

PAVEMENT AND ROADWAY CALCULATIONS

PAVEMENT CALCULATIONS BASED ON A LENGTH OF 1450'

ITEM 203 EMBANKMENT

2.00 SQ. FT. AVG. END AREA X 212' ÷ 27 = 16 SQ. YD.
2.50 SQ. FT. AVG. END AREA X 1074' ÷ 27 = 99 SQ. YD.
USE 115 SQ. YD.

ITEM 203 EXCAVATION

1.40 SQ. FT. AVG. END AREA X (212' + 1074') ÷ 27 = 67 SQ. YD.

ITEM 441 - 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), AS PER PLAN PG70-22M

6.00' AVG. WIDTH X 1450' X 1.25" ÷ 12 ÷ 27 = 34 CU. YD.
29058 SQ. FT. (CADD MEASURED) X 1.25" ÷ 12 ÷ 27 = 112 CU. YD.
USE 146 CU. YD.

ITEM 441 - 1/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)

6.00' AVG. WIDTH X 1450' X 1.75" ÷ 12 ÷ 27 = 47 CU. YD.

ITEM 301 - 9" ASPHALT CONCRETE BASE, PG64-22 (449)

6.33' AVG. WIDTH X 1450' X 9" ÷ 12 ÷ 27 = 255 CU. YD.

ITEM 304 - AGGREGATE BASE

7.08' AVG. WIDTH X 1450' X 6" ÷ 12 ÷ 27 = 190 CU. YD.
1.67' AVG. WIDTH X 1450' X 5" ÷ 12 ÷ 27 = 37 CU. YD.
2.00' AVG. WIDTH X 1450' X 3" ÷ 12 ÷ 27 = 27 CU. YD.
USE 254 CU. YD.

ITEM 407 - TACK COAT

6.00' AVG. WIDTH X 1450' X 0.055 GAL./SQ. YD. ÷ 9 = 53 GAL.
2 X 6.33' AVG. WIDTH X 1450' X 0.055 GAL./SQ. YD. ÷ 9 = 112 GAL.
29058 SQ. FT. (CADD MEASURED) X 0.055 GAL./SQ. YD. ÷ 9 = 178 GAL.
USE 343 GAL.

ITEM 204 - SUBGRADE COMPACTION

7.50' AVG. WIDTH X 1450' ÷ 9 = 1208 SQ. YD.

ITEM 202 - PAVEMENT REMOVED

6.00' AVG. WIDTH X 1450' ÷ 9 = 967 SQ. YD.

ITEM 202 - GUARDRAIL REMOVED

USE 1452 FT.

ITEM 606 - GUARDRAIL, TYPE MGS WITH HALF POST SPACING, AS PER PLAN

USE 1425 FT.

ITEM 646 - EDGE LINE, 6"

2 X 1525' ÷ 5280 = 0.58 MILE

ITEM 646 - CENTER LINE (DOUBLE SOLID)

1525' ÷ 5280 = 0.29 MILE

ITEM 254 - PAVEMENT PLANNING, ASPHALT CONCRETE (T = 1/4")

29058 SQ. FT. (CADD MEASURED) ÷ 9 = 3229 SQ. YD.

ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND REERECTION

USE 9 EACH

ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL

USE 5 EACH

ITEM 630 - GROUND MOUNTED SUPPORT, NO. 3 POST

14' X 5 = 70 FT.

ITEM 621 - RPM

1452' ÷ 40 = 37 EACH

ITEM 621 - RAISED PAVEMENT MARKER REMOVED

1452' ÷ 40 = 37 EACH

ITEM 626 - BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)

1420' ÷ 100 = 15 EACH

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE A

USE 1 EACH

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

USE 1 EACH

ITEM 408 - PRIME COAT, AS PER PLAN

2.00' AVG. WIDTH X 1450' 0.40 GAL./SQ. YD. ÷ 9 = 129 GAL.

WALL 1 CALCULATIONS

WALL 1 QUANTITIES BASED ON A TOTAL WALL LENGTH OF 223' (C/C SHAFTS)

ITEM 507, STEEL PILES, MISC.: W14X38 STEEL BEAMS, FURNISHED

USE 2320 FT.

ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN

USE 1644 FT.

ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, INTO BEDROCK, AS PER PLAN

USE 464 FT.

ITEM 524 - DRILLED SHAFTS MISC.: PLUG PILE, 24" DIAMETER, UNREINFORCED

8' LENGTH X 57 PLUGS = 456 FT.

ITEM 605 - 4" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC

USE 225 FT.

ITEM 611 - 4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET

USE 10 FT.

ITEM 611 - PRECAST REINFORCED CONCRETE OUTLET, AS PER PLAN

USE 1

WALL 2 CALCULATIONS

WALL 2 QUANTITIES BASED ON A TOTAL WALL LENGTH OF 1074.67' (C/C SHAFTS)

ITEM 507, STEEL PILES, MISC.: W14X38 STEEL BEAMS, FURNISHED

USE 8095 FT.

ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN

USE 5080 FT.

ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, INTO BEDROCK, AS PER PLAN

USE 2304 FT.

ITEM 524 - DRILLED SHAFTS MISC.: PLUG PILE, 24" DIAMETER, UNREINFORCED

8' LENGTH X 284 PLUGS = 2272 FT.

ITEM 605 - 4" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC

USE 1075 FT.

ITEM 611 - 4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET

USE 30 FT.

ITEM 611 - PRECAST REINFORCED CONCRETE OUTLET, AS PER PLAN

USE 3

ALL TOTALS ARE CARRIED TO THE GENERAL SUMMARY

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ESTIMATED QUANTITIES

HAS-151-24.96

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SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	5	6	9	01/STR/OT	EXT	TOTAL										
											ROADWAY						
					LS	201	11000	LS		CLEARING AND GRUBBING							
						967	967	202	23000	967	SY	PAVEMENT REMOVED					
						1,452	1,452	202	38000	1,452	FT	GUARDRAIL REMOVED					
			10			10	202	98100	10	EACH	REMOVAL MISC.: PILING REMOVED	4					
						67	67	203	10000	67	CY	EXCAVATION					
						115	115	203	20000	115	CY	EMBANKMENT					
						1,208	1,208	204	10000	1,208	SY	SUBGRADE COMPACTION					
						1,425	1,425	606	15151	1,425	FT	GUARDRAIL, TYPE MGS HALF POST SPACING, AS PER PLAN	3				
						1	1	606	25550	1	EACH	ANCHOR ASSEMBLY, MGS TYPE A					
						1	1	606	26150	1	EACH	ANCHOR ASSEMBLY, MGS TYPE E (NCHRP 350 OR MASH 2016)					
											EROSION CONTROL						
					1,611	659	10001	1,611	SY	SEEDING AND MULCHING, AS PER PLAN	3						
						1,000	832	30000	1,000	EACH	EROSION CONTROL						
											PAVEMENT						
						3,229	3,229	254	01000	3,229	SY	PAVEMENT PLANING, ASPHALT CONCRETE (T=1 1/4")					
						255	255	301	56000	255	CY	ASPHALT CONCRETE BASE, PG64-22.(449)					
						254	254	304	20000	254	CY	AGGREGATE BASE					
						343	343	407	10000	343	GAL	TACK COAT					
						129	129	408	10001	129	GAL	PRIME COAT, AS PER PLAN	3				
						146	146	441	70101	146	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), AS PER PLAN (PG70-22M)	3				
						47	47	441	70300	47	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)					
											TRAFFIC CONTROL						
						37	37	621	00100	37	EACH	RPM					
						37	37	621	54000	37	EACH	RAISED PAVEMENT MARKER REMOVED					
						15	15	626	00110	15	EACH	BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)					
						70	70	630	03100	70	FT	GROUND MOUNTED SUPPORT, NO. 3 POST					
						9	9	630	85100	9	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION					
						5	5	630	86002	5	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL					
						0.58	0.58	646	10010	0.58	MILE	EDGE LINE, 6"					
						0.29	0.29	646	10200	0.29	MILE	CENTER LINE					
											RETAINING WALLS						
						10,415	10,415	507	00400	10,415	FT	STEEL PILES, MISC.: W14X38 STEEL BEAMS, FURNISHED	4				
						6,724	6,724	524	94503	6,724	FT	DRILLED SHAFTS, 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN	4				
						2,768	2,768	524	94505	2,768	FT	DRILLED SHAFTS, 24" DIAMETER, INTO BEDROCK, AS PER PLAN	4				
						2,728	2,728	524	95000	2,728	FT	DRILLED SHAFTS, MISC.: PLUG PILE, 24" DIAMETER, UNREINFORCED	4				
						1,300	1,300	605	06020	1,300	FT	4" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC					
						40	40	611	00410	40	FT	4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET					
						4	4	611	99711	4	EACH	PRECAST REINFORCED CONCRETE OUTLET, AS PER PLAN	4				
					80	80	SPECIAL	69098600	80	HOUR	DRILLING THROUGH OBSTRUCTIONS	4					
											MAINTENANCE OF TRAFFIC						
						10	10	410	12000	10	CY	TRAFFIC COMPACTED SURFACE, TYPE A OR B					
						10	10	410	13000	10	CY	TRAFFIC COMPACTED SURFACE, TYPE C					
						4	4	614	12384	4	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL)					
						10	10	614	13000	10	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC					
						34	34	614	13310	34	EACH	BARRIER REFLECTOR, TYPE 1, BIDIRECTIONAL					
						34	34	614	13360	34	EACH	OBJECT MARKER, TWO WAY					
						0.29	0.29	614	21550	0.29	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT					
						0.40	0.40	614	22210	0.40	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I					
						0.58	0.58	614	22360	0.58	MILE	WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT					
						60	60	614	26400	60	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I					
						LS	615	10000	LS		ROADS FOR MAINTAINING TRAFFIC						
						502	502	615	20001	502	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	5				
						5	5	616	10000	5	MGAL	WATER					
						1,630	1,630	622	41100	1,630	FT	PORTABLE BARRIER, UNANCHORED					
											INCIDENTALS						
					LS	LS	614	11000	LS		MAINTAINING TRAFFIC						
						LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING						
						LS	624	10000	LS		MOBILIZATION						

GENERAL SUMMARY

HAS-151-24.96

CALCULATED	JUL
CHECKED	TWG