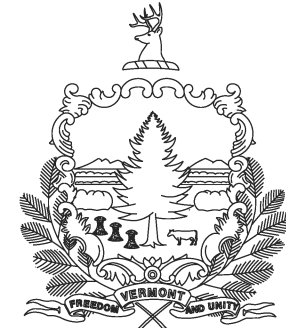


R.O.W. PLANS

INDEX OF SHEETS

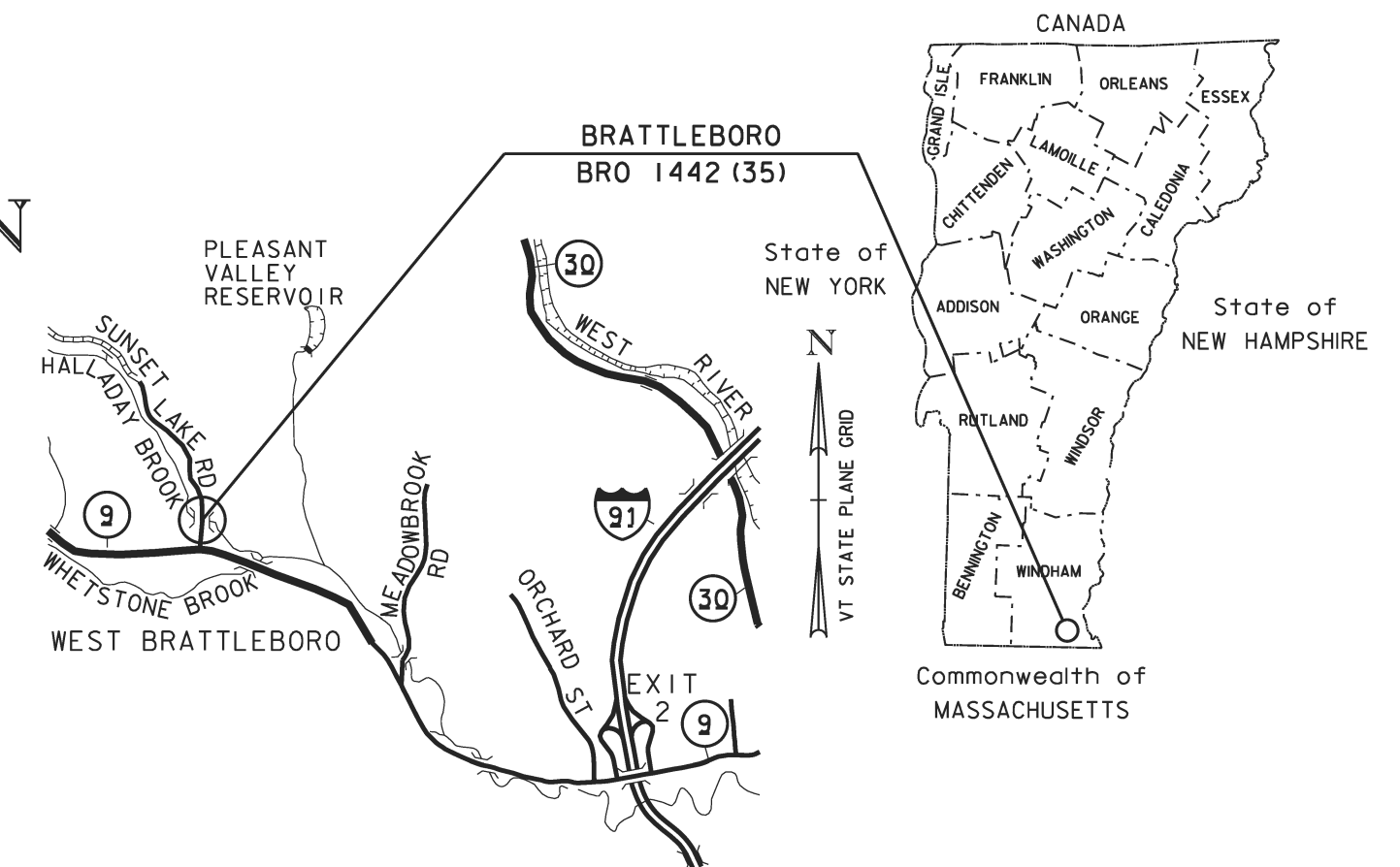
- 1 TITLE SHEET
- 2 LEGEND SHEET
- 3 DETAIL SHEET
- 4 LAYOUT SHEET
- 5 PRELIMINARY INFORMATION SHEET
- 6 TYPICAL SECTION SHEET
- 7 TIE SHEET
- 8 ALIGNMENT SHEET
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- 10 EPSC CONSTRUCTION SHEET
- 11 PLANTING PLAN
- 12 PLANTING AREA 1 PLAN & SCHEDULE
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- 15 TRAFFIC CONTROL SHEET

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT TOWN OF BRATTLEBORO COUNTY OF WINDHAM

TH 12, CLASS III (LOCAL ROAD), BRIDGE NO. 7



LOCATION MAP
NOT TO SCALE

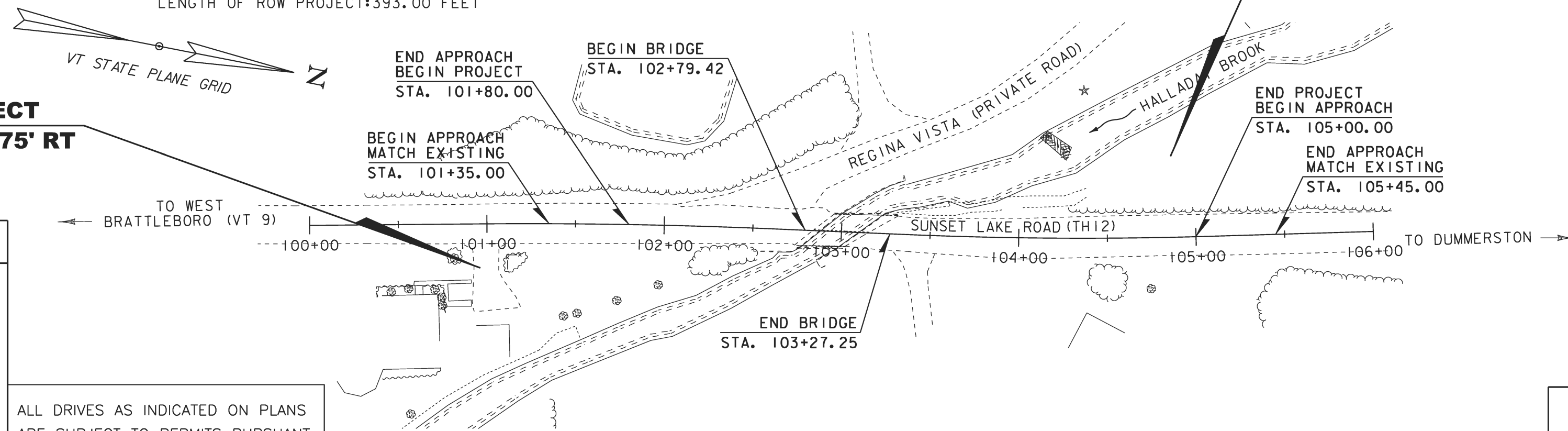
PROJECT LOCATION: LOCATED IN THE COUNTY OF WINDHAM, TOWN OF BRATTLEBORO, ON SUNSET LAKE ROAD (TH 12); BRIDGE NO. 7 OVER HALLADAY BROOK, APPROXIMATELY 0.20 MILES NORTH OF THE INTERSECTION OF VT 9 AND SUNSET LAKE RD (TH 12)

PROJECT DESCRIPTION: WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REMOVAL AND REPLACEMENT OF BRIDGE NO. 7, ON THE EXISTING ALIGNMENT, WITH ASSOCIATED ROADWAY AND CHANNEL WORK.

LENGTH OF ROADWAY: 272.17 FEET
 LENGTH OF BRIDGE: 47.83 FEET
 LENGTH OF PROJECT: 320.00 FEET
 LENGTH OF ROW PROJECT: 393.00 FEET

**END R.O.W. PROJECT
STA. 104+89.02 25.83' RT**

**BEGIN R.O.W. PROJECT
STA. 100+96.02 24.75' RT**



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	

ALL DRIVES AS INDICATED ON PLANS ARE SUBJECT TO PERMITS PURSUANT TO TITLE 19 V.S.A. § 1111.

SURVEYED BY : VHB
 SURVEYED DATE : NOV 2010

DATUM
 VERTICAL NAVD 88
 HORIZONTAL NAD 83 (07)

SCALE 1" = 40' - 0"

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

APPROVED RICHARD TETREULT DATE 02-26-13
Director of Program Development

APPROVED ROBERT M. WHITE DATE 02-26-13
Chief of Right of Way

**BRATTLEBORO
BRO 1442(35)**

ROW SHEET 1 OF 15 SHEETS

GENERAL INFORMATION

SYMBOLGY LEGEND NOTE

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

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

POINT CODE	DESCRIPTION
CH	CHANNEL EASEMENT
CONST	CONSTRUCTION EASEMENT
CUL	CULVERT EASEMENT
D&C	DISCONNECT & CONNECT
DIT	DITCH EASEMENT
DR	DRAINAGE EASEMENT
DRIVE	DRIVEWAY EASEMENT
EC	EROSION CONTROL
I&M	INSTALL & MAINTAIN EASEMENT
LAND	LANDSCAPE EASEMENT
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
■	BNDNS BOUND SET
▣	BNDNS BOUND TO BE SET
●	IPNS IRON PIN SET
⊙	IPNS IRON PIN TO BE SET
⊠	CALC CALCULATED ROW POINT
[DISTANCE]	DISTANCE CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

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

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

PROPOSED GEOMETRY CODES

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

UTILITY SYMBOLGY

UNDERGROUND UTILITIES

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

ABOVE GROUND UTILITIES (AERIAL)

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

PROJECT CONSTRUCTION SYMBOLGY

PROJECT DESIGN & LAYOUT SYMBOLGY

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

PROJECT CONSTRUCTION FEATURES

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

**CONVENTIONAL BOUNDARY SYMBOLGY**

**BOUNDARY LINES**

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

**EPSC LAYOUT PLAN SYMBOLGY**

**EPSC MEASURES**

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

**ENVIRONMENTAL RESOURCES**

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

**ARCHEOLOGICAL & HISTORIC**

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

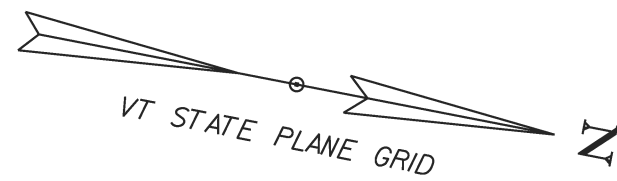
**CONVENTIONAL TOPOGRAPHIC SYMBOLGY**

**EXISTING FEATURES**

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

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRO 1442(35)
FILE NAME:	r10j062.legend.dgn
PROJECT LEADER:	M. CHANETTE
DESIGNED BY:	M. LONGSTREET
LEGEND SHEET	
PLOT DATE:	26-FEB-2013
DRAWN BY:	M. LONGSTREET
CHECKED BY:	M. LONGSTREET
SHEET	2 OF 15





CONSTRUCT 11.5' PAVED APRON  
STA. 102+69, LT - 41.5' WIDE

CONSTRUCT 12' PAVED DRIVE  
STA. 103+59, RT - 12' WIDE

REMOVAL AND DISPOSAL OF GUARDRAIL  
STA. 102+43 - 102+73, RT  
STA. 102+92 - 102+96, LT  
STA. 103+03 - 103+27, RT  
STA. 103+31 - 104+46, LT

COLD PLANING, BITUMINOUS PAVEMENT  
STA. 101+35 - 101+55, LT & RT  
STA. 105+25 - 105+45, LT & RT

BRIDGE RAILING, GALVANIZED  
HDSB/FASCIA MOUNTED/STEEL TUBING  
STA. 102+43 - 103+25, RT  
STA. 102+88 - 104+08, LT

GUARDRAIL APPROACH SECTION, GALVANIZED  
HD STEEL BEAM W/8 FEET POSTS

STA. 102+18 - 102+43, RT  
STA. 102+92, 24.58' LT - 102+88, LT  
STA. 104+08 - 104+33, LT

RELOCATE MAILBOX, MULTIPLE SUPPORT  
STA. 102+39, RT

RELOCATE MAILBOX, SINGLE SUPPORT  
STA. 103+83, RT

STEEL BEAM GUARDRAIL,  
GALVANIZED W/8 FEET POSTS

STA. 102+12 - 102+18, RT  
STA. 102+92, 24.58' LT - 103+20, 38.4' LT  
STA. 104+33 - 104+63, LT

ANCHOR FOR STEEL BEAM RAIL

STA. 102+06, RT  
STA. 103+25, 40.75' LT  
STA. 103+30, RT  
STA. 104+69, LT

STEEL BEAM GUARDRAIL, GALV.  
STA. 102+00 - 102+12, RT  
STA. 103+20, 38.4' LT - 103+34, 44.5' LT  
STA. 103+25 - 103+36, RT  
STA. 104+63 - 104+76, LT

N 134835.91 FT  
E 1607460.82 FT  
STA 100+00.00  
24.75' LT.

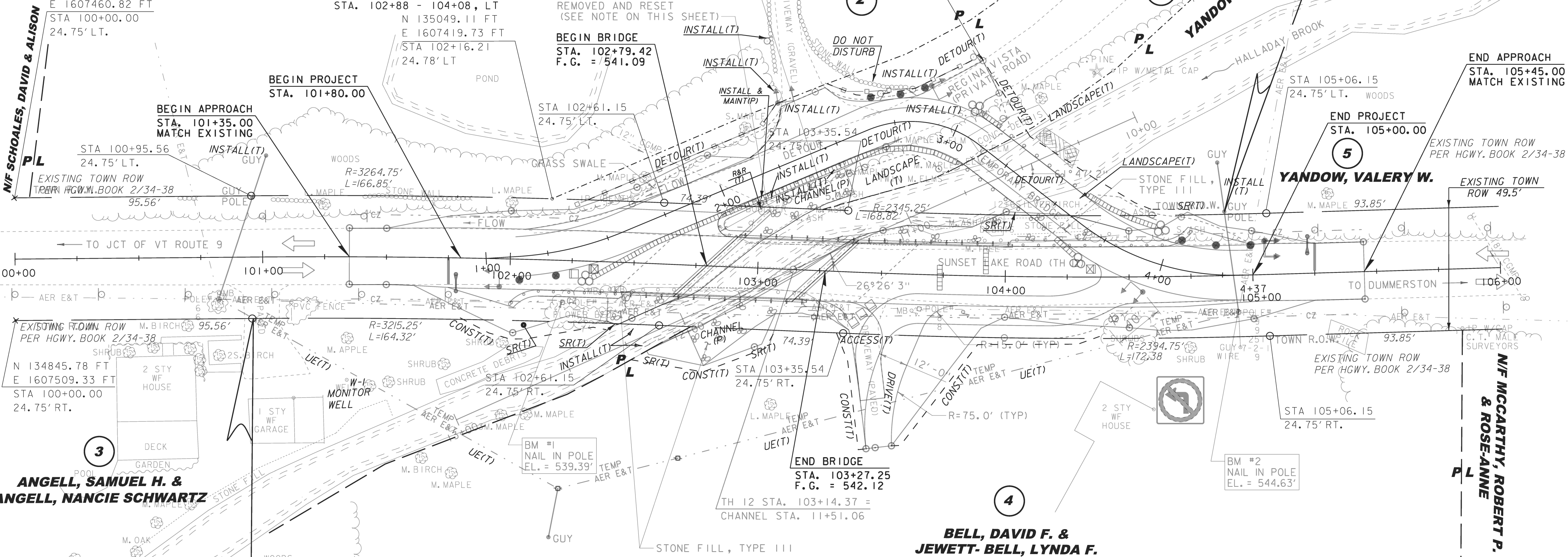
BEGIN PROJECT  
STA. 101+80.00

BEGIN APPROACH  
STA. 101+35.00  
MATCH EXISTING

BEGIN BRIDGE  
STA. 102+79.42  
F.G. = 541.09

END APPROACH  
STA. 105+45.00  
MATCH EXISTING

END PROJECT  
STA. 105+00.00



EXISTING TOWN ROW  
PER HWY. BOOK 2/34-38  
95.56'  
N 134845.78 FT  
E 1607509.33 FT  
STA 100+00.00  
24.75' RT.

ANGELL, SAMUEL H. &  
ANGELL, NANCIE SCHWARTZ

**BEGIN R.O.W. PROJECT**  
**BRO 1442 (35)**  
**STA. 100+96.02**  
**24.75' RT.**

EDGE OF PAVEMENT WIDTH TRANSITION  
STA. 101+55 = MATCH EXISTING LT & RT  
STA. 101+80 = 12'-2" LT & RT  
STA. 104+72 = 12'-2" RT  
STA. 104+97 = 12'-2" LT  
STA. 105+05 = MATCH EXISTING LT & RT

END BRIDGE  
STA. 103+27.25  
F.G. = 542.12

BELL, DAVID F. &  
JEWETT-BELL, LYNDIA F.

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

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**

NOTE:  
1. EXISTING BOULDER ALONG REGINA VISTA (T.H. 12  
STA. 103+02, 23.83' LT) SHALL BE REMOVED AND  
RESET. BOULDER SHALL BE LOCATED BEHIND THE  
GUARDRAIL SO AS TO PROVIDE A MINIMUM OF 4'-0"  
CLEAR ZONE BETWEEN THE BOULDER AND THE FRONT  
OF GUARDRAIL. ALL COST FOR PROPERLY REMOVING,  
STORING AND RESETTING THE BOULDER WILL BE  
INCIDENTAL TO ALL CONTRACT ITEMS.

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRO 1442(35)
FILE NAME:	r10j062_layout.dgn
PROJECT LEADER:	M. CHANETTE
DESIGNED BY:	S.E. BURBANK
ROW LAYOUT SHEET 1 OF 1	
PLOT DATE:	19-JUL-2013
DRAWN BY:	B. FERLAZO
CHECKED BY:	H. PETROVS
SHEET	4 OF 15

# PRELIMINARY INFORMATION SHEET (BRIDGE)

## FINAL HYDRAULIC REPORT

### HYDROLOGIC DATA

Date: N/A

DRAINAGE AREA: Approximately 5.5 sq. mi.  
 CHARACTER OF TERRAIN: Hilly and mountainous, mostly forested  
 STREAM CHARACTERISTICS: Sinuuous, slightly incised with minimal floodplain  
 NATURE OF STREAMBED: Gravel, cobbles, boulders and ledge

### PEAK FLOW DATA

Q 2.33 = 300 cfs                      Q 50 = 1100 cfs  
 Q 10 = 650 cfs                        Q 100 = 1275 cfs  
 Q 25 = 900 cfs                        Q 500 = Unknown

DATE OF FLOOD OF RECORD: 1927  
 ESTIMATED DISCHARGE: Unknown  
 WATER SURFACE ELEV.: Unknown  
 NATURAL STREAM VELOCITY: @ Q25 = 5.8 fps  
 ICE CONDITIONS: Moderate  
 DEBRIS: Moderate  
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Unknown  
 IS ORDINARY RISE RAPID? Unknown  
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No  
 IF YES, DESCRIBE: _____

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

### EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span concrete encased steel beam bridge  
 YEAR BUILT: 1920  
 CLEAR SPAN(NORMAL TO STREAM): 12'-4"  
 VERTICAL CLEARANCE ABOVE STREAMBED: 5'-6"  
 WATERWAY OF FULL OPENING: 68 sq. ft.  
 DISPOSITION OF STRUCTURE: Remove and replace structure  
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings

### WATER SURFACE ELEVATIONS AT:

Q2.33 = 536.61 feet                      VELOCITY = 7.13 fps  
 Q10 = 539.60 feet                      "                      11.81 fps  
 Q25 = 541.54 feet                      "                      6.99 fps  
 Q50 = 543.00 feet                      "                      3.63 fps  
 Q100 = 542.35 feet                      "                      5.77 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes  
 FREQUENCY: Q25  
 RELIEF ELEVATION: 541.3 feet  
 DISCHARGE OVER ROAD @Q100: 1.05 feet

### UPSTREAM STRUCTURE

TOWN: Brattleboro                      DISTANCE: 1.6 miles  
 HIGHWAY #: TH 4 (Halladay Brook Road)                      STRUCTURE #: D16  
 CLEAR SPAN: 20'                      CLEAR HEIGHT: 9'  
 YEAR BUILT: 2005                      FULL WATERWAY: _____  
 STRUCTURE TYPE: Single Span Concrete Slab

### DOWNSTREAM STRUCTURE

TOWN: Brattleboro                      DISTANCE: 1340'  
 HIGHWAY #: Private Road (Winding Hill Road)                      STRUCTURE #: Private  
 CLEAR SPAN: _____                      CLEAR HEIGHT: _____  
 YEAR BUILT: _____                      FULL WATERWAY: _____  
 STRUCTURE TYPE: _____

### LRFR LOAD RATING FACTORS

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

### PRO

STRUCTURE TYPE

CLEAR SPAN(NOR  
VERTICAL CLEARA  
WATERWAY OF FU

WATER SURFACE

Q2.33 = 536.6  
 Q10 = 537.6  
 Q25 = 538.1  
 Q50 = 538.1  
 Q100 = 539.2

IS THE ROADWAY O  
FREQUENCY:  
RELIEF ELEVATION  
DISCHARGE OVER

AVERAGE LOW EL  
VERTICAL CLEARA

SCOUR: Foot

REQUIRED CHANN

### PER

AVERAGE DAILY F  
ORDINARY LOW W  
ORDINARY HIGH W

### TEM

STRUCTURE TYPE  
CLEAR SPAN (NO  
VERTICAL CLEARA  
WATERWAY AREA

### ADD

* Temporary bridg

1. MAINTAIN TRAFF
2. TRAFFIC SIGNAL
3. SIDEWALKS AR

1. DESIGN LIVE LO
2. FUTURE PAVEM
3. DESIGN SPAN

4. MIN. MID-SPAN F
5. PRESTRESSING
6. PRESTRESSED
7. PRESTRESSED

8. CONCRETE, HIG
9. CONCRETE, HIG
10. CONCRETE, HIG
11. CONCRETE, CL
12. REINFORCING S
13. STRUCTURAL S
14. SOIL UNIT WEIG
15. NOMINAL BEAR
16. SOIL BEARING R
17. NOMINAL BEAR
18. ROCK BEARING
19. NOMINAL AXIAL
20. PILE YIELD STRE
21. PILE SIZE
22. EST. PILE LENG
23. PILE RESISTANC
24. LATERAL PILE D
25. BASIC WIND SPE
26. MINIMUM GROUN
27. SEISMIC DATA

PROJECT NAME:

PROJECT NUMBE

FILE NAME: r1010

PROJECT LEADE

DESIGNED BY:

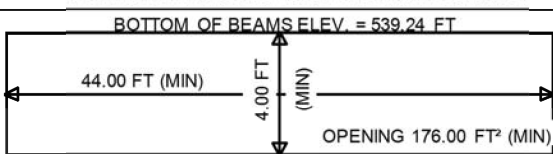
PRELIMINARY INF

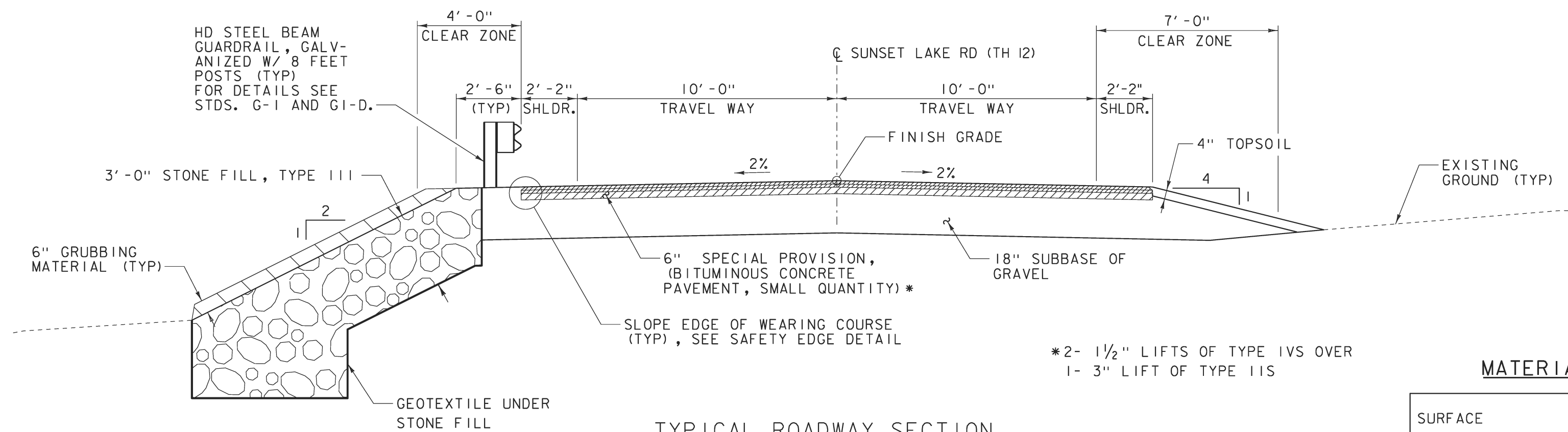
### TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2012	460	50	76	2.1	10
2032	490	55	76	3.6	20

20 year ESAL for flexible pavement from 2012 to 2032 : 40000  
 40 year ESAL for flexible pavement from 2012 to 2052 : 93000  
 Design Speed : 25 mph

### TEMPORARY BRIDGE PROFILE ALONG TEMP CL

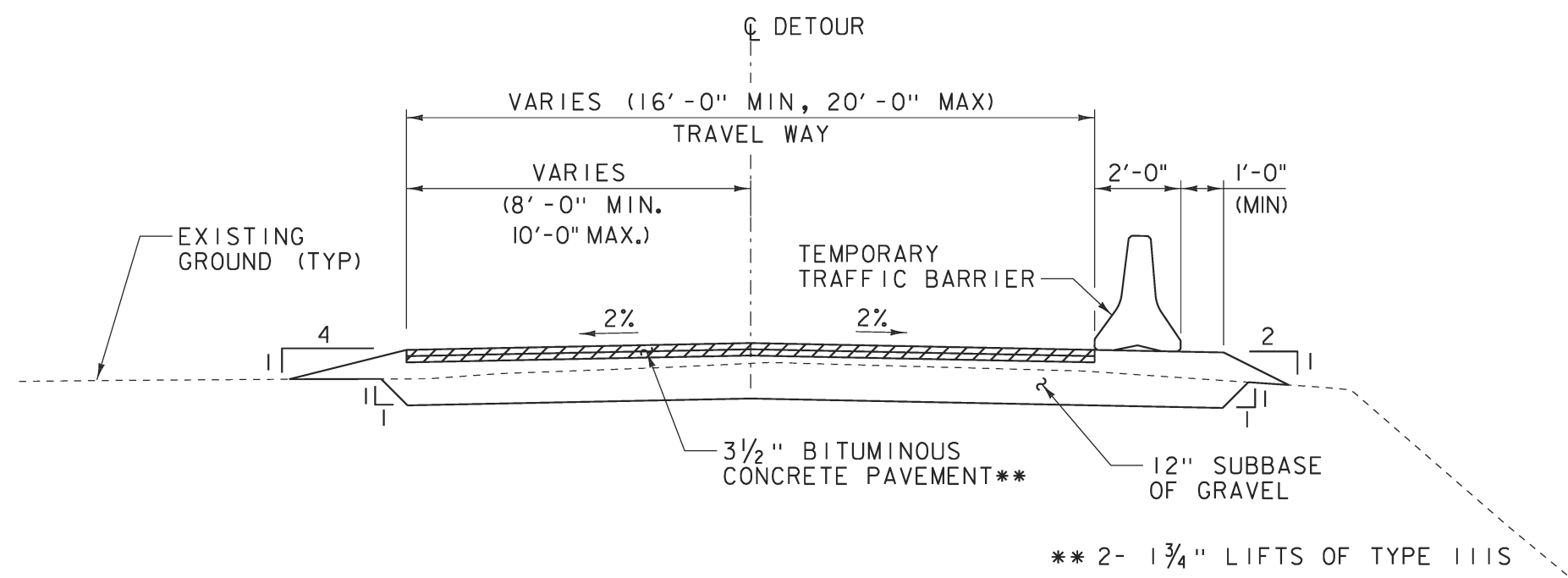




TYPICAL ROADWAY SECTION  
SCALE 3/8" = 1'-0"

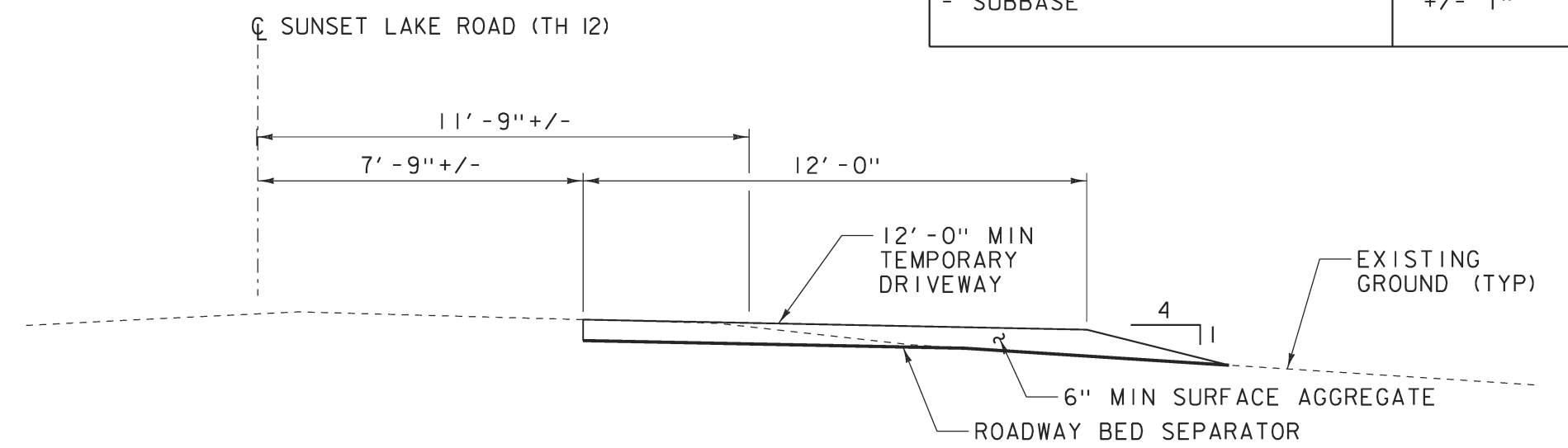
MATERIAL TOLERANCES

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- SUBBASE	+/- 1"



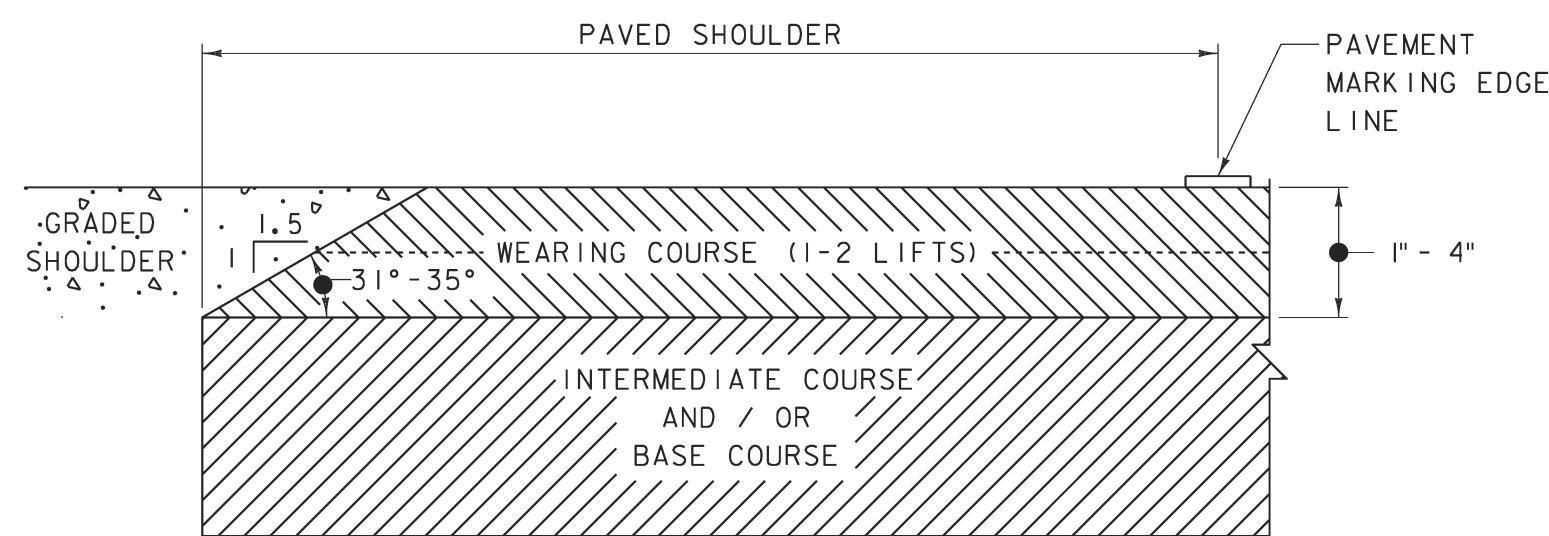
NOTE: ALL WORK ASSOCIATED WITH THE INSTALLATION AND REMOVAL OF THE DETOUR WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 528.10.

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



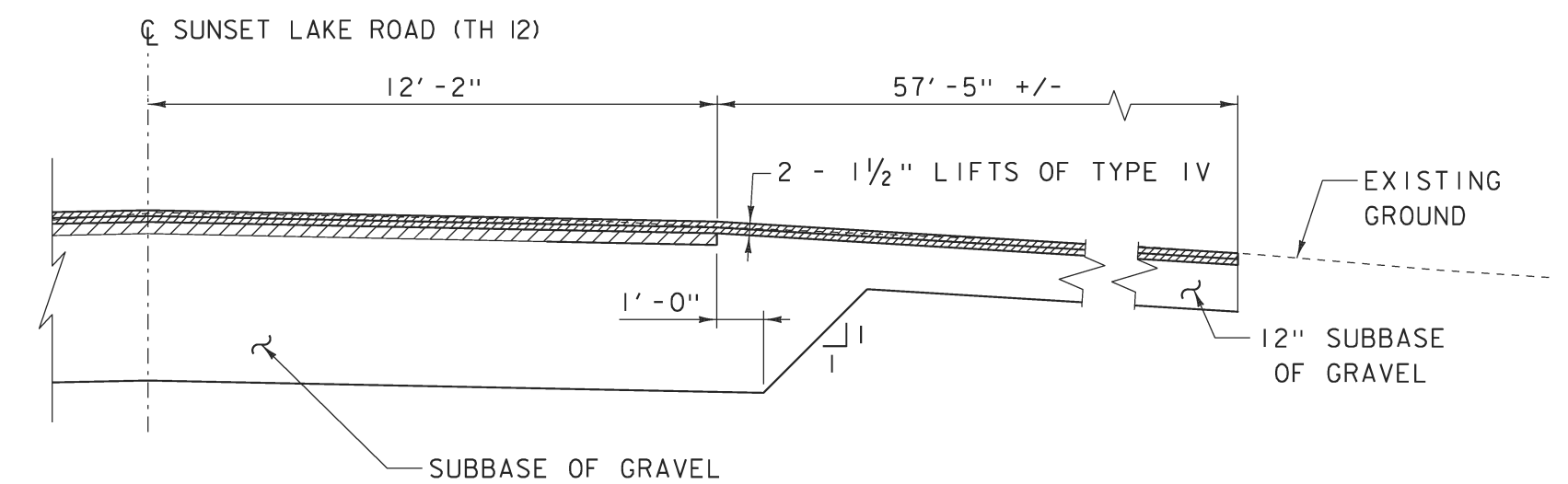
NOTE: ALL WORK ASSOCIATED WITH THE INSTALLATION AND REMOVAL OF THE TEMPORARY DRIVEWAY WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 528.10.

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



NOTE: COST FOR FORMING AND COMPACTING SAFETY EDGE SHALL BE INCIDENTAL TO ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".

SAFETY EDGE DETAIL  
NOT TO SCALE



NOTE: SEE TYPICAL ROADWAY SECTION FOR INFORMATION NOT SHOWN.

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

PROJECT NAME: BRATTLEBORO	PLOT DATE: 26-FEB-2013
PROJECT NUMBER: BRO 1442(35)	DRAWN BY: VHB
FILE NAME: r10j062.typ.dgn	CHECKED BY: VHB
PROJECT LEADER: M. CHANETTE	SHEET 6 OF 15
DESIGNED BY: VHB	
TYPICAL SHEET	

GPS CONTROL POINTS

HVCTRL #2

MAG NAIL SET  
 NORTH = 135124.4650  
 EAST = 1607422.7270  
 ELEV. = 541.0500

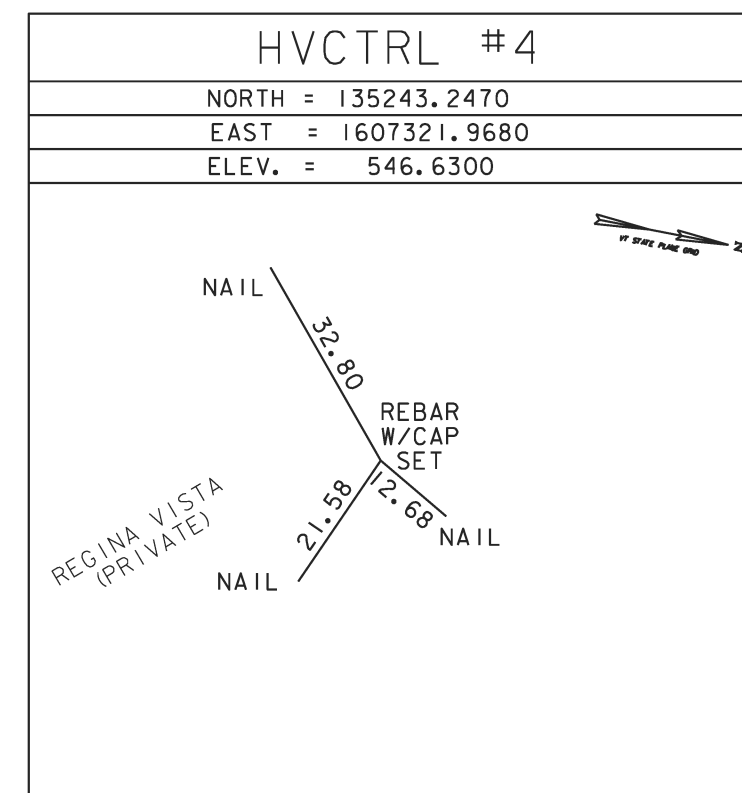
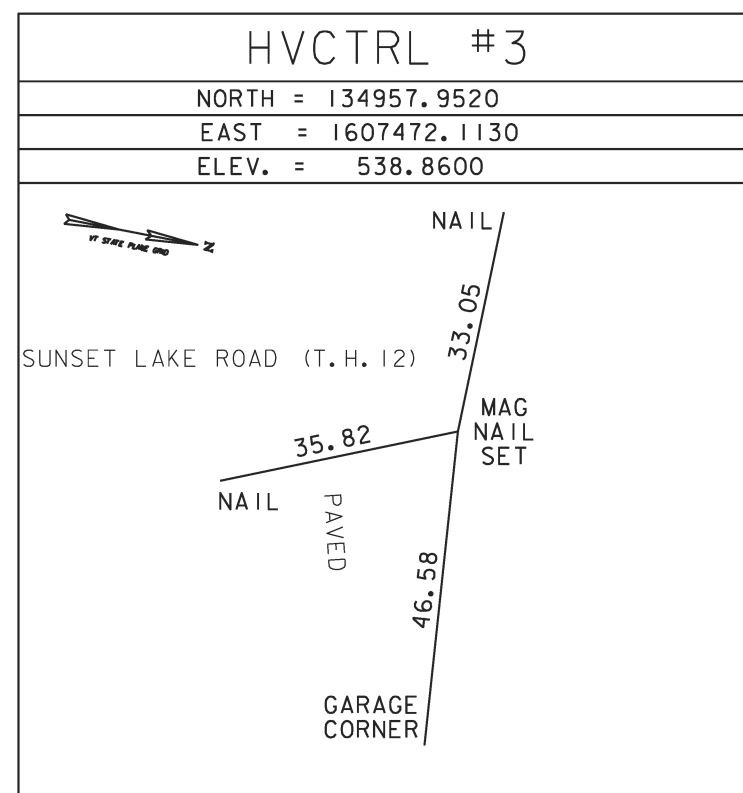
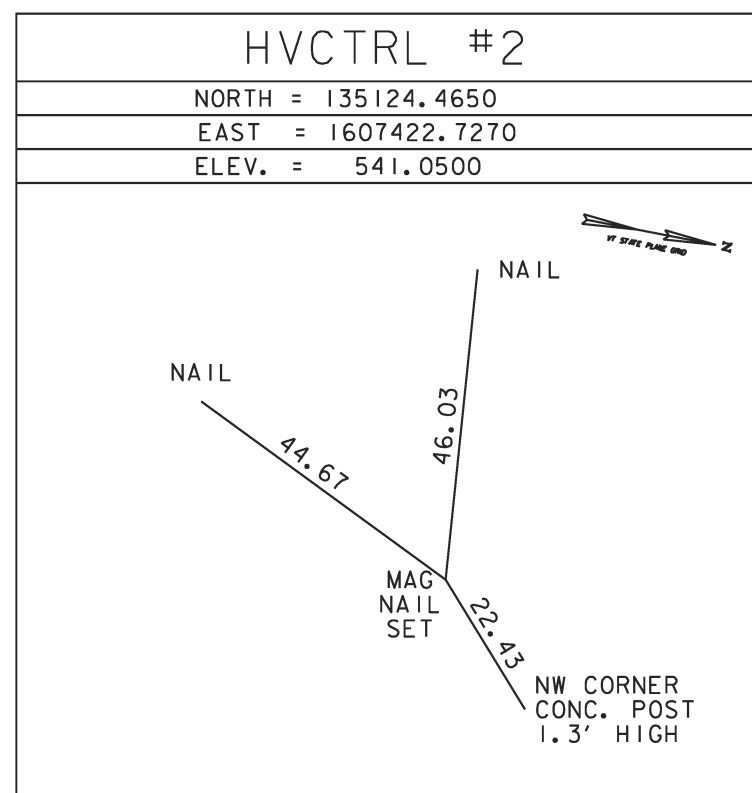
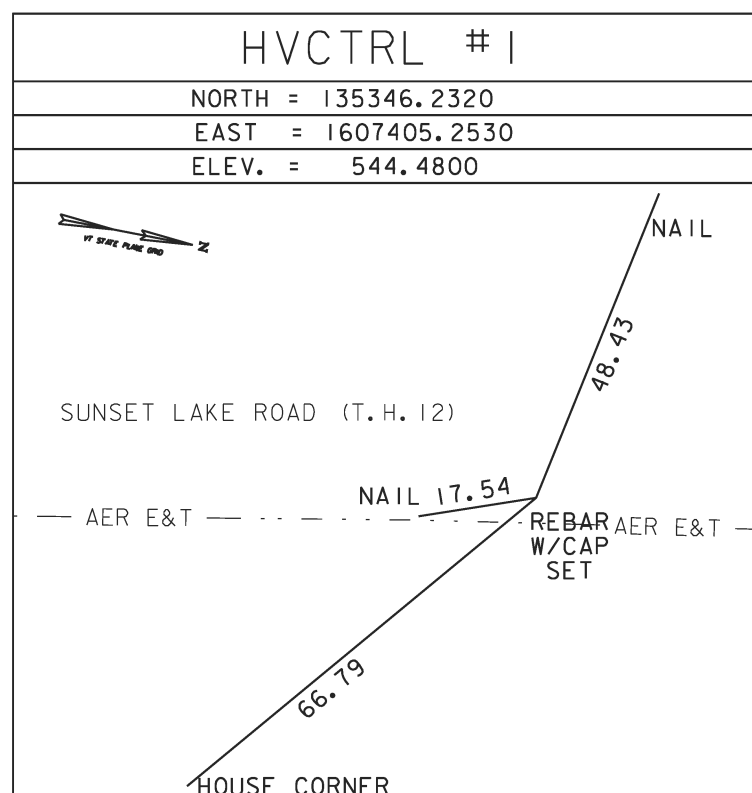
GENERAL LOCATION, WEST BRATTLEBORO, VT. FROM THE INTERSECTION OF VT ROUTE 9 AND SUNSET LAKE ROAD (T.H. 12), PROCEED NORTH ON SUNSET LAKE ROAD (T.H. 12) FOR 0.2 MI (0.3 KM) TO THE SOUTHWEST CORNER OF BRIDGE 7 OVER HALLADAY BROOK AND THE MARK ON THE LEFT. THE MARK IS SET IN THE PAVEMENT. SEE TRAVERSE TIES BELOW FOR TIE DISTANCES.

VCTRL #106

B 14 RESET 1988  
 NORTH = 134276.6160  
 EAST = 1608361.3210  
 ELEV. = 522.7390

GENERAL LOCATION, BRATTLEBORO, VT., ABOUT 3.5 MI (5.6 KM) WEST OF BRATTLEBORO, ABOUT 13 MI (20.9 KM) EAST OF WILMINGTON, AND ABOUT 9.5 MI (15.3 KM) NORTH OF THE MASSACHUSETTS/VERMONT STATE LINE. TO REACH FROM THE EAST END OF THE VT ROUTE 9 BRIDGE OVER I-91 IN BRATTLEBORO GO WEST ALONG VT ROUTE 9 FOR 2.6 MI (4.2 KM) TO THE INTERSECTION OF WESTGATE DRIVE LEFT AND WINDING HILL ROAD RIGHT. TURN RIGHT AND GO NORTH ALONG WINDING HILL ROAD FOR 0.1 MI (0.2 KM) TO THE SOUTH END OF THE BRIDGE OVER HALLADAY BROOK AND THE MARK ON THE LEFT, SET IN THE TOP OF THE WINGWALL AT THE SOUTHWEST CORNER OF THE BRIDGE. THE MARK IS A STATE OF VERMONT SURVEY MARK AND IS 18.4 FT (5.6 M) WEST OF AND ABOUT 1.6 FT (0.5 M) LOWER THAN THE CENTERLINE OF WINDING HILL ROAD, 78.1 FT (23.8 M) EAST OF POLE NO. 7-0-27/7-0/3/3, 99.1 FT (30.2 M) NORTH OF POLE NO. 2A (WITH LUMEN), AND 18.0 FT (5.5 M) NORTHEAST OF A WATER METER MANHOLE.

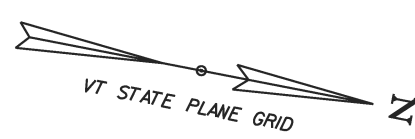
TRAVERSE TIES



• Main Traverse Completed 11/15/10 by T.J.Gaudet and B.M.Klinefelter

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (07)

PROJECT NAME: BRATTLEBORO	
PROJECT NUMBER: BRO 1442(35)	
FILE NAME: r10j062.t1e.dgn	PLOT DATE: 26-FEB-2013
PROJECT LEADER: M. CHANETTE	DRAWN BY: VHB
DESIGNED BY: VHB	CHECKED BY: VHB
TIE SHEET	SHEET 7 OF 15



**DETOUR (T.H. 12)  
CURVE NO. 1 DATA**

Δ = 19°05'20.51"  
D = 43°04'46.32"  
R = 133.00'  
T = 22.36'  
L = 44.31'  
E = 1.87'  
BANK = NONE

**DETOUR (T.H. 12)  
CURVE NO. 2 DATA**

Δ = 60°21'44.73"  
D = 127°19'26.24"  
R = 45.00'  
T = 26.17'  
L = 47.41'  
E = 7.06'  
BANK = NONE

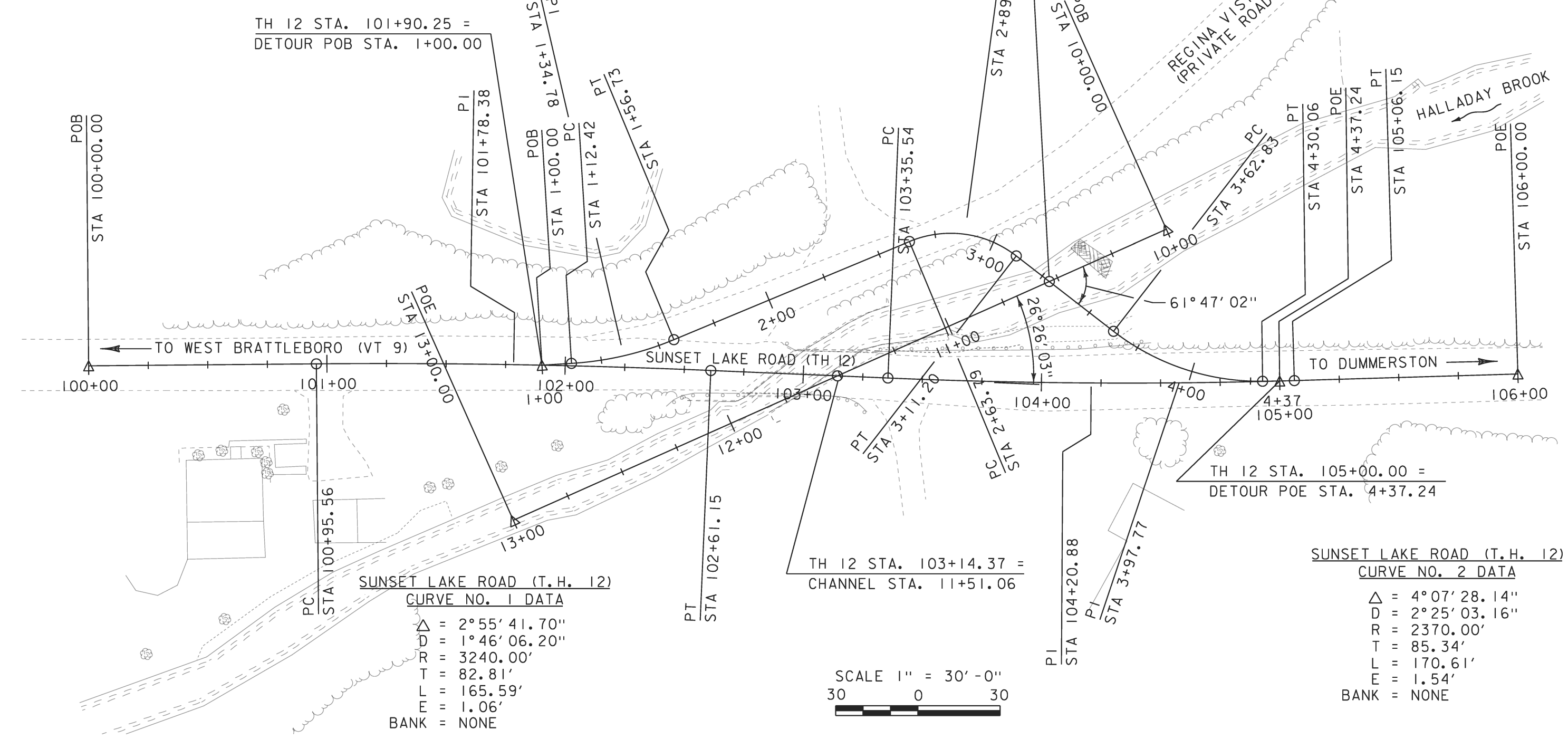
**DETOUR (T.H. 12)  
CURVE NO. 3 DATA**

Δ = 38°31'27.38"  
D = 57°17'44.81"  
R = 100.00'  
T = 34.95'  
L = 67.24'  
E = 5.93'  
BANK = NONE

**MAINLINE ALIGNMENT**

Horizontal Alignment Name: TH 12 Proposed

STATION	NORTHING	EASTING	
Element: Linear			
POB (24)	100+00.00	134840.8468	1607485.0762
PC (25)	100+95.56	134934.4914	1607466.0249
Tangent Direction:	N 11°29'58.03" W		
Tangent Length:	95.56		
Element: Circular			
PC (25)	100+95.56	134934.4914	1607466.0249
PI	101+78.38	135015.6414	1607449.5155
CC (26)		135580.4132	1610640.9871
PT (27)	102+61.15	135097.5289	1607437.1733
Radius:	3240.00		
Delta:	2°55'41.70" Right		
Degree of Curvature(Arc):	1°46'06.20"		
Length:	165.59		
Tangent:	82.81		
Chord:	165.57		
Middle Ordinate:	1.06		
External:	1.06		
Tangent Direction:	N 11°29'58.03" W		
Radial Direction:	N 78°30'01.97" E		
Chord Direction:	N 10°02'07.18" W		
Radial Direction:	N 81°25'43.67" E		
Tangent Direction:	N 8°34'16.33" W		

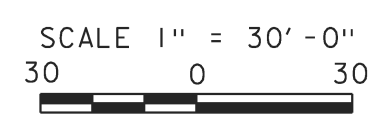


**SUNSET LAKE ROAD (T.H. 12)  
CURVE NO. 1 DATA**

Δ = 2°55'41.70"  
D = 1°46'06.20"  
R = 3240.00'  
T = 82.81'  
L = 165.59'  
E = 1.06'  
BANK = NONE

**SUNSET LAKE ROAD (T.H. 12)  
CURVE NO. 2 DATA**

Δ = 4°07'28.14"  
D = 2°25'03.16"  
R = 2370.00'  
T = 85.34'  
L = 170.61'  
E = 1.54'  
BANK = NONE



**DETOUR ALIGNMENT**

Horizontal Alignment Name: Detour

STATION	NORTHING	EASTING	
Element: Linear			
POB(13)	1+00.00	135027.5412	1607448.5065
PC (14)	1+12.42	135039.5643	1607445.3982
Tangent Direction:	N 14°29'41.61" W		
Tangent Length:	12.42		
Element: Circular			
PC (14)	1+12.42	135039.5643	1607445.3982
PI	1+34.78	135061.2153	1607439.8010
CC (15)		135006.2752	1607316.6316
PT (39)	1+56.73	135079.8452	1607427.4308
Radius:	133.00		
Delta:	19°05'20.51" Left		
Degree of Curvature(Arc):	43°04'46.32"		
Length:	44.31		
Tangent:	22.36		
Chord:	44.11		
Middle Ordinate:	1.84		
External:	1.87		
Tangent Direction:	N 14°29'41.61" W		
Radial Direction:	N 75°30'18.39" E		
Chord Direction:	N 24°02'21.87" W		
Radial Direction:	N 56°24'57.88" E		
Tangent Direction:	N 33°35'02.12" W		

Horizontal Alignment Name: Detour Proposed (Continued)

STATION	NORTHING	EASTING	
Element: Linear			
PT (39)	1+56.73	135079.8452	1607427.4308
PC (36)	2+63.79	135169.0338	1607368.2101
Tangent Direction:	N 33°35'02.12" W		
Tangent Length:	107.06		
Element: Circular			
PC (36)	2+63.79	135169.0338	1607368.2101
PI	2+89.96	135190.8362	1607353.7335
CC (37)		135193.9259	1607405.6985
PT (38)	3+11.20	135214.2004	1607365.5246
Radius:	45.00		
Delta:	60°21'44.73" Right		
Degree of Curvature(Arc):	127°19'26.24"		
Length:	47.41		
Tangent:	26.17		
Chord:	45.25		
Middle Ordinate:	6.10		
External:	7.06		
Tangent Direction:	N 33°35'02.12" W		
Radial Direction:	N 56°24'57.88" E		
Chord Direction:	N 3°24'09.76" W		
Radial Direction:	S 63°13'17.40" E		
Tangent Direction:	N 26°46'42.60" E		
Element: Linear			
PT (38)	3+11.20	135214.2004	1607365.5246
PC (21)	3+62.83	135260.2927	1607388.7858
Tangent Direction:	N 26°46'42.60" E		
Tangent Length:	51.63		

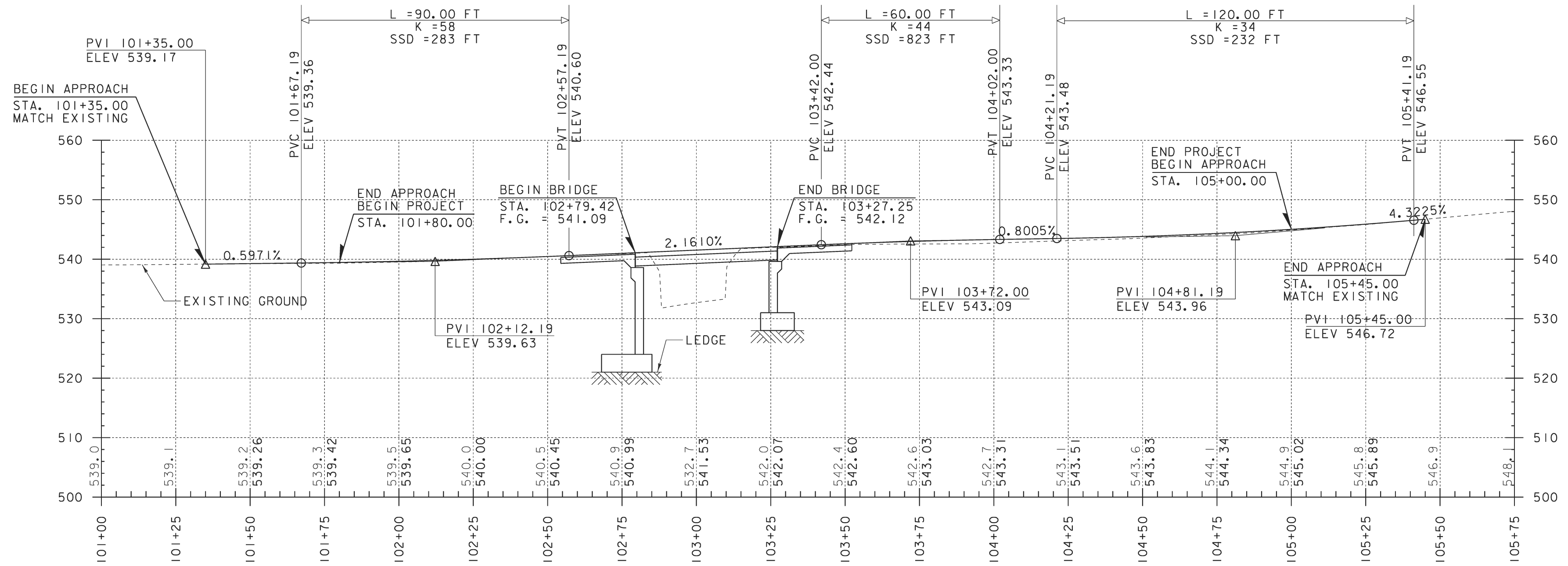
Horizontal Alignment Name: Detour Proposed (Continued)

STATION	NORTHING	EASTING	
Element: Circular			
PC (21)	3+62.83	135260.2927	1607388.7858
PI	3+97.77	135291.4903	1607404.5301
CC (22)		135305.3469	1607299.5103
PT (23)	4+30.06	135325.7039	1607397.4163
Radius:	100.00		
Delta:	38°31'27.38" Left		
Degree of Curvature(Arc):	57°17'44.81"		
Length:	67.24		
Tangent:	34.95		
Chord:	65.98		
Middle Ordinate:	5.60		
External:	5.93		
Tangent Direction:	N 26°46'42.60" E		
Radial Direction:	S 63°13'17.40" E		
Chord Direction:	N 7°30'58.91" E		
Radial Direction:	N 78°15'15.22" E		
Tangent Direction:	N 11°44'44.78" W		
Element: Linear			
PT (23)	4+30.06	135325.7039	1607397.4163
POE(35)	4+37.24	135332.7293	1607395.9556
Tangent Direction:	N 11°44'44.78" W		
Tangent Length:	7.18		

Element: Linear

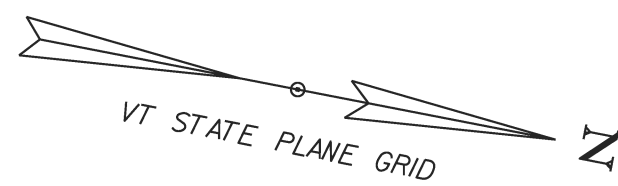
STATION	NORTHING	EASTING	
PT (31)	105+06.15	135338.7317	1607394.6115
POE (29)	106+00.00	135430.2829	1607373.9868
Tangent Direction:	N 12°41'44.48" W		
Tangent Length:	93.85		

PROJECT NAME:	BRATTLEBORO		
PROJECT NUMBER:	BRO 1442(35)		
FILE NAME:	r10j062.dwg	PLOT DATE:	26-FEB-2013
PROJECT LEADER:	M. CHANETTE	DRAWN BY:	VHB
DESIGNED BY:	VHB	CHECKED BY:	VHB
ALIGNMENT SHEET		SHEET	8 OF 15



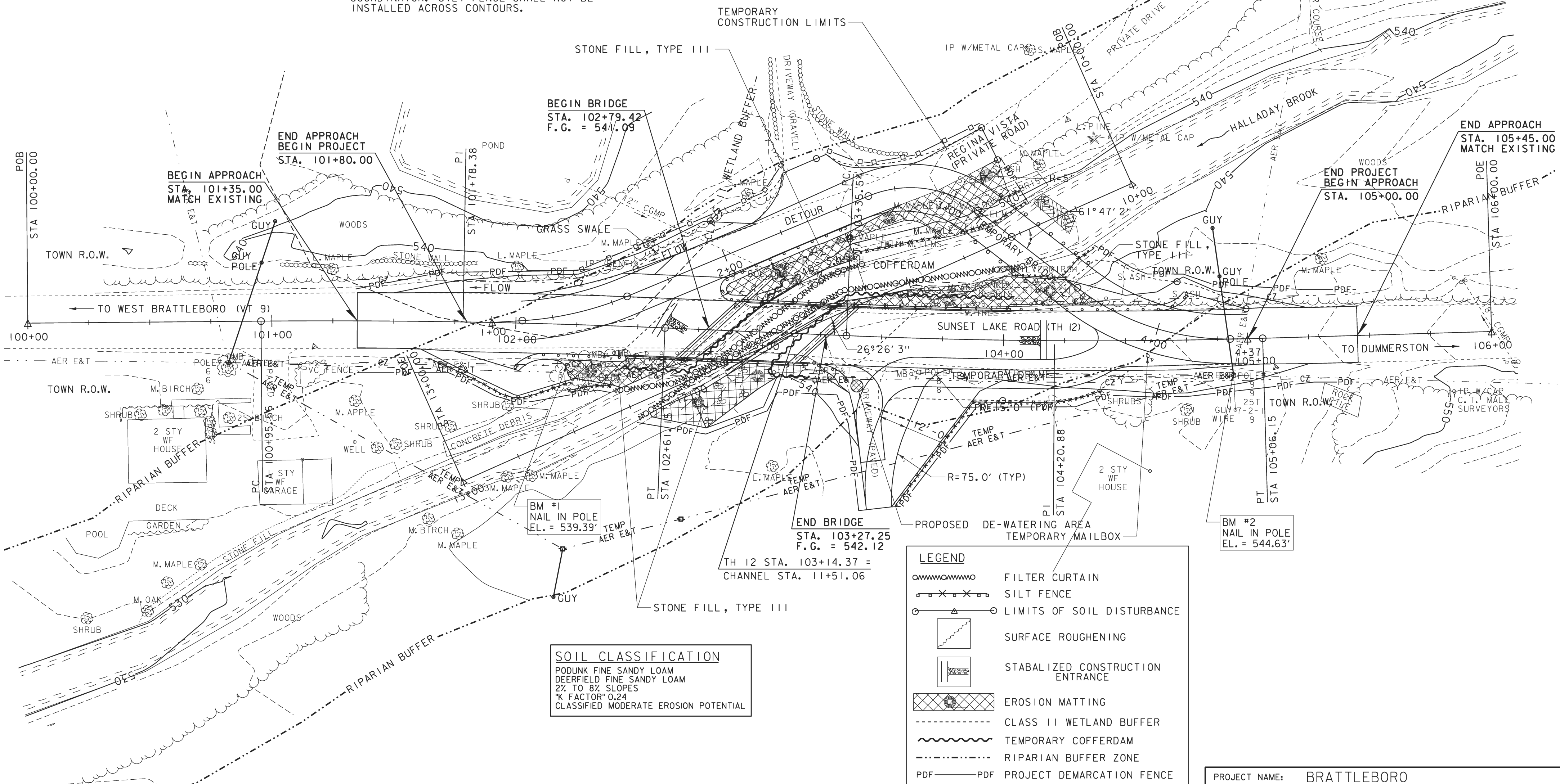
THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST THOUSANDTH ARE THE PROPOSED GRADES FOR THE NEW ALIGNMENT.

PROJECT NAME:	BRATTLEBORO	PLOT DATE:	26-FEB-2013
PROJECT NUMBER:	BRO 1442(35)	DRAWN BY:	VHB
FILE NAME:	r10j062.pro.dgn	CHECKED BY:	VHB
PROJECT LEADER:	M. CHANETTE	SHEET	9 OF 15
DESIGNED BY:	VHB		
PROFILE SHEET			



**NOTES:**

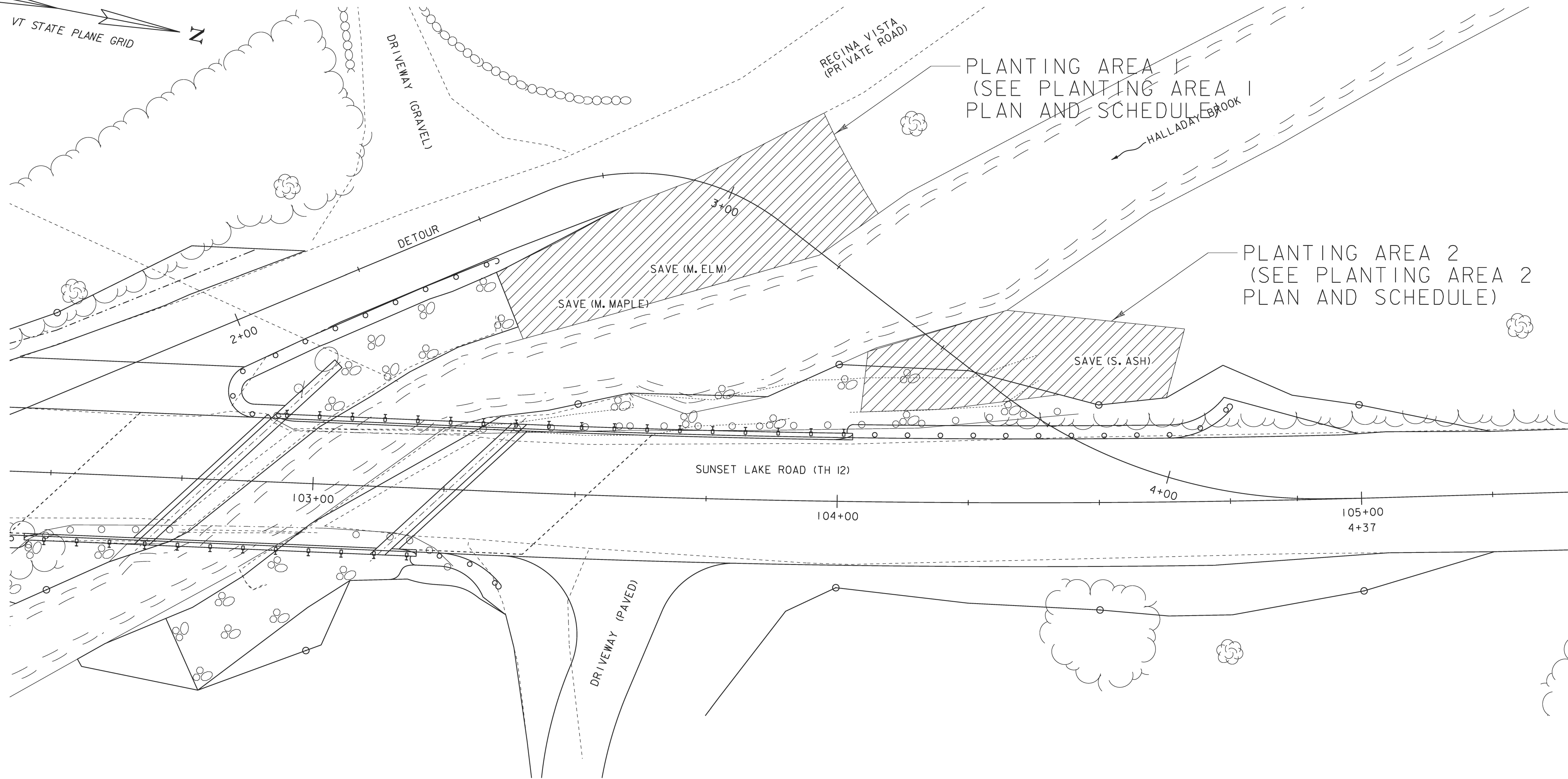
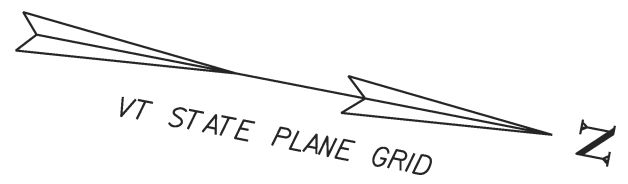
1. THESE PLANS SHOW A CONCEPTUAL EROSION CONTROL PLAN, THE CONTRACTOR MUST SUBMIT A TEMPORARY EROSION CONTROL PLAN FOR APPROVAL.
2. TEMPORARY EROSION CONTROL MEASURES ARE CONCEPTUALLY SHOWN. THE CONTRACTOR MAY RELOCATE TEMPORARY MEASURES TO IMPROVE EROSION CONTROL WITH APPROVAL OF THE RESIDENT ENGINEER AND ON SITE COORDINATOR. SILT FENCE SHALL NOT BE INSTALLED ACROSS CONTOURS.
3. THE CONTRACTOR SHALL USE OTHER TEMPORARY EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION OR AS DIRECTED BY THE RESIDENT ENGINEER AND ON SITE COORDINATOR.
4. REFER TO TEMPORARY EROSION CONTROL DETAIL SHEETS FOR ADDITIONAL DETAILS.



VERTICAL NAVD 88  
HORIZONTAL NAD 83 (07)

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

PROJECT NAME: BRATTLEBORO  
PROJECT NUMBER: BRO 1442(35)  
FILE NAME: r10j062_ero.dgn  
PLOT DATE: 26-FEB-2013  
PROJECT LEADER: M. CHANETTE  
DRAWN BY: VHB  
DESIGNED BY: VHB  
EPSC CONSTRUCTION CONDITIONS  
CHECKED BY: VHB  
SHEET 10 OF 15

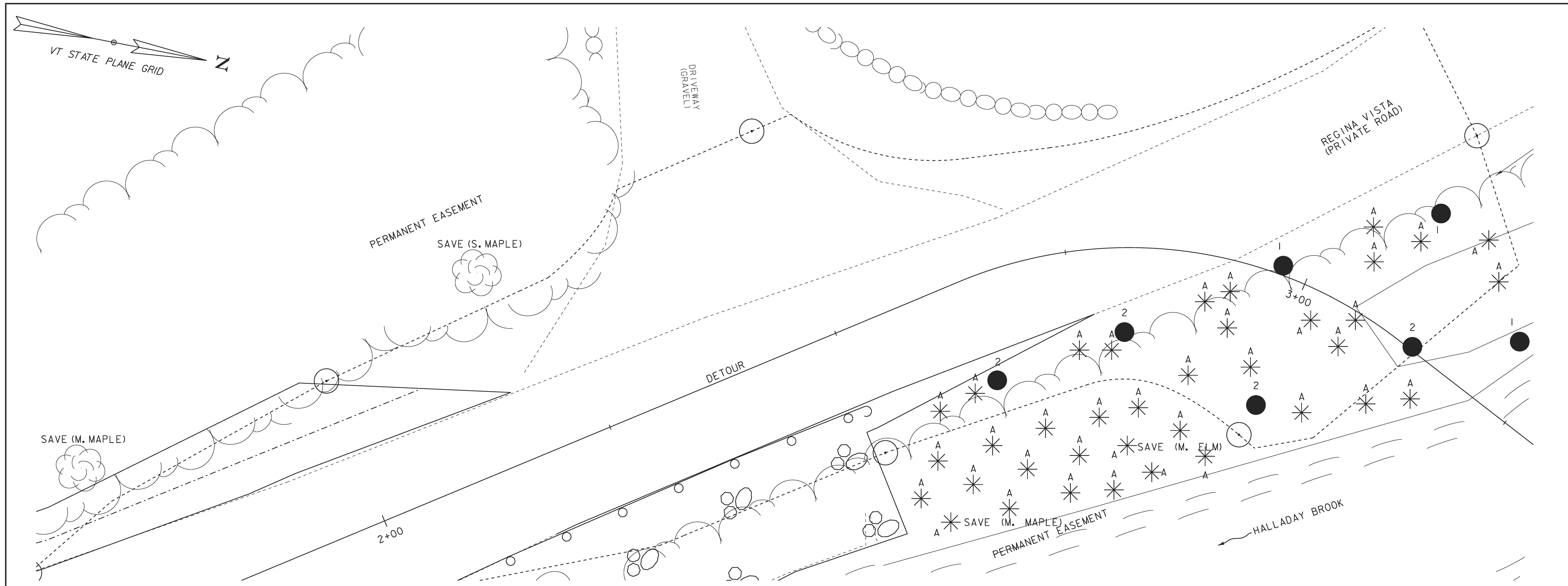


**LEGEND**

M. = MEDIUM TREE  
 S. = SMALL TREE

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

PROJECT NAME: BRATTLEBORO	PLOT DATE: 26-FEB-2013
PROJECT NUMBER: BRO 1442(35)	DRAWN BY: VHB
FILE NAME: r10j062_land.dgn	CHECKED BY: VHB
PROJECT LEADER: M. CHANETTE	SHEET 11 OF 15
DESIGNED BY: VHB	
PLANTING PLAN	



Trees				
Planting Plan Code	Common Name	Scientific Name	Total Number of Trees	Planting Stock Size
1	Red Maple	<i>Acer rubrum</i>	3	2.5"-3" (dia)
2	Silver Maple	<i>Acer saccharinum</i>	4	2"-2.5" (dia)

☐ - TOTAL NUMBER OF TREES IN PLANTING AREA 1

Shrubs				
Planting Plan Code	Common Name	Scientific Name	Total Number of Shrubs	Size of Stock (Height)
A	Red-Osier Dogwood	<i>Cornus Sericea</i>	37	36"-48"

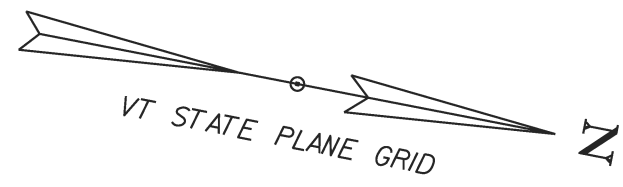
☐☐ - TOTAL NUMBER OF SHRUBS IN PLANTING AREA 1

**LEGEND**

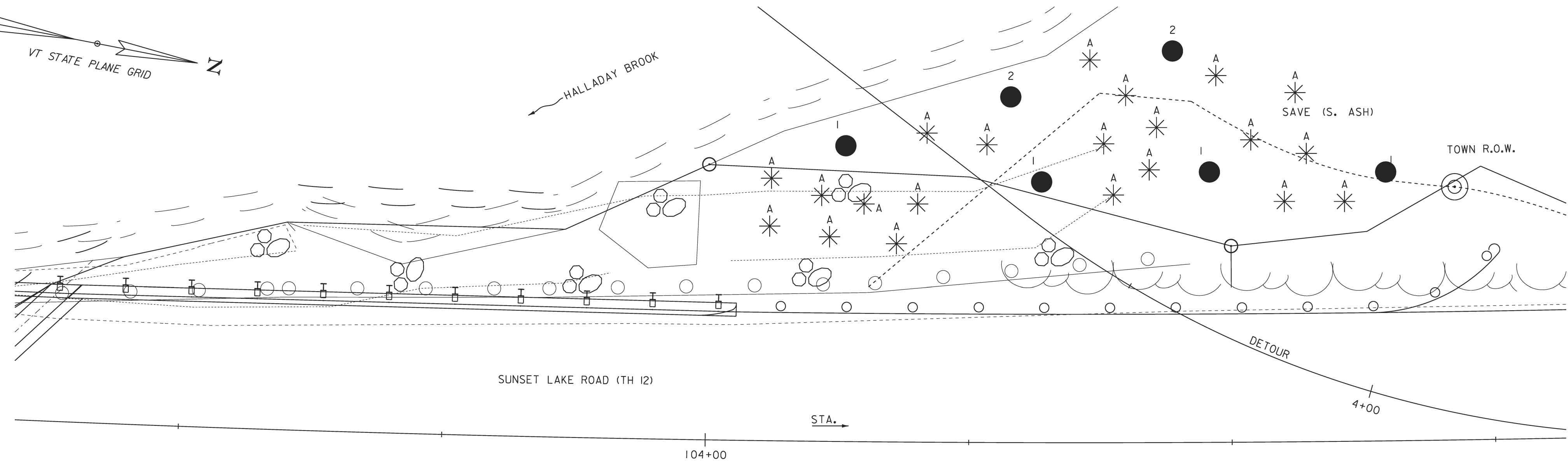
- - TREE
- * - SHRUB

SCALE 1" = 5'-0"

PROJECT NAME: BRATTLEBORO	PLOT DATE: 19-JUL-2013
PROJECT NUMBER: BRO 1442(35)	DRAWN BY: VHB
FILE NAME: r10j062_land2.dgn	CHECKED BY: VHB
PROJECT LEADER: M. CHANETTE	SHEET 12 OF 15
DESIGNED BY: VHB	
PLANTING AREA I PLAN AND SCHEDULE	



HALLADAY BROOK



Trees				
Planting Plan Code	Common Name	Scientific Name	Total Number of Trees	Planting Stock Size
1	Red Maple	<i>Acer rubrum</i>	4	2.5"-3" (dia)
2	Silver Maple	<i>Acer saccharinum</i>	2	2"-2.5" (dia)

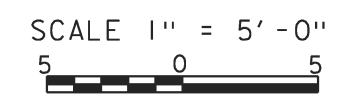
☐ - TOTAL NUMBER OF TREES IN PLANTING AREA 2

Shrubs				
Planting Plan Code	Common Name	Scientific Name	Total Number of Shrubs	Size of Stock (Height)
A	Red-Osier Dogwood	<i>Cornus Sericea</i>	21	36"-48"

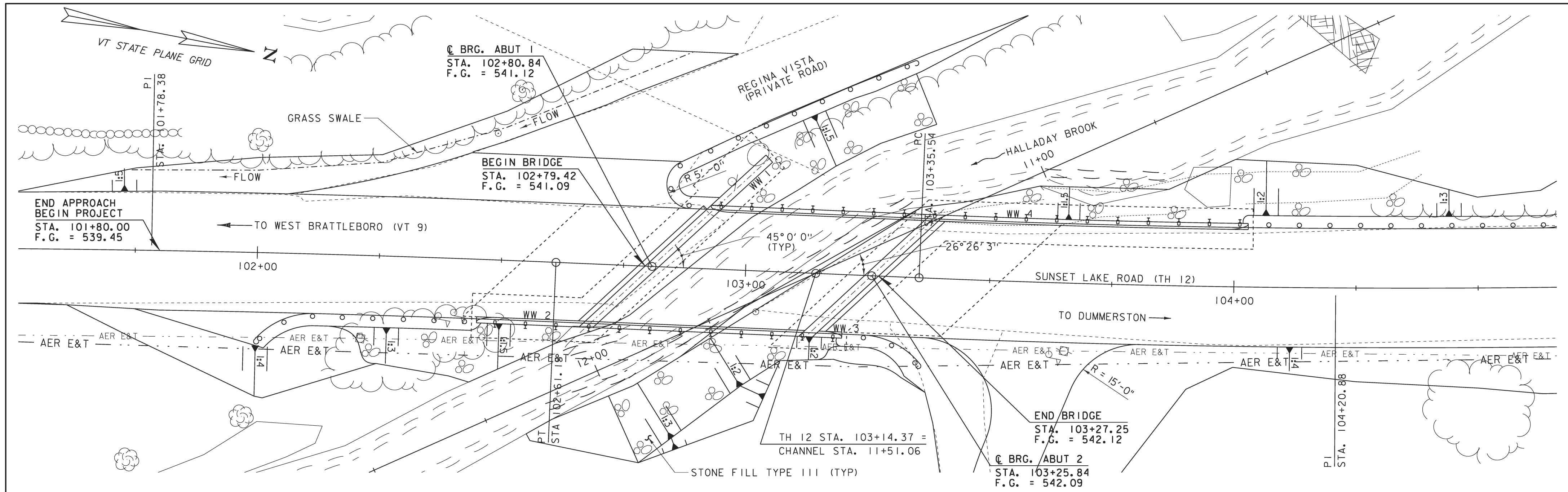
☐☐ - TOTAL NUMBER OF SHRUBS IN PLANTING AREA 2

LEGEND

- - TREE
- * - SHRUB

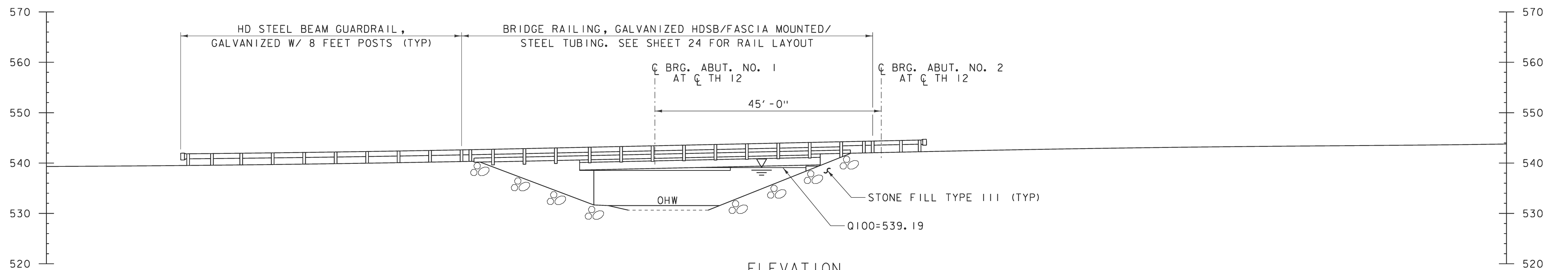


PROJECT NAME: BRATTLEBORO	PLOT DATE: 19-JUL-2013
PROJECT NUMBER: BRO 1442(35)	DRAWN BY: VHB
FILE NAME: r10j062_land3.dgn	CHECKED BY: VHB
PROJECT LEADER: M. CHANETTE	SHEET 13 OF 15
DESIGNED BY: VHB	
PLANTING AREA 2 PLAN & SCHEDULE	



PLAN

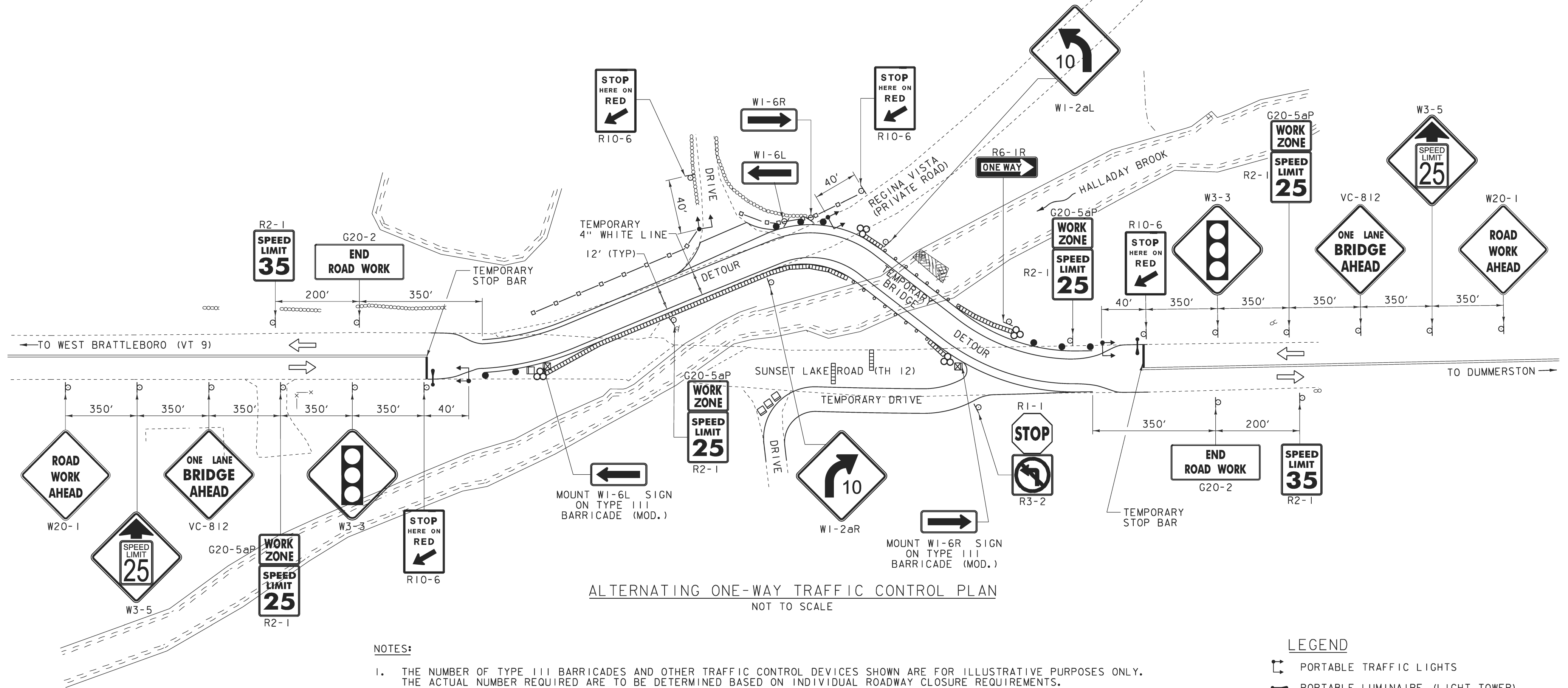
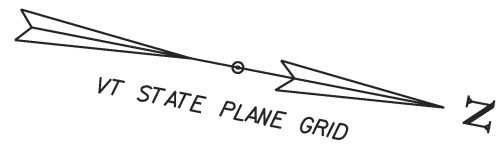
SCALE 1" = 10'-0"  
 10 0 10



ELEVATION

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

PROJECT NAME:	BRATTLEBORO	PLOT DATE:	26-FEB-2013
PROJECT NUMBER:	BRO 1442(35)	DRAWN BY:	VHB
FILE NAME:	r10j062.pe.dgn	DESIGNED BY:	VHB
PROJECT LEADER:	M. CHANETTE	CHECKED BY:	VHB
PLAN & ELEVATION		SHEET	14 OF 15



ALTERNATING ONE-WAY TRAFFIC CONTROL PLAN  
NOT TO SCALE

NOTES:

1. THE NUMBER OF TYPE III BARRICADES AND OTHER TRAFFIC CONTROL DEVICES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BASED ON INDIVIDUAL ROADWAY CLOSURE REQUIREMENTS.
2. THE EXISTING SPEED LIMIT IS 35 MPH. THE SPEED LIMIT WILL BE REDUCED TO 25 MPH THROUGH THE DETOUR FOR THIS PROJECT.
3. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS" BOOK (SHS) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).
4. SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) TYPE VII, VIII, OR IX REQUIREMENTS, UNLESS OTHERWISE NOTED. SOLID SUBSTRATE REGULATORY SIGNS (WHITE BACKGROUND) SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING ASTM TYPE III.
5. SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES. DURING PERIODS OF INACTIVITY OR UPON COMPLETION OF THE WORK, EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.
6. FIXED SIGNS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE EDGE OF PAVEMENT.
7. DURING NON-WORK PERIODS, ALL EQUIPMENT SHALL BE MOVED TO A LOCATION OFF PAVED SHOULDERS AND OUTSIDE THE CLEAR ZONE, OR PROTECTED BY TRAFFIC BARRIER OR GUARDRAIL.
8. AN ENERGY ABSORPTION ATTENUATOR SHALL BE LOCATED AT THE END OF THE BARRIER.

LEGEND

- PORTABLE TRAFFIC LIGHTS
- PORTABLE LUMINAIRE (LIGHT TOWER)
- REFLECTIVE PLASTIC DRUM
- FLOW OF TRAFFIC
- TYPE III BARRICADE
- TYPE III BARRICADE (MOD.)
- ENERGY ABSORPTION ATTENUATOR
- CONCRETE MEDIAN BARRIER
- FABRIC SCREENING FENCE (SEE TCP 3 OF 3)

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRO 1442(35)
FILE NAME:	r10j062.tc.dgn
PROJECT LEADER:	M. CHENETTE
DESIGNED BY:	VHB
TRAFFIC CONTROL	
PLOT DATE:	26-FEB-2013
DRAWN BY:	VHB
CHECKED BY:	VHB
SHEET	15 OF 15