

# CALCULATIONS

### Item 203 - Excavation Not Including Embankment Construction (for Paved Shoulders)

See Item 301 - 6" Bituminous Aggregate Base Sta 202+34 to Sta 210+15, Sta 252+32.07 to Sta 341+85	=	2,667 CY
See Item 301 - 9" Bituminous Aggregate Base Sta 210+15 to Sta 223+21.23, Sta 227+80.03 to Sta 236+77.99	=	979 CY
SUBTOTAL	=	3,646 CY
TOTAL	=	3,646 CY
Willoughby =		754 CY
Eastlake =		2,892 CY

### Item 254 - Pavement Planing, Bituminous

See Item 301 - 2-1/1" Bituminous Aggregate Base, Sta 202+08.09 to Sta 236+77.99	=	163,112 SF
See Item 446 - 1-1/4" Asphalt Concrete Surface Course, Sta 238+48.35 to Sta 246+75	=	44,806 SF
See Item 448 - 1" Asphalt Concrete Intermediate Course, Sta 252+32.07 to Sta 341+85	=	511,515 SF
SUBTOTAL	=	719,433 SF
TOTAL	=	(719,433 X 1/9) 79,937 SY
Willoughby =		12,240 SY
Eastlake =		67,697 SY

### Item 301 - Bituminous Aggregate Base, AC 20 (9")

Sta 210+15 to 223+21.23 (1,306 x 16)	=	20,896 SF
Sta 227+80.03 to 236+77.99 (898 x 16)	=	14,368 SF
SUBTOTAL	=	35,264 SF
TOTAL	=	35,264 X $\frac{9}{12} \times \frac{1}{27}$ 979 CY
Willoughby =		580 CY
Eastlake =		399 CY

### Item 301 - Bituminous Aggregate Base, AC-20 (6")

Sta 202+34 to 202+94 1/2 (8 x 60)	=	240 SF
Sta 202+94 to 206+00 (8 x 306)	=	2,448 SF
Sta 206+00 to 210+15 (415 x 16)	=	6,640 SF
Sta 243+75 to 252+32.07, LT @ aggregate drains	=	336 SF
Sta 244+25 to 252+32.07, RT @ aggregate drains	=	320 SF
Sta 252+32.07 to 265+33 (1301 x 16)	=	20,816 SF
Sta 266+98 to 289+14 (2,216 x 16)	=	35,456 SF
Sta 290+06 to 310+63 (2,057 x 16)	=	32,912 SF
Sta 311+55 to 317+69 (614 x 16)	=	9,824 SF
Sta 318+61 to 326+48 (787 x 16)	=	12,592 SF
Sta 327+41 to 341+85 (1,444 x 16)	=	23,104 SF
SUBTOTAL	=	144,688 SF
TOTAL	=	144,688 x $\frac{6}{12} \times \frac{1}{27}$ 2,679 CY
Willoughby =		173 CY
Eastlake =		2,506 CY

### Item 301 - Bituminous Aggregate Base, AC-20 (2-1/2")

Sta 202+08.09 to 202+34	(55.1 x 6) + $\frac{(55.1+57.1)}{2} \times 20$	=	1,453 SF
Sta 202+34 to 202+94	$\frac{(55.1+63.1)}{2} \times 60$	=	3,546 SF
Sta 202+94 to 203+40	(63.1 x 46)	=	2,903 SF
Sta 203+40 to 203+75	$\frac{(63.1+57.72)}{2} \times 35$	=	2,114 SF
Sta 203+75 to 204+40	$\frac{(44.20+57.72)}{2} \times 65$	=	3,312 SF
Sta 204+40 to 206+15	$\frac{(33+44.20)}{2} \times 175$	=	6,755 SF
Sta 202+08.09 to 202+36.09	$\frac{(28+30)}{2} \times 28$	=	812 SF
Sta 202+36.09 to 206+15	(379 x 25)	=	9,475 SF
Sta 206+15 to 223+46.83	(1732 x 50)	=	86,592 SF
Sta 227+55.03 to 236+77.99	(923 x 50)	=	46,150 SF
SUBTOTAL	=	163,112 SF	
TOTAL	=	163,112 X $\frac{2.5}{12} \times \frac{1}{27}$ 1,259 CY	
Willoughby =		850 CY	
Eastlake =		408 CY	

### Item 301 - Bituminous Aggregate Base, AC-20 (Combined Totals)

TOTAL	=	2,679 + 979 + 1,259 4,917 CY
Willoughby =		1,603 CY
Eastlake =		3,314 CY

### Item 403 - Asphalt Concrete, Leveling Course (01/2")

See Item 301 - 2-1/2" Bituminous Aggregate Base, Sta 202+08.09 to Sta 236+77.99	=	163,112 SF
SUBTOTAL	=	163,112 SF
TOTAL	=	(163,112 x $\frac{0.5}{12} \times \frac{1}{27}$ ) 252 CY
Willoughby =		170 CY
Eastlake =		82 CY

### Item 407 - Tack Coat (0.1 gal/SY)

See Item 301 - 2-1/2" Bituminous Aggregate Base, Sta 202+08.09 to Sta 236+77.99	=	163,112 SF
See Item 446 - Asphalt Concrete Surface Course, Sta 238+48.35 to Sta 246+75	=	44,806 SF
See Item 448 - 1-3/4" Asphalt Concrete Intermediate Course, Sta 246+75 to 252+32.07	=	47,732 SF
See Item 448 - 1" Asphalt Concrete Intermediate Course, Sta 252+32.07 to 341+85	=	511,515 SF
SUBTOTAL	=	767,165 SF
TOTAL	=	(767,165 x $\frac{1}{9}$ x 0.1 gal/SY) 8,524 GAL
Willoughby =		1,224 Gal
Eastlake =		7,300 Gal

### Item 408 - Bituminous Prime Coat (0.4 gal/SY)

See Item 301 - 6" Bituminous Aggregate Base, Sta 202+34 to Sta 341+85	=	144,688 SF
See Item 301 - 9" Bituminous Aggregate Base, Sta 210+15 to 236+77.99	=	35,264 SF
SUBTOTAL	=	179,952 SF
TOTAL	=	(179,952 x $\frac{1}{9}$ x 0.4 gal/SY) 8,000 GAL
Willoughby =		1,344 Gal
Eastlake =		6,656 Gal

### Item 446 - Asphalt Concrete Surface Course, Type I, AC-20 (1 - 1/4")

See Item 301 - 2-1/2" Bituminous Aggregate Base, Sta 202+08.09 to Sta 236+77.99	=	163,112 SF
See Item 448 - 1-3/4" Asphalt Concrete Intermediate Course, Sta 246+75 to Sta 252+32.07	=	47,732 SF
See Item 448 - 1" Asphalt Concrete Intermediate Course, Sta 252+32.07 to Sta 341+85	=	511,515 SF
See Item 301 - 6" Bituminous Aggregate Base, Sta 202+34 to Sta 341+85	=	144,688 SF
See Item 301 - 9" Bituminous Aggregate Base, Sta 210+15 to 236+77.99	=	35,264 SF
Sta 238+48.35 to 240+21.50 planimeter	=	15,800 SF
Sta 243+65.92 to 245+98 planimeter	=	23,000 SF
Sta 245+98 to 246+75 (77 x 78)	=	6,006 SF
SUBTOTAL	=	947,117 SF
TOTAL	=	(947,117 x 1.25/12 x 1/27) 3,654 CY
Willoughby =		541 CY
Eastlake =		3,113 CY