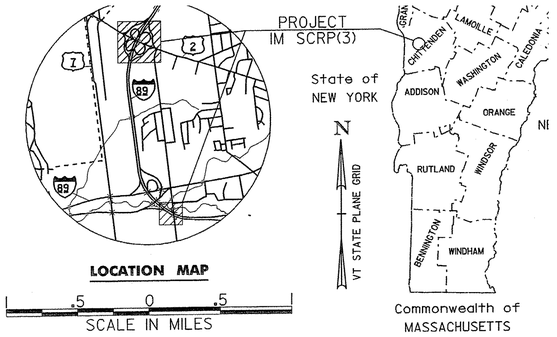
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
CITY OF SOUTH BURLINGTON
COUNTY OF CHITTENDEN
INTERSTATE 89

WORK TO BE PERFORMED AT EIGHT CULVERT LOCATIONS, MILE MARKERS 87.300, 88.736, 88.787, 88.838, 88.867, 88.877, 88.880 AND 88.896 ON INTERSTATE 89 IN THE CITY OF SOUTH BURLINGTON.

THE PROJECT SHALL CONSIST OF INSTALLATION OF A CURED IN PLACE PIPE LINER, TEMPORARY ACCESS ROADS, PIPE RAMMING, CONCRETE HEADWALLS, CHANNEL EXCAVATION, EMBANKMENT STABILIZATION AND OTHER RELATED ITEMS.



LOCATION MAP

.5 0 .5
SCALE IN MILES

RECORD PLANS

CONTRACTOR: S. D. IRELAND CONC. CONST. CORP - BURLINGTON, VT

RESIDENT ENGINEER: GREG WILCOX

CONSTRUCTION BEGAN: APRIL 22, 2010

CONSTRUCTION COMPLETE: JULY 13, 2011

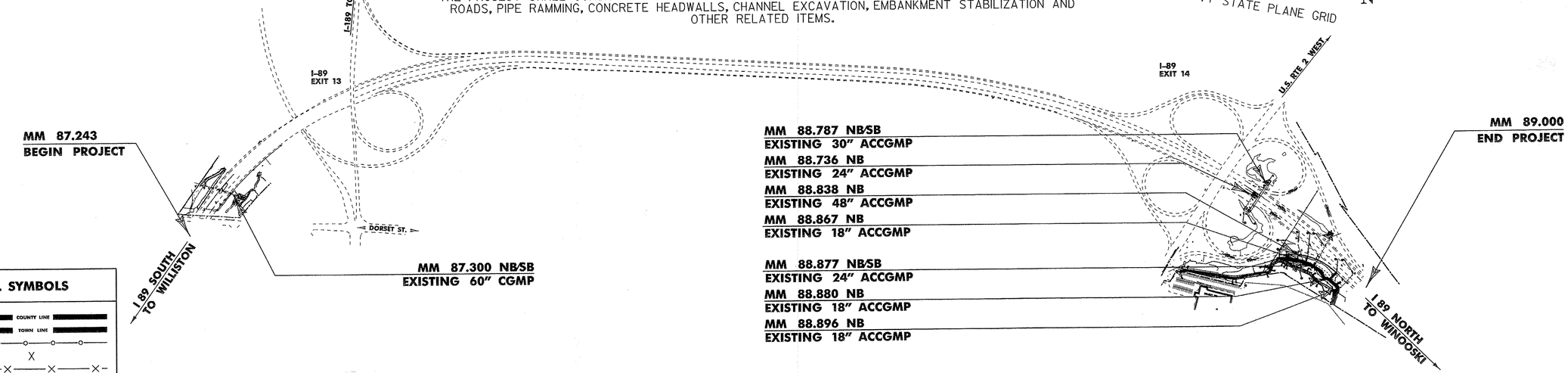
RECORD PLANS BY: GREG WILCOX & NICK GARBACIK

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

BY Gregh Wilcox RESIDENT ENGINEER

DATE August 20th, 2012

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.



VT STATE PLANE GRID N

800 400 0 400 800
SCALE IN FEET

CONVENTIONAL SYMBOLS

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

SURVEYED BY : L. ORVIS
SURVEYED DATE : 07/11/07

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83

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 DEVELOPMEI
APPROVED Richard Fitzgerald
PROJECT MANAGER : K. UPMAL

PROJECT NAME : SOUTH BURLIN
PROJECT NUMBER : IM SCRP (3)

SHEET 1 OF 69 SHEETS

INDEX OF SHEETS

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12	MM 87.300 CHANNEL SECTIONS
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STANDARDS

C-10	CURBING	2/11/2008
D-1	PRECAST RCP DROP INLET	6/1/1994
	REINFORCED CONCRETE PIPE D.I. W/ CAST IRON GRATE	
	REINFORCED CONCRETE PIPE D.I. W/ CONCRETE COVER	
D-6	REINF. CONCRETE DROP INLET W/GRATE (DITCHES)	6/1/1994
D-8	REINFORCED CONCRETE DROP INLET	1/3/2000
	WITH PRECAST COVER & GRATE (BOTTOM SECTION)	
	SEE SHEETS D-9,10,11 FOR TOP SECTION	
D-11	GRATES & COVERS (TYPE A)	6/1/1994
D-33	REINFORCED CONCRETE STRAIGHT HEADWALL	3/12/2007
E-100	CONSTRUCTION APPROACH SIGNS	1/2/2004
E-100A	SIDE ROAD CONSTRUCTION DETAILS	1/2/2004
E-101	CONSTRUCTION SIGN DETAILS	5/30/2003
E-102	CONSTRUCTION SIGN DETAILS	6/30/2003
E-102A	CONSTRUCTION SIGN DETAILS	5/1/2004
E-103	MAINLINE TRAFFIC CONTROL DIVIDED HIGHWAY	3/1/2004
	ONE LANE CLOSED	
E-105	TRAFFIC CONTROL FOR CONSTRUCTION VEHICLE	5/1/2004
	U-TURNS ON DIVIDED HIGHWAY	
E-106	TRAFFIC - MISCELLANEOUS DETAILS	3/1/2004
E-107A	BREAKAWAY BARRICADE DETAILS	6/8/2009
E-120	STANDARD SIGN PLACEMENT - EXPRESSWAY & FREEWAY	8/8/1995
E-142	REGULATORY SIGN DETAILS	9/20/1995
F-2	CHAIN LINK FENCE, TYPE I	6/1/1994
	DRIVE GATE FOR CHAIN LINK FENCE, TYPE I	
	WALK GATE FOR CHAIN LINK FENCE, TYPE I	
F-4	CHAIN LINK FENCE, TYPE II	6/1/1994
	DRIVE GATE FOR CHAIN LINK FENCE, TYPE II	
	WALK GATE FOR CHAIN LINK FENCE, TYPE II	
G-1	STEEL BEAM GUARDRAIL (50MPH & OVER)	1/3/2000
	HEAVY DUTY STEEL BEAM GUARDRAIL	
	TWISTED END TERMINAL	
	ANCHOR FOR STEEL BEAM RAIL	
G-6	CABLE GUARD RAIL W/STEEL POSTS - ANCHORS	2/11/2008
G-15	BREAKAWAY CABLE TERMINAL WITH STEEL POSTS	6/1/1994
G-18	PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER	6/1/1994

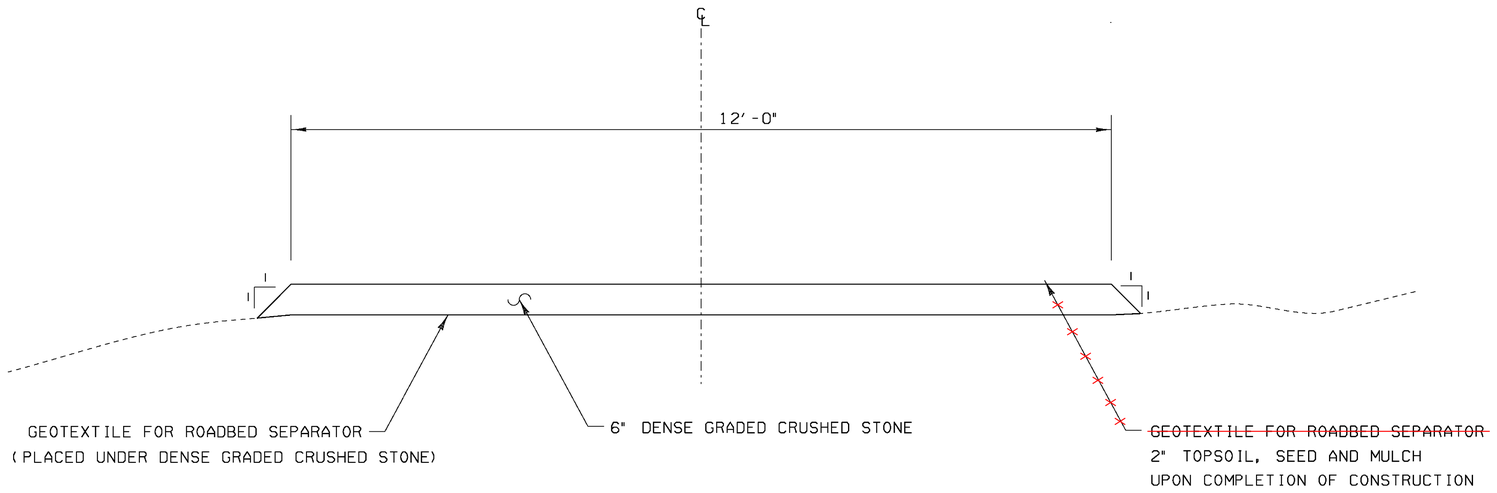
PROJECT NAME: SOUTH BURLINGTON

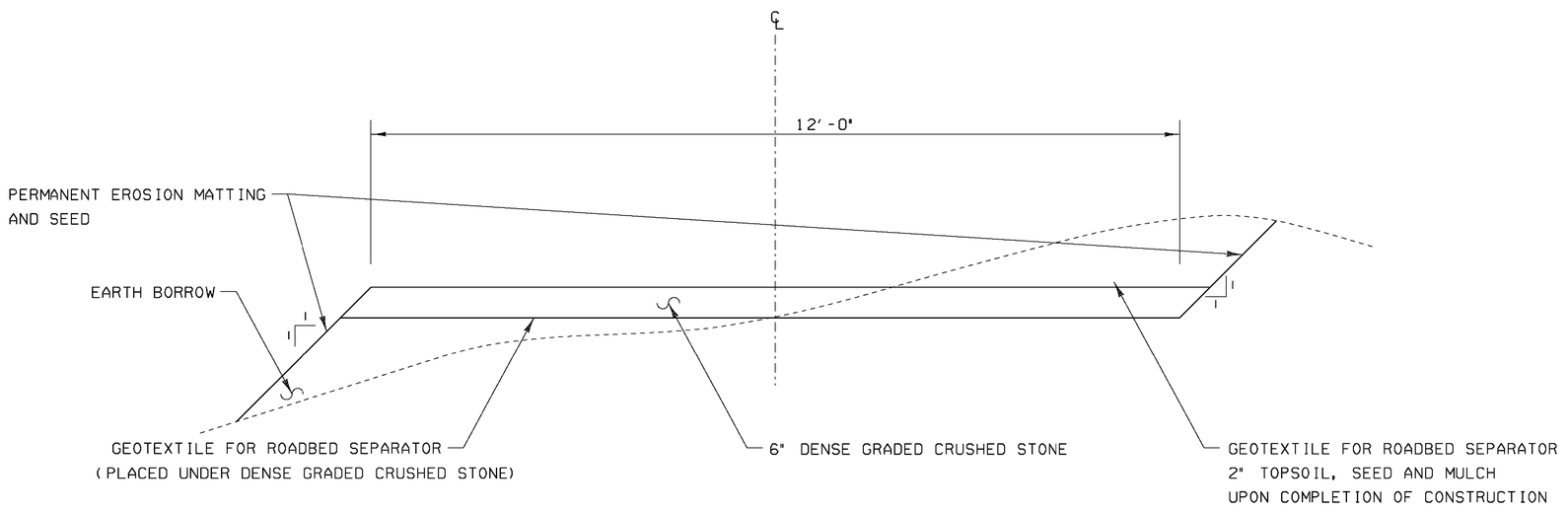
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_frm.dgn
PROJECT MANAGER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
INDEX OF SHEETS

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP

TYPICAL SECTIONS





TEMPORARY ACCESS ROAD TYPICAL SECTIONS

NOT TO SCALE

PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: d07a104_frm.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B.KIPP/B.McADAMS	CHECKED BY: B. KIPP
TYPICAL SHEET	SHEET 3 OF 69

GPS CONTROL POINTS

CW3 RESET 1991

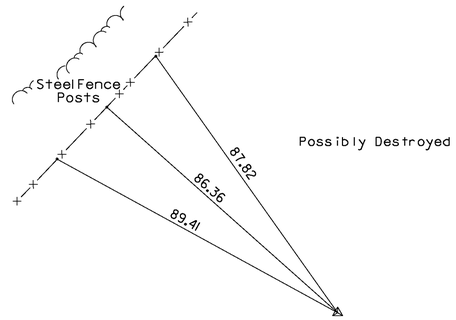
NORTH = 719709.85
EAST = 1461835.18
ELEV. = 312.40

TRAV PT#1 FILE 03A178 & 05k286

GENERAL LOCATION, BURLINGTON, VT., ON THE BURLINGTON/SOUTH BURLINGTON CITY LINE. TO REACH FROM THE WEST END OF THE U.S.ROUTE 2 (WILLISTON ROAD) BRIDGE OVER I-89 AT EXIT 14 IN SOUTH BURLINGTON GO WEST ALONG U.S.ROUTE 2 FOR 0.2 MI (0.3 KM) TO THE INTERSECTION OF THE MAIN ENTRANCE DRIVE TO THE SHERITON INN RIGHT. TURN RIGHT AND GO NORTH ALONG ENTRANCE DRIVE FOR 0.1 MI (0.2 KM) TO A FORK. BEAR LEFT AND GO NORTH ALONG PAVED ROAD FOR 0.05 MI (0.08 KM) TO THE T-INTERSECTION OF CATAMOUNT DRIVE, JUST PAST A GRAVEL DRIVE LEFT TO A 10 BAY WOODEN BARN/GARAGE. TURN LEFT AND GO WEST ALONG CATAMOUNT DRIVE FOR ABOUT 30 M (98.4 FT) TO A GATE. PARK VEHICLE AND WALK NORTH ALONG THE TOP OF A V-SHAPED WOODED PLATEAU FOR ABOUT 95 M (311.7 FT) TO THE SITE OF MARK. THE MARK IS SET 5 CM ABOVE GROUND SURFACE IN THE TOP OF A 20 CM SQUARE CONCRETE MONUMENT 1.4 M (4.6 FT) DEEP. IT IS 94.0 M (308.4 FT) NORTH OF AND ABOUT 3 M (9.8 FT) LOWER THAN THE CENTERLINE OF CATAMOUNT DRIVE, 88.8 M (291.3 FT) NORTH OF LIGHT POLE NO.GP2, 90.3 M (296.3 FT) NORTH-NORTHWEST OF THE MOST WESTERLY (OF 2) IM (3.3 FT) SQUARE ELECTRICAL BOXES WHICH ARE FLUSH WITH GROUND SURFACE, AND 0.5 M (1.6 FT) NORTHWEST OF A STEEL WITNESS POST.

TRAV PT#6 FILE 03A178 = REBAR
TRAV PT#2 FILE 05k286 = REBAR

NORTH = 719846.57
EAST = 1462091.61
ELEV. = 299.58

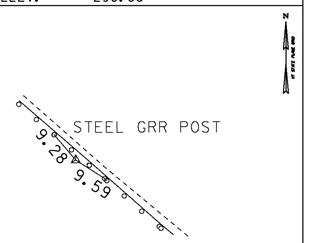


* Main Traverse Completed 06/16/06 by L.Orvis P.C. and R.Bullock for file 05k286
* Main Traverse Completed 07/11/07 by L.Orvis P.C. and R.Bullock & T.Parker

TRAVERSE TIES

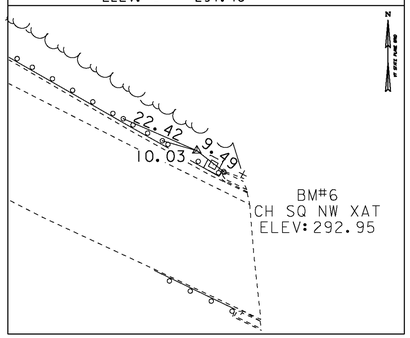
HVCTRL #5a

NORTH = 711732.08
EAST = 1462683.65
ELEV. = 290.06



HVCTRL #6a

NORTH = 711508.86
EAST = 1463228.65
ELEV. = 291.46



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

ALIGNMENT TIES

NORTH =
EAST =

NORTH =
EAST =

NORTH =
EAST =

NORTH =
EAST =

NORTH =
EAST =

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(96)
ADJUSTMENT Compass

x07a104a

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: SCRP (3)

FILE NAME: d107a104_t1.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. MCADAMS
TIE SHEET 1

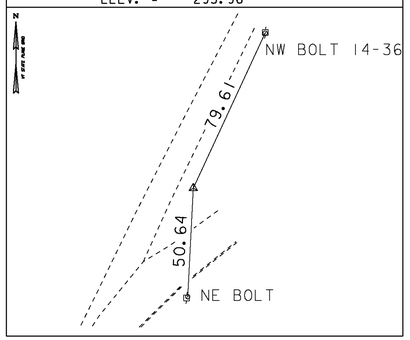
PLOT DATE: 13-JAN-2010
DRAWN BY: R. BULLOCK
CHECKED BY: B. KIPP
SHEET 4 OF 69

GPS CONTROL POINTS

TRAVERSE TIES

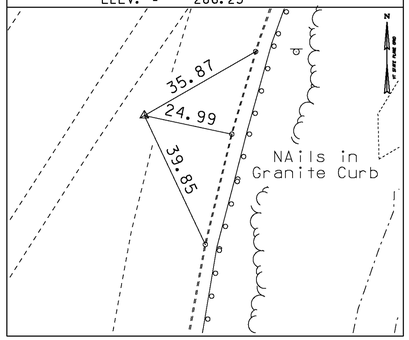
HVCTRL #4b

NORTH = 719232.45
EAST = 1462025.77
ELEV. = 295.96



HVCTRL #5b

NORTH = 719626.47
EAST = 1462250.36
ELEV. = 286.23



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

ALIGNMENT TIES

NORTH =
EAST =

NORTH =
EAST =

NORTH =
EAST =

NORTH =
EAST =

NORTH =
EAST =

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83(96)

ADJUSTMENT Compass

x07al04b

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: SCRP (3)

FILE NAME: dl07al04_tl.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. MCADAMS
TIE SHEET 2

PLOT DATE: 13-JAN-2010
DRAWN BY: R. BULLOCK
CHECKED BY: B. KIPP
SHEET 5 OF 69

GPS CONTROL POINTS

HVCTRL #1c

189 EXIT 15 AZ MK

NORTH = 727051.24
EAST = 1464741.44
ELEV. = 204.39

GENERAL LOCATION, SOUTH BURLINGTON, VT. TO REACH FROM THE I-89 SOUTHBOUND BRIDGE OVER VT ROUTE 15 (ETHAN ALLEN STREET) AT EXIT 15 IN WINOOSKI, GO SOUTHWEST ALONG I-89 SOUTHBOUND FOR 0.6 MI (0.97 KM) TO THE SITE OF THE MARK ON THE LEFT IN THE MEDIAN, JUST NORTHEAST OF A GRAVEL U-TURN. THE MARK IS SET FLUSH WITH GROUND SURFACE IN THE TOP OF A 30 CM (12 INCH) DIAMETER CONCRETE MONUMENT. IT IS 3.9 M (12.8 FT) SOUTHEAST OF AND ABOUT LEVEL WITH THE I-89 SOUTHBOUND SOUTHEAST EDGE OF PAVEMENT, 8.7 M (28.5 FT) NORTHWEST OF THE I-89 NORTHBOUND NORTHWEST EDGE OF PAVEMENT, 1.8 M (5.9 FT) WEST OF A STEEL BEAM GUARD RAIL, 7.0 M (23.0 FT) NORTH NORTHEAST OF A U-TURN SIGN, 16.5 M (54.1 FT) NORTHEAST OF THE CENTERLINE OF THE U-TURN, AND 0.4 M (1.3 FT) SOUTHWEST OF A FIBERGLASS WITNESS POST.

HVCTRL #2c

189 EXIT 15

NORTH = 724183.46
EAST = 1464515.07
ELEV. = 279.76

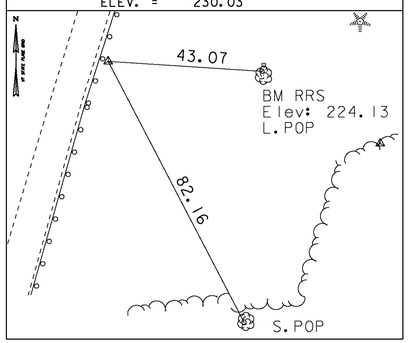
GENERAL LOCATION, WINOOSKI, VT. TO REACH FROM THE I-89 SOUTHBOUND BRIDGE OVER VT ROUTE 15 (ETHAN ALLEN STREET) AT EXIT 15, GO SOUTH ALONG I-89 SOUTHBOUND FOR ABOUT 30 M (98.4 FT) TO THE SITE OF THE MARK ON THE LEFT IN THE MEDIAN. THE MARK IS SET FLUSH WITH GROUND SURFACE IN THE TOP OF A 30 CM (12 INCH) DIAMETER CONCRETE MONUMENT. IT IS 7.4 M (24.3 FT) EAST OF AND ABOUT 0.2 M (0.7 FT) HIGHER THAN THE I-89 SOUTHBOUND EAST EDGE OF PAVEMENT, 5.2 M (17.1 FT) WEST OF THE I-89 NORTHBOUND WEST EDGE OF PAVEMENT, 2.8 M (9.2 FT) WEST SOUTHWEST OF THE MOST SOUTHERLY WOODEN POST FOR A STEEL BEAM GUARD RAIL, AND 0.5 M (1.6 FT) SOUTH OF A FIBERGLASS WITNESS POST.

* Main Traverse Completed 07/17/07 by L.Orvis P.C. & T.Parker

TRAVERSE TIES

HVCTRL #3c

NORTH = 723066.61
EAST = 1464284.00
ELEV. = 230.03



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

ALIGNMENT TIES

NORTH =
EAST =

NORTH =
EAST =

NORTH =
EAST =

NORTH =
EAST =

NORTH =
EAST =

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83(96)
ADJUSTMENT Compass

x07a104c

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: SCRP (3)

FILE NAME: d107a104_t1.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. MCADAMS
TIE SHEET 3

PLOT DATE: 13-JAN-2010
DRAWN BY: R. BULLOCK
CHECKED BY: B. KIPP
SHEET 6 OF 69

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EROSION CONTROL	I-89 EXIT 13	I-89 EXIT 14	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
1					1	1 LS	LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	-			TEMPORARY ACCESS ROAD NO. 1
~~300~~ 380.44		~~90~~ 123	223		613	3426.44	CY	COMMON EXCAVATION	203.15	7	42	CY	COMMON EXCAVATION
			1377		1377	2071.8	CY	CHANNEL EXCAVATION OF EARTH	203.25	14	10	CY	EARTH BORROW
~~716~~ 0		~~5~~ 0	~~40~~ 0		761	0	CY	EARTH BORROW	203.30	3	43	CY	AGGREGATE SURFACE COURSE
			~~315~~ 277.4		315	277.4	CY	TRENCH EXCAVATION OF EARTH	204.20	3	514	SY	GEOTEXTILE FOR ROADBED SEPARATOR
			~~23~~ 12.53		23	12.53	CY	TRENCH EXCAVATION OF ROCK	204.21	EST.	37	SY	TEMPORARY EROSION MATTING
~~1~~ 51.8					1	51.8	CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-			TEMPORARY ACCESS ROAD NO. 2
		~~133~~ 155			133	1016.4	CY	STRUCTURE EXCAVATION	204.25	1	190	CY	COMMON EXCAVATION
		~~85~~ 135.6	~~71~~ 287.6		156		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	2	306	CY	EARTH BORROW
~~380~~ 530.1					380	530.1	CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	7	294	CY	AGGREGATE SURFACE COURSE
		~~20~~ 19.67	~~18~~ 16.4		38	423.20	CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	3	3675	SY	GEOTEXTILE FOR ROADBED SEPARATOR
		~~3430~~ 2105	~~1980~~ 1932		5410	4087	LB	REINFORCING STEEL	507.15	90	700	SY	TEMPORARY EROSION MATTING
		~~5~~ 2	~~5~~ 2		10	4	GAL	WATER REPELLENT, SILANE	514.10	EST.			
			~~5~~ 7.56		5	7.56	CY	REMOVAL OF CONCRETE OR MASONRY	529.25	EST.			
		~~5~~ 0			5	0	CY	CONCRETE, CLASS D	541.31	EST.			
			~~15~~ 5.2		15	5.2	LF	18" PCCSP .064 (2-2/3 X 1/2)	601.0415	EST.			
			~~15~~ 11.8		15	11.8	LF	24" PCCSP .064 (2-2/3 X 1/2)	601.0425	EST.			
			~~30~~ 38.2		30	38.2	LF	36" PCCSP .079 (2-2/3 X 1/2)	601.0446	EST.			
			3		3	3	EACH	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	604.18	-			
		~~17~~ 98.9	~~975~~ 1898.1		992	1997	CY	STONE FILL, TYPE II	613.11	10			
		~~43~~ 53.3	~~269~~ 800		312	853.3	CY	STONE FILL, TYPE III	613.12	3			
		~~30~~ 157			30	157	LF	WOVEN WIRE FENCE WITH STEEL POSTS	620.25	7			
		~~6~~ 0			6	0	EACH	STEEL BRACE FOR WOVEN WIRE FENCE	620.40	EST.			
~~510~~ 405		~~50~~ 0			560	405	LF	REMOVING AND RESETTING FENCE	620.50	9			
~~7~~ 1					7	1	EACH	ENERGY ABSORPTION ATTENUATOR	621.56	EST.			
		~~125~~ 0	~~30~~ 0		155	0	LF	REMOVE AND RESET GUARDRAIL	621.75	EST.			
~~830~~ 386					830	386	LF	TEMPORARY TRAFFIC BARRIER	621.90	EST.			
~~830~~ 0					830	0	LF	REMOVE AND RESET TEMPORARY TRAFFIC BARRIER	621.95	EST.			
~~400~~ 264.8					400	264.8	HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST.			
~~400~~ 395					400	395	HR	FLAGGERS	630.15	EST.			
				1	1	1	LS	FIELD OFFICE, ENGINEERS	631.10	-			
				1	1	1	LS	TESTING EQUIPMENT, CONCRETE	631.16	-			
				1	1		LU	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.25	-			
1					1	1	LS	MOBILIZATION/DEMOBILIZATION	635.11	-			
1					1	1	LS	TRAFFIC CONTROL	641.10	-			
~~8~~ 4					8	4	EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	-			
~~4800~~ 2978					4800	2978	SY	GEOTEXTILE FOR ROADBED SEPARATOR	649.11	42			
		~~115~~ 169	~~2238~~ 3370		2353		SY	GEOTEXTILE UNDER STONE FILL	649.31	23			
	~~205~~ 136				205	136	SY	GEOTEXTILE FOR SILT FENCE	649.51	1			
	~~205~~ 209				205	209	LB	SEED	651.15	2			

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a004_Tr-s.dgn
PROJECT MANAGER: K. UPHAL
DESIGNED BY: B. KIPP/B. McADAMS
QUANTITY SHEET 1

PLOT DATE: 18-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 7 OF 68

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EROSION CONTROL	I-89 EXIT 13	I-89 EXIT 14	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							805 ~~1690~~				1690	805	LB	FERTILIZER	651.18	14			
							~~8~~ 0.81				8	.81	TON	AGRICULTURAL LIMESTONE	651.20	EST.			
							~~8~~ 8.73				8	8.73	TON	HAYMULCH	651.25	EST.			
							~~190~~ 592				190	592	CY	TOPSOIL	651.35	2			
							1				1	1	LS	EPSC PLAN	652.10	-			
							10				10	10	HR	MONITORING EPSC PLAN	652.20	-			
							~~1~~ .22				1	0.22	LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30	-			
							~~710~~ 0				710	0	SY	PERMANENT EROSION MATTING	653.21	7			
							~~18~~ 32				18	32	CY	VEHICLE TRACKING PAD	653.35	EST.			
							~~2~~ 0				2	0	EACH	INLET PROTECTION DEVICE, TYPE I	653.40	-			
							~~3232~~ 4659				3232	4659	LF	PROJECT DEMARCATION FENCE	653.55	32			
								28.65 ~~230~~	196.91 ~~164~~		394	225.56	CY	SPECIAL PROVISION (CONTROLLED DENSITY (FLOWABLE) FILL)	900.608	EST.			
									0 ~~10~~		10	0	CY	SPECIAL PROVISION (PIPE RAMMING, OBSTRUCTION REMOVAL)	900.608	EST.			
								276.46 ~~280~~			280	276.46	LF	SPECIAL PROVISION (CURED-IN-PLACE PIPE LINER)(56")(EXISTING 60" PIPE)	900.640	EST.			
									103.73 ~~105~~		105	103.73	LF	SPECIAL PROVISION (PIPE RAMMING) (24" SP (SL))	900.640	2			
									117.47 ~~120~~		120	117.47	LF	SPECIAL PROVISION (PIPE RAMMING) (36" SP (SL))	900.640	1			
									472.2 ~~475~~		475	472.2	LF	SPECIAL PROVISION (PIPE RAMMING) (42" SP (SL))	900.640	2			
									110.53 ~~115~~		115	110.53	LF	SPECIAL PROVISION (PIPE RAMMING) (72" SP (SL))	900.640	3			
								765 ~~320~~			320	765	LF	SPECIAL PROVISION (TEST BORINGS)	900.640	EST.			
								1			1	1	LS	SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM) (I-89 - EXIT 13)	900.645				

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07s014_Trn.dgn
PROJECT MANAGER: K. UPHAL
DESIGNED BY: B. KIPP/B. McADAMS
QUANTITY SHEET 2

PLOT DATE: 18-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 8 OF 58

NOT USED

TEMPORARY ACCESS ROAD 1 ALIGNMENT

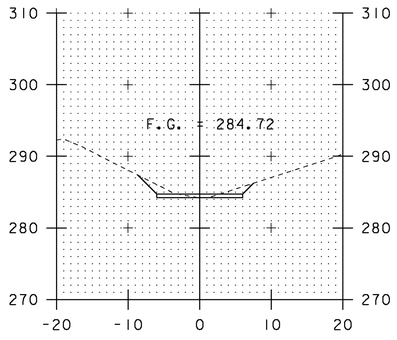
POINT	STA.	NORTHING	EASTING	RADIUS	BEARING
POB	0+00.00	711510.9950	1462932.3141	-	S 3°56'12.41" W
PC	0+12.67	711498.3554	1462931.4443	10'	
PT	0+24.04	711488.9031	1462936.6081		S 61°13'56.31" E
PC	0+37.87	711482.2491	1462948.7278	50'	
PT	0+58.15	711469.1947	1462964.0721		S 37°59'14.91" E
PI	0+85.76	711447.4389	1462981.0619	-	-
PC	1+29.12	711411.9021	1463005.9062	100'	S 34°57'28.87" E
PT	1+65.45	711386.5175	1463031.6171		S 55°46'25.20" E
POE	1+82.64	711376.8483	1463045.8308	-	

1. EXISTING DEPRESSIONS LOCATED ON THE WESTERN EMBANKMENT SHALL BE PROPERLY BACKFILLED USING EARTH BORROW, COMPACTED, SEEDED AND MULCHED
2. APPROXIMATE LOCATION OF SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM) FLOW SHALL BE BYPASSED VIA PUMPING OR APPROVED ALTERNATIVE PAYMENT SHALL BE MADE UNDER ITEM 900.645 SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)
3. STONE FILL TYPE II
4. FINAL GRADING LIMITS, AREA WILL BE GRADED TO DRAIN TOWARDS THE CULVERT INLET
5. NEW 23' X 10' X 1' REINFORCED CONCRETE FULL BEVELED HEADWALL AT INLET
6. EXISTING 60" X 265' CGMP
   NEW 56" X 265' CIPP LINER
   CONTRACTOR PERFORMED HORIZONTAL BORING ALONG PIPE AFTER LINING
7. ~~SYMBOL REPRESENTS APPROXIMATE LOCATIONS OF TEST BORINGS TO BE PERFORMED BY THE CONTRACTOR FOLLOWING THE INSTALLATION OF THE LINER. BORINGS SHALL BE USED TO LOCATE SUBSURFACE VOIDS. IF NECESSARY, CORRESPONDING HOLES SHALL BE SLEEVED TO ALLOW FOR THE PLACEMENT OF FLOWABLE FILL~~
8. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING TEMPORARY ACCESS TO THE NORTHERN EMBANKMENT AND CULVERT OUTLET. ALL RESULTING DISTURBED EARTH SHALL BE STABILIZED AND RESTORED UPON COMPLETION OF CONSTRUCTION. PAYMENT FOR THIS WORK SHALL BE INCIDENTAL TO ITEM 900.640, SPECIAL PROVISION (CURED-IN-PLACE PIPE LINER)(56")(EXISTING 60" PIPE).
9. STONE FILL TYPE III
10. REMOVE AND RESET WOVEN FENCE
11. LOCATION FOR RESET OF REMOVED WOVEN FENCE AND NEW WOVEN FENCE. NEW WOVEN FENCE TO BE PAID UNDER ITEMS 620.25 AND 620.40.
12. EXISTING DEPRESSIONS LOCATED ON THE NORTHERN EMBANKMENT SHALL BE PROPERLY BACKFILLED USING EARTH BORROW, COMPACTED, SEEDED AND MULCHED
13. PROPOSED TEMPORARY ACCESS ROAD 1, TO BE CONSTRUCTED BY PLACING 6" OF DENSE GRADED CRUSHED STONE ON EXISTING GROUND AT THE CENTER LINE.
14. HATCHED AREA DELINEATES EXISTING STORMWATER IMPROVEMENT FACILITY. THIS AREA SHALL NOT BE DISTURBED.

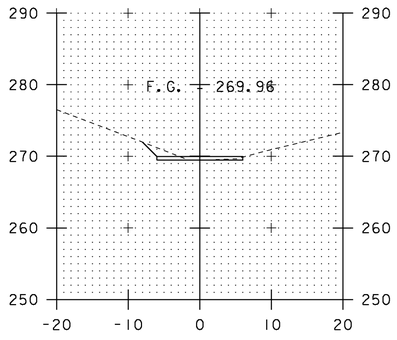
ACCESS RD FROM INTERSTATE NOT BUILT
ACCESS RD STARTED OFF DORSET ST.

0 20 40
SCALE IN FEET

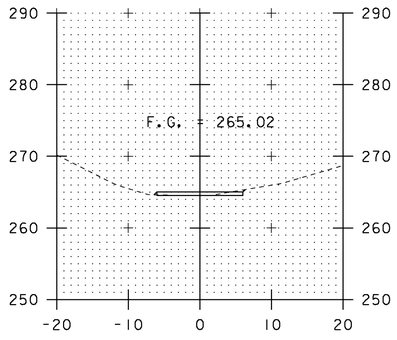
PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: d07al04bdr.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
LAYOUT SHEET 1	SHEET 9 OF 69



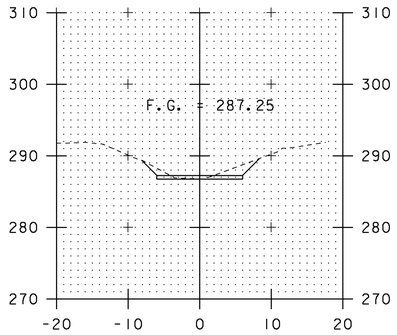
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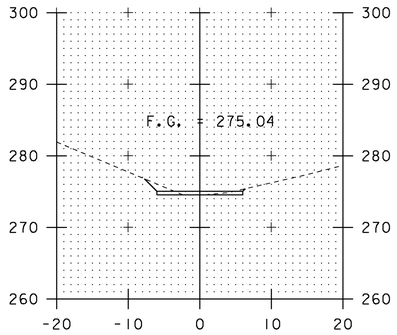
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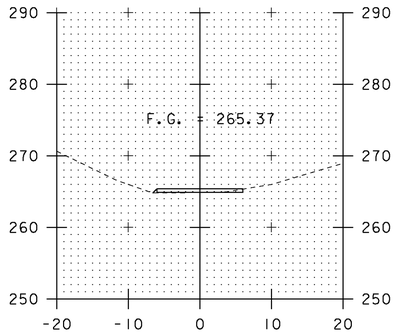
1+83



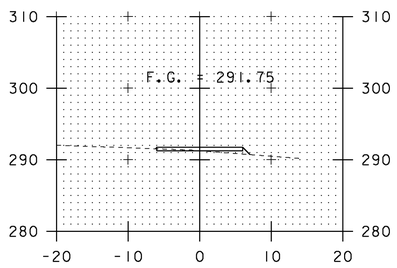
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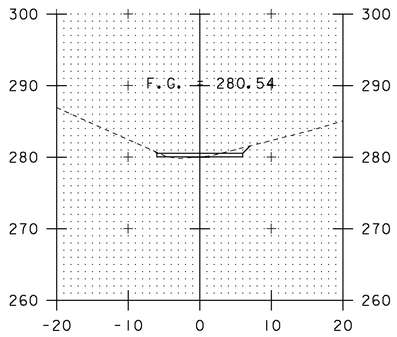
1+00



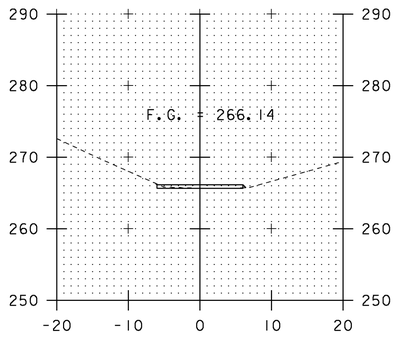
1+75



0+00



0+75



1+50

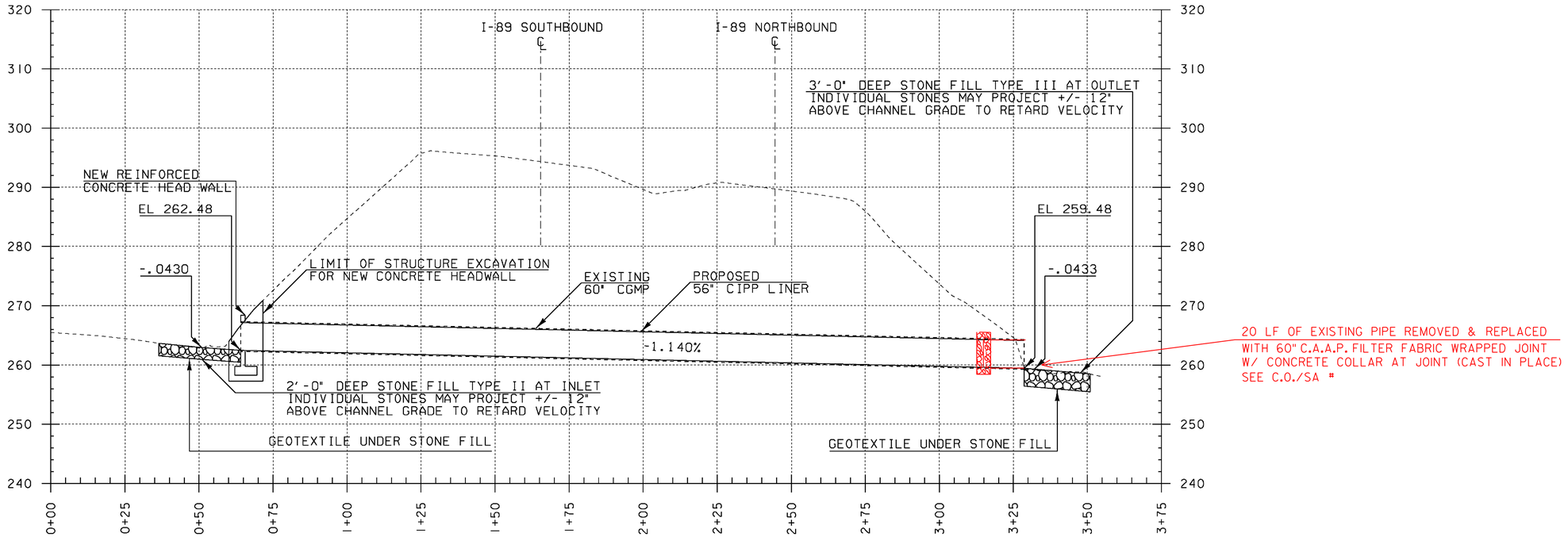
STA. 0+00 TO STA. 1+83

0 10 20
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_nul.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
ACCESS ROAD 1 CROSS SECTIONS

PLOT DATE: 13-JAN-2010
DRAWN BY: B. McADAMS
CHECKED BY: B. KIPP
SHEET 10 OF 69



MM 87.300
CULVERT CENTERLINE
PROFILE

PROJECT NOTES

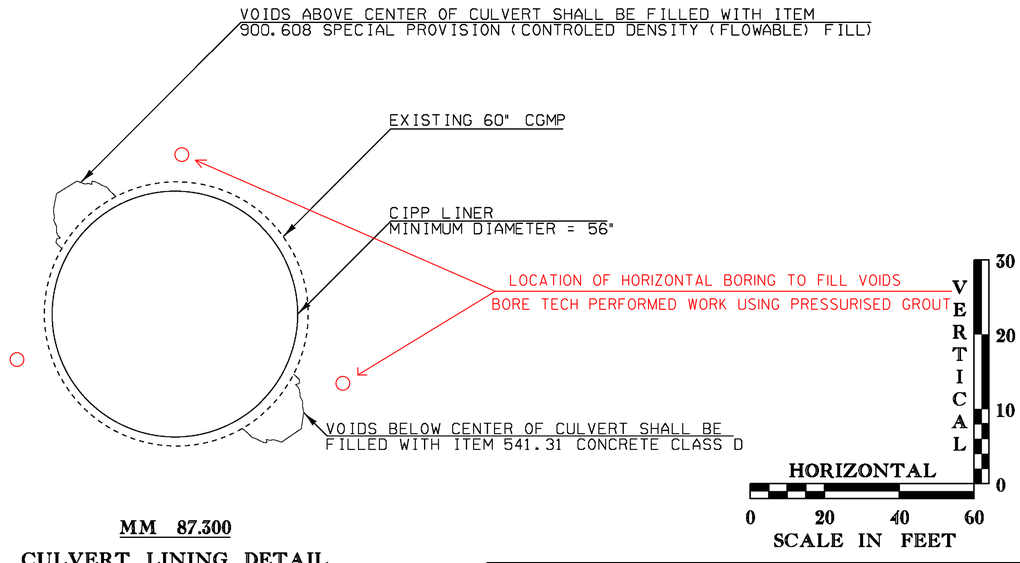
1. THE ITEM SPECIAL PROVISION (CURED-IN-PLACE PIPE LINER) (56")(EXISTING 60" PIPE) IS INTENDED TO BE USED FOR THE INSTALLATION OF A RESIN-IMPREGNATED FLEXIBLE TUBE, WHICH SHALL BE TIGHTLY FORMED TO THE ORIGINAL CONDUIT. THE RESIN IS TO BE CURED USING EITHER HOT WATER UNDER HYDROSTATIC PRESSURE OR STEAM PRESSURE WITHIN THE TUBE. THE CURED-IN-PLACE-PIPE (CIPP) SHALL BE CONTINUOUS AND TIGHT FITTING.

2. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARATION OF THE EXISTING PIPE TO THE SATISFACTION OF THE MANUFACTURER OF THE CIPP LINER. IT IS ANTICIPATED THAT IT WILL BE NECESSARY FOR THE CONTRACTOR TO REMOVE SEDIMENT, LARGE STONES, AND/OR DEBRIS FROM INSIDE THE EXISTING CULVERT PRIOR TO INSTALLING THE CIPP LINER. PAYMENT FOR THIS WORK SHALL BE INCIDENTAL TO ITEM 900.640, SPECIAL PROVISION (CURED-IN-PLACE PIPE LINER)(56")(EXISTING 60" PIPE).

3. ALL WORK DIRECTLY ASSOCIATED WITH THE REPAIR OF THE CULVERT SHALL BE DONE IN DRY CONDITIONS WITH NO STANDING OR FLOWING WATER PRESENT INSIDE THE CULVERT.

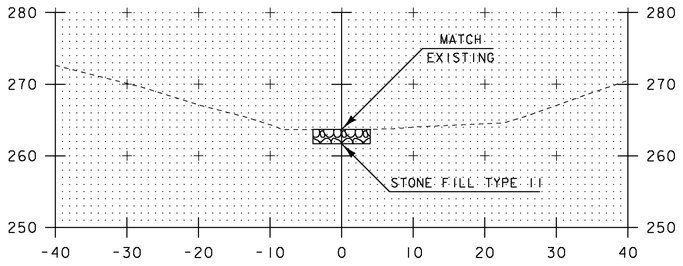
4. THE CONTRACTOR SHALL ESTABLISH TURF ON ANY AREAS DISTURBED AS A RESULT OF WORK ON THIS PROJECT ACCORDING TO THE RURAL SEEDING FORMULA ON SHEET 47 OR AS DIRECTED BY THE RESIDENT ENGINEER.

5. LIMITS OF STRUCTURE EXCAVATION FOR NEW CONCRETE HEADWALL SHALL BE TWO FEET OUTSIDE FOOTING PERIMETER AND ONE FOOT BELOW FOOTING. BACKFILL SHALL CONSIST OF GRANULAR BACKFILL FOR STRUCTURES.

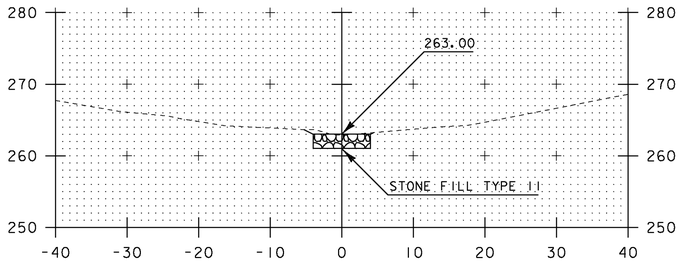


MM 87.300
CULVERT LINING DETAIL
NOT TO SCALE

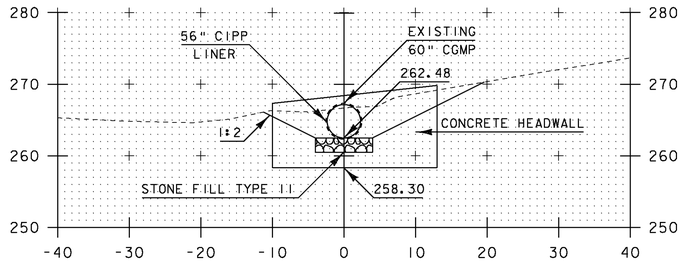
PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: d07al04_nul.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: J. DEVLIN
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
MM 87.300 PROFILE	SHEET II OF 69



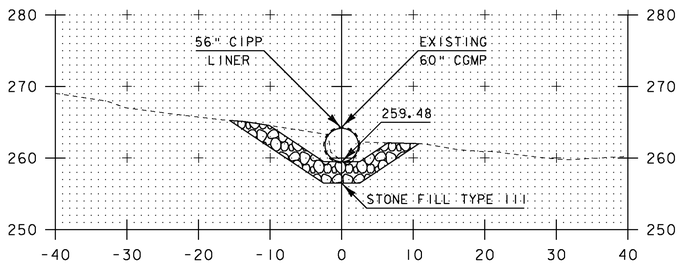
0+36
INLET



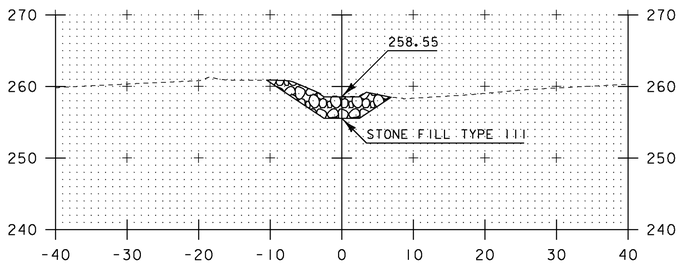
0+50
INLET



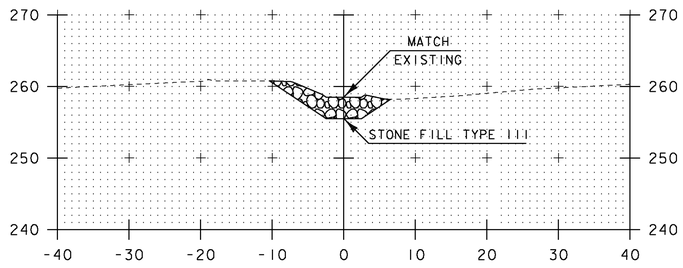
0+64
INLET



3+29
OUTLET



3+50
OUTLET



3+51
OUTLET

INLET - STONE FILL TYPE II, 2 FT DEPTH AT CHANNEL BOTTOM AND SIDES, 8 FT WIDE

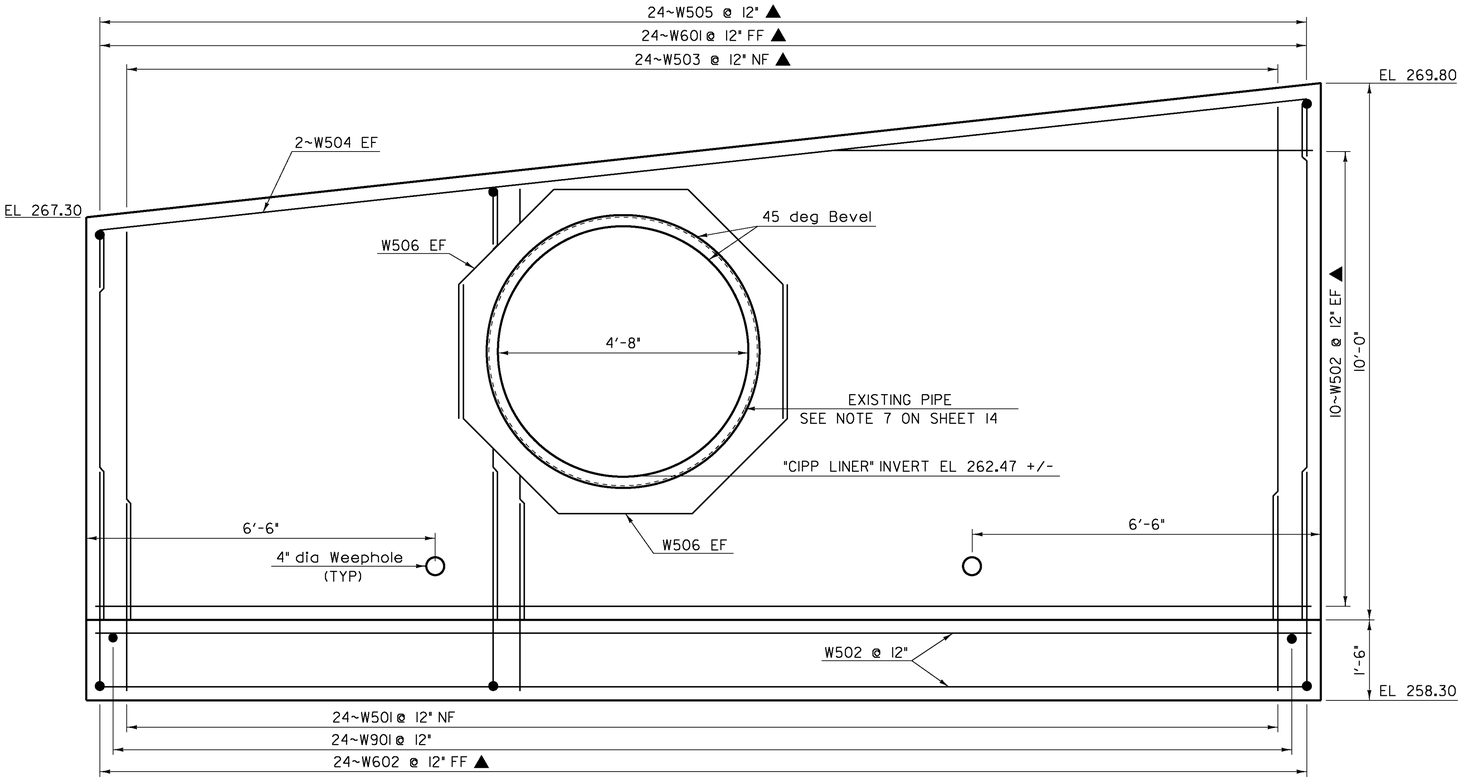
OUTLET - STONE FILL TYPE III, 3 FT DEPTH AT CHANNEL BOTTOM AND SIDES, IV:1.5H CHANNEL SIDE SLOPES

0 10 20
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

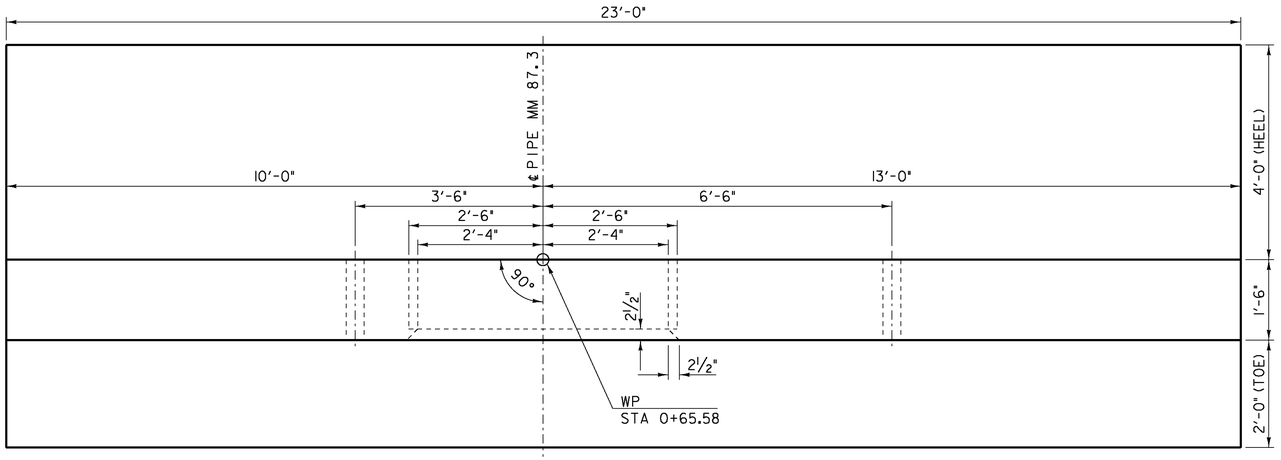
FILE NAME: d07a104_nul.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
MM 87.300 CHANNEL SECTIONS

PLOT DATE: 13-JAN-2010
DRAWN BY: J. DEVLIN
CHECKED BY: B. KIPP
SHEET 12 OF 69



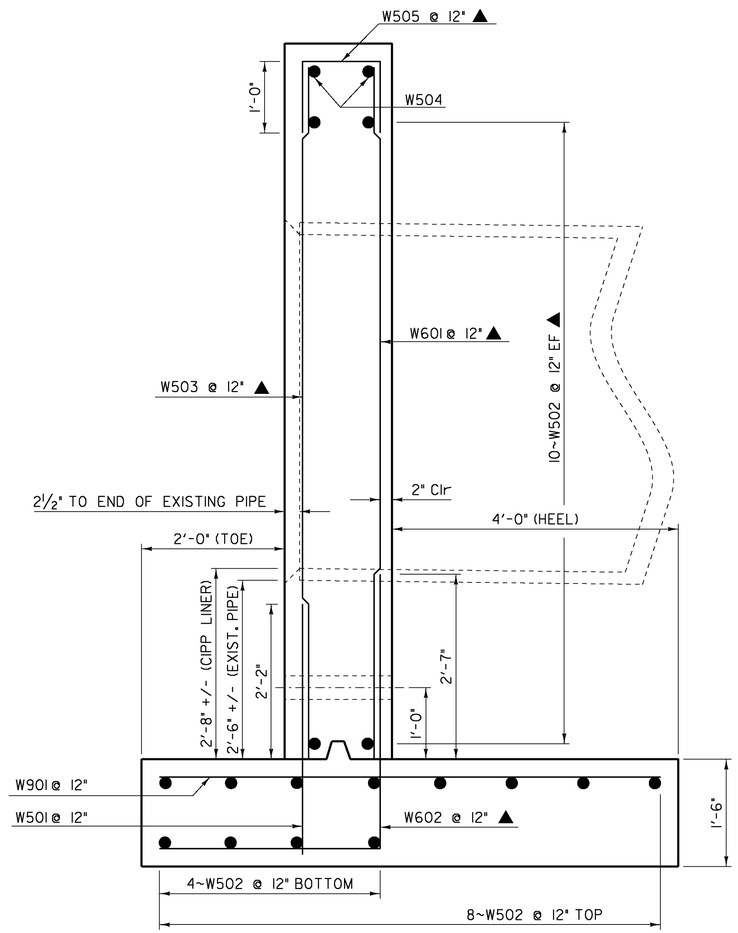
HEADWALL ELEVATION FOR MM 87.30

SCALE 3/4" = 1'-0



HEADWALL PLAN FOR MM 87.30

SCALE 3/4" = 1'-0



HEADWALL SECTION FOR MM 87.30

SCALE 1" = 1'-0

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: Headwall.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: R. FOSTER
DESIGNED BY: R. FOSTER	CHECKED BY: W. SYMONDS
MM 87.300 HEADWALL DETAIL	SHEET 13 OF 69

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE AND PROJECT NOTES

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	S
REMOVAL FOR CLASS C CONCRETE																	
	24	5	2'-2"	W901	178												
▲	24	5	2'-2"	W902	178												
▲	24	5	2'-2"	W903	178												
	2	5	20'-9"	W904	178												
▲	24	5	7'-1"	W905	17		1'-3"	1'-1"	1'-9"								
	4	5	20'-8"	W906	14	2'-8"	2'-5"	2'-3"	2'-7"	2'-5"			11'-9"		1'-9"		
▲	24	5	8'-9"	W907	178												
▲	24	5	6'-11"	W912	17		3'-1"	3'-9"									
	24	5	7'-0"	W901	3178												

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2002, AND ITS LATEST REVISIONS.

2. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE

HEADWALL NOTES

3. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:

   SPACING: +/- 1"
   CLEARANCE: +/- 1/4"

4. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. UPWARD KEYS SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.

5. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.

6. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH X 1 INCH.

7. THE INLET SHALL BE CUT TO THE LOCATION SHOWN WITH AN ABRASIVE SAW TO BE VERTICAL PRIOR TO PLACING THE HEADWALL. FLAME CUTTING OF THE EXISTING PIPE WILL NOT BE PERMITTED.

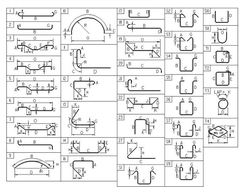
   - PRIOR TO INSTALLING THE NEW CONCRETE HEADWALLS, THE OUTSIDE OF THE EXISTING CORRUGATED METAL PIPES SHALL BE CLEANED TO REMOVE ANY CONTAMINANT THAT WOULD PREVENT A GOOD BOND BETWEEN THE PIPE AND CONCRETE.
   - THE COST OF CLEANING AND CUTTING THE EXISTING PIPE WILL BE INCIDENTAL TO CONTRACT ITEM 501.14.

8. THE SIZES, ELEVATION, AND SLOPES OF THE EXISTING PIPES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY WORK.

9. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES.

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 10 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT, AASHTO M 31 (ASTM A615/A), ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICE 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. "D" 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 "M" AND "N" 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. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD DEFORMED BAR SIZES

#3	0.376	0.375	0.11	0.376
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.78	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	NH SCRP(31)
FILE NAME: S:\sb\dgn\ PROJECT LOCATION: S.BURL. DESIGNED BY: S. FOSTER	PLOT DATE: 19-JAN-2006 DRAWN BY: N. FOSTER CHECKED BY: S. FOSTER
NH #7.302 REINFORCING STEEL SCHEDULE	SHEET 11 OF 69

1. MILE MARKER 88.736 (NB)
NEW 36" X 118 FT SP(SL)
NEW 6 FT DI. 1A GRATE
NEW 24' X 10 FT PCCSP EXTENSION

2. MILE MARKER 88.787 (NBASB)
NEW 42" X 248 FT SP(SL)
NEW 14' X 8.5' X 1' REINFORCED CONCRETE HEADWALL

3. MILE MARKER 88.838 (NB, RAMP H)
NEW 72" X 112 FT SP(SL)
NEW 8 FT DI. 1A GRATE
TWO NEW 36" X 15 FT PCCSP EXTENSION

4. MILE MARKER 88.867 (NB, RAMP H)
DI SHALL BE ABANDONED AND FILLED WITH FLOWABLE FILL
NEW 5 FT W., 40 FT L., 3 FT D. TYPE III STONE FILL

5. MILE MARKER 88.877 (NBASB)
NEW 42" X 228 FT SP(SL)
NEW REINFORCED CONCRETE STRAIGHT HEADWALL

6. MILE MARKER 88.880 (NB, RAMP H)
DI SHALL BE ABANDONED AND FILLED WITH FLOWABLE FILL
NEW 10 FT W., 83 FT L., 3 FT D. TYPE III STONE FILL

7. MILE MARKER 88.896 (NB)
NEW 24" X 105 FT SP(SL)
NEW 6 FT DI, 1A GRATE
NEW 18' X 10 FT PCCSP EXTENSION

8. PROPOSED TEMPORARY ACCESS ROAD 2
6" D., 12 FT W., 1,283 FT L., TO BE CONSTRUCTED BY PLACING 8" OF DENSE GRADED CRUSHED STONE ON EXISTING GROUND AT THE CENTER LINE.

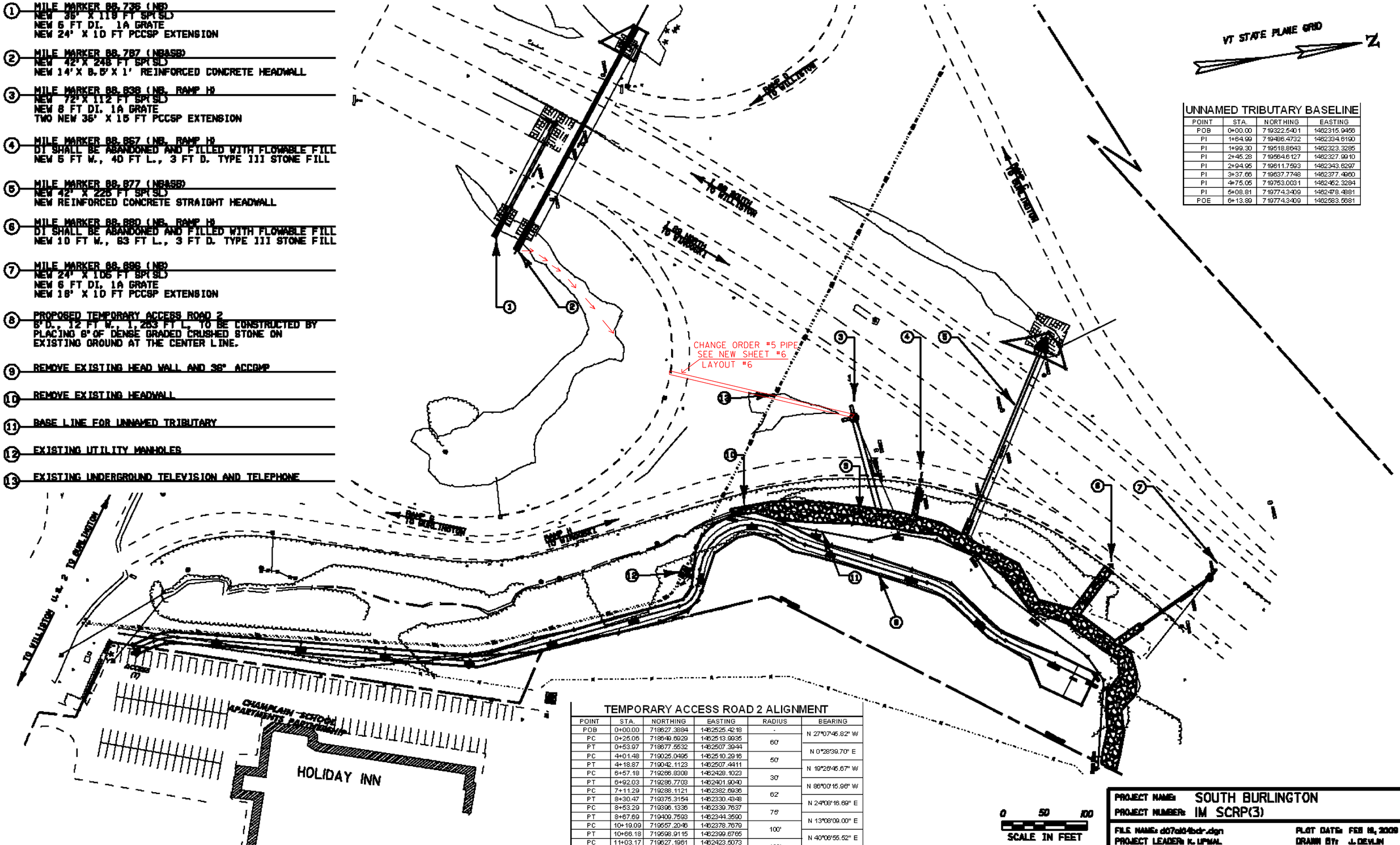
9. REMOVE EXISTING HEAD WALL AND 36" ACCOMP

10. REMOVE EXISTING HEADWALL

11. BASE LINE FOR UNNAMED TRIBUTARY

12. EXISTING UTILITY MANHOLES

13. EXISTING UNDERGROUND TELEVISION AND TELEPHONE



TEMPORARY ACCESS ROAD 2 ALIGNMENT

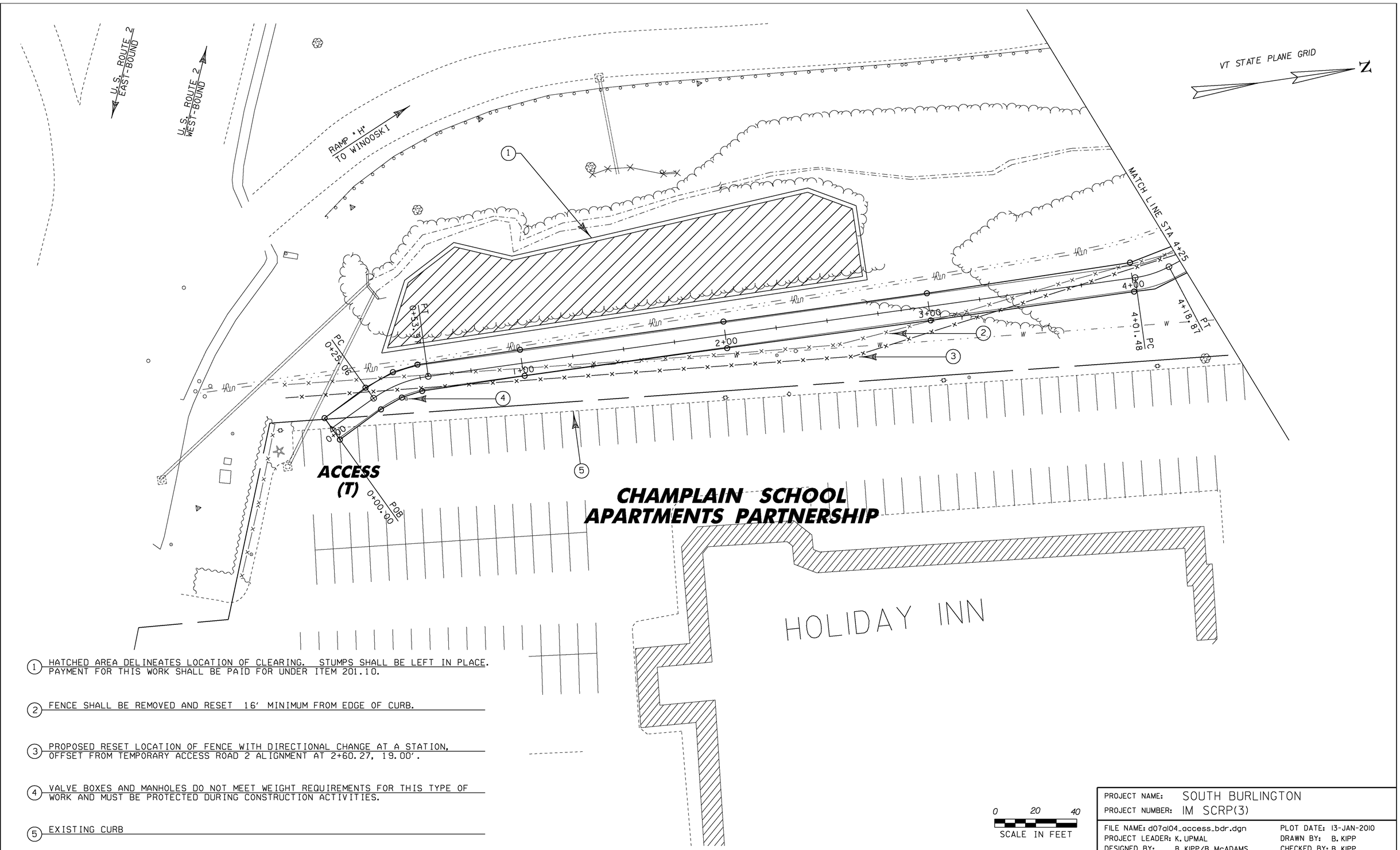
POINT	STA.	NORTHING	EASTING	RADIUS	BEARING
POB	0+00.00	718627.3884	1462525.4218	-	N 27°07'46.82" W
PC	0+25.06	718649.6929	1462513.9935	60'	
PT	0+53.97	718677.5532	1462507.3944		N 0°28'39.70" E
PC	4+01.48	719025.0495	1462510.2916	50'	
PT	4+18.87	719042.1123	1462507.4411		N 19°28'45.67" W
PC	6+57.18	719266.8308	1462428.1023	30'	
PT	6+92.03	719286.7703	1462401.9040		N 86°00'15.96" W
PC	7+11.29	719288.1121	1462382.6936	62'	
PT	8+30.47	719375.3154	1462330.4348		N 24°08'16.69" E
PC	8+53.29	719396.1336	1462339.7637	75'	
PT	8+67.69	719409.7593	1462344.3590		N 13°08'09.00" E
PC	10+19.09	719557.2046	1462378.7679	100'	
PT	10+66.18	719598.9115	1462399.6765		N 40°06'55.52" E
PC	11+03.17	719627.1961	1462423.5073	100'	
PT	11+35.66	719654.9829	1462440.0758		N 21°29'51.16" E
POE	12+49.90	719761.2748	1462481.9401	-	

0 50 100
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07al04bdr.dgn
PROJECT LEADER: K. LIPHAM
DESIGNED BY: S. KIPP/S. McADAMS
LAYOUT SHEET 2

PLOT DATE: FEB 18, 2009
DRAWN BY: J. DEVLIN
CHECKED BY: S. KIPP
SHEET 15 OF 68



1. HATCHED AREA DELINEATES LOCATION OF CLEARING. STUMPS SHALL BE LEFT IN PLACE. PAYMENT FOR THIS WORK SHALL BE PAID FOR UNDER ITEM 201.10.

2. FENCE SHALL BE REMOVED AND RESET 16' MINIMUM FROM EDGE OF CURB.

3. PROPOSED RESET LOCATION OF FENCE WITH DIRECTIONAL CHANGE AT A STATION, OFFSET FROM TEMPORARY ACCESS ROAD 2 ALIGNMENT AT 2+60.27, 19.00'.

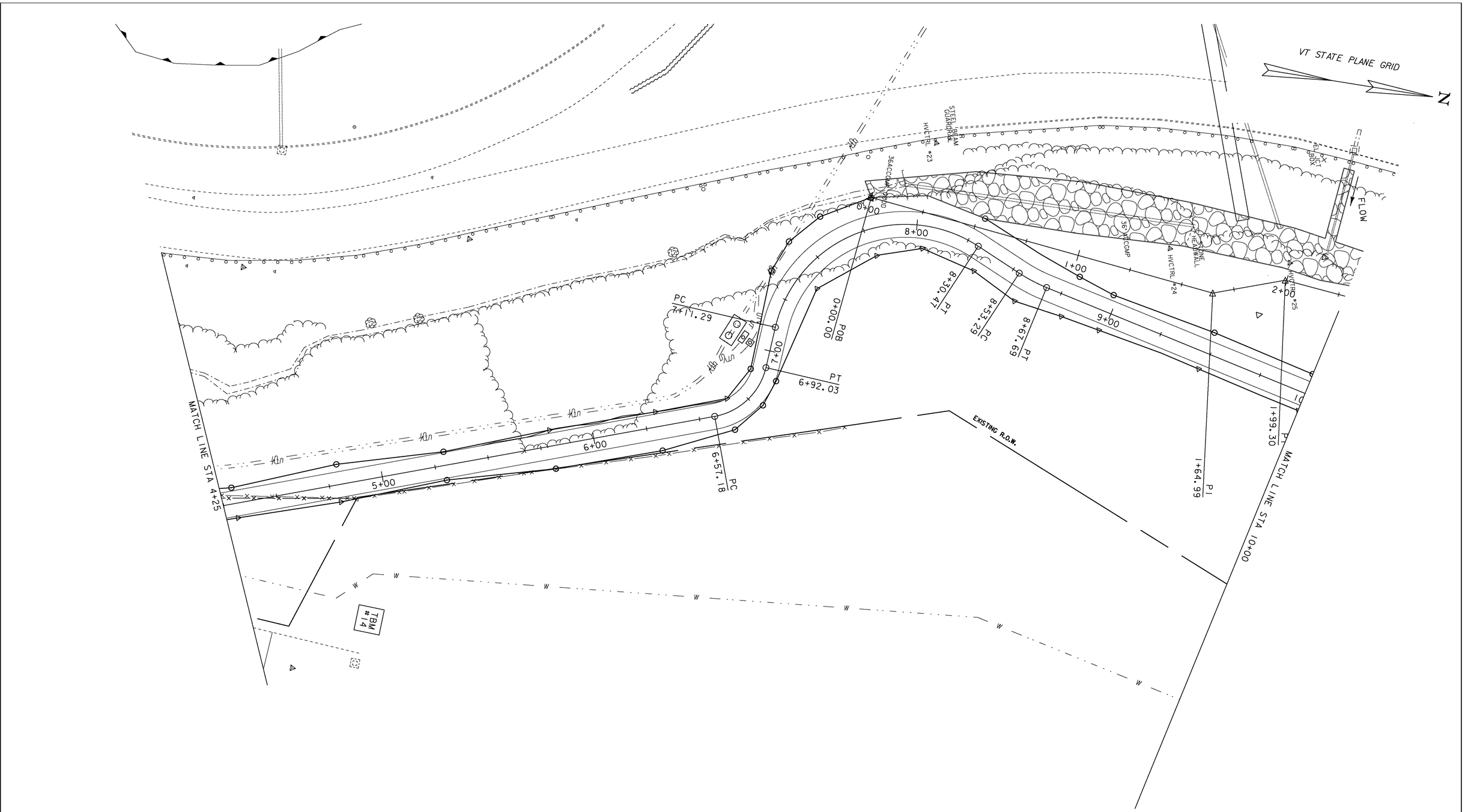
4. VALVE BOXES AND MANHOLES DO NOT MEET WEIGHT REQUIREMENTS FOR THIS TYPE OF WORK AND MUST BE PROTECTED DURING CONSTRUCTION ACTIVITIES.

5. EXISTING CURB

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

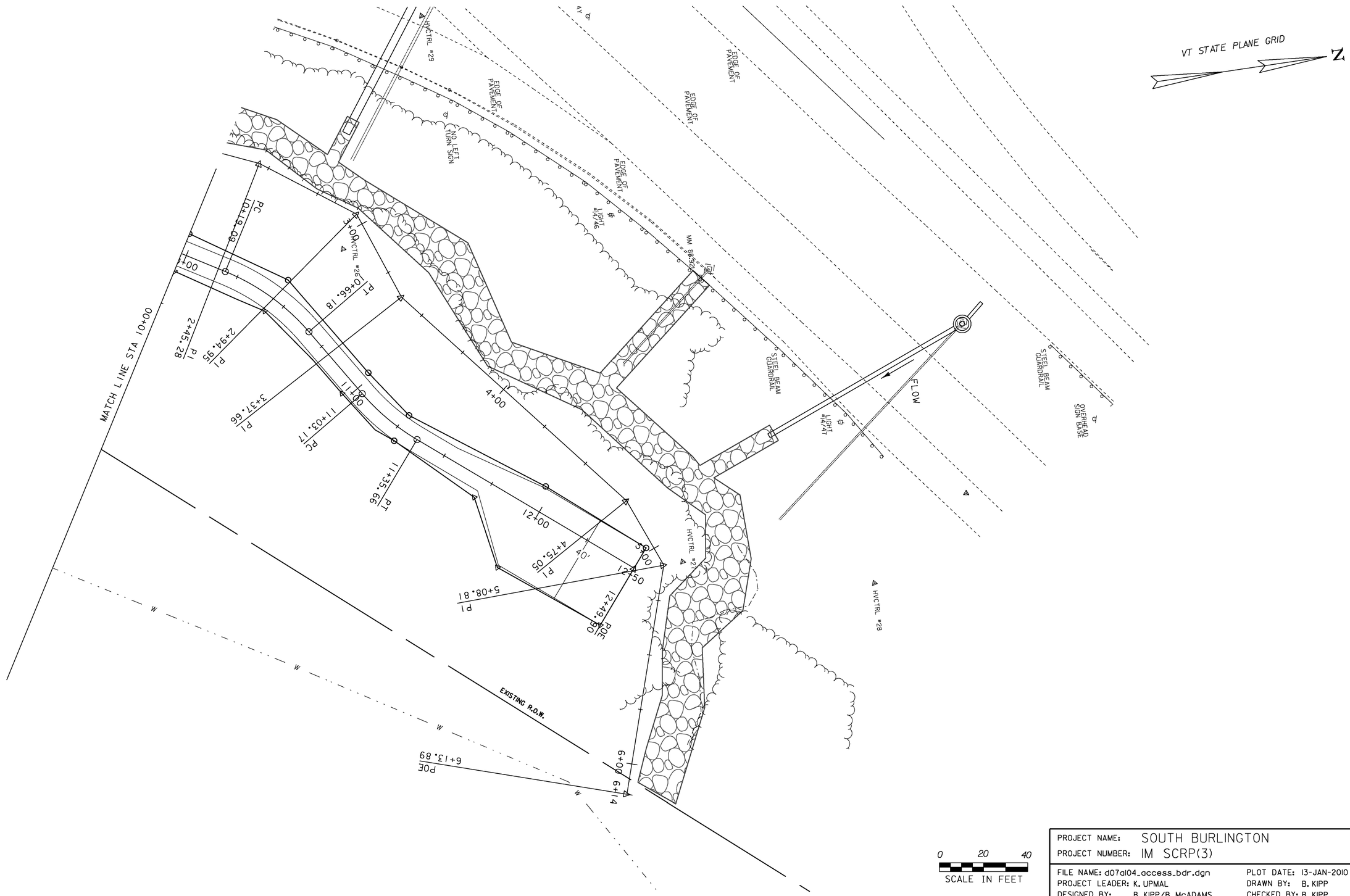
FILE NAME: d07a104_access_bdr.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
LAYOUT SHEET3

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 16 OF 69

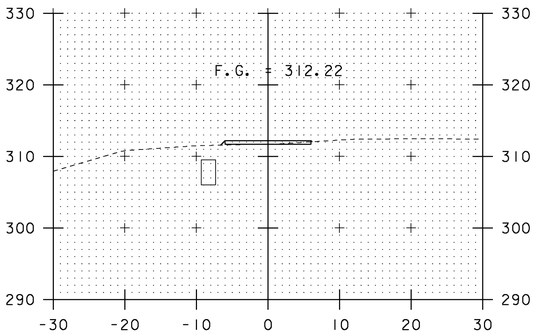


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SCALE IN FEET

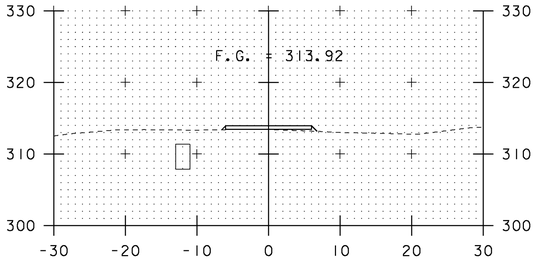
PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: d07a104_access_bdr.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
LAYOUT SHEET 4	SHEET 17 OF 69



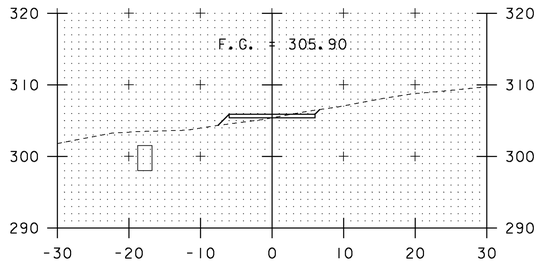
PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: d07a104_access_bdr.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
LAYOUT SHEET 5	SHEET 18 OF 69



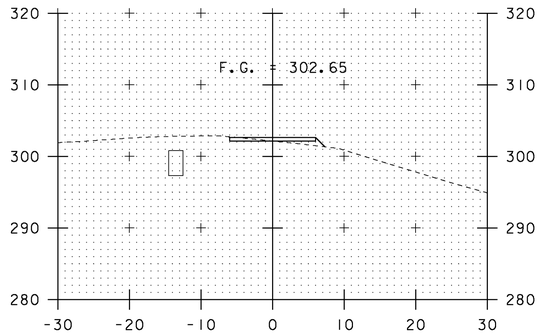
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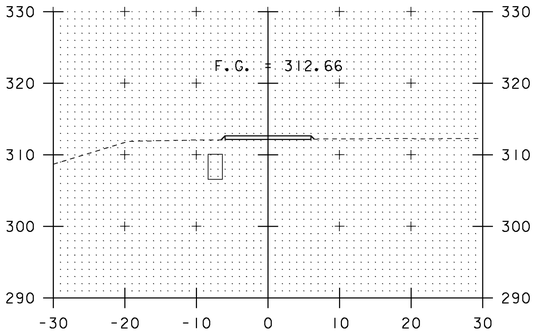
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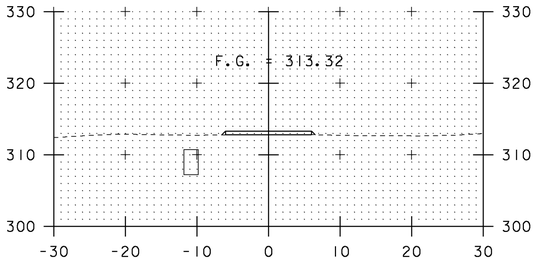
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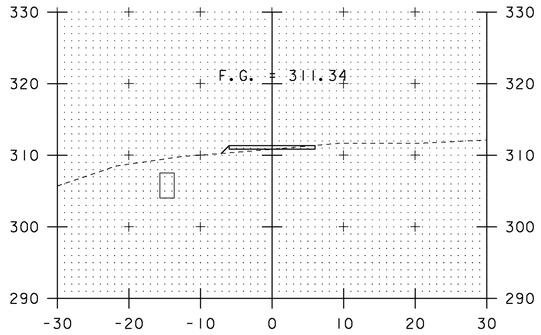
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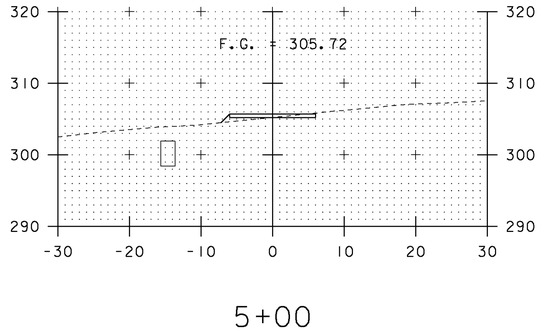
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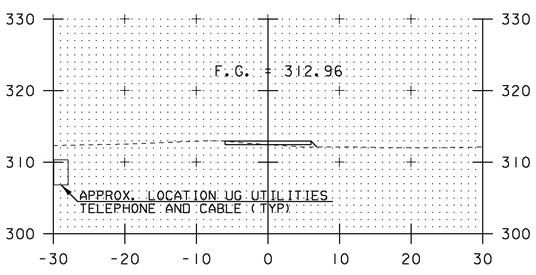
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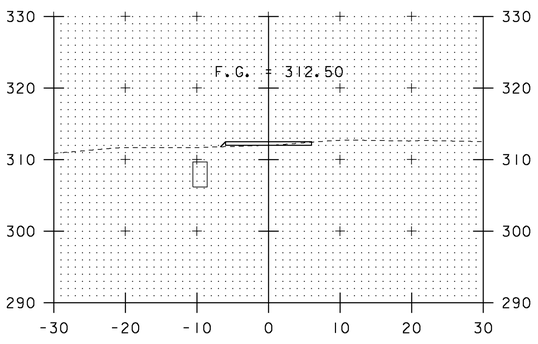
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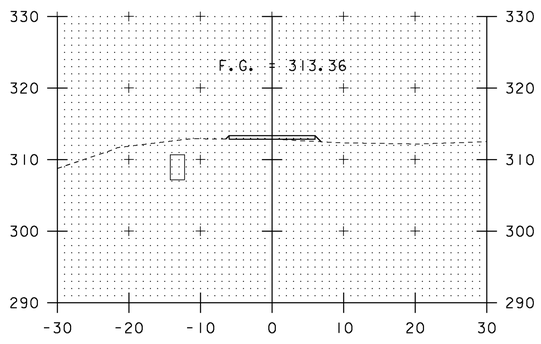
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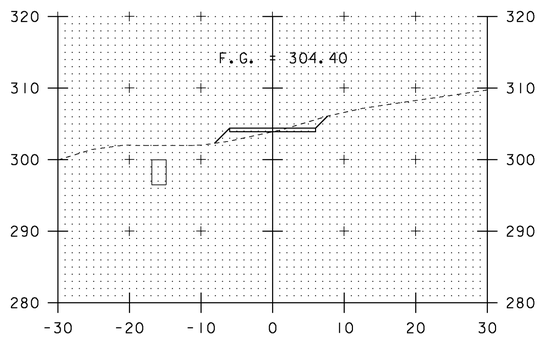
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1+50



3+00



4+50

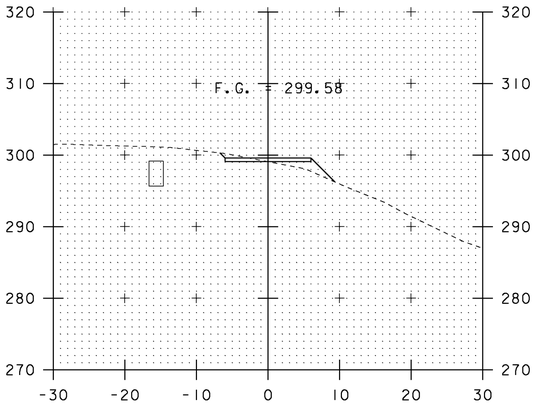
STA. 0+00 TO STA. 5+50

0 10 20
SCALE IN FEET

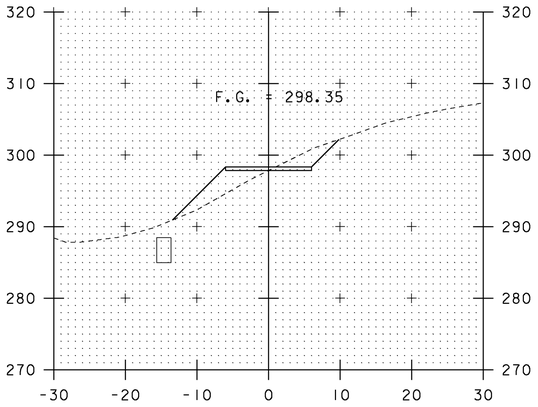
PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_nul.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
ACCESS ROAD 2 CROSS SECTIONS

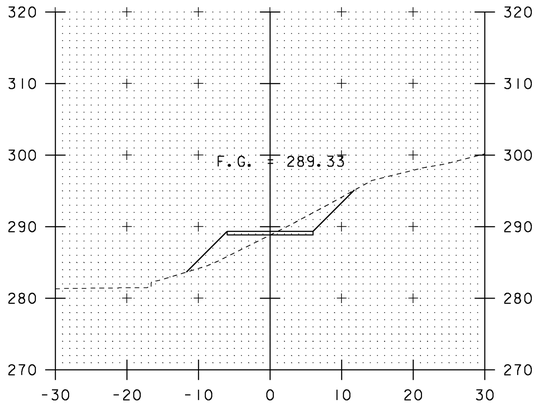
PLOT DATE: 13-JAN-2010
DRAWN BY: B. McADAMS
CHECKED BY: B. KIPP
SHEET 19 OF 69



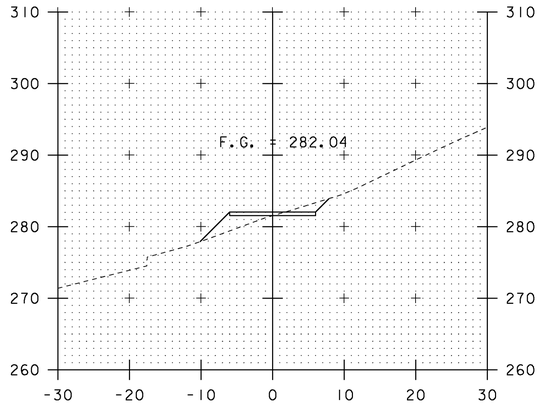
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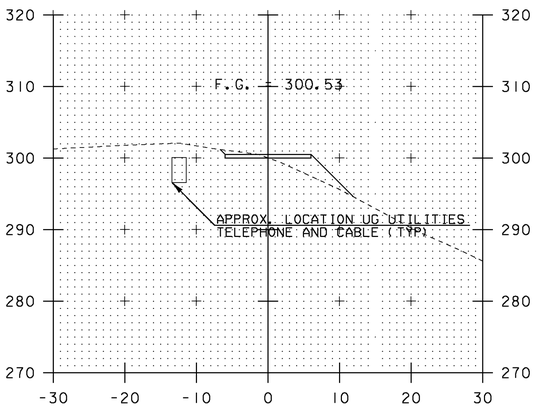
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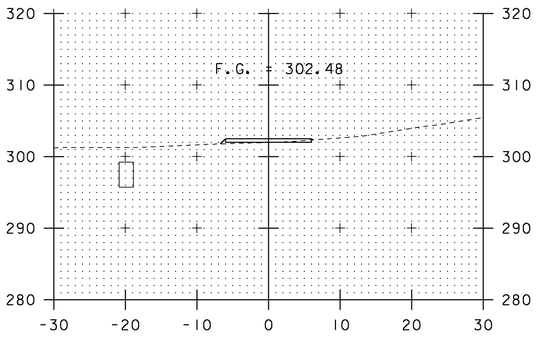
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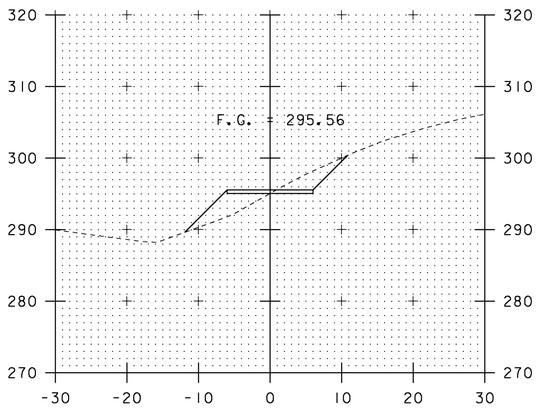
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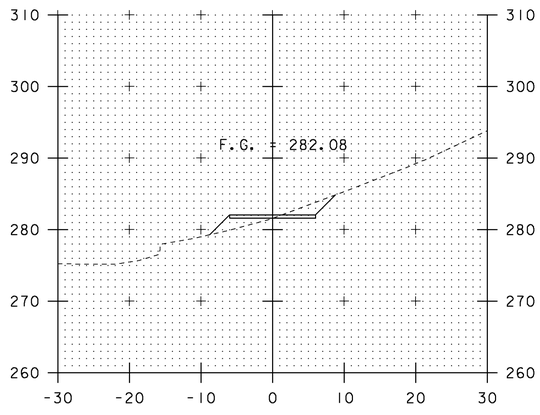
6+00



7+00



8+00



9+00

STA. 6+00 TO STA. 9+50

0 10 20

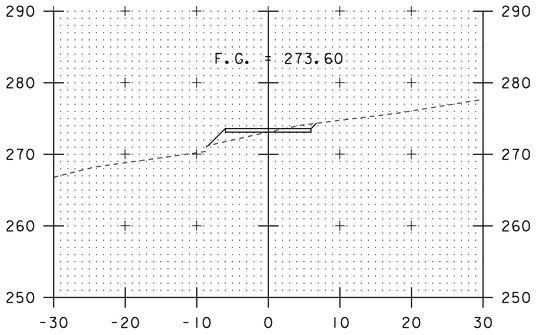
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON

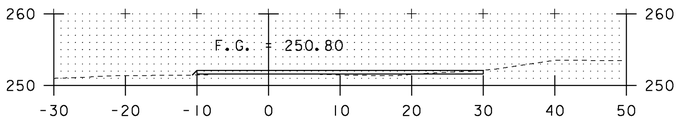
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_nul.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
ACCESS ROAD 2 CROSS SECTIONS

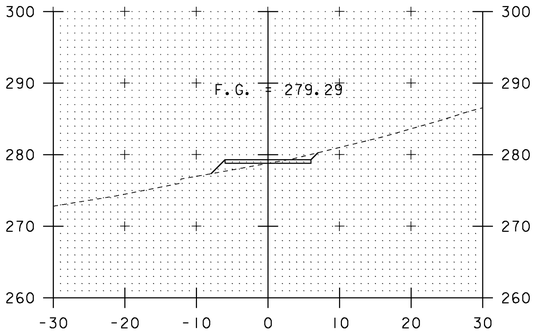
PLOT DATE: 13-JAN-2010
DRAWN BY: B. McADAMS
CHECKED BY: B. KIPP
SHEET 20 OF 69



11+00

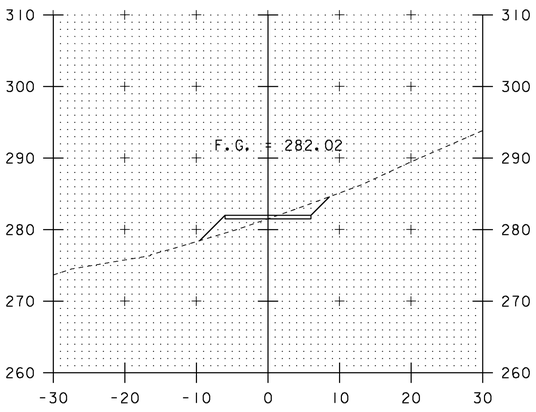


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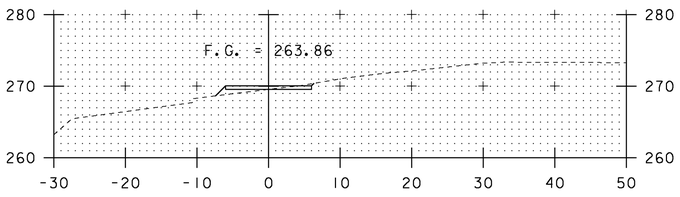


10+50

12+00



10+00



11+50

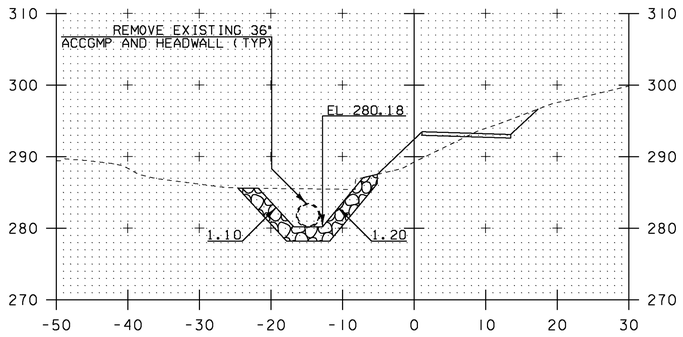
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SCALE IN FEET

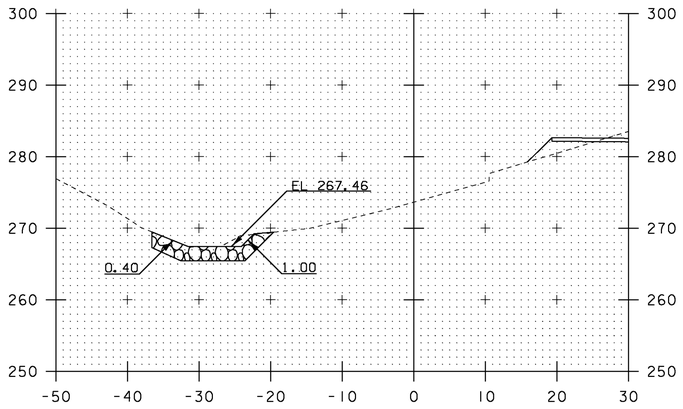
PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_nul.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
ACCESS ROAD 2 CROSS SECTIONS

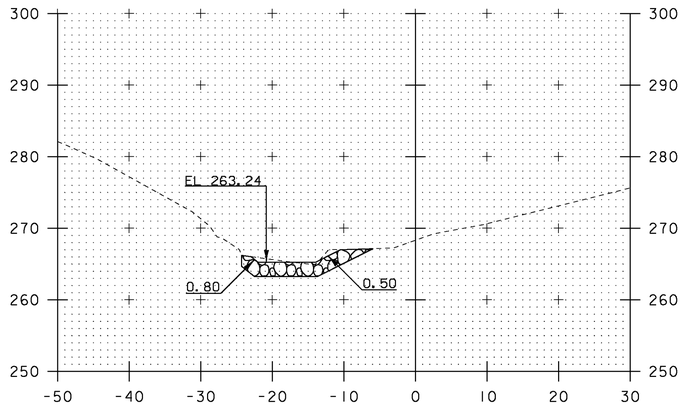
PLOT DATE: 13-JAN-2010
DRAWN BY: B. McADAMS
CHECKED BY: B. KIPP
SHEET 21 OF 69



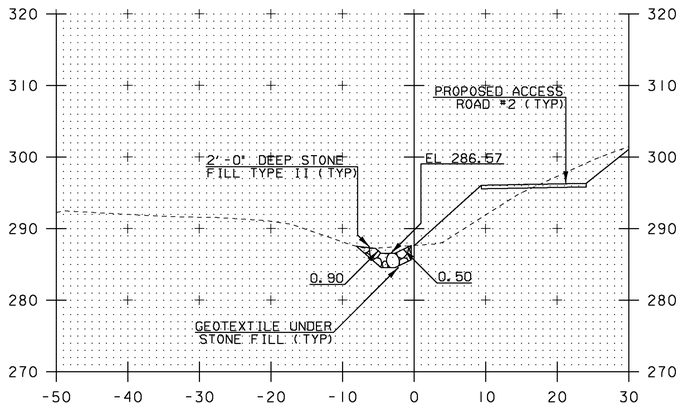
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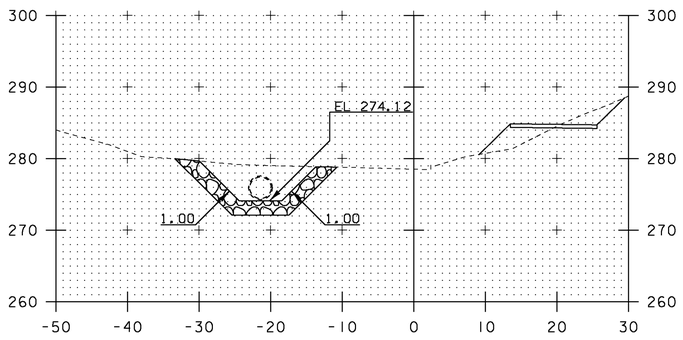
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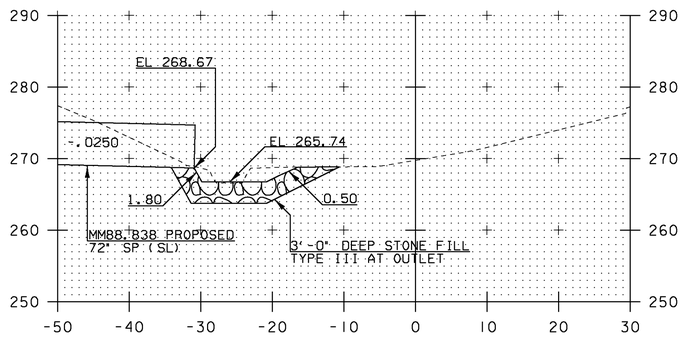
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0+00



1+00

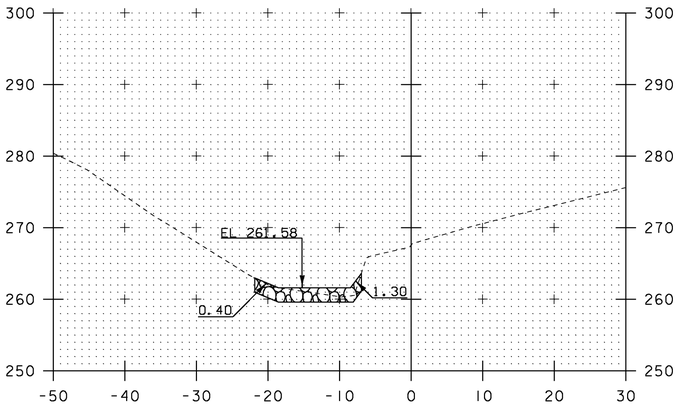


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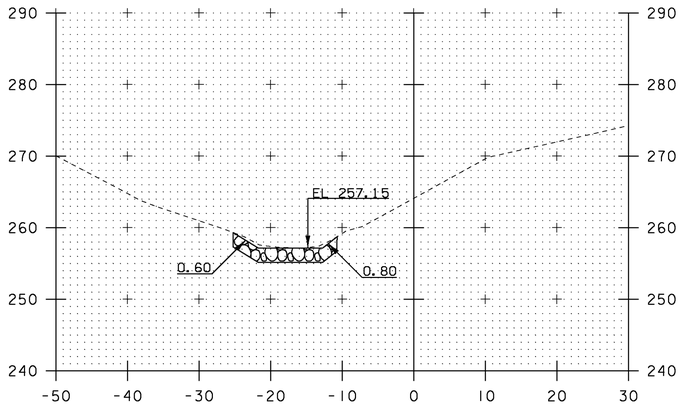
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SCALE IN FEET

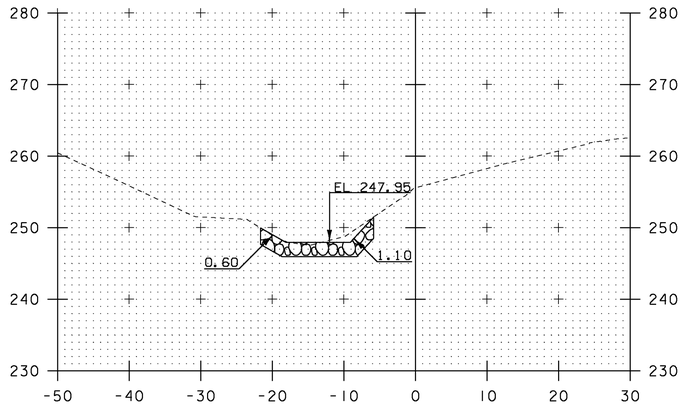
PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: d07a104_nul.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. McADAMS
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
TRIBUTARY CHANNEL CROSS SECTIONS 1	SHEET 22 OF 69



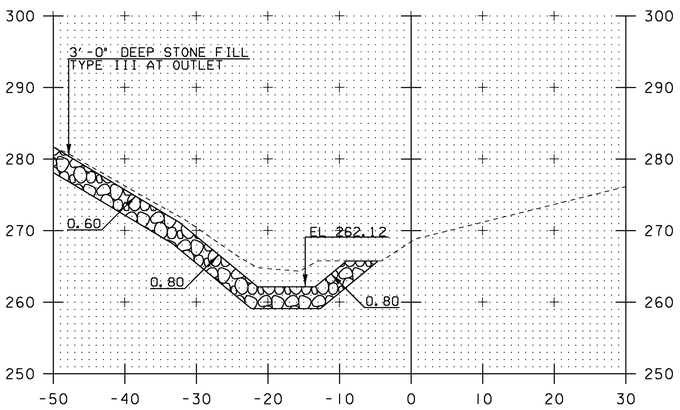
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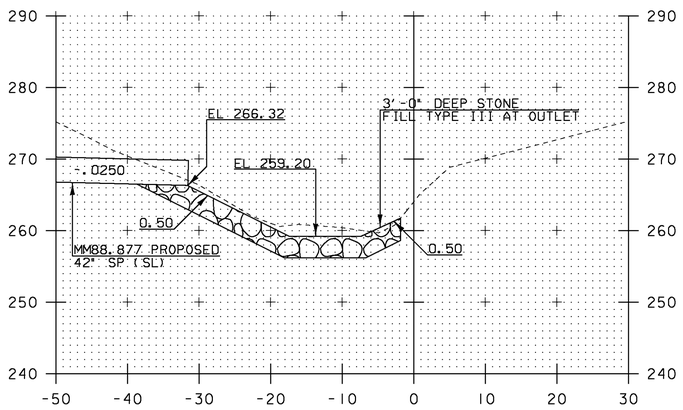
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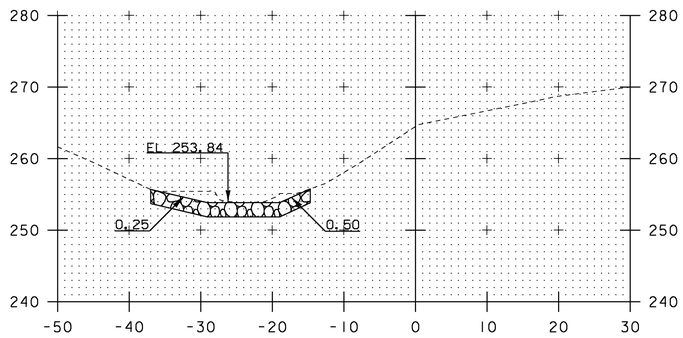
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2+14



2+74

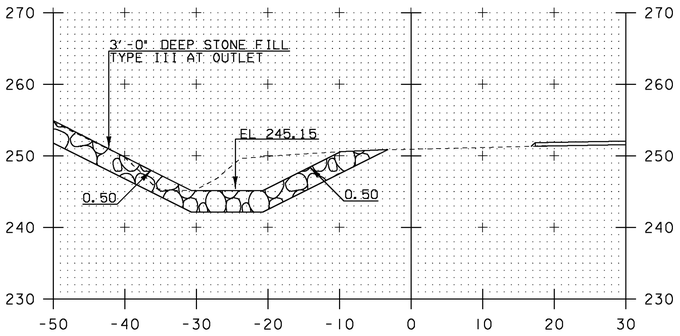


3+50

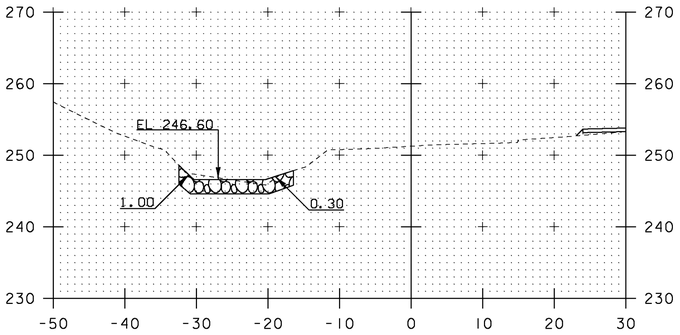
STA. 2+14 TO STA. 4+00

0 10 20
SCALE IN FEET

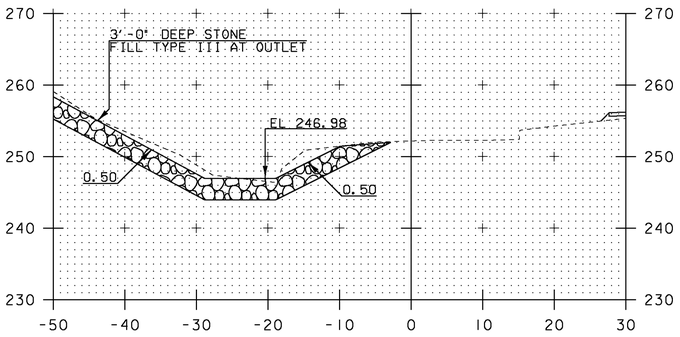
PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: d07a104_nul.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. McADAMS
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
TRIBUTARY CHANNEL CROSS SECTIONS 2	SHEET 23 OF 69



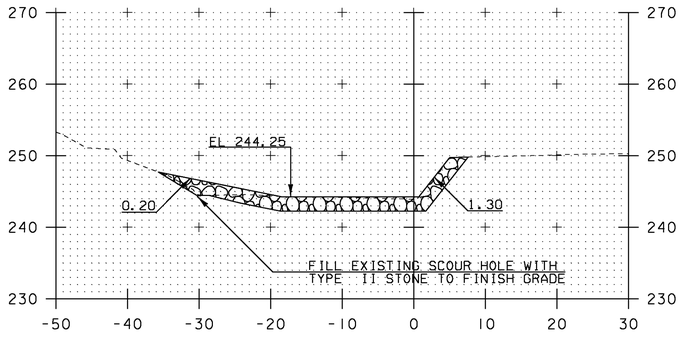
4+82



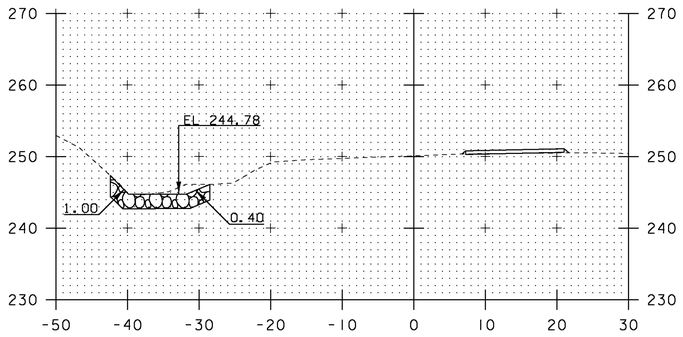
4+50



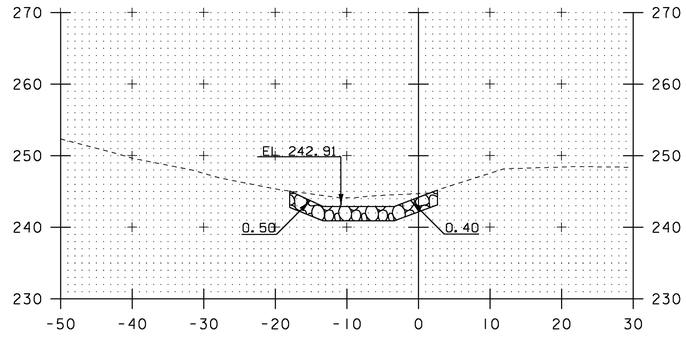
4+32



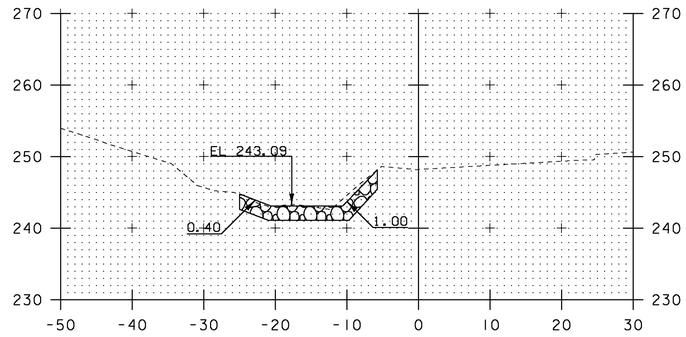
5+25



5+00



6+00



5+50

STA. 4+32 TO STA. 6+00

0 10 20
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON	
PROJECT NUMBER: IM SCRP(3)	
FILE NAME: d07a104_nul.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. McADAMS
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
TRIBUTARY CHANNEL CROSS SECTIONS 3	SHEET 24 OF 69

1. FINAL GRADING LIMITS, AREA WILL BE GRADED TO DRAIN TOWARDS THE CULVERT INLET

2. STONE FILL TYPE II, 6 FT W., 24 FT L., 2 FT D.

3. NEW 42" X 248 FT SP (SL)
CULVERT SHALL BE RAMMED IN PROPOSED LOCATION. CONTRACTOR HAS THE OPTION TO INSTALL STEEL CASING FROM EITHER THE INLET OR OUTLET END.
NEW REINFORCED CONCRETE STRAIGHT HEADWALL AT INLET

4. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING TEMPORARY ACCESS TO THE CULVERT INLET PAYMENT SHALL BE MADE UNDER ITEM 900.640 SPECIAL PROVISION (PIPE RAMMING XX" SP(SL)). ALL RESULTING DISTURBED EARTH SHALL BE STABILIZED AND RESTORED UPON COMPLETION OF CONSTRUCTION

5. DURING CONSTRUCTION FLOW WILL BE MAINTAINED VIA EXISTING 30 INCH ACCGMP USING BYPASS PUMPING OR APPROVED ALTERNATIVE. PAYMENT SHALL BE MADE UNDER ITEM 900.640 SPECIAL PROVISION (PIPE RAMMING XX" SP(SL)).

6. EXISTING DROP INLET AND 18 INCH ACCGMP TO REMAIN UNDISTURBED

7. DURING CONSTRUCTION FLOW WILL BE MAINTAINED VIA EXISTING 24 INCH ACCGMP USING BYPASS PUMPING OR APPROVED ALTERNATIVE. PAYMENT SHALL BE MADE UNDER ITEM 900.640 SPECIAL PROVISION (PIPE RAMMING XX" SP(SL)).

8. NEW 24" X 10 FT PCCSP EXTENSION
GRADE AND ELEVATION TO BE DETERMINED IN THE FIELD

9. NEW 36" X 119 FT SP (SL) WITH NEW 6 FT DI AT INLET WITH 1A GRATE
CULVERT SHALL BE RAMMED IN PROPOSED LOCATION

10. EXISTING 30" ACCGMP SHALL BE ABANDONED AND FILLED WITH FLOWABLE FILL UPON INSTALLATION OF PROPOSED CULVERTS

11. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING TEMPORARY ACCESS TO THE CULVERT OUTLETS PAYMENT SHALL BE MADE UNDER ITEM 900.640 SPECIAL PROVISION (PIPE RAMMING XX" SP(SL)). ALL RESULTING DISTURBED EARTH SHALL BE STABILIZED AND RESTORED UPON COMPLETION OF CONSTRUCTION

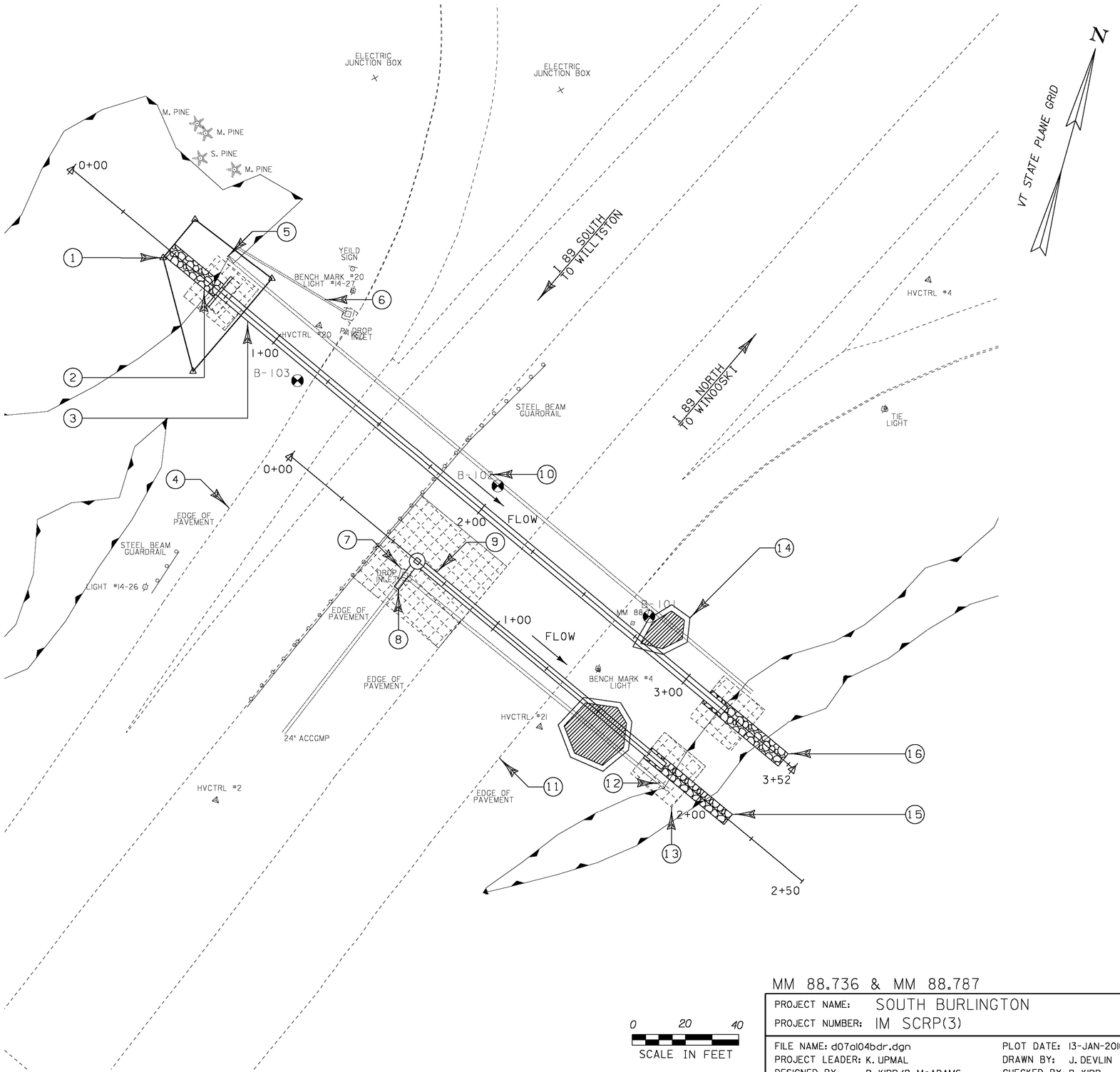
12. EXISTING 24" ACCGMP SHALL BE ABANDONED AND FILLED WITH FLOWABLE FILL UPON INSTALLATION OF PROPOSED CULVERTS

13. HATCHING REPRESENTS APPROXIMATE WORK AREA ASSOCIATED WITH RAMMING OPERATION
CONTRACTOR MUST INSTALL STEEL CASING AT MM 88.736 FROM THE OUTLET SIDE OF THE PIPE

14. EXISTING DEPRESSIONS LOCATED ON THE EASTERN EMBANKMENT SHALL BE PROPERLY BACKFILLED USING EARTH BORROW, COMPACTED, SEEDED AND MULCHED

15. STONE FILL TYPE III, 5 FT W., 40 FT L., 3 FT D.

16. STONE FILL TYPE III, 6 FT W., 38 FT L., 3 FT D.



MM88.736 PIPE ALIGNMENT

POINT	STA.	NORTHING	EASTING	
POB	0+00.00	719104.2472	1461812.7561	
PIPE INLET	0+63.77	719080 - 913024	1461869 - 948325	0+61.735
PIPE OUTLET	1+82.37	719030 - 95265	1461976 - 171274	1+79.10
POE	3+11.86	718976.9025	1462097.434	

MM88.787 PIPE ALIGNMENT

POINT	STA.	NORTHING	EASTING	
POB	0+00.00	719185.9979	1461704.6010	
PIPE INLET	0+71.64	719155 - 786637	1461771 - 253537	0+73.179
PIPE OUTLET	3+18.73	719057 - 724138	1461991 - 259497	3+14.05
POE	3+52.46	719042.0739	1462026.342	

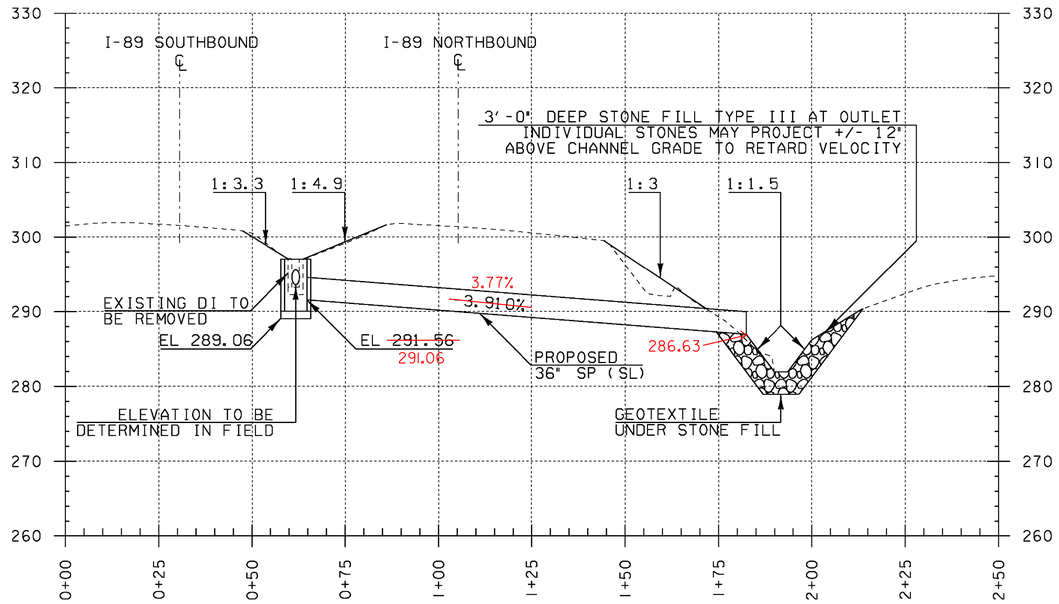
0 20 40
SCALE IN FEET

MM 88.736 & MM 88.787

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104bdr.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
LAYOUT SHEET 6

PLOT DATE: 13-JAN-2010
DRAWN BY: J. DEVLIN
CHECKED BY: B. KIPP
SHEET 25 OF 69



MM 88.736 (NB)
CULVERT CENTERLINE
PROFILE

PROJECT NOTES

1. STEEL PIPE SHALL BE INSTALLED BY RAMMING THE OPEN ENDED STEEL CASING INTO LOCATION. THIS PRACTICE SHALL ONLY DISPLACE THE WALL THICKNESS OF THE CASING. THE SOIL WILL BE REMOVED BY WATER, AUGURING, JET-CUTTING, OR COMPRESSED AIR.

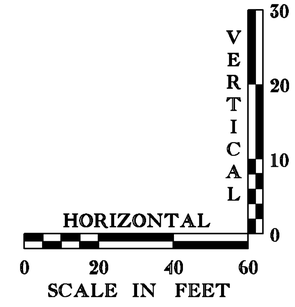
2. THE STEEL PIPE WALL THICKNESS SHALL BE DETERMINED BY THE CONTRACTOR BASED ON TRAFFIC LOADING AND ANTICIPATED RAMMING FORCES.

3. PIPE SECTION LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR. LENGTHS SHALL BE SELECTED SO THAT STORAGE AND INSTALLATION WILL NOT AFFECT TRAFFIC IN THE NORTHBOUND AND SOUTHBOUND TRAVEL LANES.

4. STAGING FOR THE CULVERT INSTALLATION SHALL BE LOCATED IN THE INTERSTATE MEDIAN, SO THAT THERE IS NO EXTENDED IMPACT TO NORTHBOUND OR SOUTHBOUND TRAFFIC. STEEL CASINGS SHALL BE INSTALLED FROM THE OUTLET SIDE. ALL EXCAVATION SHALL BE PROPERLY SUPPORTED TO PREVENT THE MOVEMENT OF SOIL, PAVEMENT, AND UTILITIES.

5. ALL WORK DIRECTLY ASSOCIATED WITH THE INSTALLATION OF THE NEW CULVERT SHALL BE DONE IN DRY CONDITIONS WITH NO STANDING OR FLOWING WATER PRESENT INSIDE THE CULVERT. REFER TO THE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

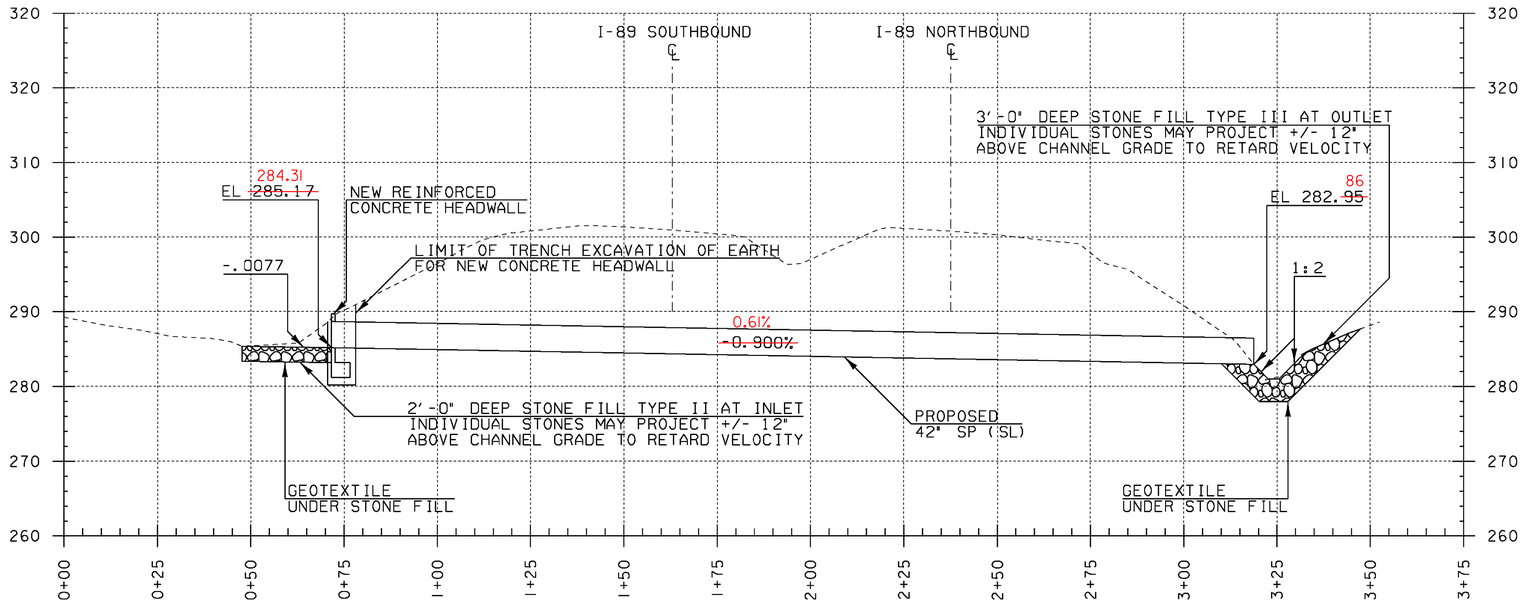
6. THE CONTRACTOR SHALL ESTABLISH TURF ON ANY AREAS DISTURBED AS A RESULT OF WORK ON THIS PROJECT ACCORDING TO THE RURAL SEEDING FORMULA ON SHEET 47 OR AS DIRECTED BY THE RESIDENT ENGINEER.



PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_nul.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
MM 88.736 PROFILE (NB)

PLOT DATE: 13-JAN-2010
DRAWN BY: J. DEVLIN
CHECKED BY: B. KIPP
SHEET 26 OF 69



MM 88.787 (SB&NB)
CULVERT CENTERLINE
PROFILE

PROJECT NOTES

1. STEEL PIPE SHALL BE INSTALLED BY RAMMING THE OPEN ENDED STEEL CASING INTO LOCATION. THIS PRACTICE SHALL ONLY DISPLACE THE WALL THICKNESS OF THE CASING. THE SOIL WILL BE REMOVED BY WATER, AUGURING, JET-CUTTING, OR COMPRESSED AIR.

2. THE STEEL PIPE WALL THICKNESS SHALL BE DETERMINED BY THE CONTRACTOR BASED ON TRAFFIC LOADING AND ANTICIPATED RAMMING FORCES.

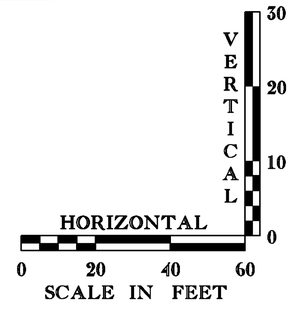
3. PIPE SECTION LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR. LENGTHS SHALL BE SELECTED SO THAT STORAGE AND INSTALLATION WILL NOT AFFECT TRAFFIC IN THE NORTHBOUND AND SOUTHBOUND TRAVEL LANES.

4. THE CONTRACTOR HAS THE OPTION OF INSTALLING STEEL CASINGS EITHER FROM THE INLET OR OUTLET END. ALL EXCAVATION SHALL BE PROPERLY SUPPORTED TO PREVENT THE MOVEMENT OF SOIL, PAVEMENT, AND UTILITIES.

5. LIMITS OF TRENCH EXCAVATION OF EARTH FOR NEW CONCRETE HEADWALL SHALL BE ONE FOOT, 6-INCHES OUTSIDE FOOTING PERIMETER AND ONE FOOT BELOW FOOTING. BACKFILL SHALL CONSIST OF GRANULAR BACKFILL FOR STRUCTURES.

5. ALL WORK DIRECTLY ASSOCIATED WITH INSTALLATION OF NEW CULVERT SHALL BE DONE IN DRY CONDITIONS WITH NO STANDING OR FLOWING WATER PRESENT INSIDE THE CULVERT. REFER TO THE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

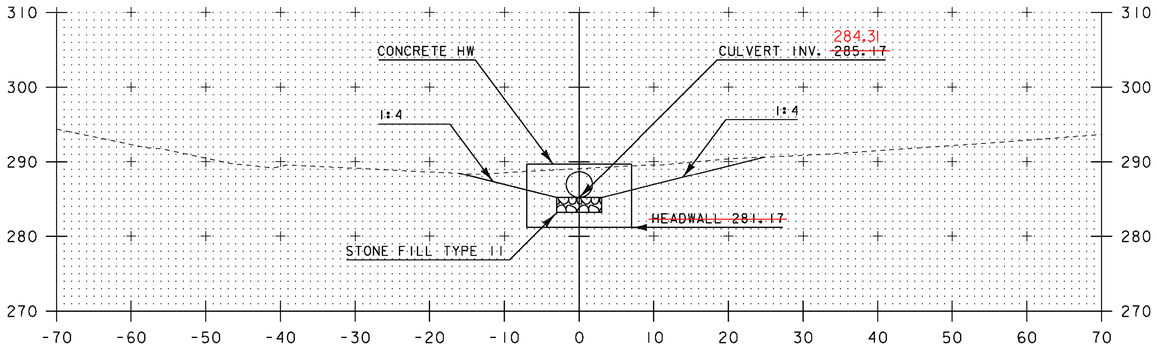
6. THE CONTRACTOR SHALL ESTABLISH TURF ON ANY AREAS DISTURBED AS A RESULT OF WORK ON THIS PROJECT ACCORDING TO THE RURAL SEEDING FORMULA ON SHEET 47 OR AS DIRECTED BY THE RESIDENT ENGINEER.



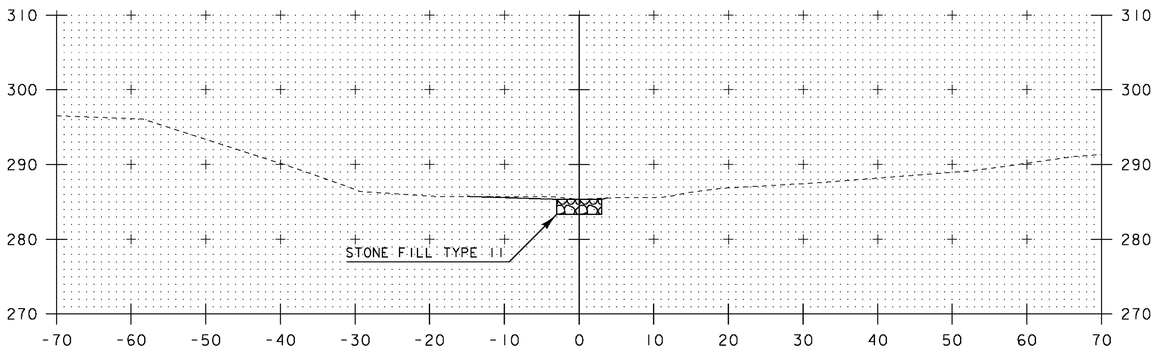
PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_nul.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
MM 88.787 PROFILE (SB&NB)

PLOT DATE: 13-JAN-2010
DRAWN BY: J. DEVLIN
CHECKED BY: B. KIPP
SHEET 27 OF 69



0+72
INLET



0+48
INLET

INLET - STONE FILL TYPE II, 2 FT DEPTH AT CHANNEL BOTTOM AND SIDES, 6 FT WIDE

0 10 20
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_nul.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
MM 88.787 CHANNEL SECTIONS

PLOT DATE: 13-JAN-2010
DRAWN BY: J. DEVLIN
CHECKED BY: B. KIPP
SHEET 28 OF 69

(1) EXISTING TRIBUTARY SHALL BE WIDENED AND LINED WITH TYPE II STONE FILL. SEE SHEETS 15 THROUGH 24 FOR MORE INFORMATION.

(2) NEW 36" X 10 FT PCCSP EXTENSION
GRADE AND ELEVATION TO BE DETERMINED IN THE FIELD

(3) NEW 36" X 10 FT PCCSP EXTENSION
GRADE AND ELEVATION TO BE DETERMINED IN THE FIELD

(4) NEW 72" X 112 FT SP (SL) WITH NEW 8 FT DI AT INLET WITH 1A GRATE
CULVERT SHALL BE RAMMED TO PROPOSED LOCATION & GRADE

(5) EXISTING 48" ACCGMP SHALL BE CUT AND A SECTION REMOVED ALONG WITH EXISTING DI TO ALLOW FOR INSTALLATION OF NEW CULVERT. THE REMAINDER OF THE CULVERT SHALL BE ABANDONED AND FILLED WITH FLOWABLE FILL UPON INSTALLATION. DURING CONSTRUCTION FLOW WILL BE MAINTAINED VIA THIS CULVERT USING BYPASS PUMPING OR APPROVED ALTERNATIVE PAYMENT SHALL BE MADE UNDER ITEM 900.640 SPECIAL PROVISION (PIPE RAMMING)(72" SP(SL)).

(6) THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING TEMPORARY ACCESS TO THE CULVERT INLETS. CONTRACTOR SHALL UTILIZE PROPOSED ACCESS ROAD TO GAIN ACCESS TO CULVERT OUTLETS AND TRIBUTARY. ALL RESULTING DISTURBED EARTH SHALL BE STABILIZED AND RESTORED UPON COMPLETION CULVERT INSTALLATION. SEE SHEET 15 THROUGH 21 FOR MORE INFORMATION

(7) EXISTING 18" ACCGMP SHALL ABANDONED AND FILLED WITH FLOWABLE FILL

(8) EXISTING DROP INLET, 18 INCH ACCGMP SHALL BE ABANDONED AND FILLED WITH FLOWABLE FILL

(9) STONE FILL TYPE III, 5 FT W., 53 FT L., 3 FT D.

(10) EXISTING 36 INCH ACCGMP TO BE REMOVED

MM88.838 PIPE ALIGNMENT

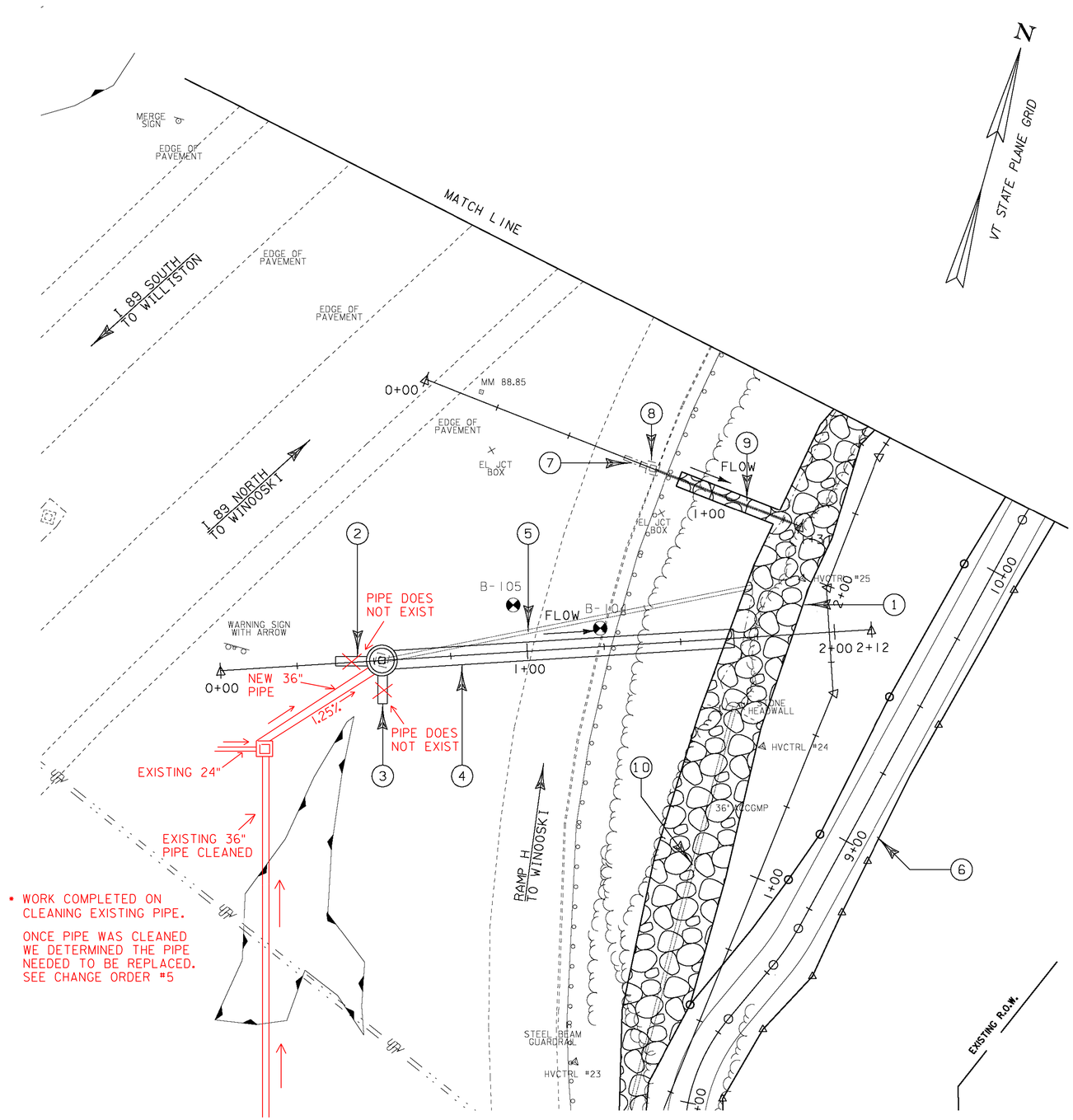
POINT	STA.	NORTHING	EASTING
POB	0+00.00	719439.8745	1462140.8852
PIPE INLET	~~0+56.56~~	719458 - 8646	1462194 - 3222
PIPE OUTLET	1+67.28~~4~~	719494 - 9337	1462298 - 79798
POE	2+11.98	719509.6462	1462341.052

0+56.71

POINT #610 72" OUTLET INV.
1+67.236, -0.015 (LT)
268.25

ELEVATION INVERT 268.25

POINT #613 72" INLET
0+56.71, 0.343 (RT)
274.606 TOP PIPE
268.68 INV.



• WORK COMPLETED ON CLEANING EXISTING PIPE.

ONCE PIPE WAS CLEANED WE DETERMINED THE PIPE NEEDED TO BE REPLACED. SEE CHANGE ORDER #5

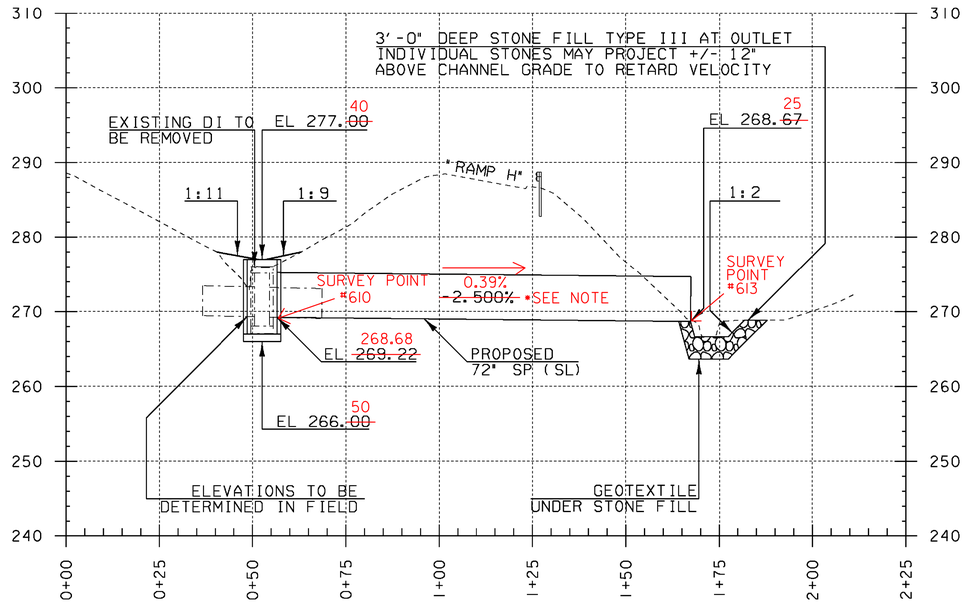
0 20 40
SCALE IN FEET

MM 88.838

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104bdr.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
LAYOUT SHEET 7

PLOT DATE: 13-JAN-2010
DRAWN BY: J. DEVLIN
CHECKED BY: B. KIPP
SHEET 29 OF 69



• CONTRACT PLANS SHOWED IMPROPER CLACULATIONS FOR SLOPE. FINAL SLOPE = [(268.68 - 268.25)/110.53] x 100 = 0.39%

PLANS SHOULD HAVE SHOWN 0.5% BASED ON ELEVATIONS GIVEN

MM 88.838 (NB, RAMP H) CULVERT CENTERLINE PROFILE

PROJECT NOTES

1. STEEL PIPE SHALL BE INSTALLED BY RAMMING THE OPEN ENDED STEEL CASING INTO LOCATION. THIS PRACTICE SHALL ONLY DISPLACE THE WALL THICKNESS OF THE CASING. THE SOIL WILL BE REMOVED BY WATER, AUGURING, JET-CUTTING, OR COMPRESSED AIR.

2. THE STEEL PIPE WALL THICKNESS SHALL BE DETERMINED BY THE CONTRACTOR BASED ON TRAFFIC LOADING AND ANTICIPATED RAMMING FORCES.

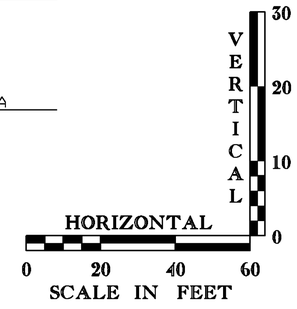
3. PIPE LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR. LENGTHS SHALL BE SELECTED SO THAT STORAGE AND INSTALLATION WILL NOT AFFECT TRAFFIC IN THE NORTHBOUND AND SOUTHBOUND TRAVEL LANES.

4. STAGING FOR THE CULVERT INSTALLATION SHALL BE LOCATED ON THE OUTLET SIDE. ALL EXCAVATION SHALL BE PROPERLY SUPPORTED TO PREVENT THE MOVEMENT OF SOIL, PAVEMENT, AND UTILITIES.

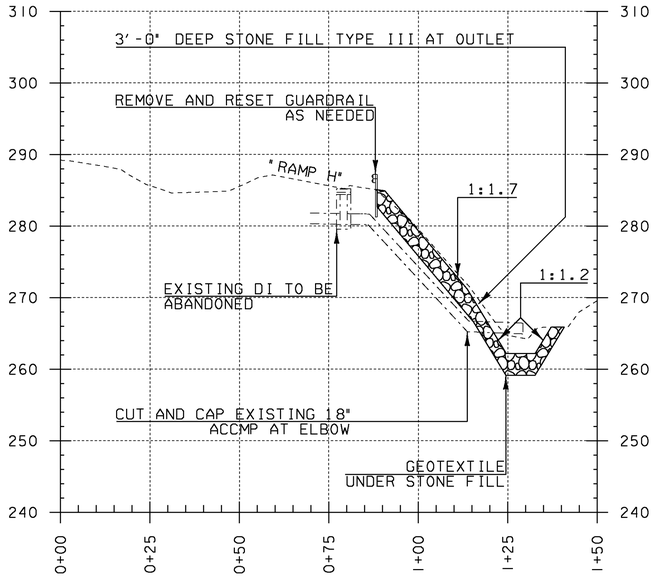
5. ALL WORK DIRECTLY ASSOCIATED WITH INSTALLATION OF NEW CULVERT SHALL BE DONE IN DRY CONDITIONS WITH NO STANDING OR FLOWING WATER PRESENT INSIDE THE CULVERT. REFER TO THE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

6. THE CONTRACTOR SHALL ESTABLISH TURF ON ANY AREAS DISTURBED AS A RESULT OF WORK ON THIS PROJECT ACCORDING TO THE RURAL SEEDING FORMULA ON SHEET 47 OR AS DIRECTED BY THE RESIDENT ENGINEER.

7. DURING THE INSTALATION OF THE NEW CULVERT, TRIBUTARY FLOW SHOULD BE MAINTAINED VIA THE USE OF A PIPE, BYPASS PUMPING, OR AN ALTERNATIVE APPROVED BY THE RESIDENT ENGINEER. THESE ITEMS ARE TO BE INCIDENTAL TO THE COST OF THE PIPE RAMMING.



PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: d07a104_nul.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: J. DEVLIN
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
MM 88.838 PROFILE (NB, RAMP H)	SHEET 30 OF 69



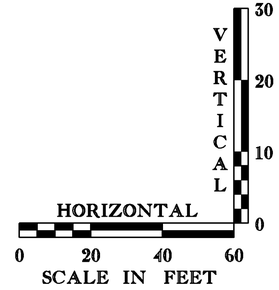
MM 88.867 (NB, RAMP H)
CULVERT CENTERLINE
PROFILE

PROJECT NOTES

1. EXISTING DI AND 18" ACCGMP SHALL BE ABANDONED AND FILLED WITH FLOWABLE FILL.

2. 10 FT OF SLOPE EDGING MUST BE REMOVED TO ALLOW SHEET RUNOFF. REMOVAL OF SLOPE EDGING AND ANY WORK ASSOCIATED WITH RESTORING THE EXISTING GROUND SHALL BE INCIDENTAL TO OTHER CONTRACT PAY ITEMS. LOW POINTS OF THE RAMP MUST BE VERIFIED IN THE FIELD BY THE RESIDENT ENGINEER.

3. ADJUSTMENT OR TEMPORARY REMOVAL OF GUARDRAIL SHALL BE PAID UNDER 621.75 REMOVE AND RESET GUARDRAIL.



PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_nul.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
MM 88.867 PROFILE (NB, RAMP H)

PLOT DATE: 13-JAN-2010
DRAWN BY: J. DEVLIN
CHECKED BY: B. KIPP
SHEET 31 OF 69

(1) HATCHING REPRESENTS APPROXIMATE WORK AREA ASSOCIATED WITH RAMMING OPERATION CONTRACTOR HAS THE OPTION TO RAM STEEL CASING EITHER FROM THE OUTLET OR INLET SIDE.

(2) FINAL GRADING LIMITS, AREA WILL BE GRADED TO DRAIN TOWARDS THE CULVERT INLET

(3) DURING CONSTRUCTION FLOW WILL BE MAINTAINED VIA EXISTING 18 INCH ACCGMP USING BYPASS PUMPING OR APPROVED ALTERNATIVE

(4) STONE FILL TYPE II, 6 FT W., 14 FT L., 2 FT D.

(5) EXISTING 18 INCH ACCGMP TO REMAIN UNDISTURBED

(6) THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING TEMPORARY ACCESS TO THE CULVERT INLET PAYMENT SHALL BE MADE UNDER ITEM 900.640 SPECIAL PROVISION (PIPE RAMMING)(42" SP(SL)). CONTRACTOR SHALL UTILIZE PROPOSED ACCESS ROAD TO GAIN ACCESS TO CULVERT OUTLETS AND TRIBUTARY. ALL RESULTING DISTURBED EARTH SHALL BE STABILIZED AND RESTORED UPON COMPLETION OF CONSTRUCTION

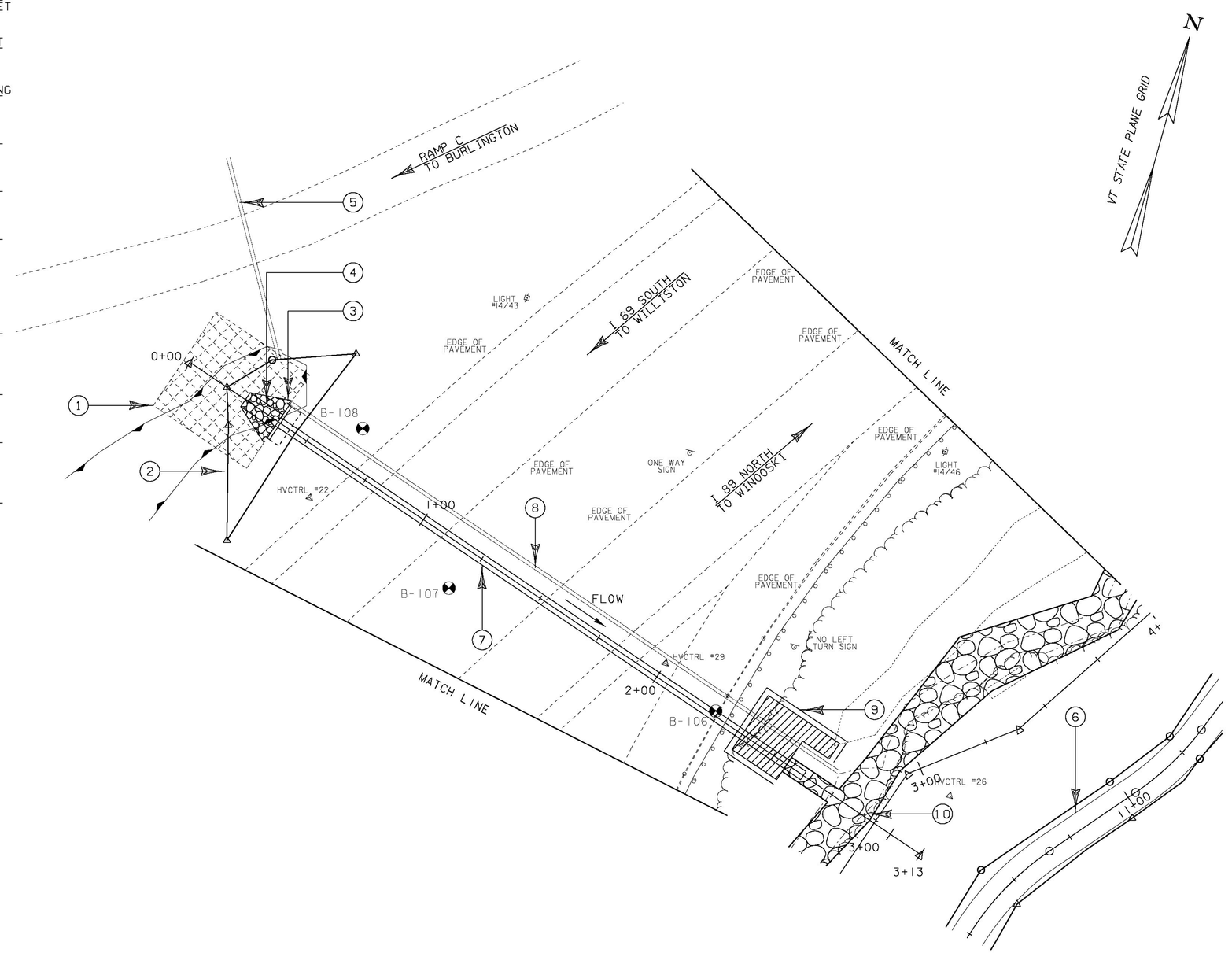
(7) NEW 42" X 225 FT SP (SL)
CULVERT SHALL BE RAMMED TO PROPOSED LOCATION AND GRADE
NEW REINFORCED CONCRETE STRAIGHT HEADWALL AT INLET

(8) EXISTING 24" ACCGMP SHALL BE ABANDONED AND FILLED WITH (FLOWABLE FILL) UPON INSTALLATION OF PROPOSED CULVERTS

(9) EXISTING DEPRESSIONS LOCATED ON THE EASTERN EMBANKMENT SHALL BE PROPERLY BACKFILLED USING EARTH BORROW, COMPACTED, SEEDED AND MULCHED

(10) STONE FILL TYPE III, 6 FT W., 36 FT L., 3 FT D.

MM88.877 PIPE ALIGNMENT			
POINT	STA.	NORTHING	EASTING
POB	0+00.00	719683.9610	1462058.8426
PIPE INLET	0+37.77	-	-
PIPE OUTLET	2+62.76	-	-
POE	3+12.93	719585.4091	1462355.8443



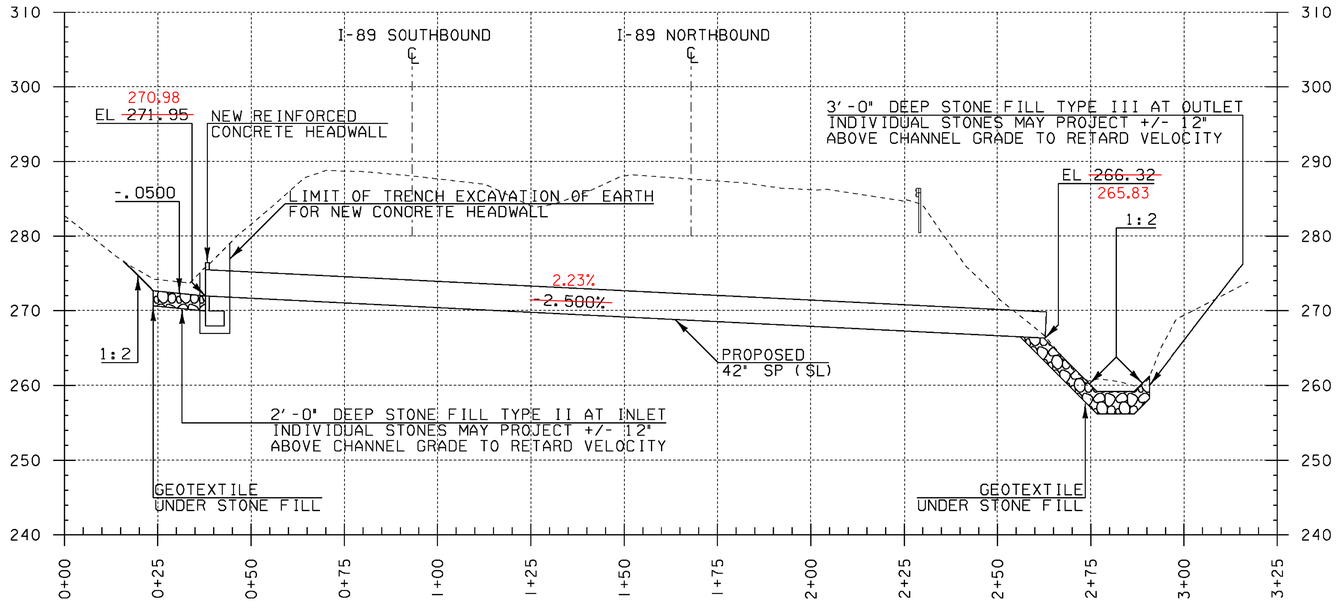
0 20 40
SCALE IN FEET

MM 88.877

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104bdr.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
LAYOUT SHEET 8

PLOT DATE: 13-JAN-2010
DRAWN BY: J. DEVLIN
CHECKED BY: B. KIPP
SHEET 32 OF 69



MM 88.877 (SB&NB)
CULVERT CENTERLINE
PROFILE

PROJECT NOTES

1. STEEL PIPE SHALL BE INSTALLED BY RAMMING THE OPEN ENDED STEEL CASING INTO LOCATION. THIS PRACTICE SHALL ONLY DISPLACE THE WALL THICKNESS OF THE CASING. THE SOIL WILL BE REMOVED BY WATER, AUGURING, JET-CUTTING, OR COMPRESSED AIR.

2. THE STEEL PIPE WALL THICKNESS SHALL BE DETERMINED BY THE CONTRACTOR BASED ON TRAFFIC LOADING AND ANTICIPATED RAMMING FORCES.

3. PIPE LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR. LENGTHS SHALL BE SELECTED SO THAT STORAGE AND INSTALLATION WILL NOT AFFECT TRAFFIC IN THE NORTHBOUND AND SOUTHBOUND TRAVEL LANES.

4. STAGING FOR THE CULVERT INSTALLATION MAYBE LOCATED EITHER FROM THE INLET OR OUTLET SIDE. ALL EXCAVATION SHALL BE PROPERLY SUPPORTED TO PREVENT THE MOVEMENT OF SOIL, PAVEMENT, AND UTILITIES.

5. LIMITS OF TRENCH EXCAVATION OF EARTH FOR NEW CONCRETE HEADWALL SHALL BE ONE FOOT, 6-INCHES OUTSIDE FOOTING PERIMETER AND ONE FOOT BELOW FOOTING. BACKFILL SHALL CONSIST OF GRANULAR BACKFILL FOR STRUCTURES.

5. ALL WORK DIRECTLY ASSOCIATED WITH INSTALATION OF THE NEW CULVERT SHALL BE DONE IN DRY CONDITIONS WITH NO STANDING OR FLOWING WATER PRESENT INSIDE THE CULVERT. REFER TO THE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

6. THE CONTRACTOR SHALL ESTABLISH TURF ON ANY AREAS DISTURBED AS A RESULT OF WORK ON THIS PROJECT ACCORDING TO THE RURAL SEEDING FORMULA ON SHEET 47 OR AS DIRECTED BY THE RESIDENT ENGINEER.

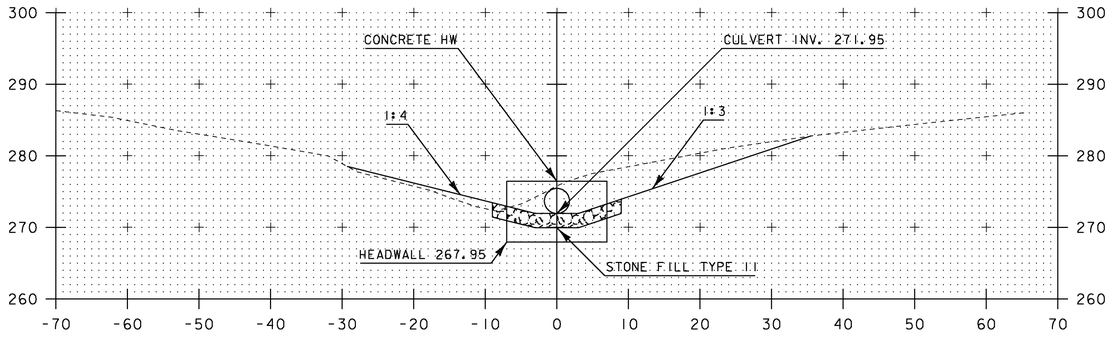
7. DURING THE INSTALATION OF THE NEW CULVERT, TRIBUTARY FLOW SHOULD BE MAINTAINED VIA THE USE OF A PIPE, BYPASS PUMPING, OR AN ALTERNATIVE APPROVED BY THE RESIDENT ENGINEER. THESE ITEMS ARE TO BE INCIDENTAL TO THE COST OF THE PIPE RAMMING.

VERTICAL 0 10 20 30
HORIZONTAL 0 20 40 60
SCALE IN FEET

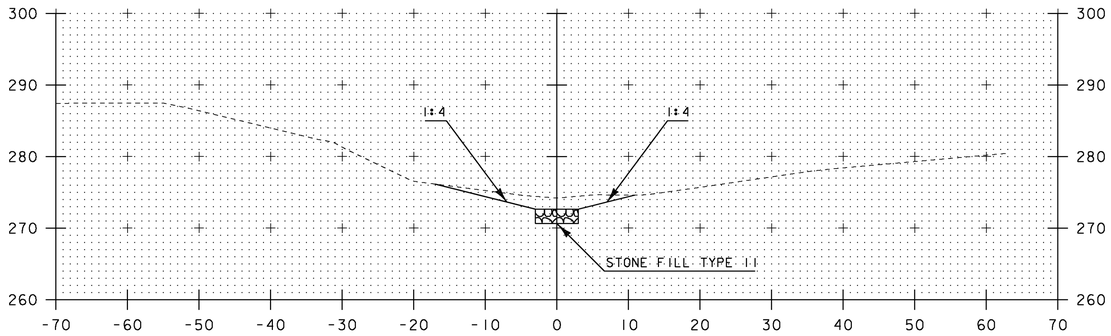
PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_nul.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
MM 88.877 PROFILE (SB&NB)

PLOT DATE: 13-JAN-2010
DRAWN BY: J. DEVLIN
CHECKED BY: B. KIPP
SHEET 33 OF 69



0+38
INLET



0+24
INLET

INLET - STONE FILL TYPE II, 2 FT DEPTH AT CHANNEL BOTTOM AND SIDES, 6 FT WIDE, TAPERING TO 18 FT SIDE AT HEADWALL

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_nul.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B.KIPP/B. McADAMS
MM 88.877 CHANNEL SECTIONS

PLOT DATE: 13-JAN-2010
DRAWN BY: J. DEVLIN
CHECKED BY: B. KIPP
SHEET 34 OF 69

(1) THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING TEMPORARY ACCESS TO THE CULVERT INLET PAYMENT SHALL BE MADE UNDER ITEM 900.640 SPECIAL PROVISION (PIPE RAMMING)(24" SP(SL)). ALL RESULTING DISTURBED EARTH SHALL BE STABILIZED AND RESTORED UPON COMPLETION OF CONSTRUCTION.

(2) EXISTING DI TO BE REMOVED

(3) EXISTING DROP INLET,18 INCH ACCGMP SHALL BE ABANDONED AND FILLED WITH FLOWABLE FILL.

(4) CONTRACTOR SHALL UTILIZE PROPOSED ACCESS ROAD TO GAIN ACCESS TO CULVERT OUTLETS AND TRIBUTARY. ALL RESULTING DISTURBED EARTH SHALL BE STABILIZED AND RESTORED UPON COMPLETION CULVERT INSTALLATION.

(5) NEW 24 INCH X 100 FT SP (SL) WITH NEW 6 FT DI AT INLET
CULVERT SHALL BE RAMMED IN PROPOSED LOCATION

(6) STONE FILL TYPE III, 10 FT W., 80 FT L., 3 FT D.

(7) EXISTING DEPRESSIONS LOCATED ON THE EASTERN EMBANKMENT SHALL BE PROPERLY BACKFILLED USING EARTH BORROW, COMPACTED, SEEDED AND MULCHED

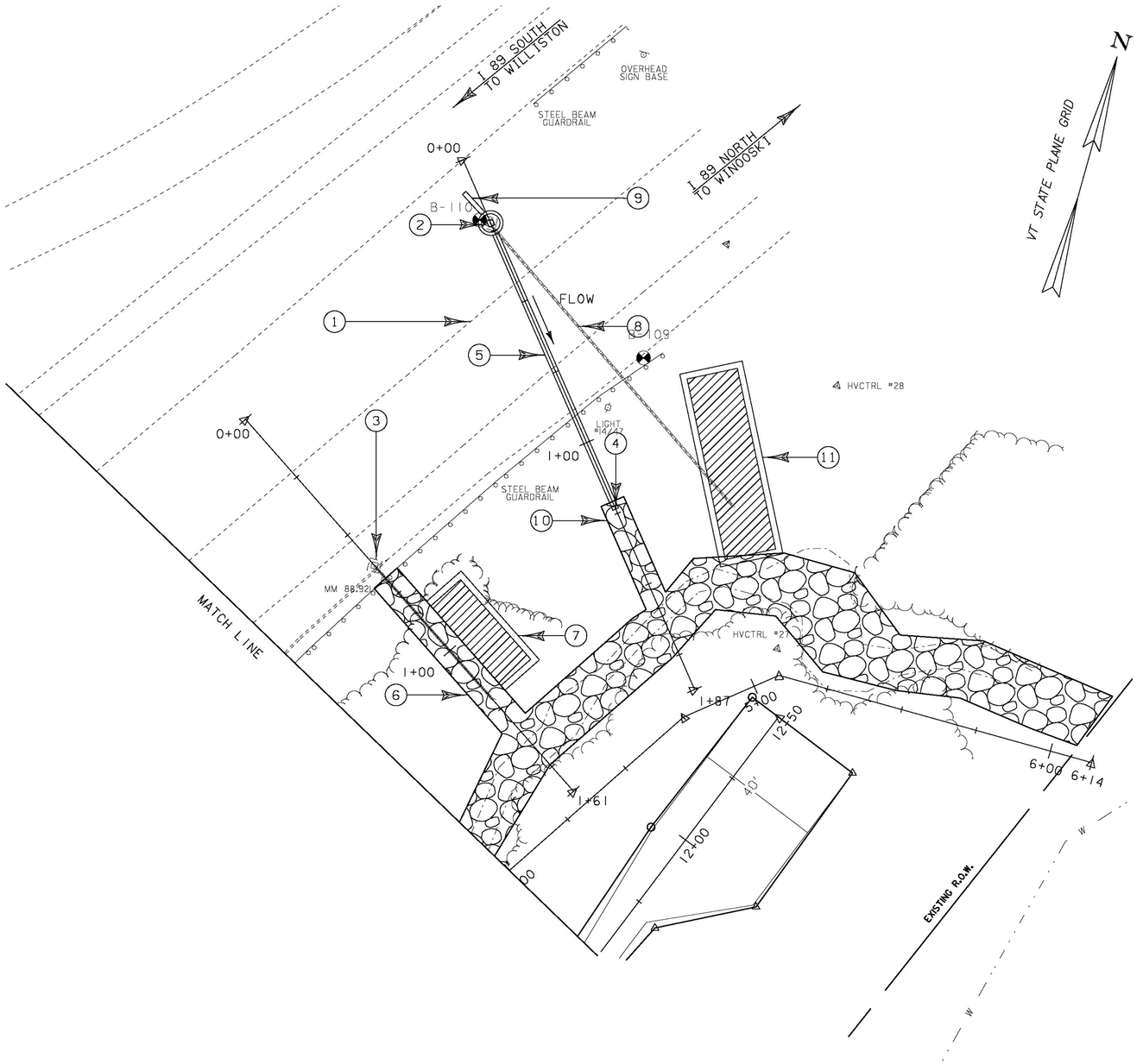
(8) EXISTING 18" ACCGMP SHALL BE CUT, AND A SECTION REMOVED TO ALLOW FOR RAMMING OF NEW CULVERT, THE REMAINDER OF THE CULVERT SHALL BE ABANDONED AND FILLED WITH FLOWABLE FILL UPON INSTALLATION. DURING CONSTRUCTION FLOW WILL BE MAINTAINED VIA THIS CULVERT USING BYPASS PUMPING OR APPROVED ALTERNATIVE

(9) NEW 18" X 10 FT PCCSP EXTENSION
GRADE AND ELEVATION TO BE DETERMINED IN THE FIELD

(10) STONE FILL TYPE III, 8 FT W., 53 FT L., 3 FT D.

(11) EXISTING DEPRESSIONS LOCATED ON THE EASTERN EMBANKMENT SHALL BE PROPERLY BACKFILLED USING EARTH BORROW, COMPACTED, SEEDED AND MULCHED

MM88.896 PIPE ALIGNMENT			
POINT	STA.	NORTHING	EASTING
POB	0+00.00	719907.6878	1462334.9882
PIPE INLET	0+25.37	-	-
PIPE OUTLET	1+23.49	-	-
POE	1+87.31	719762.5425	1462453.3797



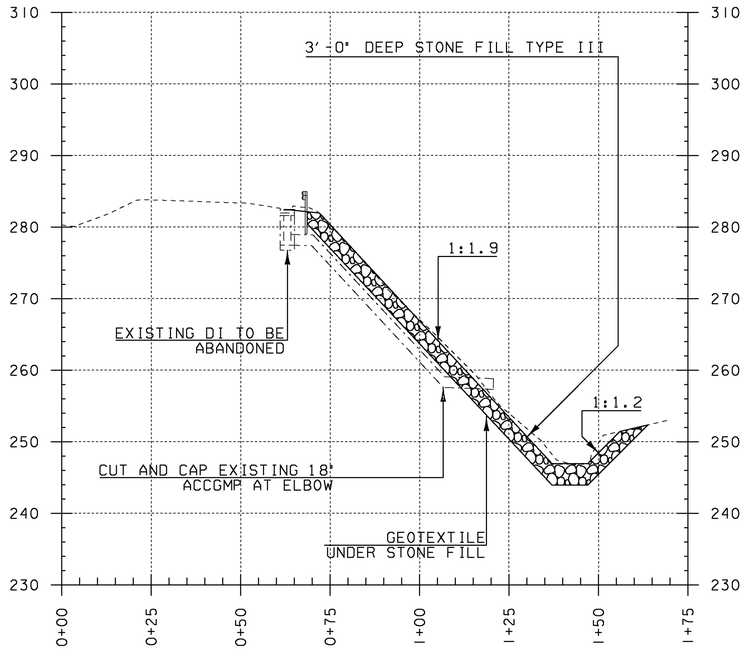
0 20 40
SCALE IN FEET

MM 88.880 & MM 88.896

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07al04bdr.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
LAYOUT SHEET 9

PLOT DATE: 13-JAN-2010
DRAWN BY: J. DEVLIN
CHECKED BY: B. KIPP
SHEET 35 OF 69



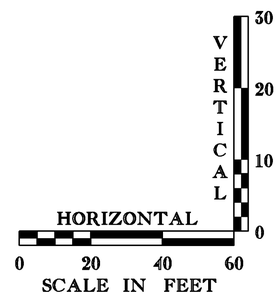
MM 88.880 (NB)
CULVERT CENTERLINE
PROFILE

PROJECT NOTES

1. EXISTING DI AND 18" ACCGMP SHALL BE ABANDONED AND FILLED WITH FLOWABLE FILL.

2. 10 FT OF SLOPE EDGING MUST BE REMOVED TO ALLOW SHEET RUNOFF. REMOVAL OF SLOPE EDGING AND ANY WORK ASSOCIATED WITH RESTORING THE EXISTING GROUND SHALL BE INCIDENTAL TO OTHER CONTRACT PAY ITEMS. LOW POINTS OF THE RAMP MUST BE VARIFED IN THE FIELD BY THE RESIDENT ENGINEER.

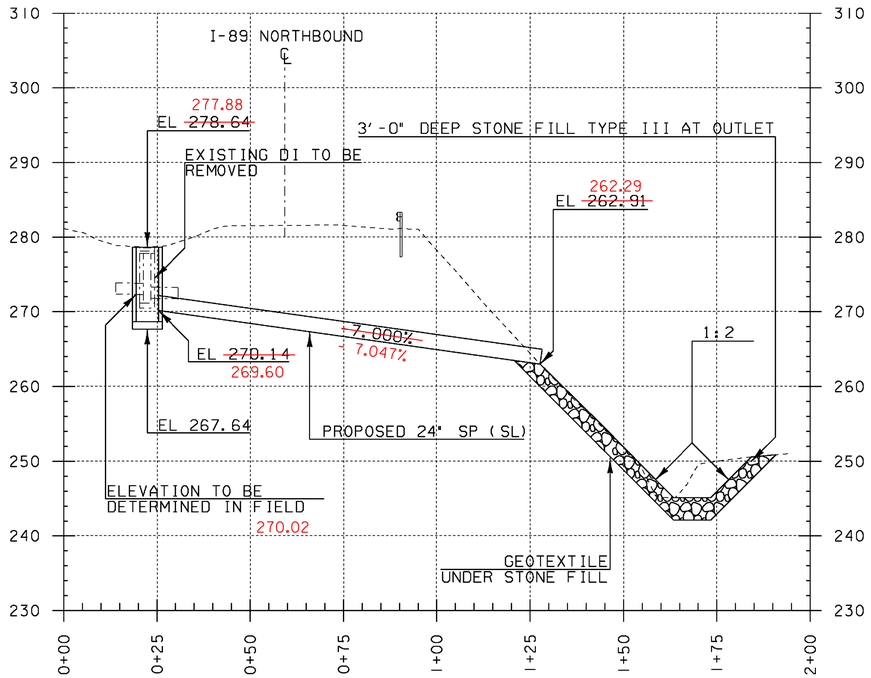
3. ADJUSTMENT OR TEMPORARY REMOVAL OF GUARDRAIL SHALL BE PAID UNDER ITEM 621.75 REMOVE AND RESET GUARDRAIL.



PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_nul.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
MM 88.880 PROFILE (NB)

PLOT DATE: 13-JAN-2010
DRAWN BY: J. DEVLIN
CHECKED BY: B. KIPP
SHEET 36 OF 69



MM 88.896 (NB)

CULVERT CENTERLINE

PROFILE

PROJECT NOTES

1. STEEL PIPE SHALL BE INSTALLED BY RAMMING THE OPEN ENDED STEEL CASING INTO LOCATION. THIS PRACTICE SHALL ONLY DISPLACE THE WALL THICKNESS OF THE CASING. THE SOIL WILL BE REMOVED BY WATER, AUGURING, JET-CUTTING, OR COMPRESSED AIR.

2. THE STEEL PIPE WALL THICKNESS SHALL BE DETERMINED BY THE CONTRACTOR BASED ON TRAFFIC LOADING AND ANTICIPATED RAMMING FORCES.

3. PIPE SECTION LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR. LENGTHS SHALL BE SELECTED SO THAT STORAGE AND INSTALLATION WILL NOT AFFECT TRAFFIC IN THE NORTHBOUND AND SOUTHBOUND TRAVEL LANES.

4. STAGING FOR THE CULVERT INSTALLATION SHALL BE LOCATED ON THE OUTLET SIDE. ALL EXCAVATION SHALL BE PROPERLY SUPPORTED TO PREVENT THE MOVEMENT OF SOIL, PAVEMENT, AND UTILITIES.

5. ALL WORK DIRECTLY ASSOCIATED WITH THE INSTALLATION OF THE NEW CULVERT SHALL BE DONE IN DRY CONDITIONS WITH NO STANDING OR FLOWING WATER PRESENT INSIDE THE CULVERT. REFER TO THE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

6. THE CONTRACTOR SHALL ESTABLISH TURF ON ANY AREAS DISTURBED AS A RESULT OF WORK ON THIS PROJECT ACCORDING TO THE RURAL SEEDING FORMULA OR AS DIRECTED BY THE RESIDENT ENGINEER.

7. DURING THE INSTALATION OF THE NEW CULVERT, TRIBUTARY FLOW SHOULD BE MAINTAINED VIA THE USE OF A PIPE, BYPASS PUMPING, OR AN ALTERNATIVE APPROVED BY THE RESIDENT ENGINEER. THESE ITEMS ARE TO BE INCIDENTAL TO THE COST OF THE PIPE RAMMING.

VERTICAL 0 10 20 30

HORIZONTAL 0 20 40 60

SCALE IN FEET

PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: d07a104_nul.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: J. DEVLIN
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
MM 88.896 PROFILE (NB)	SHEET 37 OF 69

EROSION PREVENTION AND SEDIMENT CONTROL NARRATIVE

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THE SOUTH BURLINGTON INTERSTATE 89 CULVERT REHABILITATION PROJECT INCLUDES WORK TO BE PERFORMED AT EIGHT ISOLATED LOCATIONS. AT MILE MARKERS 87.300, 88.736, 88.787, 88.838, 88.867, 88.877, 88.880 AND 88.896 ON INTERSTATE 89 IN THE TOWN OF SOUTH BURLINGTON, COUNTY OF CHITTENDEN.

THE PROJECT WILL CONSIST OF ONE INSTALLATION OF A CURED-IN-PLACE-PIPE LINER, INSTALLATION OF CONCRETE HEADWALLS, REPLACEMENT OF CULVERTS USING THE METHOD OF PIPE RAMMING, STONE LINING AN UNNAMED TRIBUTARY AND THE CONSTRUCTION OF ACCESS ROADS. RESULTING ABANDONED CULVERTS AND DROP INLETS SHALL BE CAPPED AND FILLED IN PLACE USING CONTROLLED DENSITY FILL. TOP SOIL, SEED, MULCH OR STONE-FILL SHALL BE APPLIED TO ALL DISTURBED AREAS. TYPE II AND TYPE III STONE FILL WILL BE PLACED AT EACH CULVERT INLET AND OUTLET RESPECTIVELY.

NOTE: AREA OF DISTURBANCE SHALL INCLUDE LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, INCLUDING ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS.

THE AREA OF DISTURBANCE AT I-89 EXIT 13 IS APPROXIMATELY 0.09 ACRES, AND APPROXIMATELY 1.04 ACRES AT I-89 EXIT 14. TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 1.13 ACRES, EXCLUDING WASTE BORROW AND STAGING AREAS NOT WITHIN OR ADJACENT TO THE PROJECT LIMITS.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY
THE ROADWAY EMBANKMENT PRIMARILY INCLUDES 1:2 SIDE SLOPES. THE CULVERT INLETS AND OUTLETS ARE GENERALLY EXPOSED TO EITHER MODERATE SIDE SLOPES OR SWALES. THE MAJORITY OF THE PROJECT IS LOCATED IN A GRASSED AREA. WOODED AREAS ARE LOCATED EAST OF THE NORTHBOUND EXIT 14 ON-RAMP AND AT THE CULVERT INLET AT MILE MARKER 87.300. PAVED AREAS INCLUDE THE EXISTING INTERSTATE AND ON/OFF RAMPS.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES
THE CULVERT LOCATED AT MILE MARKER 87.300 CARRIES WATER FROM A SMALL UNNAMED STREAM BENEATH THE NORTHBOUND AND SOUTHBOUND LANES. THE STREAM COLLECTS RUNOFF FROM AREAS NORTH OF DORSET STREET AND WEST OF THE INTERSTATE AND DISCHARGES INTO POTASH BROOK, A STORMWATER IMPAIRED WATERWAY.

THE CULVERTS AND DROP INLETS LOCATED BETWEEN MILE MARKERS 88.736 AND 88.896 CONVEY WATER TO A SMALL TRIBUTARY THAT IS LOCATED ON THE EAST SIDE OF THE INTERSTATE AND RUNS PARALLEL TO THE EXIT 14 NORTHBOUND ON RAMP. THIS TRIBUTARY WILL BE WIDEND AND LINED WITH TYPE II STONE DUE TO EXCESSIVE EROSION AND SCOURING. SMALL AREAS OF CLASS III WETLANDS ARE LOCATED WITHIN THE PROJECT LIMITS. ONSITE RUN-OFF WILL CONSIST OF RUNOFF PRODUCED BY TEMPORARY ACCESS ROADS AND STAGING AREAS, AND WILL BE DISCHARGED INTO AN UNNAMED TRIBUTARY OF CENTENIAL BROOK, A STORMWATER IMPAIRED WATERWAY.

1.2.3 VEGETATION
THE VEGETATION IN THE IN THE PROJECT AREAS CONSIST OF HARDWOOD TREES, SOFTWOOD TREES, AND UNDERGROWTH. VEGETATION IMPACTS RESULTING FROM THIS PROJECT INCLUDE LOCALIZED CLEARING OF VEGETATION ON EMBANKMENT SIDE-SLOPES BETWEEN THE EXISTING EDGES OF PAVEMENT AND TOES OF SLOPE; ALONG WITH THE CLEARING OF VEGETATION TO ACCOMDATE THE CONSTRUCTION OF PROPOSED ACCESS ROADS, AND THE CLEARING OF A 0.2 ACRE AREA WITH IN A DRAINAGE SWALE. DISTURBED VEGETATION WILL BE REPLACED WITH USING STANDARD TOPSOIL SEED AND MULCH PRACTICES.

1.2.4 SOILS
ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF NATURAL RESOURCES CONSERVATION SERVICE FOR THE COUNTY OF CHITTENDEN, VERMONT. THE CONSTRUCTION ACTIVITIES BETWEEN MILE MARKERS 87.300 AND 88.896 ARE IN THE EXISTING STATE R.O.W. THE SOILS AT THESE LOCATIONS ARE FILL MATERIAL PLACED DURING THE CONSTRUCTION OF THE INTERSTATE AND THERE IS NO LISTED CORRESPONDING K-FACTORS. SOIL LOCATED AT MILE MARKER 87.300 IS LIMERICK SILT LOAM WITH A K-FACTOR OF 0.49.
NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:
0.0-0.23 = LOW EROSION POTENTIAL
0.24-0.36 = MODERATE EROSION POTENTIAL
0.37 AND HIGHER = HIGH EROSION POTENTIAL

1.2.5 SENSITIVE RESOURCE AREAS
CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: UNNAMED STREAMS TO POTASH AND CENTENIAL BROOKS
WETLANDS: SMALL AREAS OF CLASS III WETLANDS

1.3 RISK EVALUATION

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

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

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

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

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

SOILS WILL BE REMOVED FROM RAMMED STEEL PIPES USING EITHER WATER, AUGURING, JET-CUTTING, OR COMPRESSED AIR. ALL SOILS EXCAVATED FROM WITHIN RAMMED PIPES SHALL BE COLLECTED AND DISPOSED OF APPROPRIATLY.

(REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR EACH PRACTICE REQUIRED ON THE PROJECT TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING.) THIS BOOK CAN BE DOWNLOADED AT THE FOLLOWING WEB ADDRESS:
HTTP://WWW.VTWATERQUALITY.ORG/STORMWATER/HTM/SW_CGP.HTM

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

PROJECT DEMARCATION FENCING, DENOTED -PDF- ON THE PLANS IS USED TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION.

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

EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AND AS DIRECTED BY THE ENGINEER.

1.4.3 STABILIZE CONSTRUCTION EXIT
TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MNIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE VEHICLES WILL BE TRAVELING FROM EXPOSED SOILS TO PAVED SURFACES.

1.4.4 INSTALL SEDIMENT BARRIERS
SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK AS SHOWN ON THE PLANS OR AS NECESSARY. INLET PROTECTION SHALL BE INSTALLED AT CULVERTS WHERE FLOW IS TO BE MAINTAINED.

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

NO DIVERION OF UPLAND RUNOFF IS ANTICIPATED.

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

DURING CONSTRUCTION FLOW WILL BE MAINTAINED USING BYPASS PUMPING OR APPROVED ALTERNATIVE.

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

TYPE II AND TYPE III STONE FILL
SEED AND MULCH
DRAINAGE INLETS AND PIPING

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

BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

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

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

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

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

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

NESSECARY DE-WATERING OF PIPES TO BE REPAIRED WILL BE ACCOMPLISHED USING BYPASS PUMPING.

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

ALL FLOWS MUST BE MAINTAINED BY EITHER BYPASS PUMPING OR THE USE OF A PIPE.

1.5 SEQUENCE AND STAGING

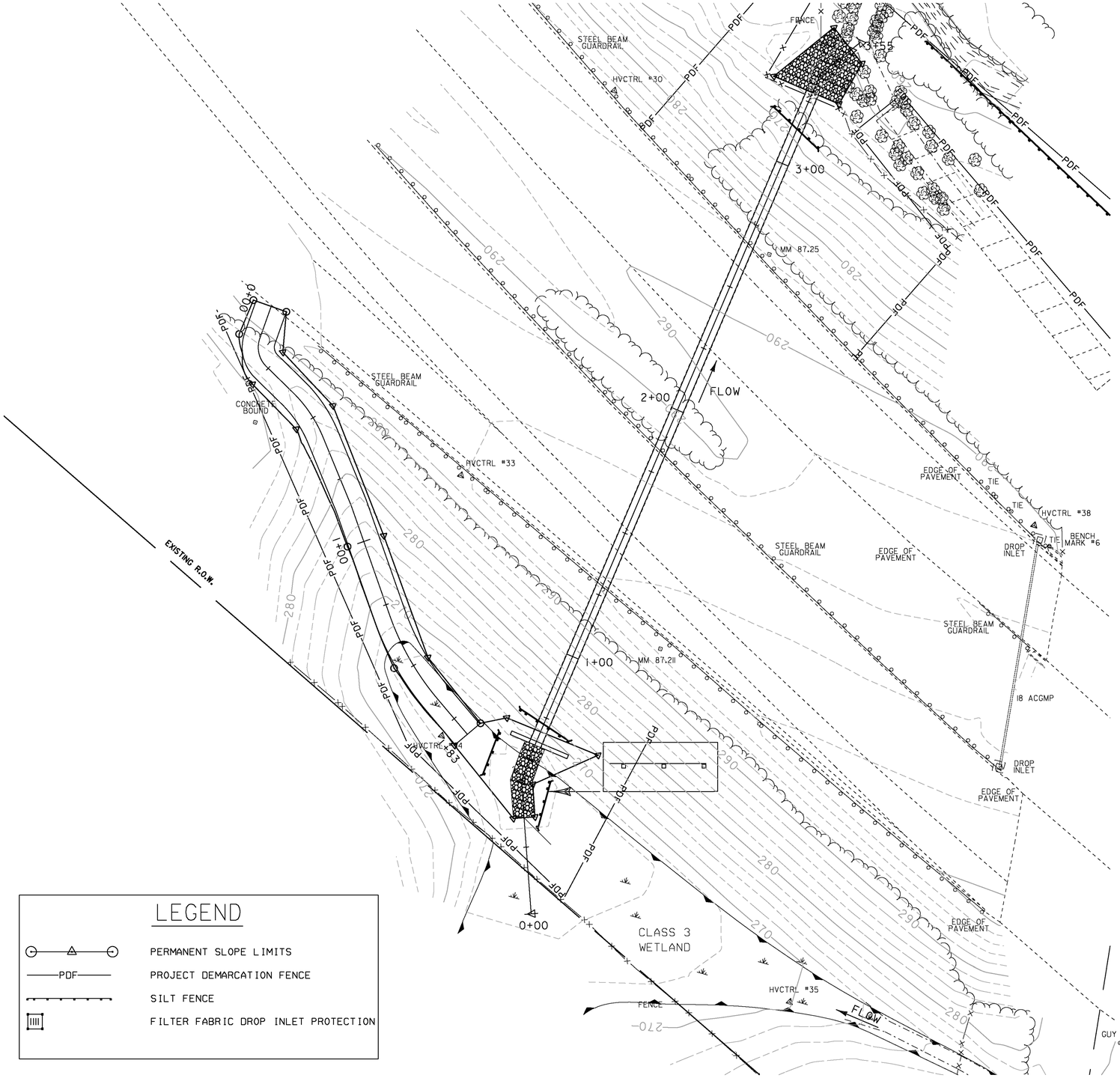
THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 CONSTRUCTION SEQUENCE

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

1.5.3 UPDATES

PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: d07a104erod.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
EPSC NARRATIVE	SHEET 38 OF 69



LEGEND

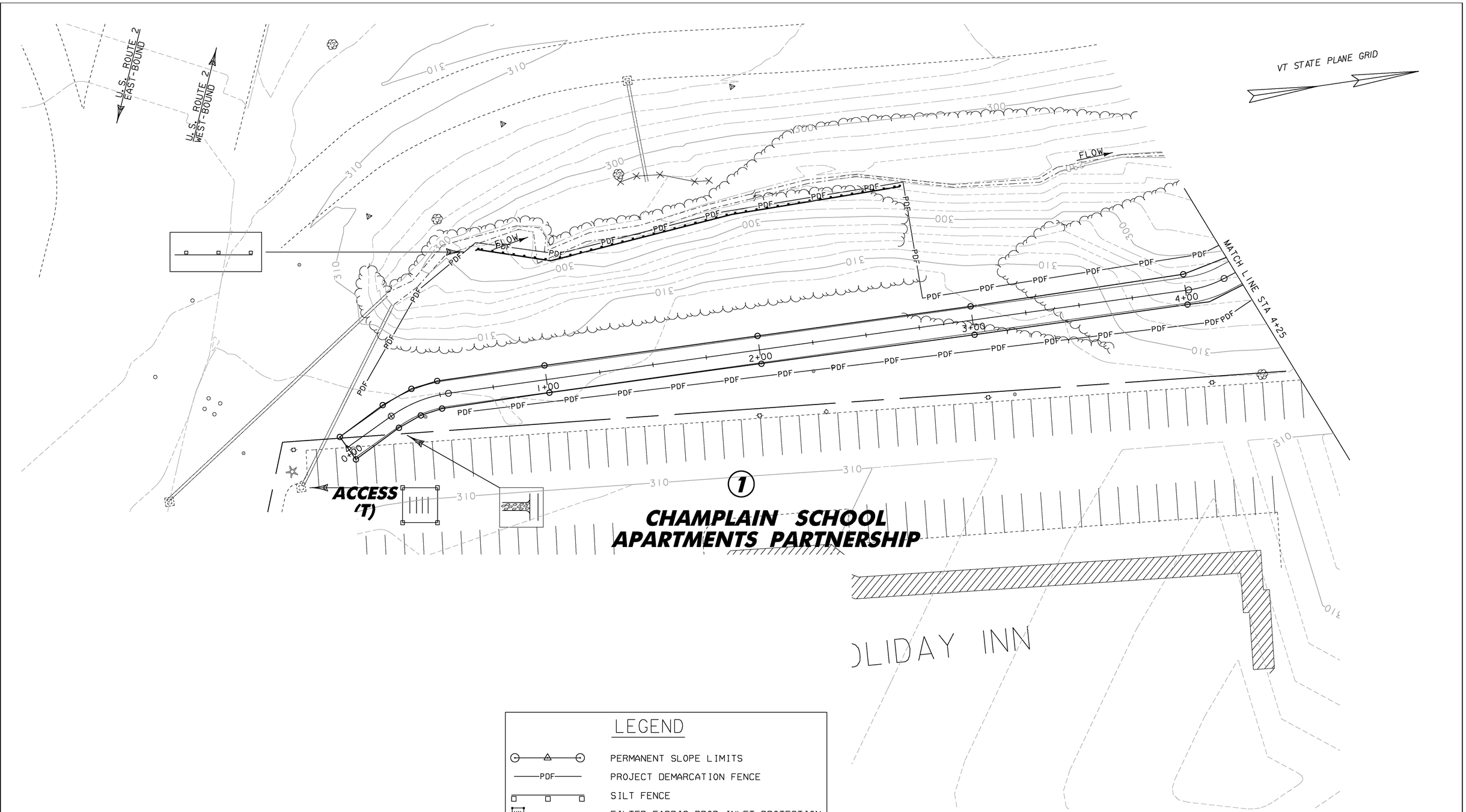
- PERMANENT SLOPE LIMITS
- PDF — PROJECT DEMARCATION FENCE
- SILT FENCE
- FILTER FABRIC DROP INLET PROTECTION

0 20 40
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104erobdr.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
EPSC LAYOUT SHEET 1

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 39 OF 69



LEGEND

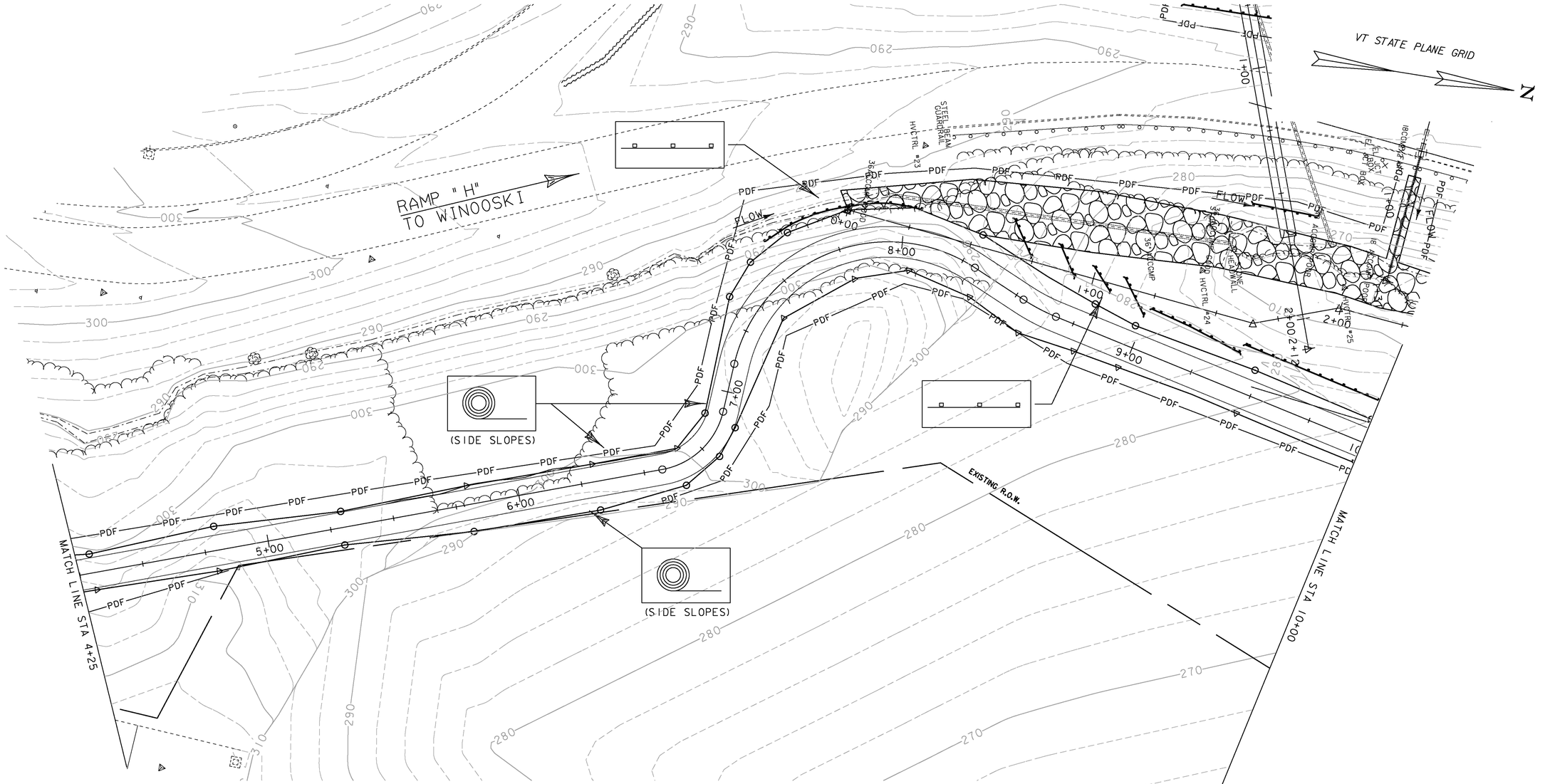
- PERMANENT SLOPE LIMITS
- PDF — PROJECT DEMARCATION FENCE
- SILT FENCE
- FILTER FABRIC DROP INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- PERMANENT EROSIAN MATTING
- RIPARIAN BUFFER

0 20 40
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07al04erobdr2.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
EPSC LAYOUT SHEET 2

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 40 OF 69



LEGEND

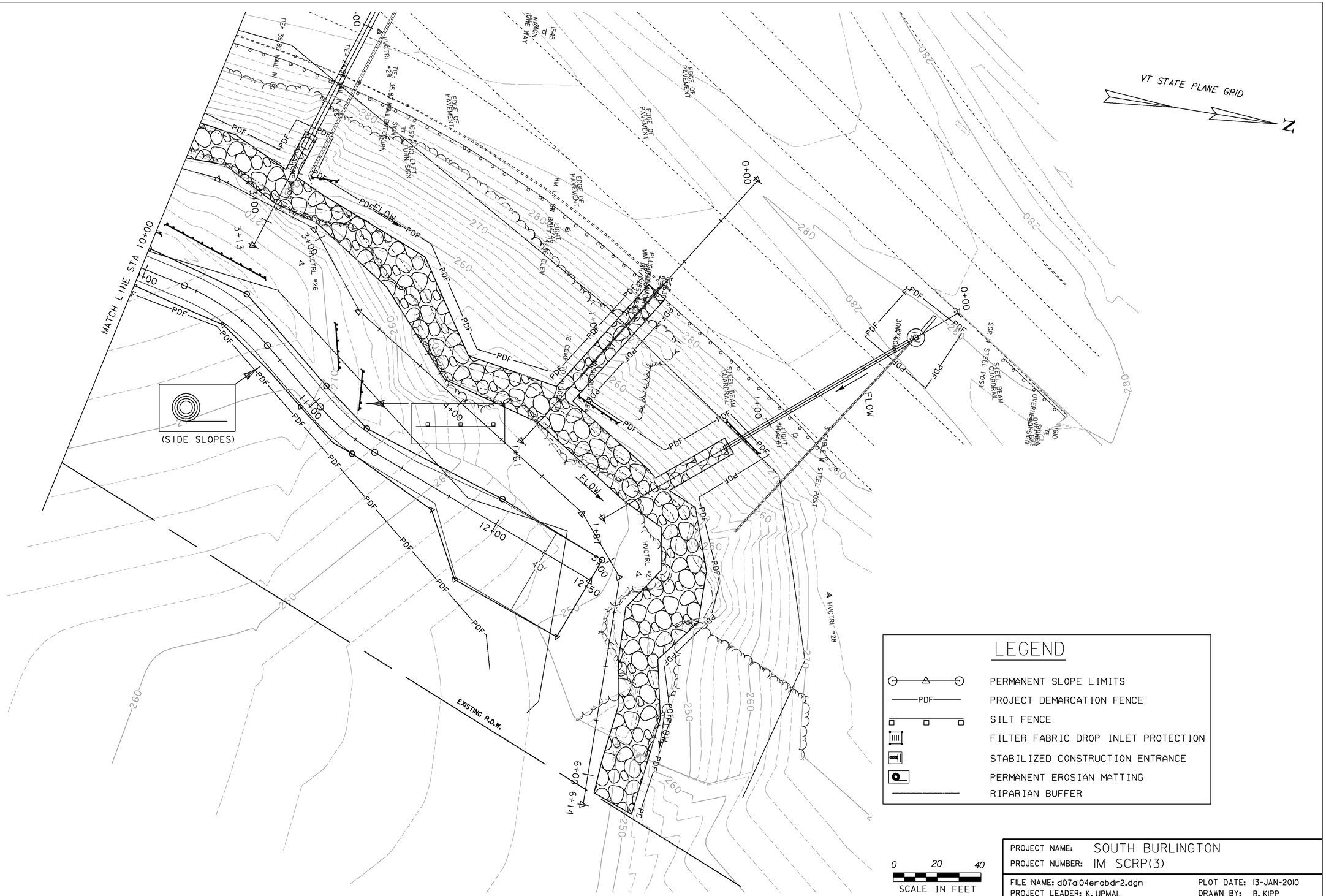
- PERMANENT SLOPE LIMITS
- PDF — PROJECT DEMARCATION FENCE
- SILT FENCE
- FILTER FABRIC DROP INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- PERMANENT EROSIAN MATTING
- RIPARIAN BUFFER

0 20 40
SCALE IN FEET

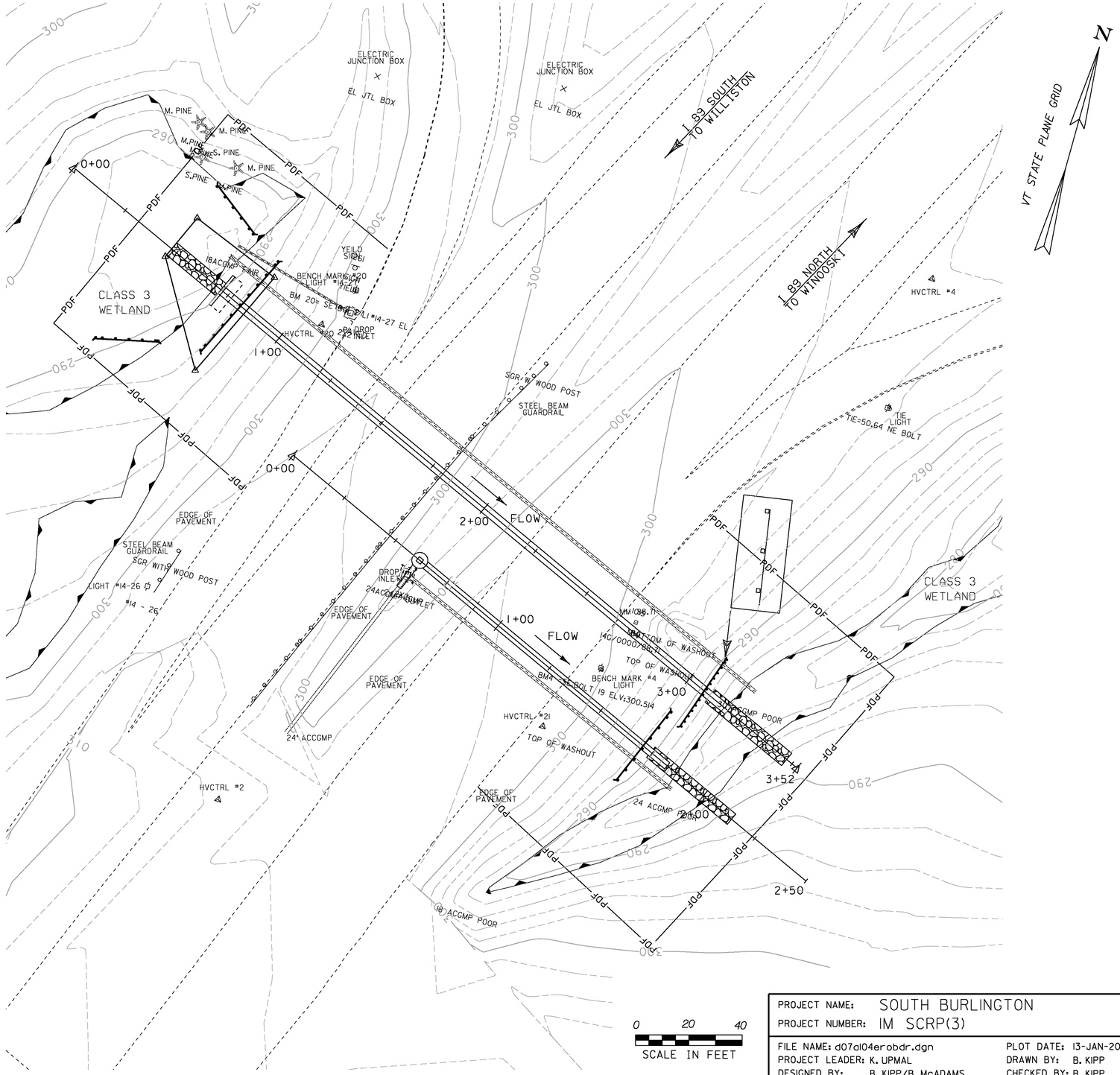
PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07d104erobdr2.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
EPSC LAYOUT SHEET 3

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP



PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: d07a104erobdr2.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
EPSC LAYOUT SHEET 4	SHEET 42 OF 69



LEGEND

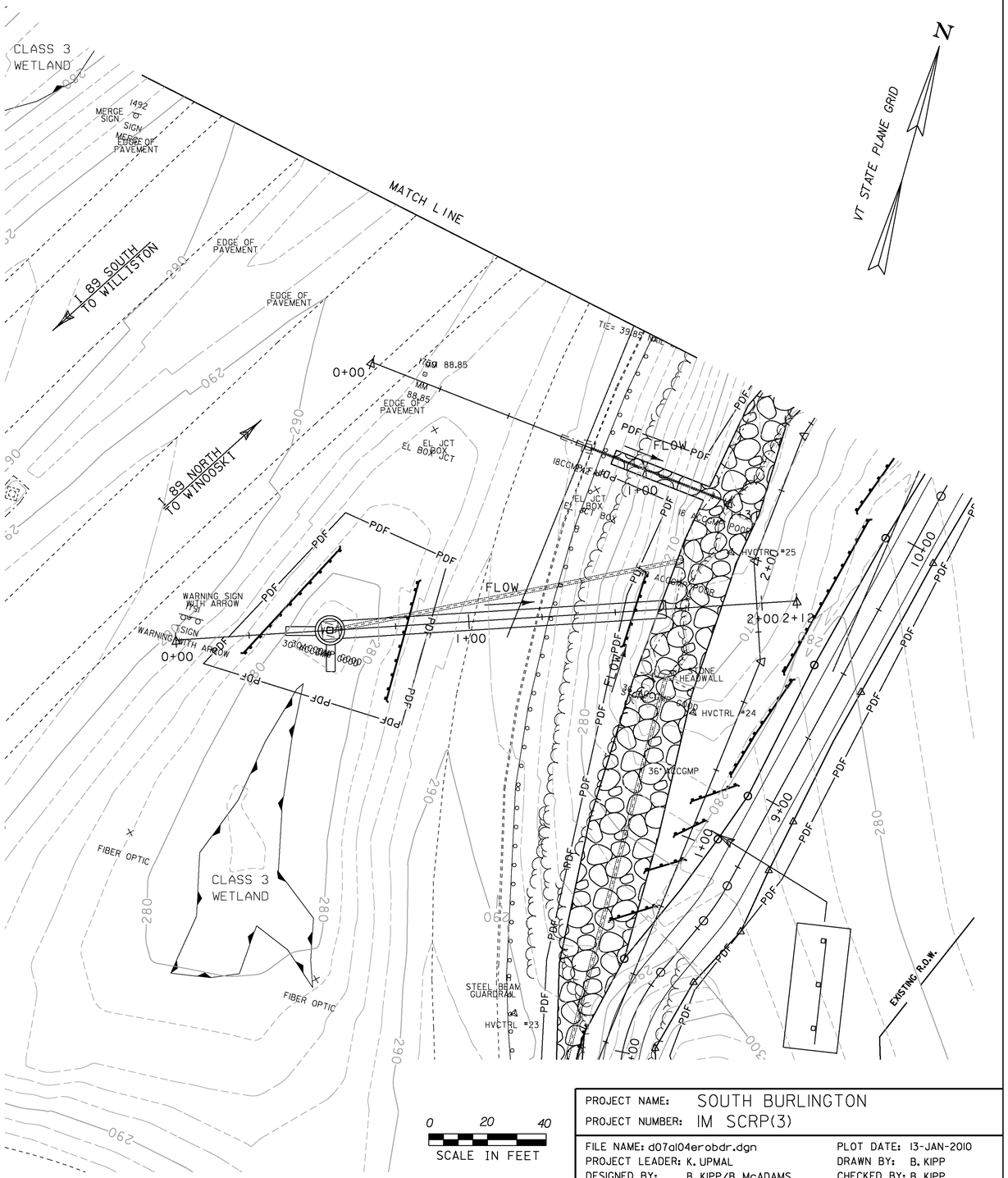
- PERMANENT SLOPE LIMITS
- PDF — PROJECT DEMARCATION FENCE
- SILT FENCE
- FILTER FABRIC DROP INLET PROTECTION
- RIPARIAN BUFFER

0 20 40
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104erobdr.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
EPSC LAYOUT SHEET 5

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 43 OF 69



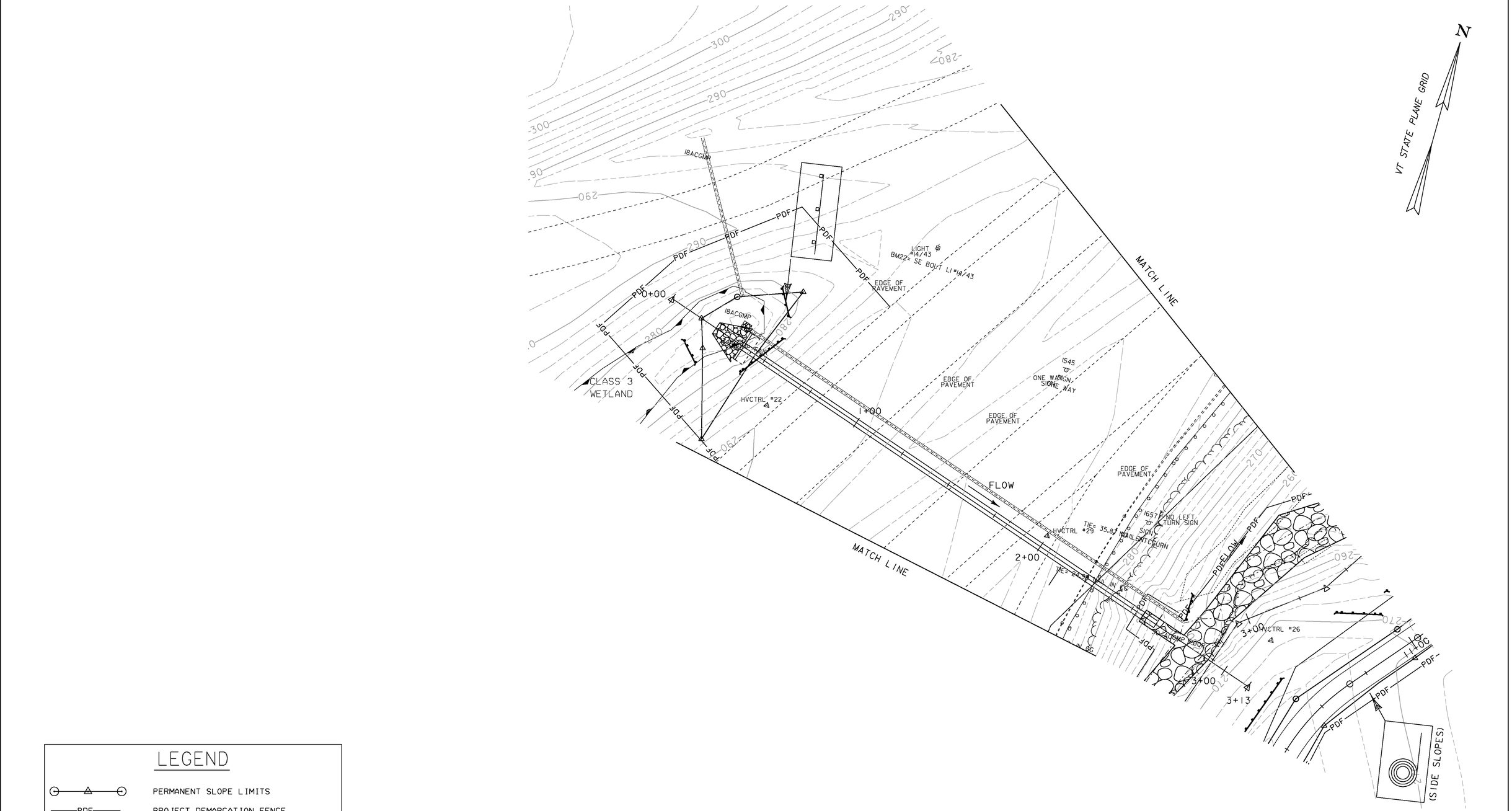
LEGEND

- PERMANENT SLOPE LIMITS
- PDF — PROJECT DEMARCATION FENCE
- SILT FENCE
- FILTER FABRIC DROP INLET PROTECTION
- RIPARIAN BUFFER

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07al04erobdr.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
EPSC LAYOUT SHEET 6

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 44 OF 69



LEGEND

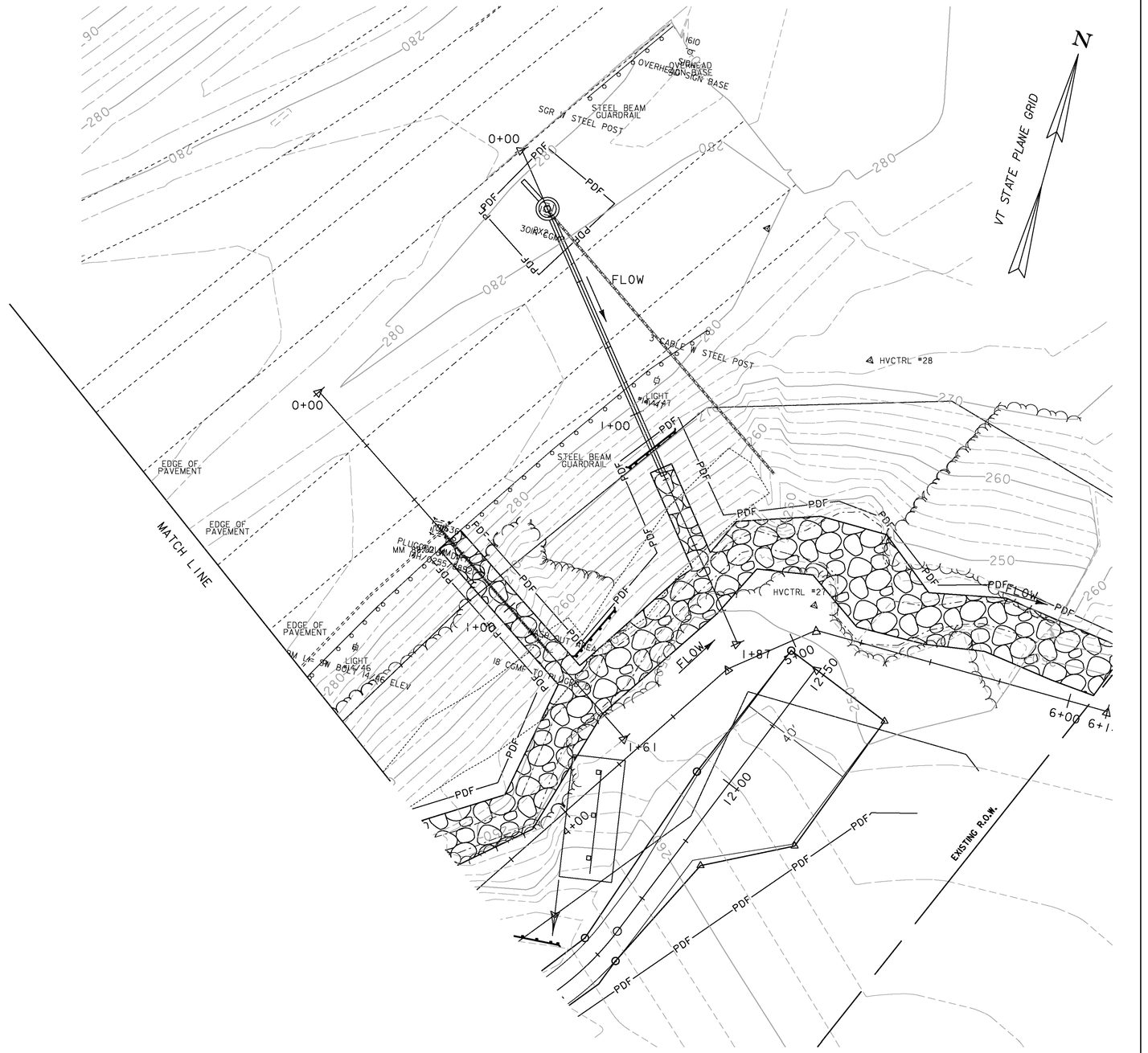
- PERMANENT SLOPE LIMITS
- PDF — PROJECT DEMARCATION FENCE
- SILT FENCE
- FILTER FABRIC DROP INLET PROTECTION
- PERMANENT EROSIAN MATTING
- RIPARIAN BUFFER

0 20 40
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07al04erobdr.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
EPSC LAYOUT SHEET 7

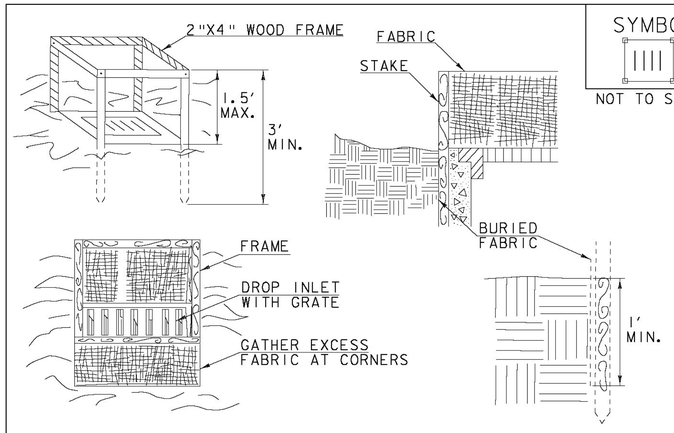
PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 45 OF 69



LEGEND

- PERMANENT SLOPE LIMITS
- PDF — PROJECT DEMARCATION FENCE
- SILT FENCE
- FILTER FABRIC DROP INLET PROTECTION
- RIPARIAN BUFFER

PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: d07al04erobdr.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
EPSC LAYOUT SHEET 8	SHEET 46 OF 69



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

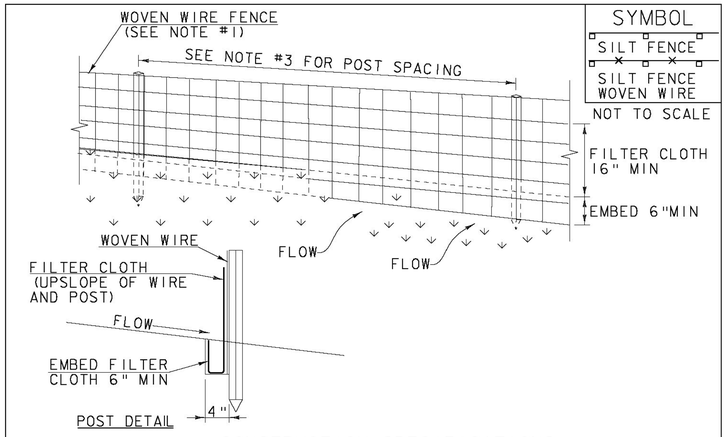
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

SILT FENCE

SILT FENCE WOVEN WIRE

NOT TO SCALE

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

VAOT RURAL AREA MIX

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

VAOT URBAN AREA MIX

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

GENERAL GUIDANCE

FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10/20/2010	19-19-19	PELLETIZED	LIQUID
500 LBS/AC		2 TONS/AC	4.4 GAL/AC

CONSTRUCTION GUIDANCE

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

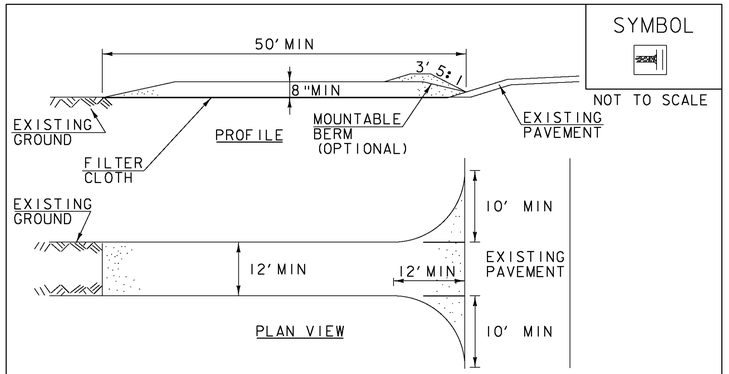
SEED

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07al04erod.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. MCADAMS
EPSC DETAILS 1

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP



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.

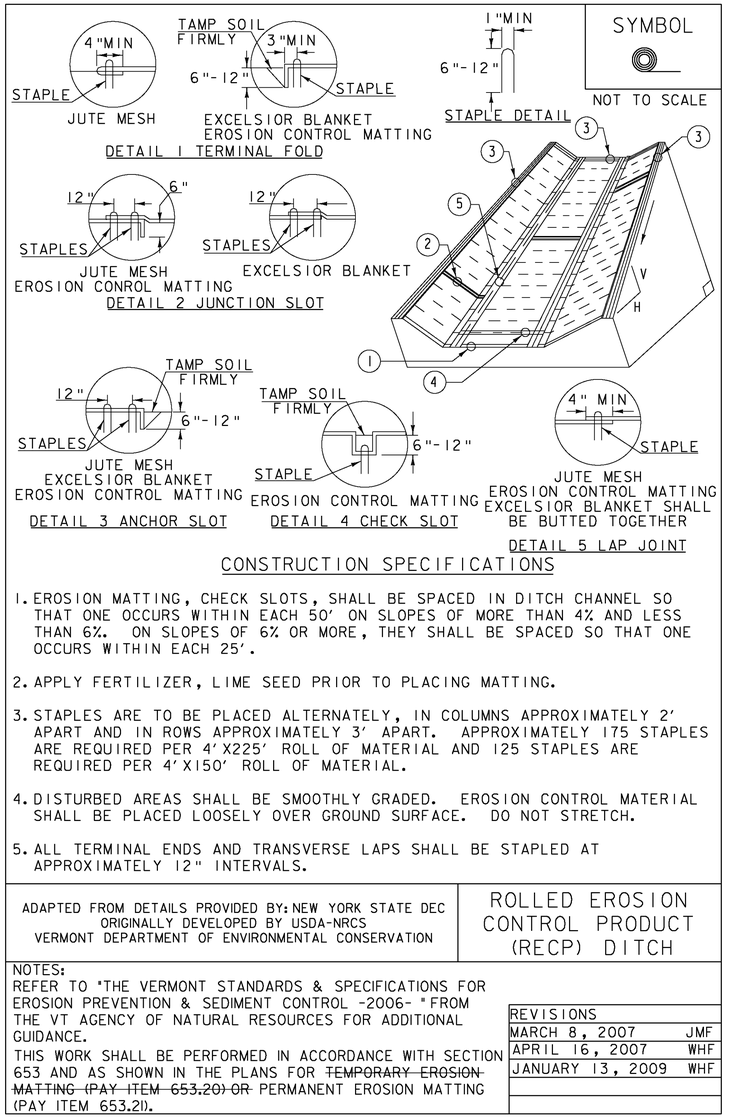
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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. 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.

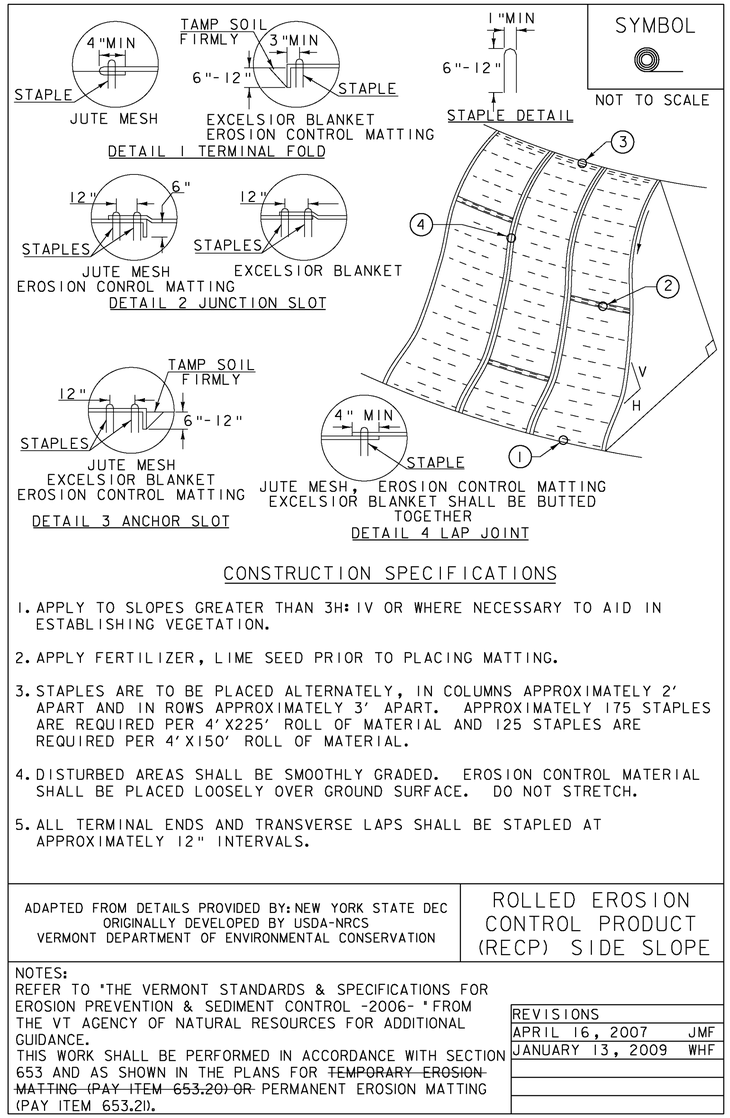
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104erod.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. MCADAMS
EPSC DETAILS 2

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP

TRAFFIC CONTROL NOTES

① TEMPORARY LANE AND/OR SHOULDER CLOSURES SHALL ONLY BE USED TO TRANSPORT MATERIAL AND EQUIPMENT TO DESIGNATED LOCATIONS ASSOCIATED WITH THE PROPOSED CULVERT INLET/OUTLET.

② TEMPORARY LANE AND/OR SHOULDER CLOSURES SHALL ONLY BE ALLOWED BETWEEN THE HOURS OF 7:00 PM AND 7:00 AM OR DURING A SET TIME AND DURATION APPROVED BY THE RESIDENT ENGINEER. REFER TO PROJECT SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

③ WHERE TEMPORARY TRAFFIC BARRIER IS USED, BARRIER ENDS FACING ONCOMING TRAFFIC SHALL BE TAPERED BEYOND THE CLEAR ZONE, OR PROTECTED WITH AN APPROVED END TREATMENT.

④ NON -CRASHWORTHY FEATURES RESULTING FROM CONSTRUCTION ACTIVITIES THAT ARE LOCATED WITHIN THE CLEAR ZONE SHALL BE PROPERLY PROTECTED. ALL TEMPORARY DEVICES SHALL BE NCHRP REPORT 350 COMPLIANT AND SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 621.

⑤ TRAFFIC CONTROL WARNING SIGNS SHALL BE PROVIDED ON EACH APPROACH PER THE MUTCD. ADDITIONAL PROJECT CONSTRUCTION SIGNS SHALL BE INSTALLED AS REQUIRED BY THE RESIDENT ENGINEER PER THE MUTCD. PAYMENT FOR THESE SIGNS, THE REFLECTORIZED PLASTIC DRUMS, ETC., SHALL BE MADE UNDER CONTRACT ITEM NO. 641.10.

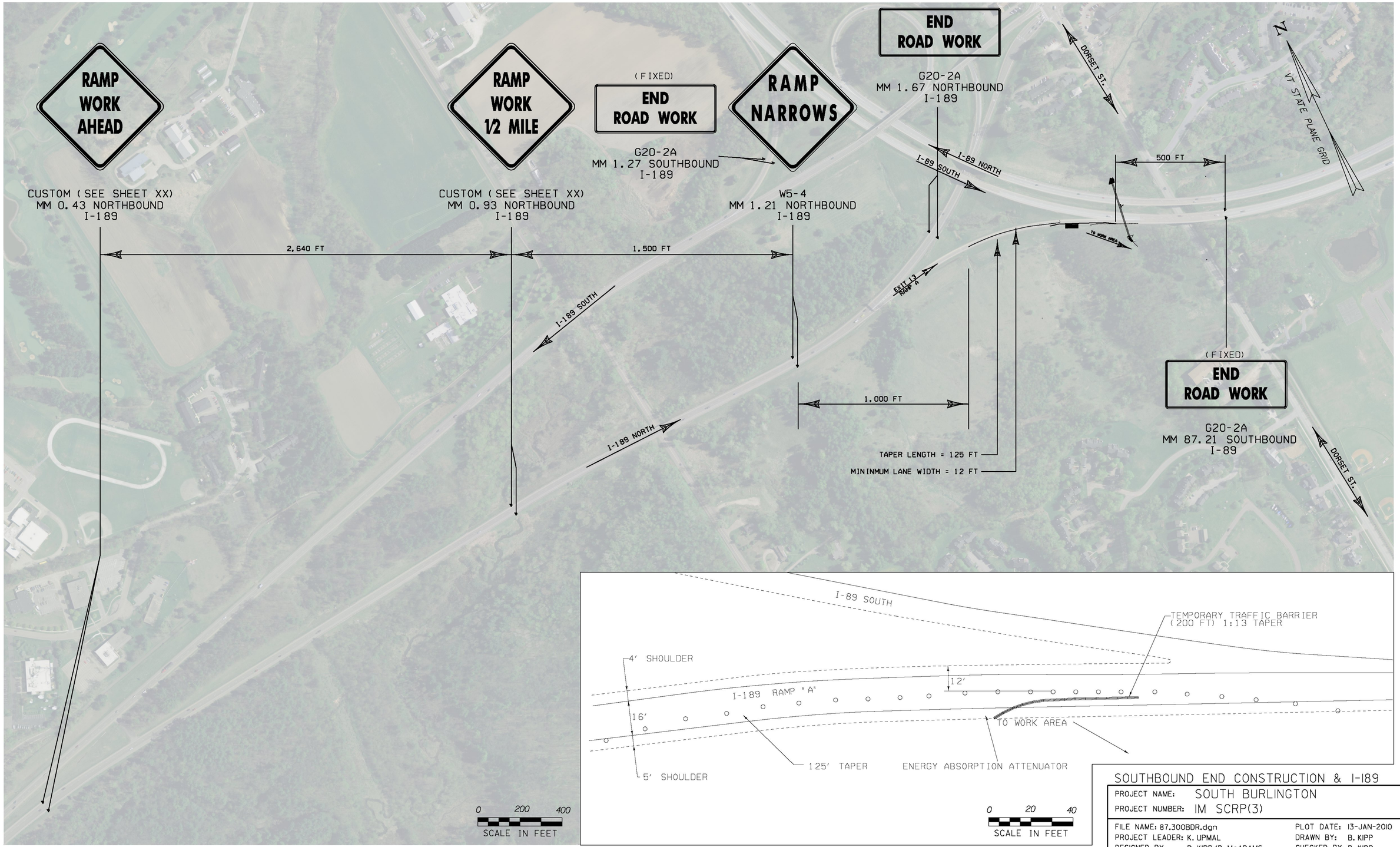
⑥ TEMPORARY LANE AND/OR SHOULDER CLOSURES SHALL BE USED WHEN REMOVING EQUIPMENT AND DEBRIS ASSOCIATED WITH CONSTRUCTION ACTIVITIES.

⑦ PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ROADWAY, TRAFFIC, AND SAFETY ENGINEER SITE-SPECIFIC TRAFFIC CONTROL PLANS. THE ROADWAY, TRAFFIC AND SAFETY ENGINEER SHALL APPROVE THESE PLANS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES AS STATED IN SECTION 641.02 OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS.

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_frm.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
TRAFFIC CONTROL NOTES

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 49 OF 69

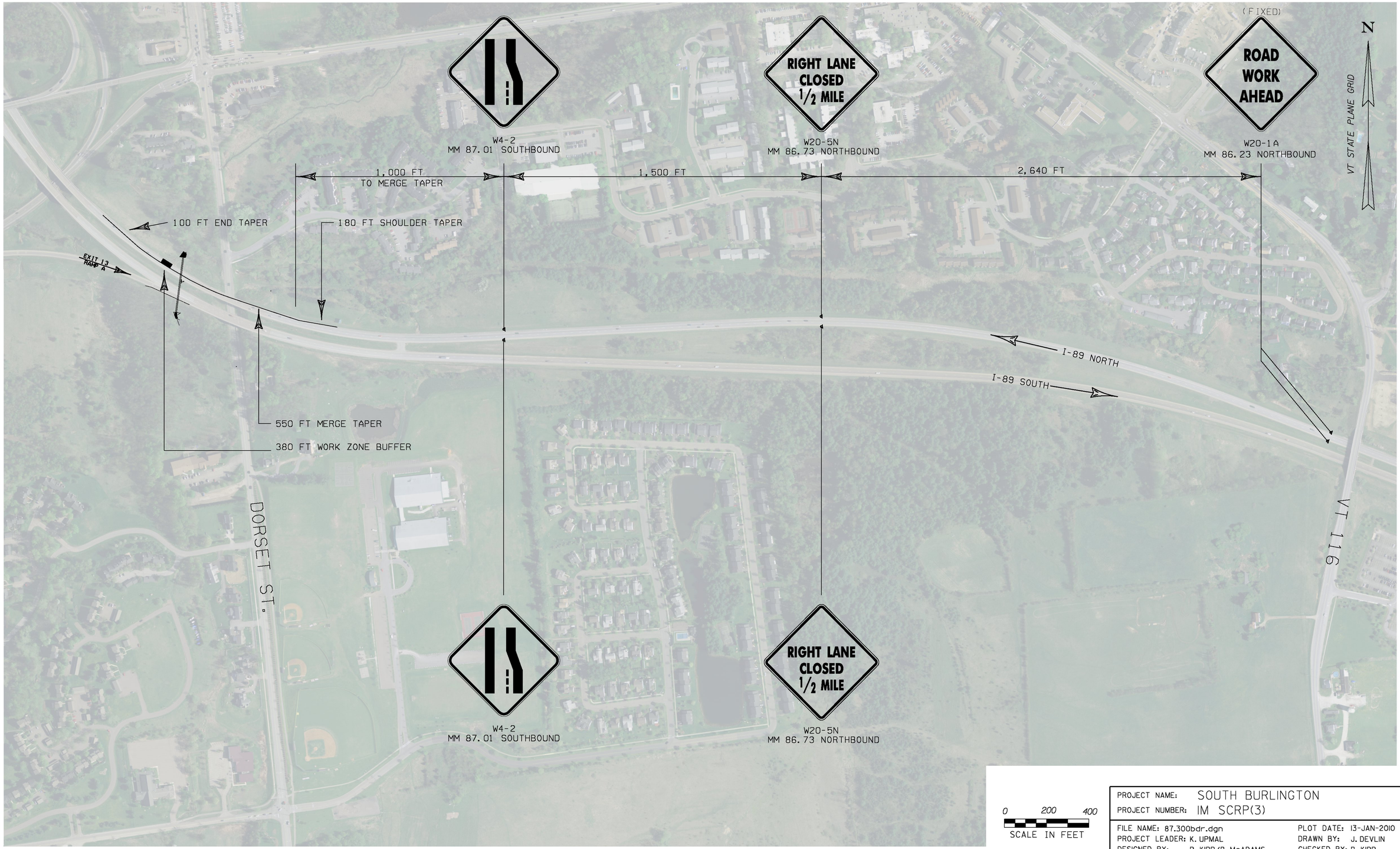


SOUTHBOUND END CONSTRUCTION & I-189

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: 87.300BDR.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
MM 87.300 TRAFFIC CONTROL PLAN I

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 50 OF 69

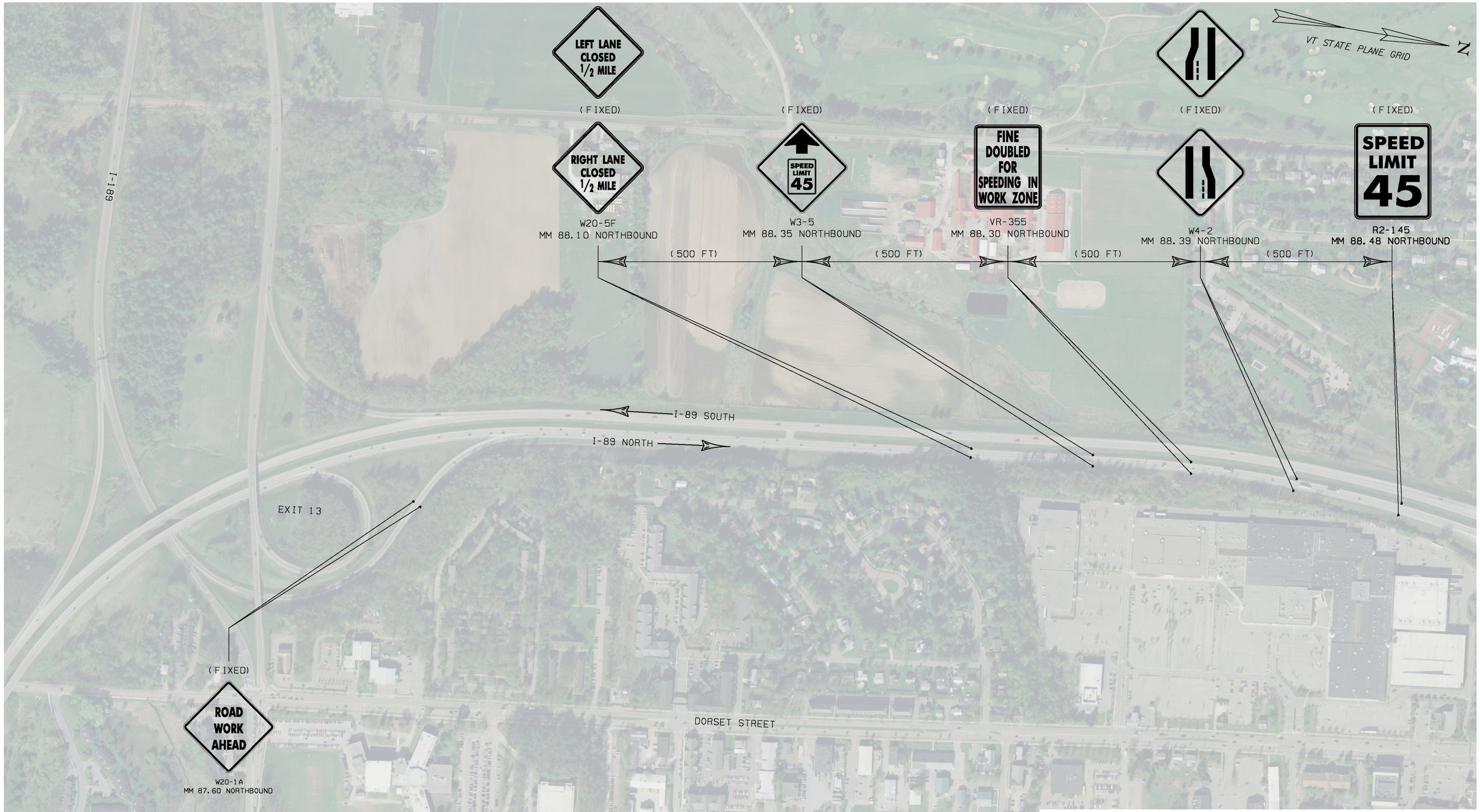


0 200 400
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: 87.300bdr.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
MM 87.300 TRAFFIC CONTROL PLAN 2

PLOT DATE: 13-JAN-2010
DRAWN BY: J. DEVLIN
CHECKED BY: B. KIPP
SHEET 51 OF 69



0 200 400
SCALE IN FEET

PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: tcnb_bdr.dgn	PLOT DATE: 19-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
TRAFFIC CONTROL PLAN I-89 NB (1)	SHEET 52 OF 69



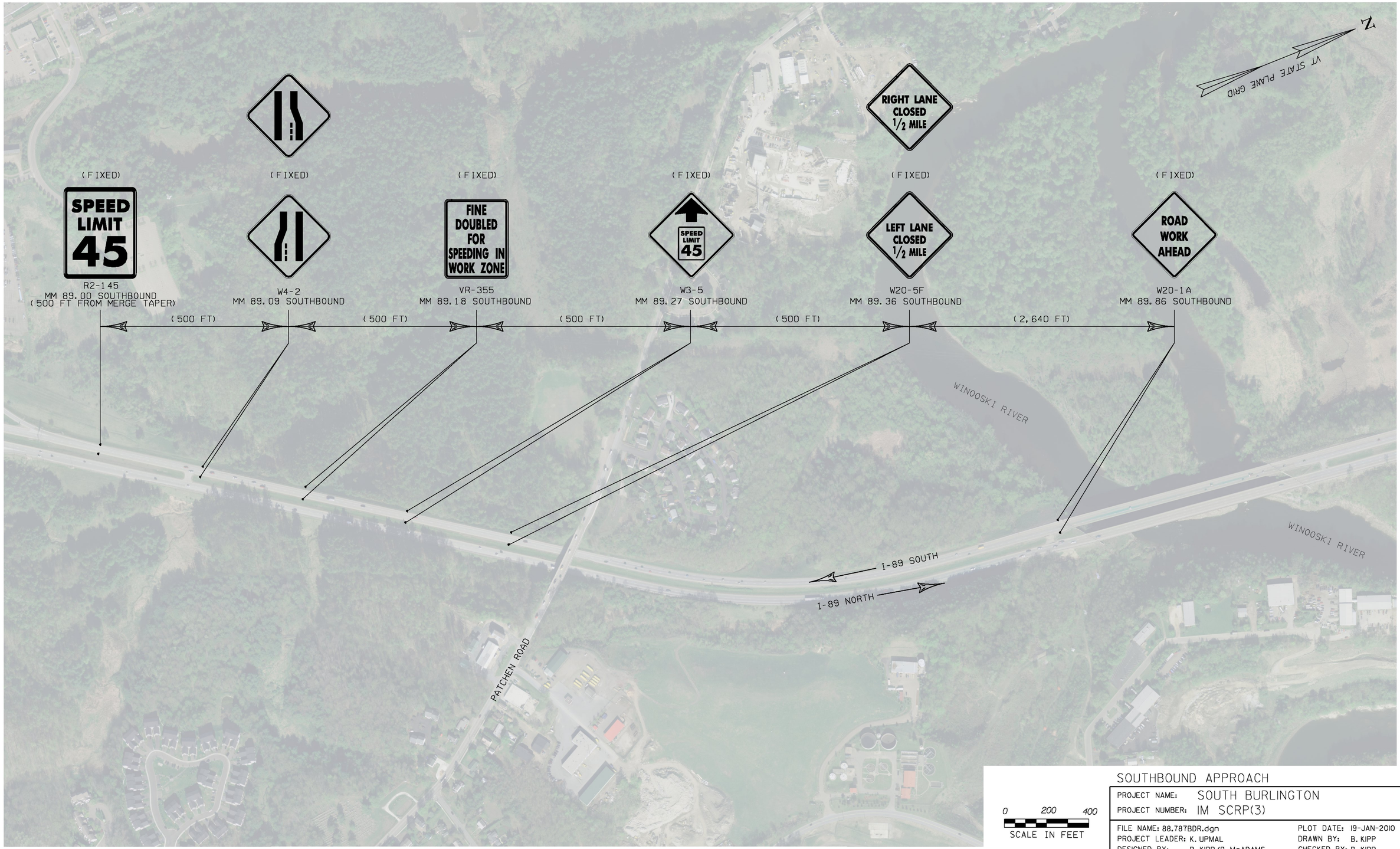
0 40 80
SCALE IN FEET

NORTHBOUND END CONSTRUCTION

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: tcnb_bdr.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
TRAFFIC CONTROL PLAN I-89 NB (2)

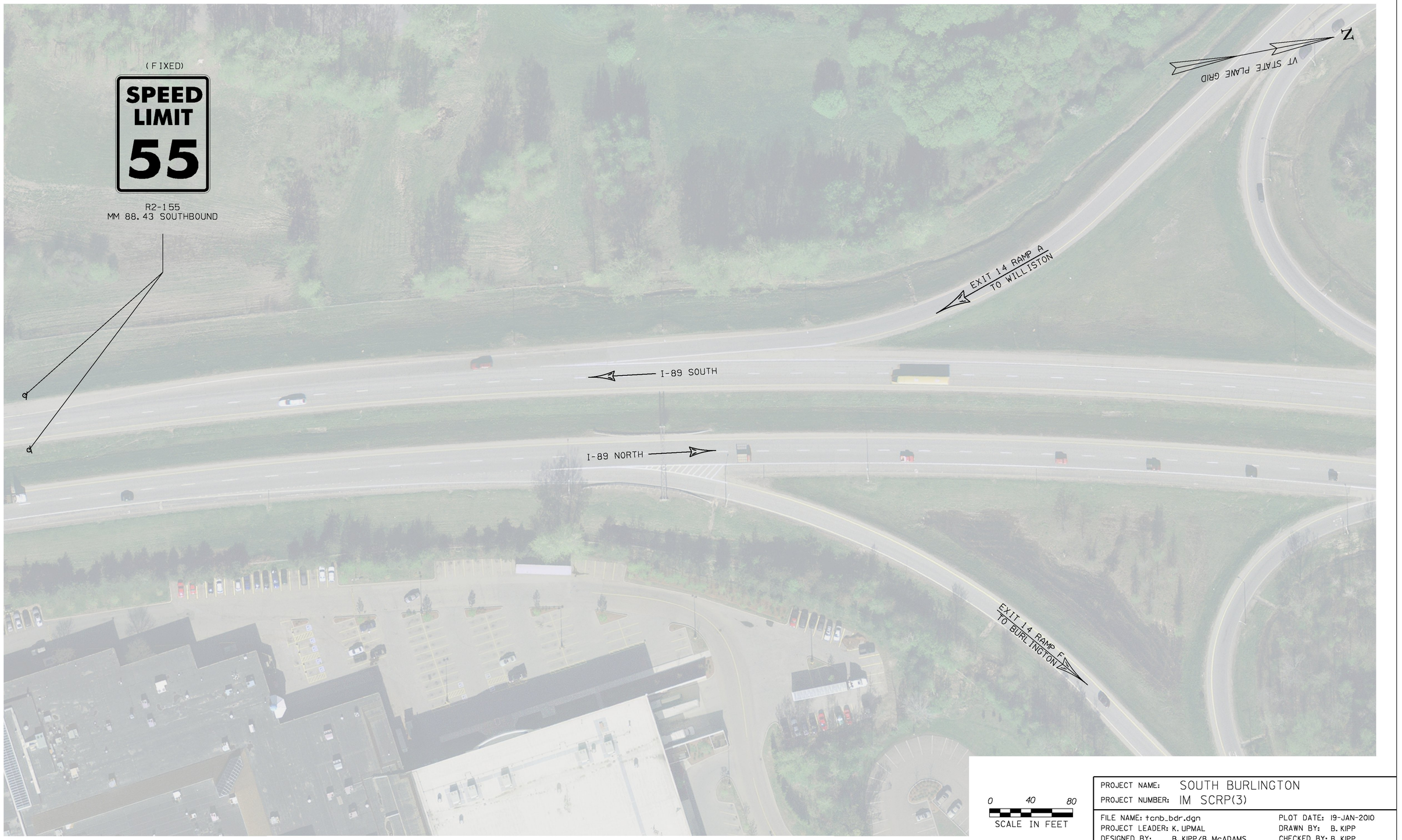
PLOT DATE: 19-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 53 OF 69



SOUTHBOUND APPROACH

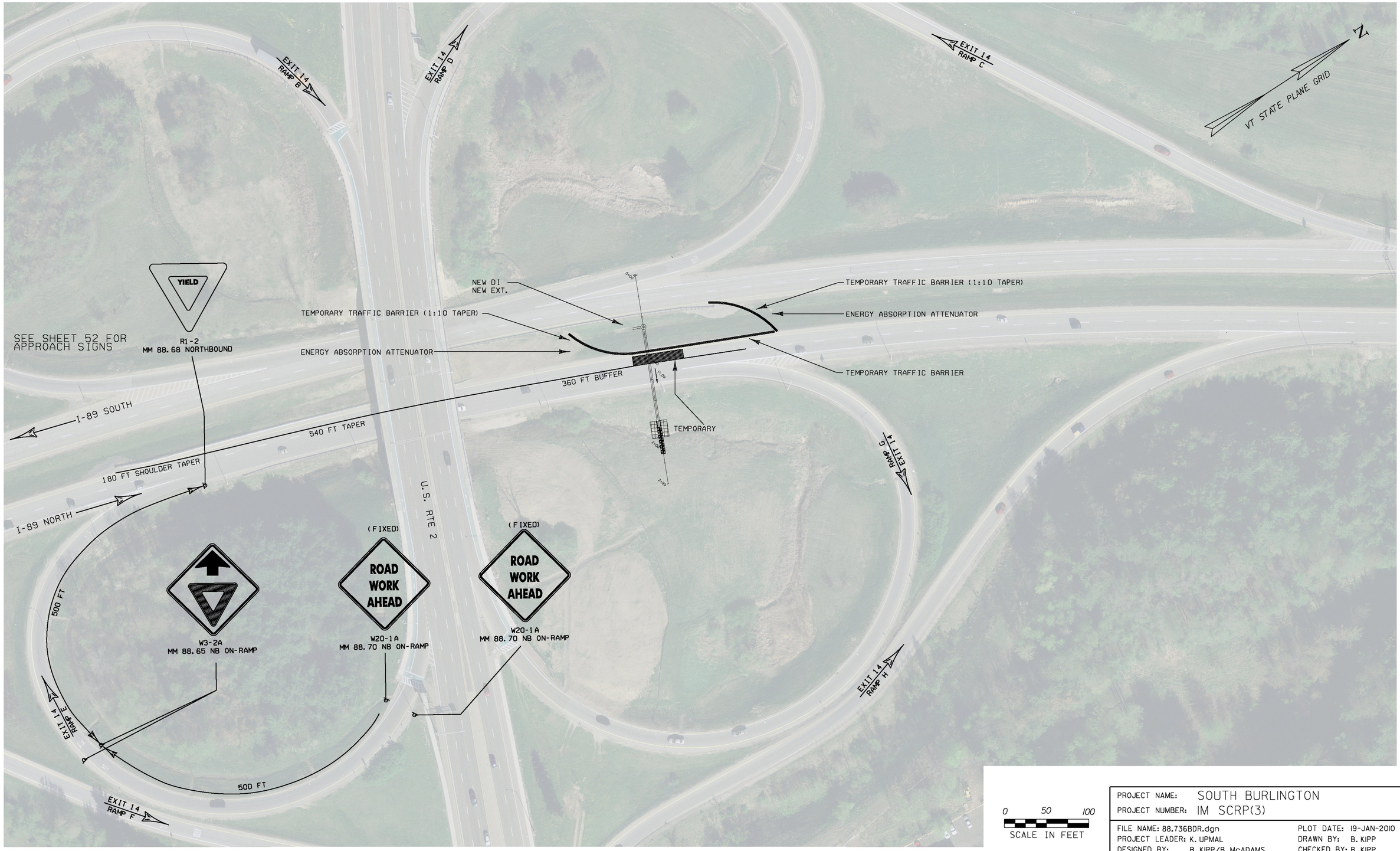
PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)

FILE NAME: 88.787BDR.dgn	PLOT DATE: 19-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
TRAFFIC CONTROL PLAN I-89 SB (1)	SHEET 54 OF 69



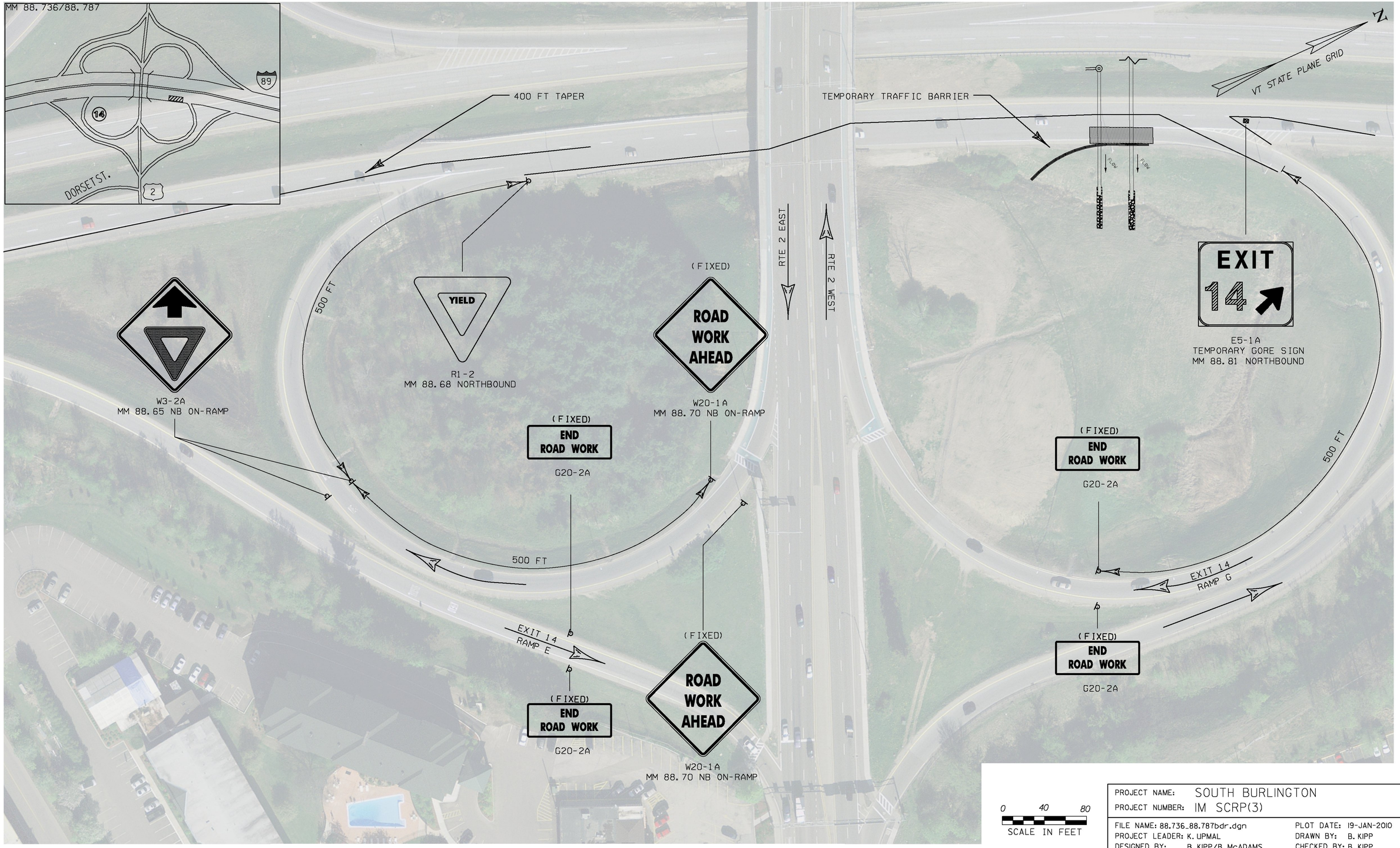
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SCALE IN FEET

PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: tcnb_bdr.dgn	PLOT DATE: 19-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
TRAFIC CONTROL PLAN I-89 SB (2)	SHEET 55 OF 69



0 50 100
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON	
PROJECT NUMBER: IM SCRP(3)	
FILE NAME: 88.736BDR.dgn	PLOT DATE: 19-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
MM 88.736 TRAFFIC CONTROL PLAN	SHEET 56 OF 69

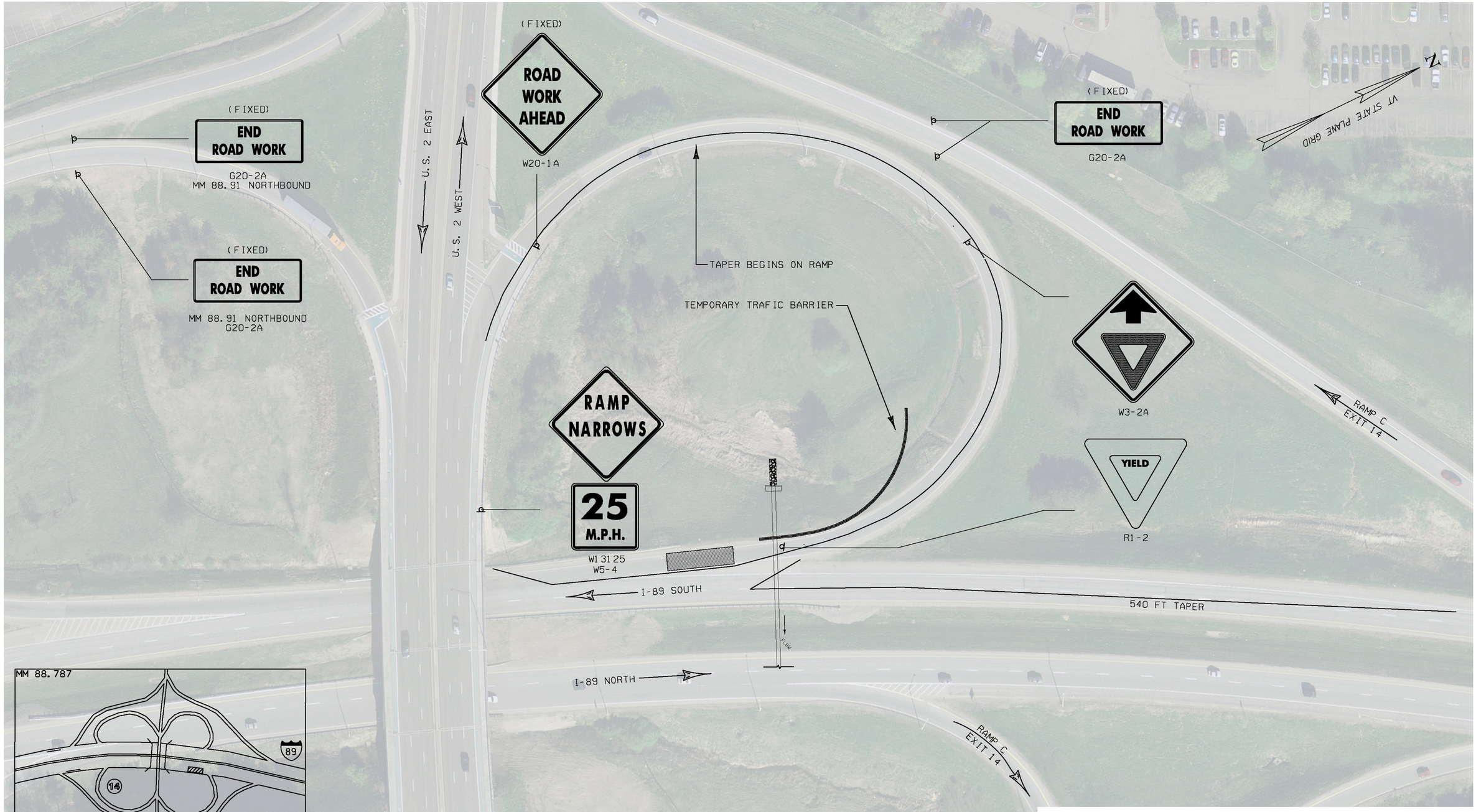


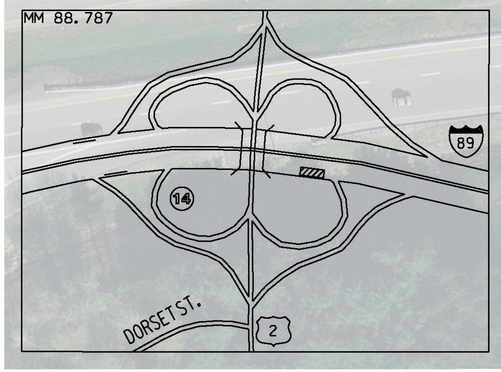
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SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: 88.736_88.787bdr.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
MM 88.736/88.787 TRAFFIC CONTROL PLAN

PLOT DATE: 19-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 57 OF 69

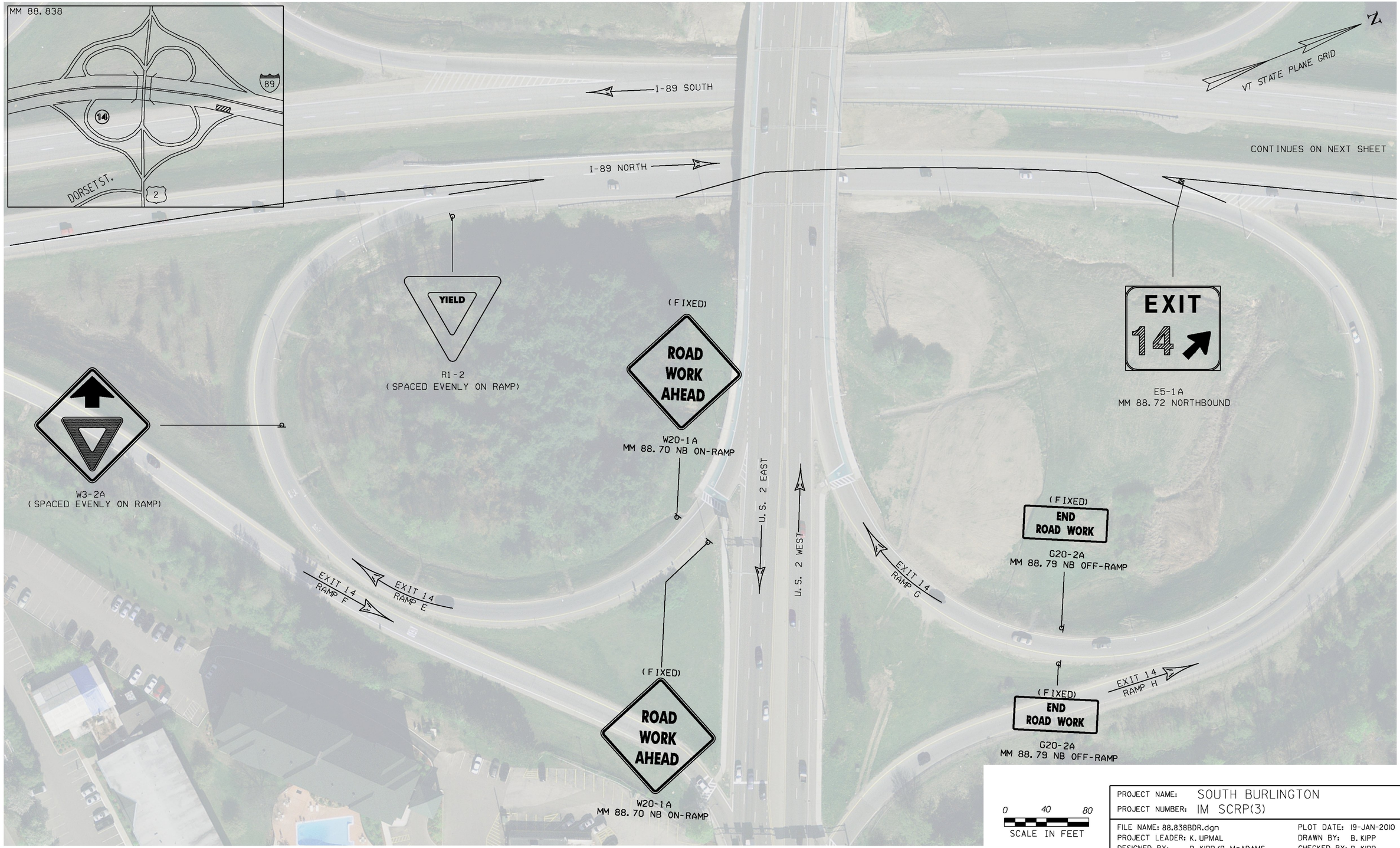




0 40 80
SCALE IN FEET

PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)

FILE NAME: 88.787BDR.dgn	PLOT DATE: 19-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
MM 88.787 TRAFFIC CONTROL PLAN	SHEET 58 OF 69

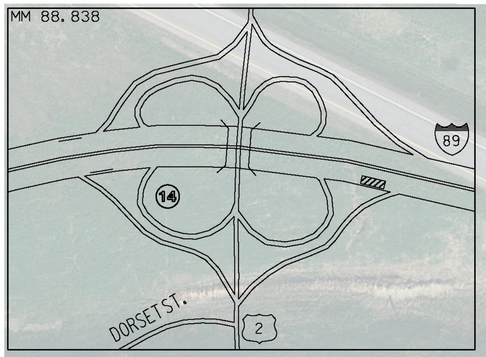


0 40 80
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: 88.838BDR.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
MM 88.838 TRAFFIC CONTROL PLAN I

PLOT DATE: 19-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 59 OF 69



(FIXED)
END
ROAD WORK
G20-2A
MM 88.91 NORTHBOUND

I-89 SOUTH

I-89 NORTH

VT STATE PLANE GRID

(FIXED)
SPEED
LIMIT
55
R2-155
MM 88.97 NORTHBOUND

500 FT

500 FT

NEW DI
2 NEW EXT.

TEMPORARY TRAFFIC BARRIER (180 FT)
(1:10 TAPER)

EXIT 14
RAMP H

TEMPORARY TRAFFIC BARRIER (180 FT)
(1:10 TAPER)

(FIXED)
END
ROAD WORK
G20-2A
MM 88.91 NORTHBOUND

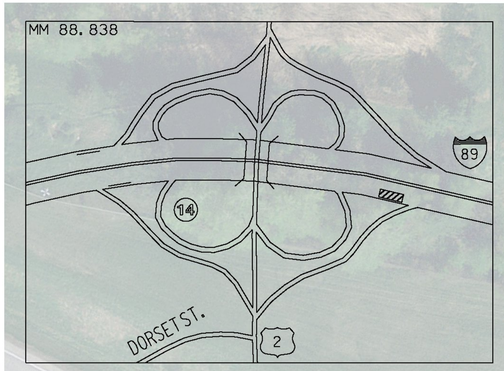
(FIXED)
SPEED
LIMIT
55
R2-155
MM 88.97 NORTHBOUND

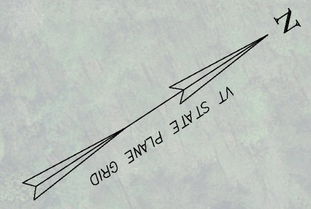
0 40 80
SCALE IN FEET

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: 88.838BDR.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
MM 88.838 TRAFFIC CONTROL PLAN 2

PLOT DATE: 19-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B. KIPP
SHEET 60 OF 69



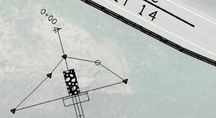


TEMPORARY TRAFFIC BARRIER
(REFLECTIVE TABS REQUIRED
ON OUTSIDE EDGE)



E5-1A
MM 88.94 SOUTHBOUND

RAMP C
EXIT 14



100 FT TAPER

540 FT MERGING TAPER

I-89 SOUTH

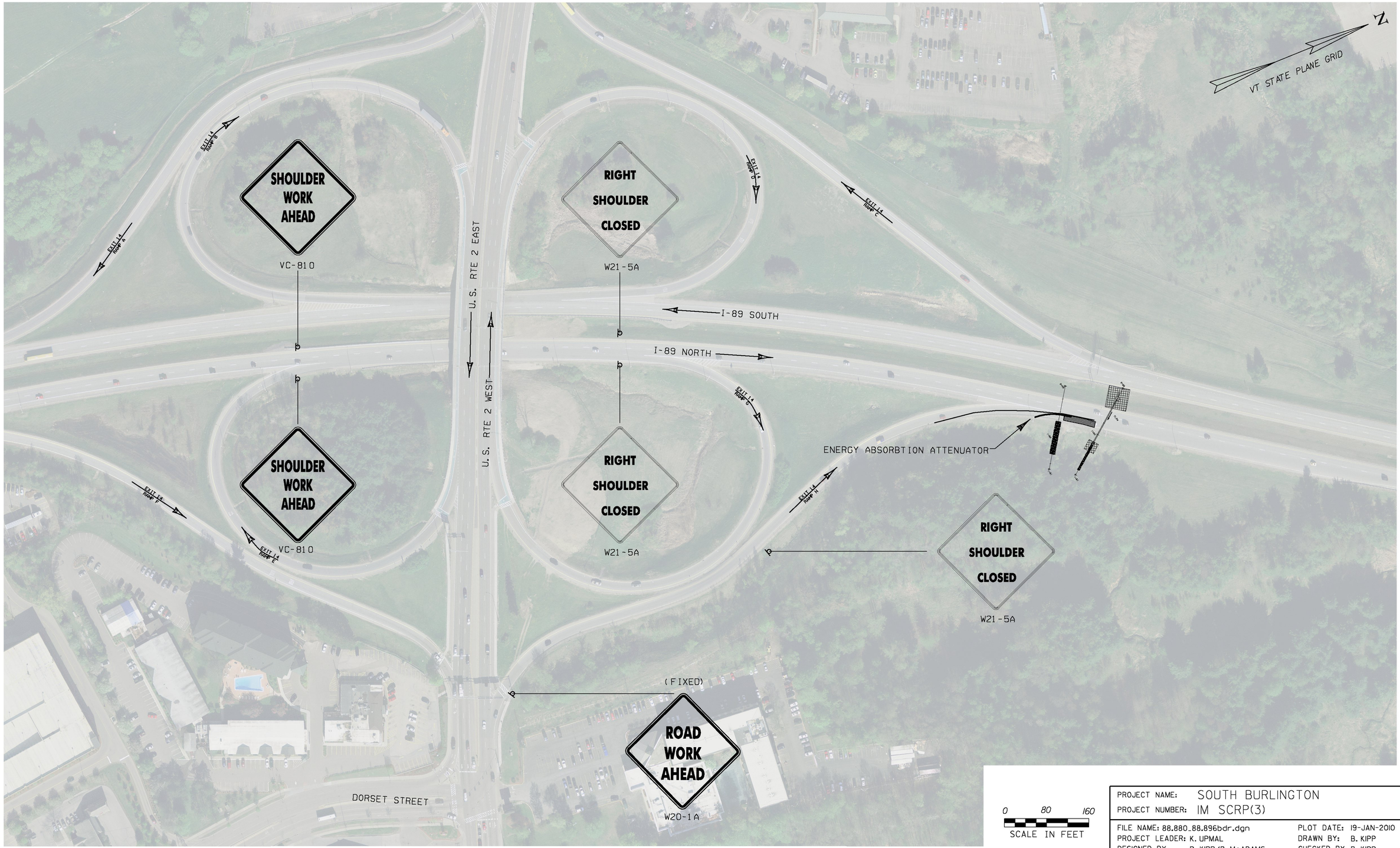
180 FT SHOULDER TAPER

I-89 NORTH

ENERGY ABSORBTION ATTENUATOR

0 40 80
SCALE IN FEET

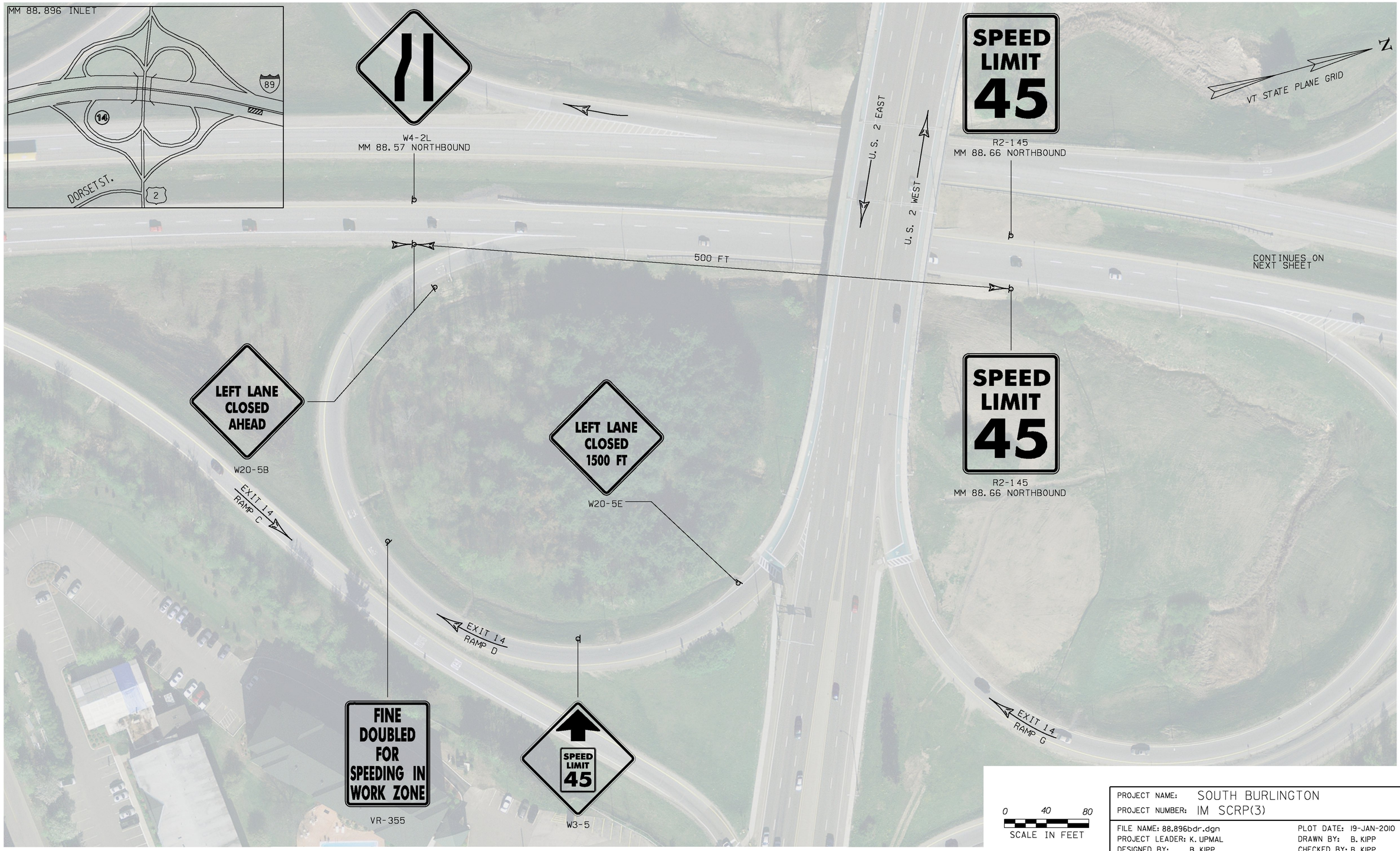
PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: 88.877BDR.dgn	PLOT DATE: 19-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
MM 88.877 TRAFFIC CONTROL PLAN	SHEET 61 OF 69



0 80 160
SCALE IN FEET

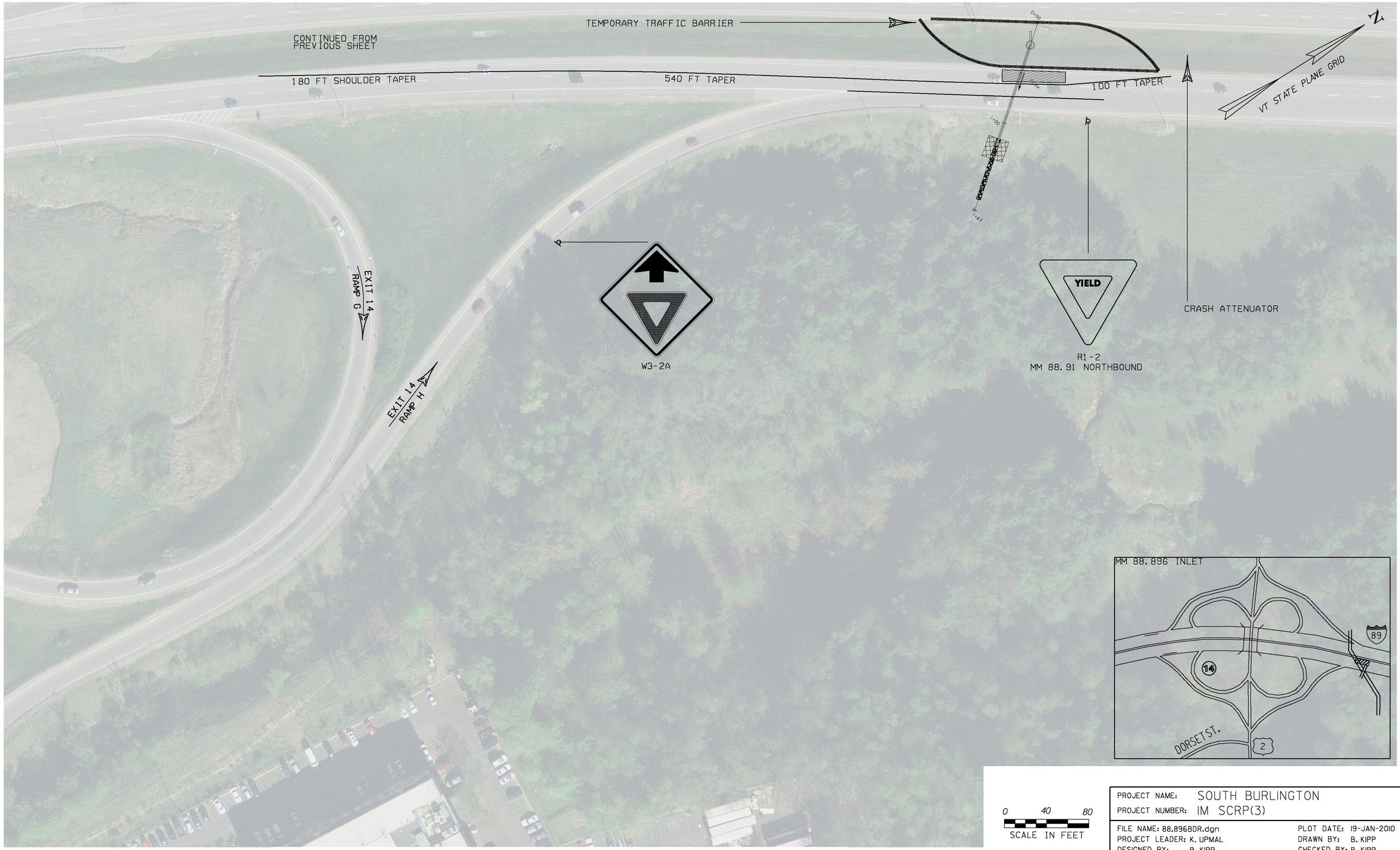
PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)

FILE NAME: 88.880_88.896bdr.dgn	PLOT DATE: 19-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B. KIPP
MM 88.880/88.896 TRAFFIC CONTROL PLAN	SHEET 62 OF 69



0 40 80
SCALE IN FEET

PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: 88.896bdr.dgn	PLOT DATE: 19-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP	CHECKED BY: B. KIPP
MM 88.896 TRAFFIC CONTROL PLAN I	SHEET 63 OF 69

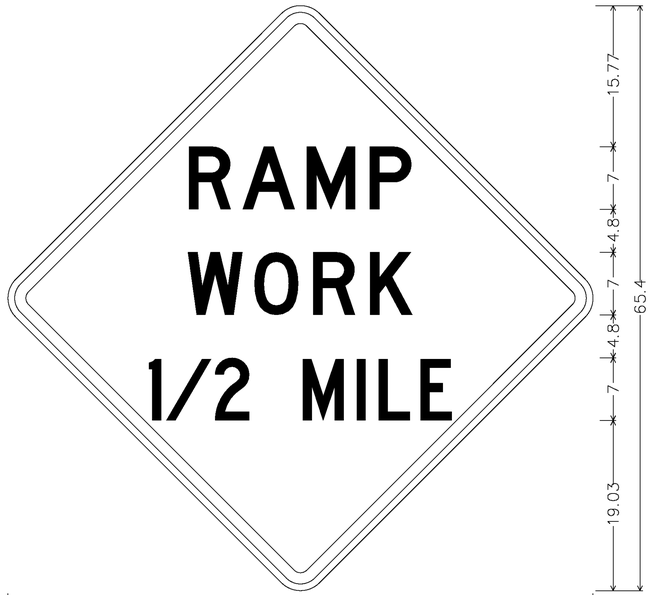


0 40 80
SCALE IN FEET

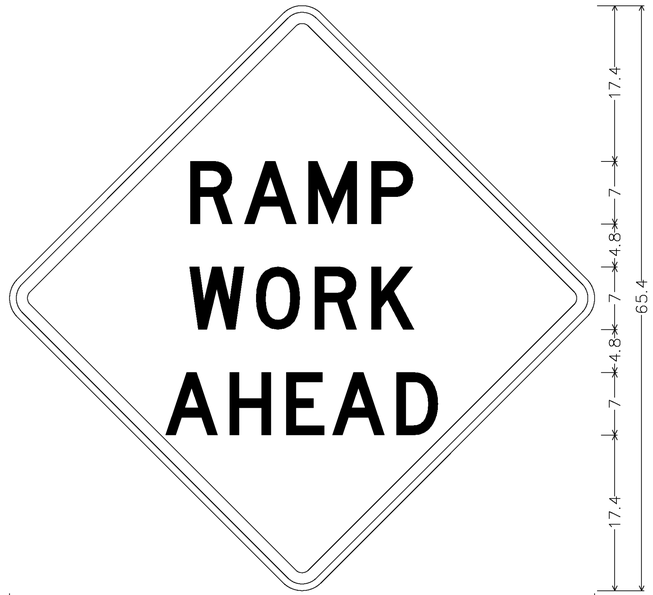
PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)

FILE NAME: 88.896BDR.dgn	PLOT DATE: 19-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP	CHECKED BY: B. KIPP
MM 88.896 TRAFFIC CONTROL PLAN 2	SHEET 64 OF 69

TRAFFIC SIGN DETAIL SHEET



48.00" across sides 3.00" Radius, 1.25" Border, 0.75" Indent, Black on Orange;
[RAMP] D; [WORK] D; [1/2 MILE] C;



48.00" across sides 3.00" Radius, 1.25" Border, 0.75" Indent, Black on Orange;
[RAMP] D; [WORK] D; [AHEAD] D;

PROJECT NAME:	SOUTH BURLINGTON
PROJECT NUMBER:	IM SCRP(3)
FILE NAME: d07a104_frm.dgn	PLOT DATE: 13-JAN-2010
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP/B. McADAMS	CHECKED BY: B.KIPP
TRAFFIC SIGN DETAIL SHEET	SHEET 65 OF 69

BORING LOGS

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

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

COLOR

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

DEFINITIONS (AASHTO)

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

BOULDER - A rock fragment with an average dimension > 12 inches.

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

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

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

SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

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

VARVED - Alternate layers of silt and clay.

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

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

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

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

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

DIP - Inclination of bed with a horizontal plane.

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

BORING NUMBER: B-101
SHEET 1 of 1
DATE STARTED: 3/12/09
DATE COMPLETED: 3/12/09

PROJECT NAME: SOUTH BURLINGTON
SITE NAME: I-89
STATION:
OFFSET:
VTSPG: N 719082.49 ft E 1461958.66 ft

PROJECT NUMBER: IM SCRP(3)
SITE NUMBER: CULVERT REPLACEMENT
GROUND ELEVATION:
GROUNDWATER DEPTH: Hole collapsed at 10.0 ft
PROJECT PIN NUMBER: 07A104

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-4, GrSaSi, brn, Moist, Rec. = 0.5 ft	3	17.5	31.8	32.2	36.0
		A-4, SaSi, brn, Moist, Rec. = 1.2 ft	6	21.3	3.1	35.4	61.5
5		A-4, SaSi, brn, Moist, Rec. = 1.4 ft	8	16.3	0.1	38.7	61.2
		A-4, SaSi, brn, Moist, Rec. = 1.7 ft	18	15.0	0.0	25.3	74.7
		A-4, SaSi, brn, Moist, Rec. = 1.8 ft	20	16.3	1.8	42.5	55.7
10		A-4, SiSa, brn, Moist, Rec. = 1.7 ft	13	14.4	1.3	62.8	35.9
		A-4, SiSa, brn, MTW, Rec. = 1.6 ft, A very small layer of Clay was noticeable, but not enough to be tested.	14	18.7	0.3	61.2	38.5
15		A-4, SaSi, gry, Wet, Rec. = 1.2 ft	11	21.8	0.0	48.1	51.9
		A-4, SiSa, gry, Wet, Rec. = 1.7 ft	16	22.4	0.0	56.7	43.3
		A-4, SiSa, gry, Wet, Rec. = 1.9 ft	17	20.3	0.0	60.6	39.4
20		A-4, SaSi, gry, Wet, Rec. = 1.6 ft	17	19.6	0.2	46.3	53.5
		A-4, SaSi, gry, Wet, Rec. = 1.4 ft	9	23.1	0.0	49.4	50.6
25		A-4, SaSi, gry, MTW, Rec. = 1.6 ft	4	14.6	0.2	39.2	60.6
		Hole stopped @ 26.0 ft					

DRILLER'S NOTES:

1. Possible water table at 13.6 ft.

LOG OF BORING SOUTH BURLINGTON-WINOOSKI IM SCRP(3).GPJ VT ADT.GDT 4/2/09

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

BORING NUMBER: B-102
SHEET 1 of 1
DATE STARTED: 3/18/09
DATE COMPLETED: 3/18/09

PROJECT NAME: SOUTH BURLINGTON-WINOOSKI
SITE NAME: I-89
STATION:
OFFSET:
VTSPG: N 719114.37 ft E 1461890.74 ft

PROJECT NUMBER: IM SCRP(3)
SITE NUMBER: CULVERT REPLACEMENT
GROUND ELEVATION:
GROUNDWATER DEPTH: Hole collapsed at 5.0 ft
PROJECT PIN NUMBER: 07A104

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
5		A-4, SiSa, brn, Moist, Rec. = 1.9 ft	16	16.4	1.3	58.5	40.2
		A-4, SiSa, brn, Moist, Rec. = 1.9 ft	24	18.0	0.4	51.9	47.7
		A-4, SiSa, gry, Moist, Rec. = 2.0 ft	21	15.3	0.2	50.3	49.5
10		A-4, SiSa, brn, Moist, Rec. = 1.9 ft	28	14.5	1.2	55.0	43.8
		A-4, SaSi, gry, Moist, Rec. = 1.7 ft	24	16.1	0.0	43.4	56.6
15		A-4, SaSi, gry, Moist, Rec. = 1.5 ft	14	16.9	0.8	47.6	51.6
		A-4, SiSa, gry, Moist, Rec. = 1.7 ft	30	16.5	0.1	50.3	49.6
		A-4, SaSi, gry, Moist, Rec. = 1.8 ft	31	17.4	0.0	46.1	53.9
20		A-4, SaSi, gry, Moist, Rec. = 1.8 ft	14	15.1	1.1	26.6	72.3
		A-4, SaSi, gry, Moist, Rec. = 0.8 ft	40	19.4	4.8	36.6	58.6
		A-2-4, GrSiSa, gry, Moist, Rec. = 0.8 ft		17.2	24.9	43.8	31.3
25		Hole stopped @ 24.0 ft					

LOG OF BORING SOUTH BURLINGTON-WINOOSKI IM SCRP(3).GPJ VT ADT.GDT 4/2/09

GENERAL NOTES

1. The subsurface explorations shown herein were made between _____ and _____ by the Agency.

2. 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.

3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.

4. Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.

5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.

6. 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.

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_frm.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
BORING LOGS 1

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B.KIPP

BORING LOGS

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

BORING NUMBER: B-103
SHEET 1 of 1
DATE STARTED: 3/19/09
DATE COMPLETED: 3/19/09

PROJECT NAME: SOUTH BURLINGTON-WINOOSKI
SITE NAME: I-89
STATION:
OFFSET:
VTSPG: N 719161.29 ft E 1461806.74 ft

PROJECT NUMBER: IM SCRP(3)
SITE NUMBER: CULVERT REPLACEMENT
GROUND ELEVATION:
GROUNDWATER DEPTH: None Taken
PROJECT PIN NUMBER: 07A104

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
5		A-4, SaSi, brn, Moist, Rec. = 1.6 ft	4	19.4	0.2	35.3	64.5
		A-4, SiSa, brn, Moist, Rec. = 1.9 ft	11	20.8	0.7	56.6	42.7
		A-2-4, SiSa, brn, Moist, Rec. = 1.3 ft	11	17.4	2.4	69.5	28.1
10		Field Note:, No Recovery. Rock pieces in end of sampler.	54				
		A-4, Si, brn-gry, Wet, Rec. = 1.6 ft	20	20.1	0.1	17.5	82.4
15		Field Note:, No Recovery.	30				
		A-4, SiSa, gry, Moist, Rec. = 1.6 ft	26	16.9	2.5	52.2	45.3
		A-4, SiSa, gry, Moist, Rec. = 1.6 ft	35	16.5	0.0	58.1	41.9
20		A-4, SiSa, gry, Moist, Rec. = 1.8 ft	28	17.7	0.7	54.9	44.4
		A-2-4, SiSa, gry, Wet, Rec. = 0.4 ft	10	30.8	5.6	59.3	35.1
25		Hole stopped @ 24.0 ft					
30							
35							
40							
45							

LOG OF BORING SOUTH BURLINGTON-WINOOSKI IM SCRP(3).GPJ VT ADT.GDT 4/2/09

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

BORING NUMBER: B-104
SHEET 1 of 1
DATE STARTED: 3/13/09
DATE COMPLETED: 3/13/09

PROJECT NAME: SOUTH BURLINGTON-WINOOSKI
SITE NAME: I-89
STATION:
OFFSET:
VTSPG: N 719486.38 ft E 1462256.10 ft

PROJECT NUMBER: IM SCRP(3)
SITE NUMBER: CULVERT REPLACEMENT
GROUND ELEVATION:
GROUNDWATER DEPTH: Hole collapsed at 8.0 ft
PROJECT PIN NUMBER: 07A104

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
5		A-4, SiSa, brn, Moist, Rec. = 1.2 ft	21	15.5	0.3	56.9	42.8		
		A-4, SaSi, brn, Moist, Rec. = 1.2 ft	11	16.7	1.2	44.0	54.8		
10		A-4, SaSi, brn, Moist, Rec. = 1.6 ft	25	15.0	0.9	46.4	52.7		
		A-4, SaSi, brn, Moist, Rec. = 1.7 ft	22	16.4	0.0	46.4	53.6		
15		A-4, SaSi, brn, Moist, Rec. = 1.9 ft, A very small layer of Clay was noticeable.	18	18.3	0.0	20.5	79.5		
		A-4, SaSi, gry, Moist, Rec. = 1.7 ft	14	19.2	0.0	30.9	69.1		
20		A-4, SiSa, gry, Wet, Rec. = 1.6 ft	19	21.8	0.2	61.7	38.1		
		A-4, Si, gry, Moist, Rec. = 1.9 ft	10	22.5	0.0	10.8	89.2		
		A-4, Si, gry, Moist, Rec. = 1.8 ft	10	24.3	0.0	3.6	96.4	28	2
25		A-4, Si, gry, Wet, Rec. = 1.5 ft	11	28.3	0.0	2.0	98.0	29	3
		Hole stopped @ 28.0 ft							
30									
35									
40									
45									

LOG OF BORING SOUTH BURLINGTON-WINOOSKI IM SCRP(3).GPJ VT ADT.GDT 4/2/09

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

BORING NUMBER: B-105
SHEET 1 of 1
DATE STARTED: 3/12/09
DATE COMPLETED: 3/13/09

PROJECT NAME: SOUTH BURLINGTON-WINOOSKI
SITE NAME: I-89
STATION:
OFFSET:
VTSPG: N 719486.04 ft E 1462226.87 ft

PROJECT NUMBER: IM SCRP(3)
SITE NUMBER: CULVERT REPLACEMENT
GROUND ELEVATION:
GROUNDWATER DEPTH: Hole collapsed at 6.0 ft
PROJECT PIN NUMBER: 07A104

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
5		A-4, SaSi, brn, Moist, Rec. = 1.6 ft	8	21.9	5.3	24.1	70.6		
		A-4, SaSi, brn, Moist, Rec. = 1.6 ft	6	13.3	1.6	47.9	50.5		
		A-4, SiSa, brn, Moist, Rec. = 1.6 ft	4	12.7	0.6	53.0	46.4		
		A-4, SaSi, brn, Moist, Rec. = 1.9 ft, A very small layer of Clay was noticeable.	17	14.4	0.1	36.4	63.5		
10		A-4, SaSi, brn, Moist, Rec. = 1.7 ft	14	18.4	0.0	40.3	59.7		
		A-4, SaSi, brn, Moist, Rec. = 1.7 ft	15	15.1	0.3	46.9	52.8		
		A-4, SaSi, gry, Moist, Rec. = 2.0 ft	25	15.4	0.4	32.4	67.2		
15		A-4, SaSi, gry, Moist, Rec. = 1.5 ft	9	19.6	0.0	24.3	75.7	24	1
		A-4, SaSi, gry, Wet, Rec. = 1.7 ft	15	21.8	0.5	42.6	56.9		
		A-4, SaSi, gry, Moist, Rec. = 1.7 ft	20	18.4	0.0	38.6	61.4		
20		A-4, Si, gry, Moist, Rec. = 1.6 ft	20	23.6	0.0	4.1	95.9	30	5
		A-4, SlSa, gry, Moist, Rec. = 0.9 ft	10	18.3	0.0	57.4	42.6		
		A-4, ClSi, gry, Wet, Rec. = 1.1 ft		27.2	0.0	5.5	94.5	31	7
25		A-4, Si, gry, Moist, Rec. = 1.9 ft	7	27.5	0.0	4.7	95.3	29	5
		A-4, Si, gry, Moist, Rec. = 1.6 ft	18	28.9	0.0	1.3	98.7	28	4
		Hole stopped @ 28.0 ft							
30									
35									
40									
45									

LOG OF BORING SOUTH BURLINGTON-WINOOSKI IM SCRP(3).GPJ VT ADT.GDT 4/2/09

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_frm.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
BORING LOGS 2

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B.KIPP
SHEET 67 OF 69

BORING LOGS

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

BORING NUMBER: B-106
SHEET 1 of 1
DATE STARTED: 3/17/09
DATE COMPLETED: 3/17/09

PROJECT NAME: SOUTH BURLINGTON-WINOOSKI
SITE NAME: I-89
STATION:
OFFSET:
VTSPG: N 719614.88 ft E 1462272.08 ft

PROJECT NUMBER: IM SCRP(3)
SITE NUMBER: CULVERT REPLACEMENT
GROUND ELEVATION:
GROUNDWATER DEPTH: Hole collapsed at 11.0 ft
PROJECT PIN NUMBER: 07A104

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
5							
		A-4, SaSi, brn, Moist, Rec. = 1.3 ft	17	13.1	1.2	47.2	51.6
10		A-2-4, SiSa, brn, Moist, Rec. = 1.6 ft	15	12.8	1.5	67.6	30.9
		A-4, SaSi, brn, Moist, Rec. = 2.0 ft, A very thin layer of clay was noticeable.	13	17.3	1.2	40.4	58.4
15		A-4, SiSa, gry, Wet, Rec. = 1.7 ft	13	19.1	0.2	58.7	41.1
		A-2-4, SiSa, gry, Wet, Rec. = 1.8 ft	26	18.3	0.5	65.1	34.4
		A-4, SaSi, gry, Wet, Rec. = 1.5 ft	8	20.9	0.0	30.7	69.3
20		A-4, SaSi, gry, Wet, Rec. = 1.6 ft	25	19.3	0.0	35.2	64.8
		A-4, SiSa, gry, Wet, Rec. = 1.6 ft	35	19.7	0.5	51.1	48.4
		Hole stopped @ 24.0 ft					
25							
30							
35							
40							
45							

LOG OF BORING SOUTH BURLINGTON-WINOOSKI IM SCRP(3).GPJ VT AOT.GDT 4/2/09

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

BORING NUMBER: B-107
SHEET 1 of 1
DATE STARTED: 3/18/09
DATE COMPLETED: 3/18/09

PROJECT NAME: SOUTH BURLINGTON-WINOOSKI
SITE NAME: I-89
STATION:
OFFSET:
VTSPG: N 719631.47 ft E 1462169.04 ft

PROJECT NUMBER: IM SCRP(3)
SITE NUMBER: CULVERT REPLACEMENT
GROUND ELEVATION:
GROUNDWATER DEPTH: None Taken
PROJECT PIN NUMBER: 07A104

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-4, Si, gry, Moist, Rec. = 1.8 ft	12	17.1	0.0	5.4	94.6	25	2
5		A-2-4, Sa, gry, Moist, Rec. = 1.5 ft	8	19.3	0.7	84.1	15.2		
		A-4, SiSa, gry, Moist, Rec. = 1.7 ft	18	17.6	0.7	51.2	48.1		
		A-4, SaSi, gry, Moist, Rec. = 1.7 ft	29	14.3	0.0	33.4	66.6		
10		A-4, SaSi, brn, Moist, Rec. = 1.8 ft	33	14.7	0.0	45.5	54.5		
		A-4, SaSi, gry, Moist, Rec. = 1.9 ft	32	17.3	0.0	35.2	64.8		
15		A-4, SaSi, gry, Moist, Rec. = 1.7 ft	11	15.9	0.0	20.7	79.3		
		A-2-4, SiSa, gry, Wet, Rec. = 1.9 ft	29	17.4	1.3	64.8	33.9		
		A-4, SiSa, brn, Moist, Rec. = 1.9 ft	34	16.5	0.0	51.4	48.6		
20		Hole stopped @ 20.0 ft							
25									
30									
35									
40									
45									

LOG OF BORING SOUTH BURLINGTON-WINOOSKI IM SCRP(3).GPJ VT AOT.GDT 4/2/09

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

BORING NUMBER: B-108
SHEET 1 of 1
DATE STARTED: 3/20/09
DATE COMPLETED: 3/20/09

PROJECT NAME: SOUTH BURLINGTON-WINOOSKI
SITE NAME: I-89
STATION:
OFFSET:
VTSPG: N 719677.84 ft E 1462124.29 ft

PROJECT NUMBER: IM SCRP(3)
SITE NUMBER: CULVERT REPLACEMENT
GROUND ELEVATION:
GROUNDWATER DEPTH: None Taken
PROJECT PIN NUMBER: 07A104

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
5							
		A-4, SiSa, brn, Moist, Rec. = 1.4 ft	15	12.6	3.1	53.7	43.2
		A-2-4, SiSa, brn, Moist, Rec. = 2.0 ft	33	12.1	1.7	68.4	29.9
10		A-4, SaSi, brn, Moist, Rec. = 2.0 ft	34	15.5	0.6	48.0	51.4
		A-2-4, SiSa, gry, Moist, Rec. = 2.0 ft	43	13.4	0.8	64.4	34.8
15		A-4, SiSa, gry, Moist, Rec. = 1.6 ft	23	17.4	0.0	64.0	36.0
		A-4, SiSa, gry, Wet, Rec. = 2.0 ft	17	19.2	0.1	61.9	38.0
		A-2-4, Sa, gry, Wet, Rec. = 1.9 ft	28	19.4	0.2	80.3	19.5
20		A-2-4, SiSa, gry, Wet, Rec. = 1.5 ft	16	20.5	1.8	72.4	25.8
		A-4, SiSa, gry, Wet, Rec. = 1.4 ft	7	25.3	0.5	56.4	43.1
		Hole stopped @ 24.0 ft					
25							
30							
35							
40							
45							

LOG OF BORING SOUTH BURLINGTON-WINOOSKI IM SCRP(3).GPJ VT AOT.GDT 4/2/09

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_frm.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
BORING LOGS 3

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B.KIPP
SHEET 68 OF 69

BORING LOGS

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

BORING NUMBER: B-109
SHEET 1 of 1
DATE STARTED: 3/17/09
DATE COMPLETED: 3/17/09

PROJECT NAME: SOUTH BURLINGTON-WINOOSKI
SITE NAME: I-89
STATION:
OFFSET:
VTSPG: N 719861.59 ft E 1462408.54 ft

PROJECT NUMBER: IM SCRP(3)
SITE NUMBER: CULVERT REPLACEMENT
GROUND ELEVATION:
GROUNDWATER DEPTH: Hole collapsed at 12.0 ft
PROJECT PIN NUMBER: 07A104

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
5									
		A-4, SaSi, gry, Moist, Rec. = 1.8 ft	27	12.6	1.0	41.0	58.0		
10		A-4, SaSi, gry, Moist, Rec. = 1.7 ft	23	12.1	0.8	49.1	50.1		
		A-4, SiSa, gry, Moist, Rec. = 2.0 ft	17	13.6	0.0	59.7	40.3		
15		A-4, SaSi, gry, Moist, Rec. = 1.9 ft	13	17.4	0.0	28.5	71.5		
		A-4, SaSi, gry, Moist, Rec. = 2.0 ft	19	17.4	0.0	42.7	57.3		
		A-4, SaSi, gry, Moist, Rec. = 1.7 ft	11	17.6	0.5	42.5	57.0		
20		A-4, ClSi, gry, Moist, Rec. = 2.0 ft	10	28.0	0.0	3.7	96.3	36	10
		A-4, ClSi, gry, Moist, Rec. = 1.7 ft	8	27.0	0.0	7.7	92.3	36	9
25		A-4, Si, gry, Moist, Rec. = 1.7 ft	11	25.2	0.0	4.6	95.4	31	3
		Hole stopped @ 26.0 ft							
30									
35									
40									
45									

LOG OF BORING SOUTH BURLINGTON-WINOOSKI IM SCRP(3).GPJ VT ADT.GDT 4/2/09

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

BORING NUMBER: B-110
SHEET 1 of 1
DATE STARTED: 3/19/09
DATE COMPLETED: 3/19/09

PROJECT NAME: SOUTH BURLINGTON-WINOOSKI
SITE NAME: I-89
STATION:
OFFSET:
VTSPG: N 719890.33 ft E 1462345.43 ft

PROJECT NUMBER: IM SCRP(3)
SITE NUMBER: CULVERT REPLACEMENT
GROUND ELEVATION:
GROUNDWATER DEPTH: None Taken
PROJECT PIN NUMBER: 07A104

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-2-4, SiSa, brn, Moist, Rec. = 1.4 ft	3	20.1	5.4	67.2	27.4		
		A-2-4, Sa, brn, Moist, Rec. = 1.5 ft	6	10.3	4.6	75.5	19.9		
5		A-2-4, Sa, brn, Moist, Rec. = 1.6 ft	4	11.7	3.6	78.1	18.3		
		A-4, SaSi, brn, Wet, Rec. = 1.2 ft	3	22.8	2.3	24.3	73.4	25	2
		A-4, Si, gry, Wet, Rec. = 1.9 ft	2	30.4	0.0	0.6	99.4	27	3
10		A-4, Si, gry, Wet, Rec. = 0.7 ft	2	28.3	0.0	2.3	97.7	25	1
		A-4, Si, gry, Wet, Rec. = 1.5 ft	3	27.9	0.0	1.0	99.0	28	2
		A-4, Si, gry, Wet, Rec. = 1.7 ft	1	28.7	0.0	0.6	99.4	27	1
15		Hole stopped @ 16.0 ft							
20									
25									
30									
35									
40									
45									

LOG OF BORING SOUTH BURLINGTON-WINOOSKI IM SCRP(3).GPJ VT ADT.GDT 4/2/09

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

BORING NUMBER: B-111
SHEET 1 of 1
DATE STARTED: 3/20/09
DATE COMPLETED: 3/20/09

PROJECT NAME: SOUTH BURLINGTON-WINOOSKI
SITE NAME: I-89
STATION:
OFFSET:
VTSPG: N 719955.31 ft E 1462255.23 ft

PROJECT NUMBER: IM SCRP(3)
SITE NUMBER: CULVERT REPLACEMENT
GROUND ELEVATION:
GROUNDWATER DEPTH: None Taken
PROJECT PIN NUMBER: 07A104

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-2-4, SiSa, brn, Moist, Rec. = 1.6 ft	3	8.3	2.8	75.2	22.0		
		A-2-4, Sa, brn, Moist, Rec. = 1.1 ft	2	11.6	4.1	76.3	19.6		
5		A-4, SiSa, brn, Wet, Rec. = 1.1 ft	3	24.3	0.9	59.1	40.0		
		A-4, Si, gry, Wet, Rec. = 1.5 ft	6	25.3	0.4	15.9	83.7		
		A-4, SaSi, gry, Wet, Rec. = 1.5 ft	3	29.7	0.0	34.9	65.1		
10		A-4, Si, gry, Wet, Rec. = 1.6 ft	WH	30.6	0.0	1.0	99.0		
		A-4, Si, gry, Wet, Rec. = 1.7 ft	3	29.1	0.0	0.6	99.4	26	2
		A-4, Si, gry, Wet, Rec. = 2.0 ft	3	29.6	0.0	0.8	99.2	27	2
15		Hole stopped @ 16.0 ft							
20									
25									
30									
35									
40									
45									

LOG OF BORING SOUTH BURLINGTON-WINOOSKI IM SCRP(3).GPJ VT ADT.GDT 4/2/09

PROJECT NAME: SOUTH BURLINGTON
PROJECT NUMBER: IM SCRP(3)

FILE NAME: d07a104_frm.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. KIPP/B. McADAMS
BORING LOGS 4

PLOT DATE: 13-JAN-2010
DRAWN BY: B. KIPP
CHECKED BY: B.KIPP
SHEET 69 OF 69