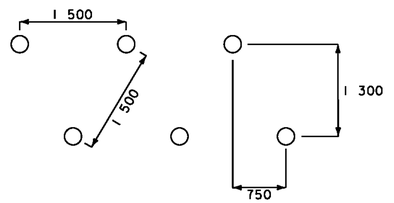
TYPICAL EMBANKMENT SECTION WITH SPECIAL PROVISION (IMPACT DISPLACEMENT PIER)

(SECTION 3+180 SHOWN)
NOT TO SCALE



PREFABRICATED VERTICAL WICK DRAIN

NOT TO SCALE



TYPICAL SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) LAYOUT

NOT TO SCALE

SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) GENERAL NOTES:

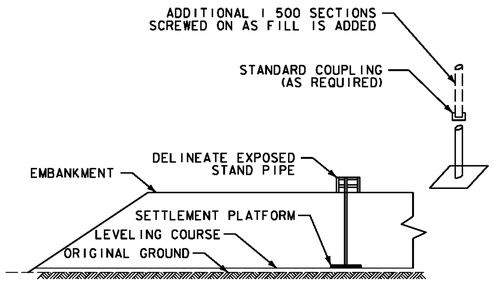
1) THE ELEVATION OF THE TOP OF THE DRAINAGE BLANKET SHALL BE TAKEN AS THE BOTTOM OF THE SUBBASE OF DENSE GRADED CRUSHED STONE AT THE CENTERLINE.
2) IN AREAS WHERE 250 SAND BORROW IS REQUIRED WITHIN THE VT 125 SECTION (SEE TYPICAL SECTION ON SHEET 3) THE CONTRACTOR SHALL SUPPLEMENT THE SAND BORROW TO ACHIEVE A MINIMUM OF 600 DEEP DRAINAGE BLANKET. CONTRACTOR SHALL COORDINATE THE BOTTOM OF SAND ELEVATIONS TO PROMOTE POSITIVE DRAINAGE.
3) PAYMENT FOR DRAINAGE BLANKET NOT INCLUDED FOR PAYMENT UNDER ITEM 203.31 SAND BORROW AS A PART OF VT 125 TYPICAL SECTION SHALL BE CONSIDERED INCIDENTAL TO ITEM 528.11 TWO-WAY TEMPORARY BRIDGE.
4) PAYMENT FOR GEOTEXTILE FOR ROADBED SEPARATOR SHALL BE MADE UNDER ITEM 649.11 GEOTEXTILE FOR ROADBED SEPARATOR.
5) PAYMENT FOR THE REMOVAL OF VERTICAL WICK DRAIN WITHIN THE LIMIT OF TEMPORARY DETOUR EMBANKMENT TO A DEPTH OF 100 MM BELOW FINISHED GRADE SHALL BE MADE UNDER ITEM 528.11 TWO-WAY TEMPORARY BRIDGE.

SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) AND SPECIAL PROVISION (IMPACT DISPLACEMENT PIER) DETAIL SHEET

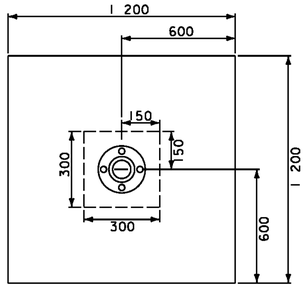
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042geodet.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY — PLOT DATE: 2/16/2010
SQUAD LEADER: MARTHA EVANS-MONGEON — SURVEY DATE: 1996&1999
DRAWN BY: ERIK ATKINS
SHEET: 84 OF 144

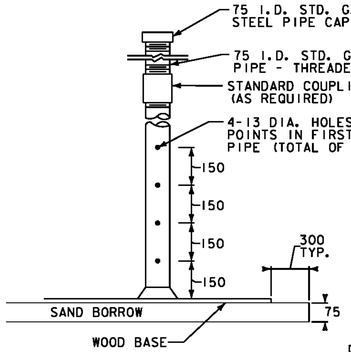
Metric

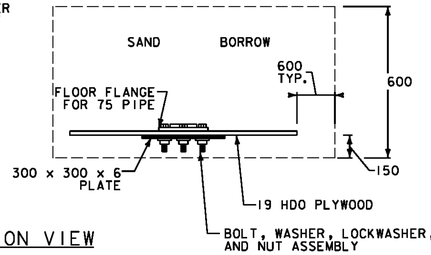


TYPICAL SECTION

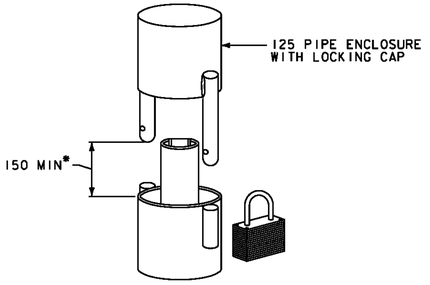


PLAN VIEW





ELEVATION VIEW



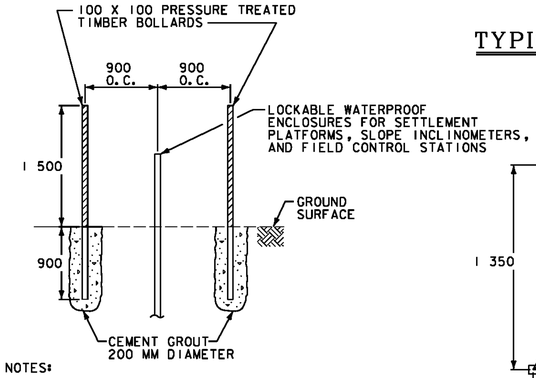
* DIMENSION TO BE DETERMINED FROM INCLINOMETER PULLEY ASSEMBLY

LOCKING PROTECTIVE STEEL CAP DETAIL

NOT TO SCALE

TYPICAL DETAIL OF SETTLEMENT PLATFORM TYPE I

NOT TO SCALE

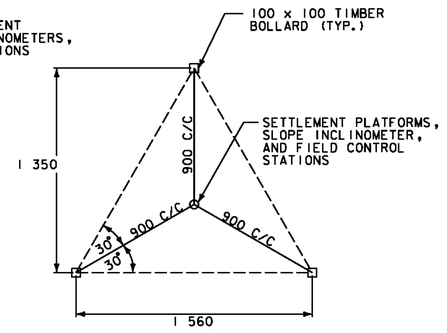


NOTES:

1. PAINT TIMBER BOLLARDS FLUORESCENT ORANGE.
2. COST OF ALL MATERIALS, LABOR AND INCIDENTALS ASSOCIATED WITH THE INSTALLATION OF THE BOLLARDS TO BE INCLUDED IN UNIT PRICE BID FOR ITEM 900.640 SPECIAL PROVISION (INCLINOMETER).

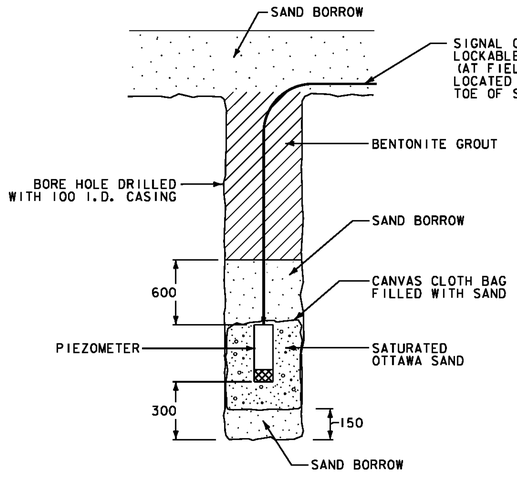
TIMBER BOLLARD DETAIL

NOT TO SCALE



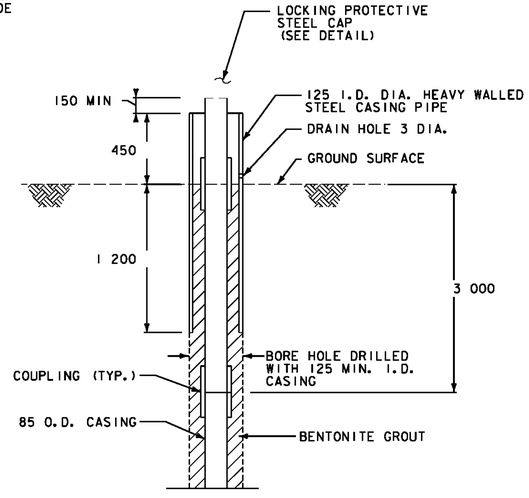
TIMBER BOLLARD PLAN

NOT TO SCALE



VIBRATING WIRE PIEZOMETER DETAIL

NOT TO SCALE

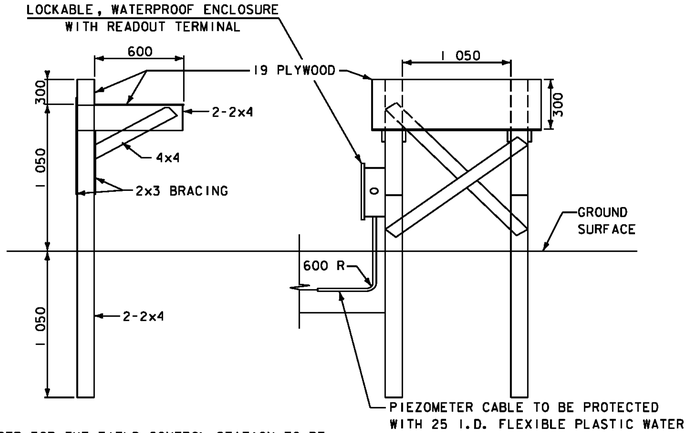


NOTE:

TOP 900 OF CASING TO BE PAINTED ORANGE WITH INCLINOMETER OR OBSERVATION WELL NUMBER PAINTED BLACK.

SLOPE INCLINOMETER DETAIL

NOT TO SCALE



NOTES:

1. LUMBER FOR THE FIELD CONTROL STATION TO BE INCIDENTAL TO UNIT PRICE BID FOR ITEM 900.620 SPECIAL PROVISION (PIEZOMETER, VIBRATING WIRE).
2. ALL PIEZOMETER CABLE SHALL BE CLEARLY MARKED WITH THE DESIGNATED NUMBERS.

FIELD CONTROL STATION

NOT TO SCALE

GENERAL NOTES:

TYPE I PLATFORM

1. SETTLEMENT PLATFORM BASE MATERIAL SHALL BE 100x100x19 HDO PLYWOOD CONFORMING TO SUBSECTION 750.06, TREATED FOR SOIL CONTACT RETENTION IN ACCORDANCE WITH AWPA C9.
2. THE SETTLEMENT PLATFORM BASE SHALL BE SET ON A MINIMUM OF 150 OF SAND BORROW GRADED AND COMPACTED TO A SMOOTH LEVEL SURFACE. SAND BORROW SHALL CONFORM TO THE GRADATION REQUIREMENTS OF TABLE 703.03A. WHEN DIRECTED BY THE ENGINEER ADDITIONAL SAND BORROW SHALL BE USED AS A LEVELING COURSE. PAYMENT FOR THE SAND BORROW SHALL BE CONSIDERED INCIDENTAL TO SPECIAL PROVISION (SETTLEMENT PLATFORM, TYPE I).
3. LUMBER SHALL CONFORM TO SUBSECTION 709.01 AND BE TREATED WITH TYPE IV PRESERVATIVE IN ACCORDANCE WITH SUBSECTION 726.01 (MINIMUM RETENTION OF 9.61 KG/CM).
4. HARDWARE AND NAILS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111M/M111.
5. DURING THE CONTRACT PERIOD THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING AGAINST DAMAGE ANY EXPOSED PORTIONS OF A SETTLEMENT PLATFORM OR A PIEZOMETER.
6. THE EXPOSED PORTION OF ANY TYPE I SETTLEMENT PLATFORM SHALL BE DELINEATED WITH THREE TIMBER BOLLARDS AS DETAILED ON THIS SHEET.
7. THE STAND PIPE, COUPLINGS, CAPS AND FLANGE BASE SHALL BE FOR A 75 I.D. STEEL PIPE CONFORMING TO THE REQUIREMENTS OF SUBSECTION 740.05.
8. THE 300x300x6 STEEL PLATE SHALL BE GALVANIZED AND CONFORM TO SUBSECTION 714.03.
9. ALL BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED AND CONFORM TO SUBSECTION 714.04.

INSTRUMENTATION READOUT NOTES

1. ONE (1) READOUT INSTRUMENT FOR PIEZOMETER (VIBRATING WIRE) WITH ALL NECESSARY ACCESSORIES SHALL BE PROVIDED.
2. ONE (1) INCLINOMETER READOUT INSTRUMENT WITH ALL NECESSARY ACCESSORIES (CABLE, PULLEY SYSTEM, TWO PROBES, ETC.) SHALL BE PROVIDED (SEE SPECIAL PROVISIONS).

GEOTECHNICAL INSTRUMENTATION DETAIL SHEET

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042geodet.dgn	
IPARM FILE NAME:	PLOT DATE: 2/15/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
	SHEET: 85 OF 144

PROJECT CONSTRUCTION SEQUENCE

THE CONTRACTOR SHALL FOLLOW THE PROJECT SEQUENCE PROVIDED BELOW OR DEVELOP ONE THAT MUST BE APPROVED BY THE ENGINEER. IF THE CONTRACTOR WISHES TO DEVELOP A CONSTRUCTION SEQUENCE, AN APPROVED COPY MUST BE SENT TO THE STRUCTURES SECTION FOR REFERENCE ONLY. THE CONTRACTOR SHALL SUBMIT AN INSTRUMENTATION INSTALLATION SCHEDULE FOR APPROVAL, SEE SPECIAL PROVISIONS.

1. CLEAN AND GRUB AREAS OF PROPOSED DETOUR EMBANKMENTS.

2. INSTALL SPECIAL PROVISION (IMPACT DISPLACEMENT PIER) (PHASE 1) IN THE SOUTHERN DETOUR EMBANKMENT AREA.

3. INSTALL SPECIAL PROVISION (IMPACT DISPLACEMENT PIER) (PHASE 1) ALONG THE TOE OF THE EASTERN SLOPE AT THE SOUTHERN MAINLINE EMBANKMENT, AND BACKFILL TO CREATE A WORKING PAD FOR WICK DRAIN INSTALLATION ALONG THE EASTERN SLOPE OF THE MAINLINE.

4. CONSTRUCT SOUTHERN DETOUR EMBANKMENT.

5. INSTALL SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) (PHASE 2) FOR THE NORTHERN DETOUR AREA ALONG THE TOE OF THE EXISTING MAINLINE SLOPE. INSTALL LOWER DRAINAGE BLANKET TO DISCHARGE TO THE WEST SIDE OF THE EMBANKMENT.

6. INSTALL SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) (PHASE 2) ALONG THE SOUTHERN DETOUR EMBANKMENT AS SHOWN ON THE PLANS. CONSTRUCT DRAINAGE BLANKET TO DISCHARGE TO THE WEST SIDE OF THE DETOUR EMBANKMENT.

7. CONSTRUCT THE NORTHERN DETOUR EMBANKMENT AND TEMPORARY BRIDGE.

8. INSTALL SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) (PHASE 3) IN THE NORTHERN DETOUR EMBANKMENT AREA AND ALONG THE WESTERN PORTION OF THE NORTHERN MAINLINE EMBANKMENT AS SHOWN ON THE PLANS. CONSTRUCT DRAINAGE BLANKET TO DISCHARGE TO THE WEST SIDE OF THE EMBANKMENT.

9. CLOSE MAINLINE TRAFFIC AND DIVERT TO DETOUR ALIGNMENT.

10. INSTALL SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) (PHASE 4) IN THE SOUTHERN MAINLINE EMBANKMENT. THE EMBANKMENT SLOPE MAY NEED TO BE BENCHED TO ALLOW FOR WICK DRAIN INSTALLATION. CONSTRUCT DRAINAGE BLANKET TO DISCHARGE TO THE EAST SIDE OF THE EMBANKMENT.

11. INSTALL SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) (PHASE 4) IN THE NORTHERN MAINLINE EMBANKMENT. CONSTRUCT THE DRAINAGE BLANKET AND CONNECT TO THE PHASE 2 WICK DRAIN DRAINAGE BLANKET TO DRAIN THE WEST SIDE OF THE EMBANKMENT.

12. PRE-EXCAVATE 675 MM (MIN.) DIAMETER HOLES TO A DEPTH OF 2 400 MM FOR EACH PILE LOCATION AS SHOWN IN THESE PLANS. PAYMENT FOR THE EXCAVATION OF HOLES SHALL BE INCLUDED IN ITEM 503.20 "PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES". PAYMENT FOR THE REQUIRED EQUIPMENT SHALL BE MADE PART OF ITEM 504.10 "FURNISHING EQUIPMENT FOR DRIVING PILES".

13. INSERT, THEN DRIVE THE PILING AS SHOWN IN THESE PLANS. PLACE PEASTONE IN EACH OF THE PRE-EXCAVATED HOLES AFTER THE PILES ARE DRIVEN TO PROPER DEPTH. THE COST OF THE PEASTONE, INCLUDING PLACEMENT SHALL BE CONSIDERED INCIDENTAL TO THE COST OF ITEM 503.20 "PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES".

14. FORM AND PLACE THE CONCRETE FOR THE ABUTMENTS AND FLYING WINGWALLS TO THE CONSTRUCTION JOINT AS SHOWN IN THESE PLANS. INSTALL THE ANCHOR BOLTS AS INDICATED IN THESE PLANS.

15. THE ANCHOR BOLTS SHALL BE PROTECTED FROM THE EFFECTS OF WINTER WEATHER.

16. UPON RECEIVING THE GIRDERS, PLACE TWO NUTS ON EACH OF THE ANCHOR BOLTS. USING THE NUTS, SET THE LEVELING PLATES TO THE CORRECT ELEVATION AS SHOWN IN THESE PLANS. MAKE SURE THE LEVELING PLATES ARE LEVEL.

17. SET THE GIRDERS ON THE LEVELING PLATES AND ATTACH TO THE ABUTMENTS WITH THE ANCHOR BOLTS. TIGHTEN THE BOLTS.

18. PLACE THE CENTER OF THE BRIDGE DECK, FORM THE ABUTMENTS AND BACKFILL WITH GRANULAR BACKFILL FOR STRUCTURES IN 150 MM LIFTS TO THE SUBGRADE ELEVATION OF THE APPROACH SLAB.

19. PLACE THE ABUTMENT CONCRETE ALONG WITH THE REMAINDER OF THE FLYING WINGWALLS AND THE ENDS OF THE DECK TO THE CONSTRUCTION JOINT SHOWN IN THESE PLANS.

20. FORM AND PLACE THE CONCRETE FOR THE APPROACH SLABS.

21. CONSTRUCT SAFETY CURBS AND RAILING, APPLY WATERPROOFING AND PAVE BRIDGE.

22. CLOSE DETOUR TRAFFIC AND DIVERT TO MAINLINE ALIGNMENT.

23. REMOVE TEMPORARY BRIDGE AND DETOUR APPROACHES.

24. COMPLETE WORK FOR FINAL TURF ESTABLISHMENT.

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z085e042conseq.dgn	
IPARM FILE NAME:	PLOT DATE: 2/11/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
PROJECT CONSTRUCTION SEQUENCE	SHEET: 86 OF 144

SPECIAL PROVISION (IMPACT DISPLACEMENT PIER) INSTALLATION LAYOUT SHEET PHASE 1

APPROXIMATE LIMITS OF SPECIAL PROVISION (IMPACT DISPLACEMENT PIER)
3+164 RT ~ 3+214 RT - 527 S.M.
3+161LT ~ 3+228.5 LT - 148 S.M.
SEE SHEET 84 AND SPECIAL PROVISIONS

ARCHAELOGICALLY SENSITIVE AREA

POT DETOUR STA. 3+040.000=
VT ROUTE 125 STA. 1+040.000
BEGIN APPROACH

POC STA. 3+060.000
END APPROACH
BEGIN DETOUR BRS 0172(6)

POT STA. 3+112.764
END DETOUR ROADWAY
BEGIN TEMPORARY BRIDGE

BM #2
CHISEL SQ. SET
NE CORNER OF
BACK OF THE
BRIDGE CURB
ELEV.= 48.413

POT STA. 3+170.676
END TEMPORARY BRIDGE
RESUME DETOUR ROADWAY

APPROXIMATE LIMITS OF SPECIAL PROVISION (IMPACT DISPLACEMENT PIER) INSTALLED UNDER PHASE I

VT STATE PLANE GRID

CLASS II WETLAND

LEMON FAIR RIVER

MODERATELY DENSE BRUSH

GRASS FIELD

WOODS

PC STA 3+040.000

PI STA 3+064.868

PC STA 3+111.054

PI STA 3+111.865

PC STA 3+112.675

PRC STA 3+089.343

PI STA 3+100.297

PT STA 3+242.204

PT STA 3+212.952

APPROXIMATE LIMITS OF SPECIAL PROVISION (IMPACT DISPLACEMENT PIER) INSTALLED UNDER PHASE I

0 10 20 30
SCALE IN METERS

LEGEND

APPROXIMATE LIMITS OF SPECIAL PROVISION (IMPACT DISPLACEMENT PIER)

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042geobdr.dgn	
IPARM FILE NAME:	PLOT DATE: 3/16/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
	SHEET: 87 OF 144

SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) INSTALLATION LAYOUT SHEET PHASE 2

VAOT Metric

APPROXIMATE LIMITS OF SPECIAL PROVISION
(PREFABRICATED VERTICAL WICK DRAIN)
3+059 RT ~ 3+121℄ - 176 S.M.
3+164 LT ~ 3+218 LT - 364 S.M.

VT STATE PLANE GRID

POT DETOUR STA. 3+040.000=
VT ROUTE 125 STA. 1+040.000
BEGIN APPROACH

POC STA. 3+060.000
END APPROACH
BEGIN DETOUR BRS 0172(6)

POT STA. 3+112.764
END DETOUR ROADWAY
BEGIN TEMPORARY BRIDGE

BM #2
CHISEL SQ. SET
NE CORNER OF
BACK OF THE
BRIDGE CURB
ELEV.= 48.413

POT STA. 3+170.676
END TEMPORARY BRIDGE
RESUME DETOUR ROADWAY

APPROXIMATE LIMITS OF SPECIAL PROVISION (IMPACT DISPLACEMENT PIER) INSTALLED UNDER PHASE 1

APPROXIMATE LIMITS OF SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) INSTALLED UNDER PHASE 2

APPROXIMATE LIMITS OF SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) INSTALLED UNDER PHASE 2

APPROXIMATE LIMITS OF SPECIAL PROVISION (IMPACT DISPLACEMENT PIER) INSTALLED UNDER PHASE 1

ARCHAELOGICALLY SENSITIVE AREA

CLASS II WETLAND

LEMON FAIR RIVER

MODERATELY DENSE BRUSH

GRASS FIELD

0 10 20 30
SCALE IN METERS

LEGEND

- APPROXIMATE LIMITS OF SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN)
- APPROXIMATE LIMITS OF SPECIAL PROVISION (IMPACT DISPLACEMENT PIER)

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042geobdr.dgn	
IPARM FILE NAME:	PLOT DATE: 3/16/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
	SHEET: 88 OF 144

VAOT Metric

SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) PHASE 3 INSTALLATION LAYOUT SHEET

APPROXIMATE LIMITS OF SPECIAL PROVISION
(PREFABRICATED VERTICAL WICK DRAIN)
3+058 RT ~ 3+112 LT - 147 S.M.

VT STATE PLANE GRID

POT DETOUR STA. 3+040.000=
VT ROUTE 125 STA. 1+040.000
BEGIN APPROACH

POC STA. 3+060.000
END APPROACH
BEGIN DETOUR BRS 0172(6)

POT STA. 3+112.764
END DETOUR ROADWAY
BEGIN TEMPORARY BRIDGE

BM #2
CHISEL SQ. SET
NE CORNER OF
BACK OF THE
BRIDGE CURB
ELEV.= 48.413

POT STA. 3+170.676
END TEMPORARY BRIDGE
RESUME DETOUR ROADWAY

APPROXIMATE LIMITS OF SPECIAL PROVISION (IMPACT DISPLACEMENT PIER) INSTALLED UNDER PHASE 1

APPROXIMATE LIMITS OF SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) INSTALLED UNDER PHASE 2

APPROXIMATE LIMITS OF SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) INSTALLED UNDER PHASE 3

APPROXIMATE LOCATION OF TEMPORARY BRIDGE

ARCHAELOGICALLY SENSITIVE AREA

CLASS II WETLAND

LEMON FAIR RIVER

S1°11'00.1"E

0 10 20 30
SCALE IN METERS

LEGEND

- APPROXIMATE LIMITS OF SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN)
- APPROXIMATE LIMITS OF SPECIAL PROVISION (IMPACT DISPLACEMENT PIER)

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042geobdr.dgn	
IPARM FILE NAME:	PLOT DATE: 3/16/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
	SHEET: 89 OF 144

SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) INSTALLATION LAYOUT SHEET PHASE 4

VTrans Metric

APPROXIMATE LIMITS OF SPECIAL PROVISION
(PREFABRICATED VERTICAL WICK DRAIN)
3+072.5 LT ~ 3+117 LT - 202 S.M.
3+161LT ~ 3+225 LT - 741S.M.

VT STATE PLANE GRID

POT DETOUR STA. 3+040.000=
VT ROUTE 125 STA. 1+040.000
BEGIN APPROACH

POC STA. 3+060.000
END APPROACH
BEGIN DETOUR BRS 0172(6)

POT STA. 3+112.764
END DETOUR ROADWAY
BEGIN TEMPORARY BRIDGE

POT STA. 3+170.676
END TEMPORARY BRIDGE
RESUME DETOUR ROADWAY

BM #2
CHISEL SQ. SET
NE CORNER OF
BACK OF THE
BRIDGE CURB
ELEV.= 48.413

PC STA 3+040.000

PRC STA 3+089.343

PI STA 3+100.297

PT STA 3+111.054

PC STA 1+161.865

PT STA 3+170.675

PI STA 3+242.204

PT STA 3+212.952

ARCHAELOGICALLY SENSITIVE AREA

CLASS II WETLAND

LEMON FAIR RIVER

APPROXIMATE LIMITS OF SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) INSTALLED UNDER PHASE 3

APPROXIMATE LIMITS OF SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) INSTALLED UNDER PHASE 4

APPROXIMATE LIMITS OF SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN) INSTALLED UNDER PHASE 2

APPROXIMATE LIMITS OF SPECIAL PROVISION (IMPACT DISPLACEMENT PIER) INSTALLED UNDER PHASE 1

0 10 20 30
SCALE IN METERS

LEGEND

APPROXIMATE LIMITS OF SPECIAL PROVISION (PREFABRICATED VERTICAL WICK DRAIN)

APPROXIMATE LIMITS OF SPECIAL PROVISION (IMPACT DISPLACEMENT PIER)

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042geobdr.dgn	
IPARM FILE NAME:	PLOT DATE: 3/16/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
	SHEET: 90 OF 144

INSTRUMENTATION LAYOUT SHEET

VAOT Metric

SPECIAL PROVISION
(SETTLEMENT PLATFORM, TYPE I)

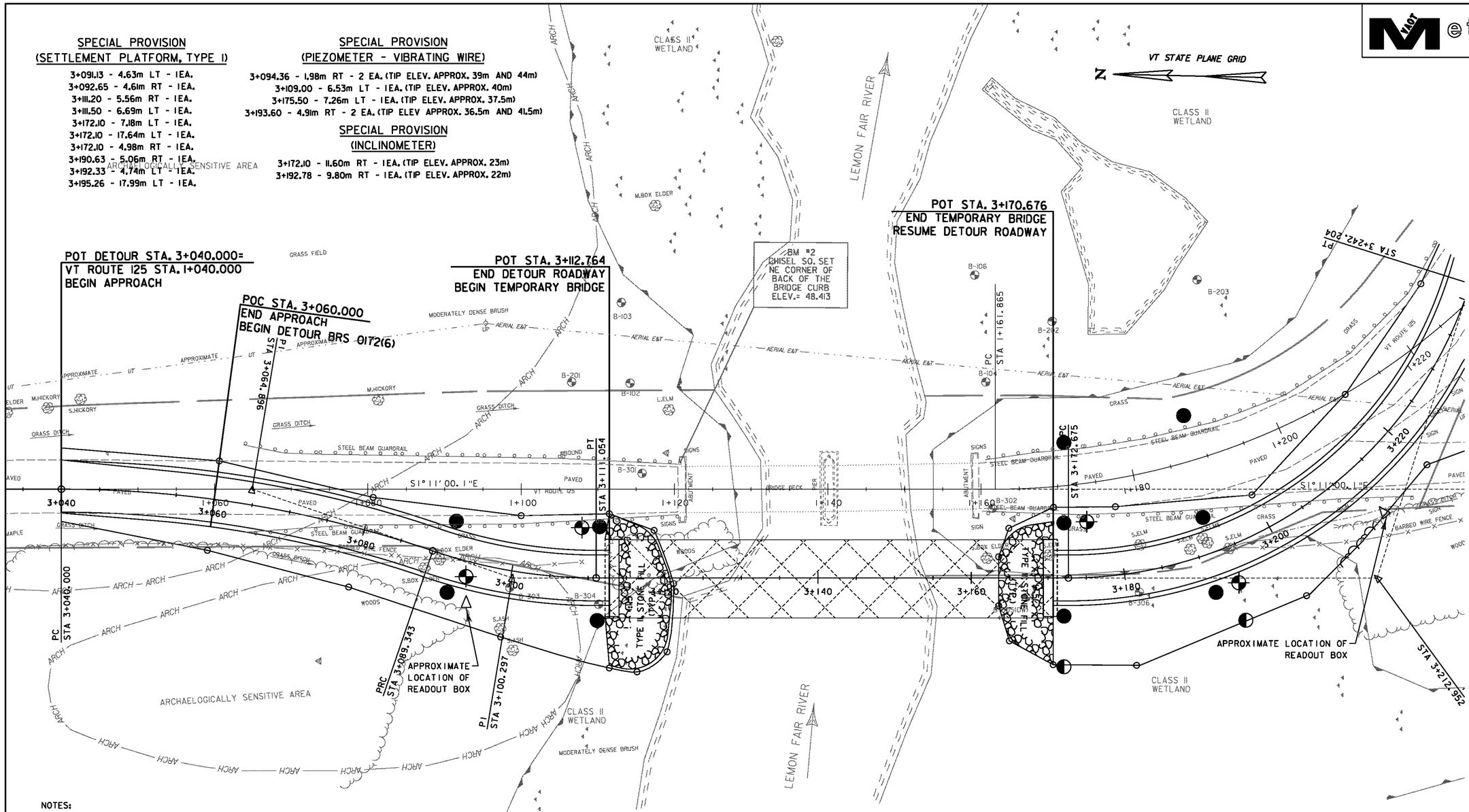
3+091.13 - 4.63m LT - 1EA.
3+092.65 - 4.61m RT - 1EA.
3+111.20 - 5.56m RT - 1EA.
3+111.50 - 6.69m LT - 1EA.
3+172.10 - 7.18m LT - 1EA.
3+172.10 - 17.64m LT - 1EA.
3+172.10 - 4.98m RT - 1EA.
3+190.63 - 5.06m RT - 1EA.
3+192.33 - 4.74m LT - 1EA.
3+195.26 - 17.99m LT - 1EA.

SPECIAL PROVISION
(PIEZOMETER - VIBRATING WIRE)

3+094.36 - 1.98m RT - 2 EA. (TIP ELEV. APPROX. 39m AND 44m)
3+109.00 - 6.53m LT - 1EA. (TIP ELEV. APPROX. 40m)
3+175.50 - 7.26m LT - 1EA. (TIP ELEV. APPROX. 37.5m)
3+193.60 - 4.9Im RT - 2 EA. (TIP ELEV APPROX. 36.5m AND 41.5m)

SPECIAL PROVISION
(INCLINOMETER)

3+172.10 - 11.60m RT - 1EA. (TIP ELEV. APPROX. 23m)
3+192.78 - 9.80m RT - 1EA. (TIP ELEV. APPROX. 22m)



NOTES:

1.) THE ACTUAL PERFORMANCE OF THE EMBANKMENT IN TERMS OF STABILITY AND SETTLEMENT IS A FUNCTION OF THE IN-SITU SOIL PROPERTIES, THE INCREASE IN STRENGTH AFTER SOIL IMPROVEMENT TECHNIQUES HAVE BEEN IMPLEMENTED, AND THE RATE OF EMBANKMENT CONSTRUCTION. THEREFORE THE CONTRACTOR SHOULD BE PREPARED TO COORDINATE THE RATE AND LOCATIONS OF EMBANKMENT FILL PLACEMENT WITH THE ENGINEER BASED ON THE INFORMATION OBTAINED FROM THE GEOTECHNICAL INSTRUMENTATION MONITORING AND EVALUATION OF THE CONDITIONS.

2.) VIBRATING WIRE PIEZOMETERS SHALL BE INSTALLED AND MONITORED DAILY FOR A MINIMUM OF ONE WEEK BEFORE THE INSTALLATION OF IMPACT DISPLACEMENT PIERS AND/OR PREFABRICATED VERTICAL WICK DRAINS IN ORDER TO OBTAIN PRECONSTRUCTION BASELINE INFORMATION. PLEASE NOTE THE VIBRATING WIRE PIEZOMETERS LOCATED IN THE MAINLINE EMBANKMENT LIMITS MAY NEED TO BE INSTALLED AFTER THE DETOUR EMBANKMENT HAS BEEN CONSTRUCTED.

3.) THE CONTRACTOR IS REQUIRED TO SUBMIT AN INSTRUMENTATION INSTALLATION SCHEDULE IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

ANTICIPATED SETTLEMENT		
LOCATION	ESTIMATED POST CONSTRUCTION CONSOLIDATION SETTLEMENT	ESTIMATED TIME TO REACH 90% CONSOLIDATION
NORTH MAINLINE EMBANKMENT	130MM	90 DAYS
NORTH DETOUR EMBANKMENT	200MM	90 DAYS
SOUTH MAINLINE EMBANKMENT	325MM	100 DAYS
SOUTH DETOUR EMBANKMENT	76MM	30 DAYS

0 10 20 30
SCALE IN METERS

LEGEND

- APPROXIMATE LOCATION OF SPECIAL PROVISION (SETTLEMENT PLATFORM, TYPE I)
- APPROXIMATE LOCATION OF SPECIAL PROVISION (INCLINOMETER)
- APPROXIMATE LOCATION OF SPECIAL PROVISION (PIEZOMETER, VIBRATING WIRE)

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042geobdr.dgn	
IPARM FILE NAME:	PLOT DATE: 2/12/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
	SHEET: 91 OF 144

VT STATE PLANE GRID

LEMON FAIR RIVER

CURVE DATA
△ = 95°53'15.8"LT
R = 90.000
T = 99.758
L = 150.620
E = 44.357
BANK = 0.060 m/m

10+015

1V:2H

STONE FILL TYPE II (TYP.)

END OF APPROACH SLAB NO.1
BEGIN BRIDGE
STA. 1+115.500
PG ELEV. = 48.573

93°36'33"

10+000

BEGIN APPROACH SLAB NO.1
STA. 1+109.500

M.L.POT 1+110.000 =
CHAN.10+00.000
PG ELEV. = 48.573

WP

℄ BEARING
STA. 1+116.000
PG ELEV. = 48.565
(EXP.)

S11°00.1"E

1V:4H

EXISTING ABUTMENT

(90)

1+120

3.300 TRAVEL LANE

4.650 TO FACE OF RAIL

4.500 TO FACE OF CURB

5.100 TO FASCIA

1+140

VT RTE 125

EXISTING BRIDGE

EXISTING BRIDGE PIER (TO BE REMOVED)

1V:2H

1V:3H

℄ BEARING
STA. 1+161.000
PG ELEV. = 47.913
(EXP.)

END BRIDGE
BEGIN APPROACH SLAB NO.2
STA. 1+161.500
PG ELEV. = 47.906

EDGE OF PAVEMENT (TYP.)

WP

(90)

1+168

PC STA. 1+161.865

END APPROACH SLAB NO.2
STA. 1+167.500

1V:2H

9+985

CHANNEL BASELINE

PLAN

PAY LIMITS BRIDGE RAILING,GALVANIZED NETC 2 RAIL = 57.510

21 SPACES AT 2.396 = 50.316 (TYP)

℄ TO ℄ BEARING 45.000

50

45

40

Q_{100} EL.45.72

Q_{50} EL.42.74

Q_{500} EL.42.37

EXISTING BRIDGE PIER (TO BE REMOVED TO STREAMBED)

EXISTING GROUND

600 STONE FILL TYPE II (TYP.)

EXISTING GROUND

ELEVATION

0 2 4 6 8 10

SCALE 1:100

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: z85e042brdbdr.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
PLAN AND ELEVATION

PLOT DATE: 2/12/2010
DRAWN BY: VK
CHECKED BY: M. CRUZ
SHEET 92 OF 144

GENERAL NOTES

General Items

1. All materials and construction shall conform to the Vermont Agency of Transportation's Standard Specifications for Construction, dated 2006, and its latest revisions, and the American Association of State Highway and Transportation Officials (AASHTO) Standard Specification for Highway Bridges, Seventeenth Edition, and its latest revisions.

2. Bridge is designed for MS22.5 Live Load.

3. The Contractor shall take all precautions necessary to prevent siltation or pollution, especially the discharge of raw concrete, into any brook, stream or river.

4. All dimensions are horizontal or vertical and are given at 20°C unless otherwise noted.

Demolition

5. The existing bridge superstructure, including any part of the substructure which is outside the limits of unclassified channel excavation and structure excavation, shall be removed under Item 529.15, Removal of Structure. This shall include costs, labor, materials and equipment necessary to safely remove and dispose of the items listed in Notes 6 and 7. It shall also include any costs associated with protection of the Lemon Fair River from contamination during demolition. Bridge pavement shall be removed under Item 529.10, Removal of Bridge Pavement.

6. The existing structural steel is painted with a material that may contain lead. The removed structural steel is the property of the contractor. The contractor shall indemnify and hold the state, its officers, and employees harmless concerning the contractor's use or disposition of the structural steel. The Contractor will inform the Engineer of their plans to dispose of or retain the structural steel prior to its removal.

7. The bridge abutments shall be removed 600 mm below the existing ground at the face of the existing abutments and the bridge pier shall be removed to the mudline.

Stone Fill

8. The Stone Fill; Type II shall be placed in front of the abutments to the limits shown on the plans prior to erection of girders.

Concrete

9. No traffic shall be allowed on the new deck until the cure period is up and the 28-day design strength is attained, as evidenced by test cylinders cured under field conditions.

10. All exposed edges of concrete shall be chamfered 25 mm by 25 mm or as otherwise indicated on the plans.

11. Joints and score marks in concrete shall be constructed as indicated on the plans or as directed by the Engineer.

12. All reinforcing steel shall be detailed and fabricated using procedures and tolerances in accordance with applicable publications of the Concrete Reinforcing Steel Institute (CRSI).

13. Reinforcing placement tolerances shall be:
    Spacing: ± 25 mm
    Clearance: ± 5 mm

14. Minimum cover for reinforcing steel shall be 50 mm along the back faces of walls against earth, 60 mm along the top surface of the deck, 40 mm along the bottom surface of the deck and 75 mm elsewhere, unless noted otherwise.

15. Water repellent, silane shall be applied to all exposed concrete surfaces except the underside of the deck between the drip beads. Payment shall be made under Item 514.10 Water Repellent, Silane.

16. The approach slabs shall be constructed with Concrete, High Performance Class B, unless noted otherwise.

17. The deck, curb, abutments, pile caps and wingwalls shall be constructed with Concrete, High Performance Class A.

Structural Steel

18. All structural steel shall be detailed and fabricated using procedures and tolerances in accordance with applicable publications of the American Institute of Steel Construction (AISC).

19. Any connections that are not detailed on the plans shall be detailed by the Fabricator and submitted to the Structures Engineer for approval.

20. All steel paid under Item 506.55 "Structural Steel, Plate Girder" shall conform to AASHTO designation M 270M / M 270 Grade 345W unless noted otherwise on the plans.

21. All welding shall conform to the provisions of Subsection 506.10.

22. Any holes in the webs of the fascia beams/girders that are not otherwise filled, shall be filled with either button head or hex head bolts. These bolts shall be tightened in accordance with Subsection 506.19.

23. All field connection shall be made with 22 mm diameter AASHTO designation M 164M Type III bolts in 24 mm diameter holes.

24. The Charpy V-notch test is required for members designated as such and only for such members, as specified in Subsection 714.01.

25. The contractor is required to determine the necessary Fleming brackets or similar false work. Fleming brackets shall not be placed at a spacing greater than 1.2 m.

26. After the superstructure has been erected, elevations shall be taken along the top of the beams/girders, as directed by the Resident Engineer, for use in determining the finished grade.

Temporary Bridge

27. Traffic will be maintained on a two-way temporary bridge located upstream of the existing structure.

28. The roadway approaches to the temporary bridge shall be paved. Refer to the Detour Typical Sections, Layouts, Profile and Cross-Sections.

29. The removal and/or resetting of traffic signs, as deemed necessary by the Resident Engineer, will be considered incidental to Item 641.10, Traffic Control.

Bearing Notes

30. The bearings shall be paid for under Item 531.14, Bearing Device Assembly, Integral Abutment. There will be a total of 10 bearing assemblies for this project. A bearing device assembly consists of 2 anchor bolts, a single steel leveling bearing plate, 2 sets of 2 steel plate washers and all corresponding nuts as shown in these plans.

31. The Contractor shall set the elevation of each leveling plate and ensure the plate is level, prior to tightening the supporting nuts and prior to placement of girders.

Pile Notes

32. The piles shall be HP 360X132.

33. The piles shall be embedded in the ground a minimum of 25 meters below the pile cap and shall be driven to an ultimate resistance of 1912 KN. To prevent damage to the piles, pile shoes shall be required and shall conform to Section 505 of the specifications.

34. Pile testing and sequence: A minimum of one dynamic pile test shall be conducted on the first pile driven for each subsequent unit. More tests may be required by the engineer.

35. For estimate purpose, pile tip elevations were assumed as shown on the boring logs. The actual pile length may vary.

DATUM

VERTICAL NAVD88

HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL

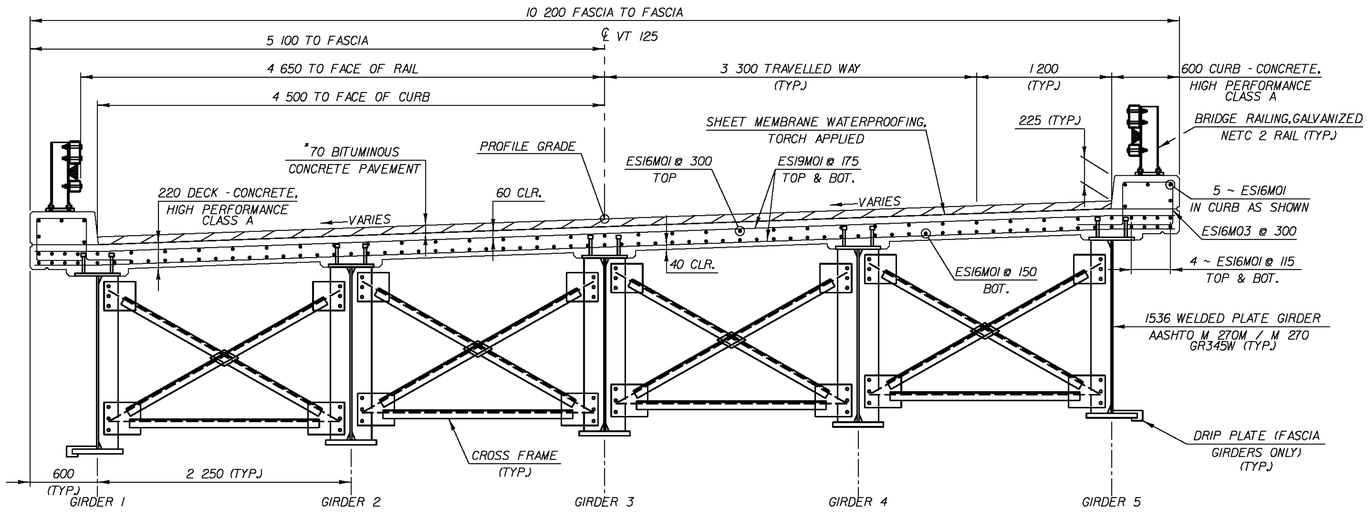
PROJECT NUMBER: BRS 0172(6)

FILE NAME: z85e042brddet.dgn PLOT DATE: 2/17/2010

PROJECT LEADER: MARTHA EVANS-MONGEON DRAWN BY: D. RITACCO

DESIGNED BY: M. CRUZ CHECKED BY: M. CRUZ

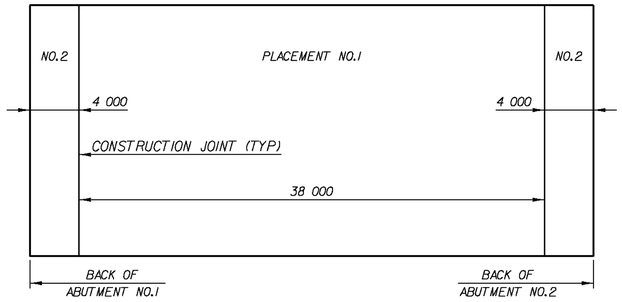
GENERAL NOTES SHEET 93 OF 144



*(SECOND LIFT: 40 TYPE IV
FIRST LIFT: 30 TYPE IV)

BRIDGE TYPICAL SECTION

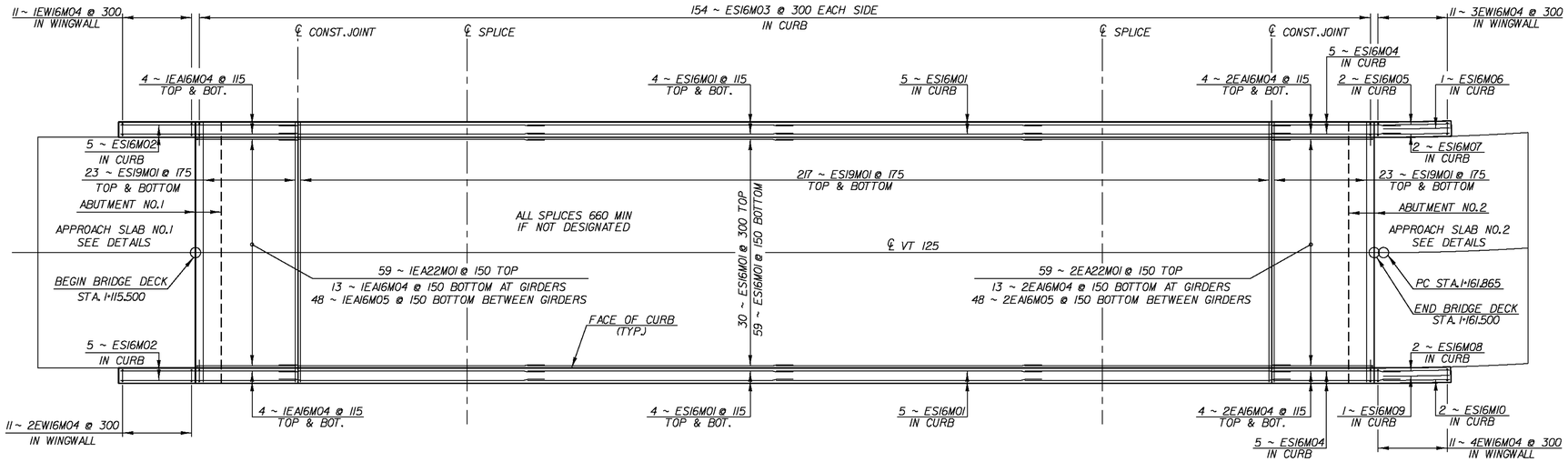
SCALE: 1:25



DECK PLACEMENT SEQUENCE

NTS

1. IF APPROVED BY THE ENGINEER, POURS NO.1 AND NO.2 MAY BE POURED THE SAME DAY PROVIDED THAT THE MAXIMUM TIME SPAN OF THE POUR IS EIGHT HOURS. THE INDICATED POURING SEQUENCE SHALL BE FOLLOWED AND A RETARDING ADMIXTURE USED SO THAT THE DECK CONCRETE WILL NOT SET UP UNTIL ALL THE POUR HAS BEEN MADE. THE RETARDING ADMIXTURE SHALL BE INCIDENTAL TO ITEM "CONCRETE, HIGH PERFORMANCE CLASS A".
2. TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINTS SHALL BE USED BETWEEN ADJACENT DECK POURS.
3. ALL INDIVIDUAL DECK POURS SHALL START FROM THE LOW END (RELATIVE TO GRADE).
4. THERE SHALL BE A MINIMUM DELAY PERIOD OF 96 HOURS BETWEEN POURS.
5. ANY POURING SEQUENCE OTHER THAN INDICATED SHALL BE SUBMITTED, IN WRITING, TO THE STRUCTURES ENGINEER FOR APPROVAL.



DECK REINFORCING PLAN

SCALE: 1:100

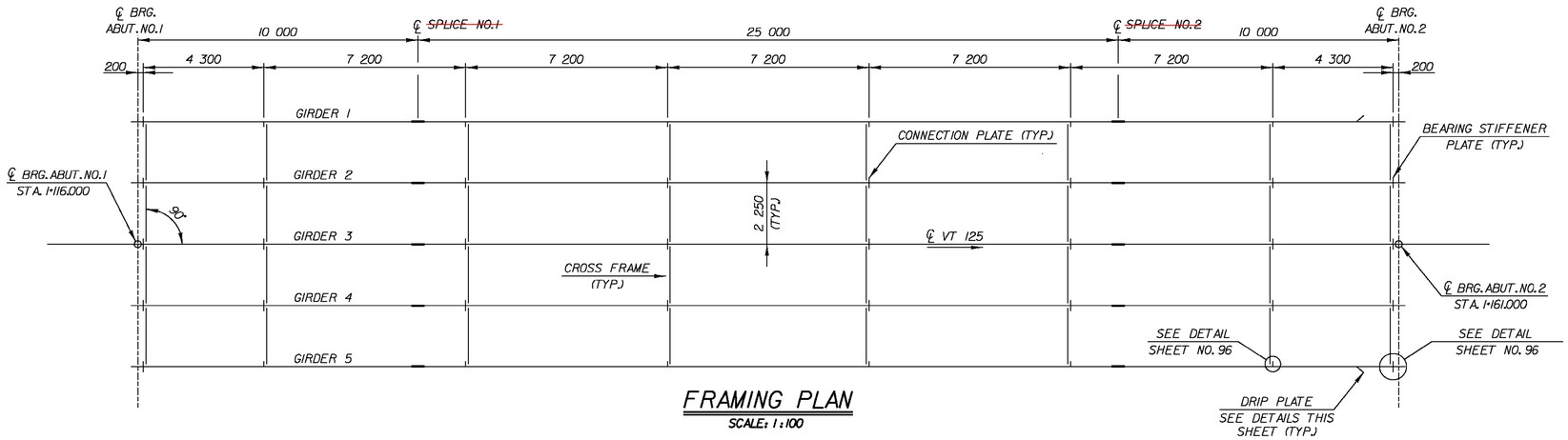
DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

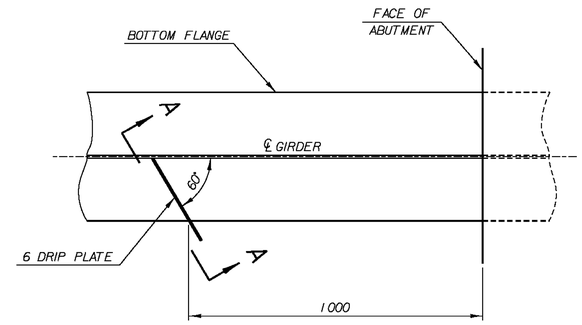
FILE NAME: z85e042brddet.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
BRIDGE DECK DETAILS

PLOT DATE: 2/5/2010
DRAWN BY: D. RITACCO
CHECKED BY: M. CRUZ
SHEET 94 OF 144

NO SPLICES

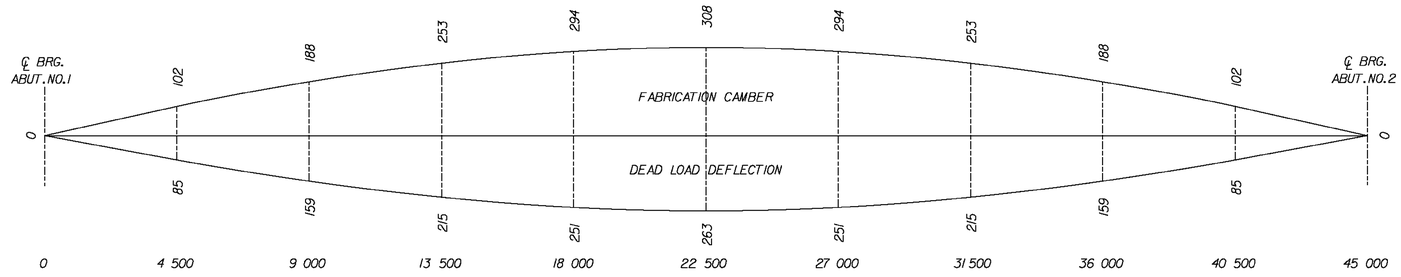


FRAMING PLAN
SCALE: 1:100



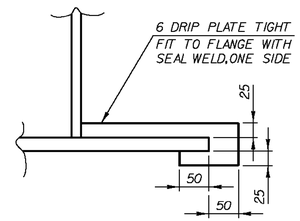
NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF ALL PIERS AND ABUTMENTS OR AS INDICATED ON PROJECT PLANS.

DRIP PLATE PLAN
SCALE: 1:10



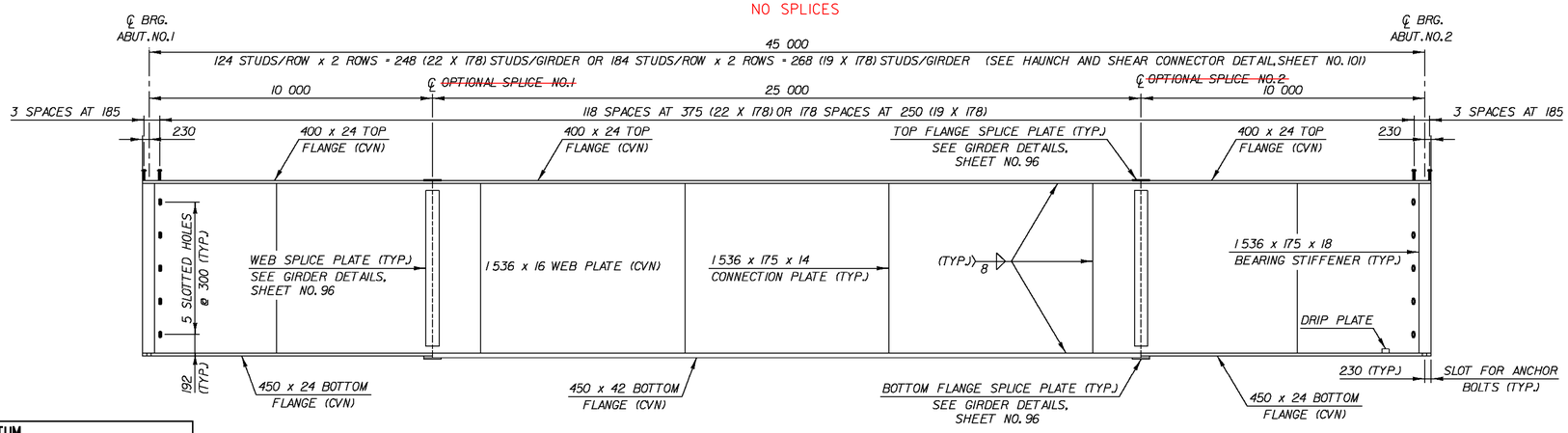
CAMBER & DEAD LOAD DEFLECTION DIAGRAM
HORIZONTAL SCALE: 1:100
VERTICAL SCALE: 1:10

DEAD LOAD DEFLECTIONS INCLUDES GIRDER, DECK, AND ALL SUPERIMPOSED DEAD LOADS. FINAL RESIDUAL CAMBER = 45 MM AT MIDSPAN



SECTION A-A
SCALE: 1:5

NO SPLICES



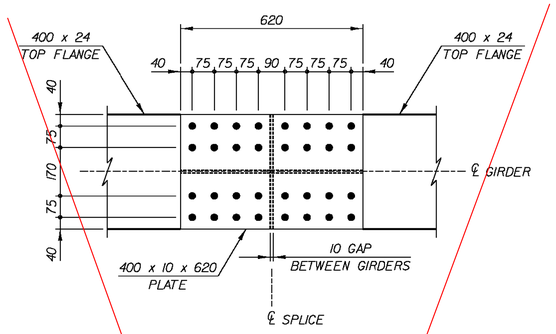
TYPICAL GIRDER ELEVATION
HORIZONTAL SCALE: 1:100
VERTICAL SCALE: 1:25

NOTE: ALL MEMBERS OR PLATES MARKED (CVN) MUST MEET THE CHARPY V-NOTCH REQUIREMENTS FOR MAIN MEMBERS AS INDICATED IN SECTION 714.

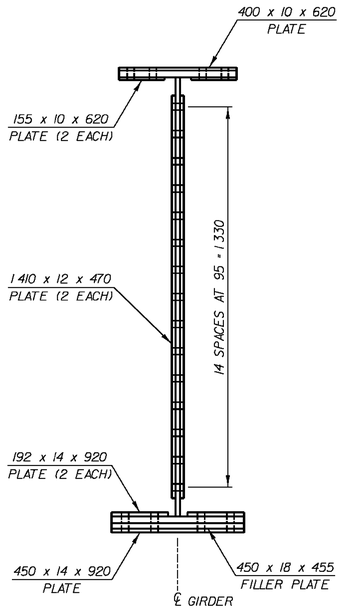
DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

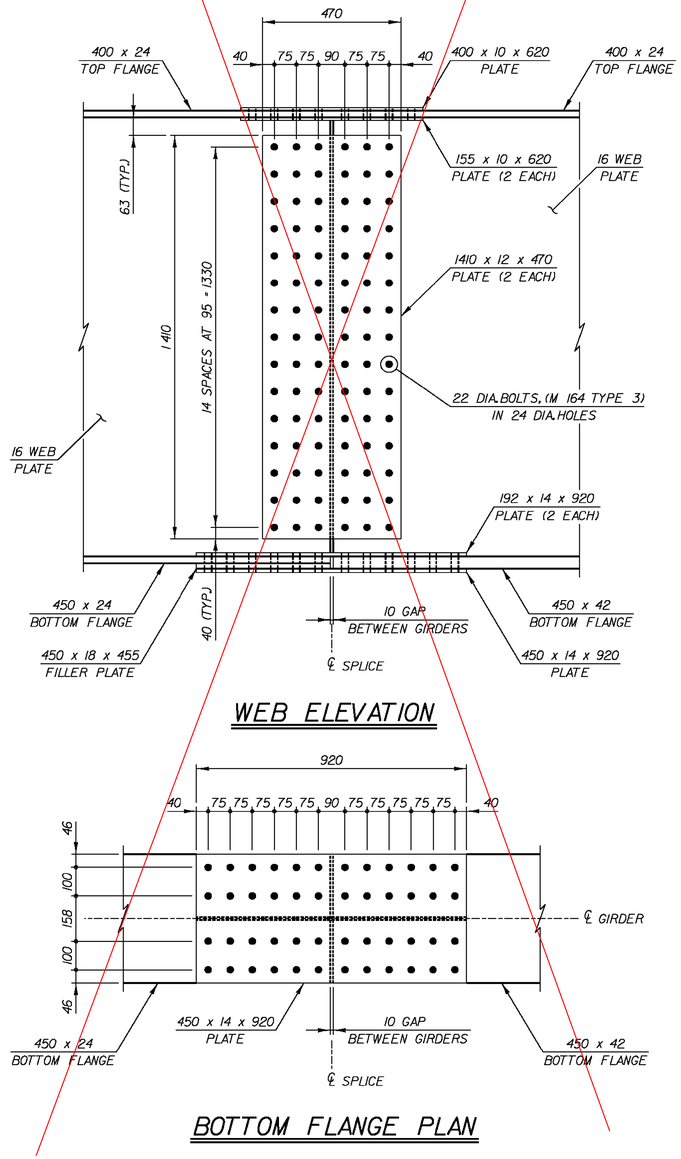
FILE NAME: z85e042brddet.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
FRAMING PLAN AND GIRDER ELEVATION
PLOT DATE: 2/12/2010
DRAWN BY: D. RITACCO
CHECKED BY: M. CRUZ
SHEET 95 OF 144



TOP FLANGE PLAN



GIRDER SECTION

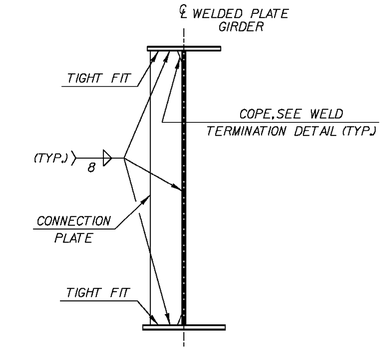


WEB ELEVATION

BOTTOM FLANGE PLAN

FIELD SPLICE DETAILS

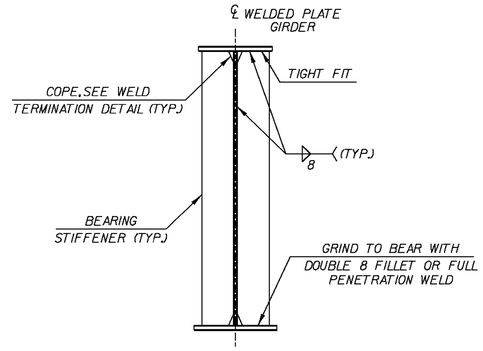
SCALE: 1:10



INTERMEDIATE CONNECTION PLATE SHALL BE INSTALLED PERPENDICULAR TO GIRDER WEB.

INTERMEDIATE CONNECTION PLATES FOR PLATE GIRDERS

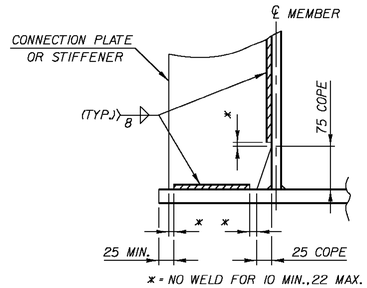
NTS



BEARING STIFFENERS SHALL BE INSTALLED PERPENDICULAR TO GIRDER WEB.

ABUTMENT BEARING STIFFENERS PLATES FOR PLATE GIRDERS

NTS



x = NO WELD FOR 10 MIN., 22 MAX.
(EXCEPT MUST MAINTAIN 25 MINIMUM FROM EDGE OF FLANGE)

WELD TERMINATION AND COPING DETAIL FOR STEEL MEMBERS

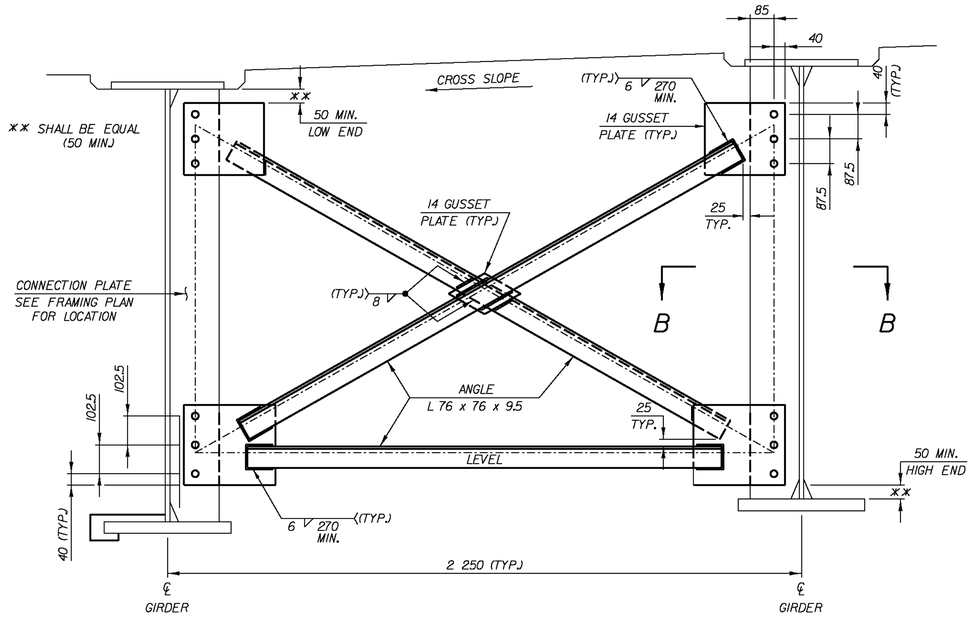
SCALE: 1:5

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: z85e042brddet.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
GIRDER DETAILS

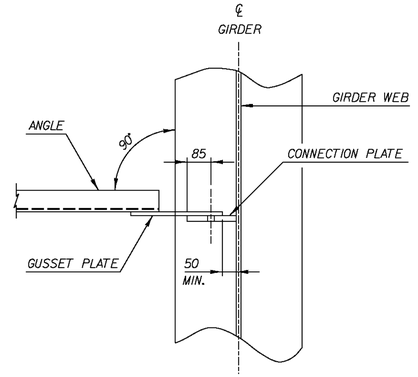
PLOT DATE: 2/5/2010
DRAWN BY: P. GREENBERG
CHECKED BY: M. CRUZ
SHEET 96 OF 144



NOTE:
THE FABRICATOR MAY ALTER THE SHAPE OF THE GUSSET PLATES AS SEEN FIT WHILE MAINTAINING THE BOLT HOLE LOCATIONS.

INTERMEDIATE & END CROSSFRAME

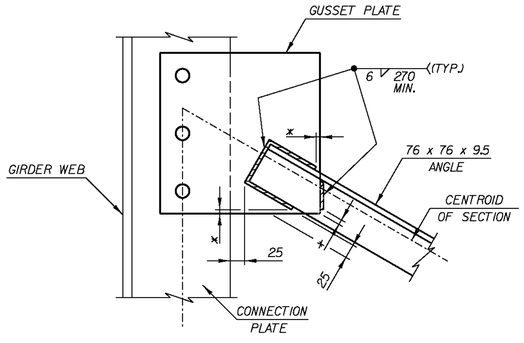
SCALE: 1:10



NOTE:
1. ALL CONNECTIONS SHALL BE MADE USING 22 DIA. AASHTO M 164M BOLTS.
2. ALL HOLES IN THE DIAPHRAGMS SHALL BE 24 DIA.
3. ALL HOLES IN THE CONNECTION PLATES SHALL BE 25 DIA.

SECTION B-B

SCALE: 1:10



x = NO WELD FOR 6 MIN., 13 MAX.

GUSSET PLATE AND WELD DETAIL FOR CROSSFRAME

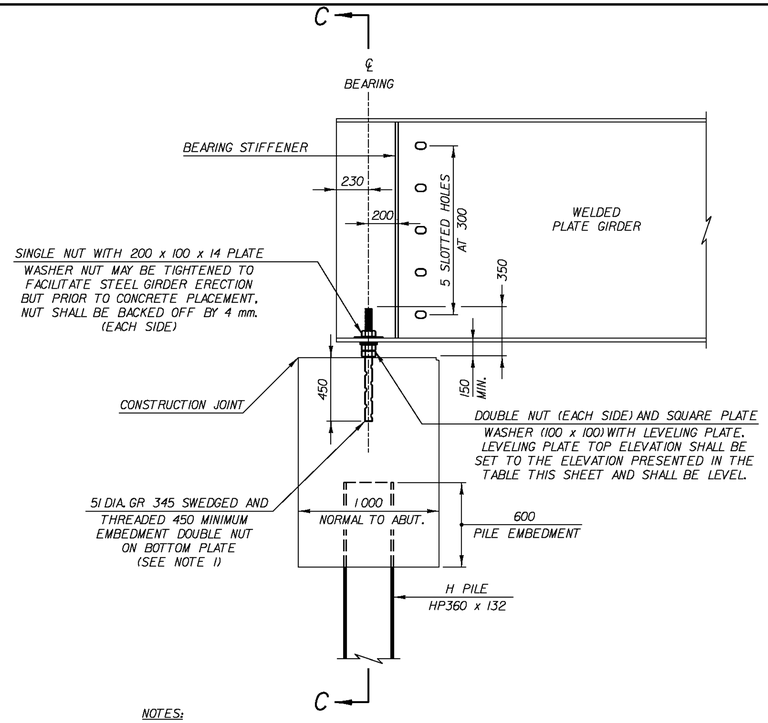
SCALE: 1:5

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: z85e042brddet.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
STRUCTURAL STEEL DETAILS

PLOT DATE: 2/5/2010
DRAWN BY: D. RITACCO
CHECKED BY: M. CRUZ
SHEET 97 OF 144

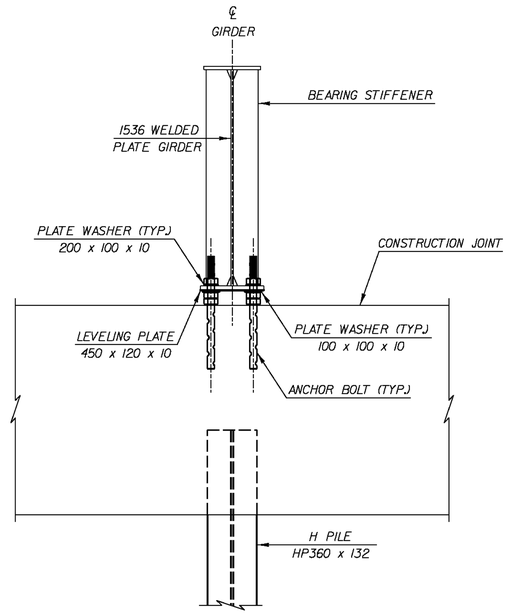


NOTES:

1. BOLTS SHALL BE ASTM F 568M, CLASS 8.8. NUTS SHALL BE M 291M.
2. ALL STEEL COMPONENTS USED IN THE ANCHORAGE/BEARING ASSEMBLY SHALL BE UNCOATED STEEL MEETING THE REQUIREMENTS OF SUBSECTION 506.14, EXCEPT AS NOTED ABOVE.

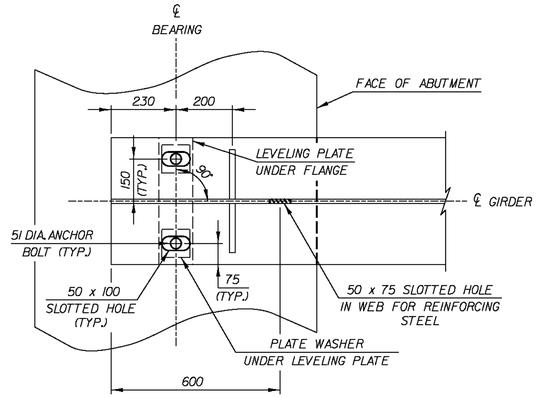
DURING CONSTRUCTION

SCALE: 1:20



SECTION C-C

SCALE: 1:20



END OF GIRDER BOTTOM FLANGE AT ABUTMENT

SCALE: 1:10

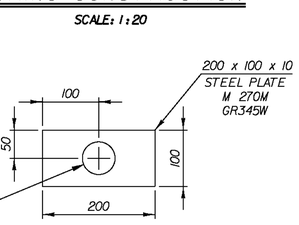
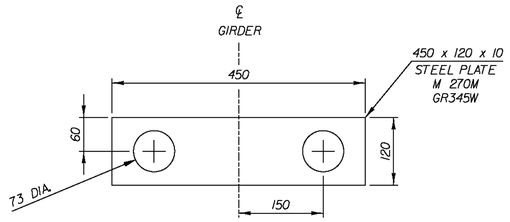


PLATE WASHER DETAIL (200 x 100)

SCALE: 1:5



LEVELING PLATE DETAIL

SCALE: 1:5

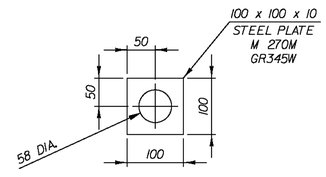
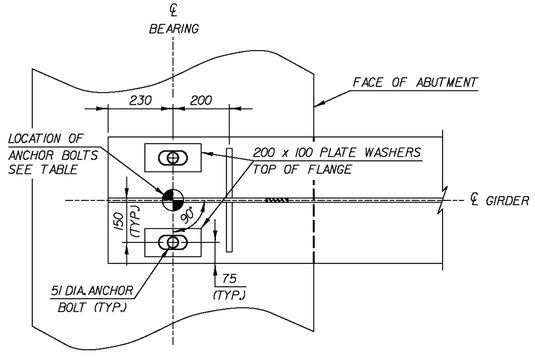


PLATE WASHER DETAIL (100 x 100)

SCALE: 1:5



BEARING LAYOUT DIAGRAM

SCALE: 1:10

	OFFSET	ABUTMENT NO.1		ABUTMENT NO.2	
		STATION	ELEVATION	STATION	ELEVATION
GIRDER 1	4 500 L	1+116.00	46.487	1+161.00	45.679
GIRDER 2	2 250 L	1+116.00	46.543	1+161.00	45.812
GIRDER 3	0	1+116.00	46.599	1+161.00	45.946
GIRDER 4	2 250 R	1+116.00	46.655	1+161.00	46.080
GIRDER 5	4 500 R	1+116.00	46.711	1+161.00	46.213

NOTE: ELEVATIONS ARE GIVEN AT THE BOTTOM OF THE BOTTOM FLANGE PLATE AT THE LOCATION SHOWN IN THE BEARING LAYOUT DIAGRAM.

COSTS FOR THE ANCHOR BOLTS, NUTS, PLATE WASHERS, AND THE LEVELING PLATES SHALL BE MADE USING ITEM 531.14 "BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT."

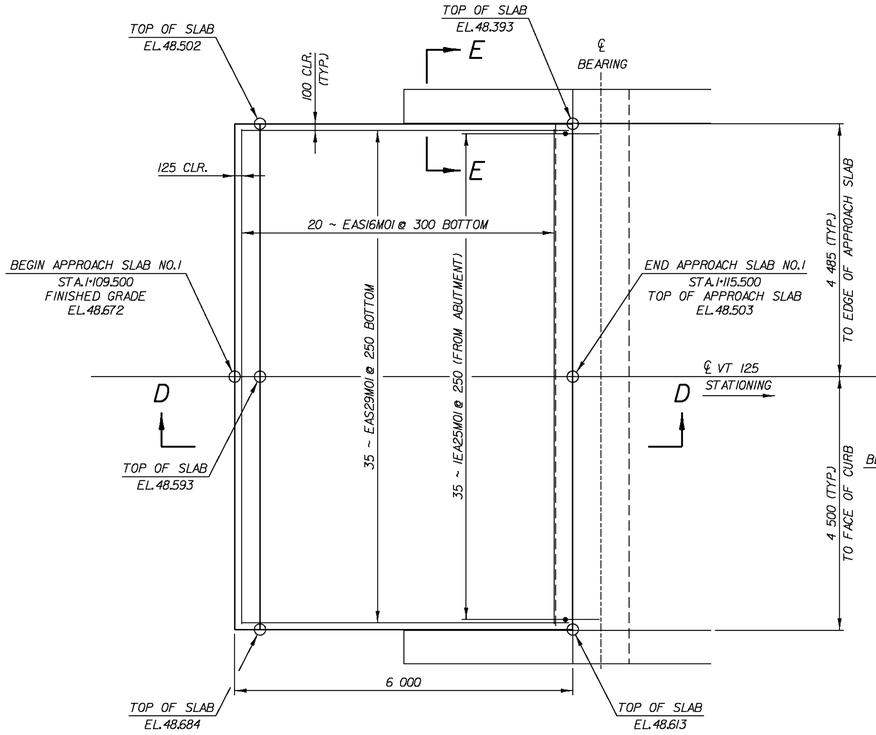
DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: z85e042brddet.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
BEARING DETAILS

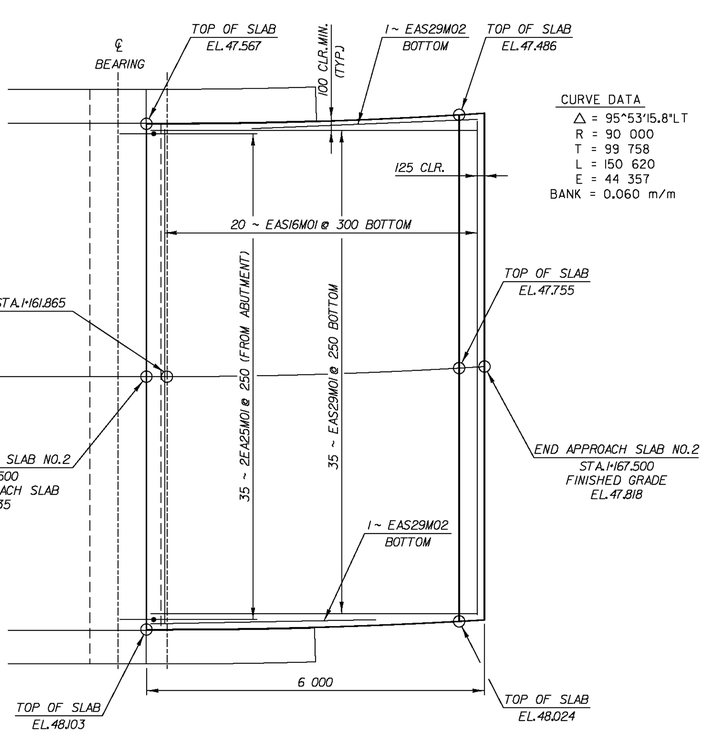
PLOT DATE: 2/5/2010
DRAWN BY: P. GREENBERG
CHECKED BY: M. CRUZ
SHEET 98 OF 144

Metric



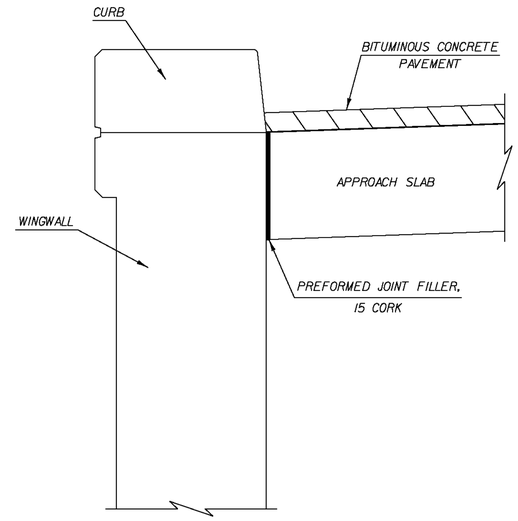
APPROACH SLAB NO.1 PLAN

SCALE: 1:50



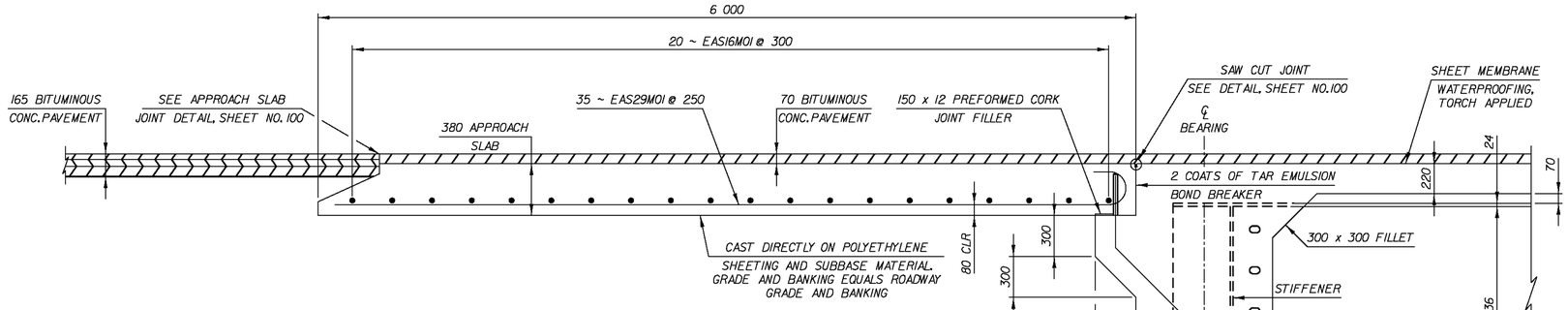
APPROACH SLAB NO.2 PLAN

SCALE: 1:50



SECTION E-E

SCALE: 1:10

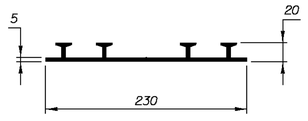


SECTION D-D

SCALE: 1:20

NOTES:

1. BOND BREAKER AND PREFORMED CORK JOINT FILLER ARE INCIDENTAL TO ITEM 501.33 "CONCRETE, HIGH PERFORMANCE CLASS A" APPLY AS RECOMMENDED BY MANUFACTURER.
2. SUBBASE. COMPACT THE SUBBASE IN THE AREA UNDER THE APPROACH SLAB TO A SMOOTH SURFACE.
3. POLYETHYLENE SHEETING . MATERIAL FOR POLYETHYLENE SHEETING SHALL MEET THE REQUIREMENTS OF SUBSECTION 725.01(C) OF THE STANDARD SPECIFICATIONS. THE SHEETING THICKNESS SHALL BE 0.30 MILLIMETERS. PLACE THE SHEETING ON TOP OF THE FINISHED SUBBASE FOR THE FULL LENGTH AND WIDTH OF THE APPROACH SLAB, EXCEPT IN THE BRACKET AREA AT THE ABUTMENT. LAP SHEETING AT LEAST 600 MILLIMETERS. PAYMENT FOR ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B" SHALL INCLUDE THIS SHEETING.



THE COSTS FOR P.V.C.WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.

P.V.C.WATERSTOP DETAIL

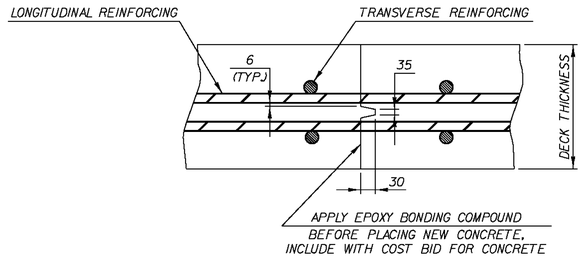
NOT TO SCALE

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

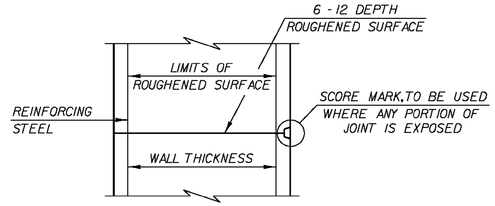
FILE NAME: z85e042brddet.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
APPROACH SLAB DETAILS

PLOT DATE: 3/15/2010
DRAWN BY: D. RITACCO
CHECKED BY: M. CRUZ
SHEET 99 OF 144



TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS

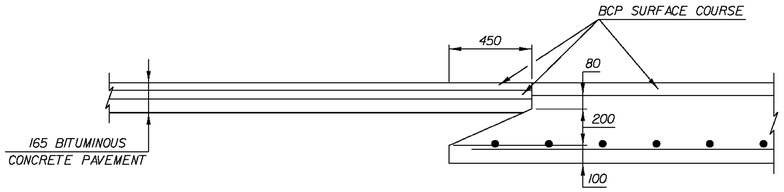
NTS



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

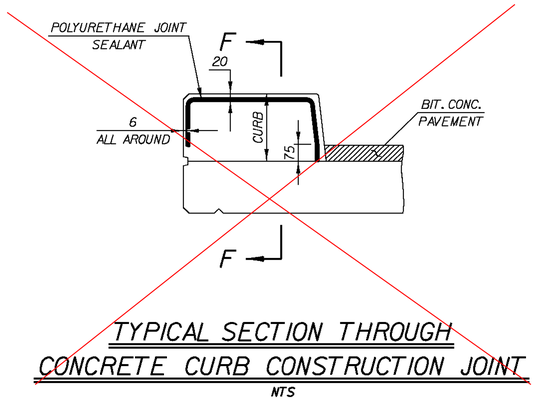
TYPICAL HORIZONTAL CONSTRUCTION JOINT

NTS



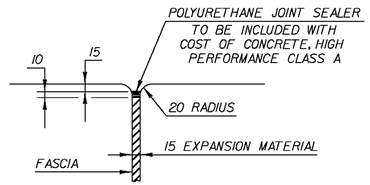
APPROACH SLAB EXPANSION JOINT DETAIL

NTS



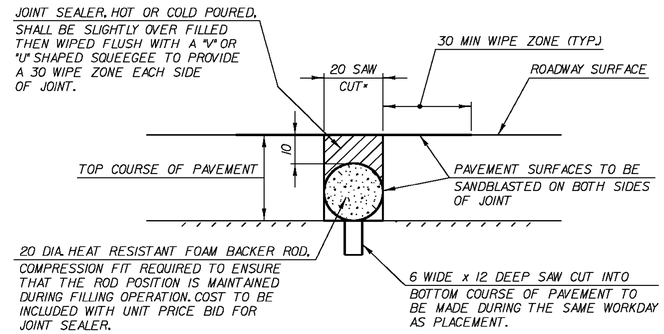
TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

NTS



JOINT BETWEEN FASCIA AND WINGWALL

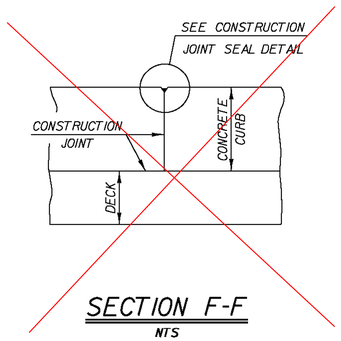
NTS



SAWED PAVEMENT JOINT DETAIL

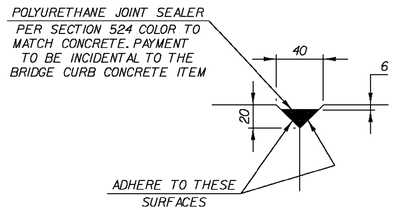
NTS

*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.



SECTION F-F

NTS



CONSTRUCTION JOINT SEAL

NTS

NOTES:

1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION. IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN, PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 4 570 CENTER TO CENTER AND 610 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAILING POST.
3. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.
4. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS. CURB STIRRUPS BARS SHALL BE TURNED AS NECESSARY TO MAINTAIN COVER IN THE FLARED CURB ENDS.

DATUM

VERTICAL NAVD88

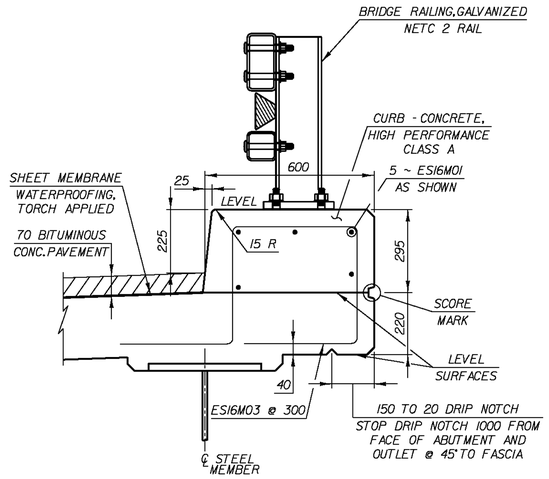
HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL

PROJECT NUMBER: BRS 0172(6)

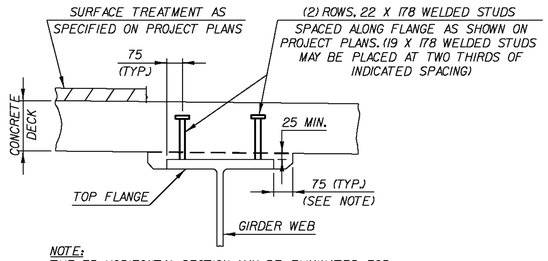
FILE NAME: z85e042brddet.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
JOINT DETAILS

PLOT DATE: 3/16/2010
DRAWN BY: P. GREENBERG
CHECKED BY: M. CRUZ
SHEET 100 OF 144



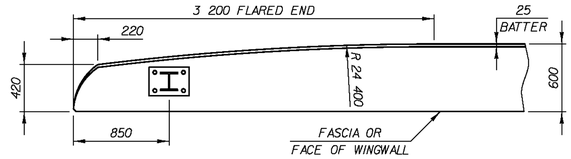
NOTE:
SHEET MEMBRANE WATERPROOFING, TORCH APPLIED SHALL EXTEND TO FACE OF CURB.

CURB AND RAILING DETAIL
SCALE: 1:10

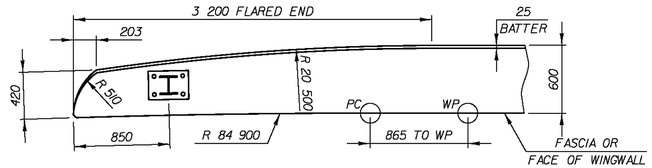


NOTE:
THE 75 HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. ANY VOIDS RESULTING FROM FORMING SYSTEM ELEMENTS SHALL BE FILLED WITH JOINT SEALER, POLYURETHANE MEETING THE REQUIREMENTS OF SECTION 524. THE COST OF THE JOINT SEALER, POLYURETHANE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

HAUNCH AND SHEAR CONNECTOR DETAIL
NTS



WINGWALL NO.1 AND 2
NTS



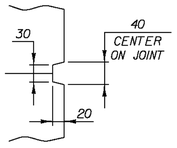
BARS SHALL BE TURNED AS REQUIRED TO FIT FLARED ENDS.

WINGWALL NO.3
NTS

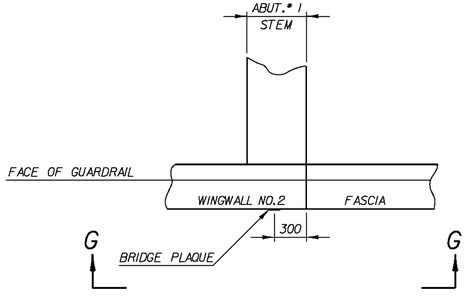
BARS SHALL BE TURNED AS REQUIRED TO FIT FLARED ENDS.

WINGWALL NO.4
NTS

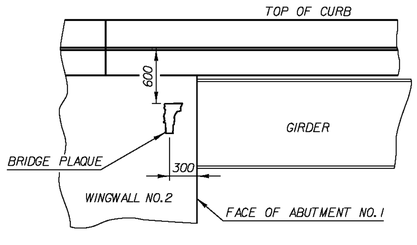
FLARED END FOR 600 CURB



SCORE MARK DETAIL
SCALE: 1:5



PLAN
NTS



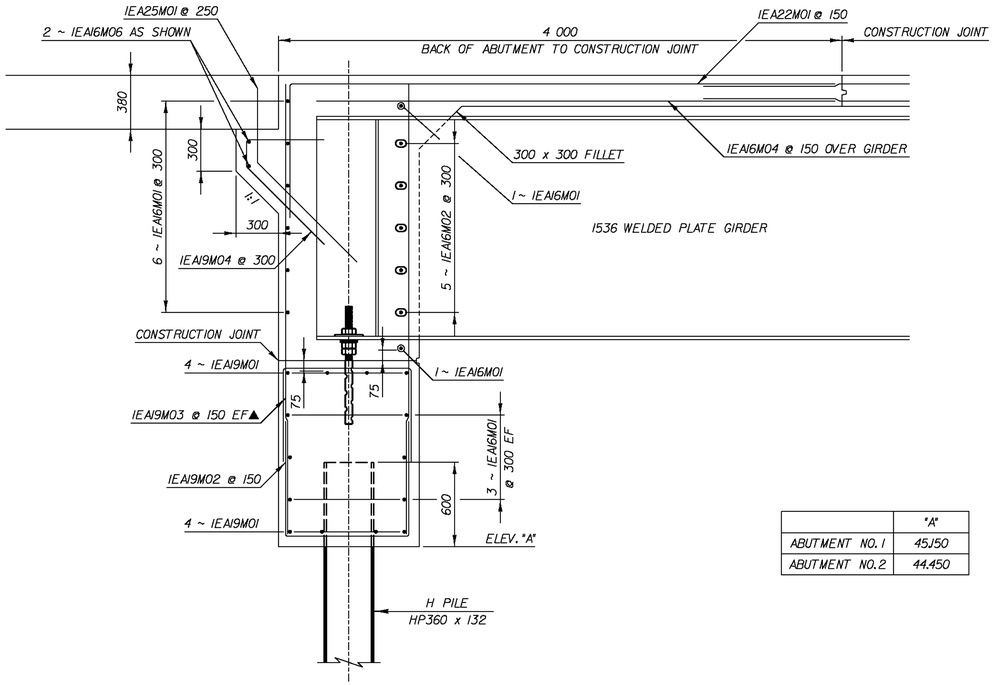
SECTION G-G
NTS

LOCATE BRIDGE PLAQUE

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT NO.1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

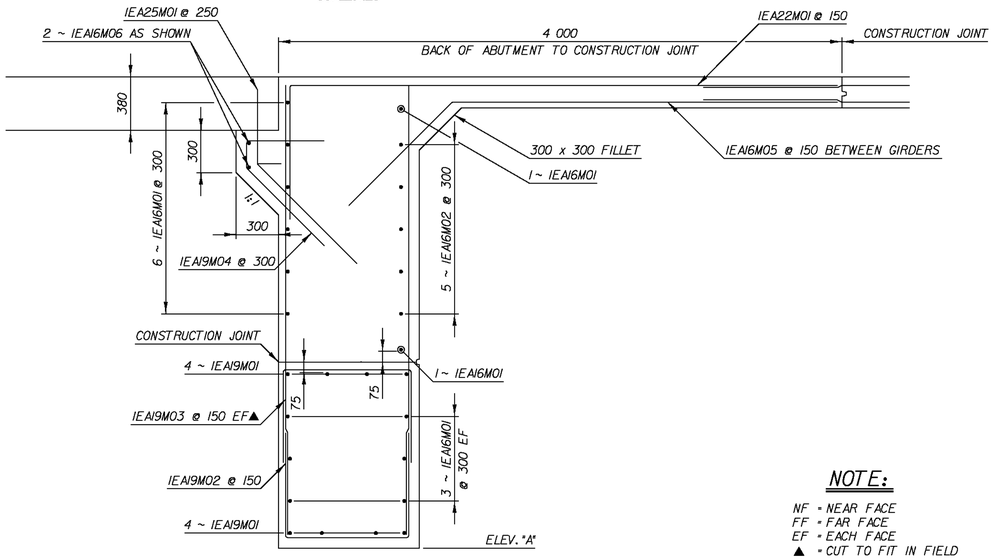
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83(92)

PROJECT NAME:	CORNWALL
PROJECT NUMBER:	BRS 0172(6)
FILE NAME: z85e042brddet.dgn	PLOT DATE: 2/5/2010
PROJECT LEADER: MARTHA EVANS-MONGEON	DRAWN BY: D. RITACCO
DESIGNED BY: M. CRUZ	CHECKED BY: M. CRUZ
CONCRETE DETAILS	SHEET 101 OF 144



	"A"
ABUTMENT NO.1	45.150
ABUTMENT NO.2	44.450

TYPICAL SECTION AT GIRDER
ABUTMENT NO.1
ABUTMENT NO.2 SIMILAR
SCALE: 1:20



TYPICAL SECTION BETWEEN GIRDERS
ABUTMENT NO.1
ABUTMENT NO.2 SIMILAR
SCALE: 1:20

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

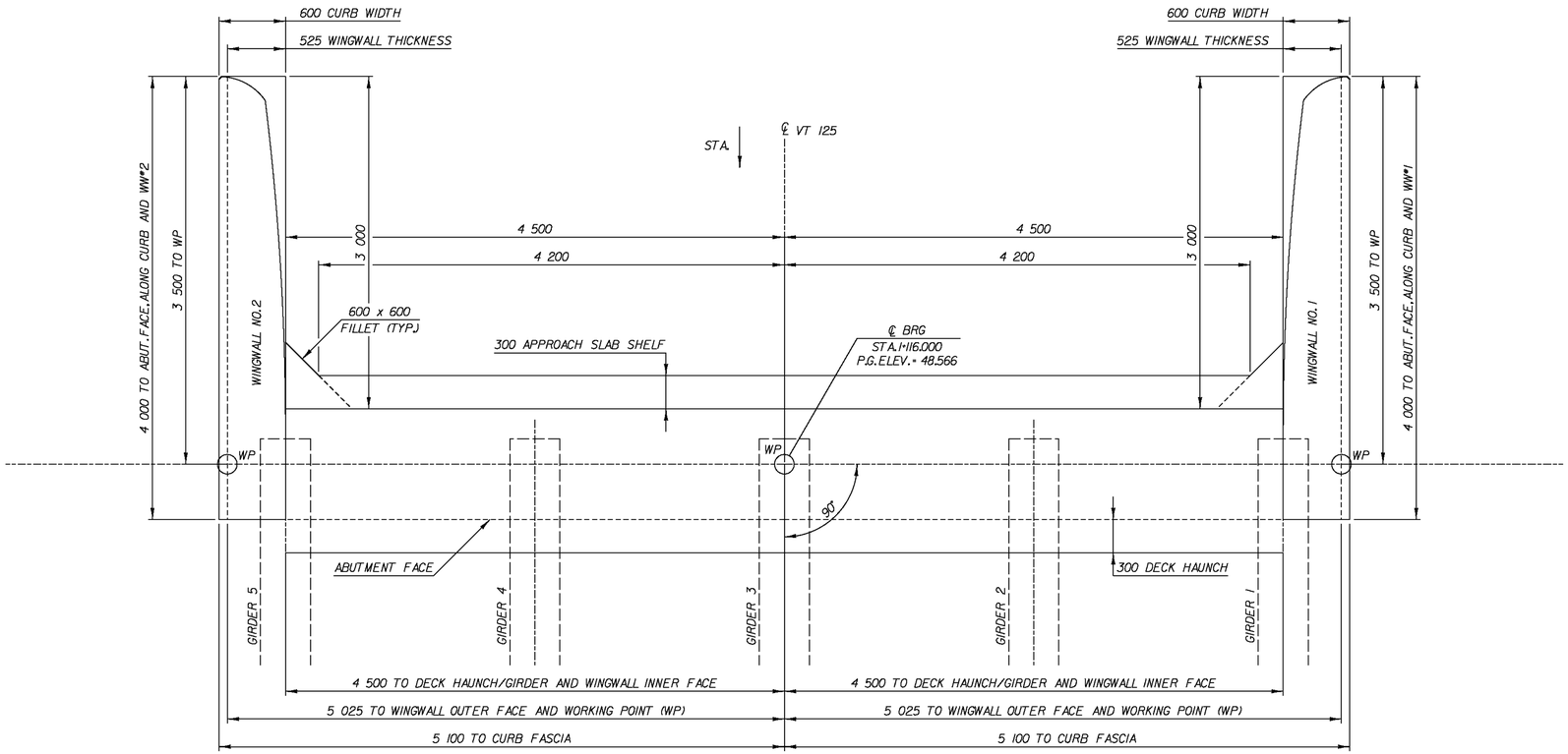
DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: z85e042brddet.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
ABUTMENT TYPICAL SECTIONS

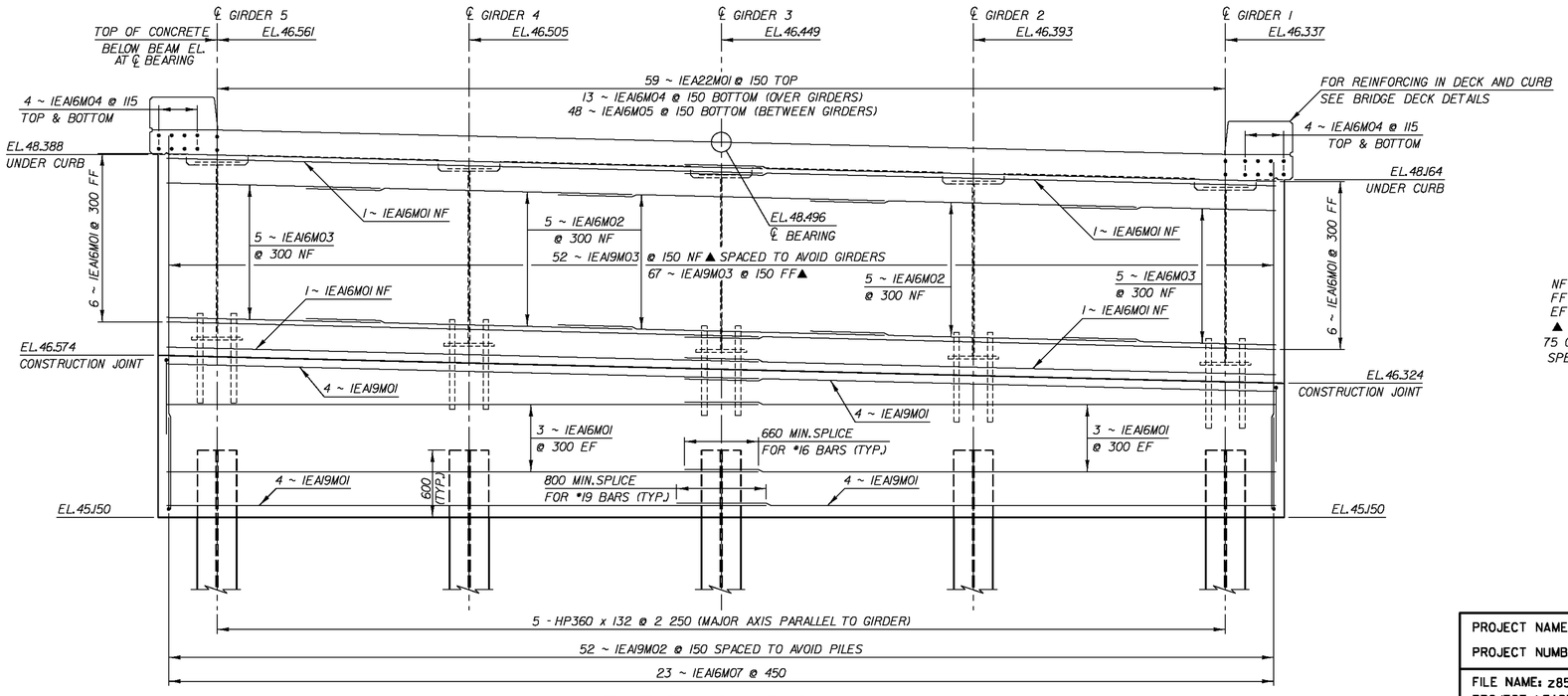
PLOT DATE: 2/5/2010
DRAWN BY: P. GREENBERG
CHECKED BY: M. CRUZ
SHEET 102 OF 144

Metric



ABUTMENT NO.1 PLAN

SCALE: 1:25



ABUTMENT NO.1 ELEVATION

SCALE: 1:25

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

DATUM

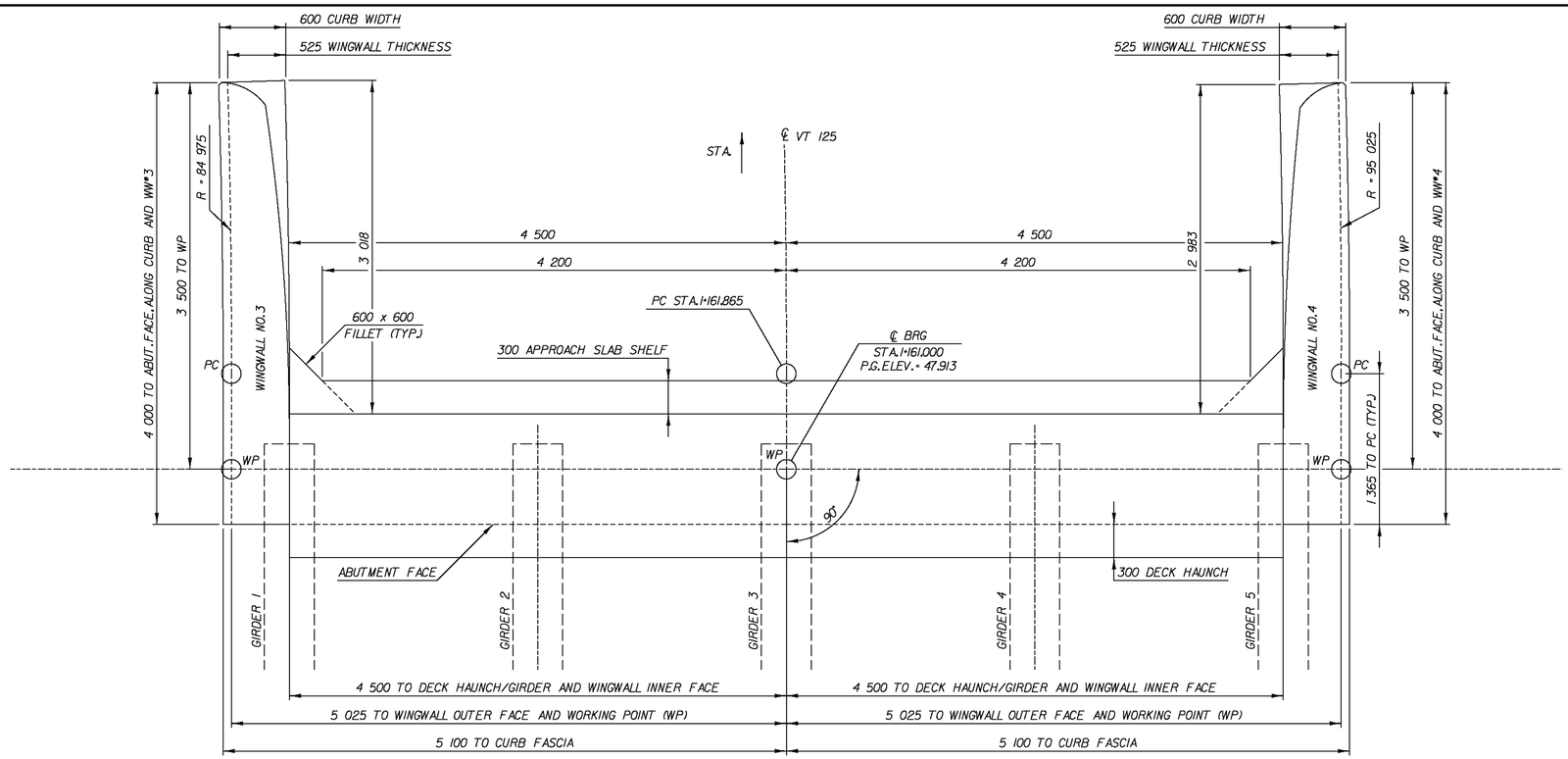
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: z85e042brddet.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
ABUTMENT NO.1 PLAN AND ELEVATION

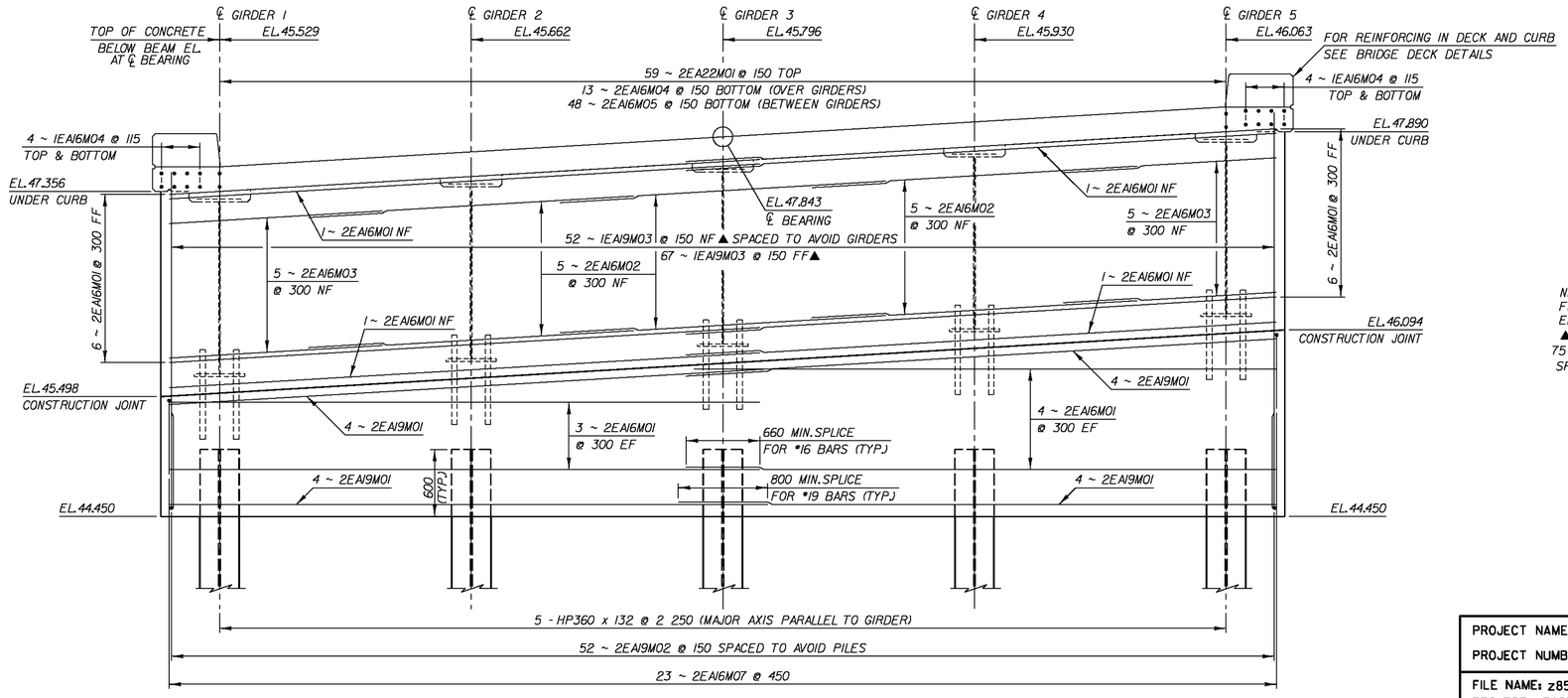
PLOT DATE: 2/5/2010
DRAWN BY: D. RITACCO
CHECKED BY: M. CRUZ
SHEET 103 OF 144

Metric



ABUTMENT NO.2 PLAN

SCALE: 1:25



ABUTMENT NO.2 ELEVATION

SCALE: 1:25

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

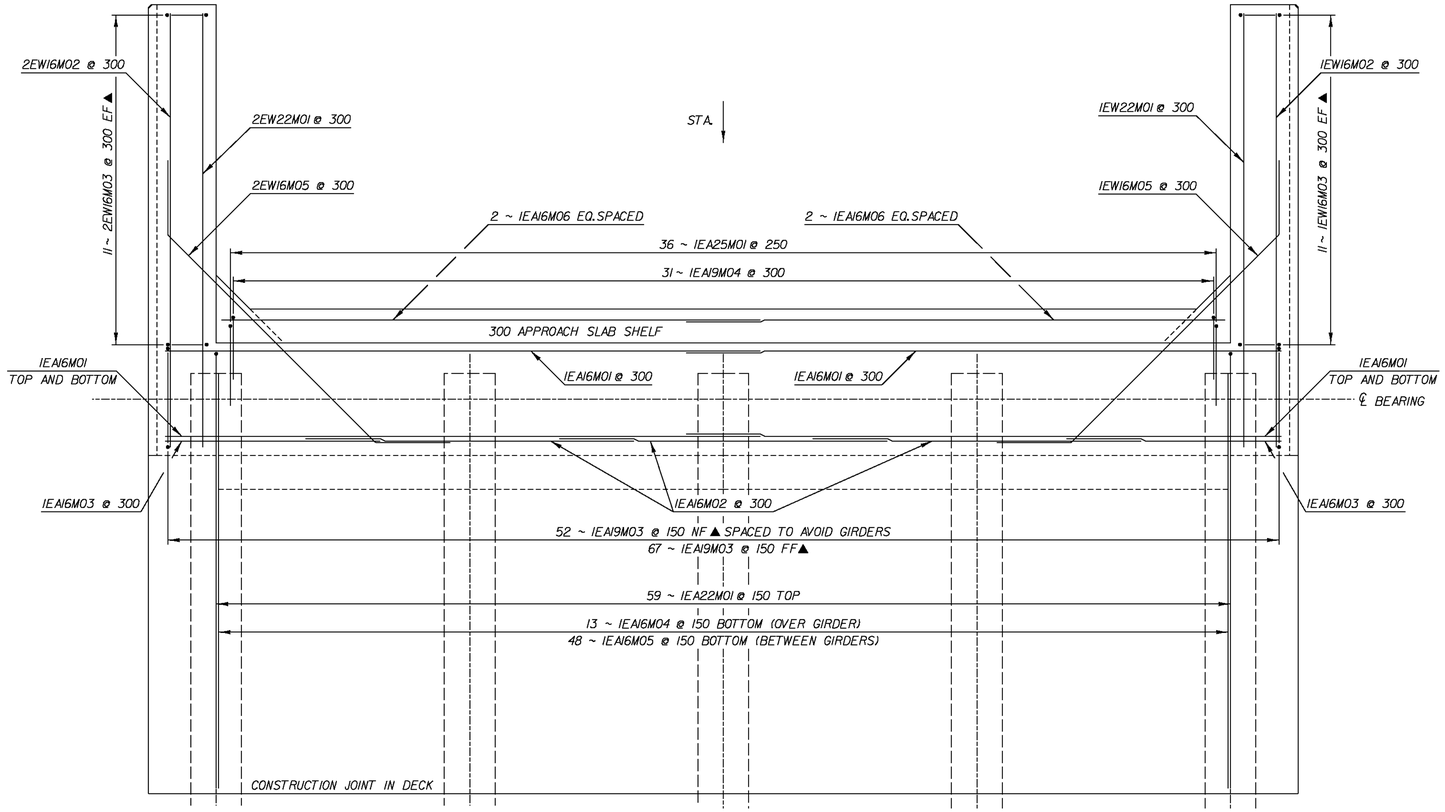
DATUM

VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

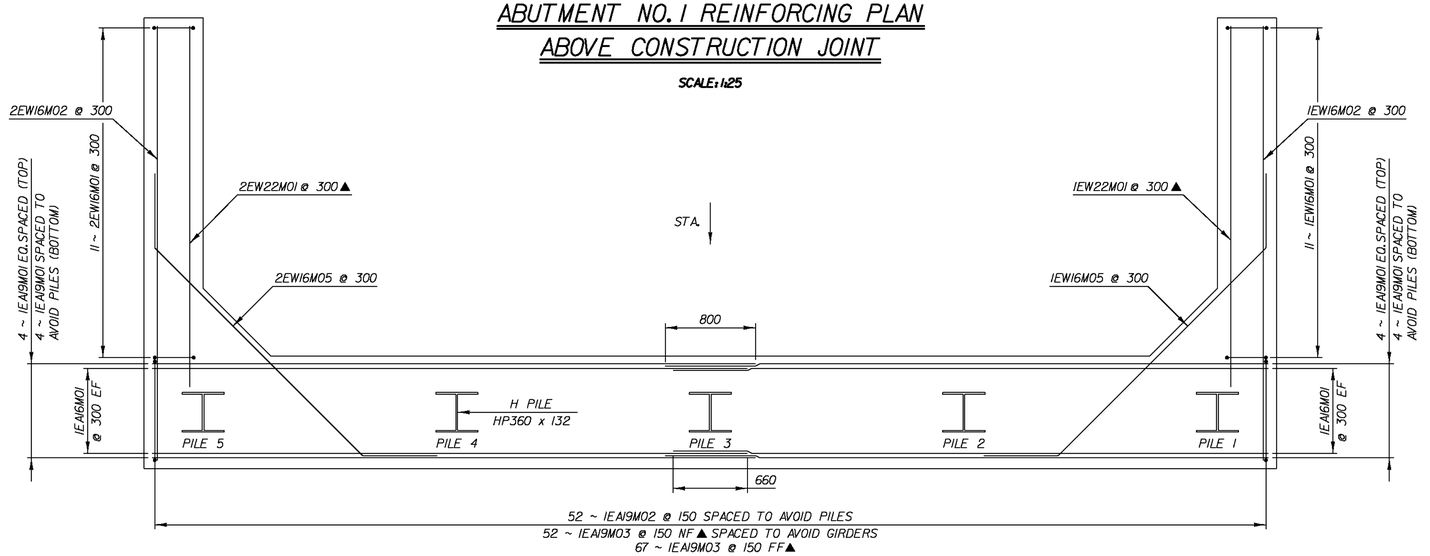
FILE NAME: z85e042brddet.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
ABUTMENT NO. 2 PLAN AND ELEVATION

PLOT DATE: 2/12/2010
DRAWN BY: D. RITACCO
CHECKED BY: M. CRUZ
SHEET 104 OF 144



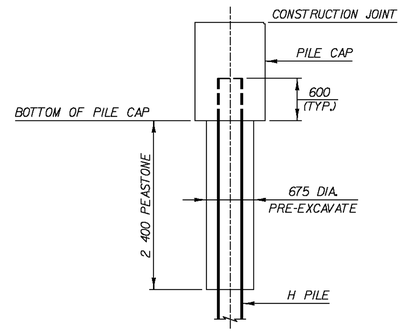
ABUTMENT NO. 1 REINFORCING PLAN ABOVE CONSTRUCTION JOINT

SCALE: 1:25



ABUTMENT NO. 1 REINFORCING PLAN BELOW CONSTRUCTION JOINT

SCALE: 1:25



PILE PRE-EXCAVATION DETAIL

SCALE: 1:10

DRIVE PILES WITH MAJOR AXIS PARALLEL WITH GIRDERS AS SHOWN.

LOCATION OF PILES		
ABUTMENT NO. 1	STATION	OFFSET
PILE 1	1+116.00	4 500 L
PILE 2	1+116.00	2 250 L
PILE 3	1+116.00	0
PILE 4	1+116.00	2 250 R
PILE 5	1+116.00	4 500 R

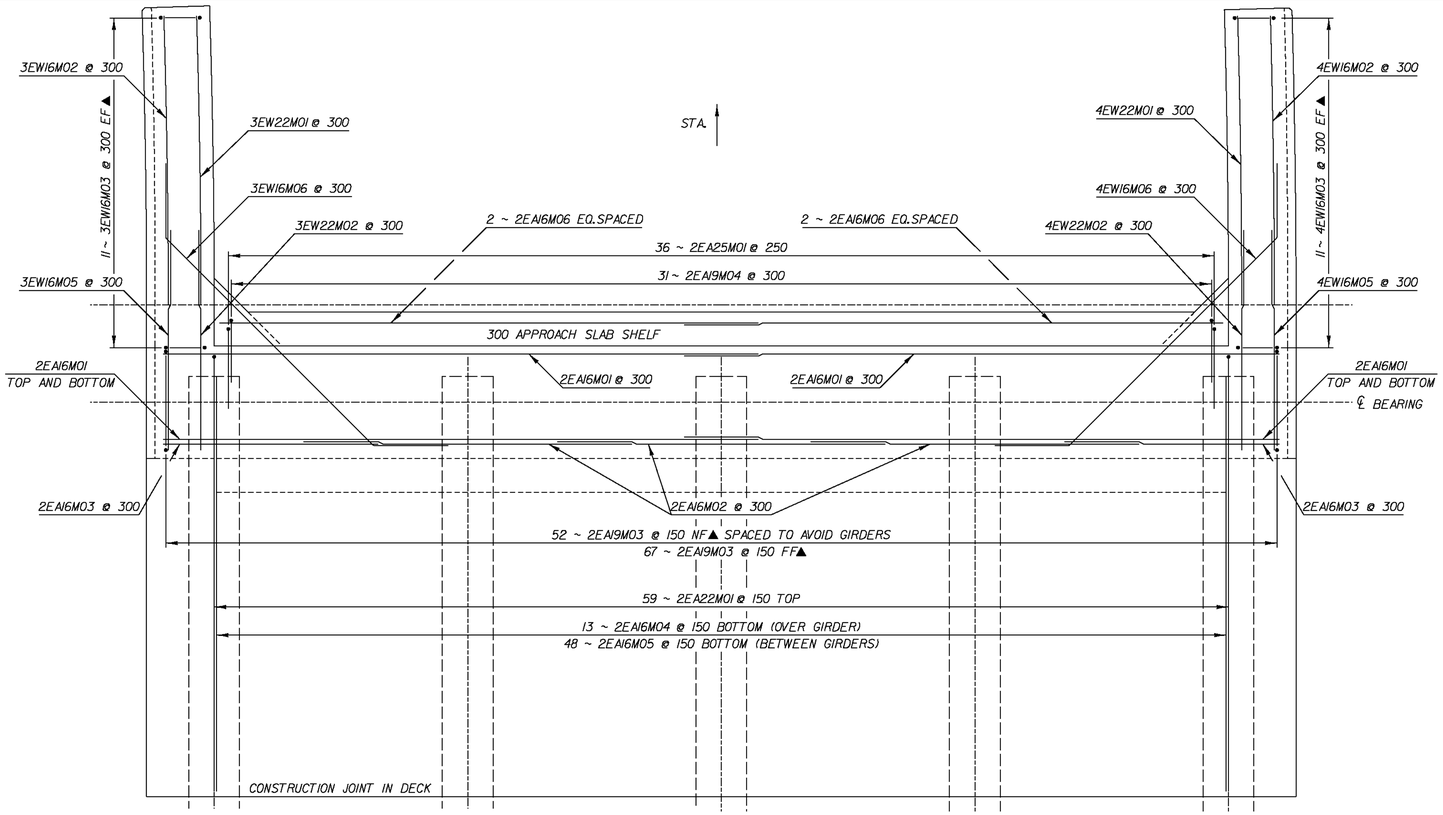
NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

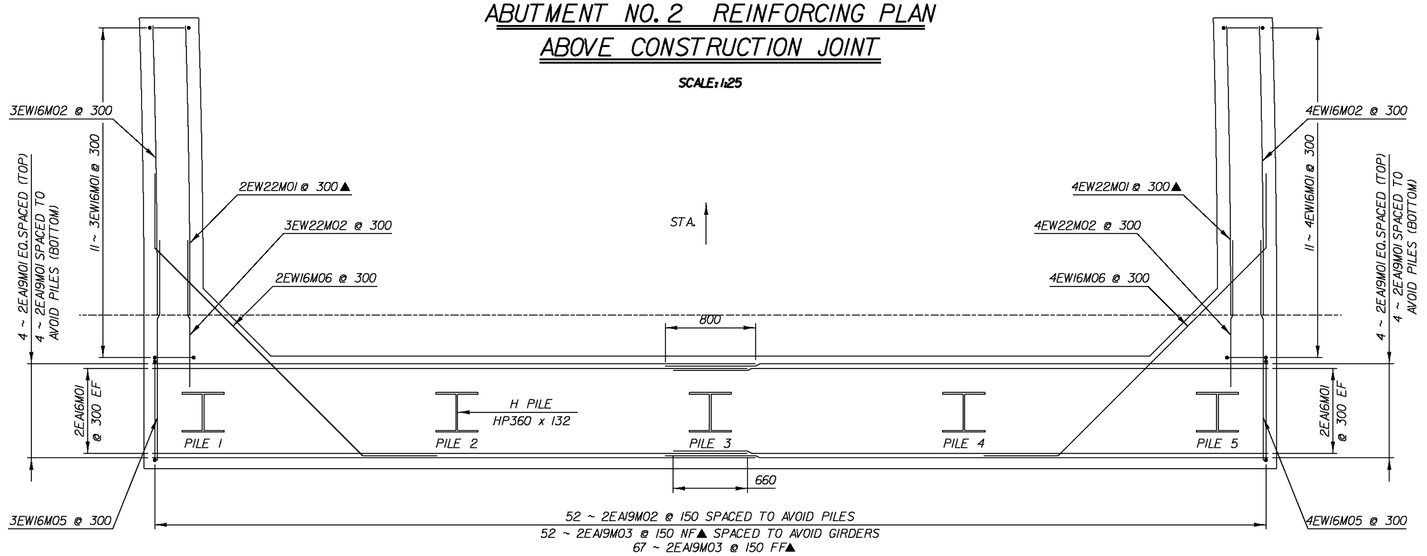
PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: z85e042brddet.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
ABUTMENT NO. 1 REINFORCING PLAN
PLOT DATE: 2/5/2010
DRAWN BY: D. RITACCO
CHECKED BY: M. CRUZ
SHEET 105 OF 144



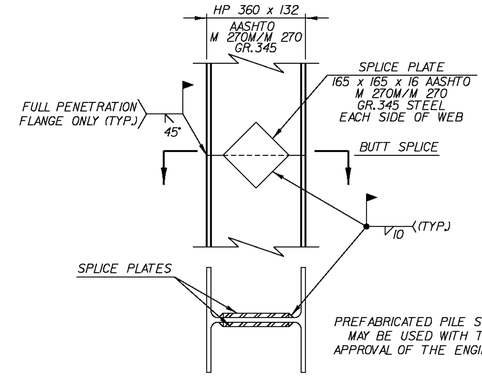
ABUTMENT NO. 2 REINFORCING PLAN ABOVE CONSTRUCTION JOINT

SCALE: 1:25



ABUTMENT NO. 2 REINFORCING PLAN BELOW CONSTRUCTION JOINT

SCALE: 1:25



PILE SPLICE DETAIL

SCALE: 1:10

LOCATION OF PILES		
ABUTMENT NO.2		
PILE 1	1 + 161.00	4 500 L
PILE 2	1 + 161.00	2 250 L
PILE 3	1 + 161.00	0
PILE 4	1 + 161.00	2 250 R
PILE 5	1 + 161.00	4 500 R

NOTE:

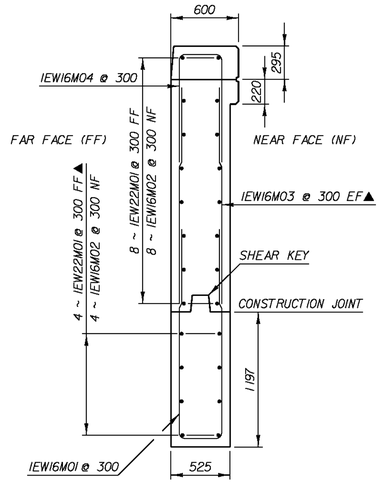
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

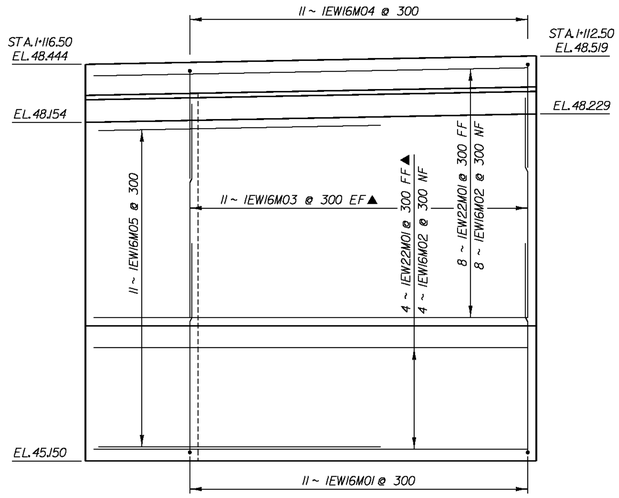
FILE NAME: z85e042brddet.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
ABUTMENT NO. 2 REINFORCING PLAN

PLOT DATE: 2/5/2010
DRAWN BY: D. RITACCO
CHECKED BY: M. CRUZ
SHEET 106 OF 144



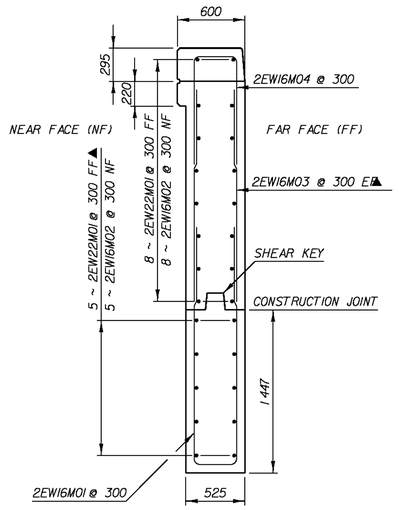
WINGWALL NO. 1 TYPICAL SECTION

SCALE: 1:25



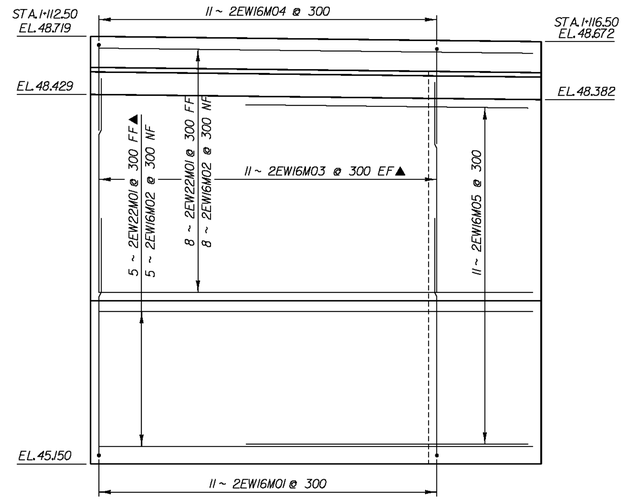
WINGWALL NO. 1 ELEVATION

SCALE: 1:25



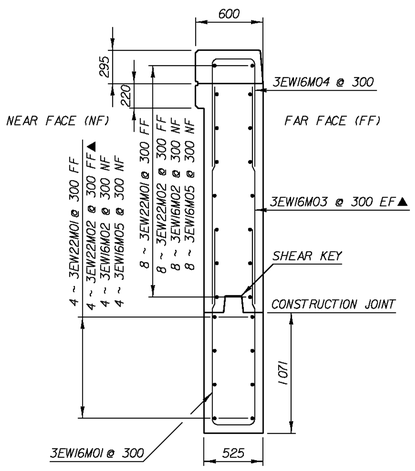
WINGWALL NO. 2 TYPICAL SECTION

SCALE: 1:25



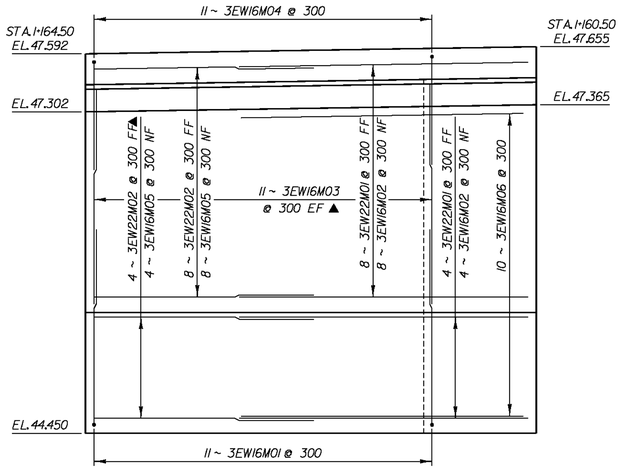
WINGWALL NO. 2 ELEVATION

SCALE: 1:25



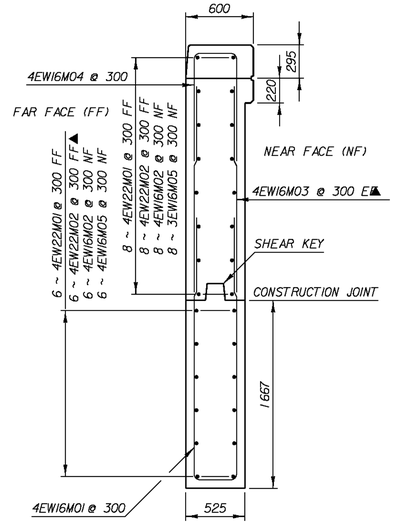
WINGWALL NO. 3 TYPICAL SECTION

SCALE: 1:25



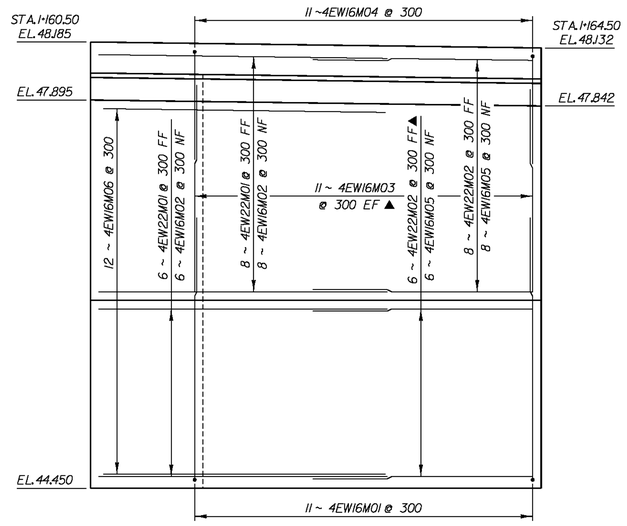
WINGWALL NO. 3 ELEVATION

SCALE: 1:25



WINGWALL NO. 4 TYPICAL SECTION

SCALE: 1:25



WINGWALL NO. 4 ELEVATION

SCALE: 1:25

NOTE:

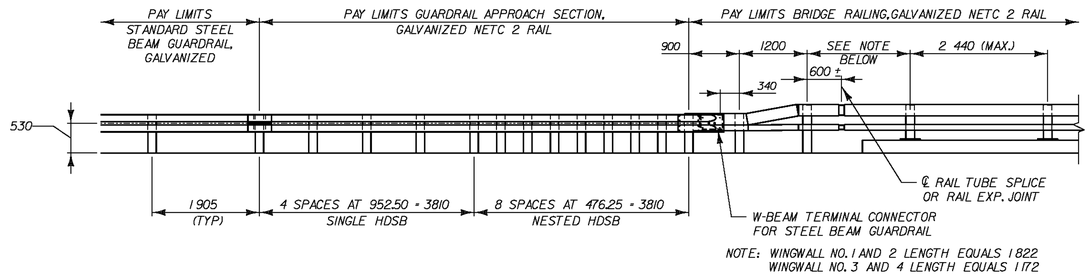
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(92)

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

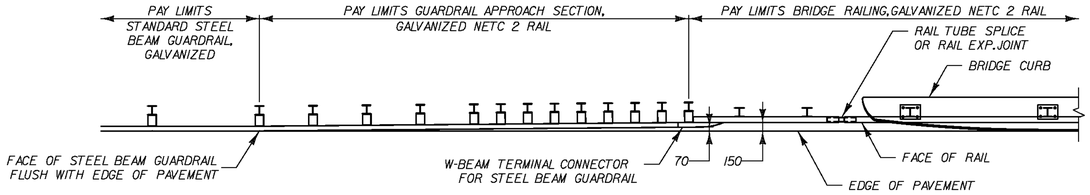
FILE NAME: z85e042brddet.dgn
PROJECT LEADER: MARTHA EVANS-MONGEON
DESIGNED BY: M. CRUZ
WINGWALL DETAILS

PLOT DATE: 2/5/2010
DRAWN BY: D. RITACCO
CHECKED BY: M. CRUZ
SHEET 107 OF 144



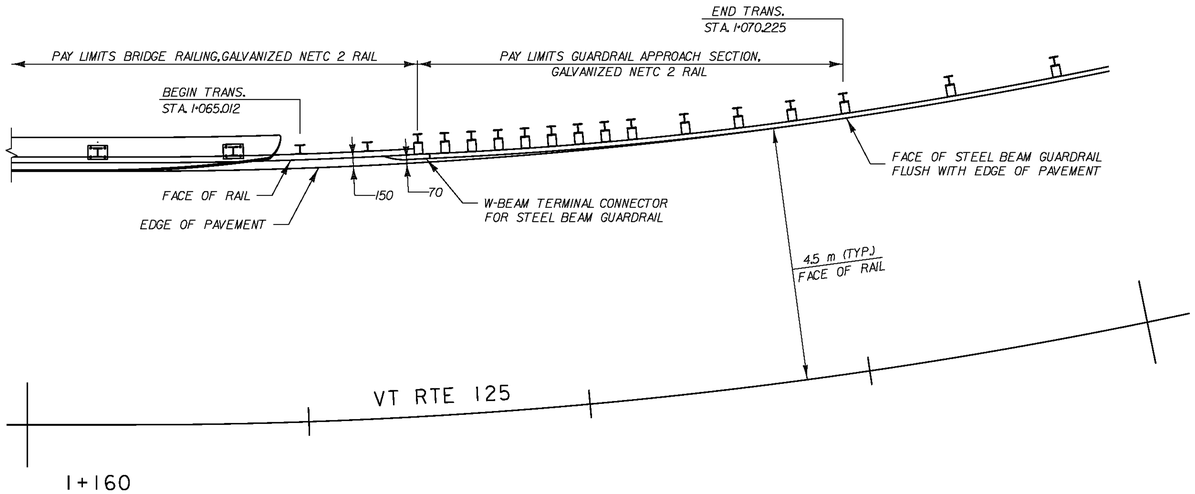
NOTE: WINGWALL NO. 1 AND 2 LENGTH EQUALS 1 822
WINGWALL NO. 3 AND 4 LENGTH EQUALS 1 172

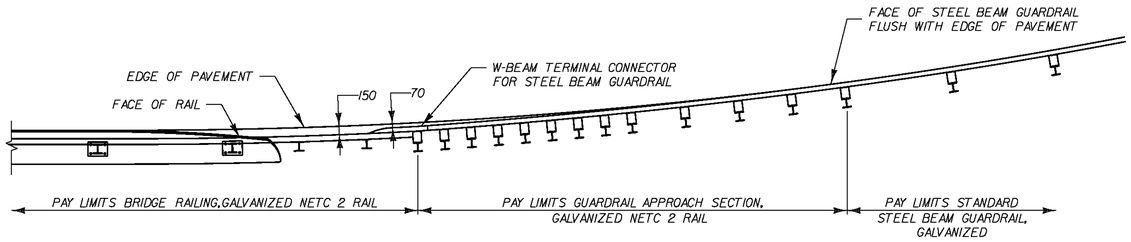
NETC 2 RAILING TRANSITION ELEVATION



NETC 2 RAILING TRANSITION PLAN - NORTH OF BRIDGE

(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)

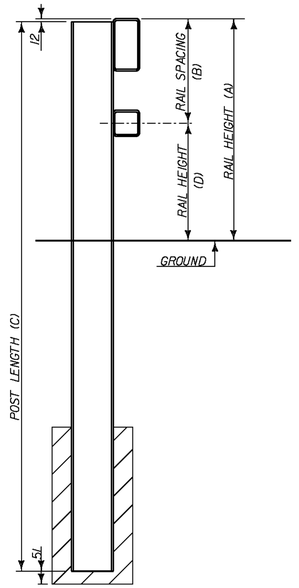




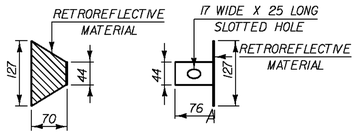
NETC 2 RAILING TRANSITION PLAN - SOUTH OF BRIDGE

DATUM

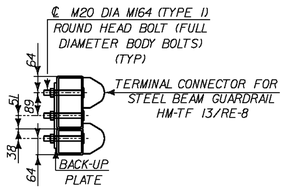
VERTICAL NAVD88
HORIZONTAL NAD83(92)



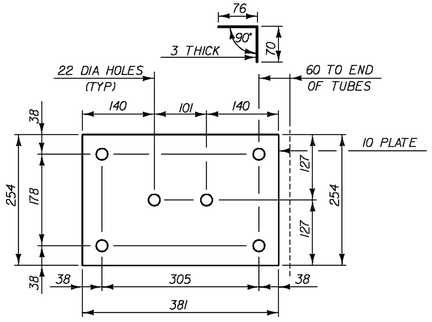
TYPICAL SECTION



DELINEATION DEVICE DETAILS

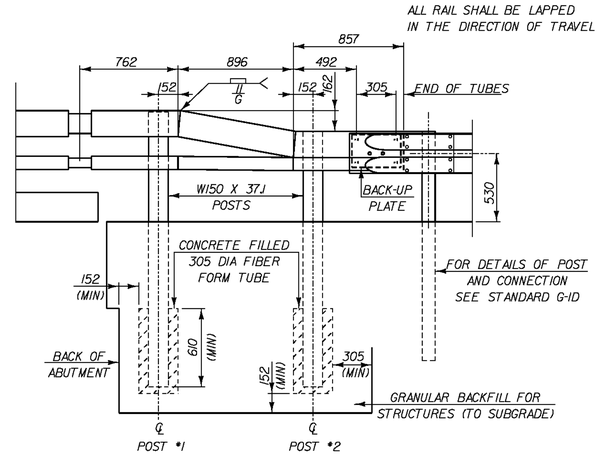


SECTION THROUGH GUARD RAIL CONNECTION AT TERMINAL CONNECTOR



BACK-UP PLATE

ALL RAIL SHALL BE LAPPED IN THE DIRECTION OF TRAVEL



ELEVATION

POST NUMBER	RAIL HEIGHT (A)	RAIL SPACING (B)	POST LENGTH (C)	RAIL HEIGHT (D)
1	860	405	2134	455
2	702	254	1956	448

NOTES:

1. REFER TO STD. S-360A FOR ADDITIONAL DETAILS, NOTES AND MATERIAL SPECIFICATIONS.
2. TO FACILITATE FIELD FIT - UP OF THE TRANSITION RAILING, POSTS SHALL BE SET LOOSELY INTO FIBER FORM TUBES WHILE TRANSITION PARTS ARE BEING ASSEMBLED. POST HOLES SHALL BE BACKFILLED WITH A CONCRETE MIX APPROVED BY THE ENGINEER. PAYMENT FOR COMPONENTS, INCLUDING BACKUP PLATE AND END TERMINAL CONNECTOR FOR GUARD RAIL, AUGERING, FIBER FORM TUBES AND CONCRETE, AND INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO PAY ITEM 523.33, "BRIDGE RAILING, GALVANIZED NETC 2 RAIL".
3. THE REFLECTORIZED ALUMINUM DELINEATION IS TO BE ERECTED EVERY 9m (OR CLOSEST POST) WITH A M16 BOLT. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.
4. RETROREFLECTIVE MATERIAL SHALL MEET REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVER'S LEFT AND SILVER ON THEIR RIGHT.
6. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
7. SEE STANDARDS G-1 AND G-1d FOR ADDITIONAL INFORMATION.

PROJECT NAME:	CORNWALL
PROJECT NUMBER:	BRS 0172(6)
FILE NAME: z85e042brddet.dgn	PLOT DATE: 3/15/2010
PROJECT LEADER: MARTHA EVANS-MONGEON	DRAWN BY: D. RITACCO
DESIGNED BY: M. CRUZ	CHECKED BY: M. CRUZ
NETC 2 RAIL DETAILS	SHEET 108 OF 144

STATE OF VERMONT
AGENCY OF TRANSPORTATION

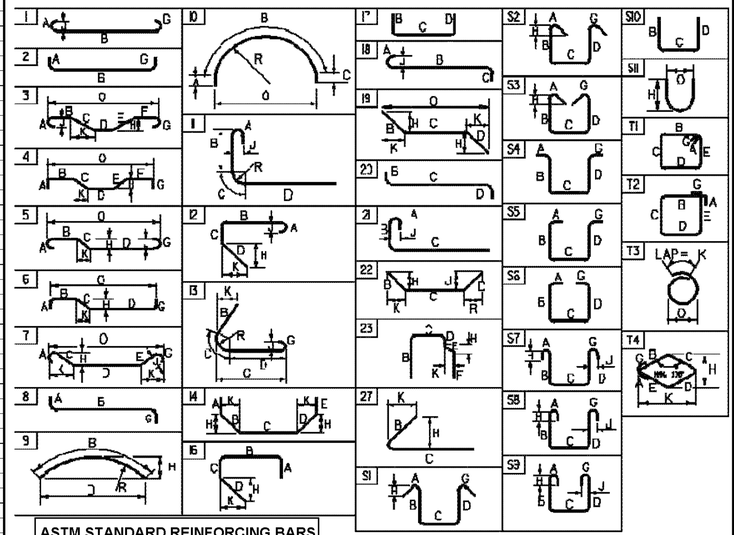
REINFORCING STEEL SCHEDULE

Metric

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
ABUTMENT NO. 1																	
✳	29	16	5280	1EA16M01	STR												
	15	16	2910	1EA16M02	STR												
	10	16	1905	1EA16M03	STR												
	25	16	3680	1EA16M04	STR												
	48	16	3775	1EA16M05	22		1040	2735	---				735	---	735	---	
	4	16	4780	1EA16M06	STR												
	23	16	2190	1EA16M07	17		660	870	660								
✳	17	19	5350	1EA19M01	STR												
	52	19	2480	1EA19M02	17		815	850	815								
▲	119	19	3330	1EA19M03	STR												
	31	19	1525	1EA19M04	16	---	550	195	780				550		550		
✳	60	22	4820	1EA22M01	17		950	3870	---								
✳	37	25	1530	1EA22M02	16	---	---	530	1000				710		710		
ABUTMENT NO. 2																	
	30	16	5280	2EA16MO1	STR												
✳	16	16	2910	2EA16MO2	STR												
	10	16	1905	2EA16MO3	STR												
	25	16	3680	2EA16MO4	STR												
	48	16	3775	2EA16MO5	22		1040	2735	---				735	---	735	---	
	4	16	4780	2EA16MO6	STR												
	23	16	2190	2EA16MO7	17		660	870	660								
	16	19	5350	2EA19M01	STR												
	52	19	2480	2EA19M02	17		815	850	815								
✳ ▲	120	19	3535	2EA19M03	STR												
	31	19	1525	2EA19M04	16	---	550	195	780				550		550		
✳	60	22	4820	2EA22M01	17		950	3870	---								
✳	37	25	1530	2EA25M01	16	---	---	530	1000				710		710		
WINGWALL NO. 1																	
	11	16	4095	1EW16M01	17		1860	375	1860								
✳	13	16	3850	1EW16M02	STR												
▲	22	16	1955	1EW16M03	STR												
	11	16	2285	1EW16M04	17		955	375	955								
	11	16	3930	1EW16M05	22		660	2610	660				470	470	470	470	
✳ ▲	13	22	3850	1EW22M01	STR												
WINGWALL NO. 2																	
	11	16	4595	2EW16M01	17		2110	375	2110								
	13	16	3850	2EW16M02	STR												
✳ ▲	23	16	1905	2EW16M03	STR												
	11	16	2285	2EW16M04	17		955	375	955								
	11	16	3930	2EW16M05	22		660	2610	660				470	470	470	470	
✳ ▲	14	22	3850	2EW22M01	STR												
WINGWALL NO. 3																	
	11	16	3855	3EW16M01	17		1740	375	1740				393			85093	2564
	12	16	2564	3EW16M02	9		2564										
▲	22	16	1915	3EW16M03	STR												
	1	16	2285	3EW16M04	17		955	375	955								
✳	13	16	1950	3EW16M05	STR												
	10	16	3930	3EW16M06	22		660	2610	660				470	470	470	470	
	12	22	2564	3EW22M01	9		2564						392			85383	2564
✳ ▲	13	22	1950	3EW22M02	STR												
WINGWALL NO. 4																	
	11	16	5035	4EW16M01	17		2330	375	2330								
	14	16	2562	4EW16M02	9		2562						352			94908	2562
✳ ▲	23	16	1850	4EW16M03	STR												
	11	16	2285	4EW16M04	17		955	375	955								
	14	16	1950	4EW16M05	STR												
	12	16	3930	4EW16M06	22		660	2610	660				470	470	470	470	
	14	22	2562	4WE22M01	9		2562						353			94618	2562
✳ ▲	15	22	1950	4WE22M02	STR												
APPROACH SLAB																	
✳	41	16	8776	EAS16M01	STR												
	70	29	6175	EAS29M01	1	495	5680					---		240			
✳	3	29	4000	EAS29M02	STR												
BRIDGE DECK																	
✳	453	16	10365	ES16M01	STR												
	10	16	6850	ES16M02	STR												
	440	16	2025	ES16M03	S5	400	400	425	400			400					
	14	16	4953	ES16M04	STR												
	2	16	2576	ES16M05	9		2576						396			85012	2575
	1	16	2576	ES16M06	9		2576						396			85175	2575
	2	16	2576	ES16M07	9		2576						396			85380	2575
	2	16	2575	ES16M08	9		2575						356			94920	2575
	1	16	2575	ES16M09	9		2575						356			94825	2575
	2	16	2575	ES16M10	9		2575						356			94989	2575
✳	527	19	10040	ES19M01	STR												
HEADWALL NO. 1 (900 MM PIPE)																	
	13	16	2235	1EW505	17		1194	1041									
	4	16	2285	1EW506	14	457	457	457	457	457			324		324		
	13	16	1398	1EW507	S10		610	178	610								
HEADWALL NO. 1 (450 MM PIPE)																	
	7	16	2083	2EW505	17		1194	889									
	4	16	1145	2EW506	14	229	229	229	229	229			162		162		
	7	16	1398	2EW507	S10		610	178	610								

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. ANY EXTRA BARS NOT INCORPORATED INTO THE PROJECT SHALL BECOME THE PROPERTY OF THE AGENCY.
12. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL MASS (Kg/m)	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER (mm)	CROSS SECTIONAL AREA (mm^2)	PERIMETER (mm)
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	15.9	199	49.95
#19	2.235	19.1	284	60.00
#22	3.042	22.2	387	69.74
#25	3.973	25.4	510	79.80
#29	5.060	28.7	645	90.16
#32	6.404	32.3	819	101.47
#36	7.907	35.8	1006	112.47
#43	11.380	43.0	1452	135.09
#57	20.240	57.3	2581	180.01

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: Z85E042RSS.XLS
PROJECT MANAGER: M. EVANS-MONGEON
DESIGNED BY: M. CRUZ
REINFORCING STEEL SCHEDULE

PLOT DATE: 2/15/2010
DRAWN BY: D. RITACCO
CHECKED BY: M. CRUZ

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

Metric

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA ±	AREA ±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
1A	STATE OF VERMONT	26-27	1+040.000 LT.	1+139.198 LT.	440 SM					EO	10/6/2009	CORNWALL	69	412-	0.10A±
	AGENCY OF NATURAL RESOURCES		1+095.2 LT.	1+139.7 LT.			UTILITY	(P)	319 SM					414	3,434 SF±
	DEPARTMENT OF FISH & WILDLIFE														
1B		26-27	1+040.000 LT.	1+140.800 LT.	766 SM		ALL R.T. & I.								VT 125 HWY. EASE.; 0.19A±
1C		27,30	1+135.898 RT.	TH 33 2+124.116 RT.	0.17 HA										0.42A±
			1+165.2 RT.	1+190.4 RT.			CONST.	(T)	55 SM						INCLUDES PDF & EC; 592 SF±
			1+176.0 RT.	1+177.4 RT.			DETOUR	(T)	0.2 SM						2 SF±
			TH 33 2+023.6 RT.	TH 33 2+103.0 RT.			CONST.	(T)	200 SM						INCLUDES PDF & EC; 2,153 SF±
			TH 33 2+026.8 RT.	TH 33 2+082.8 RT.			SLOPE	(T)	150 SM						INCLUDES EC; 1,615 SF±
			TH 33 2+045.9 RT.	TH 33 2+117.8 RT.			UTILITY	(P)	147 SM						1,582 SF±
1D		27	1+140.800 LT.	1+229.363 RT.	733 SM		ALL R.T. & I.								VT 125 HWY. EASE.; 0.18A±
1E		27,30	1+210.393 RT.	TH 33 2+124.116 LT.	0.12 HA		ALL R.T. & I.								TH 33 HWY. EASE.; 0.30A±
2A	ALDRIDGE, FREDERICK B.	26-27	1+040.000 RT.	1+141.289 RT.	0.10 HA					WD	10/20/2009	CORNWALL	69	569-	1,016 SM (0.25 A±)
			1+103.7 RT.	1+119.2 RT.			CONST.	(T)	25 SM					570	INCLUDES PDF & EC; 269 SF±
2B		26-27	1+040.000 RT.	1+141.289 RT.	770 SM		ALL R.T. & I.								VT 125 HWY. EASE.; 0.19A±

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
1	24,27-30	PARCEL NO 3 FOOTE. CHANGE OWNERSHIP TO T.D. BANK, N.A. PER C.O. 9543	10/21/2008
		COMPLETED BY: MR APPROVED BY: HP	
2	24,27-30	PARCEL NO 3 T.D. BANK, N.A. CHANGE OWNERSHIP TO CUSHING FAMILY, LLC	1/15/2009
		COMPLETED BY: MT APPROVED BY: HP	

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CLEAR ZONE (CZ)
- PROPERTY LINE (P/L)
- TOE OF SLOPE
- TOP OF CUT
- SLOPE RIGHT (SR (P))
- CONSTRUCTION RIGHT (CONST. (T))
- PROJECT DEMARCATION FENCE (PDF — PDF)

EC -EROSION CONTROL
(P) -PERMANENT
(T) -TEMPORARY
DR. -DRAINAGE RIGHT
DIT. -DITCHING RIGHT
CH. -CHANNEL RIGHT
DRIVE -DRIVE RIGHT
CUL. -CULVERT RIGHT
C&T -CLEARING & TRIMMING RIGHT
SR -SLOPE RIGHT
UE -UTILITY EASEMENT

APPROVED: HARRY PETROVS DATE: 9-26-03
CHIEF, PLANS & TITLES

PLOT DATE 11/24/2009

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: r85e042detail.xls
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY:
R.O.W. DETAIL SHEET #1

PLOT DATE:
DRAWN BY: MR
CHECKED BY: EP
SHEET 110 OF 144

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

Metric

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA ±	AREA ±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
3A	CUSHING FAMILY, LLC	27-30	1+247.184 RT.	1+440.000 RT.	0.25 HA					WD	11/3/2009	CORNWALL	69	622-	0.62A±
			TH 33 2+102.9 LT.	1+442.7 RT.			CONST.	(T)	656 SM					623	INCLUDES PDF & EC; 0.16A±
			1+255.6 RT.	1+437.9 RT.			SLOPE	(P)	0.13 HA						INCLUDES CHECK DAMS;
															1,303 SM (0.32A)±
			1+256.9 RT.	1+265.4 RT.			REMOVE	(T)							BARBED WIRE FENCE
			TH 33 2+055.7 LT.	TH 33 2+065.4 LT.			REMOVE	(T)							BARBED WIRE FENCE
			TH 33 2+049.6 LT.	TH 33 2+084.5 LT.			SLOPE	(P)	71 SM						INCLUDES TEMP. EC; 764 SF±
3B		27-29	1+226.073 LT.	1+440.000 RT.	0.16 HA		ALL R.T. & I.								VT 125 HWY. EASE.; 1,590 SM (0.39A)±
3C		27-28	1+229.363 RT.	TH 33 2+124 LT.	0.13 HA		ALL R.T. & I.								TH 33 HWY. EASE. 0.32A±
		30													
4A	TOWN OF CORNWALL	27-28	1+210.393 RT.	TH 33 2+124.116 LT.	0.25 HA		ALL R.T. & I.			QCD	07/01/2009	CORNWALL	69	30-31	TH 33 HWY. EASE.; 2,542 SM (0.63A)±
		30													
4B		27-28	1+210.073 RT.	1+268.597 LT.	483 SM		ALL R.T. & I.								VT 125 HWY. EASE.; 0.12A±

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CLEAR ZONE (CZ)
- PROPERTY LINE (PL)
- TOE OF SLOPE
- TOP OF CUT
- SLOPE RIGHT (SR (P))
- CONSTRUCTION RIGHT (CONST. (T))
- PROJECT DEMARCATION FENCE (PDF)

EC -EROSION CONTROL
(P) -PERMANENT
(T) -TEMPORARY
DR. -DRAINAGE RIGHT
DIT. -DITCHING RIGHT
CH. -CHANNEL RIGHT
DRIVE -DRIVE RIGHT
CUL. -CULVERT RIGHT
C&T -CLEARING & TRIMMING RIGHT
SR -SLOPE RIGHT
UE -UTILITY EASEMENT

APPROVED: HARRY PETROVS DATE: 9-26-03
CHIEF, PLANS & TITLES

PLOT DATE 11/24/2009

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: r85e042detail.xls
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY:
R.O.W. DETAIL SHEET #2

PLOT DATE:
DRAWN BY: MR
CHECKED BY: EP
SHEET 111 OF 144

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

Metric

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA ±	AREA ±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
5A	SOUTH LINCOLN PARTNERSHIP LLC	27-28	1+138.355 LT.	1+256.257 LT.	677 SM					WD	10/20/2009	CORNWALL	69	575-	0.17A±
			1+138.355 LT.	1+196.5 LT.			UTILITY	(P)	248 SM					576	2,670 SF±
			1+160.0 LT.	1+174.6 LT.			CONST.	(T)	9 SM						INCLUDES PDF & EC; 97 SF±
			1+211.2 LT.	1+235.8 LT.			CONST.	(T)	8 SM						INCLUDES PDF; 86 SF±
			1+242.5 LT.	1+261.3 LT.			CONST.	(T)	11 SM						INCLUDES PDF; 118 SF±
5B		27-29	1+139.198 LT.	1+440.000 RT.	0.22 HA		ALL R.T. & I.								VT 125 HWY. EASE.; 2,200 SM (0.54A)±
			1+307.4 LT.	1+311.3 LT.			CONST.	(T)	1 SM						INCLUDES PDF; 11 SF±
			1+310 LT.				DRAINAGE	(P)							
5C		28-29	1+327.473 LT.	1+440.000 LT.	637 SM										0.16A±
			1+319.9 LT.	1+343.8 LT.			CONST.	(T)	11 SM						INCLUDES PDF; 118 SF±
			1+365.5 LT.				DRAINAGE	(P)							
			1+420.0 LT.				DRAINAGE	(P)							
6	SHOREHAM TELEPHONE COMPANY														UTILITY
	MAINT. AGREE. ZONE #1	27,30	TH 33 2+003.3 CL	TH 33 2+031.3 CL											TH 33 LENGTH=28.0M (92')
	RELINQUISHMENT #1	27,30	TH 33 2+008.275 LT.	TH 33 2+124.116 RT.											TOWN HIGHWAY 33

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CZ — CLEAR ZONE
- P/L — PROPERTY LINE
- TOE OF SLOPE
- TOP OF CUT
- SR (P) — SLOPE RIGHT
- CONST. (T) — CONSTRUCTION RIGHT
- PDF ——— PDF — PROJECT DEMARCATION FENCE

EC -EROSION CONTROL
(P) -PERMANENT
(T) -TEMPORARY EC
DR. -DRAINAGE RIGHT
DIT. -DITCHING RIGHT
CH. -CHANNEL RIGHT
DRIVE -DRIVE RIGHT
CUL. -CULVERT RIGHT
C&T -CLEARING & TRIMMING RIGHT
SR -SLOPE RIGHT
UE -UTILITY EASEMENT

APPROVED: HARRY PETROVS DATE: 9-26-03
CHIEF, PLANS & TITLES

PLOT DATE 11/24/2009

PROJECT NAME: CORNWALL
PROJECT NUMBER: BRS 0172(6)

FILE NAME: r85e042detail.xls
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY:
R.O.W. DETAIL SHEET #3

PLOT DATE:
DRAWN BY: MR
CHECKED BY: EP
SHEET 112 OF 144

VTrans Metric

CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS
1+040.00 ~ 1+100.00
1+081.4 LT (M) HICKORY
1+087.4 RT (S) BOX ELDER
1+089.3 RT (S) BOX ELDER
1+097.3 RT S. ASH

COLD PLANING, BITUMINOUS PAVEMENT
1+040.00 ~ 1+060.00

STONE FILL, TYPE I
1+040.0 LT. ~ 1+100.0 LT.
1+040.0 RT. ~ 1+080.0 RT.

REMOVAL OF EXISTING FENCE
1+040.0 RT ~ 1+100.0 RT

MANUFACTURED TERMINAL SECTION, FLARED
1+090.40 RT. ~ 1+100.00 RT.
1+090.40 LT. ~ 1+100.00 LT.

REMOVAL AND DISPOSAL OF GUARDRAIL
1+063.6 LT. ~ 1+100.0 LT.
1+064.0 RT. ~ 1+100.0 RT.

BEGIN R.O.W. PROJECT
BRS 0172(6)
STA. 1+040.000
10.146M (33.29') LT.

ARCHAEOLOGICALLY SENSITIVE AREA

VT STATE PLANE GRID

1
STATE OF VERMONT
AGENCY OF NATURAL RESOURCES
DEPARTMENT OF FISH AND WILDLIFE

POT STA. 1+040.000
BEGIN APPROACH

TAPER WIDTH OF DITCH FROM EXISTING WIDTH TO FULL WIDTH

TEMPORARY STONE CHECK DAM, TYPE I FOR OFF-SITE RUNOFF CONTROL

POT STA. 1+080.000
END APPROACH
BEGIN PROJECT

NEW AERIAL WIRE TO EXISTING POLE BY OTHERS

SPECIAL PROVISION (PERMANENT STONE CHECK DAM, TYPE I)

1+100.000
18.288M(60.00')LT.

60.550M(198.65')

[99.273M(325.70')]
EXIST. R.O.W.

1A
1B
2A
2B

3 ROD (49.5') HWY. EASE. AS SHOWN ON PROJECT PLANS P.W.A. 1020-K 1934

1+040.000
2.442M(8.01')LT.

7.704M (25.28')

1+040.000
5.262M(17.26')RT.

46.492M(152.53')

1+040.000
7.994M(26.23')RT.

TEMPORARY STONE CHECK DAM, TYPE I FOR OFF-SITE RUNOFF CONTROL

TAPER WIDTH OF DITCH FROM EXISTING WIDTH TO FULL WIDTH

STA. 1+057 RT TO STA. 1+063 RT PROVIDE 1V:6H EMBANKMENT SLOPE SEE CROSS SECTIONS

CLEAR AND GRUB TREES MAXIMUM OF 3 000 FROM LIMIT OF CUT AND INSTALL AND MAINTAIN PROJECT DEMARCATION FENCING OR BARRIER FENCE AS INDICATED ON THE EPSC CONSTRUCTION CONDITIONS SHEETS(TYPICAL)

ARCHAEOLOGICALLY SENSITIVE AREA

SPECIAL PROVISION (PERMANENT STONE CHECK DAM, TYPE I)

62.138M(204.06')

1+100.000
24.384M(80.00')RT.

1+086.492
7.797M(25.58')RT.

[35.28M (115.65')]

[91.492M (300.17')]

1+200 [100.882M (330.98')]

S1°11'00.1"E

MATCH LINE STA. 1+100.000
TO R.O.W. LAYOUT SHEET 114

STATE OF VERMONT
Q.C. VOL. 17 PG. 96
PROJ. PWA 1020-K 1934

ALDRIDGE, FREDERICK B.
2

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.

0 10 20 30
SCALE IN METERS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

FOR R.O.W. USE ONLY

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME:	
IPARM FILE NAME:	PLOT DATE: 16-FEB-2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
RIGHT OF WAY LAYOUT SHEET 1	SHEET: 113 OF 144

VTrans Metric

CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS

1+100.00 ~ 1+260.000
1+119.3 LT (L) ELM
1+160.8 RT (S) BOX ELDER
1+168.3 RT (S) ELM
1+179.1 RT (S) ELM
1+184.8 RT (S) ELM
1+186.5 RT (S) ELM
1+186.9 RT (S) ELM
1+189.1 RT (S) ELM

BRIDGE RAILING, GALVANIZED NETC 2-RAIL

1+109.42 LT. ~ 1+167.23 LT.
1+109.42 RT. ~ 1+166.67 RT.

EXISTING DRAINAGE

[1] 1+208.2 RT. ~ 1+218.1 RT.
EXISTING 150 mm CMP - REMOVE

NEW DRAINAGE

(1) TH 33 2+032.188 RT. ~ TH 33 2+021.532 RT.
NEW 300mm x 11.8m OUTLET PIPE
CPEP (SL)/RCP/CAAP/PCCSP
W/MH @ 2+032.188RT.

200 MM UNDERDRAIN PIPE

△1 TH 33 2+025.0 LT. ~ VT 125 1+260.0 RT.
NEW 200mm x 33.7m UNDERDRAIN
w/ FB @ TH 33 2+025.0 LT.

△2 1+241.0 LT. ~ 1+260.0 LT.
NEW 200mm x 54.6 m UNDERDRAIN
w/ FB @ 1+241.0 LT.

VT STATE PLANE GRID

TO R.O.W. LAYOUT SHEET 113
MATCH LINE STA. 1+100.000

PROPERTY LINE APPROX. CENTERLINE OF RIVER
LEMON FAIR RIVER

(1) STATE OF VERMONT
AGENCY OF NATURAL RESOURCES
DEPARTMENT OF FISH AND WILDLIFE

(5) SOUTH LINCOLN PARTNERSHIP LLC

(2) ALDRIDGE, FREDRICK B.

POT STA. 1+115.500
STOP ROADWAY
BEGIN BRIDGE

POT STA. 1+161.500
END BRIDGE
RESUME ROADWAY

BM #2
CHISEL SQ. SET
NE CORNER OF
BACK OF THE
BRIDGE CURB
ELEV.= 48.43

BEGIN MAINT. AGREE. ZONE #1
STA. TH33 2+003.3 CL.

BEGIN REL NO. #1
TH33 2+008.275
28.023M(91.94')LT
=1+260.000
12.192M(40.00')RT

CUSHING FAMILY, LLC

VT ROUTE 125 STA. 1+235.000=
T.H. 33 STA. 2+000.000
BEGIN T.H. 33 APPROACH

TO R.O.W. LAYOUT SHEET 115
MATCH LINE STA. 1+260.000

MATCH LINE STA. 2+030.000
TO R.O.W. LAYOUT SHEET 117

STATE OF VERMONT
O.C. VOL. 17 PG. 98
PROJ. PWA 1020-K 1934

STATE OF VERMONT
O.C. VOL. 17 PG. 96
PROJ. PWA 1020-K 1934

EXISTING PIER TO BE REMOVED TO THE STREAMBED

TEMPORARY DETOUR CENTERLINE
SEE TEMPORARY DETOUR LAYOUT SHEET

CLEAR AND GRUB TREES MAXIMUM OF 3,000 ENDS LIMIT OF CUT AND FILL
MAINTAIN PROJECT DEMARCATION FENCING OR BARRIER FENCE AS INDICATED ON THE EPSC CONSTRUCTION CONDITIONS SHEETS(TYPICAL)

EXISTING POLE AND OVERHEAD WIRE TO BE REMOVED BY OTHERS

LINES SHOWN ON THIS PLAN (26.383M (86.56') 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.

CHANNEL BASELINE
M.L.POT STA. 1+110.000
CHAN. STA. 10+000.000

NOTE:
IRON PIPE SHOWN AS SET ON A 1988 SURVEY ENTITLED "PORTION OF PROPERTY OF JACK & HELEN WHIPPLE, DATED SEPT. 26, 1988 AND FILED AS PLAT #60 IN THE TOWN OF CORNWALL LAND RECORDS.

SAID PLAT DOES NOT CONSIDER A PRIOR ACQUISITION BY THE STATE OF VERMONT DATED 3/16/1936 AND RECORDED IN VOL. 17, PAGE 96 OF THE TOWN OF CORNWALL LAND RECORDS.

200 MM UNDERDRAIN CARRIER PIPE

△3 TH 33 2+030.0 RT. ~ TH 33 2+020.0 RT.
NEW 200mm x 11.7 m UNDERDRAIN CARRIER PIPE
W/ FB @ TH 33 2+030.0 RT.

△4 TH 33 2+030.0 LT. ~ TH 33 2+023.0 LT.
NEW 200mm x 6.5 m UNDERDRAIN CARRIER PIPE
W/ FB @ TH 33 2+030.0 LT.

STONE FILL, TYPE I

VT 125 1+208 RT. ~ VT RTE 125 1+212 RT.
VT RTE 125 1+217.0 LT. ~ 1+231.0 LT - LEVEL SPREADER
TH 33 2+019 RT. ~ 2+030 RT.
TH 33 2+020 LT. ~ 2+030 LT.

REMOVAL OF EXISTING FENCE

1+100.0 RT. ~ 1+108.0 RT.
1+189.8 RT. ~ TH 33 2+030.0 RT.
TH 33 2+030.0 LT. ~ VT 125 1+260 RT.

STEEL BEAM GUARDRAIL, GALVANIZED

1+173.93 RT. ~ 1+201.05 RT.
1+175.26 LT. ~ 1+227.42 LT.

0 10 20 30
SCALE IN METERS

MANUFACTURED TERMINAL SECTION, FLARED

1+100.00 RT. ~ 1+101.80 RT.
1+100.00 LT. ~ 1+101.80 LT.
1+201.05 RT. ~ 1+211.73 RT. (DELTA=10.68M)
1+227.42 LT. ~ 1+239.55 LT. (DELTA=12.13M)

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL

1+101.80 LT. ~ 1+109.42 LT.
1+101.80 RT. ~ 1+109.42 RT.
1+166.67 RT. ~ 1+173.93 RT. (DELTA=7.26)
1+167.23 LT. ~ 1+175.26 LT. (DELTA=8.03)

REMOVAL AND DISPOSAL OF GUARDRAIL

1+100 LT. ~ 1+120.8 LT.
1+100 RT. ~ 1+120.6 RT.
1+160.1 RT. ~ 1+210.3 RT.
1+160.6 LT. ~ 1+238.6 LT.

SPECIAL PROVISION (STONE DIAPHRAGM FOR GRASS CHANNEL)

VT 125 1+218.0 LT. ~ 1+260.0 LT
TH 33 2+020 LT. ~ VT 125 1+260.0 RT.

FOR R.O.W. USE ONLY

DATUM	
VERTICAL NAVD 88	
HORIZONTAL NAD 83(92)	
PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME:	
IPARM FILE NAME:	PLOT DATE: 16-FEB-2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
RIGHT OF WAY LAYOUT SHEET 2	SHEET: 114 OF 144

VTrans Metric

PROPERTY LINE APPROX. P/L
CENTERLINE OF RIVER

LEMON FAIR RIVER

N

VT STATE PLANE GRID

TO R.O.W. LAYOUT SHEET 114
MATCH LINE STA. 1+260.000

MATCH LINE STA. 1+380.000
TO R.O.W. LAYOUT SHEET 116

SOUTH LINCOLN PARTNERSHIP LLC

5

VT RTE 125 @ CURVE #2 DATA
Δ = 12°31'04.0"LT
R = 860 000
T = 94 320
L = 187.890
E = 5 157
BANK = VARIES

CLEAR AND GRUB TREES MAXIMUM OF 1500 FROM LIMIT OF CUT AND FILL. INSTALL AND MAINTAIN PROJECT DEMARCATION FENCING OR BARRIER FENCE AS INDICATED ON THE EPSC CONSTRUCTION CONDITIONS SHEETS (TYPICAL)

VT RTE 125 @ CURVE #1 DATA
Δ = 95°53'15.8"LT
R = 90 000
T = 99 758
L = 150 620
E = 44 357
0.060 m/m

CLASS II WETLAND

EXISTING R.O.W. (R=225.390M(739.47')) (L=59.141M(194.03'))

CONST(T)

DR(P)

I+327.473
15.240M(50.00'LT.

(L=110.533M(362.64')) (R=844.760M(2771.52'))

EXIST. R.O.W.

(L=66.952M(547.74'))

(R=872.192M(2861.52')) (L=129.323M(424.29'))

(R=1092.192M(3582.28')) (L=59.598M(195.52'))

SR(P)

CONST(T)

I+312.485
12.192M(40.00'RT.

I+260.000
12.192M
(40.00'RT.

REMOVE (T)

I+267.451
12.301M
(40.35'LT.

I+268.597
4.224M
(13.53'LT.

(39.25M (128.71')) (4.28M (14.04')) (35.778M (117.38')) (40.243M (132.03'))

3B 4B 3C 4A 5B 3A 5C

BM# 1
RR SPIKE SET IN ROOT OF MEDIUM ASH TREE
ELEV.= 46.581

3

CUSHING FAMILY, LLC

TREES AND OVERGROWN PASTURE LAND

SPECIAL PROVISION (PERMANENT STONE CHECK DAM, TYPE I)

TREES AND OVERGROWN PASTURE LANDS

CLASS II WETLAND

CURVE DATA
Δ = 5°29'15.6"LT
R = 50 000
T = 24.140
L = 47.933

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.

0 10 20 30
SCALE IN METERS

FOR R.O.W. USE ONLY

NOTE: TO ALLOW FOR SETTLEMENT THE CONTRACTOR SHALL NOT PERFORM PAVING OPERATIONS BETWEEN STATIONS 1+280 ~ 1+330 UNTIL A WAITING PERIOD OF 60 DAYS HAS PASSED AFTER THE CONSTRUCTION OF THE EMBANKMENTS AND SUBBASE. UPON COMPLETION OF THE 60-DAY SETTLEMENT WAITING PERIOD THE CONTRACTOR SHALL VERIFY AND RE-ESTABLISH SUBGRADE ELEVATIONS AS NECESSARY OR AS DIRECTED BY THE RESIDENT ENGINEER. PAVING OPERATIONS SHALL ONLY BE ALLOWED PRIOR TO THE END OF THE 60-DAY WAITING PERIOD IF THE CONTRACTOR OBTAINS SUFFICIENT SETTLEMENT DATA THAT INDICATES INSIGNIFICANT SETTLEMENT AND ONLY WHEN IT IS APPROVED BY THE RESIDENT ENGINEER.

THE COST OF FURNISHING, INSTALLING, MONITORING AND MAINTAINING SETTLEMENT MONITORING EQUIPMENT SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AS A WHOLE AND SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR VARIOUS ITEMS INVOLVED IN THE CONTRACT.

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME:	
IPARM FILE NAME:	PLOT DATE: 16-FEB-2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
RIGHT OF WAY LAYOUT SHEET 3	SHEET: 115 OF 144

VTrans Metric

CLEARING AND GRUBBING
INCLUDING INDIVIDUAL TREES AND STUMPS

I+380.00 ~ I+440.00
I+383.5 RT (M) BOX ELDER
I+390.2 RT (M) BOX ELDER
I+392.3 RT (M) BOX ELDER
I+394.6 RT (M) BOX ELDER
I+399.6 RT (S) BOX ELDER
I+405.1RT (S) BOX ELDER
I+410.5 RT (S) MAPLE

COLD PLANING, BITUMINOUS PAVEMENT

I+420.00 ~ I+440.00

EXISTING DRAINAGE

4 I+465.1 LT. ~ I+466.5 RT.
EXISTING 900mm RCP - RETAIN

200 MM UNDERDRAIN PIPE

10 I+380.0 RT. ~ I+420.0 RT.
NEW 200mm x 80.4 UNDERDRAIN

200 MM UNDERDRAIN CARRIER PIPE

I+420.0 RT. ~ I+420.0 LT.
8 NEW 200mm x 14.8 UNDERDRAIN CARRIER PIPE W/ FB @ I+420.0 RT.

STONE FILL, TYPE I

I+420.0 LT. - 0 450 WIDE x 2 500 LONG

REMOVAL OF EXISTING FENCE

I+380.0 RT ~ I+440.0 RT

SPECIAL PROVISION
(STONE DIAPHRAGM FOR GRASS CHANNEL)

I+380.0 RT. ~ I+415.0 RT.

1 STATE OF VERMONT
AGENCY OF NATURAL RESOURCES
DEPARTMENT OF FISH AND WILDLIFE

PROPERTY LINE APPROX. CENTERLINE OF RIVER

CLEAR AND GRUB TREES MAXIMUM OF 500 FROM LIMIT OF CUT AND FILL
INSTALL AND MAINTAIN PROJECT DEMARCATION FENCING OR BARRIER FENCE AS INDICATED ON THE EPSC CONSTRUCTION CONDITIONS SHEETS (TYPICAL)

LEMON FAIR RIVER

POC STA. I+400.000
END PROJECT
BEGIN APPROACH

5 SOUTH LINCOLN PARTNERSHIP LLC

POC STA. I+440.000
END APPROACH

VT RTE 125 @ CURVE #2 DATA
Δ = 12°31'04.0"
R = 860 000
T = 94 320
L = 187 890
E = 5 157
BANK = VARIES

CLASS II WETLAND

DR(P) [L=110.533M(362.64')] [R=844.760M(2771.52')]

I+440.000
15.240M(50.00')LT.

7.753M
(25.44')

I+440.000
7.487M(24.56')LT.

I+440.000
0.053M(0.17')RT.

I+440.000
7.601M(24.94')RT.

4.591M
(15.06')

I+440.000
12.192M(40.00')RT.

[R=872.192M(2861.52')] [L=129.323M(424.29')]

[11.759M(366.66')]

[166.952M(547.74')]

[170.628M(559.80')]

TO R.O.W. LAYOUT SHEET 115
MATCH LINE STA. I+380.000

STA I+406.430 PI

STA I+500.375 PT

STA I+538.913 PI

STA I+538.768 PC

5C 5B 3B 3A

SRP(I) CONST(T)

TREES AND OVERGROWN PASTURE LAND

3 CUSHING FAMILY, LLC

5 SOUTH LINCOLN PARTNERSHIP LLC.

N70° 24' 40.0"E I+460 I+480 I+500 I+540

N71° 34' 25.

VT ROUTE 125

STATUTORY 3 ROD R.O.W.

SHOULDER WIDTH VARIES

N
VT STATE PLANE GRID

CURVE DATA
Δ = 1°09'45.1"
R = 1000 000
T = 10 145
L = 20 290
E = 0 051

END R.O.W. PROJECT
BRS 0172(6)
STA. 1+442.7
7.613M (24.98') RT.

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

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME:	
IPARM FILE NAME:	PLOT DATE: 16-FEB-2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
RIGHT OF WAY LAYOUT SHEET 4	SHEET: 116 OF 144

VTRANS Metric

VT STATE PLANE GRID

CLEARING AND GRUBBING
INCLUDING INDIVIDUAL TREES AND STUMPS
2+030.00 ~ 2+120.00
2+084.9 LT (S) PEAR TREE
2+092.9 LT (S) PEAR TREE

COLD PLANING, BITUMINOUS PAVEMENT
2+100.00 ~ 2+120.00

EXISTING DRAINAGE
5 2+131.3 RT ~ 2+135.4 RT
EXISTING 300 mm CMP - RETAIN

NEW DRAINAGE
2+032.188 RT. ~ 2+030.0 RT.
1 NEW 300mm x 11.8m OUTLET PIPE CPEP (SL)/RCP/CAAP/PCCSP W/PRECAST CONCRETE PRE-TREATMENT CHAMBER @ 2+032.188 RT. (SEE SHEET 9)
2+034.716 RT. ~ 2+032.188 RT.
4 NEW 300mm x 2.5m INTAKE PIPE CPEP (SL) ONLY SEE PRETREATMENT CHAMBER DETAIL ON SHEET 9

200 MM UNDERDRAIN PIPE
12 2+100.0 RT. ~ 2+030.0 RT.
NEW 200mm x 72.2m UNDERDRAIN W/ FB @ 2+100.0 RT.
13 2+100.0 LT. ~ 2+030.0 LT.
NEW 200mm x 67.5m UNDERDRAIN W/ FB @ 2+100.0 LT.

STONE FILL, TYPE I
2+030 RT. ~ 2+100 RT.
2+030 LT. ~ 2+100 LT.

REMOVAL OF EXISTING FENCE
2+030 RT. ~ 2+124.1RT.
2+030 LT. ~ 2+124.1LT.

3
CUSHING FAMILY, LLC

FOUNDATION

TAPER WIDTH OF DITCH FROM EXISTING WIDTH TO FULL WIDTH
ARCHAEOLOGICALLY SENSITIVE AREA

TO R.O.W. LAYOUT SHEET 114
MATCH LINE STA. 2+030.000

T.H. 33 #1 B
CURVE DATA
Δ = 51°29'15.6"LT
R = 50 000
T = 24 110
L = 44 931
E = 5 510
BANK = 0.020 m/m

T.H. 33 #2 B
CURVE DATA
Δ = 4°47'12.2"RT
R = 800 000
T = 33 437
L = 66 835
E = 0 698
BANK = VARIES TO MATCH INTO EXISTING

TH33 2+057.281
12.192M(40.00')LT.
SR(P)
CONST(T)
REMOVE(T)
(33.527M)(110.02')
(93.27M)(306.0')
TH33 2+030.623
1.685M(5.529')LT.
(13.79TM)(45.27')
END MAINT. AGREE. ZONE#1
STA. TH33 2+031.3 CL.
LENGTH=28.0M(92')
(11.569M)(37.96')
(26.978M)(88.5')
(14.830M)(14.27')
L=27.714M(90.93')
R=62.192M(204.04')
TH33 2+034.244
9.217M(30.24')RT.
(26.383M)(86.56')
TH33 2+057.281
12.192M(40.00')RT.
3.114M(10.22')
TH33 2+035.000
12.192M(40.00')RT.
SR(T)
UTIL(P)
CONST(T)
92.245M(302.64')
L=65.817M(215.94')
R=787.808M(2,584.67')
90.349M(296.42')
L=67.854M(222.62')
R=812.192M(2,664.67')
EXISTING UTILITY POLE AND GUY POLE TO BE RELOCATED BY OTHERS (SEE SPECIAL PROVISIONS)
EXISTING UNDERGROUND CONDUITS TO BE RELOCATED BY OTHERS (SEE SPECIAL PROVISIONS)
UTILITY POLE AND AERIAL WIRES BY OTHERS (SEE SPECIAL PROVISIONS)
PRECAST CONCRETE PRETREATMENT CHAMBER
1
STATE OF VERMONT
AGENCY OF NATURAL RESOURCES
DEPARTMENT OF FISH AND WILDLIFE

POC STA. 2+120.000
END T.H. 33 APPROACH
TH33 2+124.116
12.192M(40.00')LT.
4.473M(14.68')
TH33 2+124.116
7.719M(25.33')LT.
7.544M (24.75')
TH33 2+124.116
0.176M(0.58')LT.
TH33 2+124.116
7.368M(24.17')RT.
4.824M(15.83')
UTILITY POLE,AERIAL WIRES AND CONNECTION TO UNDERGROUND CONDUIT BY OTHERS (SEE SPECIAL PROVISIONS)
END RELINQUISHMENT#1
TH33 2+124.116
12.192M(40.00')RT
4
TOWN OF CORNWALL
HWY. EASE.
3 ROD (49.5') STATUTORY R.O.W.
N/A
FOOTE,
PETER V.

EXIST. TH 33 R.O.W.
GRASS WETLAND
OVERGROWN PASTURE LAND
PASTURE
DIRT DRIVE
GRASS DITCH
DRAINAGE DITCH
BARBED WIRE FENCE
WIRE FENCE
TREES AND OVERHANG
P.I. STA 2+090.718
P.T. STA 2+124.116
P.C. STA 2+036.46
P.R.C. STA 2+057.28

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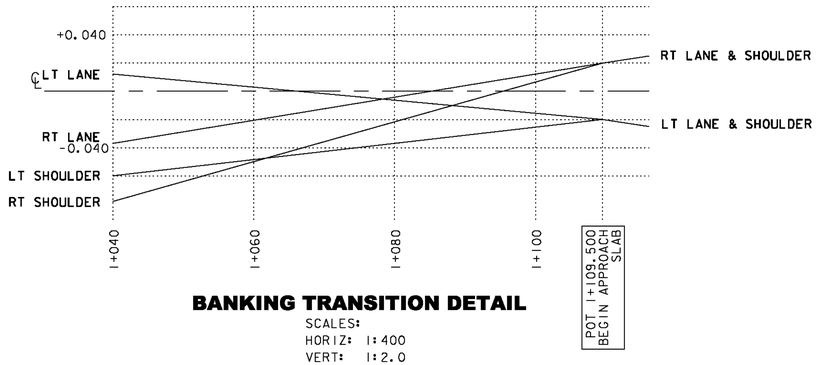
0 10 20 30
SCALE IN METERS

FOR R.O.W. USE ONLY

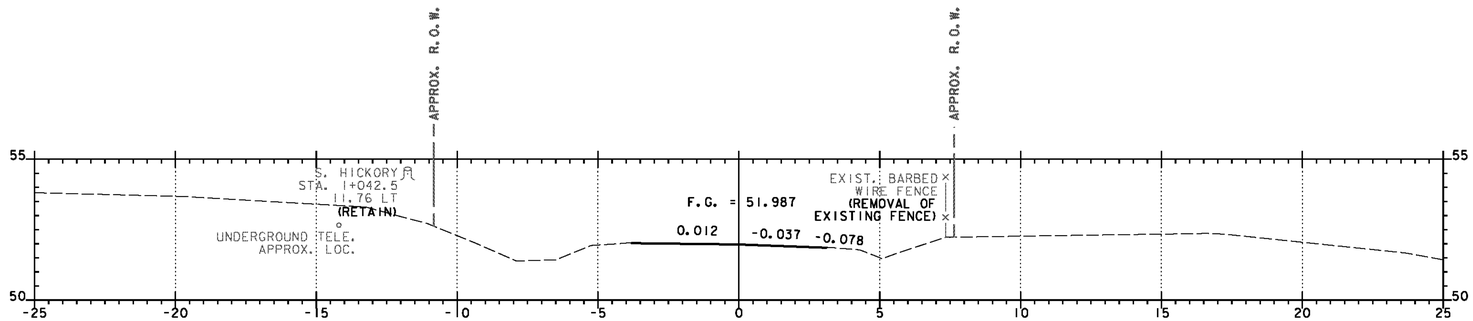
DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME:	
IPARM FILE NAME:	PLOT DATE: 16-FEB-2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
RIGHT OF WAY LAYOUT SHEET 5	SHEET: 117 OF 144

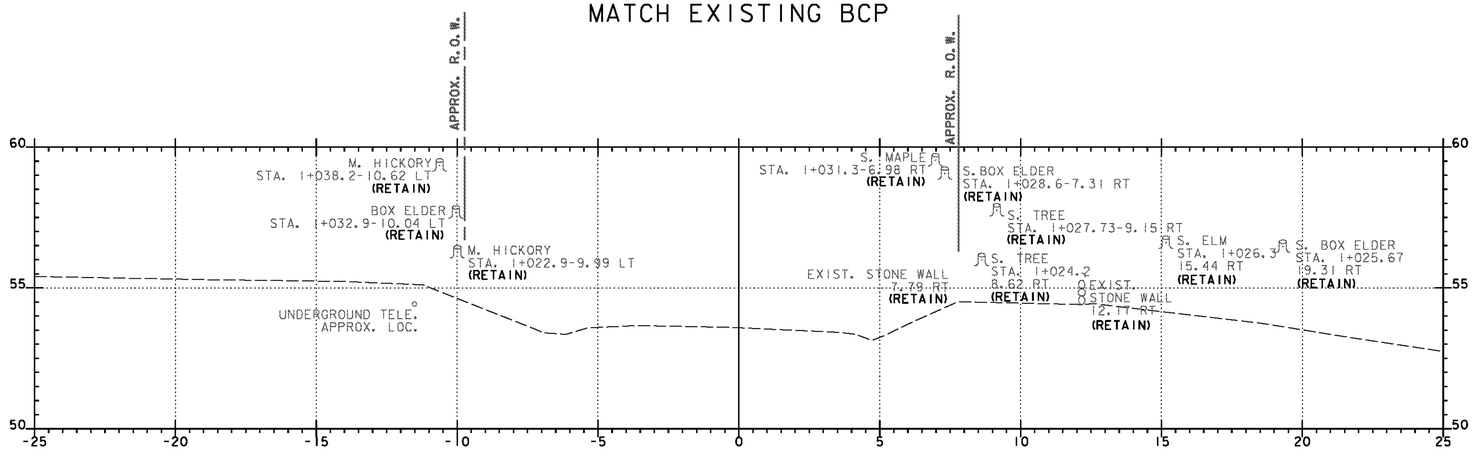


BANKING TRANSITION DETAIL

SCALES:
HORIZ: 1:400
VERT: 1:2.0



I+040.000
BEGIN APPROACH
MATCH EXISTING BCP



I+020

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

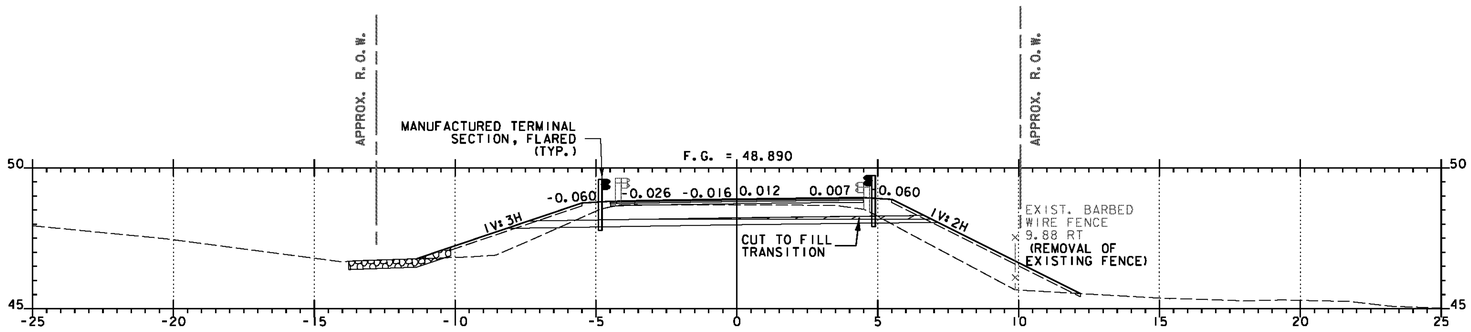
Mainline
VT 125

STA. 1+020 TO STA. 1+040

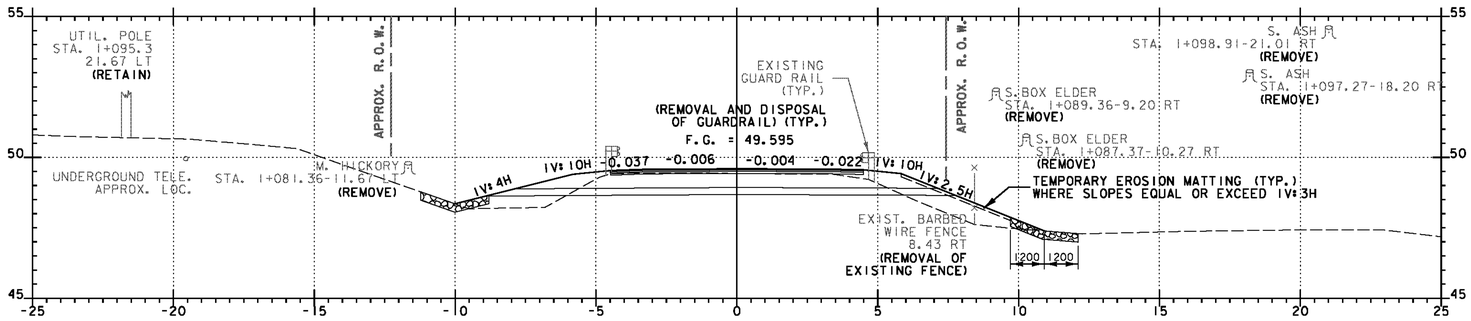
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

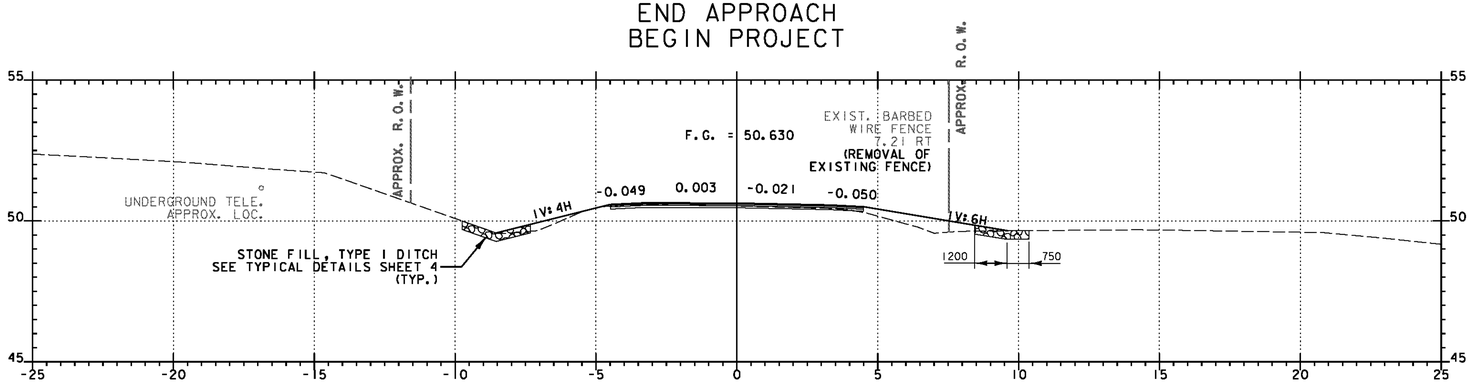
DESIGN FILE NAME: z85e042xs5.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY — PLOT DATE: 2/5/2010
SQUAD LEADER: MARTHA EVANS-MONGEON — SURVEY DATE: 1996&1999
MAINLINE CROSS SECTION SHEET 1 — DRAWN BY: ERIK ATKINS
SHEET: 118 OF 144



1+100



1+080.000
END APPROACH
BEGIN PROJECT



1+060

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

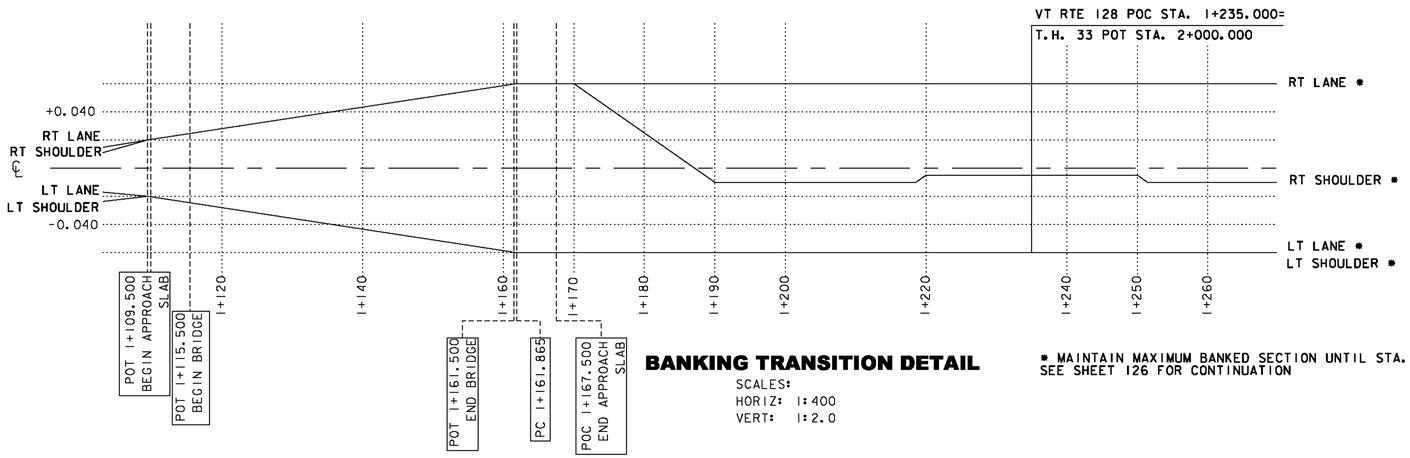
Mainline
VT 125

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

STA. 1+060 TO STA. 1+100

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

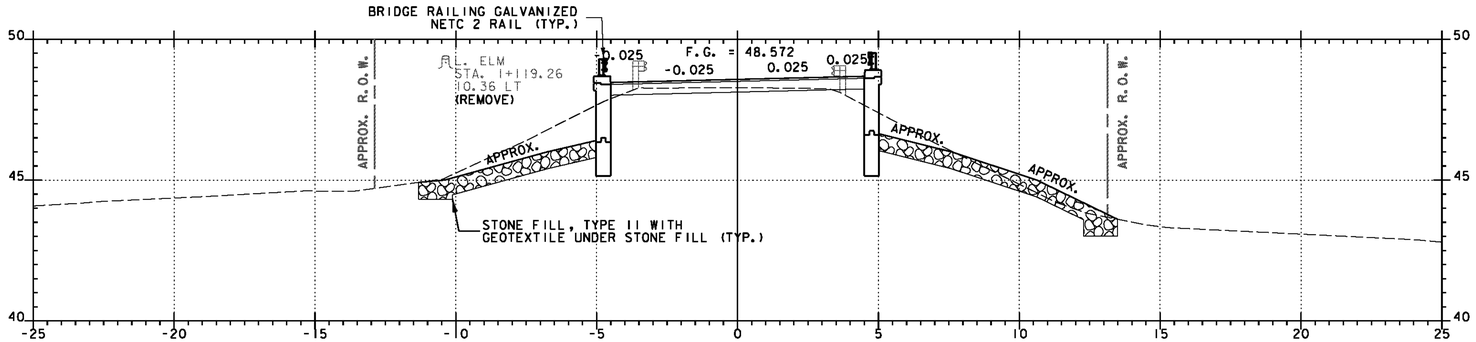
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
MAINLINE CROSS SECTION SHEET 2	SHEET: 119 OF 144



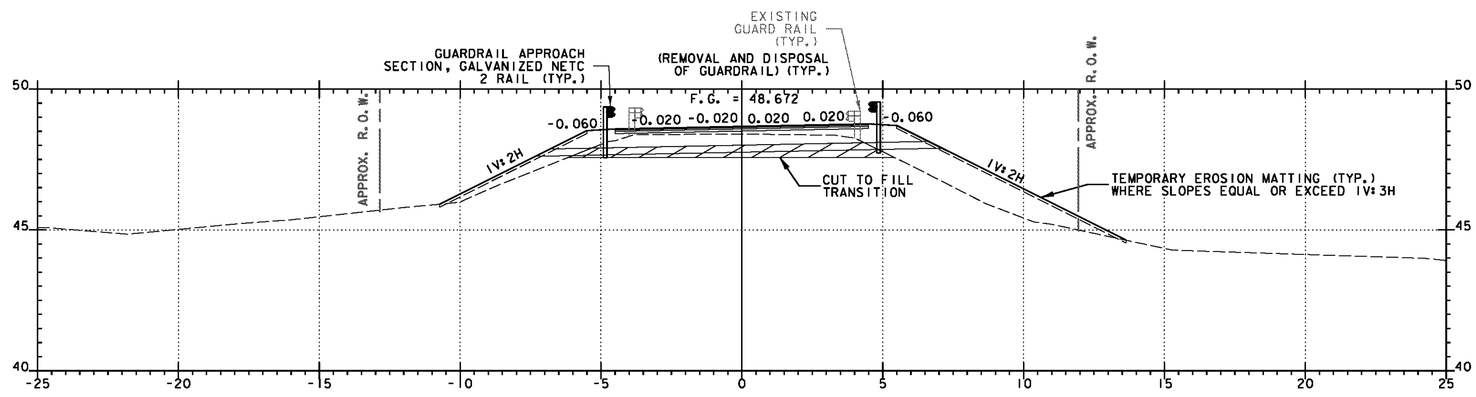
BANKING TRANSITION DETAIL

SCALES:
HORIZ: 1:400
VERT: 1:2.0

* MAINTAIN MAXIMUM BANKED SECTION UNTIL STA. 1+312.485
SEE SHEET 126 FOR CONTINUATION



POT 1+115.500
STOP ROADWAY
BEGIN BRIDGE



POT 1+109.500
BEGIN APPROACH SLAB

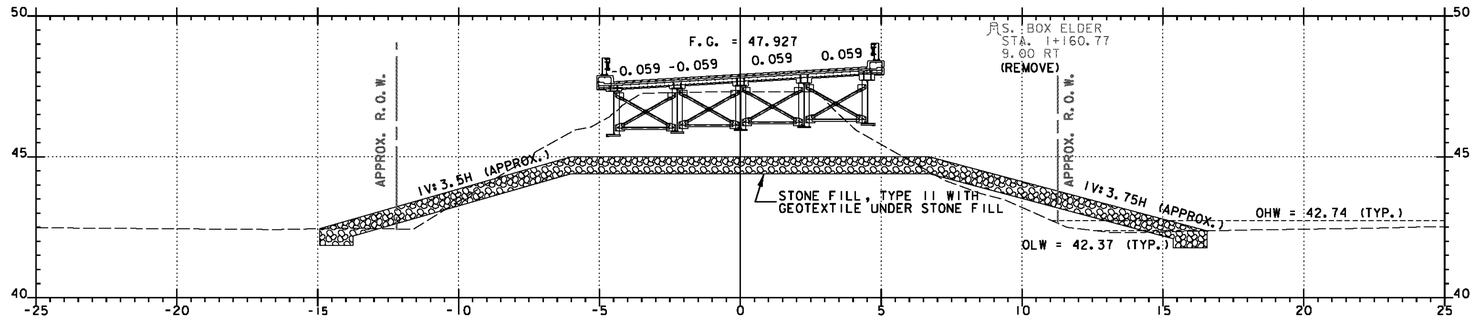
0 1 2 4 6 8 10
SCALE = 1:100

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

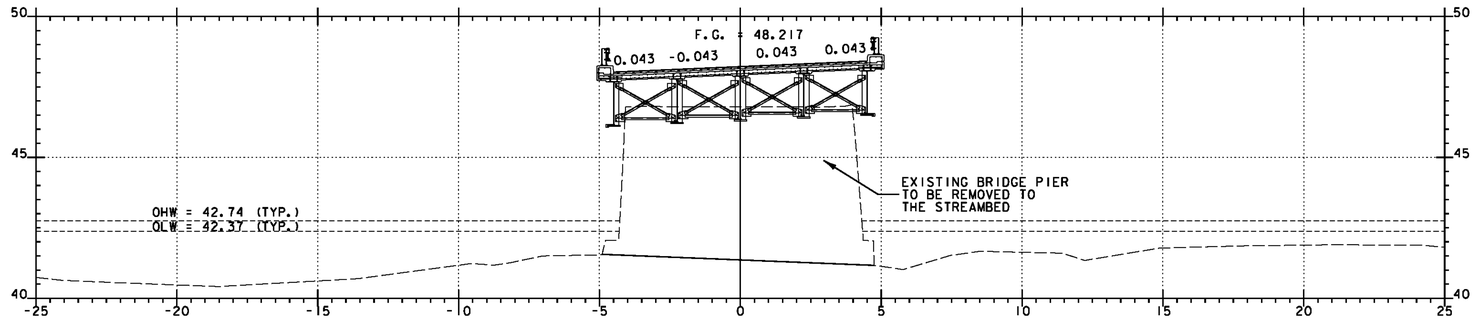
Mainline
VT 125

STA. 1+109.500 TO STA. 1+115.500

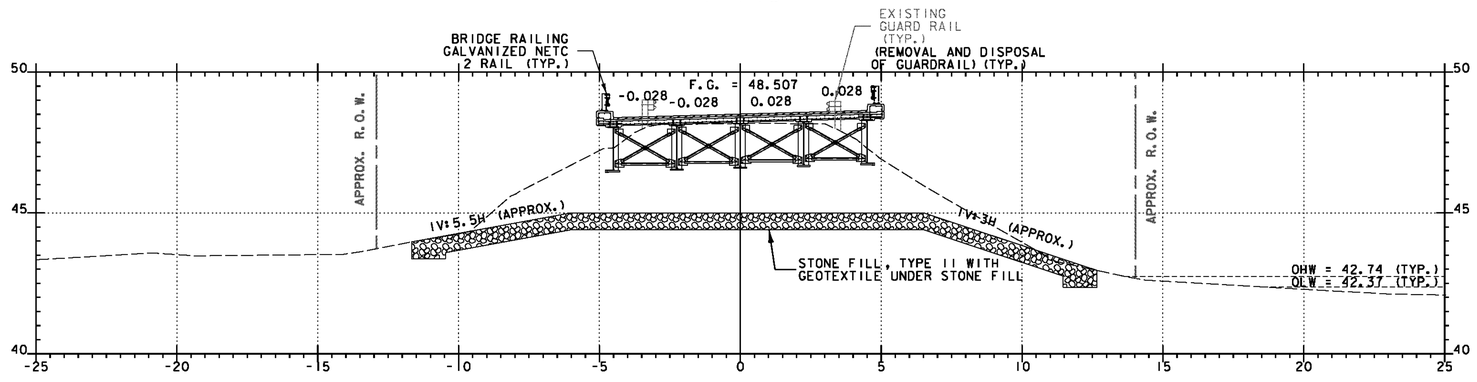
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
MAINLINE CROSS SECTION SHEET 3	SHEET: 120 OF 144



1+160



1+140



1+120

0 1 2 4 6 8 10

SCALE = 1:100

Mainline
VT 125

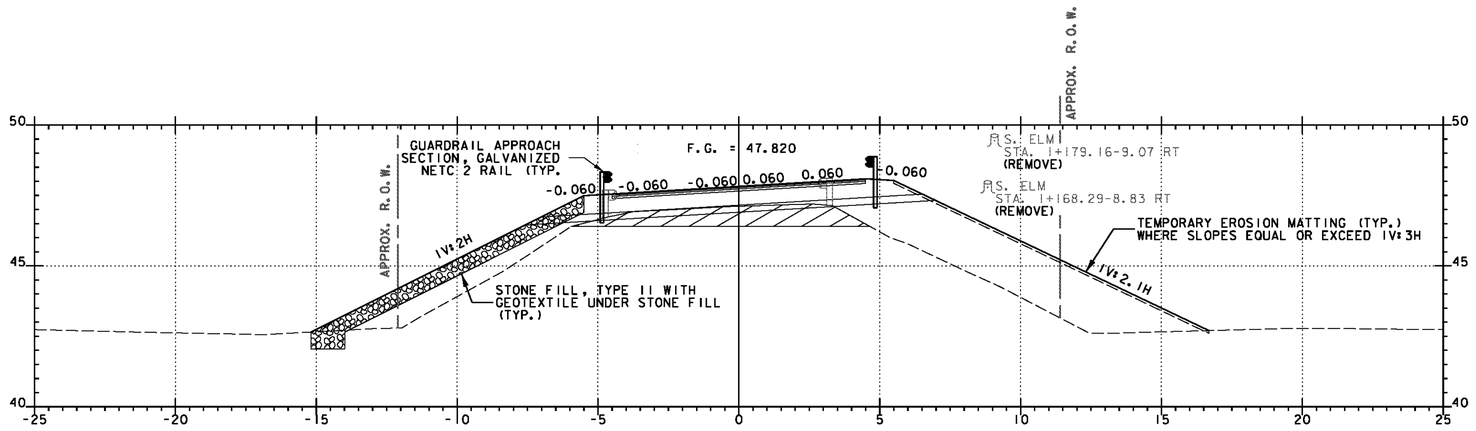
STA. 1+120 TO STA. 1+160

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

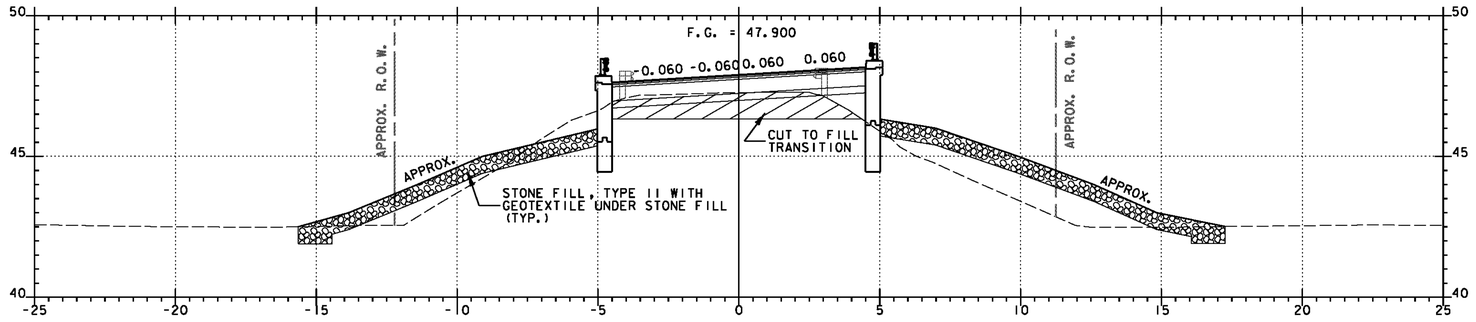
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042xs5.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY
SQUAD LEADER: MARTHA EVANS-MONGEON
MAINLINE CROSS SECTION SHEET 4

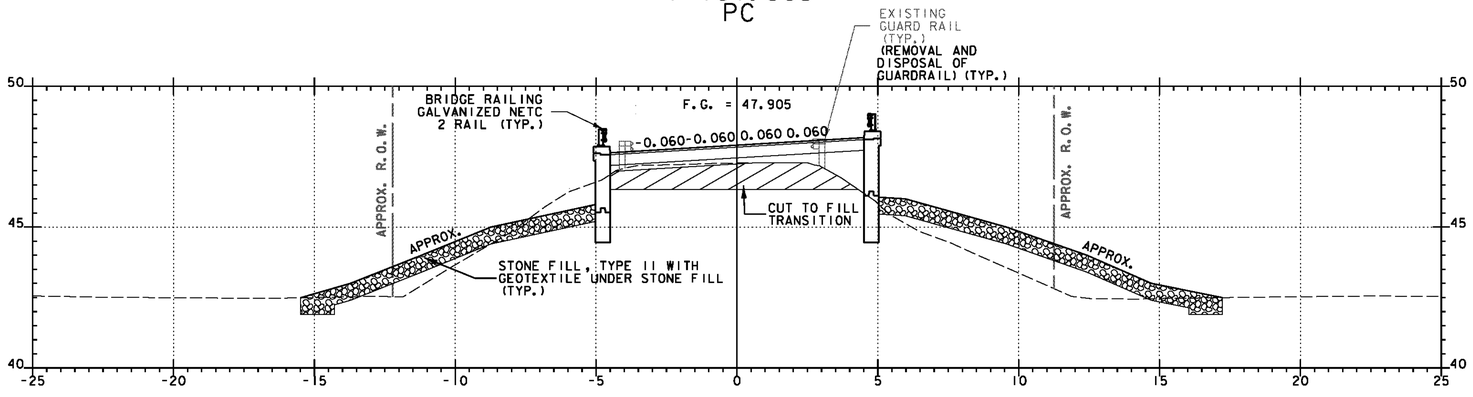
PLOT DATE: 2/12/2010
SURVEY DATE: 1996&1999
DRAWN BY: ERIK ATKINS
SHEET: 121 OF 144



POC 1+167.500
END APPROACH SLAB



1+161.865
PC



POT 1+161.500
END BRIDGE
RESUME ROADWAY

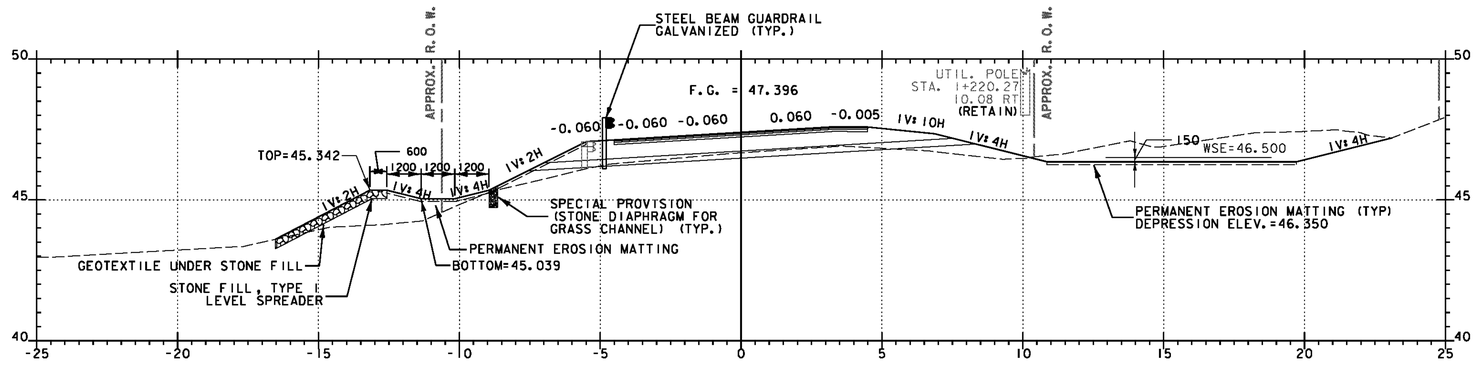
Mainline
VT 125

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

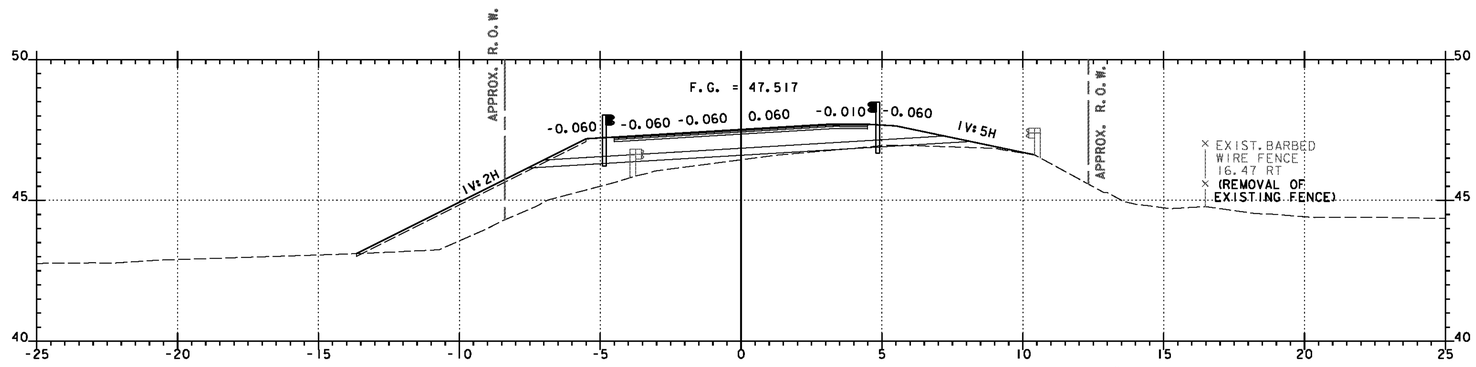
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

STA. 1+161.500 TO STA. 1+167.500

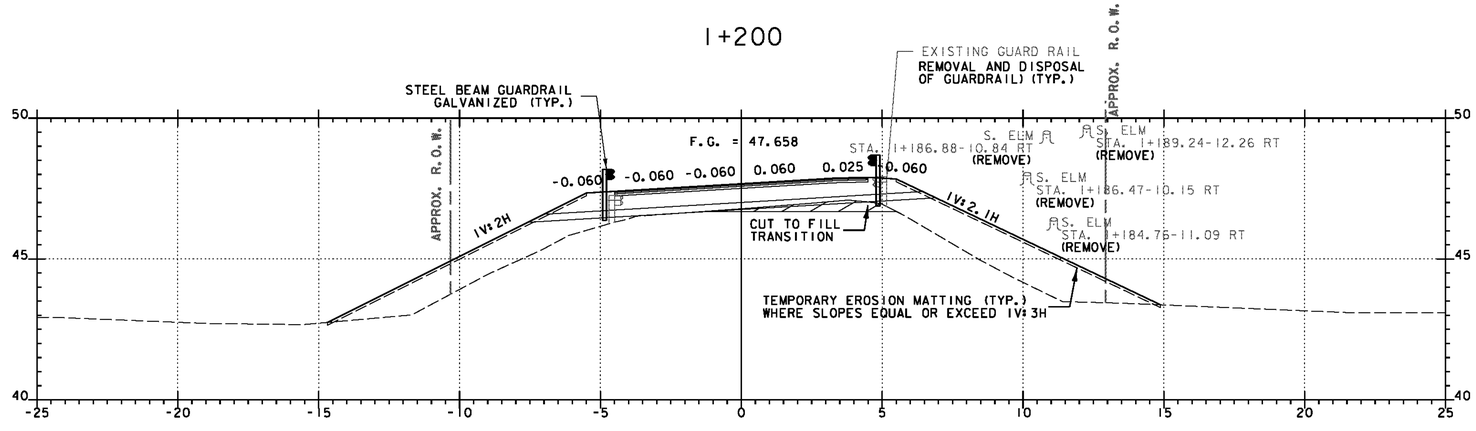
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/15/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
MAINLINE CROSS SECTION SHEET 5	SHEET: 122 OF 144



1+220



1+200



1+180

0 1 2 4 6 8 10

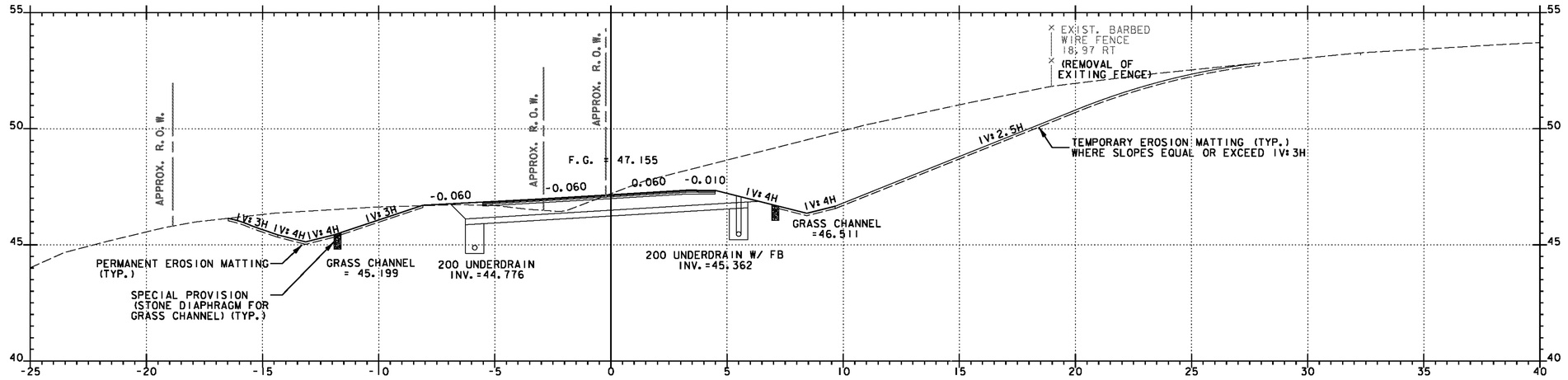
SCALE = 1:100

Mainline
VT 125

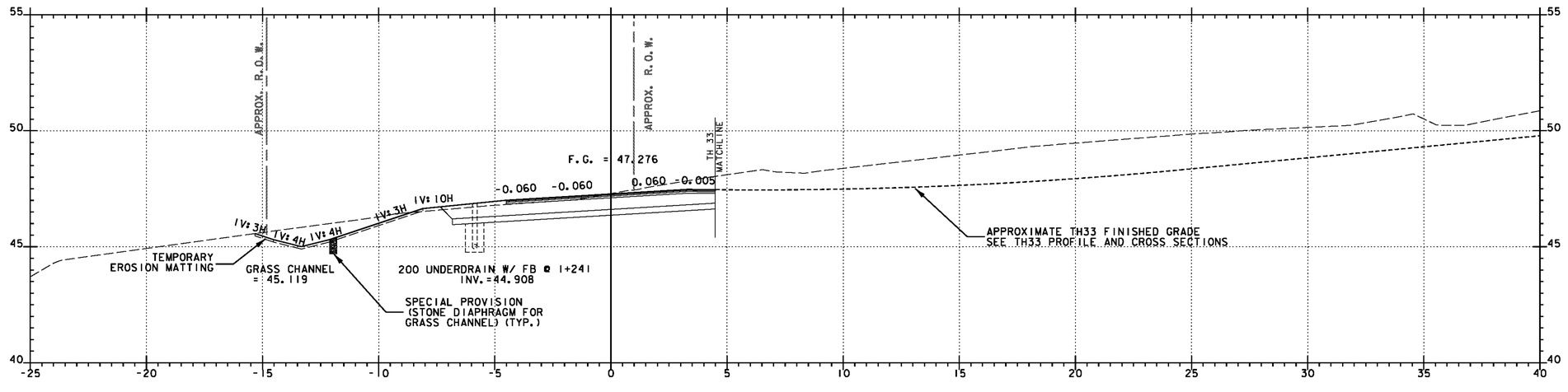
STA. 1+180 TO STA. 1+220

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/12/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
MAINLINE CROSS SECTION SHEET 6	SHEET: 123 OF 144



1+260



1+240

0 1 2 4 6 8 10

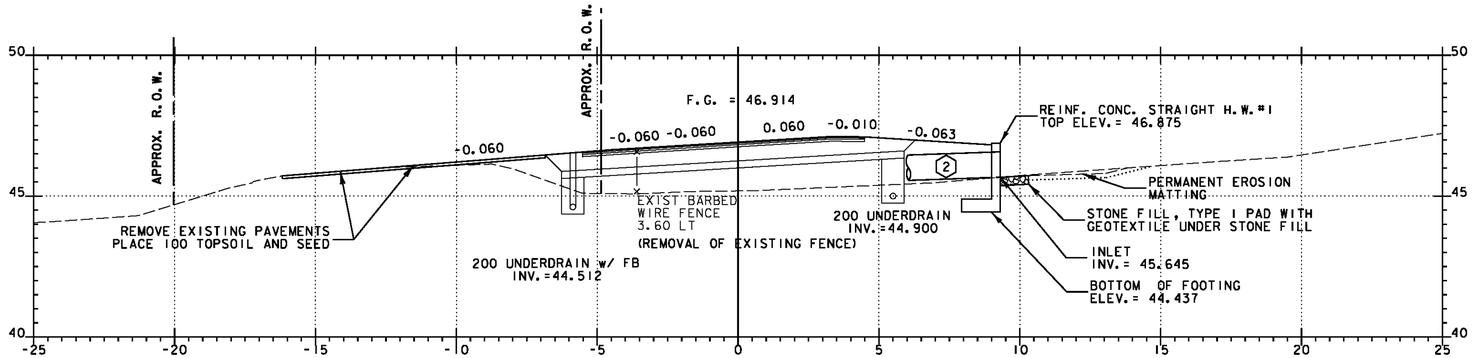
SCALE = 1:100

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

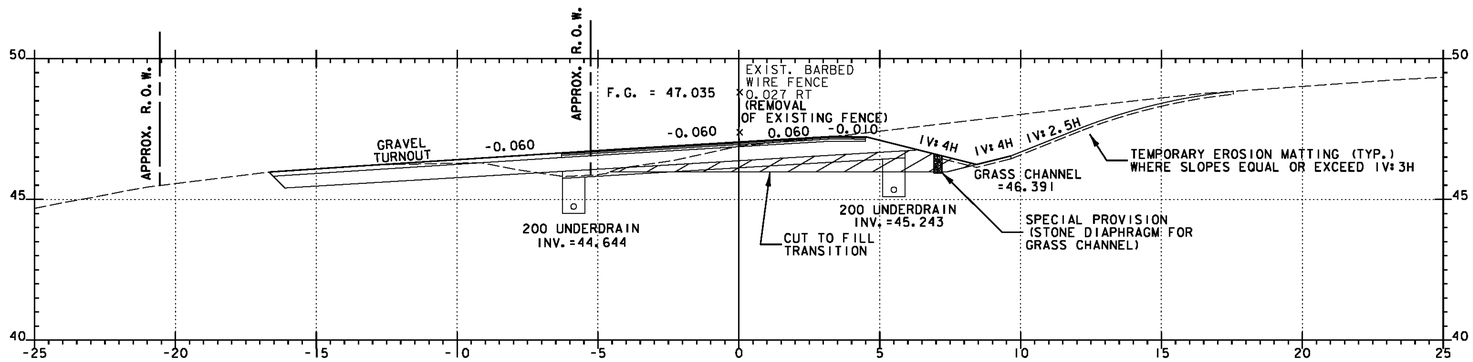
Mainline
VT 125

STA. 1+240 TO STA. 1+260

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
MAINLINE CROSS SECTION SHEET 7	SHEET: 124 OF 144



1+300



1+280

0 1 2 4 6 8 10

SCALE = 1:100

Mainline
VT 125

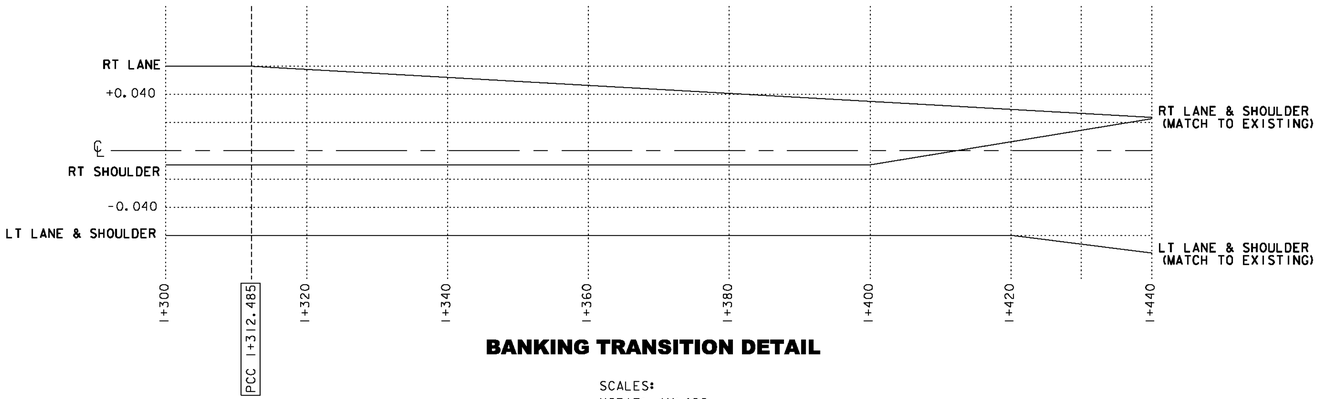
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

STA. 1+280 TO STA. 1+300

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

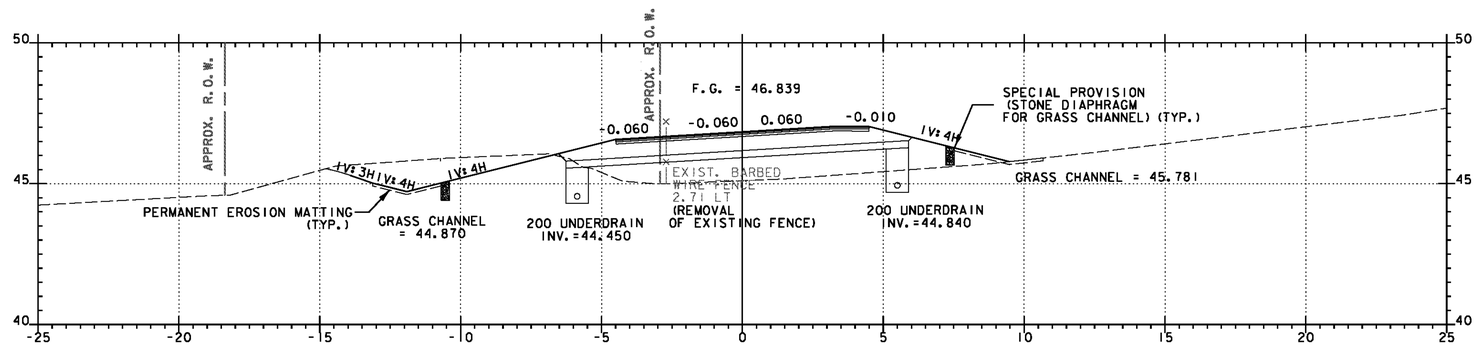
DESIGN FILE NAME: z85e042xs5.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY
SQUAD LEADER: MARTHA EVANS-MONGEON
MAINLINE CROSS SECTION SHEET 8

PLOT DATE: 2/11/2010
SURVEY DATE: 1996&1999
DRAWN BY: ERIK ATKINS
SHEET: 125 OF 144

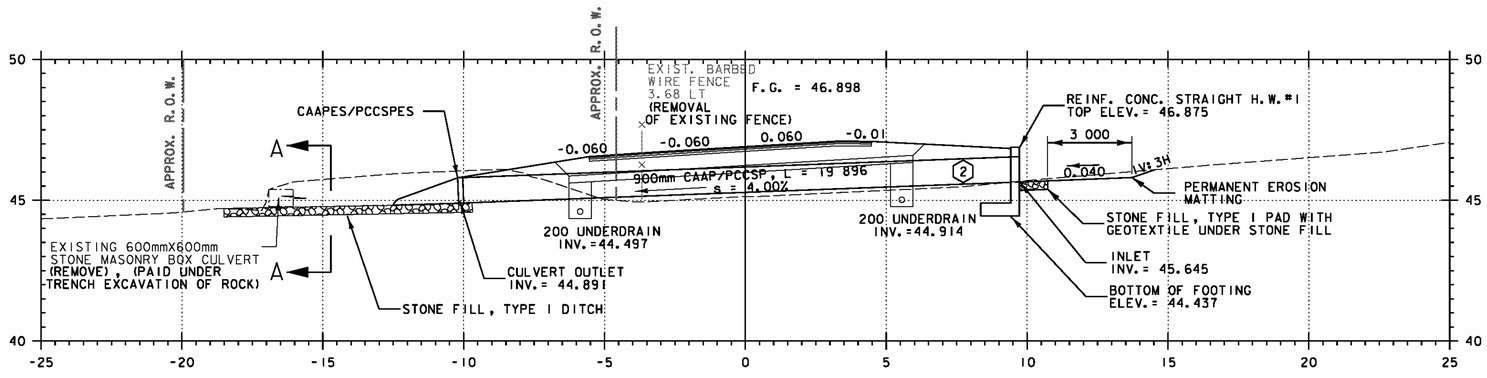


BANKING TRANSITION DETAIL

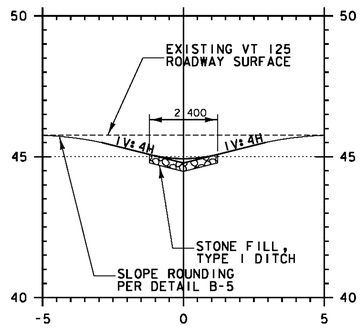
SCALES:
HORIZ: 1V:400
VERT: 1V:2.0



PCC I+312.485



I+302.713
SKEWED 17°55'13"



TYPICAL
SECTION A-A

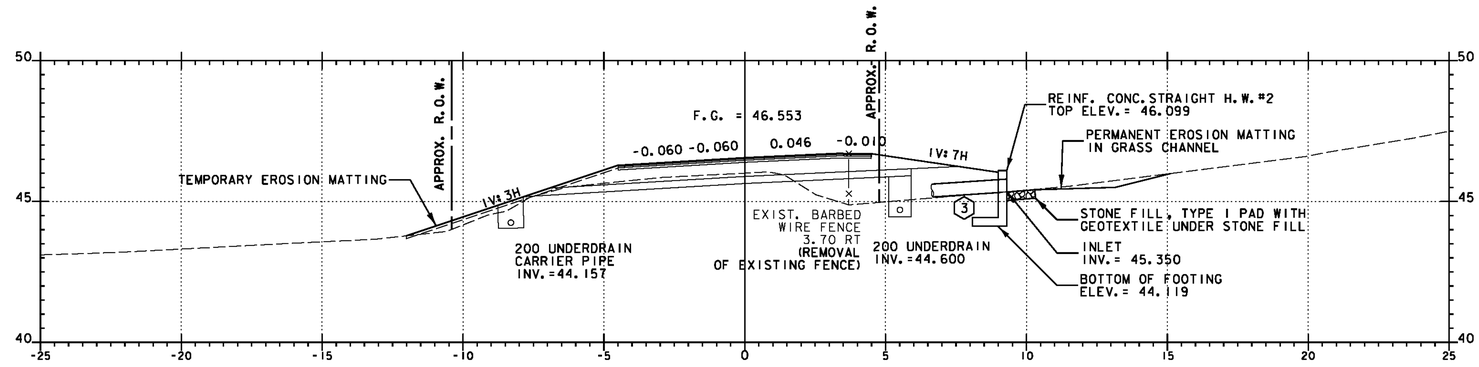
0 1 2 4 6 8 10
SCALE = 1:100

Mainline
VT 125

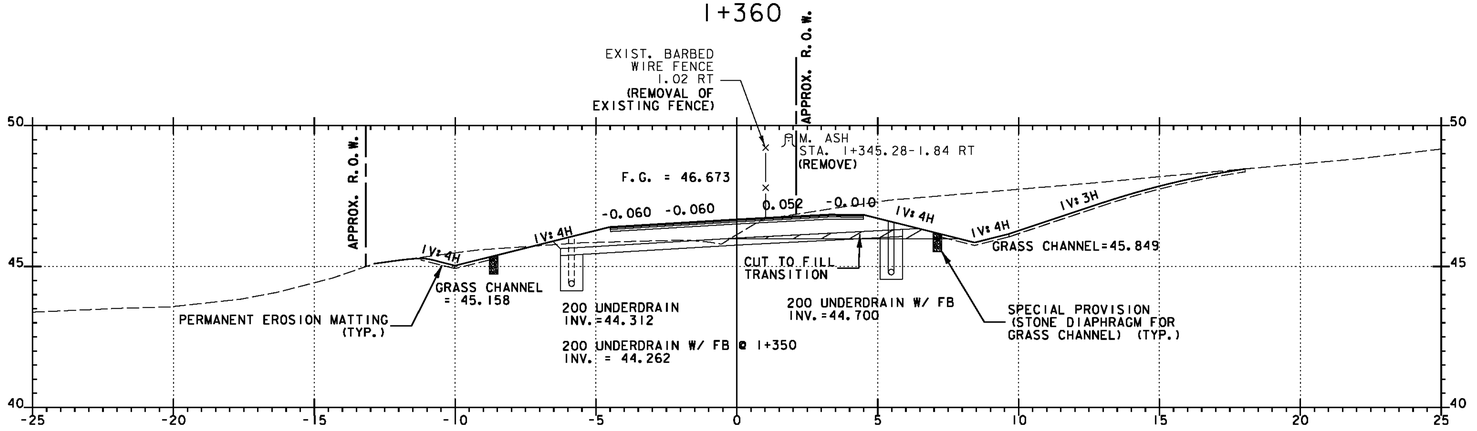
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

STA. I+302.713 TO STA. I+312.485

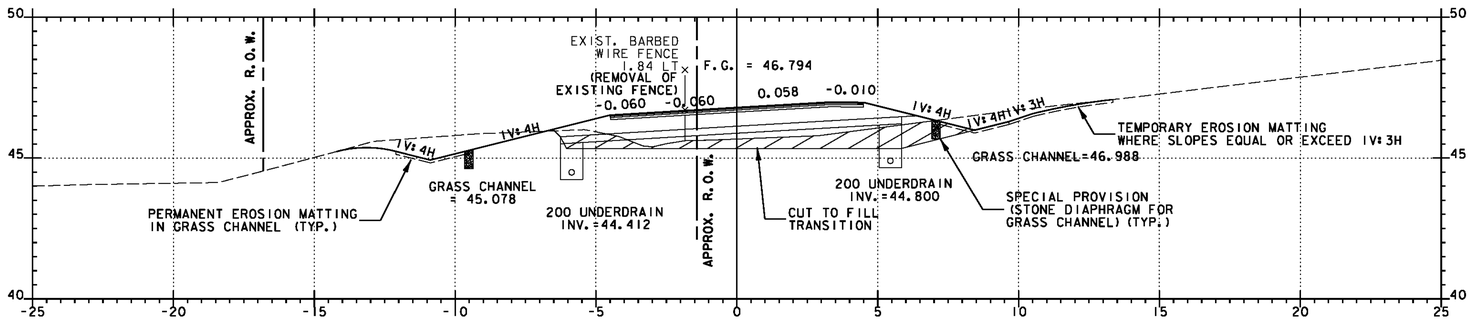
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/12/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
MAINLINE CROSS SECTION SHEET 9	SHEET: 126 OF 144



1+360



1+340



1+320

0 1 2 4 6 8 10

SCALE = 1:100

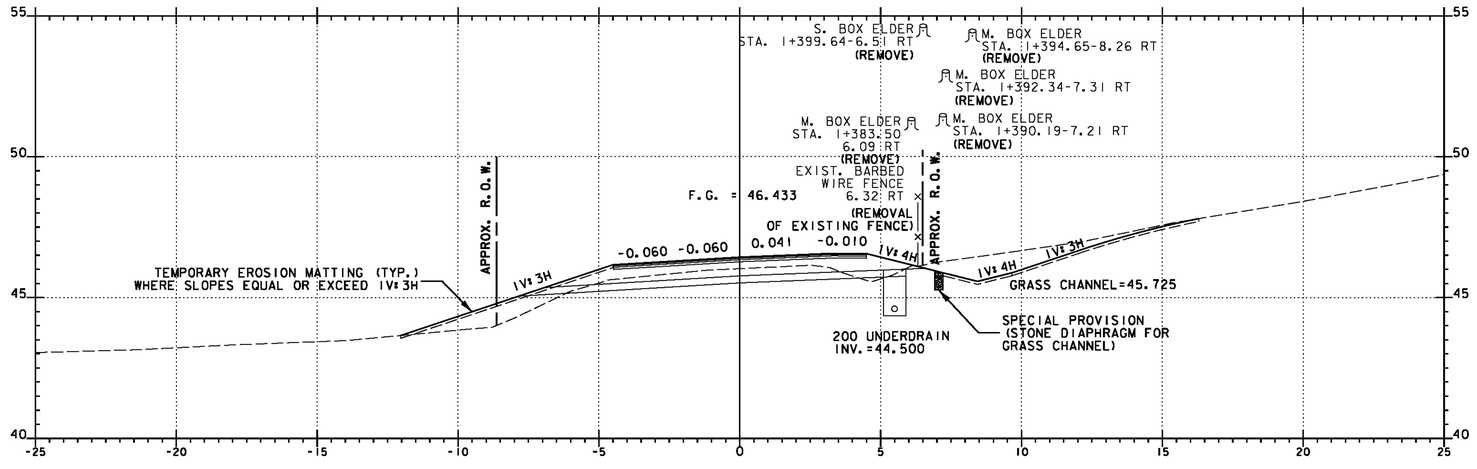
Mainline
VT 125

STA. 1+320 TO STA. 1+360

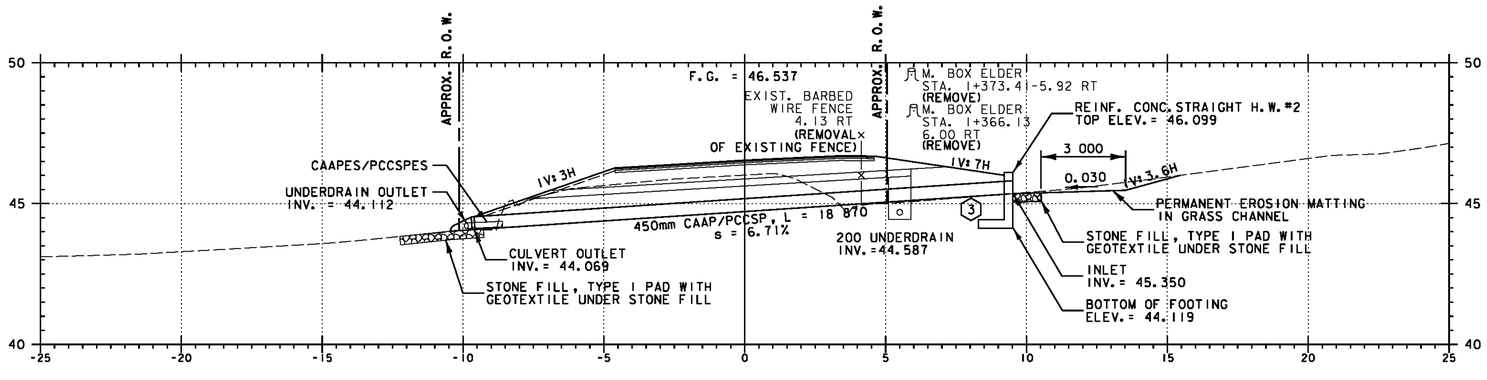
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/11/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
MAINLINE CROSS SECTION SHEET 10	SHEET: 127 OF 144



1+380



1+362.585
SKEWED 12°27'20"

0 1 2 4 6 8 10

SCALE = 1:100

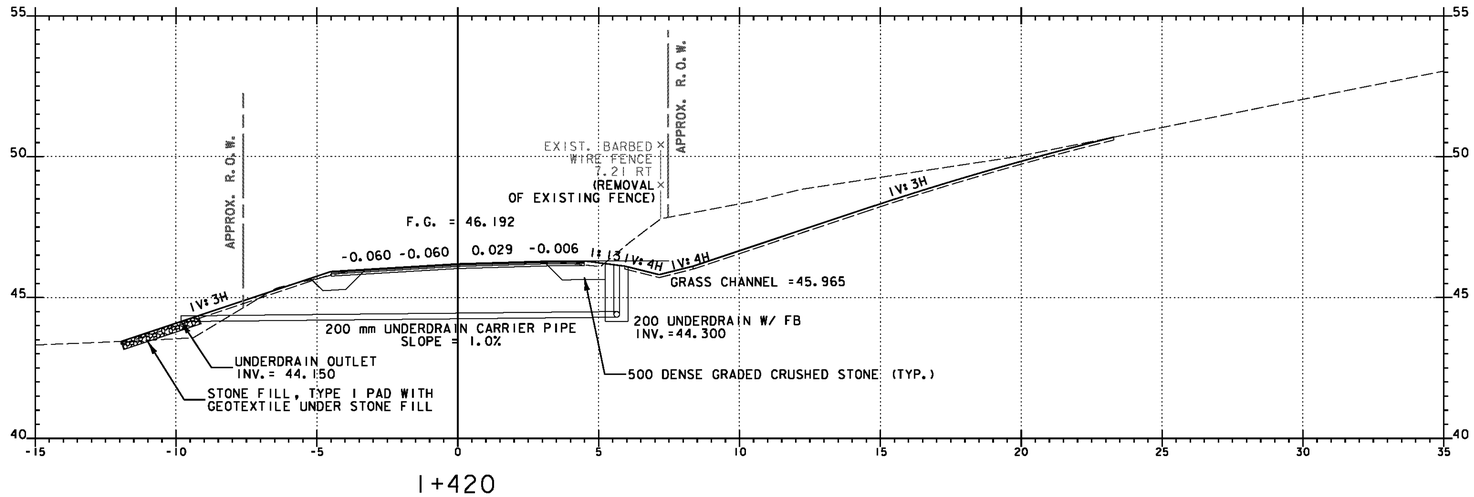
Mainline
VT 125

STA. 1+362.585 TO STA. 1+380

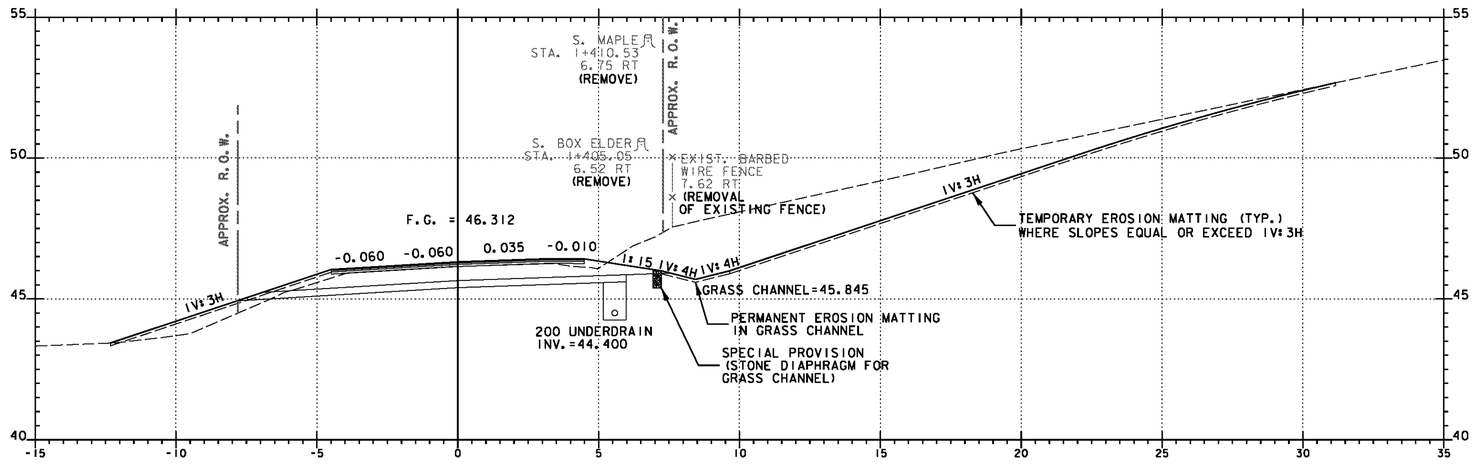
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042xs5.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY — PLOT DATE: 2/11/2010
SQUAD LEADER: MARTHA EVANS-MONGEON — SURVEY DATE: 1996&1999
MAINLINE CROSS SECTION SHEET II — DRAWN BY: ERIK ATKINS
SHEET: 128 OF 144



1+420



1+400.000
END PROJECT
BEGIN APPROACH

0 1 2 4 6 8 10

SCALE = 1:100

Mainline
VT 125

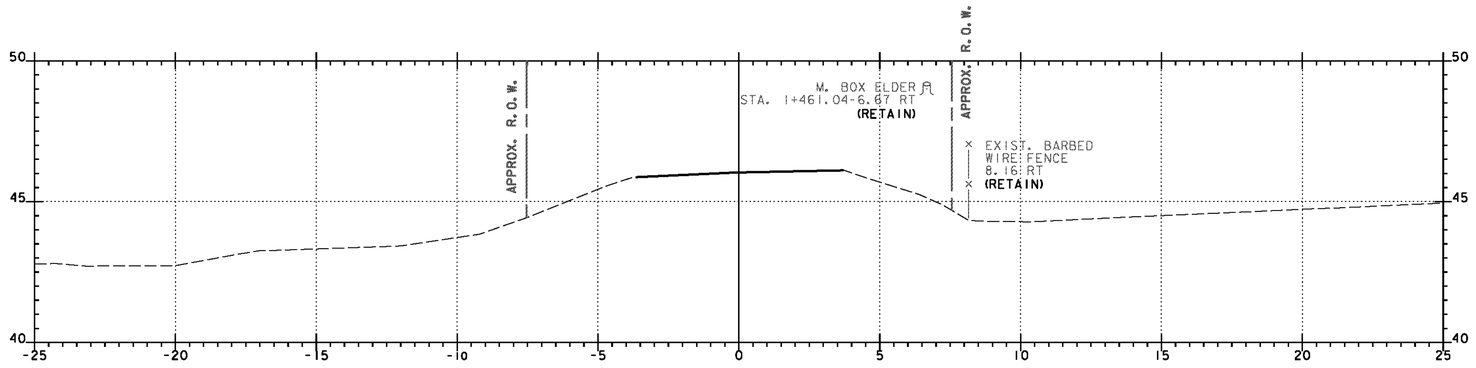
STA. 1+400 TO STA. 1+420

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

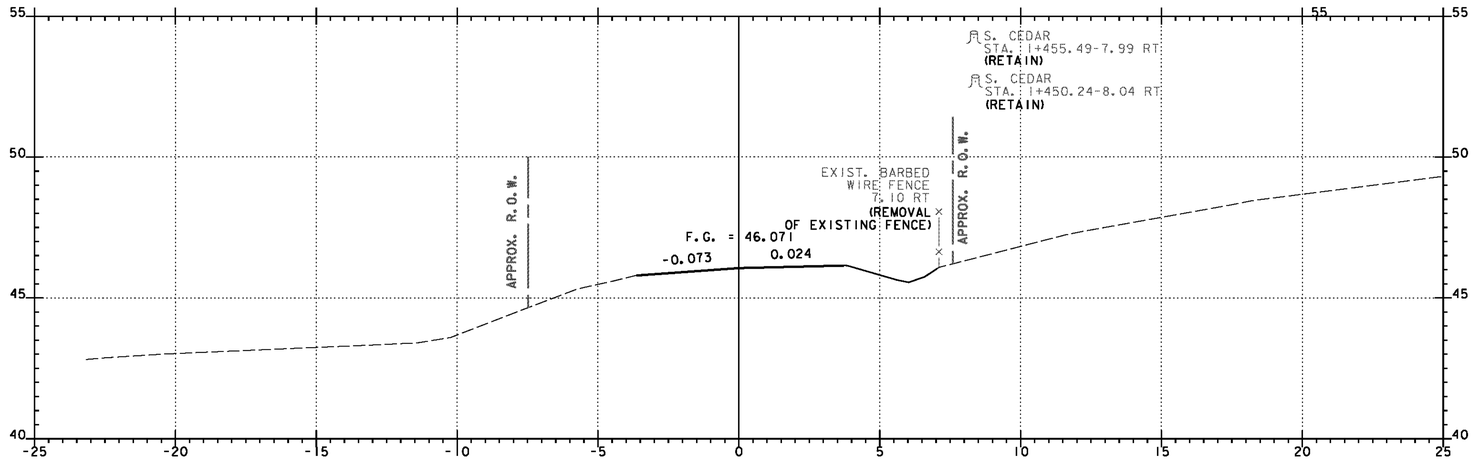
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042xs5.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY
SQUAD LEADER: MARTHA EVANS-MONGEON
MAINLINE CROSS SECTION SHEET 12

PLOT DATE: 2/5/2010
SURVEY DATE: 1996&1999
DRAWN BY: ERIK ATKINS
SHEET: 129 OF 144



1+460



1+440.000
END APPROACH
MATCH EXISTING BCP

0 1 2 4 6 8 10

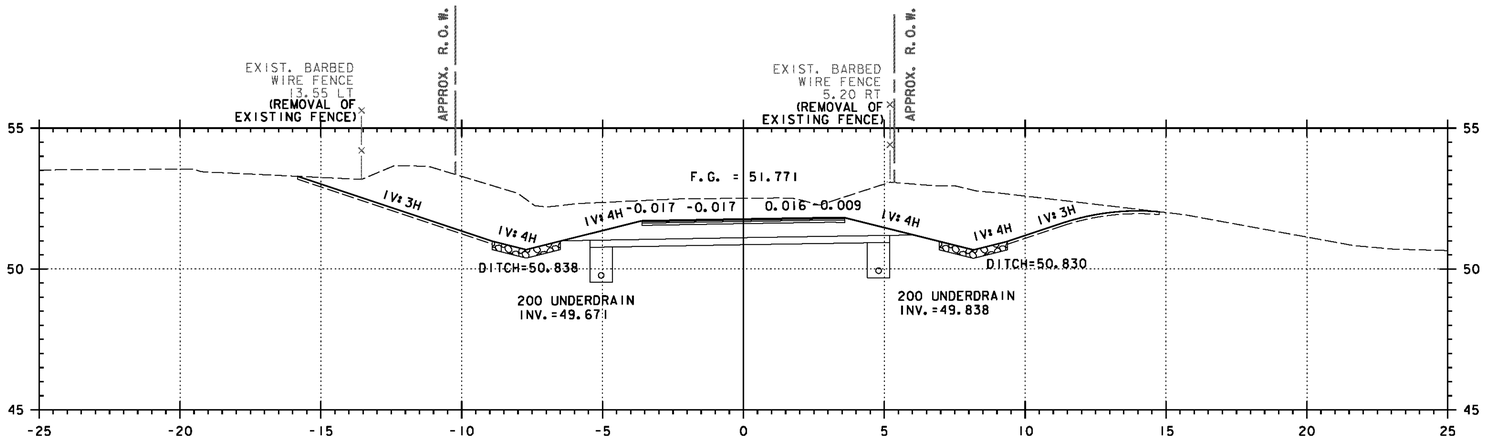
SCALE = 1:100

Mainline
VT 125

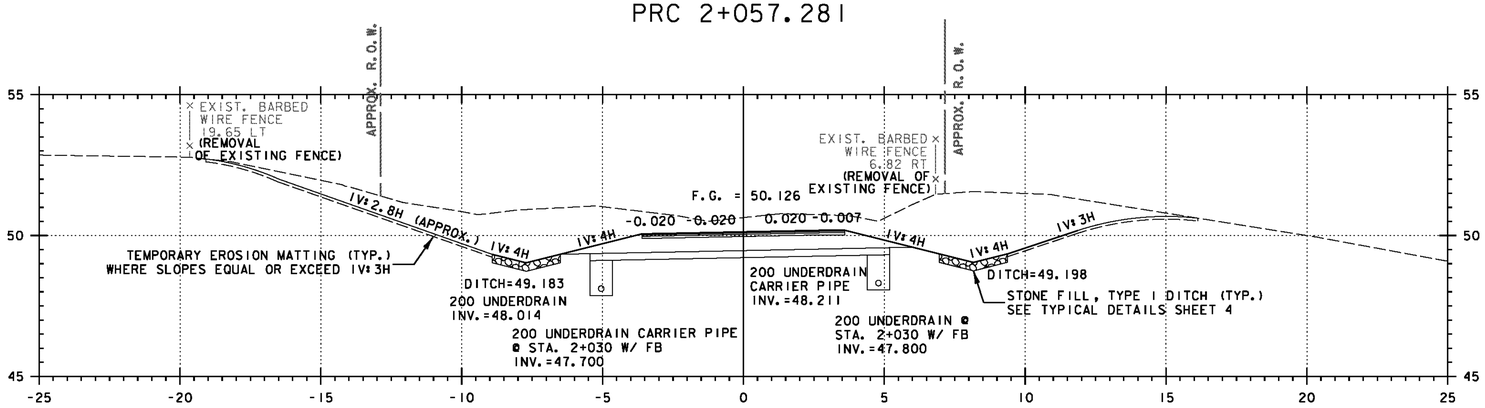
STA. 1+440 TO STA. 1+460

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

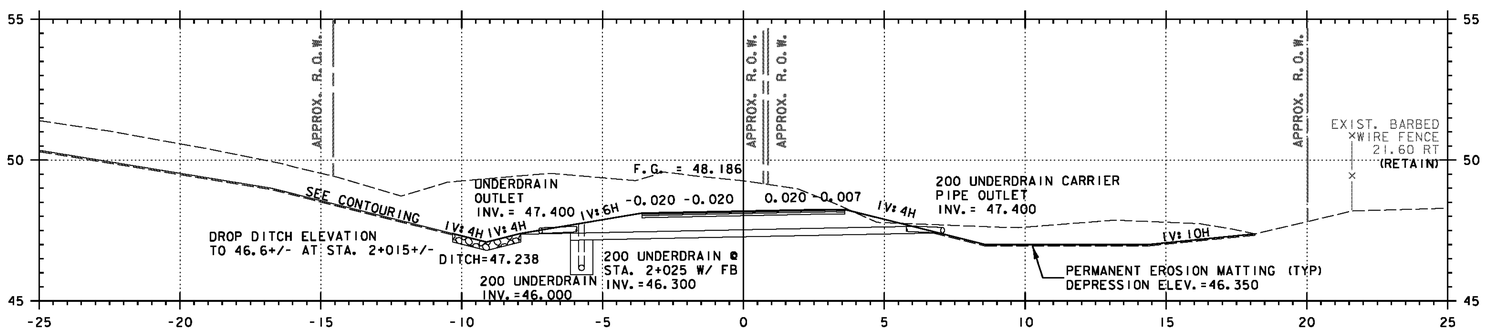
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
MAINLINE CROSS SECTION SHEET 13	SHEET: 130 OF 144



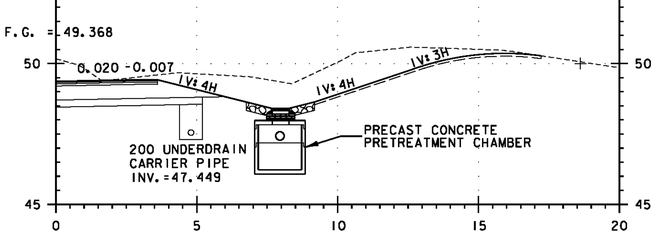
PRC 2+057.281



2+040



2+020



CB @ 2+032.19

0 1 2 4 6 8 10

SCALE = 1:100

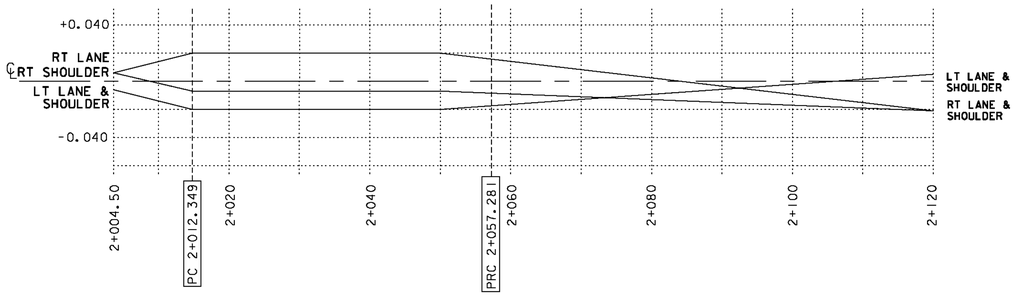
STA. 2+000.000
BEGIN APPROACH

Sideline
TH 33

STA. 2+020 TO STA. 2+057.281

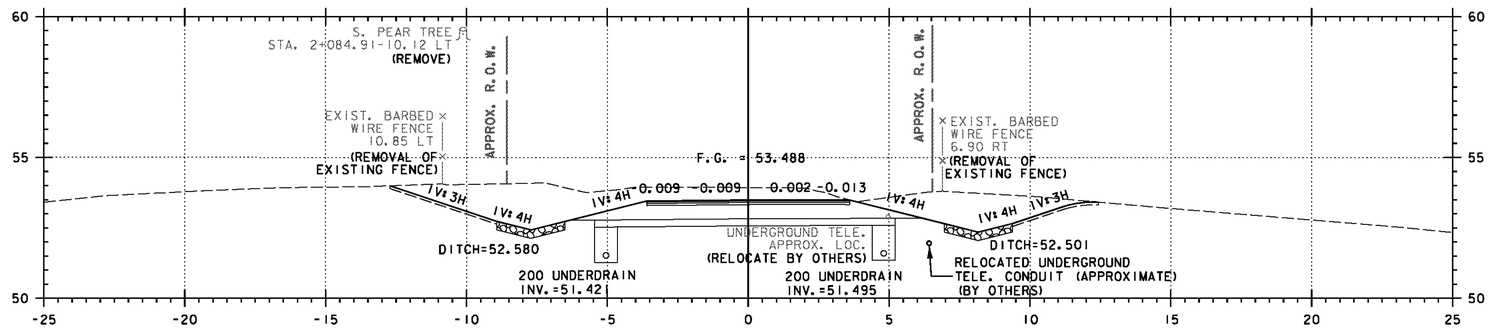
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/15/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
SIDELINE CROSS SECTION SHEET 1	SHEET: 131 OF 144

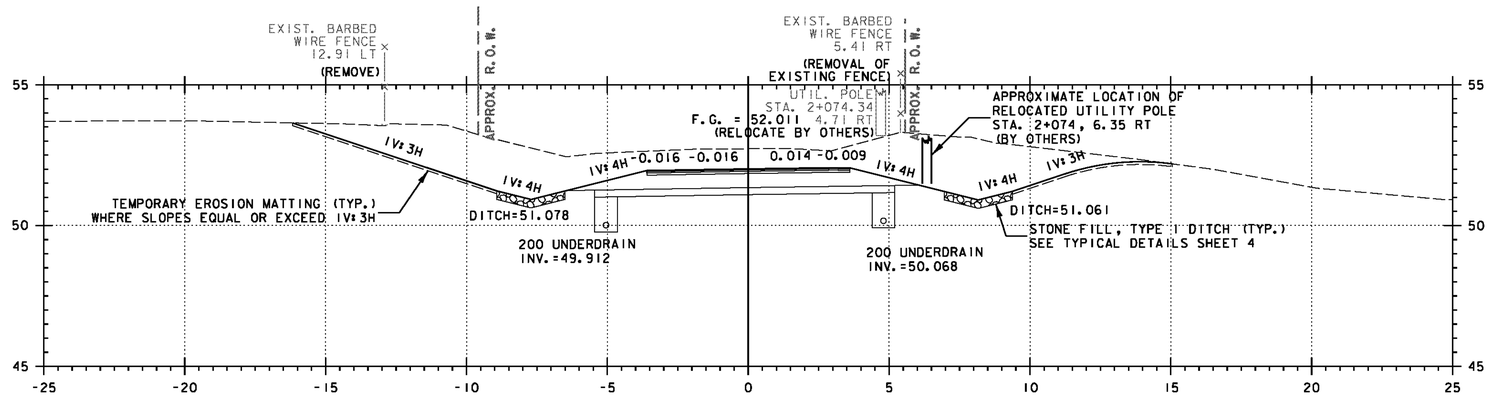


BANKING TRANSITION DETAIL

SCALES:
HORIZ: 1:400
VERT: 1:2.0



2+080



2+060

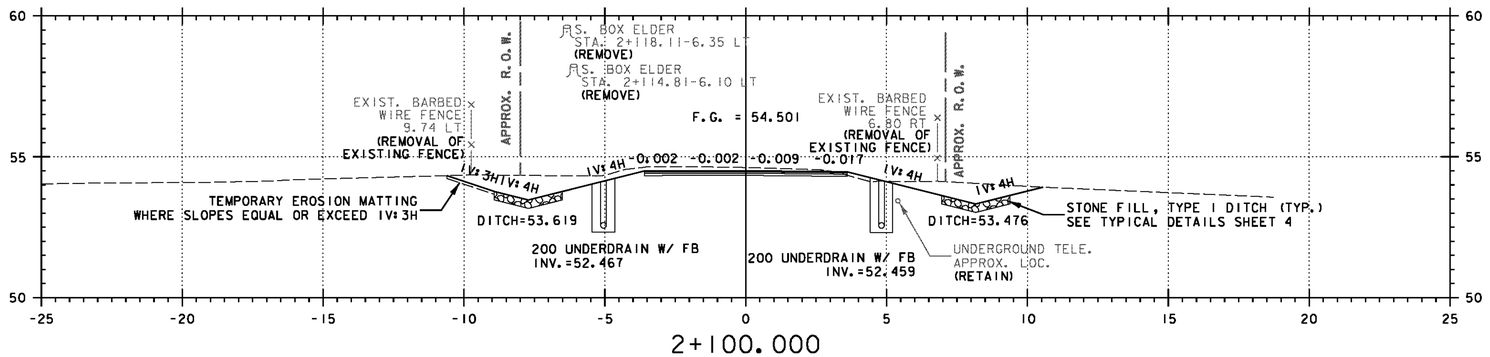
0 1 2 4 6 8 10
SCALE = 1:100

Sideline
TH 33

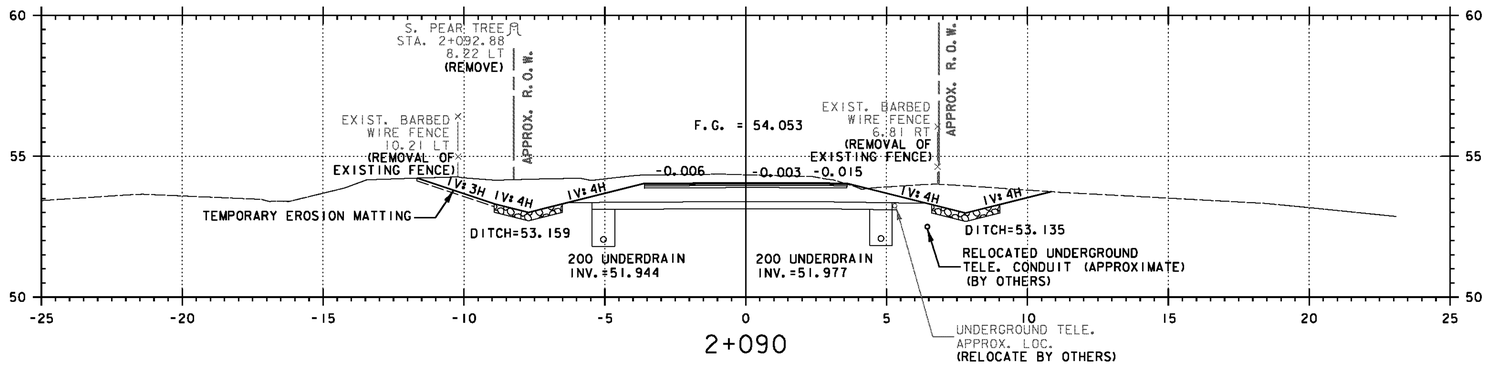
STA. 2+060 TO STA. 2+080

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/12/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
SIDELINE CROSS SECTION SHEET 2	SHEET: 132 OF 144



2+100.000



2+090

0 1 2 4 6 8 10

SCALE = 1:100

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83(92)

Sideline TH 33

STA. 2+090 TO STA. 2+100

PROJECT: CORNWALL

PROJECT NO.: BRS 0172(6)

DESIGN FILE NAME: z85e042xs5.dgn

IPARM FILE NAME:

SURVEYED BY: VTRANS & VT SURVEY

SQUAD LEADER: MARTHA EVANS-MONGEON

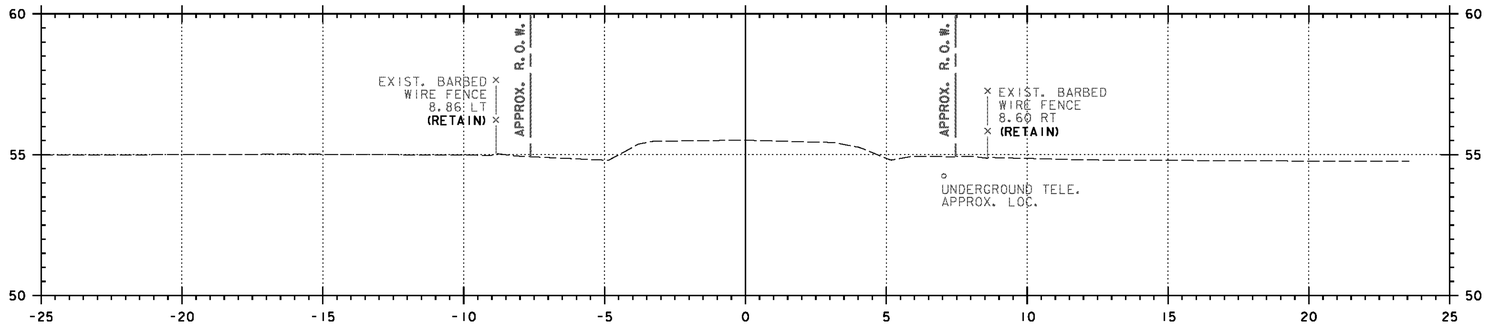
SIDELINE CROSS SECTION SHEET 3

PLOT DATE: 2/5/2010

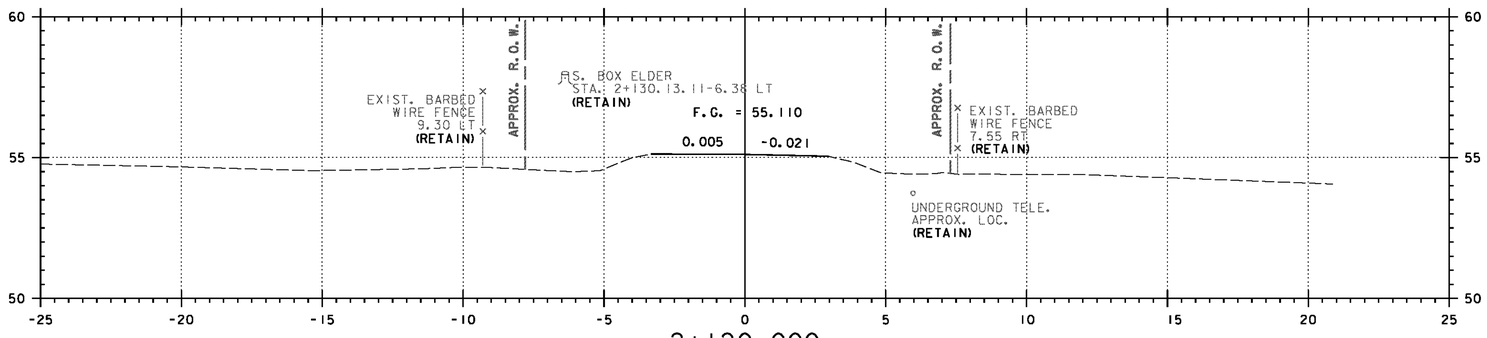
SURVEY DATE: 1996&1999

DRAWN BY: ERIK ATKINS

SHEET: 133 OF 144



2+140



2+120.000
END APPROACH
MATCH EXISTING BCP

0 1 2 4 6 8 10

SCALE = 1:100

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83(92)

Sideline TH 33

STA. 2+120 TO STA. 2+140

PROJECT: CORNWALL

PROJECT NO.: BRS 0172(6)

DESIGN FILE NAME: z85e042xs5.dgn

IPARM FILE NAME:

SURVEYED BY: VTRANS & VT SURVEY

SQUAD LEADER: MARTHA EVANS-MONGEON

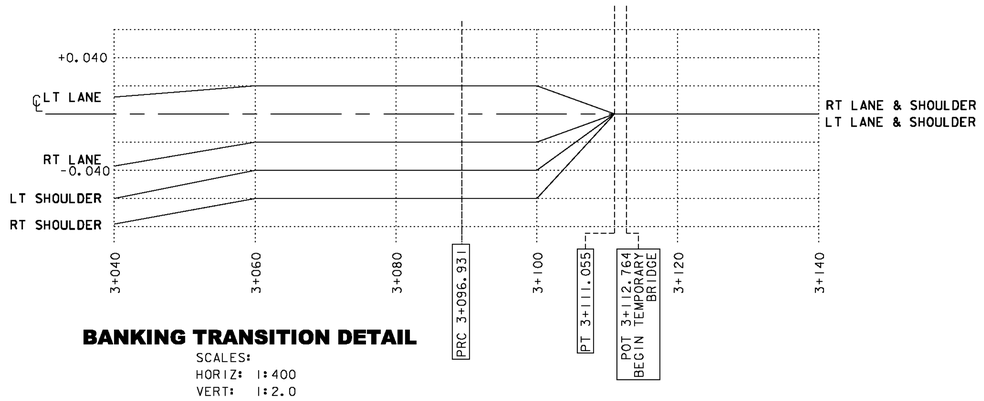
SIDELINE CROSS SECTION SHEET 4

PLOT DATE: 2/5/2010

SURVEY DATE: 1996&1999

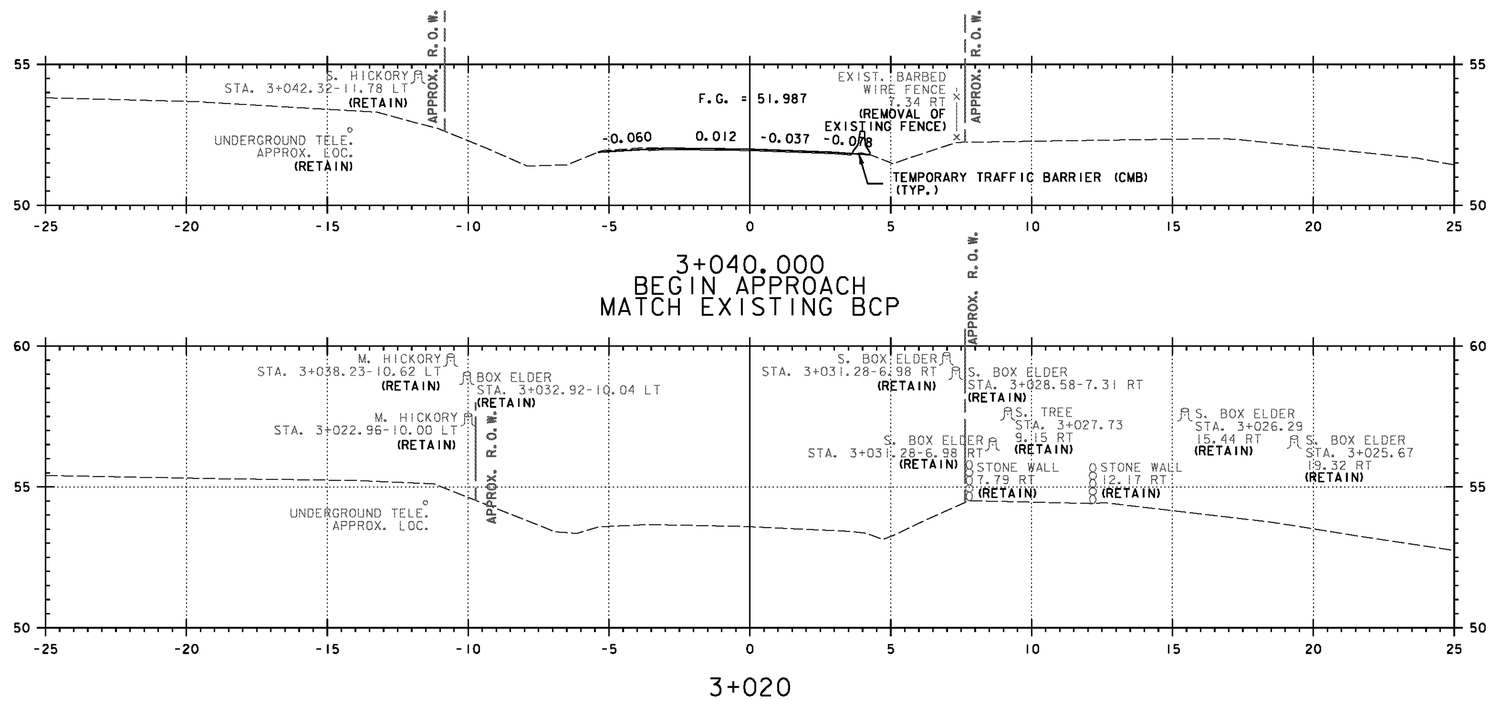
DRAWN BY: ERIK ATKINS

SHEET: 134 OF 144



BANKING TRANSITION DETAIL

SCALES:
HORIZ: 1:400
VERT: 1:2.0



0 1 2 4 6 8 10

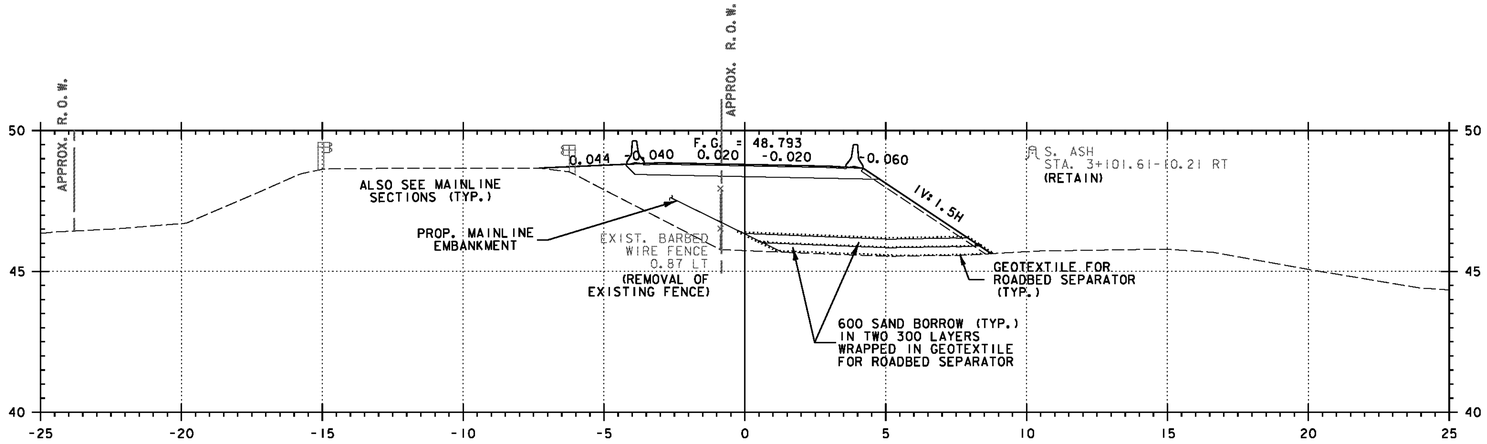
SCALE = 1:100

Temporary Detour

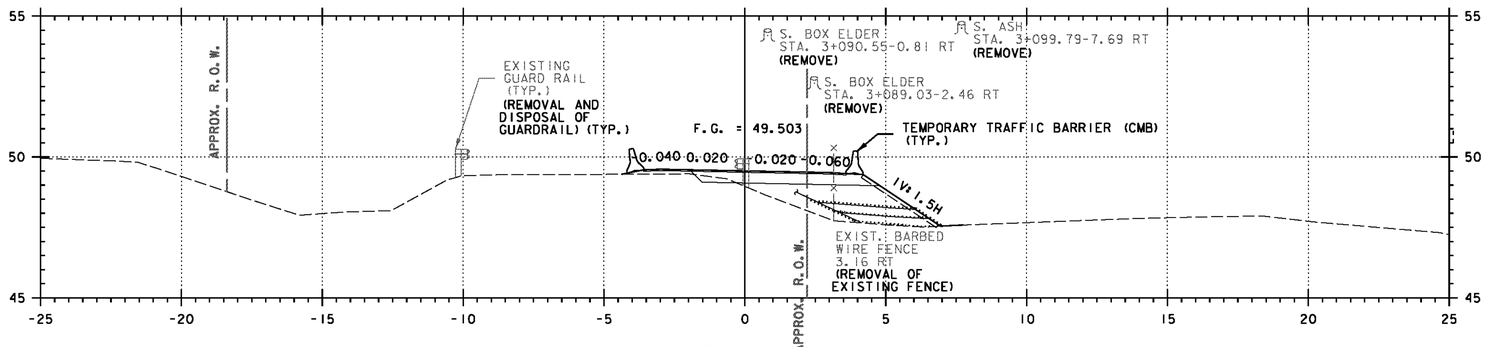
STA. 3+020 TO STA. 3+040

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

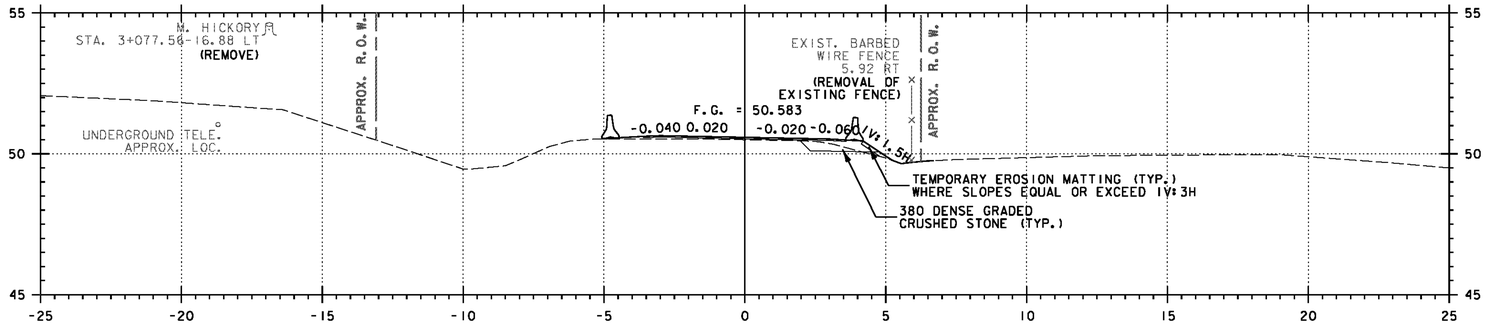
PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TEMPORARY DETOUR CROSS SECTION SHEET 1	SHEET: 135 OF 144



3+100



3+080



3+060.000
END APPROACH
BEGIN TEMPORARY DETOUR

0 1 2 4 6 8 10

SCALE = 1:100

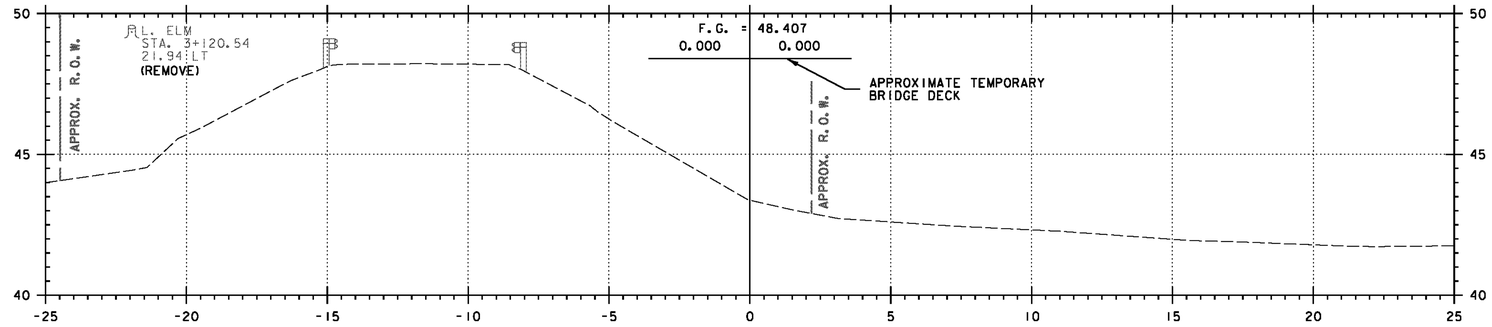
Temporary Detour

STA. 3+060 TO STA. 3+100

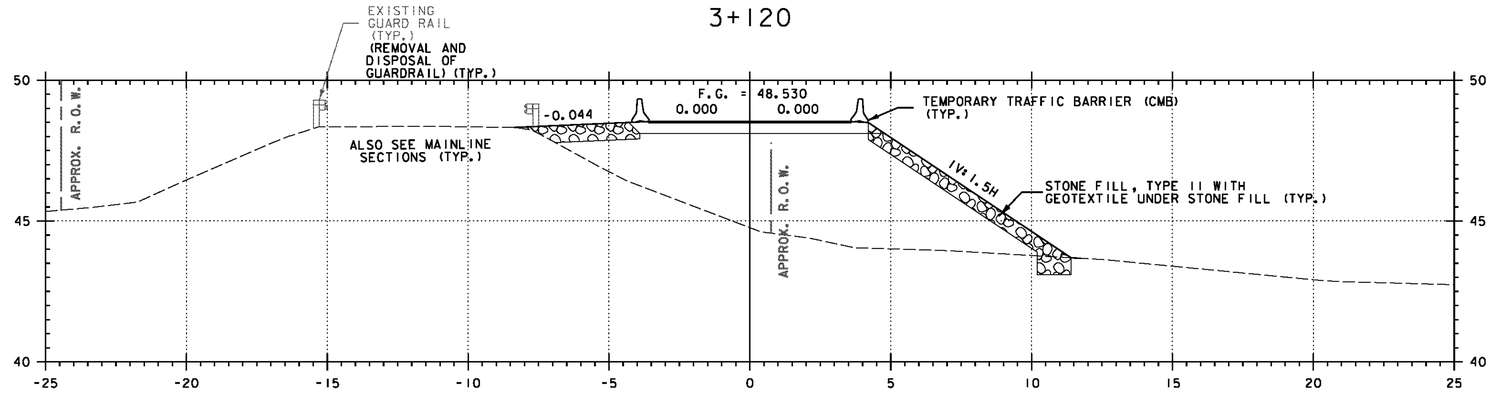
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

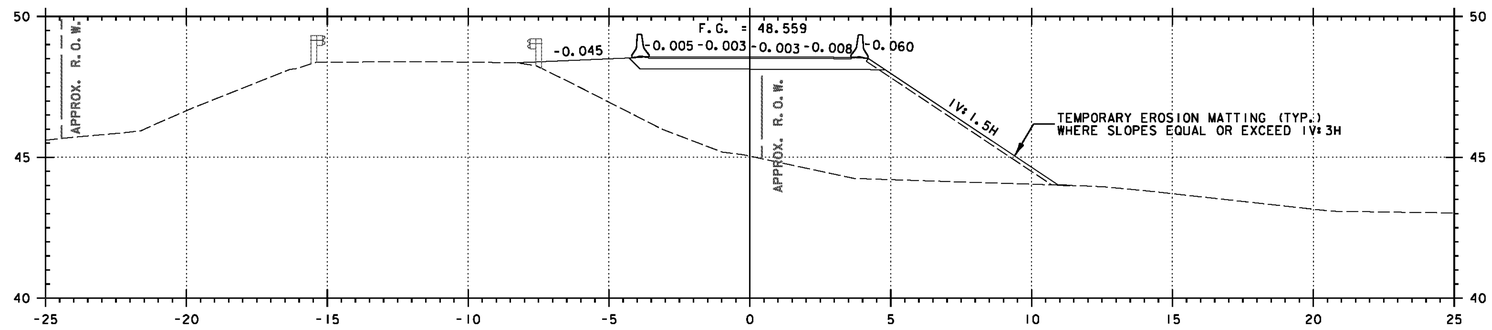
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/12/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TEMPORARY DETOUR CROSS SECTION SHEET 2	SHEET: 136 OF 144



3+120



3+112.764
END DETOUR ROADWAY
BEGIN TEMPORARY BRIDGE



PT 3+111.054

0 1 2 4 6 8 10

SCALE = 1:100

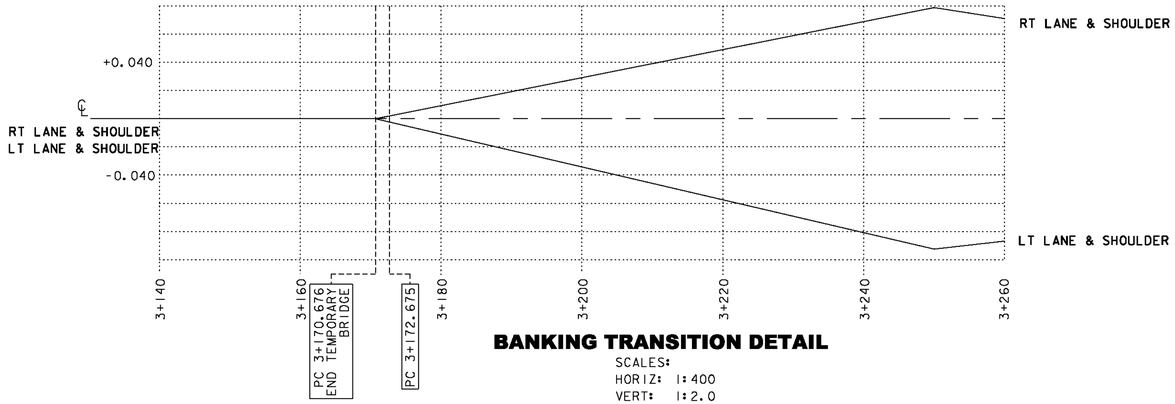
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

Temporary Detour

STA. 3+111.054 TO STA. 3+120

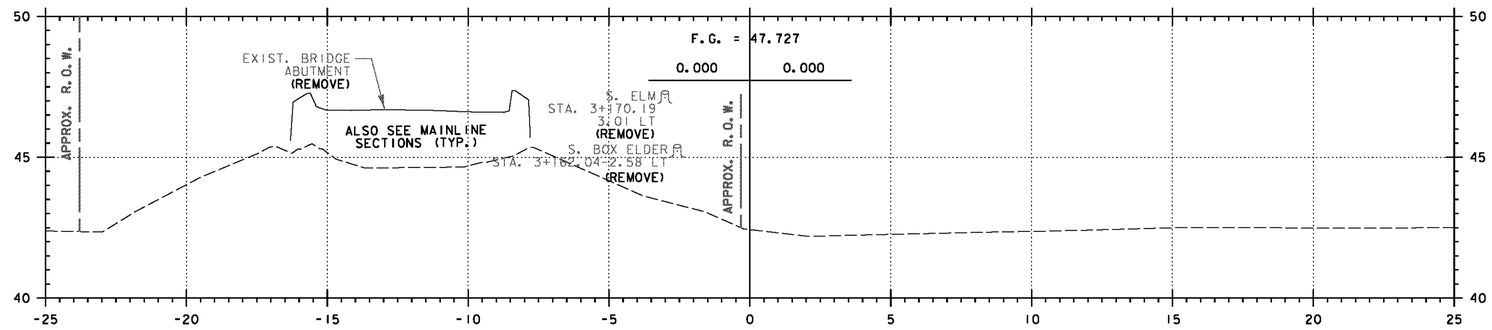
PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

DESIGN FILE NAME: z85e042xs5.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY — SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON — DRAWN BY: ERIK ATKINS
TEMPORARY DETOUR CROSS SECTION SHEET 3 — PLOT DATE: 2/5/2010
SHEET: 137 OF 144

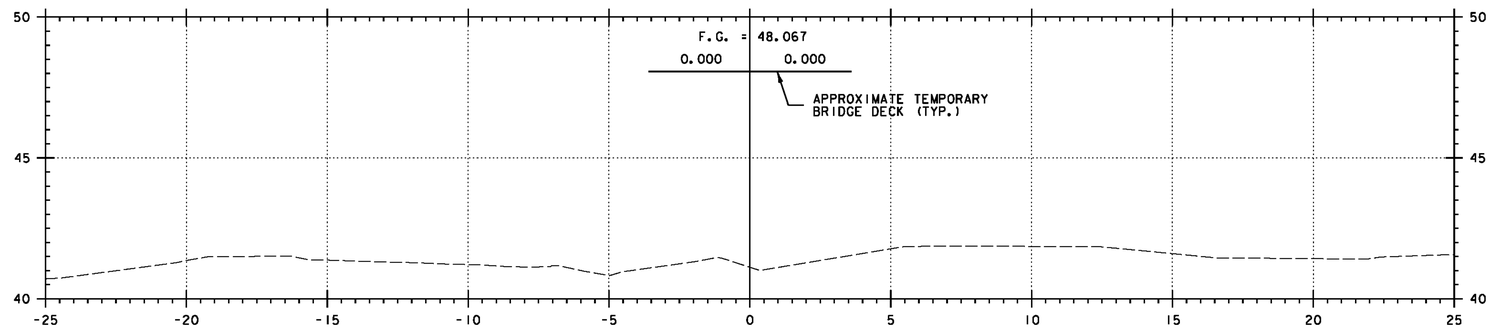


BANKING TRANSITION DETAIL

SCALES:
HORIZ: 1:400
VERT: 1:2.0



3+160



3+140

0 1 2 4 6 8 10

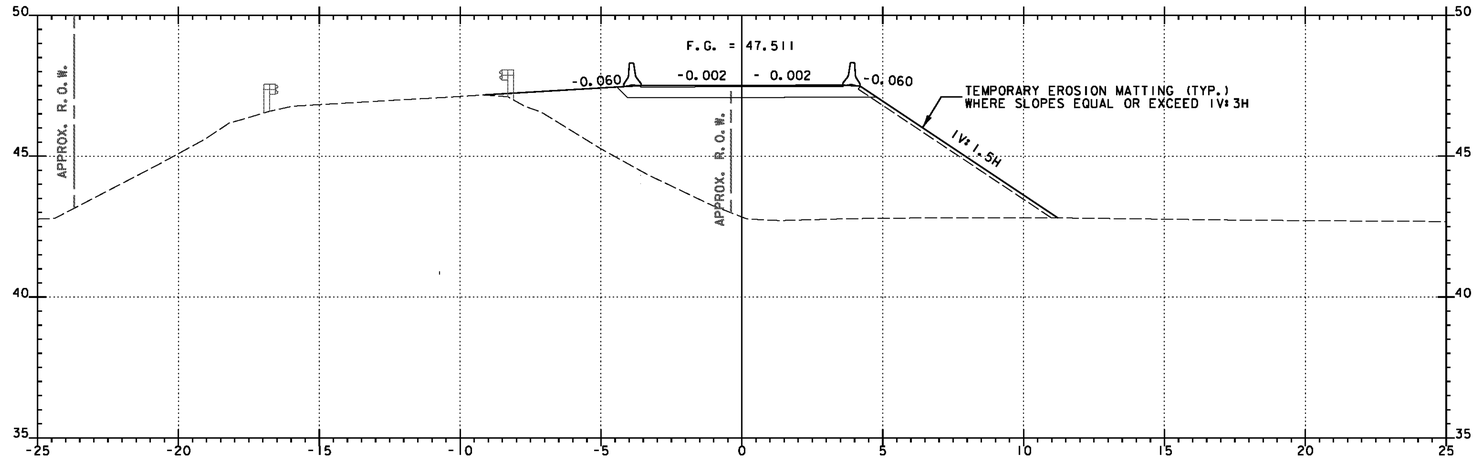
SCALE = 1:100

Temporary Detour

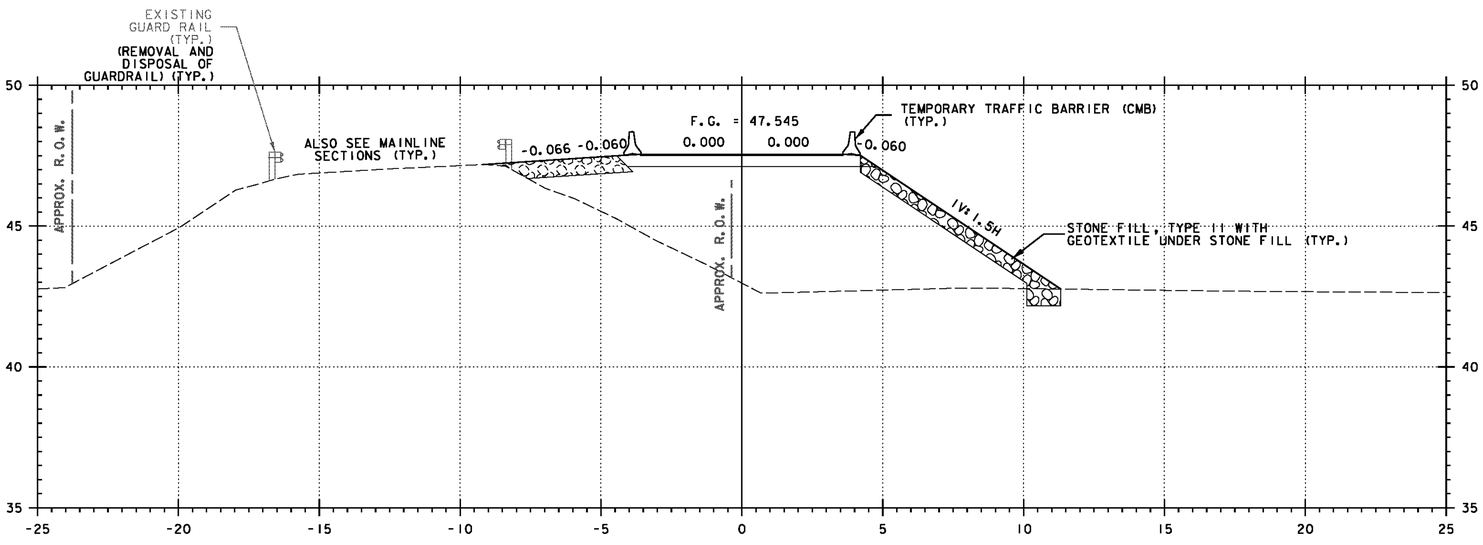
STA. 3+140 TO STA. 3+160

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TEMPORARY DETOUR CROSS SECTION SHEET 4	SHEET: 138 OF 144



PC 3+172.675



3+170.676
END TEMPORARY BRIDGE
RESUME DETOUR ROADWAY

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

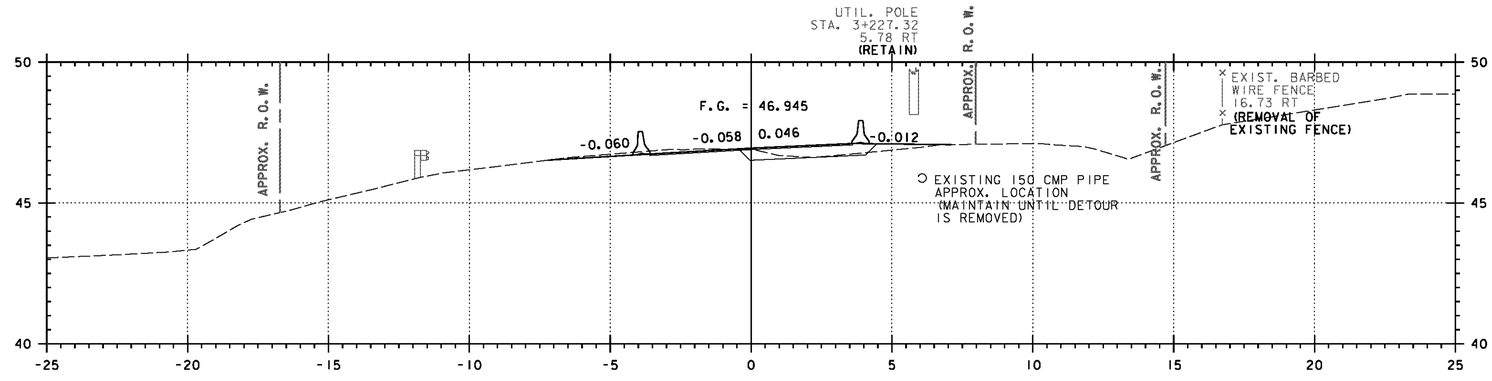
Temporary Detour

STA. 3+170.676 TO STA. 3+172.675

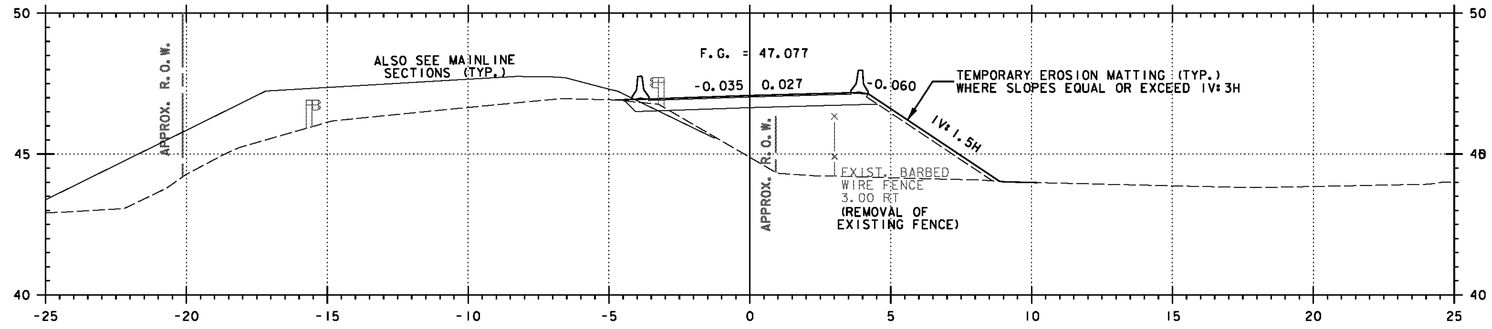
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

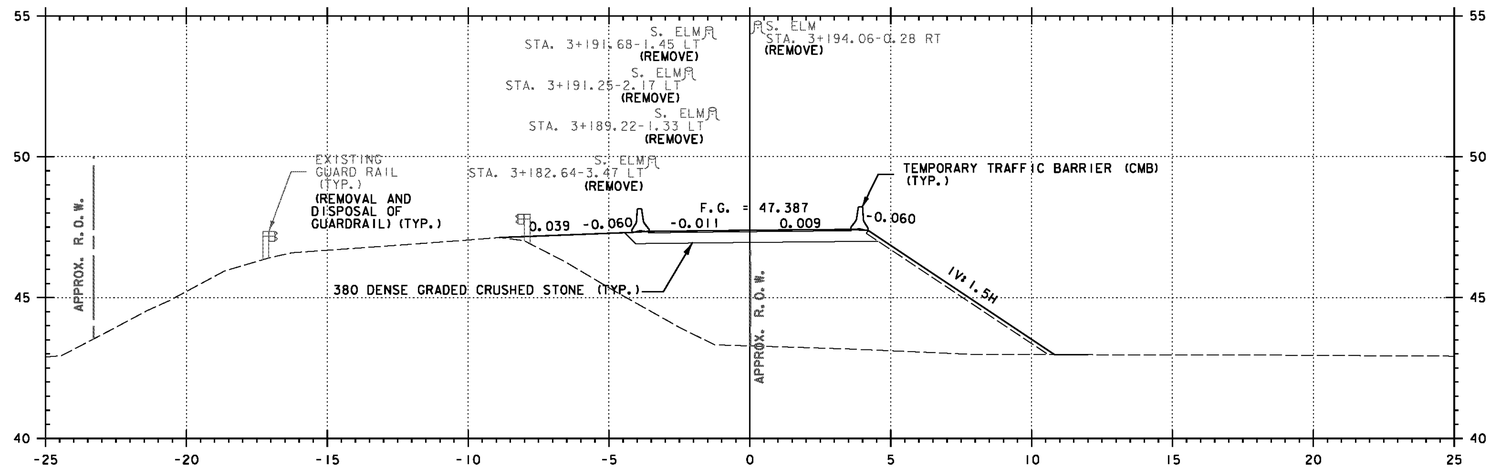
DESIGN FILE NAME: z85e042xs5.dgn
IPARM FILE NAME:
SURVEYED BY: VTRANS & VT SURVEY — SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON — DRAWN BY: ERIK ATKINS
TEMPORARY DETOUR CROSS SECTION SHEET 5 — PLOT DATE: 2/5/2010
SHEET: 139 OF 144



3+220



3+200



3+180

Temporary Detour

0 1 2 4 6 8 10

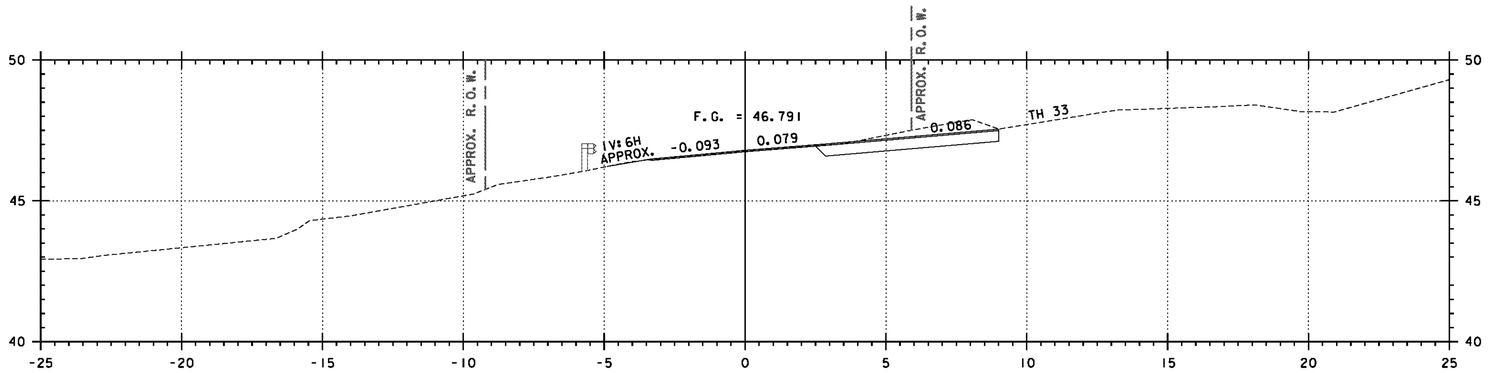
SCALE = 1:100

STA. 3+180 TO STA. 3+220

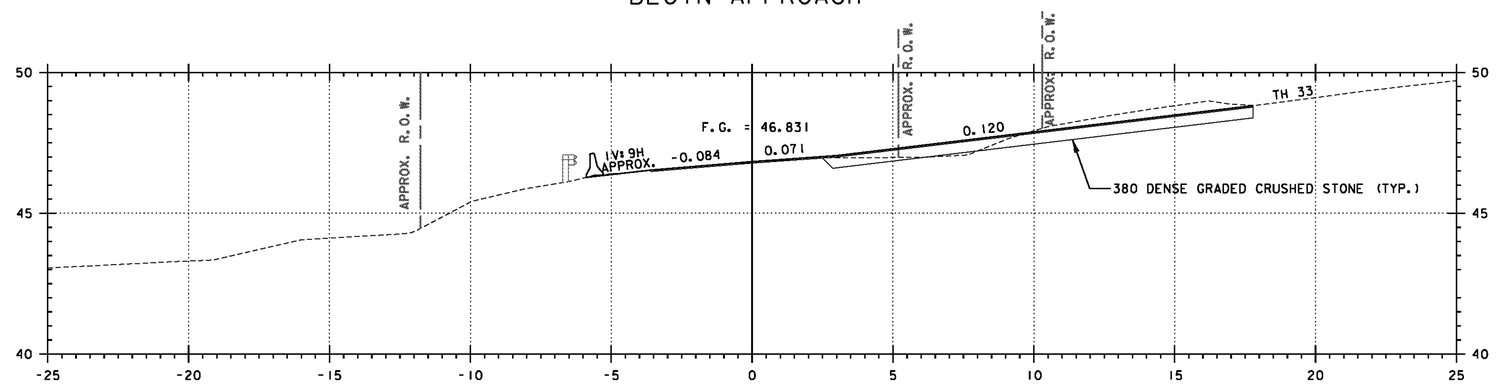
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)

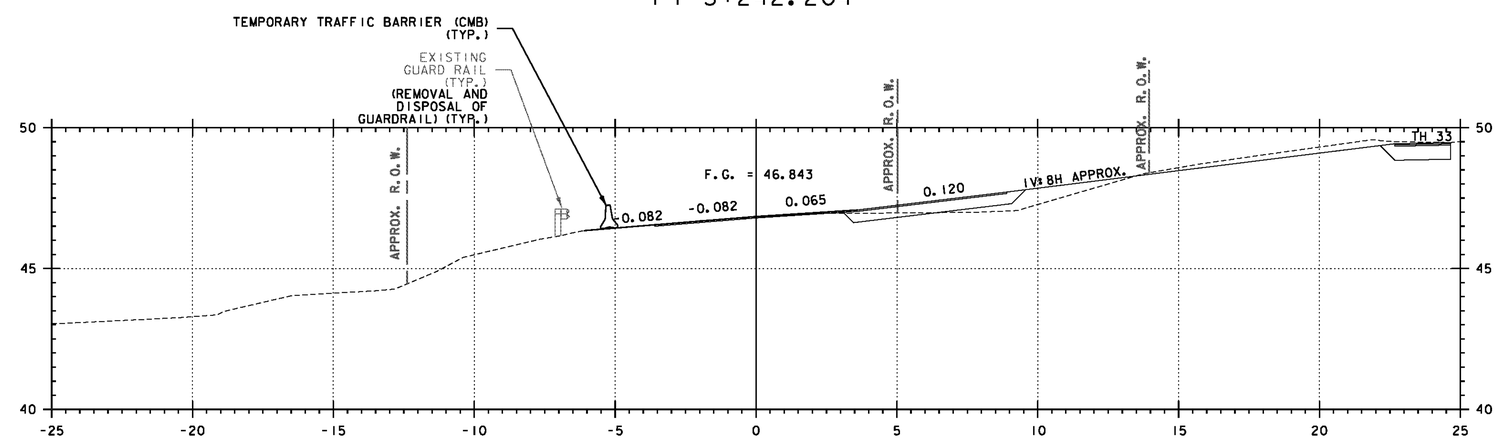
DESIGN FILE NAME:	z85e042xs5.dgn		
IPARM FILE NAME:		PLOT DATE:	2/5/2010
SURVEYED BY:	VTRANS & VT SURVEY	SURVEY DATE:	1996&1999
SQUAD LEADER:	MARTHA EVANS-MONGEON	DRAWN BY:	ERIK ATKINS
TEMPORARY DETOUR CROSS SECTION SHEET 6		SHEET:	140 OF 144



3+250.00
END DETOUR
BEGIN APPROACH



PT 3+242.204



3+240

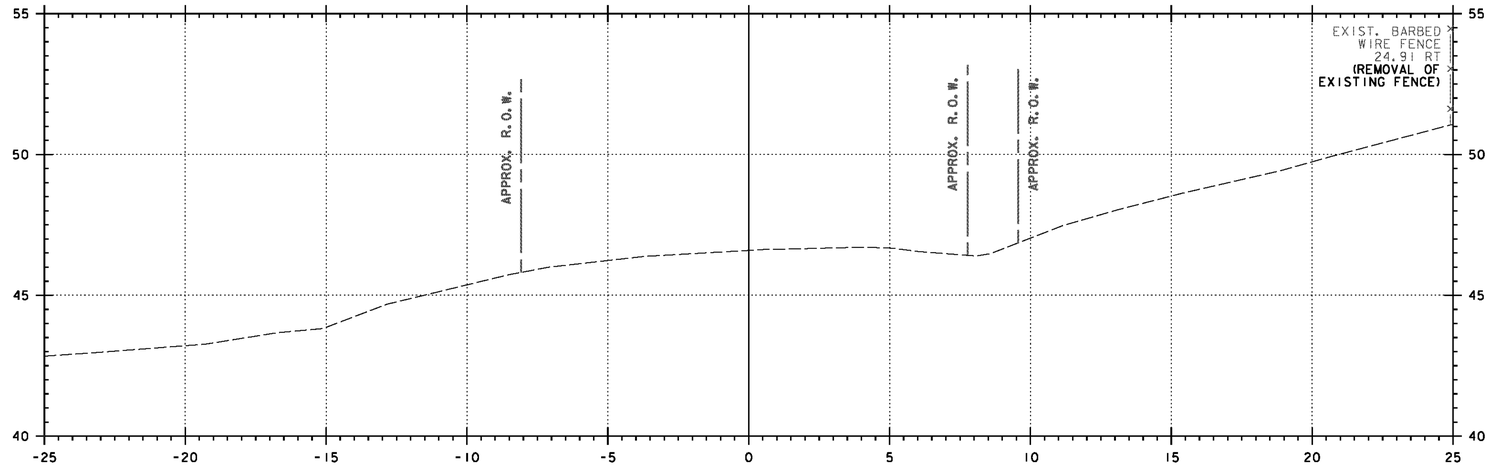
0 1 2 4 6 8 10
SCALE = 1:100

Temporary Detour

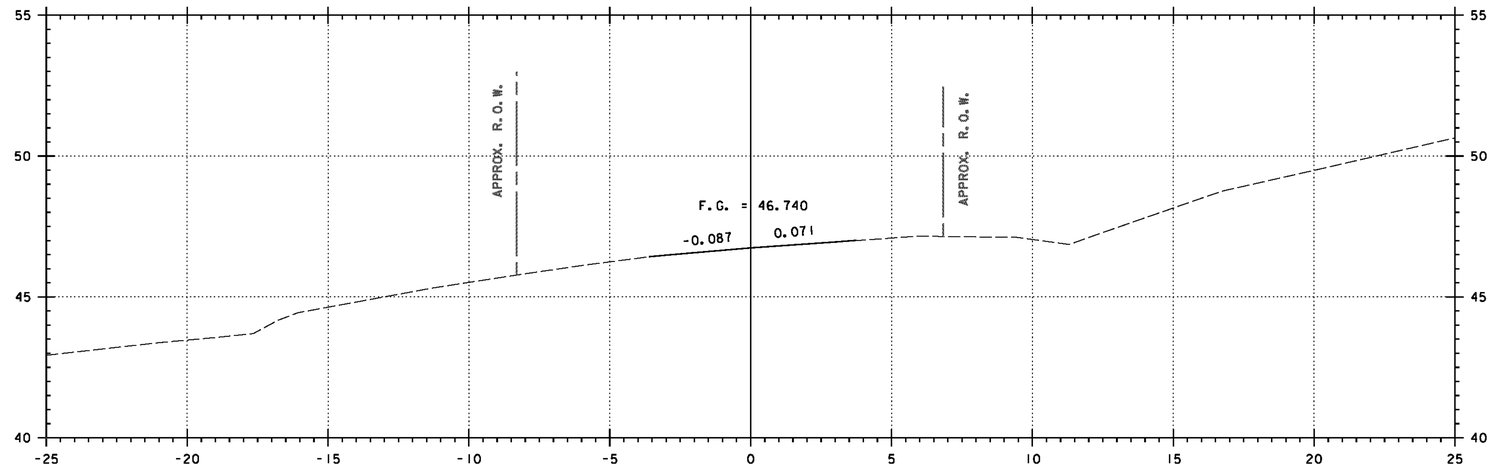
STA. 3+240 TO STA. 3+250

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT:	PROJECT NO.:
CORNWALL	BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TEMPORARY DETOUR CROSS SECTION SHEET 7	SHEET: 141 OF 144



3+270



3+260.000
END APPROACH
MATCH EXISTING BCP

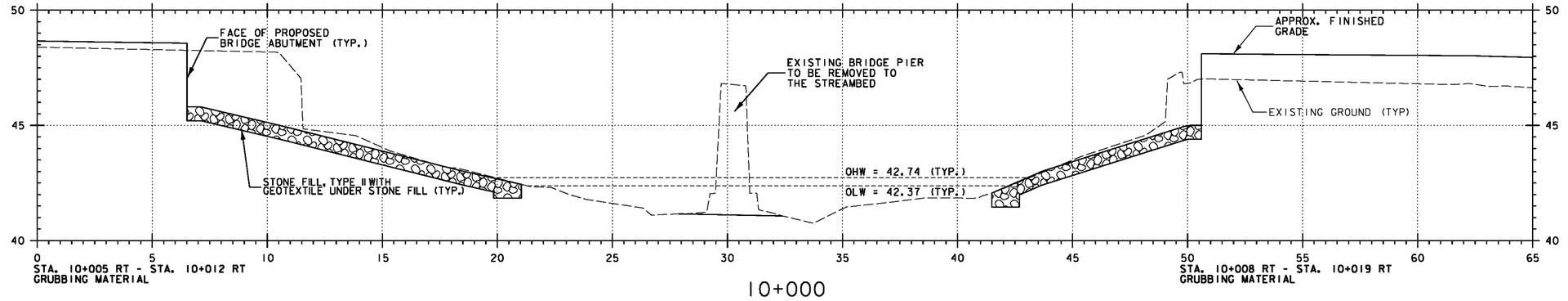
0 1 2 4 6 8 10
SCALE = 1:100

Temporary Detour

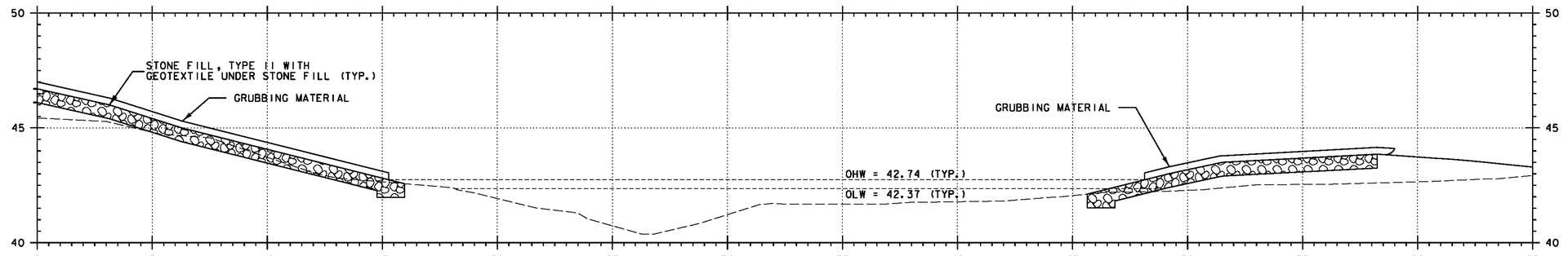
STA. 3+260 TO STA. 3+270

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

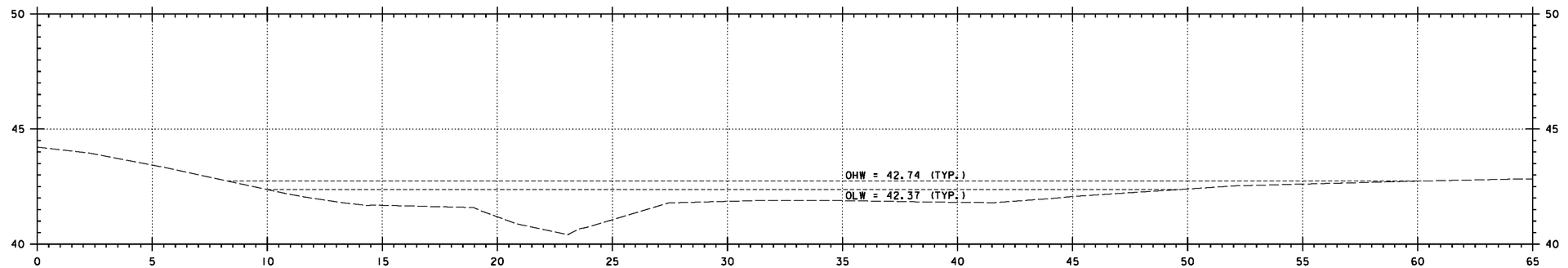
PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
TEMPORARY DETOUR CROSS SECTION SHEET 8	SHEET: 142 OF 144



10+000



9+990



9+980

SCALE = 1:100

DATUM

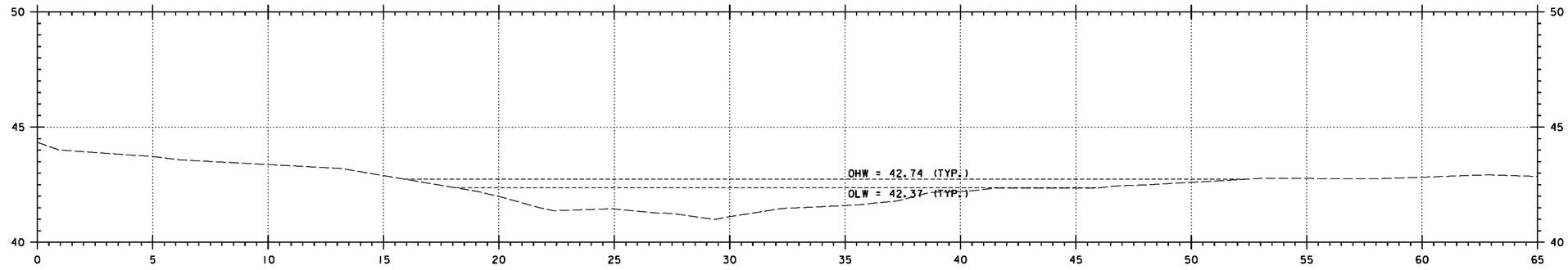
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

Channel

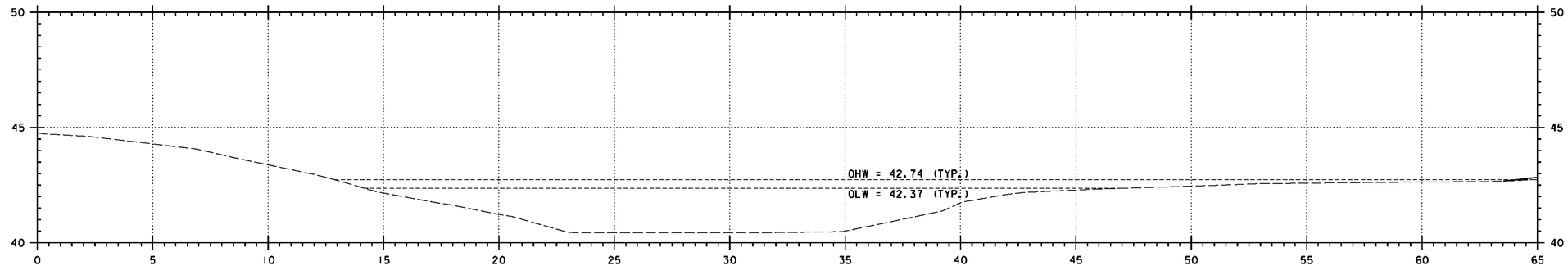
STA. 9+980 TO STA. 10+000

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
CHANNEL CROSS SECTION SHEET 1	SHEET: 143 OF 144

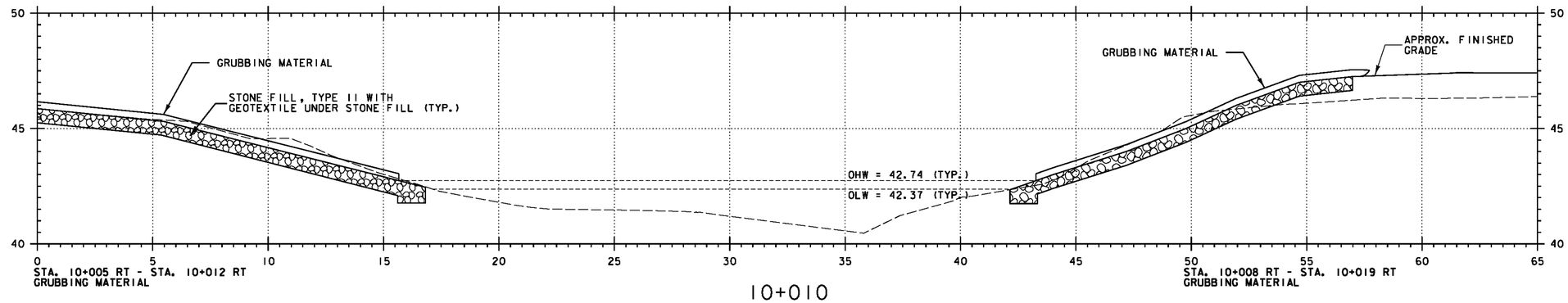
Metric



10+030



10+020



10+010

0 1 2 4 6 8 10

SCALE = 1:100

Channel

STA. 10+010 TO STA. 10+030

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

PROJECT: CORNWALL	PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z85e042xs5.dgn	
IPARM FILE NAME:	PLOT DATE: 2/5/2010
SURVEYED BY: VTRANS & VT SURVEY	SURVEY DATE: 1996&1999
SQUAD LEADER: MARTHA EVANS-MONGEON	DRAWN BY: ERIK ATKINS
CHANNEL CROSS SECTION SHEET 2	SHEET: 144 OF 144

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE DETAIL SHEET

Metric

DRAINAGE STRUCTURES

STATION km + m	STATION km + m	POS.	ASBUILT	INLET/OUTLET TYPE INLET	INLET/OUTLET TYPE OUTLET	DITCH IN	DITCH OUT	PIPE ARCH SPAN mm	PIPE ARCH RISE mm	PIPE ARCH L m	601.0405 450 PCCSP m	601.0446 900 PCCSP m	601.2605 300 CPEP (SL) m	601.6055 450 CSPES Each	601.6065 900 CSPES Each	604.5607 300 CPEP Elbow Mit/ BEG	604.21 PRISM Inlet-Gr	605.11 200 UG	605.21 200 UGC	605.95 UG TO	CONC. RIP-RAP CL. B m³	RIP-RAP STEEL kg	TRENCH EXCAVATION (Min)	TRENCH EXCAVATION ROCK	UNC. CHAN. EXC	STRUCT. EXCAV	CHAN. REPAIR STONE	CHAN. REPAIR STONE	STONE FILL m³	STONE FILL TYPE	649.5 Fabric m²	MARKER POSTS LT	MARKER POSTS RT	REMARKS
EXCESS DRAINAGE																																		
1 1+218.1	1+208.2	RT		DITCH	DITCH																													EXISTING 150 CMP TO BE REMOVED.
2 1+307.3	1+309.0	LT		WETLAND	WETLAND																		5.1											EXISTING 600 MASONRY BOX CULVERT TO BE REMOVED.
3 1+361.8	1+364.4	RT/LT		WETLAND	WETLAND																		1.3											EXISTING 450 CMP TO BE REMOVED.
4 1+466.5	1+465.1	RT/LT		WETLAND	WETLAND																													EXISTING 900 RCP CULVERT TO BE RETAINED.
5 2+135.4	2+131.3	RT		DITCH	DITCH																													EXISTING 300 CMP TO BE RETAINED.
NEW DRAINAGE																																		
① 2+032.188	2+021.532	RT		MANHOLE	DITCH								10.10				1-C							17.9				8.8					2	SEE SHEET 9 FOR PRECAST CONCRETE PRETREATMENT CHAMBER DETAIL.
② 1+300.000	1+306.220	RT/LT		CHANNEL	DITCH							20.73			1						4.30	362.9	31.6			12.7	28.3		7.5	1	35.0	1	1	PROVIDE 50 MM CAMBER PRIOR TO BACKFILLING. CONSTRUCT REINFORCED CONCRETE STRAIGHT HEADWALL SEE STD. D-33.
③ 1+360.558	1+364.673	RT/LT		CHANNEL	DITCH						18.29			1							1.57	170.6	23.9			7.2	30.6		4.7	1	15.6	1	1	PROVIDE 50 MM CAMBER PRIOR TO BACKFILLING. CONSTRUCT REINFORCED CONCRETE STRAIGHT HEADWALL SEE STD. D-33
④ 2+034.716	2+032.188	RT		DITCH	MANHOLE								1.24			1-45°							0.5									1	
NEW UNDERDRAIN																																		
TH 33	VT 125																																	
⚠ 2+025.0	1+260.0	LT-RT																32.4	1.1	1				39.5									1	
⚠ 1+241.0	1+313.0	LT																66.0	1.3	1				62.1									1	
TH 33	TH 33																																	
⚠ 2+030.0	2+020.0	RT																	10.9	1				2.8									2	
TH 33	TH 33																																	
⚠ 2+030.0	2+023.0	LT																	7.8	1				1.6									2	
⚠																																		
⚠ 1+313.0	1+350.0	LT																36.2	1.2	1				49.4									1	
⚠ 1+350.0	1+364.1	LT																	15.6	1				2.4									2	
⚠ 1+260.0	1+340.0	RT																84.8	0.8	1				95.3									1	
⚠ 1+340.0	1+420.0	RT																79.5	1.4	1				107.2									1	
⚠																																		
⚠ 1+420.0	1+420.0	RT-LT																	19.0	1				12.2						0.9	1	3.0	1	1	
TH 33	TH 33																																	
⚠ 2+100.0	2+030.0	RT																72.5	1.4	1				83.4									1	
TH 33	TH 33																																	
⚠ 2+100.0	2+030.0	LT																67.1	1.3	1				71.1									1	
1+221.3	1+221.3																		4.0															Subbase bleeder
6.0 m lt	10.0 m lt																																	
TOTALS											18.29	20.73	11.34	1	1	1	1	438.5	65.8	11	5.87	533.5	600.9	6.4		19.9	67.7		13.1	3	53.6	11	11	

PROJECT NAME: CORNWALL

PROJECT NO.: BRS 0172(6)

DESIGN FILE NAME: M:\Projects\us0421\Construction_Files\r05s042dds.dgn
PLOT DATE: 11-APR-2002
SURVEYED BY: VTRANS & VT SURVEY
SQUAD LEADER: MARTHA EVANS-MORGEON
Prepared By: JJ. Knibbs
Checked By:
DRAWING DETAIL SHEET
SHEET: 1 OF 1

STATE OF VERMONT AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 3

Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS: EA.	SIGN DIMENSIONS: WIDTH (mm)	SIGN DIMENSIONS: HEIGHT (mm)	NEW & SALVAGED SIGNS: "A" m²	NEW & SALVAGED SIGNS: "B"	NEW & SALVAGED SIGNS: SALV SIGN	NEW & SALVAGED SIGNS: SALV TIS	POST SPACING: SPACE	POST SPACING: ELEVATION	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL kg/m: 1.7	FLANGED CHANNEL kg/m: 3.0	FLANGED CHANNEL kg/m: 4.5	SQUARE STEEL (mm): 44 kg/m: 2.8	SQUARE STEEL (mm): 50 kg/m: 3.6	SQUARE STEEL (mm): 63 kg/m: 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM @ (mm): 75 kg/m: 1.9	TUBULAR ALUMINUM @ (mm): 100 kg/m: 2.5	TUBULAR ALUMINUM @ (mm): 100 MOD kg/m: 2.5	TUBULAR STEEL @ (mm): FOUNDATION	TUBULAR STEEL @ (mm): 75 kg/m: 4.3	TUBULAR STEEL @ (mm): 89 kg/m: 15.4	TUBULAR STEEL @ (mm): 100 kg/m: 16.1	TUBULAR STEEL @ (mm): 125 kg/m: 24.7	W-SHAPE STEEL: FTG. SIZE 600 mm	W-SHAPE STEEL: FTG. SIZE 750 mm	W-SHAPE STEEL: HEIGHT	W-SHAPE STEEL: POST SIZE	SIGN SPLICE	FOUNDATION	REMARKS (SHS = STANDARD HIGHWAY SIGN)	SIGN DETAIL: DETAIL ON SHEET NUMBER	SIGN DETAIL: STD. SHEET NUMBER
												OPTION TIERS																									
T.H. 33																																				
2+011 LT	WEST ST		600	150	0.090						1					4.11		x																	SHS
			750	750	0.563																												R1-1		SHS
2+016 RT	LEGAL LOAD LIMIT 24,000 POUNDS		600	750	0.450						1					4.34																	VR-017		E-141
2+020 RT			450	600	0.270						1					4.19																	W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
2+039 RT			450	600	0.270						1					4.04		x															W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
2+041 RT			450	600	0.270						1					4.04		x															W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
2+059 RT			450	600	0.270						1					4.04		x															W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
2+061 RT			450	600	0.270						1					3.96		x															W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
2+100 LT			900	900	0.810						1					4.42		x															W3-1A		SHS
2+120 RT	SPEED LIMIT 35		600	750	0.450						1					4.27		x															R2-1		SHS
2+180 LT			750	750	0.563						1					4.50		x															W1-1R		SHS
	25 MPH		450	450	0.203																												W13-1 SUBMOUNT W/ PREVIOUS SIGN		SHS
												m	m	m	m	m	m	EA	kg	kg	kg		kg	kg	kg	kg									

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."

SHEET 3 TOTALS	m² 4.479	m²	EA.	m²		m	m 41.91		kg	EA.	kg	EA.	EA.	kg
TOTALS (ALL SHEETS)	m² 10.461	m²	EA.	m²		m	m 123.04		kg	EA.	kg	EA.	EA.	kg

PROJECT: CORNWALL

PROJECT NO.: BRS 0172(6)

DESIGN FILE NAME: z05s042tssum.dgn

XSARN FILE NAME:

SURVEYED BY: VTRANS & VTSURVEY

PREPARED BY: J.F. Kniggs

TRAFFIC SIGN SUMMARY SHEET 3

PLOT DATE: 8-APR-202

SURVEY DATE: 1998&1999

CHECKED BY:

SHEET: 3 OF 3

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 2

Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS: EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS: "A"	"B"	SALV SIGN	SALV TIS	SIGN POST: BREAKAWAY	TYPE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 2.8	50 3.6	63 5.0	ANCHOR	SPLICE	TUBULAR ALUMINUM @ (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	FOUNDATION	TUBULAR STEEL @ (mm) kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN REMOVED	REMARKS: SHS = STANDARD HIGHWAY SIGN	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																									
1•259 RT			450	600	0.270						1					4.19		I																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1•261 RT			450	600	0.270						1					4.19		I																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1•279 RT			450	600	0.270						1					4.19		I																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1•281 RT			450	600	0.270						1					4.19		I																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1•299 RT			450	600	0.270						1					3.89		I																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1•301 RT			450	600	0.270						1					3.89		I																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		SHS
1•320 RT			450	600	0.270						1					3.96 2.74		I																W1-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER Post replaced 06-28-11 due to plow damage		SHS
1•343 RT	1250 0104 0060		150	250	0.038						1					2.36		I																E-138		
1•420 LT			750	750	0.563						1					4.72		I																W1-10R		SHS
	30 MPH		450	450	0.203																													W13-1 SUBMOUNT W/ PREVIOUS SIGN		SHS

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."

	m2	m2	EA.	m2		m	m	kg	EA.	kg	EA.	EA.	kg
SHEET 2 TOTALS	2.694						38.32						

PROJECT: CORNWALL
PROJECT NO.: BRS 0172(6)
DESIGN FILE NAME: z056042rssum.dgn
XSAM FILE NAME:
SURVEYED BY: VTRANS & VTSURVEY
PLOT DATE: 8-APR-2002
Prepared By: Joe Knipes
SURVEY DATE: 1996&1999
TRAFFIC SIGN SUMMARY SHEET 2
Checked By:
SHEET: 2 OF 5

STATE OF VERMONT AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 1

Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	SIGN POST REMAIN	SIGN POST SALVAGE	NO. OF POSTS	NEW SIGN POSTS FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 2.8	50 3.6	65 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM @ (mm) kg/m 75 1.9	100 2.5	100 MOD. 2.5	FOUNDATION	TUBULAR STEEL @ (mm) kg/m 75 11.3	89 13.4	100 16.1	125 21.7	U-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	PLASTIC PANEL	REMARKS SHS = STANDARD HIGHWAY SIGN	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
		OPTION ITEMS																																
VT125																																		
I-046 LT	250 0104 0040		150	250	0.038										2.13			x																E-138
I-056 RT			750	750	0.563										4.95			x															WI-18L		
	30 M.P.H.		450	450	0.203																												SUBMOUNT W/ PREVIOUS SIGN		
I-095 LT			750	750	0.563										5.03			x															WI-2L		
	40 M.P.H.		450	450	0.203																												SUBMOUNT W/ PREVIOUS SIGN		
I-110 RT			150	250	0.038										2.13			x															VO-7B		E-134
I-165 LT			150	250	0.038										2.21			x															VO-7B		E-134
I-179 RT			450	600	0.270										4.19			x															WI-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		
I-181 RT			450	600	0.270										4.19			x															WI-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		
I-199 RT			450	600	0.270										3.96			x															WI-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		
I-201 RT			450	600	0.270										4.04			x															WI-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		
I-216 RT	250 0104 0050		150	250	0.038										2.06			x																	E-138
I-219 RT			450	600	0.270										3.96			x															WI-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		
I-221 RT			450	600	0.270										3.96			x															WI-8 FLUORESCENT YELLOW SHEETING TYPE VII OR HIGHER		
												m	m	m	m	m	m	EA	kg	kg	kg		kg	kg	kg	kg								
SHEET 1 TOTALS			m² 5.288	m²	EA.	m²						m			m 42.81				kg			EA.	kg				EA.	EA.	kg					

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."

PROJECT: CORNWALL

PROJECT NO.: BRS 0172(6)

DESIGN FILE NAME: z05a042tsum.dgn

PLOT DATE: 8-APR-202

SURVEYED BY: VTRANS & VTSURVEY

SURVEY DATE: 19964-999

Prepared By: Joe Knipes

Checked By:

TRAFFIC SIGN SUMMARY SHEET 1

SHEET: 1 OF 5

VERMONT

State of Vermont
PDD/Structures Design Section
National Life Building – Drawer 33
Montpelier, VT 05633-5001
www.aot.state.vt.us

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

Agency of Transportation

Highway Safety Corp.
239 Commerce Street
Glastonbury CT 06033-0358

DATE: Nov. 23, 2010

Project Name: Cornwall Project #: BRS 0172 (6)

Structure Identification: Vt Route 125 over The Lemon Fair River, Bridge # 9

The following NETC 2-Rail Bridge Rail details, tem #525.33, Name (NETC 2-Rail Bridge Railing) for the above project (Vendor's Job #1785)transmitted with your e-mail dated Nov. 1, 2010 have been reviewed and are being returned herewith.

Sheets: 1 of 2 is approved, and sheet 2 of 2 is approved as noted, welding procedures are approved.

There shall be no fabrication done until all drawings and welding procedures are approved. You must provide notice to our fabrication inspector, Jeff Clark, as to the date fabrication represented by these drawings will begin. That notice must be received and acknowledged at least seven days prior to that date, as per Specification 506.03. Jeff may be contacted by phone at (802)828-0044 or email at jeff.clark@state.vt.us. Any material fabricated prior to the notification date is subject to rejection without further cause.

Sincerely,

Martha Evans-Mongeon, P.E.

Attachments
cc: [X] Resident Engineer w/prints Joe Knipes
[X] Shop Inspector w/prints Jeff Clark
[X] Contractor w/prints St. Onge Contractor, Inc.
[X] Subcontractor – letter only F. R. Lafayette
[X] Construction Division – letter only
[X] Materials & Research Section (C&IA Unit) – letter only
[X] Files (Structures)

VTrans Working to Get You There
Vermont Agency of Transportation

Highway Safety Corporation

Glastonbury, CT

Welding Procedure Specification

Material specification: **A572 gr 50, A709 Gr 50**

Welding process: **Gas Metal Arc Welding (GMAW)**

Manual, semi-automatic, or automatic: **Semi-Automatic**

Position of welding: **Flat (1F) or Horizontal (2F)**

Filler metal specification: **AWS A5.18**

Filler metal classification: **ER70S-3**

Electrode and manufacturer: **Lincoln Electric Lincoln Weld L-50**

Flux and manufacturer: **N/A**

Shielding gas: **85% Argon / 15% CO2** Flow rate: **19-27 L / min**

Single or multiple pass: **Single or Multiple**

Single or multiple arc: **Single**

Welding current: **DCEP**

Polarity: **Reverse - electrode positive**

Welding progression: **Stringers**

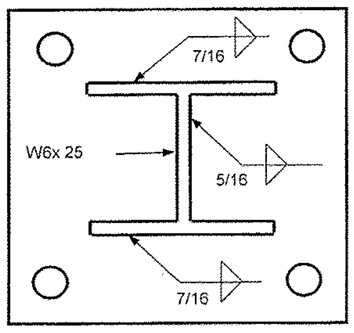
Root treatment: **clean base metal**

Preheat and interpass temperature: base metal up to 3/4" (50°F) ; over 3/4 thru 1-1/2" (150°F) : over 1-1/2" thru 2-1/2" (225°F)

Postheat treatment: **None**

Electrode extension: **3/4" ± 1/4"**

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters Amperes	Welding parameters Volts	Travel speed	Joint detail
5/16"	1	0.062"	275 A ± 25	25 V ± 2	8-10 ipm	
7/16"	1 & 2	0.062"	↓	↓	8-10 ipm	

VTRANS RECEIVED
CK'D BY ____ OK'D BY JWC
NOV 04 2010
RESUBMIT ____ APPROVED ✓
BY ____ DATE 11/16/10

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.5

WPS no. **W-1785A**

Revision no. **0**

Supporting PQR no. **Pre-Qualified**

Project Name **Cornwall, VT**

Fabricator **Highway Safety Corporation**

Prepared By: **Paul Radice** Paul A Radice CWI 98070221 QC1 EXP. 7/1/2013

Date **11/4/10**

Project Number **BRS 0172 (6)**

Highway Safety Corporation

Glastonbury, CT

Welding Procedure Specification

Material specification: **ASTM A36, A709 Gr 36, A500 gr B, A53 gr B**

Welding process: **Gas Metal Arc Welding (GMAW)**

Manual, semi-automatic, or automatic: **Semi-Automatic**

Position of welding: **Flat (1F) or Horizontal (2F)**

Filler metal specification: **AWS A5.18**

Filler metal classification: **ER70S-3**

Electrode and manufacturer: **Lincoln Electric Lincoln Weld L-50**

Flux and manufacturer: **N/A**

Shielding gas: **85% Argon / 15% CO2** Flow rate: **19-27 L / min**

Single or multiple pass: **Single**

Single or multiple arc: **Single**

Welding current: **DCEP**

Polarity: **Reverse - electrode positive**

Welding progression: **Stringers**

Root treatment: **clean base metal**

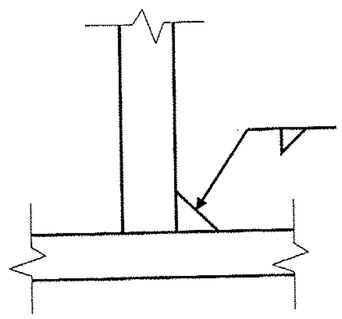
Preheat and interpass temperature: **base metal up to 3/4" (50°F) ; over 3/4 thru 1-1/2" (150°F) ; over 1-1/2" thru 2-1/2" (225°F)**

Postheat treatment: **None**

Electrode extension: **3/4" ± 1/4"**

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters Amperes	Welding parameters Volts	Travel speed	Joint detail
1/8"	1	0.045"	300 A ± 30	29 V ± 2	28 ipm ± 2	TYPICAL ALL FILLET WELDS
3/16"	1	0.045"	300 A ± 30	29 V ± 2	14 ipm ± 2	



VTRANS RECEIVED CHKD BY JWC NOV 04 2010 RESUBMIT APPROVED ✓ BY DATE 11/16/10

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.1 / D1.5

WPS no. **W-1785B**

Revision no. **0**

Supporting PQR no. **Pre-Qualified**

Project Name **Cornwall, VT**

Fabricator **Highway Safety Corporation**

Prepared By: **Paul Radice** ~~Paul A Radice~~ CWI 98070221 QC1 EXP. 7/1/2013

Date **11/4/10**

Project Number **BRS 0172 (6)**

Highway Safety Corporation

Glastonbury, CT

Welding Procedure Specification

Material specification **ASTM A500 gr B**

Welding process **Gas Metal Arc Welding (GMAW)**

Manual, semi-automatic, or automatic **Semi-Automatic**

Position of welding **Flat (1F) or Horizontal (2F)**

Filler metal specification **AWS A5.18**

Filler metal classification **ER70S-3**

Electrode and manufacturer **Lincoln Electric Lincoln Weld L-50**

Flux and manufacturer **N/A**

Shielding gas **85% Argon / 15% CO2** Flow rate **19-27 L / min**

Single or multiple pass **Single**

Single or multiple arc **Single**

Welding current **DCEP**

Polarity **Reverse - electrode positive**

Welding progression **Stringers**

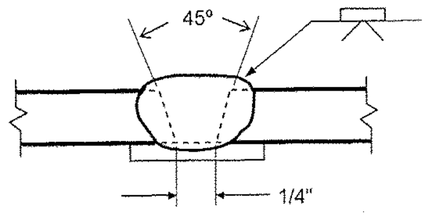
Root treatment **clean base metal**

Preheat and interpass temperature **base metal up to 3/4" (50°F)**

Postheat treatment **None**

Electrode extension **3/4" ± 1/4"**

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters Amperes	Welding parameters Volts	Travel speed	Joint detail
	1	**0.045"**	**300 A ± 30**	**29 V ± 2**	**14 ipm ± 2**	B-U2a 

VTRANS RECEIVED CK'D BY ORD BY JWC 11/ 04 2010 RESUBMIT APPROVED ✓ BY DATE 11/16/10

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.1

WPS no. **W-1785C**

Revision no. **0**

Supporting PQR no. **Pre-Qualified**

Project Name **Cornwall, VT**

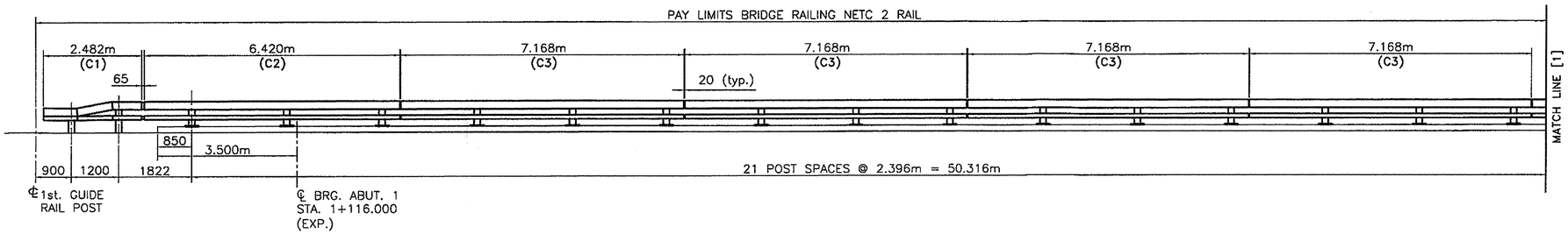
Fabricator **Highway Safety Corporation**

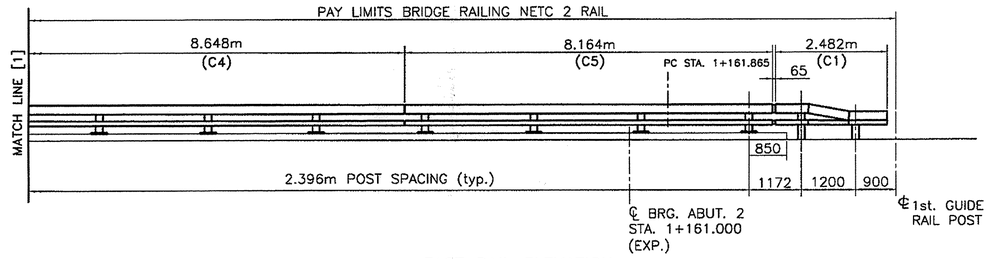
Prepared By: **Paul Radice**

Date **11/4/10**

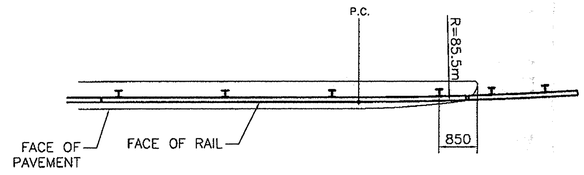
Project Number **BRS 0172 (6)**

Paul A Radice
CWI 98070221
QC1 EXP. 7/1/2013

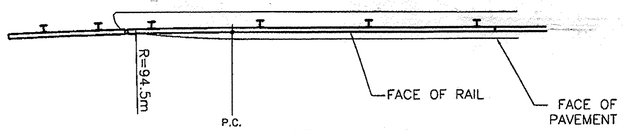




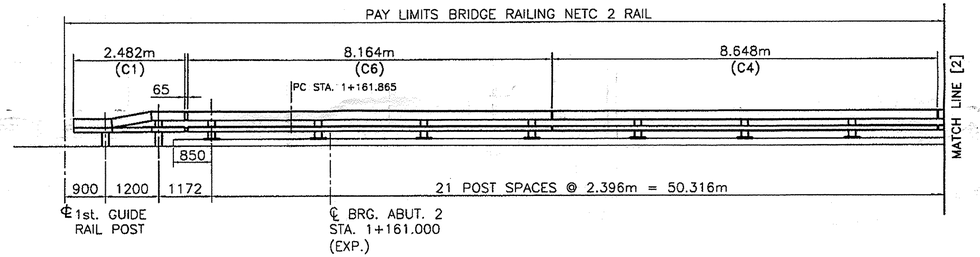
EAST RAIL ELEVATION
FACING EAST FROM CENTER OF ROAD

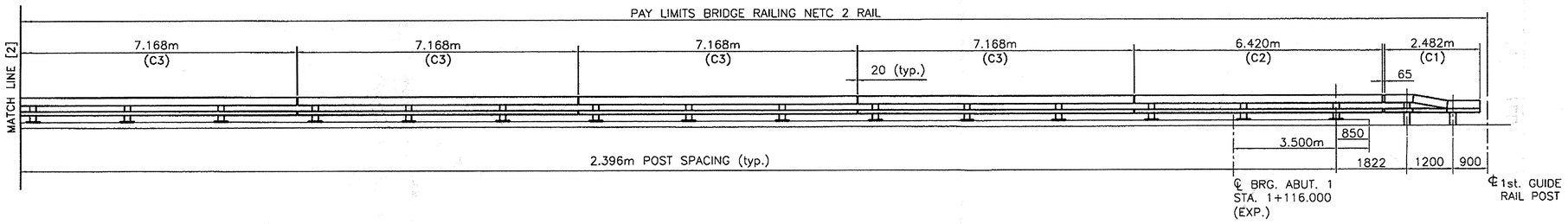


PARTIAL PLAN
(SE CORNER)



PARTIAL PLAN
(SW CORNER)





WEST RAIL ELEVATION
FACING WEST FROM CENTER OF ROAD

BILL OF MATERIAL (BOTH SIDES OF BRIDGE)			
Mark #	Qty.	Description	Material
	44	W150x37.1 POST W/BASEPLATE (620mm) OAL	A709M Gr. 50
	4	W150x37.1 DRIVEN POST (2.134m) OAL	A709M Gr. 50
	4	W150x37.1 DRIVEN POST (1.956m) OAL	A709M Gr. 50
C1	4	TS 203 x 102 x 8 (2.482m) UPPER DROP END TUBE	A500 Gr. B
	4	TS 102 x 102 x 6 (2.482m) LOWER DROP END TUBE	A500 Gr. B
C2	2	TS 203 x 102 x 8 (6.420m) OAL	A500 Gr. B
	2	TS 102 x 102 x 6 (6.420m) OAL	A500 Gr. B
C3	8	TS 203 x 102 x 8 (7.168m) OAL	A500 Gr. B
	8	TS 102 x 102 x 6 (7.168m) OAL	A500 Gr. B
C4	2	TS 203 x 102 x 8 (8.648m) OAL	A500 Gr. B
	2	TS 102 x 102 x 6 (8.648m) OAL	A500 Gr. B
C5	1	TS 203 x 102 x 8 (8.164m) OAL (SHOP CURVED)	A500 Gr. B
	1	TS 102 x 102 x 6 (8.164m) OAL (SHOP CURVED)	A500 Gr. B
C6	1	TS 203 x 102 x 8 (8.164m) OAL (SHOP CURVED)	A500 Gr. B
	1	TS 102 x 102 x 6 (8.164m) OAL (SHOP CURVED)	A500 Gr. B
	16	TS 178 x 76 x 10 SPLICE TUBE 500 LONG	A500 Gr. B
	16	TS 76 x 76 x 8 SPLICE TUBE 500 LONG	A500 Gr. B
	44	3mm BEARING PAD	NEOPRENE
	4	BACK UP PLATE	A709M Gr. 36
	4	TERMINAL CONNECTOR	M180 B2
	232	M20 ROUND HEAD BOLT, 152 LONG	M164M
	232	M20 HEX NUT	A563 DH
	232	M20 WASHER	F436M
	128	M16 SPLICE BOLT, 44 LONG	M164M
	128	M16 PLAIN HARDENED WASHER	F436M
	64	M16 NUT WELDED TO SPLICE TUBE	A563A
*	80	M20 x 13 SCH. 40 PIPE SPACER	A53 Gr. B
*	176	M24 ANCHOR STUD, 305 LONG	A449
*	176	M24 WASHER	F436M
*	176	M24 JAMB NUT	A563 DH
*	352	M24 HEX NUT	A563 DH
*	44	SPACER PLATE	A709M Gr. 36

NOTES:
1. ITEMS MARKED "*" ARE NOT SUPPLIED BY HIGHWAY SAFETY CORPORATION, AND THEY ARE SHOWN ONLY FOR REFERENCE.

2. TOTAL PAY LIMITS FOR ITEM 525.33 (BOTH SIDES OF BRIDGE) 115.02 m.

3. PARTIAL LENGTH OF TUBES MARKED (C5) TO BE SHOP CURVED TO 85.5 m CONVEX RADIUS.

4. PARTIAL LENGTH OF TUBES MARKED (C6) TO BE SHOP CURVED TO 94.5 m CONCAVE RADIUS.

REVISIONS		
No.	Remarks	Date
0	Initial submittal	10-01-10

RECEIVED
OK'D BY _____ OK'D BY MHM
NOV 01 2010
RESUBMIT _____ APPROVED ✓
BY _____ DATE 11/23/2010

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 NETC 2 RAIL BRIDGE RAILING
TOWN OF CORNWALL
COUNTY OF ADDISON
VT ROUTE 125 BRIDGE NO. 9
PROJECT NUMBER BRS 0172 (6)

AISC CERTIFIED FABRICATOR

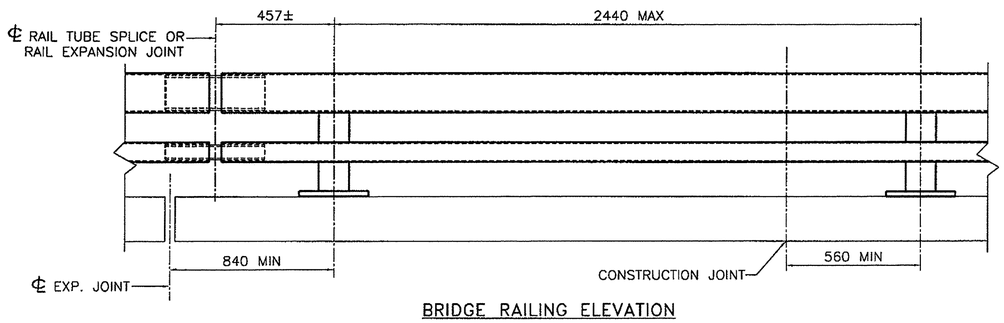
HSC JOB NO. 1785

GENERAL CONTRACTOR

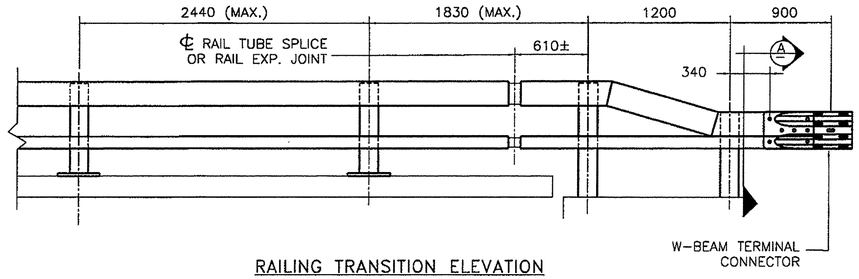
SUB CONTRACTOR F.R. LAFAYETTE

SHEET NO. 1 of 2

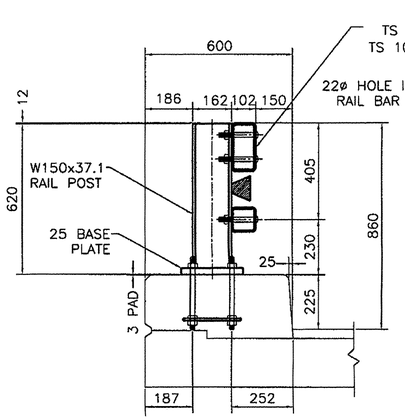
DRAWN	CHECKED	DATE	SCALE	SIZE
MHM	PAR	09-20-10	N.T.S.	D



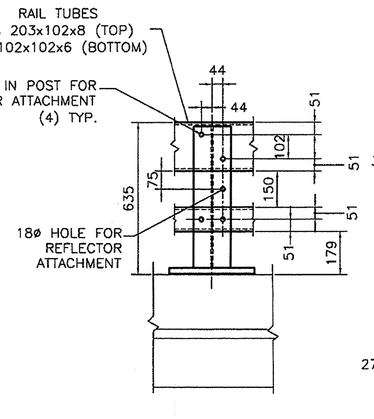
BRIDGE RAILING ELEVATION



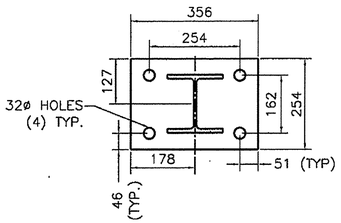
RAILING TRANSITION ELEVATION
(BOTH ENDS OF BRIDGE)



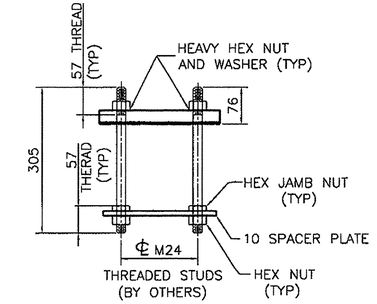
TYPICAL SECTION



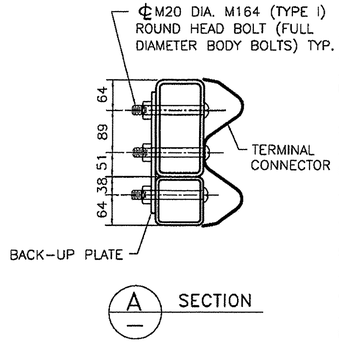
ELEVATION

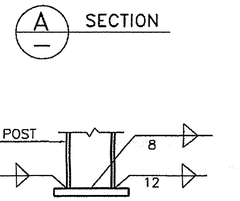


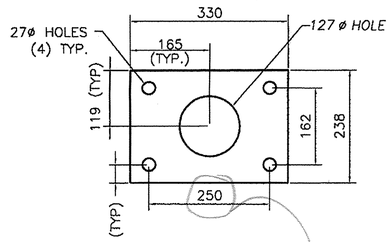
POST AND BASE PLATE
and 3mm pad



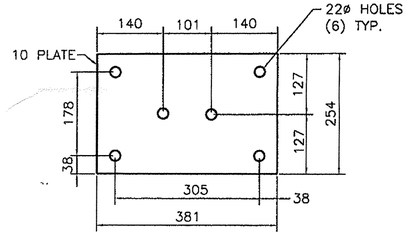
RAIL POST ANCHORAGE



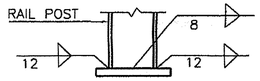




SPACER PLATE
(BY OTHERS)



BACK-UP PLATE



BASE WELD DETAIL

NOTES:

1. ALL RAILINGS AND MATERIALS SHALL CONFORM TO THE PROVISION OF SECTION 525, "RAILINGS OF THE STANDARD SPECIFICATION FOR CONSTRUCTION".

2. TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732, "RAILING MATERIALS OR THE STANDARD SPECIFICATIONS FOR CONSTRUCTION," EXCEPT THAT THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING SHOWN ON THIS SHEET.

3. PRIOR TO GALVANIZING, ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 2mm RADIUS AND BE FREE OF BURRS.

4. RAIL POSTS SHALL BE SET NORMAL TO GRADE.

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

6. RAIL TUBE EXPANSION JOINT SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE "X" AT 7°C AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.

7. ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111M, EXCEPT HARDWARE, WHICH SHALL MEET THE REQUIREMENTS OF AASHTO M232M.

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

9. RAIL TUBES SHALL BE ATTACHED USING M20 FULL DIAMETER BODY AASHTO M164M (TYPE 1) ROUND HEAD BOLT INSERTED THOUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 2mm LARGER THAN THE BOLT SIZE.

10. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.

11. IF THERE IS A CONFLICT BETWEEN THE DETAILS SHOWN ON THIS SHEET AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN DRAWINGS SHALL BE FOLLOWED.

12. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.

13. THE FABICATOR SHALL SUBMIT SHOP DRAWINGS, INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, SHOP DRAWINGS. ALL WELDING SHALL CONFORM WITH SECTION 506.10.

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

15. TO FACILITATE FIELD FIT - UP OF THE TRANSITION RAILING, POSTS SHALL BE SET LOOSELY INTO FIBER FORM TUBES WHILE TRANSITION PARTS ARE BEING ASSEMBLED. POST HOLES SHALL BE BACKED FILLED WITH A CONCRETE MIX APPROVED BY THE ENGINEER. PAYMENT FOR COMPONENTS, INCLUDING BACKUP PLATE AND END TERMINAL CONNECTOR FOR GUARD RAIL, AUGERING, FIBER FORM TUBES AND CONCRETE , AND INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO ITEM 525.33, "BRIDGE RAILING - NETC 2 RAILING".

16. ALL APPROACH RAIL SPLICES SHALL BE LAPPED ON THE DIRECTION OF TRAFFIC FLOW.

MATERIALS

RAIL TUBES.....ASTM A500, GRADE B OR ASTM A501

RAIL POSTS AND BASE PLATES.....ASTM A709/A709M, GRADE 50

ALL OTHER SHAPEs AND PLATES.....ASTM A709/A709M, GRADE 36

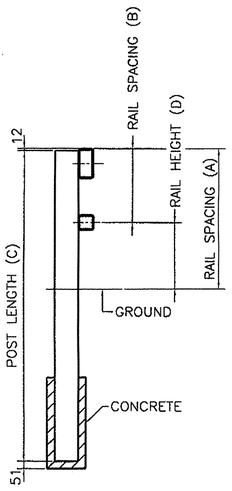
ANCHOR STUDS.....ASTM A449

ALL OTHER BOLTS (UNLESS NOTED).....AASHTO M164M, TYPE1

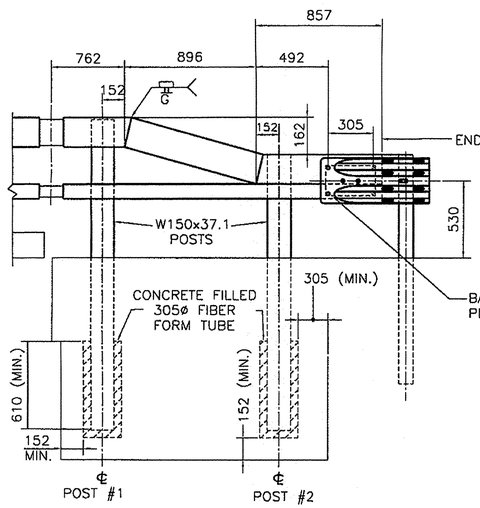
NUTS FOR AASHTO M164M (ASTM A325M) BOLTS AND ANCHOR STUDS SHALL COMPLY WITH AASHTO M291M (ASTM A563M).

WASHERS SHALL COMPLY WITH AASHTO M293M (ASTM F436M) SPECIFCATIONS.

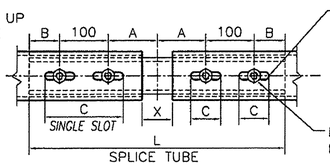
3mm PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.



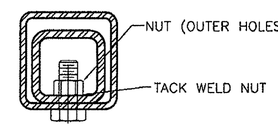
TYPICAL SECTION



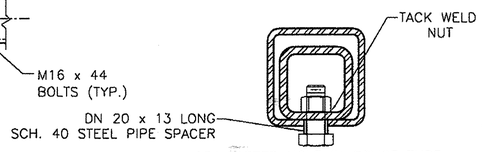
ELEVATION



RAIL TUBE SPLICE AND RAIL
EXPANSION JOINT DETAIL

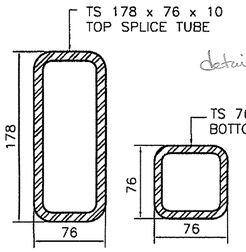


16ø TAPPED HOLE IN SPLICE TUBE &
19 ø HOLE IN RAIL TUBE FOR M16
BOLT & PLAIN HARDENED WASHER

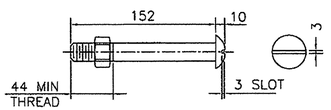


16ø TAPPED HOLE IN SPLICE TUBE
AND 29 x 'C' SLOT IN RAIL TUBE FOR
M16 BOLT AND PLAIN HARDENED WASHER

EXPANSION JOINT SECTION
FOR DETAILS NOT SHOWN,
SEE "RAIL TUBE SPLICE SECTION."



RAIL TUBE SPLICE SECTION



M20 DIA. M164M (TYPE 1)
ROUND HEAD BOLT
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE #9)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.

POST NUMBER	RAIL HEIGHT (A)	RAIL SPACING (B)	POST LENGTH (C)	RAIL HEIGHT (D)
1	860	405	2134	455
2	702	254	1956	448

SPLICE TABLE					
T	A	B	C	L	X
N/A	100	50	--	500	20
EXPANSION JOINT TABLE					
<100	100	50	65	500	65

T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 6

* = SINGLE SLOT

No.	Remarks	Date
0	Initial submittal	

REVISIONS

RECEIVED
OCT 29 BY
NOV 01 2010
RESUBMIT APPROVED AS NOTED
BY DATE 11/23/2010

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 NETC 2 RAIL BRIDGE RAILING
TOWN OF CORNWALL
COUNTY OF ADDISON
VT ROUTE 125 BRIDGE NO. 9
PROJECT NUMBER BRS 0172 (6)

AISC CERTIFIED FABRICATOR

HSC JOB NO. 1785

GENERAL CONTRACTOR

SUB CONTRACTOR F.R. LAFAYETTE

SHEET NO. 2 of 2

DRAWN	CHECKED	DATE	SCALE	SIZE
MHM	PAR	09-14-10	N.T.S.	D

VERMONT

State of Vermont
PDD/Structures Design Section
National Life Building – Drawer 33
Montpelier, VT 05633-5001
www.aot.state.vt.us

Agency of Transportation

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

Casco Bay Steel Structures
75 Spring Hill Road
Saco, Maine 04072

DATE: July 19, 2010

Project Name: Cornwall **Project #: BRS 0172 (6)**

Structure Identification: Bridge 9 on Vt 125 over the Lemon Fair River

The following Structural Steel details [Item #506.55, Structural Steel, Plate Girder] for the above project (Vendor's Job #457) transmitted with your letter dated June 22, 2010 have been reviewed and are being returned herewith.

Sheets: **E1, WS1, C1, X1, 1-5**
are approved

Sheets: **GN1, 6**
are approved "as noted"

Please make appropriate changes as indicated on these "as noted" or "approved" drawings and submit white prints for our use in the record plans for this project. Also, please submit extended weights for our approval. **Partial payment for this item will be withheld until extended weights are received and approved.**

You must provide notice to our fabrication inspector, Jeff Clark, as to the date fabrication represented by these drawings will begin. Jeff must receive and acknowledge your notice at least seven days prior to that date, as per Specification 506.03. You may contact Jeff by phone at (802)828-0044 or email at jeff.clark@state.vt.us. Any material fabricated prior to the notification date is subject to rejection without further cause.

Sincerely,

Martha Evans-Mongeon
Project Manager

Attachments
cc: [X] Resident Engineer w/prints , Joe Knipes
[X] Shop Inspector w/prints, Jeff Clark
[X] Contractor w/prints, A. L. St. Onge Contractor, Inc.
[X] Construction Division – letter only
[X] Materials & Research Section (C&IA Unit) – letter only
[X] Files (Structures & Central)

VTrans Working to Get You There
Vermont Agency of Transportation

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360 Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

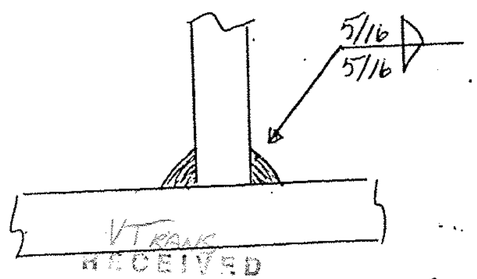
Material specification ASTM-709-Gr36-50-50W / A709M Gr 250-345-345W (FCAW)
Welding process Flux Cored Arc welding
Manual or machine Semi AUTO
Position of welding Flat - Horizonal
Filler metal specification AWS A5-29
Filler metal classification E81T1-Ni1-H4 ESAB
Flux NA
Shielding gas 75%AR-25%CO2 Flow rate 35 CFH +8 -4
Single or multiple pass single / multiple Elec Ex 5/8 ± 1/4
Single or multiple arc single
Welding current DC
Polarity DCEP
Welding progression See detail
Root treatment wire brush - area To be Free of loose Scale, Slag, rust & Moisture
Preheat and interpass temperature To 20°(3/4") 10(50), 20°(3/4") TO 40(1½) 20(70), 40°(1½) TO 60(2½) 65-C150 over 60(2½) 110(225)
Postheat temperature NA
Heat Input Min 27.7 KJ/in Max 43.6 KJ/in PQR FCM #8 39.6 KJ/in

VT - AOT, Br No 9
Proj No. - BRS 0172(6)
Cornwall - CBSS-457

WELDING PROCEDURE

AWS 5-13
AWS D1-5 Joint detail Fillet

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
		287	29	13
	1/16	258 TO 315	26.8 TO 31	11.4 TO 14



VT Rout
RECEIVED
CK'D BY _____ ORD BY JWC
JUN 23 2010
RESUBMIT _____ APPROVED ✓
BY _____ DATE 7-8-10

AWS QC1 PAUL E. GOODALE 03100201 CWI

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 101
Revision no. _____

Contractor Casco Bay Steel
Authorized By Paul E. Goodale
Date 12-6-06

Form III-2

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360 **Fax:** (207) 282-1179

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709 Gr36-50-50W (250-345-345W)
Welding process Submerged Arc Welding - AUTO (SAW)
Manual or machine Machine
Position of welding FlaT (1F), HorizonTal (2F)
Filler metal specification AWS A5-17, AWS A5-23
Filler metal classification F8A2-EnitK-Ni1 Lincoln
Flux 960 Flux - Lincolnweld - LA-75 ElecTrode
Shielding gas NA Flow rate NA
Single or multiple pass both
Single or multiple arc Single
Welding current Direct
Polarity Reverse ElecTrode PosiTive
Welding progression
Root treatment MeeT AWS SpeciFicaTion
Preheat and interpass temperature To 3/4(19)-50°F(10°C) 3/4"(19") 1½(38)-70°F(20°C) 1½"(38") To 2½(63.5)-150°F(65°C) over 2½(63.5)-225°F(110°C)
Postheat temperature NA
Heat Input Min 41-65 Max 65.45 PQR# 1-59.5

VT- AOT, Br No 9
Proj No.- BRS 0172(6)
Cornwall-CBSS-457

WELDING PROCEDURE

(MeTric)

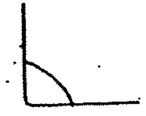
Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
	5/32	605 544.5 To 665.5	29.5 27.4 To 31.56	18.5 15.3 To 20.7
	3.9	MeTric 605 544.5 To 665.5	29.5 27.4 To 31.56	457.2 384.6 To 525.8

Joint detail Fillet AWS D1.5

1F

5/16 To 1/2
(8 To 12.7)

2F



1/4 To 5/16
(6 To 8)

3/8 To 5/8
(9.5 To 15.9)

VTrans RECEIVED JUN 23 2010 CK'd BY ____ dmv Inc

RESUBMIT ____ APPROVED ✓ DATE 7-8-10 BY

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 201
Revision no.
Form III-2

AWS QC 1 PAUL E. GOODALE 03100201 CWI

Contractor Casco Bay STeel
Authorized By Paul E. Goodale
Date 3/2/00

Casco Bay Steel Structures, Inc.

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709 - Gr 36-50-50W
Welding process Submerged Arc Welding
Manual or machine Machine
Position of welding Flat + Horizontal
Filler metal specification A5-23
Filler metal classification F8A2-EN1K-N11-H8
Flux Lincoln 960 - ElecTrode LA-95
Shielding gas NA Flow rate NA
Single or multiple pass Both
Single or multiple arc Single
Welding current DC
Polarity DCEP
Welding progression See Detail
Root treatment grind-wirebrush-Free of Mill scale, Slag-Rust & Moisture
Preheat and interpass temperature See Table
Posfheat temperature AS Req
Heat Input Min 39.8 Max 62.5 FCM 14 - 56.8 KJ/in

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

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

VT - AOT, Brno 9
Proj No.- BRS 0172(6)
Cornwall - CBSS-457

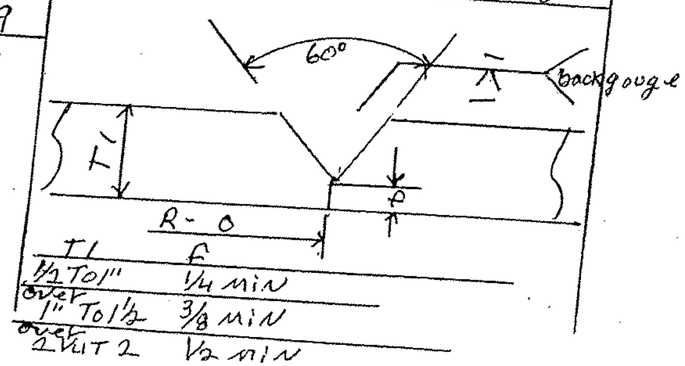
VT RAWS RECEIVED JUN 23 2010 CK'D BY JRC

RESUBMIT ____ APPROVED ✓
BY ____ DATE 7-8-10

WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
		600	30	19
AS REQ	5/32	640 TO 560	32 TO 28	21 To 17

Sec. 5-13
AWS D1-5 Joint detail B-L2C-5



T1	f
1/2 To 1"	1/4 MIN
over 1" To 1 1/2	3/8 MIN
over 2 1/2 T 2	1/2 MIN

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 202-A
Revision no. ____

PAUL E. GOODALE
CWI 83100201
QC1 EXP. 10/01/10

Contractor Casco Bay Steel
Authorized By Paul E. Goodale
Date 1-11-10

Casco Bay Steel Structures, Inc.

5 Industry Road
South Portland, Maine 04106

one: (207) 772-2533 Fax: (207) 772-0580

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709-Gr 36-50-50W (250-345-345W)
Welding process Shielded Metal Arc Welding (SMAW)
Manual or machine Manual
Position of welding Flat (1F), Horizontal (2F)
Filler metal specification ANSI/AWS A5.1 - A5.5
Filler metal classification E7018 - 8018 C1/C3 - 7028
Flux NA
Shielding gas NA Flow rate NA
Single or multiple pass Single and multiple
Single or multiple arc Single
Welding current AC/DC
Polarity Straight / Reverse
Welding progression
Root treatment Meet AWS specification
Preheat and interpass temperature To 3/4(19) 50°F(10°) 3/4(19) To 1 1/2(38) 70°F(20°) 1 1/2(38) To 2 1/2(63.5) 150°F(65°) over 2 1/2(63.5) 225°F(110°)
Postheat temperature NA
Heat Input Min NA Max NA

VT-AOT, Br No 9
Proj No.-BRS 0172(6)
Cornwall-CBSS-457

(Metric) WELDING PROCEDURE

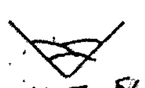
Pass no.	Electrode size	Welding current Amperes	Welding current Volts	Travel speed
AS REQ.	7018 1/8 (3.2)	70-170	22-26	AS REQ
	5/32 (3.9)	120-225	22-26	
	3/16 (4.8)	170-300	24-27	
	8018 1/8 (3.2)	90-160	22-26	
	5/32 (3.9)	120-225	22-26	
	3/16 (4.8)	180-290	24-27	
	7028 5/32 (3.9)	170-270	22-26	
	3/16 (4.8)	210-330	24-27	

AWS D1.5 Joint detail Fillet

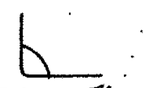
1F

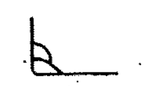
3/16 To 3/8 (5 To 10)

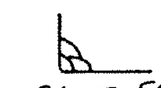
3/8 To 1/2 (10 To 13)


1/2 To 5/8 (13 To 16)

2F


3/16 To 5/16 (5 To 8)


3/8 (10)


7/16 To 5/8 (11 To 16)

VT AGENCY OF TRANSPORTATION RECEIVED JUN 23 2010 RESUBMIT ____ APPROVED ✓ BY ____ DATE 7-8-10

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable AWS codes or contract specifications

AWS QC 1 PAUL E. HOODALE 05100301 CWI

Procedure no. 401
Revision no.
Form III-2

Contractor Casco Bay Steel
Authorized By Paul E. Hoodale
Date 3/2/00

Casco Bay Steel Structures, Inc.
75 Spring Hill Road
Saco, Maine 04072
Phone: (207) 282-7360 **Fax: (207) 282-1179**

WELDING PROCEDURE SPECIFICATION

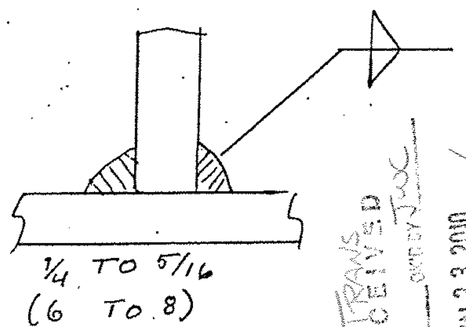
Material specification ASTM-709/A709M - Gr 36 (250), 50 (345), 50W (345W)
Welding process Submerged Arc welding
Manual or machine Machine
Position of welding Horizontal (2F)
Filler metal specification AWS A5-23
Filler metal classification F8A2-EN1K-Ni1 Lincoln
Flux Lincoln 960 Flux with LA-75 Electrode
Shielding gas NA Flow rate NA
Single or multiple pass Single - Electrode Ex. 1" ± 3/4 (25.4 ± 19.1)
Single or multiple arc Single
Welding current DC
Polarity DCEN
Welding progression See Joint detail
Root treatment AWS - Spec. - wire brush - grind - Blast Clean area
Preheat and interpass temperature To 3/4 (19) - 50° (10°) - 3/4" (19) To 1 1/2 (38) 70° (20°) - 1 1/2 (38) To 2 1/2 (63) 150° (65°)
Posfheat temperature NA over 2 1/2 (63) - 225° (110°)
Heat Input Min 30.0 KJ/in (1.2 KJ/mm) Max 47.1 KJ/in (1.9 KJ/mm) PQR #4-42.8 KJ/in (1.7 KJ/mm)

VT - AOT, Br No 9
Proj No. - BRS 0172(6)
Corn wall - CBSS-457

(Metric)

WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed	Fillet / Joint detail
1	3/32	299 269 To 329	31 29 To 33	13 IPM 11 To 15	AWS D1-5 2F
	2.4	Metric 299 269 To 329	31 29 To 33	330 mm 279 To 381	



VTRANS RECEIVED JUN 23 2000 CONSTRUCTION

RESUBMIT ____ APPROVED ✓ DATE 7-8-10 BY

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 250
Revision no. ____
Form III-2

AWS QC 1 PAUL E. GOODALE 88100201 CWI

Contractor Casco Bay Steel
Authorized By Paul E Goodale
Date 6-13-00

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

1). ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006 WITH LATEST REVISIONS AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 2004 AND ITS LATEST REVISIONS.

MATERIAL SPECIFICATIONS

1). UNLESS OTHERWISE NOTED, ALL STEEL TO BE AASHTO M270M GRADE 345W.

2). MATERIAL NOTED "T2" ON DETAIL DRAWINGS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS SECTION 714.01.

3). HIGH STRENGTH BOLTS: $\frac{7}{8}$"ø ASTM A325 TYPE 3 IN $\frac{15}{16}$"ø HOLES (UN).
NUTS SHALL BE A563 GRADE C3.
BOLTS & NUTS SHALL BE ROTATIONAL CAPACITY TESTED.
DO NOT MIX NUTS & BOLTS FROM DIFFERENT CONTAINERS UNLESS ALL BOLTS & NUTS HAVE THE SAME LOT NUMBER.

FABRICATION

1). ALL HOLES SHALL BE PUNCHED OR DRILLED FULL SIZE (UN).

WELDING

1). THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-02 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

2). WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES. ALL WELDS ARE CONTINUOUS U.N.

3). NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.

4). SEE DETAIL "WS1" ON THIS DRAWING FOR WELD TERMINATION DETAIL.

CLEANING

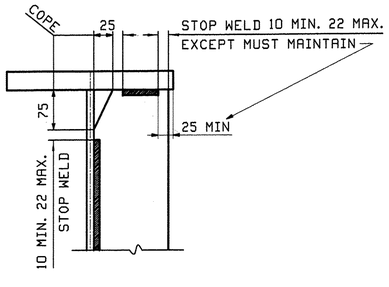
1. ALL STEEL SHALL BE BLAST CLEANED IN ACCORDANCE WITH SSPC SP-6.
2. STRUCTURAL STEEL SHALL NOT BE PAINTED.

FIELD CONNECTIONS

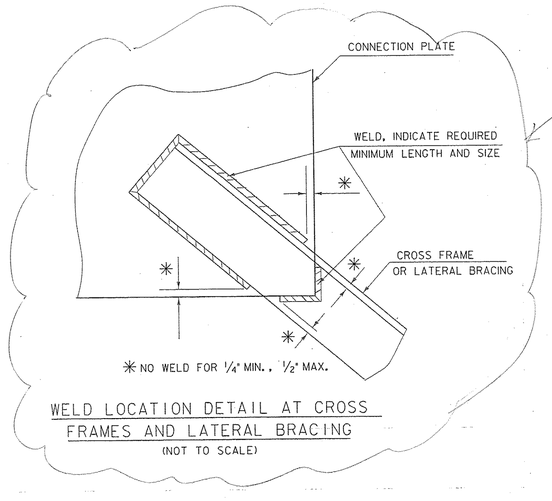
1). ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH A-325 TYPE 3 BOLTS (UN), INSTALLED PER SECTION 506.19(c). SEE DWG E1 FOR FIELD BOLT SIZES.

2). BOLTS SHALL HAVE HEAVY HEX NUT, HEAVY HEX HEAD, AND AT LEAST ONE FLAT WASHER EACH. WASHER TO BE PLACED UNDER TURNED ELEMENT.

3). PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS.



DETAIL "WS1"



WELD LOCATION DETAIL AT CROSS FRAMES AND LATERAL BRACING
(NOT TO SCALE)

Add detail

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BY _____ DATE 7/20/10

NOTE TO ENGINEER:
THESE NOTES ARE NOT INTENDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVANT SPECIFICATIONS REMAIN UNCHANGED.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					6/16/10	

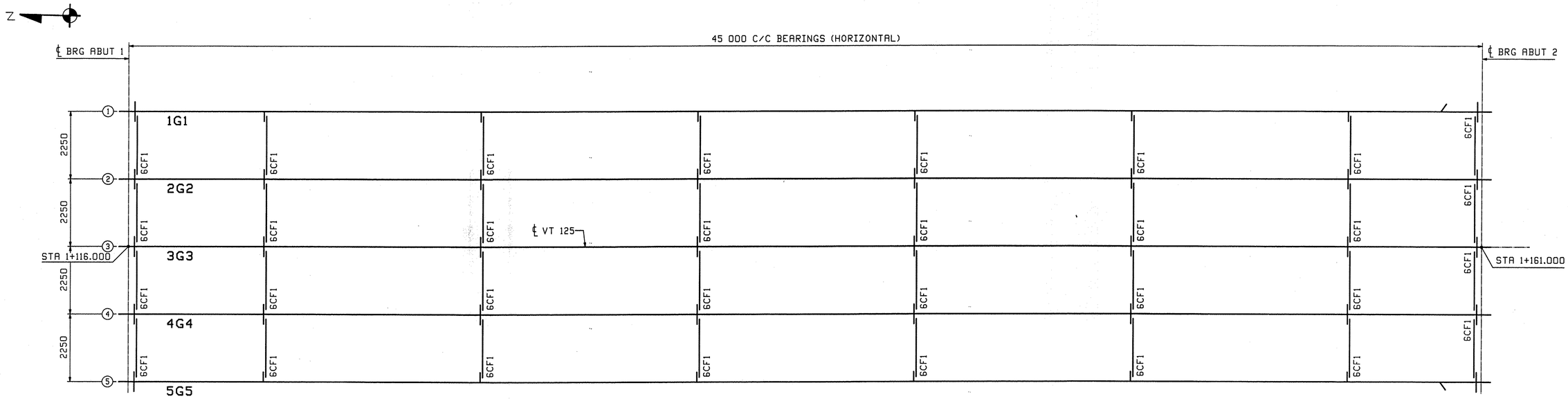
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: GENERAL NOTES

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2998

STRUCTURE: VT Route 125 over Lemon Fair River Bridge No. 9 Cornwall County of Addison	DRAWN: JTB	DATE: 06/01
	CHK'D: PCP	DATE: 06/16
LOCATION: CORNWALL, VERMONT	JOB NO. 457	DWG NO. GN1
PROJ NO. BRS 0172(6)		REV. △
CUSTOMER: VT AOT		

PCP Wed, Jun 16, 2010 01:14:57 PM J:\work\jobs\2998\GN1.dgn Rev0



FRAMING PLAN

FIELD BOLT LIST							A325 Type 3 BOLTS							
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
1														**BRG CROSSFRAMES**
2	48	7/8	2 3/4	3	16	32	14	18					1	TOP GUSSET TO BRG STIFFENER
3	48	7/8	2 3/4	3	16	32	14	18					1	BOTTOM GUSSET TO BRG STIFFENER
4														
5														**INT. CROSSFRAMES**
6	48	7/8	2 1/2	3	16	28	14	14					1	TOP GUSSET TO CONNECTION PLATE
7	48	7/8	2 1/2	3	16	28	14	14					1	BOTTOM GUSSET TO CONNECTION PLATE

WASHER CODES

1: 1 Hard Flat Washer

FIELD BOLT SUMMARY			EXACT COUNT - NONE EXTRA			
LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	96	7/8	A325 Type 3	2 1/2	96	
2	96	7/8	A325 Type 3	2 3/4	96	
3						
4	192	Hard Flat Washers for 7/8 ø BOLT			F436-3	
5						
6						
7						

NOTE:
1. ALL BOLT DIAMETERS AND LENGTHS ARE SHOWN IN INCHES (ENGLISH UNIT OF MEASUREMENT).
2. ALL GRIP VALUES ARE SHOWN IN METRIC UNITS.

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BY DATE 7/20/10

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					6/18/10	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: FRAMING PLAN & FIELD BOLTS

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2998

STRUCTURE:	VT Route 125 over Lemon Fair River Bridge No. 9 Cornwall County of Addison	DRAWN: JTB	DATE: 06/01
		CHK'D: PCP	DATE: 06/16
LOCATION:	CORNWALL, VERMONT	JOB NO.	DWG NO.
PROJ NO.	BRS 0172(6)	457	E1
CUSTOMER:	VT AOT		REV. △

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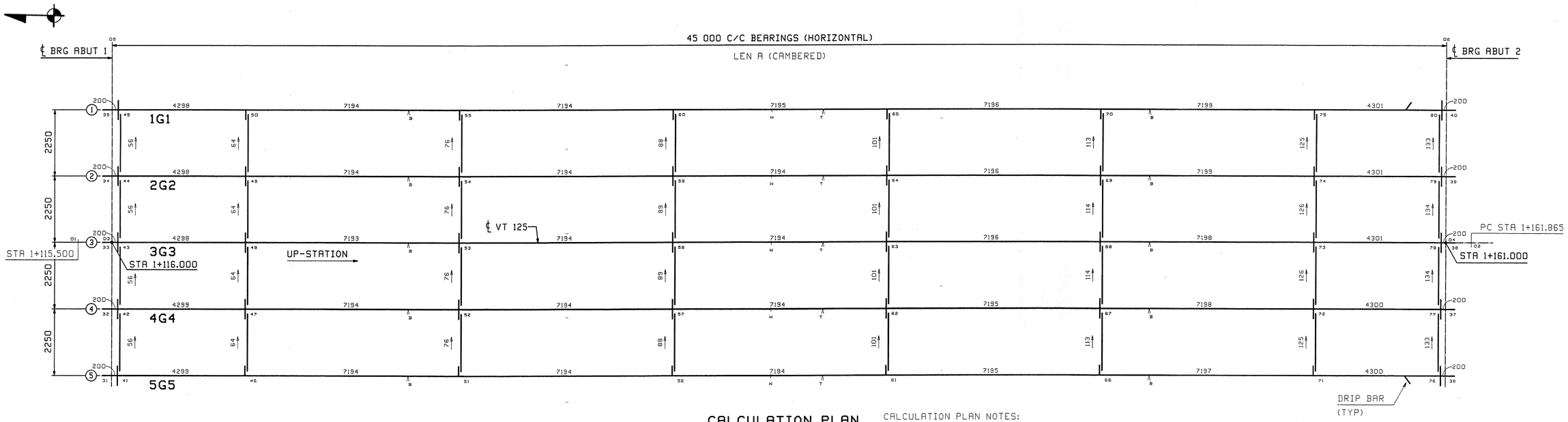
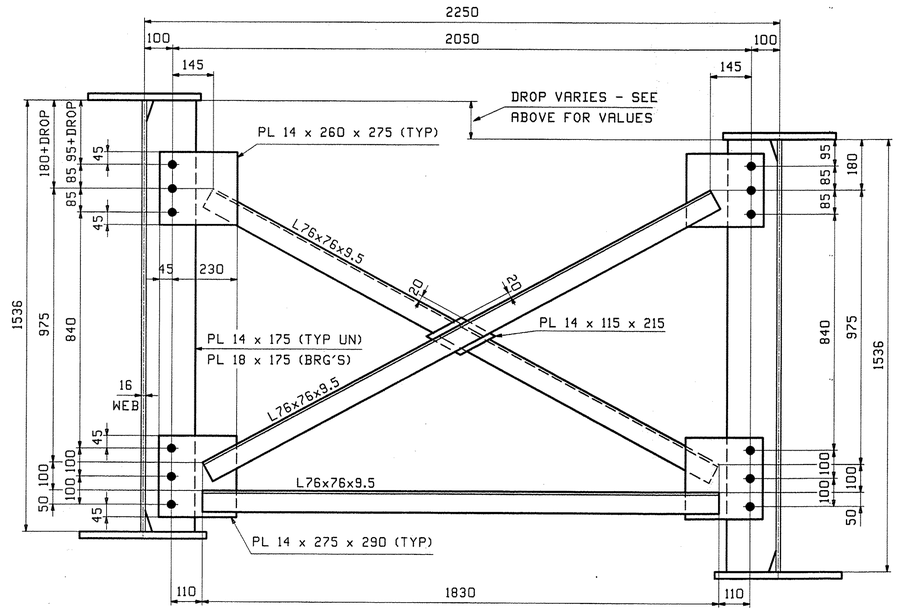


CALCULATION PLAN

CALCULATION PLAN NOTES:
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTTOM OF WEBS WITH CORRECTIONS MADE FOR DL CAMBER & GRADE (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZONTAL PLANE (UN).
3. ARROW POINTS TOWARD LOW END OF MEMBER.
4. ENDS OF GIRDERS ARE VERTICAL AFTER DL ROTATION.
5. DIAPHRAGM STIFFENERS ARE NORMAL TO GRADE.
6. BOTTOM POINT NUMBERS = TOP POINT NUMBERS + 100
7. COMBINE INT. DIAPHRAGMS FOR DIFF IN DROPS OF +/- 2mm.

		SLOPE	
Line	LEN A	ABUT 1	ABUT 2
1	44 977	-.0141	-.0218
2	44 976	-.0124	-.0201
3	44 974	-.0106	-.0184
4	44 974	-.0089	-.0167
5	44 973	-.0072	-.0150



CROSSFRAMES

(LOOKING BACK-STATION UN)
(LOOKING UP-STATION - ABUT 2)

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

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RESUBMIT ____ APPROVED ✓
BY ____ DATE 7/20/10

NOTES:
1. MATERIAL SHALL BE ASTM M270 GRADE 345W (UN).
2. ALL BOLT HOLES SHALL BE $\frac{15}{16}$"Ø FOR $\frac{7}{8}$"Ø HSB (UN).

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			6/18/10	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: CALCULATION PLAN & CROSSFRAME LAYOUTS

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

TENSOR 2998

STRUCTURE: VT Route 125 over Lemon Fair River Bridge No. 9 Cornwall County of Addison		DRAWN: JTB	DATE: 05/31
		CHK'D: PCP	DATE: 06/16
LOCATION: CORNWALL, VERMONT		JOB NO. 457	DWG NO. WS1
PROJ NO. BRS 0172(6)			REV. △
CUSTOMER: VT AOT			

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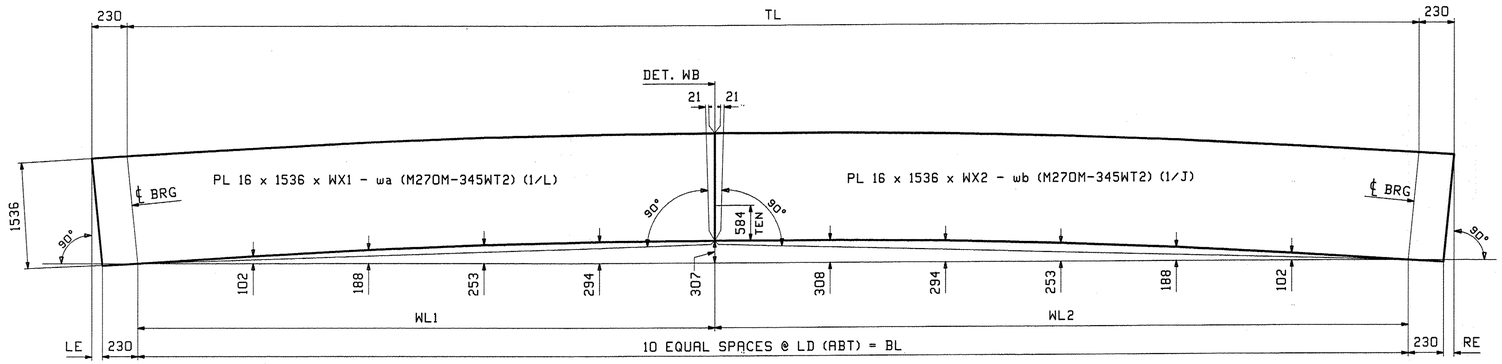
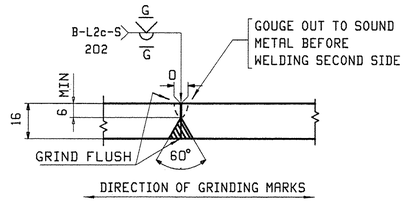
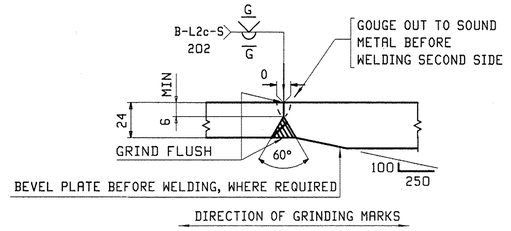


CAMBER DIAGRAM FOR 1G1 THRU 5G5

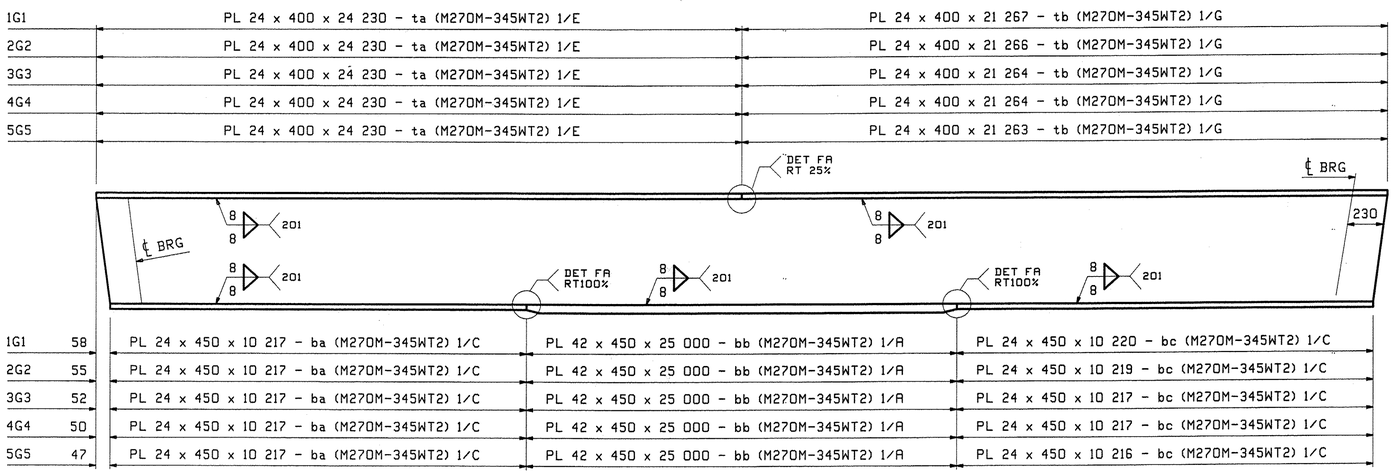
MARK	TL	BL	LE	RE	WL1	WL2	WX1	WX2	LD
1G1	45 037	44 977	58	2.	22 207	22 770	22 497	23 023	4498
2G2	45 036	44 976	55	5	22 206	22 770	22 493	23 023	4498
3G3	45 034	44 974	52	8	22 205	22 769	22 489	23 022	4497
4G4	45 034	44 974	50	10	22 203	22 771	22 485	23 024	4497
5G5	45 033	44 973	47	13	22 203	22 770	22 482	23 023	4497



WEB PLATE SPLICE DETAIL "WB"



FLANGE PLATE SPLICE DETAIL "FA"



FLANGE DIAGRAM FOR 1G1 THRU 5G5

NOTES:

1. FOR GENERAL NOTES SEE DRAWING GN1.
2. H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					6/18/10	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W(UN)	SEE DWG GN1		

DESCRIPTION: CAMBER & FLANGE DIAGRAMS

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2998

STRUCTURE:	VT Route 125 over Lemon Fair River Bridge No. 9 Cornwall County of Addison	DRAWN: JTB	DATE: 06/01
		CHKD: PCP	DATE: 06/16
LOCATION:	CORNWALL, VERMONT	JOB NO.	DWG NO.
PROJ NO.	BRS 0172(6)	457	C1
CUSTOMER:	VT ROT		REV. △

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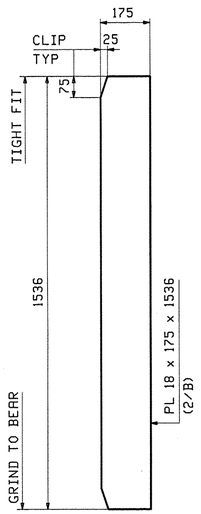
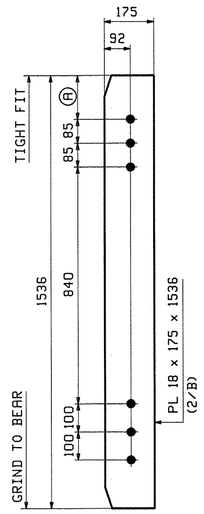


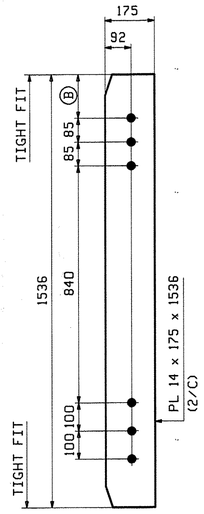
4 ~ x1a

BRG STIFF
FASCIA SIDE



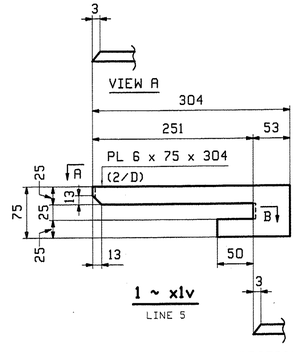
MARK "A"

BRG STIFF



MARK "B"

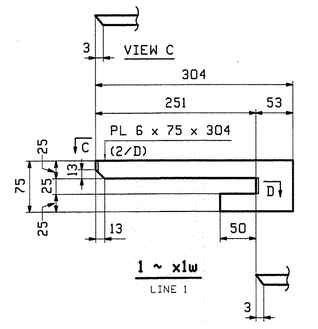
INT CF CONN



1 ~ x1v

LINE 5

SECTION B



1 ~ x1w

LINE 1

SECTION D

MARK "A"	QTY	Ⓐ	
x1b	8	95	LOW END
x1c	4	151	DROP = 56
x1d	4	229	DROPS = 133, 134

MARK "B"	QTY	Ⓑ	
x1f	24	95	LOW END
x1g	4	159	DROP = 64
x1k	4	171	DROP = 76
x1m	4	183	DROPS = 88, 89
x1n	4	196	DROP = 101
x1p	4	209	DROPS = 113, 114
x1t	4	220	DROPS = 125, 126

NOTES:
FOR GENERAL NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					6/18/10	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	15/16"ø	NONE

DESCRIPTION: GIRDER STANDARD DETAILS

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2998

STRUCTURE:	VT Route 125 over Lemon Fair River Bridge No. 9 Cornwall County of Addison	DRAWN: JTB	DATE: 06/01
		CHKD: PCP	DATE: 06/16
LOCATION:	CORNWALL, VERMONT	JOB NO. 457	DWG NO. X1
PROJ NO.	BRS 0172(6)		REV. △
CUSTOMER:	VT AOT		

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JUN 23 2010
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BY DATE 7/20/10

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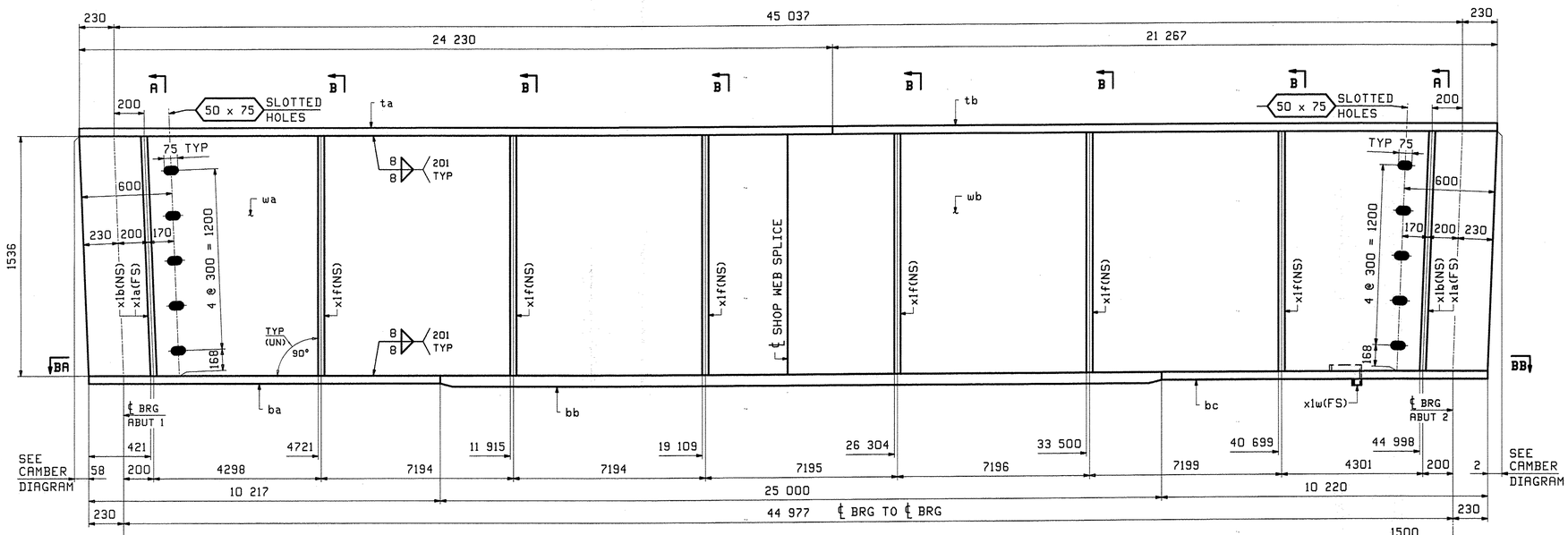
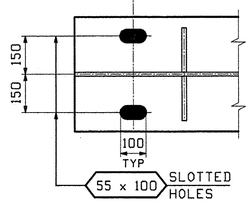
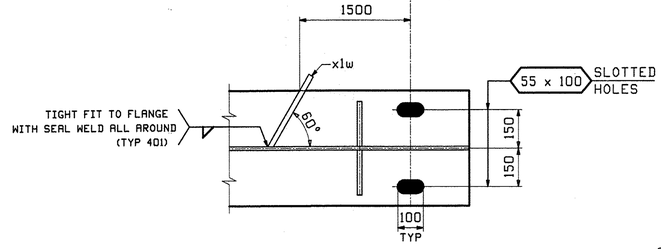


ONE - GIRDER - 1G1

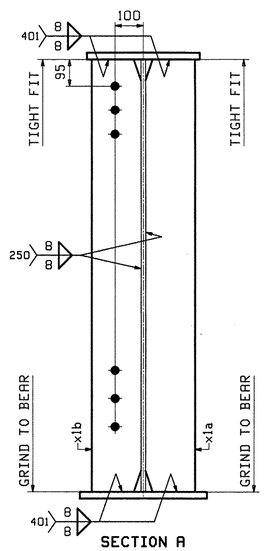
FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
"T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



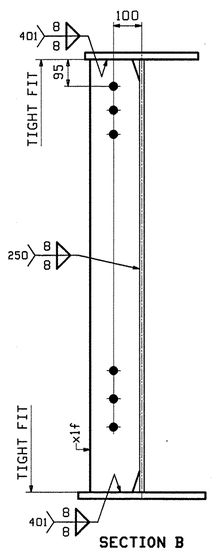
SECTION BA



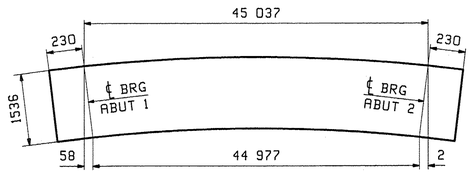
SECTION BB



SECTION A



SECTION B



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								457	1	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		1G1	1		GIRDER				17982 kg 39643 lbs	
1	L		1	wa	PL 16x1536	22	497	M270M-345WT2		
1	J		1	wb	PL 16x1536	23	023	M270M-345WT2		
1	E		1	ta	PL 24x400	24	230	M270M-345WT2		
1	G		1	tb	PL 24x400	21	267	M270M-345WT2		
1	C		1	ba	PL 24x450	10	217	M270M-345WT2		
1	A		1	bb	PL 42x450	25	000	M270M-345WT2		
1	C		1	bc	PL 24x450	10	220	M270M-345WT2		
2	B		2	x1a	PL 18x175	1	536	MIE		
2	B		2	x1b	PL 18x175	1	536	MIE		
2	C		8	x1f	PL 14x175	1	536			
2	D		1	x1w	PL 6x75	0	304			

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					6/18/10	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W(UN)	SEE DWG GN1	15/16"Ø	NONE

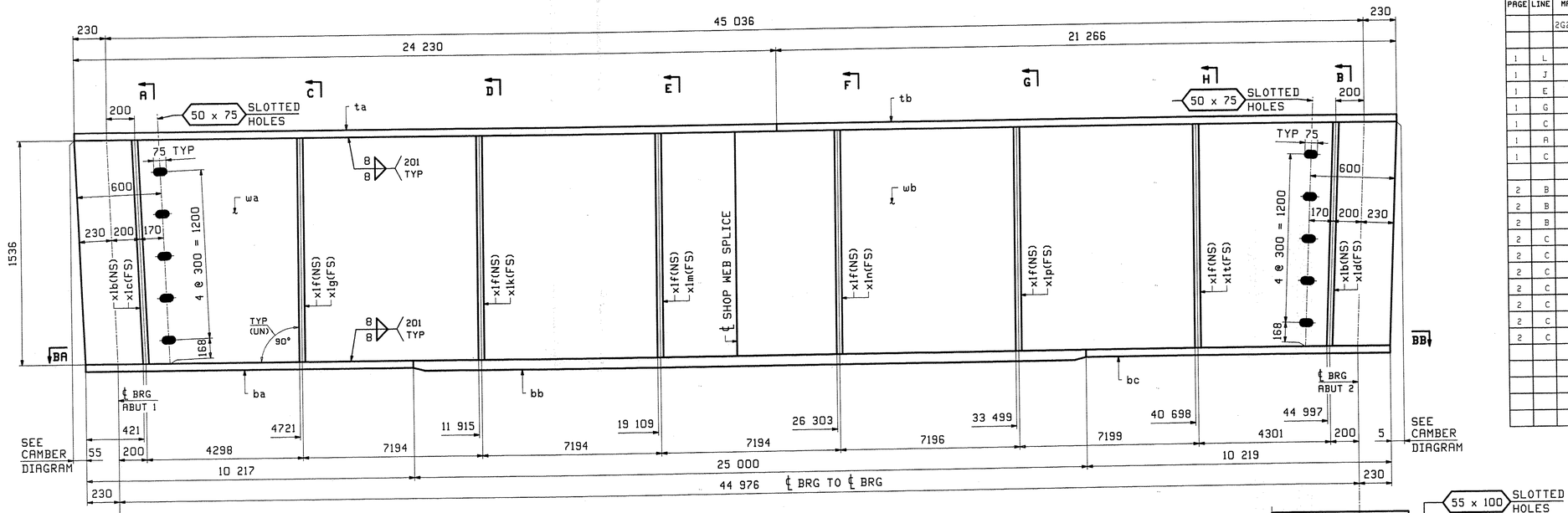
DESCRIPTION: GIRDER - 1G1

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2998

STRUCTURE:	DRAWN:	DATE:
VT Route 125 over Lemon Fair River Bridge No. 9 Cornwall County of Addison	JTB	06/01
	CHKD: PCP	DATE: 06/16
LOCATION: CORNWALL, VERMONT	JOB NO. 457	DWG NO. 1
PROJ NO. BRS 0172(6)		REV. △
CUSTOMER: VT AOT		

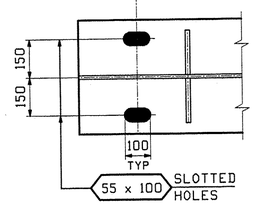
RECEIVED
JUN 23 2010
RESUBMIT ____ APPROVED ✓
BY ____ DATE 7/20/10

PCP Wed, Jun 16, 2010 01:08:00 PM /users/jobs/23981 ; Rev0

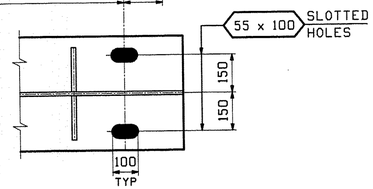


ONE - GIRDER - 2G2

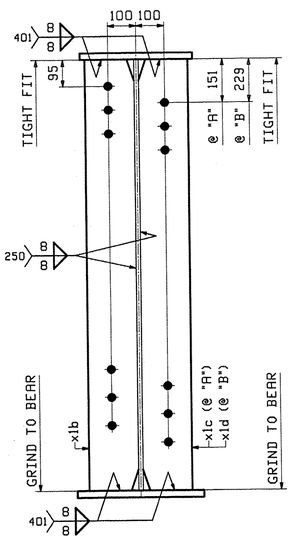
FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
"T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



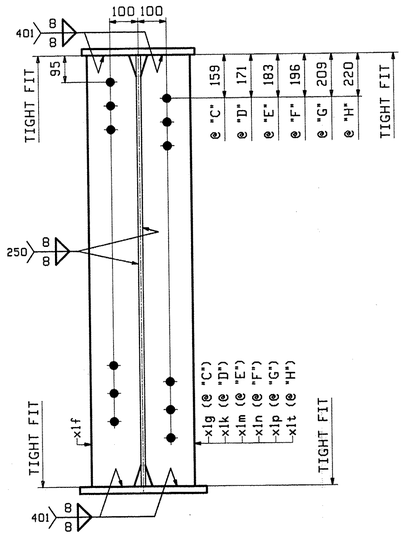
SECTION BA



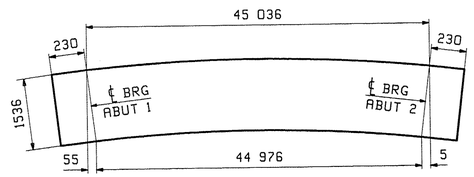
SECTION BB



SECTIONS A & B



SECTIONS C THRU H



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		2G2	1		GIRDER				38158 kg 40031 lbs	
1	L		1	wa	PL 16x1536	22	493	M270M-345WT2		
1	J		1	wb	PL 16x1536	23	023	M270M-345WT2		
1	E		1	ta	PL 24x400	24	230	M270M-345WT2		
1	G		1	tb	PL 24x400	21	266	M270M-345WT2		
1	C		1	ba	PL 24x450	10	217	M270M-345WT2		
1	A		1	bb	PL 42x450	25	000	M270M-345WT2		
1	C		1	bc	PL 24x450	10	219	M270M-345WT2		
2	B		2	x1b	PL 18x175	1	536	MIE		
2	B		1	x1c	PL 18x175	1	536	MIE		
2	B		1	x1d	PL 18x175	1	536	MIE		
2	C		6	x1f	PL 14x175	1	536			
2	C		1	x1g	PL 14x175	1	536			
2	C		1	x1k	PL 14x175	1	536			
2	C		1	x1m	PL 14x175	1	536			
2	C		1	x1n	PL 14x175	1	536			
2	C		1	x1p	PL 14x175	1	536			
2	C		1	x1t	PL 14x175	1	536			

BILL OF MATERIAL

JOB NO. 457 | DRAWING NO. 2 | REV.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					6/18/10	

MATERIAL:	SURFACE PREP. & PRINT:	HOLES:	SHOP BOLTS:
M270M-345W(UN)	SEE DWG GN1	15/16 ø	NONE

DESCRIPTION: GIRDER - 2G2

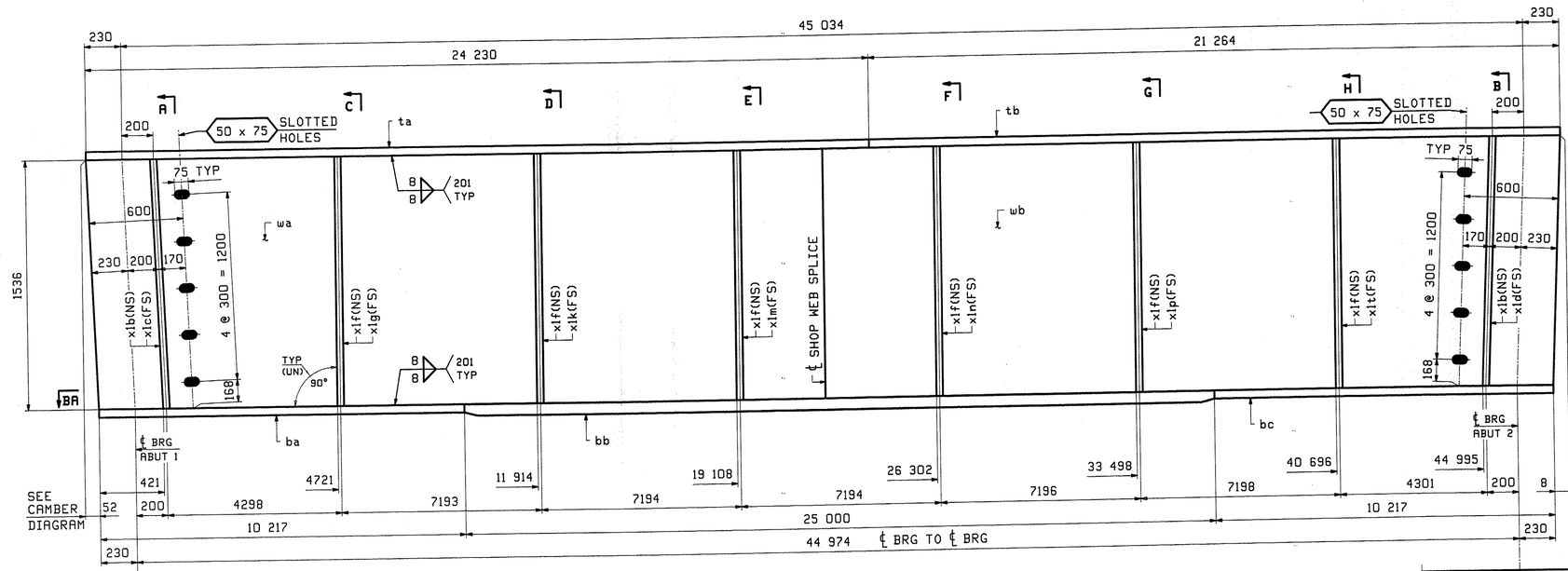
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

TENSOR 2998

STRUCTURE: VT Route 125 over Lemon Fair River Bridge No. 9 Cornwall County of Addison	DRAWN: JTB	DATE: 06/01
	CHKD: PCP	DATE: 06/16
LOCATION: CORNWALL, VERMONT	JOB NO. 457	DWG NO. 2
PROJ NO. BRS 0172(6)		REV. △
CUSTOMER: VT AOT		

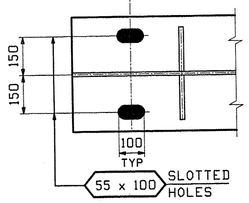
RECEIVED
CK'D BY CITY OF Mont
JUN 23 2010
RESUBMIT APPROVED ✓
BY DATE 7/20/10

PCP Wed, Jun 16, 2010 03:39:18 pm /users/jobs/2998/2 / Revit

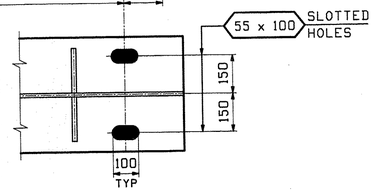


ONE - GIRDER - 3G3

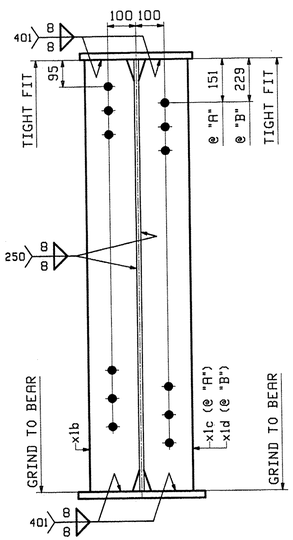
FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
"T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



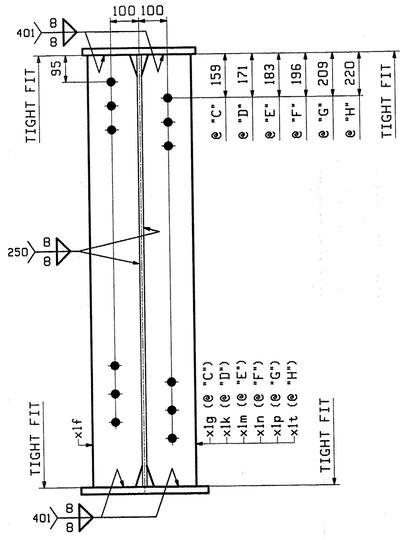
SECTION BA



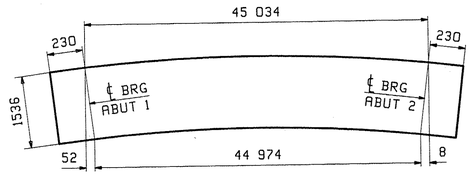
SECTION BB



SECTIONS A & B



SECTIONS C THRU H



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		3G3	1		GIRDER				38156 kg 84022 lbs	
1	L		1	wa	PL 16x1536	22	489	M270M-345WT2		
1	J		1	wb	PL 16x1536	23	022	M270M-345WT2		
1	E		1	ta	PL 24x400	24	230	M270M-345WT2		
1	G		1	tb	PL 24x400	21	264	M270M-345WT2		
1	C		1	ba	PL 24x450	10	217	M270M-345WT2		
1	A		1	bb	PL 42x450	25	000	M270M-345WT2		
1	C		1	bc	PL 24x450	10	217	M270M-345WT2		
2	B		2	x1b	PL 18x175	1	536	MIE		
2	B		1	x1c	PL 18x175	1	536	MIE		
2	B		1	x1d	PL 18x175	1	536	MIE		
2	C		6	x1f	PL 14x175	1	536			
2	C		1	x1g	PL 14x175	1	536			
2	C		1	x1k	PL 14x175	1	536			
2	C		1	x1m	PL 14x175	1	536			
2	C		1	x1n	PL 14x175	1	536			
2	C		1	x1p	PL 14x175	1	536			
2	C		1	x1t	PL 14x175	1	536			

BILL OF MATERIAL

JOB NO.	DRAWING NO.	REV.
457	3	

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					6/18/10	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W(UN)	SEE DWG GN1	15 16 ⌀	NONE

DESCRIPTION: GIRDER - 3G3

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2998

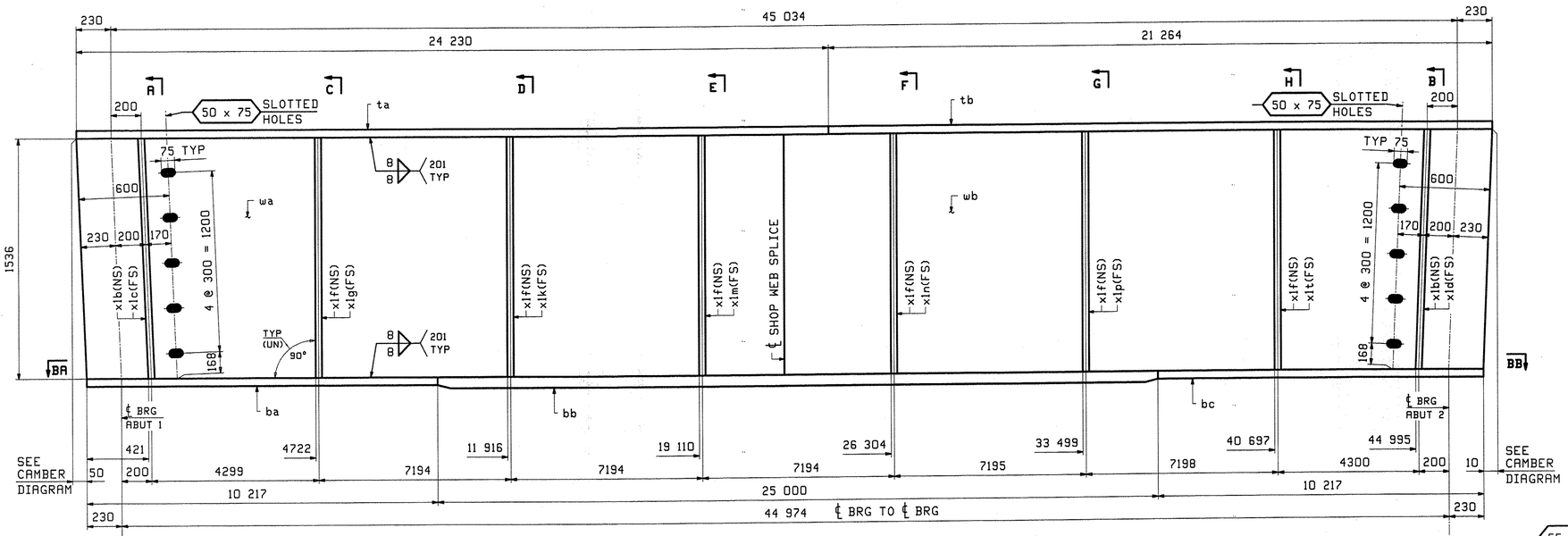
STRUCTURE: VT Route 125 over Lemon Fair River
Bridge No. 9
Cornwall
County of Addison

DRAWN:	DATE:
JTB	06/01
CHKD:	DATE:
PCP	06/16
JOB NO.	DWG NO.
457	3
REV.	△

LOCATION: CORNWALL, VERMONT
PROJ NO. BRS 0172(6)
CUSTOMER: VT AOT

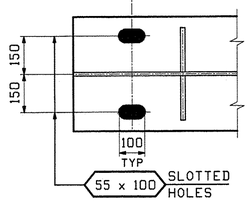
RECEIVED
CK'D AT ORDEV
JUN 23 2010
RESUBMIT APPROVED
BY DATE 7/20/10

PCP Wed, Jun 16, 2010 01:01:12 PM J:\457\JOBS\2998\3 - Rev0

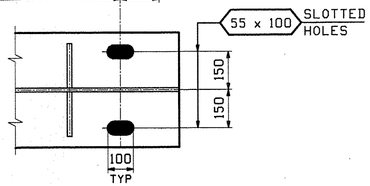


ONE - GIRDER - 4G4

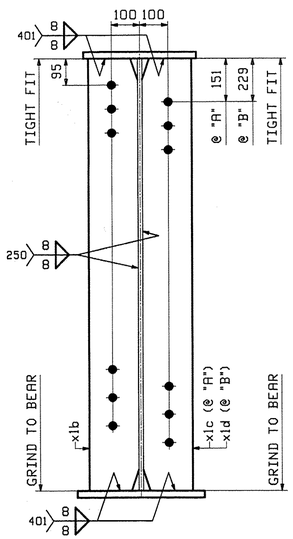
FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
"T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



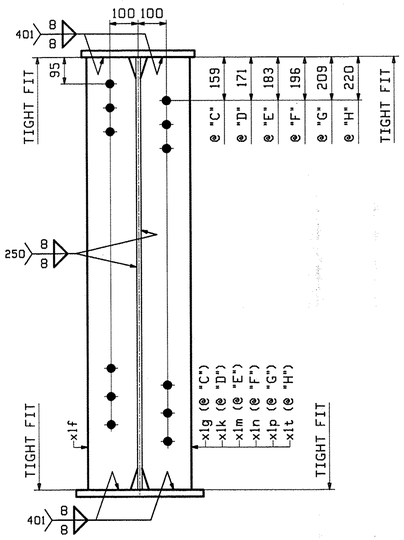
SECTION BA



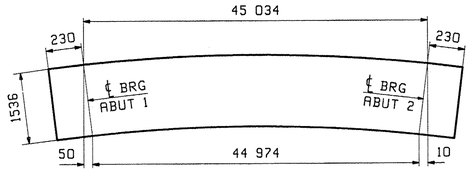
SECTION BB



SECTIONS A & B



SECTIONS C THRU H



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS
		4G4	1		GIRDER			18155 kg 40027 lbs
1	L		1	wa	PL 16x1536	22	485	M270M-345WT2
1	J		1	wb	PL 16x1536	23	024	M270M-345WT2
1	E		1	ta	PL 24x400	24	230	M270M-345WT2
1	G		1	tb	PL 24x400	21	264	M270M-345WT2
1	C		1	ba	PL 24x450	10	217	M270M-345WT2
1	A		1	bb	PL 42x450	25	000	M270M-345WT2
1	C		1	bc	PL 24x450	10	217	M270M-345WT2
2	B		2	x1b	PL 18x175	1	536	MIE
2	B		1	x1c	PL 18x175	1	536	MIE
2	B		1	x1d	PL 18x175	1	536	MIE
2	C		6	x1f	PL 14x175	1	536	
2	C		1	x1g	PL 14x175	1	536	
2	C		1	x1k	PL 14x175	1	536	
2	C		1	x1m	PL 14x175	1	536	
2	C		1	x1n	PL 14x175	1	536	
2	C		1	x1p	PL 14x175	1	536	
2	C		1	x1t	PL 14x175	1	536	

BILL OF MATERIAL — JOB NO. 457 — DRAWING NO. 4 — REV.

PROCUREMENT NOTES

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			6/18/10	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W(UN)	SEE DWG GN1	15/16" ø	NONE

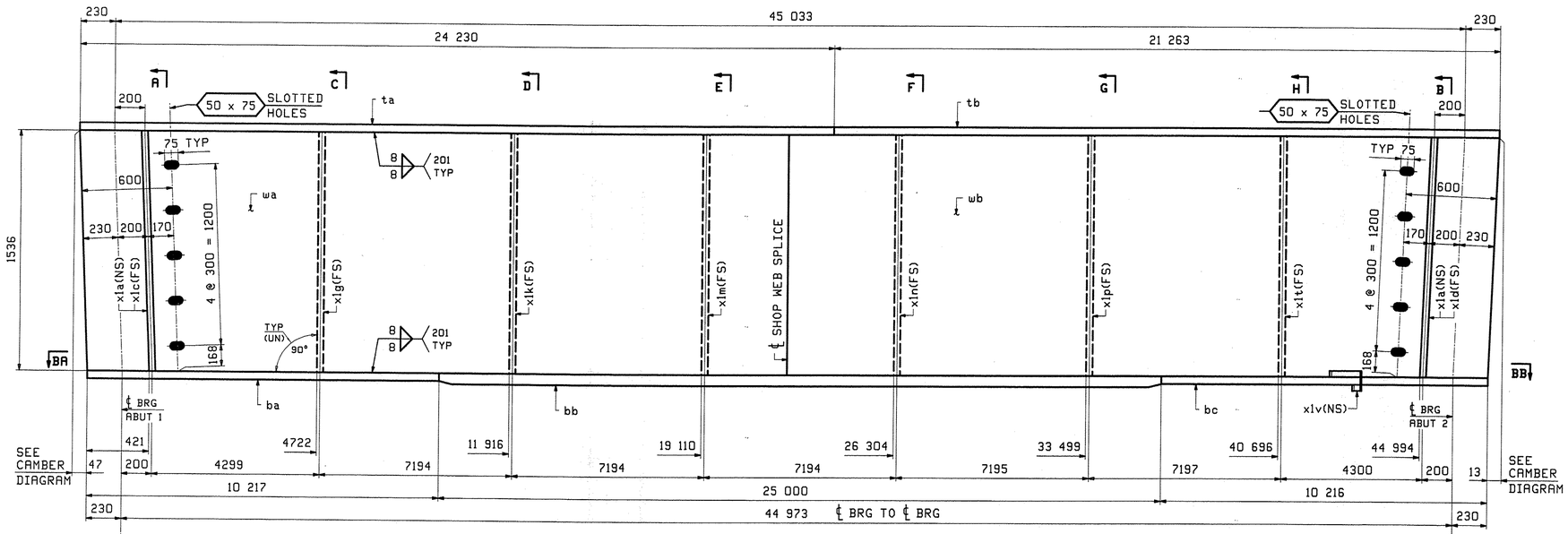
DESCRIPTION: GIRDER - 4G4

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2998

STRUCTURE: VT Route 125 over Lemon Fair River Bridge No. 9 Cornwall County of Addison	DRAWN: JTB	DATE: 06/01
	CHKD: PCP	DATE: 06/16
LOCATION: CORNWALL, VERMONT	JOB NO. 457	DWG NO. 4
PROJ NO. BRS 0172(6)		REV. △
CUSTOMER: VT AOT		

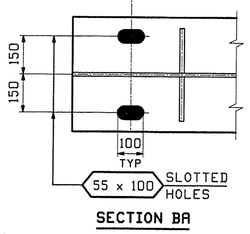
RECEIVED
CKT'D BY _____ COPIED BY _____
JUN 23 2010
RESUBMIT _____ APPROVED ✓
BY _____ DATE 7/20/10

PCP Wed, Jun 16, 2010 01:01:14 PM //users/jobs/29894 | Rev0

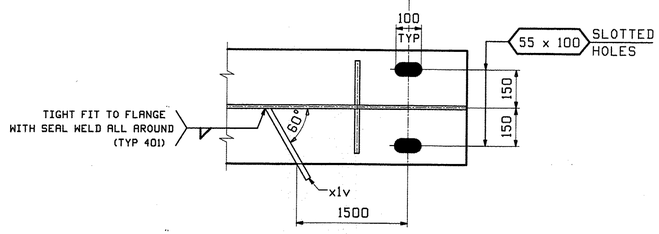


ONE - GIRDER - 5G5

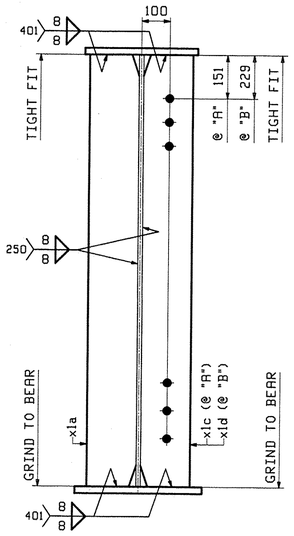
FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
"T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



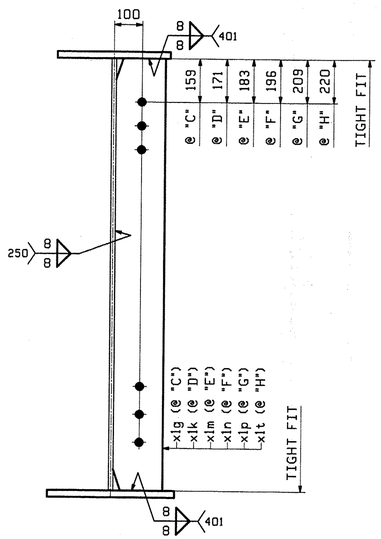
SECTION BA



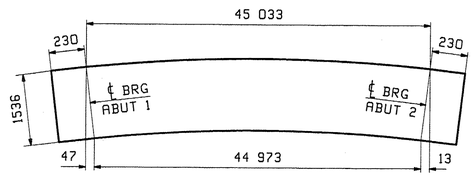
SECTION BB



SECTIONS A & B



SECTIONS C THRU H



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		5G5	1		GIRDER				17979 kg 39636 lbs	
1	L		1	wa	PL 16x1536	22	482	M270M-345WT2		
1	J		1	wb	PL 16x1536	23	023	M270M-345WT2		
1	E		1	ta	PL 24x400	24	230	M270M-345WT2		
1	G		1	tb	PL 24x400	21	263	M270M-345WT2		
1	C		1	ba	PL 24x450	10	217	M270M-345WT2		
1	A		1	bb	PL 42x450	25	000	M270M-345WT2		
1	C		1	bc	PL 24x450	10	216	M270M-345WT2		
2	B		2	x1a	PL 18x175	1	536	T1E		
2	B		1	x1c	PL 18x175	1	536	T1E		
2	B		1	x1d	PL 18x175	1	536	T1E		
2	C		1	x1g	PL 14x175	1	536			
2	C		1	x1k	PL 14x175	1	536			
2	C		1	x1m	PL 14x175	1	536			
2	C		1	x1n	PL 14x175	1	536			
2	C		1	x1p	PL 14x175	1	536			
2	C		1	x1t	PL 14x175	1	536			
2	D		1	x1v	PL 6x75	0	304			

BILL OF MATERIAL — JOB NO. 457 — DRAWING NO. 5 — REV.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					6/18/10	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W(UN)	SEE DWG GN1	15/16 Ø	NONE

DESCRIPTION: GIRDER - 5G5

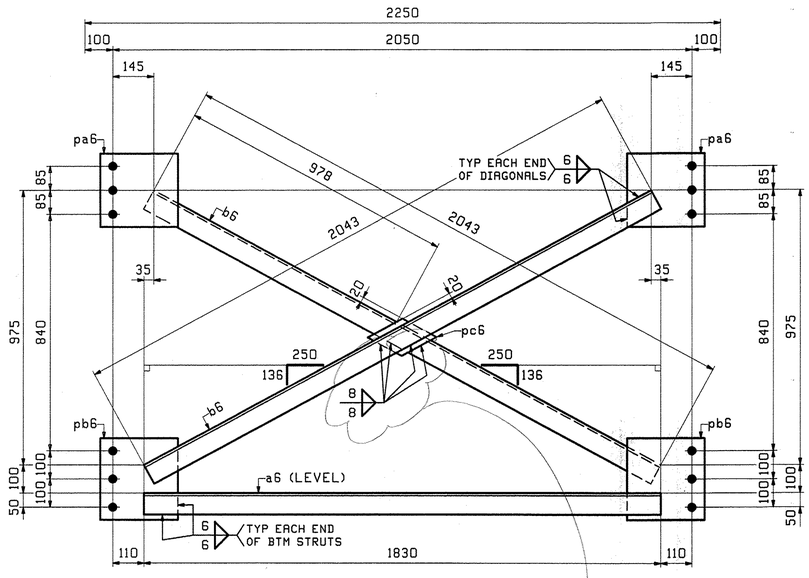
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2998

STRUCTURE: VT Route 125 over Lemon Fair River, Bridge No. 9, Cornwall, County of Addison	DRAWN: JTB	DATE: 06/01	
	CHKD: PCP	DATE: 06/16	
LOCATION: CORNWALL, VERMONT	JOB NO. 457	DWG NO. 5	
PROJ NO. BRS 0172(6)		REV. △	
CUSTOMER: VT AOT			

RECEIVED
JUN 23 2010
RESUBMIT ____ APPROVED ✓
DATE 7/20/10

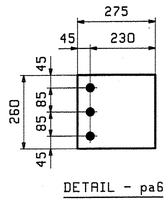
PCP Wed, Jun 16, 2010 01:43:14 PM //corp/jobs/2998/5.1 Rev0

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								457	6	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		6CF1	32		CROSSFRAMES				99 kg 218 lbs	
2	G		32	a6	L 76x76x9.5	1	830			
2	H		64	b6	L 76x76x9.5	2	043			
2	J		64	pa6	PL 14x260	0	275			
2	K		64	pb6	PL 14x275	0	290			
2	L		32	pc6	PL 14x115	0	215			

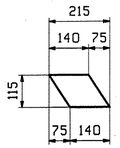


32 ~ CROSSFRAMES - 6CF1

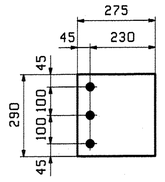
May use 6mm weld if desired



DETAIL - pa6



DETAIL - pc6



DETAIL - pb6

NOTE:
FOR GENERAL NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0		~			6/18/10	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	15/16" Ø	NONE

DESCRIPTION: CROSSFRAMES

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

TENSOR 2998

STRUCTURE:		DRAWN:	DATE:
	VT Route 125 over Lemon Fair River Bridge No. 9 Cornwall County of Addison	JTB	06/01
		CHKD: PCP	DATE: 06/16
LOCATION:	CORNWALL, VERMONT	JOB NO.	DWG NO.
PROJ NO.	BRS 0172(6)	457	6
CUSTOMER:	VT AOT		REV. △

RECEIVED
CK'D BY _____ OFFICE
JUN 23 2010
RESUBMIT _____ APPROVED As Noted
BY DATE 7/20/10

PCP Wed, Jun 16, 2010 01:35:44 PM /tasks/jobs/2998/6 | Rev0

NOTES:
1. Geopier Rammed Aggregate Pier drawings based on Approximate Limits of Special Provision (Impact Displacement Pier) provided in the contract drawings, sheet 87 of 144, prepared by the Vermont Agency of Transportation, and dated March 16, 2010.

2. For subsurface exploration logs and locations, see design submittal booklet.

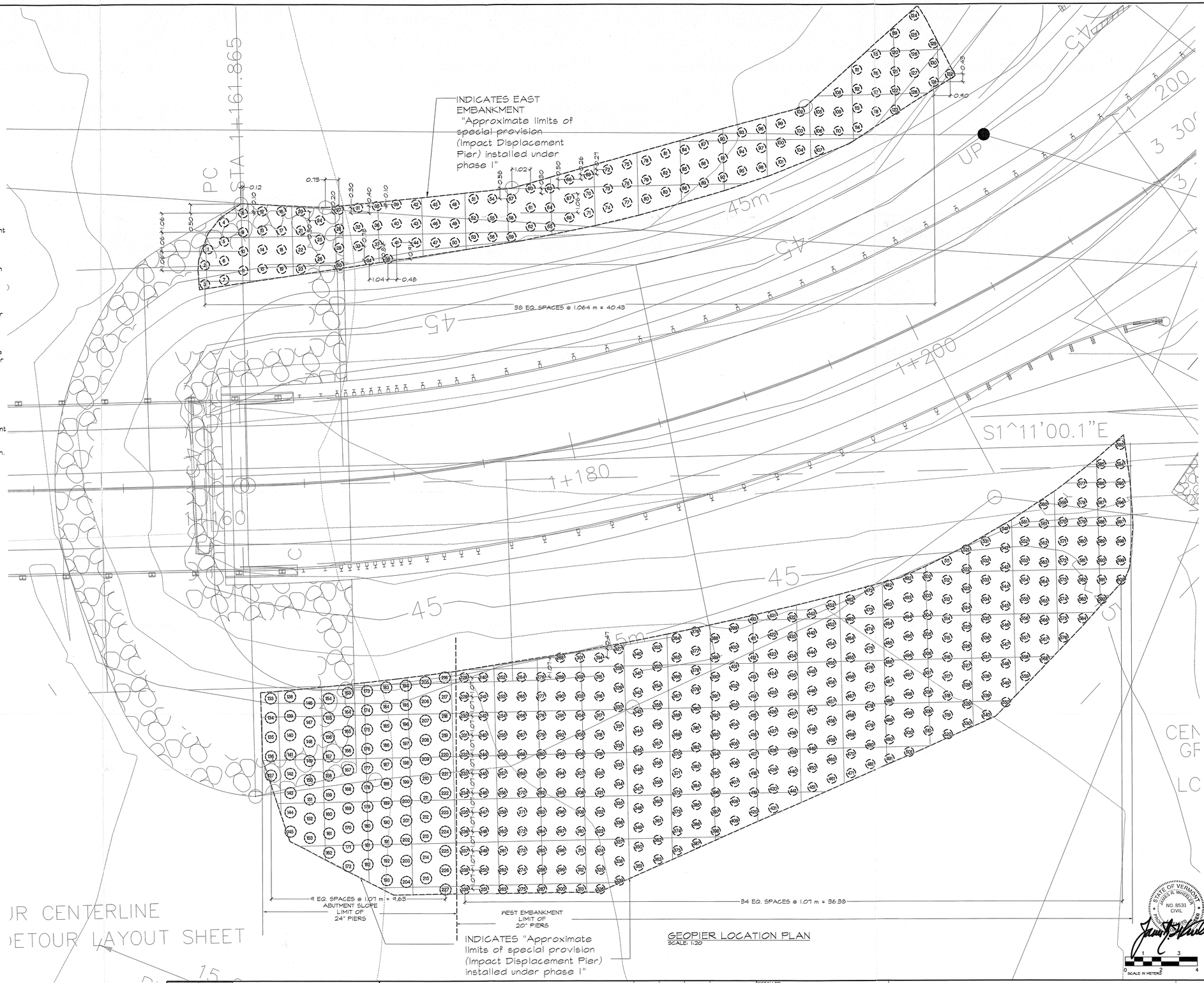
3. See sheet GEO-2.0 for construction notes, specifications, and details.

4. See design submittal booklet for Rammed Aggregate Pier shaft lengths.

5. All existing and proposed utilities within and adjacent to the proposed Limits of Impact Displacement Piers shall be verified by the General Contractor and coordinated with the Geopier foundation installer before Rammed Aggregate Pier installation shall proceed.

6. A copy of this drawing is available on request for use in determining coordinate locations of individual piers that can be used with electronic survey equipment to stake out pier locations in the field. Questions that may pertain to discrepancies between coordinate locations of individual piers and the pier locations referenced to the overall Approximate Limits of Special Provision (Impact Displacement Piers) must be discussed and clarified with the VAOT. However, should a discrepancy of 2 inches or less be found, the pier may be staked out at the coordinate location shown.

(#) Indicates Impact Rammed Aggregate Pier element location and designation.



GEOPIER LOCATION PLAN
SCALE: 1:20

STATE OF VERMONT
JAMES R. WHEELER
NO. 8531
CIVIL

SCALE IN METERS

DESIGN/BUILD GEOTECHNICAL	DESIGN/BUILD GEOTECHNICAL 12 Mount Royal Ave., Ste. 208 Marlborough, MA 01752 Tel: 508-481-3849 Fax: 508-460-1114 "DELIVERING THE GEOPIER FOUNDATION SYSTEM"	"Geopier" is the registered trademark of The Geopier Foundation Company, Inc. This drawing contains information proprietary to The Geopier Foundation Company, Inc. and is to be used only as authorized for the use of ALL St. Onge Contractor, Inc. only in connection with this project. The information contained herein is not to be transmitted to any other organization unless specifically authorized in writing by The Geopier Foundation Company, Inc. Geopier is the property of The Geopier Foundation Company, Inc. and is protected under U.S. Patent No. 5249892 and other patents pending.	geopier	SCALE: 1:20 DRAWN BY: MH DATE: 5/27/10 CHKD BY: CD SHEET: 1 OF 2 APPD BY: JM PLAN NO. DISK REF NO.	INSTALLER: Helical Drilling We set it straight HELICAL DRILLING, INC. 634 GRANITE STREET BRAINTREE, MA 02184 TEL. (781) 848-2110

GEOPIER LOCATION PLAN
Cornwall BRS 0172 (6)
VT Route 125 Bridge No. 6
Cornwall, VT

SHEET NO.
GNE-00231
GEO-1.0

CONSTRUCTION NOTES

1. Immediately prior to placing embankment fill materials on the Geopier reinforced subgrade, the tops of Geopier elements and subgrade soils shall be thoroughly compacted with a standard, hand-operated impact compactor or twin drum vibratory roller. Compaction shall be performed on the same day that embankment fill is to be placed and shall extend over the entire subgrade to compact any loose surface soil and loose surface pier aggregate.

2. Excavation adjacent to a completed Geopier element shall not extend below a 1H to 1V line extending downward from the nearest edge of the top of the pier without written authorization from the Designer. In the event that excavation is carried beyond these limits, as shown in the Excavation Limits Adjacent to Geopier Elements Detail, the Contractor is responsible for the remedial measures shown in the detail that may include the reconstruction of the impacted portion of the pier or placement of structural fill to the limits shown in the detail.

3. Water shall not be allowed to accumulate on the prepared subgrade soils prior to placement of embankment fill materials.

4. The Geotechnical Consultant shall observe subgrade preparation immediately prior to placement embankment fill on Geopier elements. The Geotechnical Consultant's evaluations shall include assessing whether or not the subgrade protection layer has been kept free of water accumulation, and has been reasonably densified with a hand-held mechanical compactor or twin drum vibratory roller on the same day that the embankment fill was placed.

5. In the event that subgrade preparation, as described above, is not performed or documented in accordance with this section, any written or implied narranty with respect to Rammed Aggregate Pier embankment support Performance shall be considered void.

SPECIFICATIONS
Impact Rammed Aggregate Piers

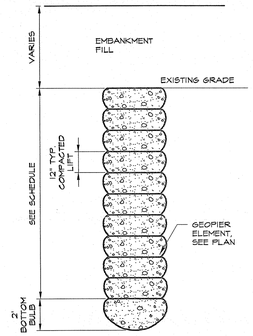
1. Rammed Aggregate Pier layout is the responsibility of the General Contractor. Piers shall be installed in the field within 6" of locations shown on these plans.
2. Rammed Aggregate Pier design shall be confirmed by a full-scale modulus load test performed at the site.
3. A qualified, full-time Quality Control (QC) representative provided by the Rammed Aggregate Pier Installer (the installer) shall be responsible for installation of the piers in accordance with the design, and shall report all Aggregate Pier foundation construction activities to the Designer. If authorized by the Owner, the QC representative shall coordinate QC activities with the Testing Agency hired by the Owner. Under no circumstance shall the Testing Agency direct Rammed Aggregate Pier installation procedures.
4. Rammed Aggregate Piers shall be accepted based on the following criteria unless otherwise approved in writing by the Designer:
   a. Rammed Aggregate Piers shall be within 3-inches or deeper than the depths shown on the plans unless approved in writing by the Designer.
   b. Average compacted lift thickness of the shaft shall be approximately 12 inches. During the mandrel removal phase of pier construction, the rate of withdrawal shall be less than the rate determined from flow testing to ensure sufficient aggregate flow to fill the resulting mandrel cavity and shall be no greater than six seconds per foot.
   c. A Bottom Stabilization Performance Test (BST-P) shall be performed on the first 5 installed piers (including pre-production piers) to establish acceptance criteria for the maximum allowable deflection of the mandrel under the full-static crowd pressure. The proof test should be performed in accordance with the following guidelines:
      i. A BST-P should be performed by shutting the hammer energy off at the top of the compacted base of the pier.
      ii. Once the hammer energy is off and the mandrel is resting on top of the last compacted lift, static crowd pressure should be applied to the pier for a period of three minutes. The corresponding deflection of the mandrel is then noted and recorded on the Quality Control forms.
      iii. Results of the initial BST-Ps should be provided to the Designer for review and establishment of acceptance criteria and frequency of BST Proof Testing, BSTs. BST Proof testing shall be completed in accordance with the same procedures noted above for performance testing except that the full mandrel crowd pressure should be maintained for only 10 seconds. The frequency of BSTs may vary depending on the soil conditions; however, BSTs shall be performed on no less than 10% of the production piers.
   d. Aggregate used to construct Impact Rammed Aggregate Piers shall be Type I Grade B in accordance with ASTM D-1241-68, except that particles passing the No. 40 sieve shall be eliminated, or shall be other uniform graded aggregate with particle sizes ranging from 0.5 to 1.5 inches selected by the Installer and successfully used in the modulus test.
5. When obstructions are encountered that cannot be removed with conventional Rammed Aggregate Pier installation equipment, the General Contractor shall be responsible for removing the obstructions. If the General Contractor does not do so in a timely manner that does not interrupt Rammed Aggregate Pier production, the Installer may remove the obstruction(s) and shall be reimbursed for costs incurred, including labor, equipment and materials.
6. Rammed Aggregate Piers not meeting the requirements defined in the design and modulus test shall be reinstalled to meet project requirements unless otherwise approved in writing by the Designer.
7. Ground surface elevations at all pier locations are the responsibility of the Contractor and shall be reported in writing in writing to the Installer's QC representative prior to installing piers.
8. Utility locations are the responsibility of the Contractor. The Designer should be notified of any conflicts with pier element locations shown on the plans.

SPECIFICATIONS (cont'd.)

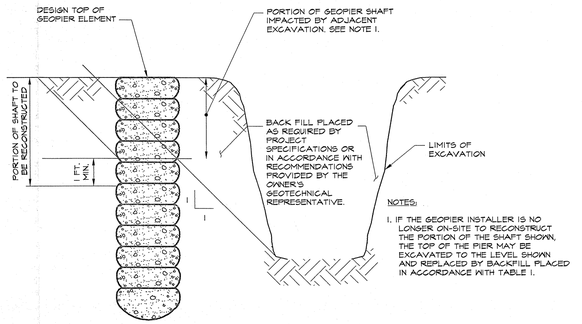
9. All Rammed Aggregate Piers have a minimum nominal compacted shaft diameter of 20 inches unless otherwise noted. All piers shall be constructed to the depths and termination criteria provided in the Design Submittal unless noted otherwise on these plans or otherwise agreed upon by the Designer and the Owner's representative. Estimated shaft lengths for each pier, based on evaluation of the available subsurface information, are included in the Geopier Schedule included in the Design Submittal Booklet.

10. These plans are based on Sheets 67 to 83 of 144, Boring Location and Boring Log sheets and sheet 87 of 144 outlining "Approximate limits of special provision (Impact Displacement Pier) installed under phase 1", prepared by VAOT, and dated 2/5/2010 and 3/16/2010 respectivly. The Rammed Aggregate Pier Layout Plan and Details are for pier numbering, location, and layout purposes only. Pier locations, sizes, and orientations shown on these plans are for information only.

11. The Rammed Aggregate Pier design is based on The Special Provisions "Impact Displacement Pier" of the contract documents dated March 19, 2010. Design/Build Geotechnical, LLC and Geopier Foundation Company, Inc. have relied on this information and have no reason to suspect any of the information in the report is in error. Design/Build Geotechnical, LLC and Geopier Foundation Company, Inc. are not responsible for errors or omissions in the report that may affect the parameter values in our design. If the subsurface or site conditions differ from those utilized in the design, The Designer shall be notified immediately.



TYP. GEOPIER ELEMENT
UNDER EMBANKMENT



LIMITS OF GEOPIER ELEMENT
IMPACTED BY ADJACENT EXCAVATION

STATE OF VERMONT
JAMES R. WHEELER
NO. 8531
CIVIL
REGISTERED PROFESSIONAL ENGINEER

DESIGN/BUILD GEOTECHNICAL
12 Mount Royal Ave., Ste. 208
Marlborough, MA 01752
Tel: 508-481-3849
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"DELIVERING THE GEOPIER FOUNDATION SYSTEM"

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SCALE	DATE	SHEET	PLAN NO.
N.T.S.	5/27/10	2 OF 2	
DRAWN BY	CHKD BY	APPD BY	DISK REF NO.
MH	GD	JM	

INSTALLER:
Helical Drilling
We set it straight
HELICAL DRILLING, INC.
694 GRANITE STREET
BRAINTREE, MA 02184
TEL. (781) 848-2110

GEOPIER DETAILS

Cornwall BRS 0172(6)
VT Route 125 Bridge No. 6
Cornwall, VT

SHEET NO.
GNE-00231
GEO-2.0