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
US 7									
16+418	Begin Apor	1.00		1.67		0.00			
	8		5.9		13.4		0.0		
16+426		0.47		1.67		0.00			
	8		6.0		13.4		0.0		
16+434		1.02		1.67		0.00			
	26		336.4		43.4		0.0		
16+460	Begin Proj	24.86		1.67		0.00			
	20		509.7		33.4		0.0		
16+480		26.11		1.67		0.00			
	20		445.5		33.4		0.0		
16+500		18.44		1.67		0.00			
	20		388.1		33.4		0.6		
16+520		20.37		1.67		0.06			
	20		402.4		33.4		32.5		
16+540		19.87		1.67		3.19			
	20		414.8		33.4		33.1		
16+560		21.61		1.67		0.12			
	20		413.4		33.4		1.2		
16+580		19.73		1.67		0.00			
	20		420.1		33.4		0.0		
16+600		22.28		1.67		0.00			
	20		441.5		33.4		0.0		
16+620		21.87		1.67		0.00			
	20		401.2		33.4		0.0		
16+640		18.25		1.67		0.00			
	20		426.1		33.4		2.3		
16+660		24.36		1.67		0.23			
	20		519.4		33.4		2.6		
16+680		27.58		1.67		0.03			
	20		544.9		33.4		0.7		
16+700		26.91		1.67		0.04			
	20		591.6		33.4		0.7		
16+720		32.25		1.67		0.03			
	20		677.4		33.4		0.3		
16+740		35.49		1.67		0.00			
	20		614.9		33.4		4.6		
16+760		26.00		1.67		0.46			
	20		492.9		33.4		9.9		
16+780		23.29		1.67		0.53			
	20		566.2		33.4		16.6		
16+800		33.33		1.67		1.13			
	20		627.5		33.4		11.6		
16+820		29.42		1.67		0.03			
	20		581.1		33.4		0.3		
16+840		28.69		1.67		0.00		CUT	18288.8
	20		546.1		33.4		0.4	ROCK	1473.0
16+860		25.92		1.67		0.04		R.FAC	0.495
	20		560.9		33.4		0.7	FILL	1247.9
16+880		30.17		1.67		0.03		F.FAC	1.15
	20		519.8		33.4		64.4	EX. C	17582.9
16+900		21.81		1.67		6.41			
	20		407.9		33.4		95.4		
16+920		18.98		1.67		3.13			
	20		361.5		33.4		44.5		
16+940		17.17		1.67		1.32			
	20		335.2		33.4		50.8		
16+960		16.35		1.67		3.76			
	20		312.4		33.4		52.4		
16+980		14.89		1.67		1.48			
	20		294.5		33.4		45.9		
17+000		14.56		1.67		3.11			
	20		321.8		33.4		129.7		
17+020		17.62		1.67		9.86			
	20		351.8		33.4		150.9		
17+040		17.56		1.67		5.23			
	20		339.0		33.4		64.4		
17+060		16.34		1.67		1.21			
	20		350.3		33.4		12.1		
17+080		18.69		1.67		0.00			
	20		388.9		33.4		0.0		
17+100		20.20		1.67		0.00			
	20		382.4		33.4		0.0		
17+120		18.04		1.67		0.00			
	20		344.4		33.4		1.1		
17+140		16.40		1.67		0.11			
	20		312.4		33.4		8.7		
17+160		14.84		1.67		0.76			
	20		279.3		33.4		14.5		
17+180		13.09		1.67		0.69			
	20		276.3		33.4		36.9		
17+200		14.54		1.67		3.00			
	20		255.6		33.4		66.5		
17+220		11.02		1.67		3.65			
	20		222.8		33.4		62.4		
17+240		11.26		1.67		2.59			
	20		249.4		33.4		34.3		
17+260		13.68		1.67		0.84			
	20		355.7		33.4		8.7		
17+280		21.89		1.67		0.03			
	20		422.7		33.4		1.4		
17+300		20.38		1.67		0.11			
			18018.1		1473.0		1063.1		

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
US 7									
17+300		20.38		1.67		0.11			
	20		383.0		33.4		1.1		
17+320		17.92		1.67		0.00			
	20		337.8		33.4		7.0		
17+340		15.86		1.67		0.70			
	20		319.3		33.4		7.3		
17+360		16.07		1.67		0.03			
	20		318.1		33.4		5.1		
17+380		15.74		1.67		0.48			
	20		311.2		33.4		12.5		
17+400		15.38		1.67		0.77			
	20		325.5		33.4		7.9		
17+420		17.17		1.67		0.02			
	20		327.1		33.4		3.2		
17+440		15.54		1.67		0.30			
	20		319.4		33.4		7.0		
17+460		16.40		1.67		0.40			
	20		343.1		33.4		5.8		
17+480		17.91		1.67		0.18			
	20		397.7		33.4		1.8		
17+500		21.86		1.67		0.00			
	20		426.0		33.4		0.0		
17+520		20.74		1.67		0.00			
	20		414.0		33.4		0.0		
17+540		20.66		1.67		0.00			
	20		372.2		33.4		0.0		
17+560		16.56		1.67		0.00			
	20		310.7		33.4		1.0		
17+580		14.51		1.67		0.10			
	20		279.8		33.4		1.5		
17+600		13.47		1.67		0.05			
	20		259.3		33.4		1.8		
17+620		12.46		1.67		0.13			
	20		250.9		33.4		4.9		
17+640		12.63		1.67		0.36			
	20		259.6		33.4		5.8		
17+660		13.33		1.67		0.22			
	20		273.6		33.4		4.2		
17+680		14.03		1.67		0.20			
	20		336.3		33.4		2.0		
17+700		19.60		1.67		0.00			
	20		398.1		33.4		0.0		
17+720		20.21		1.67		0.00			
	20		382.5		33.4		0.2		
17+740		18.04		1.67		0.02		CUT	16606.8
	20		364.9		33.4		0.3	ROCK	1503.0
17+760		18.45		1.67		0.01		R.FAC	0.495
	20		369.8		33.4		0.1	FILL	102.7
17+780		18.53		1.67		0.00		F.FAC	1.15
	20		382.3		33.4		3.2	EX. C	17232.7
17+800		19.70		1.67		0.32			
	20		391.2		33.4		5.0		
17+820		19.42		1.67		0.18			
	20		347.2		33.4		2.1		
17+840		15.30		1.67		0.03			
	20		335.5		33.4		0.5		
17+860		18.25		1.67		0.02			
	20		378.5		33.4		0.7		
17+880		19.60		1.67		0.05			
	20		414.9		33.4		0.7		
17+900		21.89		1.67		0.02			
	20		450.8		33.4		0.2		
17+920		23.19		1.67		0.00			
	20		450.8		33.4		0.0		
17+940		21.89		1.67		0.00			
	20		438.1		33.4		0.0		
17+960		21.92		1.67		0.00			
	20		459.2		33.4		0.0		
17+980		24.00		1.67		0.00			
	20		487.0		33.4		0.0		
18+000		24.70		1.67		0.00			
	20		472.5		33.4		0.0		
18+020		22.55		1.67		0.00			
	20		414.5		33.4		0.0		
18+040		18.90		1.67		0.00			
	20		372.3		33.4		0.0		
18+060		18.33		1.67		0.00			
	20		359.8		33.4		0.0		
18+080		17.65		1.67		0.00			
	20		354.4		33.4		2.8		
18+100		17.79		1.67		0.28			
	20		358.3		33.4		4.9		
18+120		18.04		1.67		0.21			
	20		373.2		33.4		2.1		
18+140		19.28		1.67		0.00			
	20		420.4		33.4		0.0		
18+160		22.76		1.67		0.00			
	20		439.5		33.4		0.0		
18+180		21.19		1.67		0.00			
	20		426.5		33.4		0.0		
18+200		21.46		1.67		0.00			
			16606.8		1503.0		102.7		

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
US 7									
18+200		21.46		1.67		0.00			
	20		442.6		33.4		0.1		
18+220		22.80		1.67		0.01			
	20		503.8		33.4		0.4		
18+240		27.58		1.67		0.03			
	20		544.1		33.4		0.4		
18+260		26.83		1.67		0.01			
	20		499.9		33.4		1.4		
18+280		23.16		1.67		0.13			
	20		481.3		33.4		1.3		
18+300		24.97		1.67		0.00			
	20		498.0		33.4		3.2		
18+320		24.83		1.67		0.32			
	20		494.2		33.4		3.2		
18+340		24.59		1.67		0.00			
	20		552.9		33.4		0.0		
18+360		30.70		1.67		0.00			
	20		669.3		33.4		0.0		
18+380		36.23		1.67		0.00			
	20		705.1		33.4		0.0		
18+400		34.28		1.67		0.00			
	20		608.2		33.4		0.0		
18+420		26.54		1.67		0.00			
	20		458.8		33.4		98.5		
18+440		19.34		1.67		9.85			
	20		445.3		33.4		107.5		
18+460		25.19		1.67		0.90			
	20		480.8		33.4		9.5		
18+480		22.89		1.67		0.05			
	20		458.9		33.4		0.5		
18+500		23.00		1.67		0.00			
	20		407.0		33.4		0.0		
18+520		17.70		1.67		0.00			
	20		437.0		33.4		1.0		
18+540		26.00		1.67		0.10			
	20		453.6		33.4		5.8		
18+560		19.36		1.67		0.48			
	20		367.6		33.4		10.8		
18+580		17.40		1.67		0.60			
	20		508.1		33.4		7.0		
18+600		33.41		1.67		0.10			
	20		713.4		33.4		1.0		
18+620		37.93		1.67		0.00			
	20		813.6		33.4		1.2		
18+640		43.43		1.67		0.12			
	20		884.4		33.4		1.6	CUT	16876.3
18+660		45.01		1.67		0.04		ROCK	1018.7
	20		679.4		33.4		0.4	R.FAC	0.5
18+680		22.93		1.67		0.00		FILL	290.80
	20		585.6		33.4		1.4	F.FAC	1.2
18+700		33.63		1.67		0.14		EX. C	17046.1
	20		595.6		33.4		2.3		
18+720		25.93		1.67		0.09			
	20		466.9		33.4		2.3		
18+740		20.76		1.67		0.14			
	20		379.8		33.4		5.3		
18+760		17.22		1.67		0.39			
	20		385.4		33.4		3.9		
18+780		21.32		1.67		0.00			
	20		404.2		33.4		10.4		
18+800		19.10		1.67		1.04			
	20		414.5		16.7		10.4		
18+820		22.35		0.00		0.00			
	20		348.8		0.0		0.0		
18+840		12.53		0.00		0.00			
	20		146.8		0.0		0.0		
18+860	Stop Full Depth	2.15		0.00		0.00			
	20		38.6		0.0		0.0		
18+880		1.71		0.00		0.00			
	20		22.8		0.0		0.0		
18+900		0.57		0.00		0.00			
			16876.3		1018.7		290.8		

SUMMARY AND BALANCES

STATION km + m	TO STATION km + m	TOT EXC EARTH & ROCK m³	ROCK EXCAV m³	EMBANK m³	EXCESSES CUT	EXCESSES FILL	ACUMULATIVE EXCESSES CUT	ACUMULATIVE EXCESSES FILL
US 7								
16+418	17+300	18289	1473	1248	17583		17583	
17+300	18+200	16607	1503	103	17233		34816	
18+200	18+900	16876	1019	291	17046		51862	
US 7								
19+200	20+080	20148	3489	1978	19600		71462	
20+080	20+820	22729	10964	768	27274		98736	
McConnell								
1+000	1+068	395	0	3	392		99128	
Nickerson								
2+000	2+048	162	162	0	1		99129	
Drives		1426	94	2	1470		100599	
TOTAL		96633	18705	4393	100599			

Rock Excavation Incl. Concrete 18' Wide By 8" Deep
Assume 4" Bituminous Concrete Pavement Above Concrete

REMARKS

EARTH AND ROCK EXCAVATION	96633
SOLID ROCK EXCAVATION	18705
EARTH EXCAVATION	77928
PLANIMETERED FILL	4393
LESS FACTORED SOLID ROCK	0
LESS DISPLACEMENT OF ANY LARGE STRUCTURES	0
NET PLANIMETERED FILL	4393
FACTOR	659
PLANIMETERED FILL INCLUDING FACTOR	5052
MATERIALS AVAILABLE FOR FILLS	
EARTH EXCAVATION	77928
CHANNEL EXCAVATION	8
STRUCTURE EXCAVATION	131
TRENCH EXCAVATION, EARTH	10371
TEMPORARY TRAFFIC CONTROL	20212
TOTAL MATERIAL AVAILABLE FOR FILL	
TOTAL FILL INCLUDING FACTOR	5052
TOTAL MATERIAL FOR FILL	108650
BORROW	
EXCESS EXCAVATION	128573
(since F<1.3R; CASE II Criteria)	

PROJECT NAME: BRANDON
PROJECT NUMBER: NH 019-3(495)

FILE NAME: zb008_5Earth.xls
PROJECT LEADER: CRB
DESIGNED BY: PTS
EARTHWORK SHEET #1

PLOT DATE: 9/2/2009
DRAWN BY: BTW
CHECKED BY: PTS
SHEET 19 OF 546

zb008s5-earth01.dgn