STATE OF VERMONT
AGENCY OF TRANSPORTATION

EARTHWORKS

Metric

STATION km + m	DIST m	TOTAL EXCAVATION EARTH AND ROCK AREA m²	TOTAL EXCAVATION EARTH AND ROCK VOLUME m³	ROCK EXCAVATION AREA m²	ROCK EXCAVATION VOLUME m³	EMBANKMENT AREA m²	EMBANKMENT VOLUME m³	AREA m²	VOLUME m³
VT 279 WB									
9+665		0				0			
	15		8				8		
9+680		1				1			
	20		20				20		
9+700		1				1			
	20		20				20		
9+720		1				1			
	20		20				20		
9+740		1				1			
	20		10				90	CUT	218
9+760		0				8		ROCK	140
	20						140	R.FAC	0.495
9+780						6		FILL	1718
	20						170	F.FAC	1.15
9+800						11		EX. F	-1688
	20						310		
9+820						20			
	20						430		
9+840		0		0		23			
	20		140		140		510		
9+860		14		14		28			
	20		1710		1710		460		
9+880		157		157		18			
	20		4110		4110		190		
9+900		254		254		1			
	20		4360		4360		40		
9+920		182		182		3			
	20		2820		2820		60		
9+940		100		100		3			
	20		1560		1560		30		
9+960		56		56		0		CUT	15160
	20		560		560		800	ROCK	15120
9+980		0		0		80		R.FAC	0.495
	20						1400	FILL	4490
10+000						60		F.FAC	1.15
	20						910	EX. C	17481
10+020						31			
	20						440		
10+040		0				13			
	20		40				160		
10+060		4				3			
	20		130				30		
10+080		9				0			
	20		240						
10+100		15							
	20		260						
10+120		11							
	20		170						
10+140		6							
	20		60						
10+160		0						CUT	860
	20							ROCK	0
10+180								R.FAC	0.495
	20							FILL	30
10+200								F.FAC	1.15
	20							EX. C	826
10+220									
	20								
10+240									
	20								
10+260		0							
	20		10						
10+280		1							
	20		90						
10+300		8							
	20		80						
10+320		0							
	20		0						
10+340									
	20								
10+360								CUT	300
	20							ROCK	90
10+380								R.FAC	0.495
	20							FILL	30
10+400								F.FAC	1.15
	20							EX. C	310
10+420		0		0		0			
	20		30		30		10		
10+440		3		3		1			
	20		90		60		20		
10+460		6		3		1			
	20		100		30		10		
10+480		4		0					
	20		50						
10+500		1							
	20		20						
10+520		1				0			
	20		20				40		
10+540		1				4			
	20		20				40		
10+560		1				0		CUT	1010
	20		20					ROCK	30
10+580		1						R.FAC	0.495
	20		130					FILL	90

STATION km + m	DIST m	TOTAL EXCAVATION EARTH AND ROCK AREA m²	TOTAL EXCAVATION EARTH AND ROCK VOLUME m³	ROCK EXCAVATION AREA m²	ROCK EXCAVATION VOLUME m³	EMBANKMENT AREA m²	EMBANKMENT VOLUME m³	AREA m²	VOLUME m³
10+600		12						F.FAC	1.15
	20		240					EX. C	921
10+620		12							
	20		220						
10+640		10							
	20		190						
10+660		9				0			
	20		160				10		
10+680		7				1			
	20		150				20		
10+700		8				1			
	20		150				20		
10+720		7				1			
	20		160				20		
10+740		9				1			
	20		160				20		
10+760		7				1			
	20		270				20		
10+780		20				1		CUT	2870
	20		260				20	ROCK	0
10+800		6				1		R.FAC	0.495
	20		180				30	FILL	200
10+820		12				2		F.FAC	1.15
	20		250				20	EX. C	2640
10+840		13				0			
	20		270				10		
10+860		14				1			
	20		300				10		
10+880		16				0			
	20		300						
10+900		14							
	20		260						
10+920		12							
	20		230						
10+940		11						CUT	488
	20		180					ROCK	0
10+960		7						R.FAC	0.495
	22		78					FILL	0
10+982		0						F.FAC	1.15
								EX. C	488
VT 279 EB									
9+612		0							
	8		0						
9+620		0				0			
	20		0				30		
9+640		0				3			
	20		0				60		
9+660		0				3			
	20		10				50		
9+680		1				2			
	20		10				50	CUT	30
9+700		0				3		ROCK	0
	20		0				50	R.FAC	0.495
9+720		0				2		FILL	460
	20						40	F.FAC	1.15
9+740		0				2		EX. F	-499
	20						60		
9+760		0				4			
	20						70		
9+780		0				3			
	20		10				50		
9+800		1				2			
	20		40				40		
9+820		3				2			
	20		60				40		
9+840		3				2			
	20		80				30		
9+860		5				1			
	20		230				10		
9+880		18				0			
	20		390				0		
9+900		21				0		CUT	1500
	20		270				0	ROCK	0
9+920		6				0		R.FAC	0.495
	20		120				0	FILL	490
9+940		6				0		F.FAC	1.15
	20		130				0	EX. C	937
9+960		7				0			
	20		110				110		
9+980		4				11			
	20		70				260		
10+000		3				15			
	20		50				410		
10+020		2				26			
	20		30				560		
10+040		1				30			
	20		20				610		
10+060		1				31			
	20		20				580		

STATION km + m	DIST m	TOTAL EXCAVATION EARTH AND ROCK AREA m²	TOTAL EXCAVATION EARTH AND ROCK VOLUME m³	ROCK EXCAVATION AREA m²	ROCK EXCAVATION VOLUME m³	EMBANKMENT AREA m²	EMBANKMENT VOLUME m³	AREA m²	VOLUME m³
10+080		1				27			
	20		20				440		
10+100		1				17		CUT	1340
	20		40				250	ROCK	0
10+120		3				8		R.FAC	0.495
	20		170				120	FILL	3170
10+140		14				4		F.FAC	1.15
	20		290				80	EX. F	-2306
10+160		15				4			
	20		350				70		
10+180		20				3			
	20		350				50		
10+200		15				2			
	20		270				50		
10+220		12				3			
	20		140				150		
10+240		2				12			
	20		40				190		
10+260		2				7			
	20		330				70		
10+280		31				0			
	20		610						
10+300		30						CUT	3050
	20		520					ROCK	0
10+320		22						R.FAC	0.495
	20		360					FILL	460
10+340		14						F.FAC	1.15
	20		300					EX. C	2521
10+360		16							
	20		280						
10+380		12							
	20		200						
10+400		8							
	20		130						
10+420		5							
	20		130						
10+440		8							
	20		200						
10+460		12							
	20		260						
10+480		14							
	20		200						
10+500		6				0		CUT	1560
	20		70				10	ROCK	0
10+520		1				1		R.FAC	0.495
	20		20				30	FILL	120
10+540		1				2		F.FAC	1.15
	20		150				50	EX. C	1422
10+560		14				3			
	20		220				30		
10+580		8				0			
	20		180						
10+600		10							
	20		240						
10+620		14							
	20		310						
10+640		17							
	20		340						
10+660		17							
	20		310						
10+680		14							
	20		290						
10+700		15						CUT	2370
	20		300					ROCK	0
10+720		15				0		R.FAC	0.495
	20		250				0	FILL	110
10+740		10				0		F.FAC	1.15
	20		160				20	EX. C	2244
10+760		6				2			
	20		100				40		
10+780		4				2			
	20		70				50		
10+800		3				3			
	20		50				70		
10+820		2				4			
	20		40				100		
10+840		2				6			
	20		40				150		
10+860		2				9			
	20		80				190		
10+880		6				10			
	20		130				180		
10+900		7				8		CUT	1146
	20		170				130	ROCK	0
10+920		10				5		R.FAC	0.495
	20		200				50	FILL	870
10+940		10				0		F.FAC	1.15
	20		190					EX. C	146
10+960		9							
	20		150						
10+980		6							
	16		96						
10+996		6							

SUMMARY AND BALANCES

STATION TO STATION km + m	km + m	TOT EXC. EARTH & ROCK m³	ROCK EXCAV m³	EMBANK m³	EXCESSES CUT	EXCESSES FILL	ACUMULATIVE EXCESSES CUT	ACUMULATIVE EXCESSES FILL
VT 279 WB								
9+660	9+860	218	140	1718		-1688		-1688
9+860	10+060	15,160	15.120	4,490	17481		15,793	
10+060	10+260	860	0	30	826		16,619	
10+260	10+460	300	90	30	310		16,929	
10+460	10+660	1,010	30	90	921		17,850	
10+660	10+920	2,870	0	200	2,640		20,490	
10+920	10+920	488	0	0	488		20,978	
VT 279 EB								
9+600	9+800	30	0	460		-499	20,479	
9+800	10+000	1,500	0	490	937		21,416	
10+000	10+200	1,340	0	3,170		-2,306	19,110	
10+200	10+400	3,050	0	460	2,521		21,631	
10+400	10+600	1,560	0	120	1,422		23,053	
10+600	10+800	2,370	0	110	2,244		25,297	
10+800	10+980	1,146	0	870	146		25443	
ESS-01 TOTALS		31,902	15,380	12,238				

REMARKS

EARTH AND ROCK EXCAVATION	125761
SOLID ROCK EXCAVATION	20856
EARTH EXCAVATION	104905
PLANIMETERED FILL	116183
LESS FACTORED SOLID ROCK (20856 x 1.30)	27113
LESS DISPLACEMENT OF ANY LARGE STRUCTURES	0
NET PLANIMETERED FILL	89070
FACTOR (0.15)	13361
PLANIMETERED FILL INCLUDING FACTOR	102431
MATERIALS AVAILABLE FOR FILLS	
EARTH EXCAVATION	104905
TRENCH EXCAVATION OF EARTH (10216 x 0.40)	4086
TRENCH EXCAVATION OF ROCK (1317 x 1.3)	1712
UNDERDRAIN EXCAVATION	2755
STRUCTURE EXCAVATION	12
TOTAL MATERIAL AVAILABLE FOR FILL	113470
TOTAL FILL INCLUDING FACTOR	102431
TOTAL MATERIAL FOR FILL	113470
BORROW	0
EXCESS EXCAVATION	11039
BALANCE INCLUDES OPTIONAL WASTE AREA	

C + 0.495R - 1.15 F

C = QUANTITY OF EARTH EXCAVATION

R = QUANTITY OF ROCK EXCAVATION

F = QUANTITY OF FILL EXCAVATION

Stantec

PROJECT NAME: BENNINGTON
PROJECT NUMBER: NH 019-1(54)

FILE NAME: ...\zd307c4det_earthworks.ptf
DESIGN SUPERVISOR: GREG EDWARDS
DESIGNED BY: MARC FOISY
EARTHWORKS SUMMARY SHEET ESS-01

PLOT DATE: 3/16/2010
DRAWN BY: STANTEC
CHECKED BY: GARY SANTY
SHEET 23 OF 468

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